

GLOBAL  
ENVIRONMENT  
FACILITY

SCOPE AND PRELIMINARY OPERATIONAL  
STRATEGY FOR LAND DEGRADATION

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GEF/C.3/8

**RECOMMENDED DRAFT COUNCIL DECISION**

The Council is invited to review this document and to consider adopting the following decision:

**The Council, having reviewed *Scope and Preliminary Operational Strategy for Land Degradation*, the document GEF/C.3/8, approves the scope and preliminary operational strategy presented therein. The Council invites the Secretariat and the Implementing Agencies to initiate the development of operational activities in 1995 consistent with the approved scope and strategy.**

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## PURPOSE AND STRUCTURE

This paper responds to Council's request for a revision, in light of its comments, of the Preliminary Issues paper relating to Land Degradation (GEF/C.2/10), that Council considered at its Second Meeting in November, 1994, and for an operational strategy for Land Degradation. Since the two submissions are interrelated, they are presented in a unified format, to be considered in conjunction. Part 1 addresses Issues and Scope and Part 2 presents a Preliminary Operational Strategy. The paper's purpose is threefold: a) To clarify the background and basis of GEF activities concerning Land Degradation, and the issues involved in their design and implementation; b) To outline the kinds of activities that could be funded by GEF in the interface between land degradation and its focal areas, and to delineate their scope; and c) To present a preliminary operational strategy for land degradation.

### PART 1: ISSUES AND SCOPE

#### I. BACKGROUND

- 1.1 Article 3 of the Instrument establishing GEF states that the agreed incremental costs of activities concerning land degradation, primarily desertification and deforestation, as they relate to the four focal areas, shall be eligible for funding.
- 1.2 Articles 4.8(c) and 4.8(e) of the Climate Change Convention and Article 20.7 of the Biodiversity Convention provide for particular consideration of the countries with arid and semi-arid areas and experiencing desertification and drought.
- 1.3 Article 20.2(b) of the Convention to Combat Desertification states that "..... Developed country Parties .... undertake to promote mobilization of adequate, timely and predictable financial resources, including new and additional funding from the GEF, of the agreed incremental costs of those activities concerning desertification that relate to its four focal areas, in conformity with the relevant provisions of the Instrument establishing the GEF."
- 1.4 Chapter 11 of Agenda 21, and the Global Consensus on Forestry Principles adopted at UNCED, underline the significance of conservation and sustainable use of forests and call for increased international co-operation to promote sustainable management, conservation and development of forests.
- 1.5 In line with the discussion at Council's Second (November, 1994) meeting, this part of the paper addresses issues and scope relating to GEF activities concerning prevention and control of land degradation, primarily desertification and deforestation. It gives particular attention to arid, semi-arid and sub-humid areas, without excluding from its scope other areas.
- 1.6 Section II outlines some key policy and operational considerations for program development in the interface between land degradation and GEF's focal areas. Local and national benefits, notably, improved agricultural productivity, food security and rural development, are usually the main motive force behind land degradation control. The rationale, policy context and operational framework for GEF's role in this area, however, are provided by the achievement of global environmental benefits. Section III examines the nature of the "interface", explores the basis of GEF activities in it, and outlines its possible scope. Examples of activities considered broadly eligible for GEF support are based on the strength of the linkage of land degradation prevention and control with GEF's focal areas. Section IV (including Annex A) provides summary descriptions of relevant Pilot Phase and other projects as

examples of ongoing initiatives, and touches upon key issues in delineating GEF's role in this area. Section V presents elements of a strategic approach to programming in this area, and Section VI contains some concluding observations which lead to the preliminary operational strategy.

## **II. POLICY AND OPERATIONAL CONSIDERATIONS**

- 1.7 Land degradation is often caused by improper land use. Its prevention and control requires not only right planning and management practices, technology, know how, and information, but also social and economic development policies and programs and regulatory frameworks as would provide the right incentives and signals, and ensure broad-based participation of the concerned communities. Controlling land degradation is central to achieving food security and sustainable agricultural and rural development in many countries. Consequently, governments and development assistance agencies are actively engaged in designing and implementing land degradation control projects.
- 1.8 GEF-financed activities for prevention and control of land degradation should achieve results which would not have been feasible otherwise. GEF's incremental cost financing should complement ongoing and planned efforts, to achieve global environmental benefits. It should not substitute for other financing available to control desertification and deforestation.
- 1.9 Raising resource productivity and improving human livelihoods are central concerns in controlling desertification and deforestation. Linking land degradation prevention and control to the achievement of global environmental benefits should help GEF integrate its focal area activities into the mainstream of sustainable development effort in the affected regions and countries.
- 1.10 The limited GEF financing available for prevention and control of land degradation needs to be targeted at such priority areas that do not receive adequate financing from governments and development assistance agencies, on account of risks and uncertainties in securing returns on investments, very long waiting periods before such returns materialize, necessity of upstream co-ordination of policies and programs among sectors, provinces and countries, and the complexities of strengthening regional and national capacities to achieve global environmental benefits, in tandem with local and village level initiatives.
- 1.11 Incremental cost financing of activities in the interface between land degradation and GEF focal areas will often help achieve global objectives in multiple focal areas. Such opportunities will need to be explored fully, in line with the operational strategies for the focal areas.
- 1.12 Countries experiencing land degradation themselves undertake action to stop it, by way of better farming and grazing practices, land use policies and planning, minimizing soil loss, afforestation, reforestation, institutional and policy reform for better forest management, improving water management, etc. Baseline scenarios of such actions would involve costs, borne by the concerned countries and development assistance agencies, related to achieving national objectives. GEF financing in this area will thus likely be, frequently, just one component in a collaborative effort. As it strives to achieve global benefits, it would contribute to countries' efforts to implement the Convention to Combat Desertification and the Global Consensus on Forestry Principles.

1.13 GEF activities relating to land degradation prevention and control will have maximum impact when they are designed as an integral part of the policy and planning frameworks to which governments are committed. Regional and national action programs for biodiversity conservation and sustainable use of its components, for climate change prevention and mitigation could provide programming contexts for GEF interventions. In addition, programs under the Convention to Combat Desertification, and for protection of forests and international waters, can facilitate the programming of GEF activities.

1.14 Just as land degradation control projects aimed at raising agricultural productivity may yield global environmental benefits, projects aimed mainly at the latter may raise land productivity and promote agricultural and rural development. The dominant project objective may vary, depending upon whether the focus is national benefits or global benefits. Review and analysis of the experience of ongoing projects and programs in the interface between land degradation and GEF focal areas, and consultations with the affected countries and development assistance institutions, will progressively help sharpen the focus of GEF interventions in this area.

1.15 Since desertification and deforestation are closely related to people's use of natural resources, participation of concerned communities is a pre-requisite in GEF projects involving land degradation prevention and control, as it is in the activities envisaged by the Convention to Combat Desertification and the Global Consensus on Forestry Principles.

### **III. SCOPE OF ACTIVITIES IN THE INTERFACE BETWEEN LAND DEGRADATION AND FOCAL AREAS**

1.16 The interface between land degradation, primarily desertification and deforestation, and GEF's focal areas is significant. Some Pilot Phase projects are addressing aspects of land degradation control. Moreover, other desertification and deforestation control projects may be contributing to climate change mitigation, biodiversity conservation, and pollution control in international waters. (The possible linkage of land degradation to ozone layer depletion is currently less known.) This section outlines the common ground between land degradation and the focal areas, and identifies the kinds of activities that GEF could support, in collaboration with other concerned institutions.

#### **A. Land Degradation and Climate Change**

1.17 Deforestation causes loss of carbon storage and increase in net carbon emissions. Some Pilot Phase activities have explored the contribution that controlling deforestation, particularly in the humid tropics, can make to mitigating climate change. The Climate Change Convention recognizes the role of conservation and sustainable management of forests in carbon sequestration and in reducing carbon emissions.

1.18 The impacts of human-induced changes in drylands on the earth's atmosphere and global energy balance have begun to be modelled with some success, given the many complex interactions involved. Perturbations to the atmospheric energy balance appear to occur as a result of changes in albedo, soil moisture levels, surface roughness and atmospheric composition. These phenomena result from land degradation and can induce either warming or cooling in local areas or regions. In

very arid regions the surface albedo component dominates the climate response, and desertification could lead to a cooling effect. In less arid regions where soil moisture is higher, areas experiencing land degradation often show warming because of reduced evapotranspiration. Frequent and prolonged droughts are known to increase local and regional atmospheric temperatures in drylands. As scientific research advances, the linkages between climate change and dryland degradation will become clearer.

#### A.1 *Reduction in Carbon Emissions*

1.19 Global anthropogenic input of carbon from energy-related sources is about 6 Gt (Gigaton) annually. Of this only 0.1 to 0.2 Gt is thought to come from traditional energy use in drylands. The net emissions may be much less, perhaps about half as much, since in many rural areas woodfuel production exceeds consumption. Yet in the proximity of human settlements, especially around dryland urban areas, the opposite may often hold. Although dryland input to global carbon emissions may be currently modest, it is expected to grow. Firewood remains the single most important energy source for the majority of people living in drylands. With growing populations and inadequate access to other energy sources, CO<sub>2</sub> emissions from firewood, coal and charcoal will increase.

1.20 Periodic burning of grassland and slash-and-burn agriculture in drylands contribute significantly to carbon emissions and particulates. Grassland burning is traditional in many drylands. For example, Zambia's Chitemene farming system involves burning wood and grasses and application of ash as fertilizer to the soil. Under conditions of slowly increasing populations and rural economic development, such systems may not contribute net increases in GHG emissions. But with growing pressures of people on land, the fallow periods needed for recovery of soil and vegetation become shorter, causing depletion of nutrients, erosion of soil and biodiversity, and an increase in net GHG emissions. GEF's "Alternatives to Slash-and-Burn Agriculture Research Initiatives" project seeks to build scientific capacity to assess impacts of slash-and-burn agriculture, and to expand knowledge of viable alternatives.

1.21 Degrading dryland soils could be a potentially significant source of carbon emissions. Dryland soils are known to be important storehouses of carbon. Prolonged or frequent drought and soil degradation undermine soil's capacity to store carbon. However, it is not known to what extent net carbon releases increase as a result of dryland degradation. (See sub-section on Carbon Sequestration/Storage below).

1.22 GEF-funded activities in the interface between carbon emission reduction and prevention and control of land degradation, subject to Council's guidance, and taking into account development assistance activities, could include:

- (a) Sustainable land use planning and management, and regional co-operation to achieve them, to enable countries secure better correspondence between land capability and use, for example, as rainfed or irrigated cropland, grazing land, woodland, human settlements, and managed or perennial forests;
- (b) Complementing development efforts aimed at furthering the use of solar, wind, and biogas energy for lighting, water heating, cooking, water pumping and other needs,



and at increasing the efficiency of wood-burning stoves and charcoal-producing kilns, to reduce net CO2 emissions; and

- (c) Subject to the evaluation of GEF's Pilot Phase activity in this area, strengthening of national and regional capabilities of information networking, technical assistance and extension services, to introduce viable land management practices in place of grassland burning and slash-and-burn agriculture.

## **A.2 Carbon Sequestration and Storage**

1.23 Recent research shows that dryland soils may be playing a significant role in storing and fixing carbon, and that controlling their loss could help mitigate global warming. However, scientific evidence on the extent of carbon cycling in drylands, and expert consensus on its significance, are not yet definitive.

1.24 Evidence from across Africa and Asia shows that farmers, on their own, plant trees along field boundaries, as windbreaks and hedges, and around the homestead. They also establish woodlots on farmland not currently used for crop cultivation. In contrast, large capital investments in greenbelts have proven to be not so cost-effective. Development assistance has begun supporting tree planting and mixed tree-and-crop farming efforts of millions of farmers to reduce soil loss, raise farm productivity, and control variability of river and stream flows. Such efforts should also help increase carbon sequestration and storage. UNEP's Community Afforestation and Training Pilot Project in India helped farmers and school children plant millions of trees, and establish rural afforestation training centers. GEF's Village-based Management of Woody Savannah and Establishment of Woodlots for Carbon Sequestration project in Benin is based on community-level action to improve rural energy management and increase woody cover and carbon storage.

1.25 GEF-funded activities in the interface between carbon sequestration/storage and prevention and control of land degradation, subject to Council's guidance, and taking into account development assistance activities, could include:

On a pilot basis, supporting national and regional programs aimed at ecological regeneration, and prevention of degradation, of grasslands and woodlands, in semi-arid and sub-humid areas, with significant potential for increased biomass, under food/fiber/timber/biomass fuel regimes, keeping in view their long term contribution to carbon storage, to preventing soil loss, and to controlling sediment pollution in international waters.

## **B. Land Degradation and Biodiversity**

1.26 Some Pilot Phase projects address the linkage of biodiversity loss and deforestation in the humid tropics. It is reasonable to expect that deforestation in the humid tropics and its attendant biodiversity loss will continue to receive particular attention in the development of GEF work program. In contrast, biodiversity loss in the wake of desertification and deforestation in the drylands has not yet received adequate attention.

- 1.27 Drylands are better known for their within-species genetic diversity, rather than between-species variation or "species richness". Yet they contain a significant endowment of plants and animal species, including microorganisms. Dryland species exhibit notably restrictive geographical distributions (endemism), and a wide range of morphological, physical, and chemical adaptations to their harsh environment. For example, the flora in Central Chile, which has a Mediterranean climate, contains some 1500 species in an area less than 100,000 sq. km.
- 1.28 Many of the most important food crops originated in drylands. Indigenous crops and fruits from drylands are known for their resistance to disease, stress and adaptability, and are a valuable source for plant breeding. Over 15 years ago France established the Botanical Conservatory of Porquerolles to protect Mediterranean crop species. With GEF support, Turkey is developing in-situ approaches to protect wild crops (wild wheat, chickpea, lentil, and barley), and woody species (pear, apple, walnut, chestnut, olive, and pistachio) in the semi-arid region of Eastern Anatolia.
- 1.29 Dryland species are highly adaptable to environmental stress. This makes them a vital source of genetic material to improve crop varieties and increase their drought tolerance and disease resistance. For example, the yellow dwarf virus-resistant gene found in Ethiopian barley is a prime source of California's US \$ 160 million annual barley crop. The high-lysine gene in sorghum also originated in Ethiopia. Soil erosion, overgrazing and frequent drought put at risk crop and grass varieties of global significance. GEF's project in Ethiopia, "Farmer-based Approach to Conserving African Plant Genetic Resources" seeks to integrate farm-level conservation efforts with national and international gene bank programs.
- 1.30 Dryland species are also important sources of commercial and industrial products, e.g. gums, resins, plant-based waxes, oils and biocides. As shown by the International Neem Institute, the Indian Neem tree (Azadirachata indica), which was widely introduced in dry areas, produces compounds that are active against a variety of pests. Dryland plant species (e.g. periwinkle) are sources of valuable pharmaceuticals. Of the principal plant-derived drugs in the United States, about one-third come from dryland species. Aloe vera is an example of a traditional medicinal plant which is now widely used in treating all kinds of skin problems.
- 1.31 Drylands provide some critical habitats for wildlife and ecosystemic diversity. Wetlands within drylands (e.g. the Hadejia-Nguru in Nigeria, the El Kala region in Algeria, and Cuatro Ciengas in Coahuila, Mexico) serve as indispensable nesting and breeding grounds for migratory species, and they are highly vulnerable to land degradation. The El-Kala region provides habitat for white-headed duck, barbery deer and migrant waterfowl, and sustains a hydrological system critical to the Mediterranean region. This fragile ecosystem, like many others (e.g. Parc du Banc d'Arguin in Mauritania; Boucle du Niger; Lake Chad) is under threat from excessive pressure on land and water, deforestation and urbanization. Overgrazing, unsustainable agriculture and improper land use also threaten dryland biodiversity.
- 1.32 Dryland wildlife, when properly managed, can provide a source of livelihood to rural communities and also help conserve biodiversity. In contrast, intensive pressures of people on land and improper resource use deplete wildlife and biodiversity and cause economic loss. A sizeable part of tourism and trade in Eastern and Southern Africa is based on dryland wildlife, which is under

stress. The Baoule National Park and Biosphere Reserve in Mali is affected by overgrazing by transhumant livestock, burning of vegetation by herders and settlers, and poaching.

1.33 Land degradation in the developing countries is often marked by mass poverty. Limiting access to protected areas increases pressures on other land. Conserving dryland biodiversity is difficult when local needs are not met. GEF's "Community-based Rangeland Rehabilitation for Carbon Sequestration and Biodiversity" project in Sudan will promote, with the involvement of local communities, such land use practices and rangeland management systems as would increase vegetative cover, conserve biodiversity, and raise land productivity.

1.34 GEF-funded activities in the interface between prevention and control of land degradation and biodiversity conservation and sustainable use of its components, subject to Council's guidance, and taking into account development assistance activities, could include:

- (a) Land use planning and management based, inter alia, on geographical information systems, to guide agricultural, rangeland and urban development, and to minimize degradation of fragile areas critical to conserving significant habitats, including wetlands and freshwater ecosystems in drylands;
- (b) Strengthening national programs for in-situ conservation to protect significant genetic variability of dryland crops (e.g. wheat, maize, sorghum, millet, barley, teff, cotton, beans and potatoes) and animals (e.g. horse, camel, sheep, goat, cattle, llama, Andean camelids, yak), including their wild relatives;
- (c) In-situ conservation of genetic varieties of plants (grasses, shrubs and trees) insects, birds, worms, and micro-organisms (e.g. root bacteria like rhizobium, mycorrhiza and other useful fungi) by improving management practices, institutional arrangements, policies and incentives, and community participation; and
- (d) Integrated approaches (e.g. landscape ecology) to conserving dryland biodiversity and sustainable use of its components, such as those involving: co-ordinated development of wildlife management, game ranching, grazing and farming; sustainable extraction of resins and gums; and pharmaceuticals development.

### C. Land Degradation and International Waters

1.35 Dryland river, lake and ground water basins, which are often internationally shared, are critical to the well-being of over 900 million people who live in areas at risk from desertification. Land degradation in sub-humid and humid areas as well can cause loss of productivity and impairment of aquatic ecosystems in international waters. Council is currently engaged in deciding the scope of GEF's International Waters program. If that scope includes shared freshwater, land degradation would be directly relevant to programming in that focal area, in view of its linkage to sediment pollution and salt intrusion in rivers, lakes and aquifers, caused by deforestation, soil and vegetation loss, overpumping of ground water, and salinization of soil. The global environmental significance of such pollution cannot always be accurately ascertained. Yet effectively addressing

the problem requires international cooperation, including at global, regional and sub-regional levels. GEF can catalyze, enhance and help sustain such co-operation.

1.36 The interface of watershed management, land-based sources of pollution, and environmental management of regional seas, similarly, suggests ways to simultaneously achieve International Waters and Biodiversity objectives, with an emphasis on prevention and control of land degradation. The international program of environmental management for the Aral Sea that GEF (Pilot Phase) is helping to develop is a relevant example. UNEP's Environmental Management of Inland Waters (EMINWA) program and Regional Seas action programs provide indications of how catalytic action and support at the global level could facilitate achievement of objectives in multiple focal areas.

1.37 Aquifers are a major source of water in many dryland areas and managing international ground water basins is critical for sustained availability of freshwater. In North Africa, Sahel and Southwest Asia, international aquifers are being exploited beyond their recharging capacity, or being polluted, causing basinwide degradation. Dryland countries will be better able to control land degradation through increased sub-regional co-operation in managing shared aquifers. This should also facilitate conservation and sustainable use of dryland biodiversity. GEF can catalyze and advance such co-operation.

1.38 Deforestation and land degradation in international watersheds (e.g. the Nile, the Niger, the Indus) could affect rainfall patterns, increase the range of local temperatures, and cause major variations in the flows of rivers and streams. International co-operation to monitor stream flows, control land degradation, and promote environmental management of shared waters, could help conserve terrestrial and marine biodiversity, and enhance carbon sequestration, apart from raising farm and fisheries productivity. UNSO's community and agroforestry project in the Blue Nile catchment area of Lake Tana region in Ethiopia seeks to meet local fuelwood needs and reduce soil erosion in the watershed.

1.39 Effective mechanisms for environmental management of international waters are critical to the well-being of people living in drylands, watersheds, mountainous areas and coastal areas. Sometimes agreements for such co-operation exist as in the case of the UNEP-catalyzed Zambezi Action Plan, or East African Regional Seas Action Plan. However, for lack of resources, or means of operational co-ordination, or technical support, they may not be adequately implemented. Strategic GEF interventions, based on global benefits and strong linkages between prevention and control of land degradation and ecological services and productivity of international waters, could promote their implementation.

1.40 GEF-funded activities in the interface between International Waters and prevention and control of land degradation, and subject to Council's guidance, and taking into account development assistance activities, could include:

- (a) Management of internationally shared watersheds to promote afforestation, reforestation, sustainable management of forests, and soil and water conservation, involving co-operation between upstream and downstream users; and

- (b) Strengthening of regional co-operation to control sediment pollution and salt intrusion in international freshwaters (including aquifers), and of co-ordinated implementation of action programs for drainage basins and regional seas, to control pollution and to protect the services and productivity of aquatic ecosystems.

1.41 Table 1 below outlines the possible scope of GEF activities in the interface between land degradation and the focal areas, without prejudging program priorities, or the precise extent of GEF's interventions in relation to those of governments and development agencies.

#### IV. INDICATIVE PILOT PHASE AND OTHER PROJECTS AND THEIR SIGNIFICANCE

1.42 Some Pilot Phase GEF projects include a major land degradation control component in their design. It is too early as yet, however, to draw policy, strategy or operational conclusions from their implementation. Nonetheless, experience of relevant projects should provide insights into focusing GEF interventions within the possible scope of operations outlined above. Such Pilot Phase projects are briefly summarized in Annex A.

1.43 The mainstream of land degradation control projects is aimed at raising agricultural productivity and incomes and rural development. They are financed mainly by governments and development agencies. Although they may not explicitly take into account global environmental objectives in their design, they may yield global benefits as by-products. In collaboration with the United Nations Inter-Agency Working Group on Desertification Control, UNEP has been assisting governments in designing land degradation control projects. Similarly, FAO's Scheme for the Conservation and Rehabilitation of African Lands is aimed at land degradation control. The World Bank, regional development banks and IFAD have been assisting dryland countries in designing and implementing agricultural development projects. A few ongoing non-GEF projects which might, *inter alia*, yield (but do not account for) global environmental benefits, are briefly outlined in Annex A. These examples are intended to indicate a possible commonality of interest between developmental and global environmental initiatives in this area.

1.44 Development initiatives for land degradation control are becoming increasingly sensitive to the environmental management dimensions of the issue, and to its sub-regional and regional aspects as well. GEF could encourage and support this process, keeping in view global environmental objectives. For example, the World Bank is developing a joint program with IFAD to assist dryland countries in controlling land degradation, alleviating rural poverty, and addressing global environmental objectives. Following the adoption of the Convention to Combat Desertification, national land degradation control efforts are expected to become more cohesive. GEF's role in this area will evolve in close consultation with other relevant programs.

#### V. A STRATEGIC APPROACH TO PROGRAMMING

1.45 Section III provided examples of activities in the interface between land degradation and GEF focal areas, delineating the possible scope of activities involving prevention and control of land degradation that could be eligible for GEF funding. Section II outlined some key policy and operational considerations which would guide such GEF interventions. Care needs to be taken that GEF's incremental cost financing for prevention and control of land degradation would not substitute for other

possible financing. Keeping in view the role that only GEF can play in a field where development assistance has been active, it is necessary to adopt a flexible but focused approach to programming in this area. It should establish synergy with development activities, to enhance and sustain global benefits, and concentrating on areas that do not receive the needed attention.

1.46 GEF activities involving prevention and control of land degradation will also generate local and national benefits, apart from global environmental benefits. Gains in agricultural productivity, output, incomes and in environmental quality would be a legitimate and valuable outcome of GEF's own strategic approach in this area, in part, because: a) They will help enhance and sustain global environmental benefits; and b) They will help integrate GEF activities into national and local programs of sustainable development.

1.47 A strategic approach to developing a work program in this area would have the following ingredients:

- (a) Encourage and support countries' efforts to integrate programming frameworks for Biodiversity, Climate Change and International Waters with that for Land Degradation;
- (b) Judiciously introduce the dimension of prevention and control of land degradation into the design and implementation of operational strategies for GEF's focal areas, with a view to enhancing and sustaining global environmental benefits;
- (c) Complement ongoing and planned development assistance efforts, concentrating GEF support on areas which do not receive adequate attention, such as, for example, land use planning and its implementation, which require co-ordinated, upstream national, sub-regional and regional effort, and which focus on global environmental benefits;
- (d) Encourage and support Implementing Agencies' and executing agencies' efforts to integrate in their mainstream programs activities geared to achieving global environmental objectives, based on the strength of their linkages to prevention and control of land degradation; and
- (e) In collaboration with STAP, and concerned scientific and technical bodies, keep under review the evolution of knowledge in this area, to progressively sharpen the focus of GEF activities addressing land degradation.

## VI. CONCLUDING OBSERVATIONS

1.48 GEF can serve as a catalyst, facilitator and selective provider of funds to enable countries meet the incremental costs of achieving global environmental benefits associated with land degradation prevention and control which, *inter alia*, would also raise agricultural productivity and promote rural development. In view of the existence of significant national benefits, and active roles of governments and development aid bodies, the potential contribution that GEF can make in this area needs to be explored flexibly, and implemented in partnership with the affected countries and concerned institutions.

Table 1: Activities in the Interface between Land Degradation & GEF Focal Areas

		GEF Focal Areas				
		Climate Change		Biodiversity		International Waters
Land Degradation Control	Carbon Emissions Control	Carbon Storage/Sequestration	In-Situ Species Conservation	Ecosystem Conservation	Integrated Watershed Management	Coordination of Regional & Sub-Regional Plans
	Land Use Planning	<ul style="list-style-type: none"> <li>• Correspondence between land capability and use</li> </ul>	<ul style="list-style-type: none"> <li>• Sustainable management of forests</li> <li>• Zoning of land for non-agricultural uses</li> </ul>	<ul style="list-style-type: none"> <li>• Protecting endemic species</li> <li>• Conserving wetlands and critical habitats in drylands</li> </ul>	<ul style="list-style-type: none"> <li>• Integrated, ecosystemic approaches to sustainable use and conservation of dry-land biodiversity &amp; livelihoods</li> </ul>	<ul style="list-style-type: none"> <li>• Sediment/salt pollution control in shared river basins, lakes, and aquifers</li> </ul>
<ul style="list-style-type: none"> <li>• Alternatives to &amp; management of grassland burning/ slash-and-burn agric.</li> </ul>		<ul style="list-style-type: none"> <li>• Pilot regeneration/upgrading of grassland/woodland for increased biomass</li> </ul>	<ul style="list-style-type: none"> <li>• Conserving local varieties of crops (land-races) and plant/animal species</li> </ul>		<ul style="list-style-type: none"> <li>• Protecting hydrological balance and ecosystem services</li> </ul>	
Farming and Grazing Practices	<ul style="list-style-type: none"> <li>• Plantations and sustainable fuel-wood energy</li> <li>• Renewable energy sources and energy efficiency</li> </ul>	<ul style="list-style-type: none"> <li>• National/regional program/institutional support for community-based afforestation and reforestation</li> </ul>				
	<ul style="list-style-type: none"> <li>• Exchange of information/monitoring and coordinated action</li> </ul>					
Community Forestry and Agroforestry						
Water and Watershed Management						

Source: GEF Secretariat

Note: (1) Entries in boxes are intended for illustrative purposes, with no implication concerning priorities. (2) Activities identified are not necessarily marked for GEF intervention alone: collaboration with development agencies will be generally necessary. (3) Activities shown often yield multiple focal area benefits.

- 1.49 The principles that should guide formulation of an operational strategy in this area are:
- (a) GEF financing must not substitute for, but should complement, development finance already active in preventing and controlling land degradation;
  - (b) Programming of GEF activities in this area should take into account ongoing and planned development initiatives as part of the baseline, to be cost-effective;
  - (c) It should help enhance and sustain global benefits in individual focal areas, and secure multiple focal area benefits, where feasible; and
  - (d) Operational support for such programming should emanate from the affected countries themselves, in the form of their plans and priorities for preventing and controlling desertification and deforestation, in their national and regional programs, to achieve global environmental benefits.

## **PART 2: PRELIMINARY OPERATIONAL STRATEGY**

### **I. INTRODUCTION**

2.1 Following Council's consideration of, and guidance on, the Preliminary Issues paper on Land Degradation (GEF/C.2/10), its revision above addressed the rationale for, and possible nature and scope of, GEF activities in this area. What follows is a preliminary operational strategy for Land Degradation, based on Part 1 above, guidance received from Council's Second Meeting, and the comments and suggestions received from Members.

2.2 The operational strategy for Land Degradation has to be closely related to, and be fully consistent with, the operational strategies for Climate Change, Biodiversity and International Waters. The latter are not yet in place. Moreover, it would be useful to review relevant experience of Pilot Phase and other activities in the interface of land degradation and GEF's focal areas before a long term strategy is proposed. Thus the operational strategy presented here should be seen as an interim one for 1995, pending the development of a long term operational strategy.

### **II. OPERATIONAL CRITERIA AND GUIDELINES**

2.3 Activities for prevention and control of land degradation can be considered for GEF funding in so far as they yield global environmental benefits in one or more of its focal areas. GEF will undertake programming in the interface between land degradation and its focal areas, with a view to enhancing and sustaining global environmental benefits.

2.4 Since only those land degradation prevention and control activities with agreed global environmental benefits would be considered eligible, the local and national benefits, by themselves, will not determine GEF's involvement. However, these benefits will also be assessed in view of their significance and linkage to global benefits.



- 2.5 If, in light of its national benefits, a project to prevent or control desertification, or deforestation, is being wholly financed by a national government and/or a development assistance agency, it would not be eligible for GEF financing, even if it is seen to yield global environmental benefits as well.
- 2.6 At times a project proposal for GEF financing in a focal area may not be cost-effective in relation to anticipated global benefits. However, introducing, or strengthening, in it the dimension of land degradation prevention and control (e.g. dryland watershed rehabilitation through land use planning and management) may generate additional global benefits in the focal area (e.g. International Waters), or in other focal areas (e.g. Climate Change; Biodiversity). The potential of land degradation control as a catalyst generating additional or multiple focal area benefits will be fully explored.
- 2.7 Some land degradation prevention or control projects may not seem "economic" to governments or development agencies, in view of, for example, the level of risk, uncertainties, or required levels of inter-sectoral or international co-operation, or the size, scope or the long term nature of returns, in relation to the required size of initial investments. When global environmental benefits would be realized by modifying the projects' content, geographic scope or scale, GEF's incremental cost financing could help them become viable, by complementing national finance and development aid.
- 2.8 Since the interface between land degradation control and focal areas is a legitimate area for programming for development finance as well, GEF's operational programming in it will be based on consultation with the concerned institutions, and will be flexible, with an emphasis on innovation, learning from experience, demonstration and replication.
- 2.9 In light of their global environmental perspective on land degradation, GEF activities in this area will facilitate and enhance co-ordination of policies and programs in the energy, agriculture, water development and management, forestry and other sectors within recipient countries. It will also help establish upstream support to field level actions, by way of planning guidance, technical assistance, information dissemination and networking, and strategic investments.
- 2.10 GEF's programming in land degradation prevention and control will help affected countries develop and implement collaborative programs at regional levels to control desertification and deforestation, to ensure, for example, that individual countries' efforts in land use planning and water management are reinforced by neighboring countries' policies and programs.
- 2.11 GEF's support to capacity building in this area will, inter alia, assist countries in integrating their planning for land degradation prevention and control, with that for biodiversity conservation, mitigation of climate change and protection of international waters, and in designing and implementing projects yielding multiple focal area benefits.

### III. COUNTRY ELIGIBILITY CRITERIA

- 2.12 In order to be eligible to receive GEF funding for projects addressing prevention and control of land degradation as they relate to focal areas, countries will have to be Parties to the Convention on Biodiversity and/or the Convention on Climate Change, if they are presented for consideration on the basis of their expected contribution to implementing either or both of the Conventions. In addition, they have to fulfill the general criteria for eligibility as recipient countries as specified by the GEF Instrument.

Being a Party to the Convention to Combat Desertification is not a prerequisite for eligibility for GEF financing, but it would be a germane consideration.

#### **IV. PROGRAMMING FRAMEWORK**

2.13 GEF will encourage countries to integrate their programmatic frameworks for biodiversity conservation, climate change mitigation and international waters protection with that for prevention and control of land degradation. National environmental action plans or national plans for sustainable development, which are sensitive to global environmental objectives, will facilitate the implementation of an integrated approach to land degradation prevention and control, establishing a synergy between achieving national and global objectives.

2.14 When frameworks of international co-operation already exist at the regional level, to control desertification or deforestation, to improve water management, to conserve biodiversity and to mitigate climate change, they will facilitate operational programming in the interface between land degradation and GEF's focal areas. GEF will promote an integrated approach to their development to achieve global objectives cost-effectively.

#### **V. PROGRAMMING PROCESS**

2.15 Following Council's guidance, the operational strategy for land degradation is adopted on an interim basis. The operational strategies for Biodiversity, Climate Change and International Waters will internalize sensitivity to programming in the interface between land degradation and GEF's focal areas. When all focal area operational strategies are in place, the operational strategy for land degradation would need to be revisited to ensure full consistency and mutual support.

2.16 Operational programming in the "interface" will benefit from guidance from the Biodiversity and Climate Change Conventions and consultations with Convention Secretariats, including that of the Convention to Combat Desertification.

2.17 Consultations with affected countries and development agencies will be undertaken to ensure that GEF operational programming relating to Land Degradation will be synergistic with planned and ongoing activities, will not duplicate or substitute for development initiatives, and will be cost-effective in achieving global benefits.

2.18 The Conventions on Biodiversity, Climate Change, and Desertification, the Global Consensus on Forestry Principles, and GEF Council's guidance, all underline the critical role communities and affected people have to play in developing and implementing program activities. GEF will promote awareness building in the affected countries of the linkage of land degradation with the global environment, and promote informed participation of communities and groups in the programming process.

2.19 Operational programming relating to land degradation will be progressively refined, drawing on the benefit of evolving scientific knowledge of the linkage of land degradation with the focal areas, and on the experience of relevant past and ongoing activities.

## **VI. FINANCING POLICY**

2.20 GEF will finance agreed incremental costs of prevention and control of land degradation to achieve agreed global environmental objectives in the focal areas. National programs and development aid aimed at national objectives, such as raising agricultural productivity, improving food security and livelihoods, with or without specific interventions to control desertification or deforestation, will be considered part of the baseline. Incremental costs associated with generating or enhancing agreed global benefits which would not have arisen in implementing the baseline scenario of development and prevention and control of land degradation, will be considered eligible for GEF financing.

2.21 Since joint accrual of national and global benefits is likely to be a common occurrence in projects involving prevention and control of land degradation, negotiations and agreement on eligible incremental costs would benefit from an explicit accounting of the nature, scope and magnitude of expected domestic benefits, and of their bearing on achieving and sustaining the global benefits which would need to be specified and estimated. Treatment of domestic benefits arising from GEF-funded land degradation prevention and control projects will be guided by the incremental cost framework for GEF-financed activities that Council will consider and endorse.

2.22 GEF will finance agreed full costs of capacity building or of enabling activities in the affected developing countries to design and implement such programs to control desertification and deforestation as would achieve agreed global environmental objectives. As part of this policy, it will collaborate with concerned institutions to strengthen countries' capacities to integrate operational programming for biodiversity conservation, climate change mitigation and protection of international waters with that for prevention and control of land degradation.

2.23 The methodological and procedural guidance on the application of the principle of incremental costs to land degradation control projects will be an integral part of GEF's financing policy as applied to individual focal areas. Three issues of practical interest in this context are: (i) Assessment of the linkage of global benefits to specific measures addressing prevention and control of land degradation; (ii) Consideration of direct and indirect, and multiple focal area, benefits; and (iii) Allocation of incremental cost financing among countries collaborating in a project.

2.24 Even as technical guidance on applying the incremental cost principle to land degradation prevention control projects will evolve and be refined with experience, GEF's approach to estimating incremental costs in this area will be pragmatic, based on collaboration with governments and development assistance agencies, and geared to fostering innovative programming to achieve global environmental benefits, in mutual support with domestic benefits.

## **VII. PROGRAM PRIORITIES FOR 1995**

2.25 Paragraphs 22, 25, 34 and 40 in Section III on Scope in Part 1 above and Table 1 on page 11 describe activities addressing prevention and control of land degradation which could be eligible for GEF funding, based on the strength of their linkage to global benefits in the focal areas. As noted above, GEF programming in this field will need to be flexible, and designed and implemented in consultation with development institutions. It would need to encompass both investment and capacity building initiatives, including those relating to awareness building, information dissemination. In line with the operational

criteria and guidelines stated in Section II above, and based on a preliminary assessment of where, within the scope outlined above, GEF support would currently be most effective, the following priority areas are proposed for programming in 1995:

- (a) Programs for prevention and control of desertification and deforestation, involving regional co-operation, and co-ordination of sectoral policies and programs, aimed at:
- Watershed/drainage basin protection, through rehabilitation and sustainable management;
  - Pilot initiatives, with demonstration value, aimed at ecological regeneration of forests and grasslands for increased biomass and sustainable fuelwood/timber regimes to reduce carbon emissions, and increase carbon storage; and
  - Co-ordinated land use planning and management, based on modern technology-based information systems, information networking, extension services, regulatory frameworks and incentive systems, to achieve consistency of land use with land capability, to promote conservation and sustainable use of biodiversity, to reduce carbon emissions, to increase carbon storage, and to minimize future land degradation.
- (b) Programs, involving national level support, to implement integrated approaches for sustainable use and conservation of dryland biodiversity and protection of livelihoods, with the involvement of affected communities, and management of buffer zones adjacent to threatened areas, aimed at:
- In situ protection of dryland ecosystems, including freshwater ecosystems, to conserve endemic species of plants and animals;
  - Conservation of wetlands, and protection of oases and critical habitats; and
  - Conservation of indigenous landraces and wild crop varieties and development of high quality seed banks.
- (c) Capacity building, including human resource development, institution strengthening, awareness building, and information dissemination, to design and implement policies, programs and projects which address prevention and control of land degradation to achieve global environmental objectives.

Programming in 1995 will give priority to arid, semi-arid and dry sub-humid areas.

## VIII. CONCLUSION

2.26 In view of its linkages to the focal areas, the operational strategy for land degradation is meant to be interim and exploratory. It is intended to provide the needed experience of collaboration with other concerned institutions, especially development assistance agencies, which have been active in this

field, to enable GEF to focus progressively its own effort further. As operational strategies in other focal areas are developed and implemented, programming in the focal areas will increasingly respond to the linkages of prevention and control of desertification and deforestation to global environmental benefits. It would be useful to revisit the operational strategy when all focal area strategies are in place, and are being implemented, and the lessons of experience of relevant Pilot Phase and other projects would become available.

**SUMMARY DESCRIPTIONS OF SOME PILOT PHASE AND OTHER PROJECTS  
(REF: PART 1, SECTION IV, PARAGRAPHS 42 - 44)**

**A. PILOT PHASE PROJECTS**

1. Burkina Faso/Cote d'Ivoire Community-based Natural Resource and Wildlife Management Project (GEPRENAF) - (World Bank)

The project will develop and implement sustainable land-use plans for communities living in an area of over 400,000 ha. in Burkina Faso and Cote d'Ivoire. It will train communities in land use planning and finance small-scale, community-based agricultural productivity improvement schemes, such as: borehole construction for irrigation, animal vaccination, and improved soil preparation and water-utilization practices. It seeks to increase productivity on existing land, and reduce agricultural and livestock pressure on lands designated for conservation. It seeks to conserve biodiversity, inter alia, by means of controlling land degradation in agricultural and conservation areas.

2. Mali Household Energy Project - (World Bank)

The project's objective is to reduce unsustainable use of indigenous wood as fuel and net CO<sub>2</sub> build-up. In Mali and the Sahel, charcoal produced by clear cutting and burning of trees is becoming a major source of energy, notably in urban areas. The project addresses the problem by a two-pronged approach: a) Control deforestation by enhancing community management and sustainable use of fuelwood; and b) reduction in per capita fuelwood consumption by promoting more energy-efficient stoves and kilns.

3. Jordan: Conservation of the Dana and Azraq Protected Areas - (UNDP)

Jordan's Azraq Protected Area contains springfed marshes comprising its most extensive freshwater ecosystem. The Ramsar Convention designates Azraq Oasis as a wetland of international importance, notable for migratory waterfowl habitat. Massive extraction from Azraq aquifer for drinking water and irrigation has lowered ground water levels, threatening saline water intrusion. The project seeks to halt degradation of the wetland and its biodiversity by designing a comprehensive water management plan for the basin, and supporting targeted research on infiltration techniques to accelerate ground water recharge. The Dana Wildlands cover an area of 150 sq.kms. which are under threat from unplanned and ecologically unsustainable resource use. The project aims to mitigate pressures caused by conflicting resource use, through an integrated, ecological and socio-economic, approach to planning conservation and sustainable land use and development in the Reserve and its proximate areas.

4. Zimbabwe Wildlife Management and Environmental Conservation - (World Bank)

The project provides incentives to the communities living around a national park to protect and manage its natural and wildlife resources. It expands the range of activities and benefits they derive from the natural and wildlife resources, e.g. eco-tourism and marketing of products based on local wildlife and natural resources. Such income-generating and resource management measures may substantially reduce poaching (particularly of endangered mammals e.g. elephants and rhinos) and also limit agricultural expansion in areas not suited for intensive cultivation.

5. Ethiopia: A Dynamic Farmer-based Approach to Conservation of African Plant Genetic Resources -(UNDP)

The project helps farmers to maintain indigenous varieties of dryland crops such as teff, wheat and barley in the agro-ecosystem in which they evolved. In-situ conservation ensures that the complex interaction of genetically diverse cultivars with their environment, including pests, pathogens and droughts, continues and that their adaptations continue to evolve. The project provides training and assistance to communities to establish their own Gene Banks, and facilitates the recording and documentation, by the Ethiopian Plant Genetic Research Centre, of the landraces and their adaptations. Through community-level capacity building, it seeks to sustain and develop the use of dryland biodiversity and improve farm productivity.

6. Sudan and Benin: Carbon Sequestration Projects - (UNDP)

The projects seek to enhance carbon sequestration by increasing woody cover and density, and controlling dryland degradation. They will help develop land use and rangeland management plans and guidelines for resource management. Through village councils they will plant grasses and trees to double the rate of biomass production in the targeted rangeland. They also seek to stabilize sand dunes by planting trees, shrubs and grasses, apart from establishing wind breaks around farms to increase woody cover and to mitigate sand encroachment. Assuming its carbon storage benefit grows linearly over the next twenty years, the Sudan project estimates that its cost of direct carbon storage and sequestration will be about \$12 per ton.

**B. OTHER PROJECTS**

1. Mali and Burkina Faso: Village-Based Natural Resource Management Project -(IDA/World Bank)

The projects seeks to improve land use patterns at the village level to halt and reverse land degradation, to promote sustainable agriculture, restore biodiversity, and better manage wildlife and natural resources. It applies an integrated, village-based approach to land degradation control and resource conservation, and emphasizes building local capacities, focusing attention on areas designated as UNESCO Biosphere Reserves.

2. Mauritania: Sand Encroachment (Control) and Rural Development Project -(UNSO/UNDP)

The project aims at protecting villages from sand encroachment and desertification by means of a variety of interrelated interventions, such as: afforestation, windbreaks and an integrated agro-silvo-pastoral program involving pasture rotation, improved grazing, harvesting and conservation of fodder, establishing woodlots, constructing small dams, and promoting soil and water conservation.

3. Transnational Green Belt Project In North Africa - (UNEP)

The project involves a regionally co-ordinated (involving Algeria, Libya, Mauritania, Morocco and Tunisia) and integrated approach to protecting rangeland and farmland from desert encroachment, through afforestation, upgrading rangeland, sand dune fixation and wildlife management.

4. Madagascar: Environment - (IDA/World Bank)

The project aims at protecting threatened biodiversity-rich areas, with community participation and benefit-sharing, by better management of ecological systems, promoting soil conservation, agroforestry, watershed protection and development, improving land security, and developing geographical information systems and the capacity for environmental assessment and monitoring. It also seeks to develop ecologically-based industries associated with the conserved biodiversity.

5. India: Maharashtra Forestry - (IDA/World Bank)

The project aims at controlling land degradation and deforestation, enhancing forest productivity, conserving biodiversity, and regeneration of degraded land, by way of catchment protection, horticulture and fodder and pasture development. It involves NGOs, local communities and the private sector in forestry plantations and management.

6. Pakistan: Baluchistan Natural Resource Management - (IDA/World Bank)

The project addresses pressing problems of land degradation, helps develop policies and strengthen institutions for natural resources management, raises awareness of resource degradation and its significance, and supports sand dune stabilization, rangeland and watershed rehabilitation, and forest conservation.

7. Honduras: Natural Resource Management in El Cajon Reservoir Watershed - (IDB)

Focusing on 450,000 hectares in the center-west of the country, the program seeks to protect the Comayagua Mountain and Cerro Azul Meambar National parks, along with increasing productivity of farmland and woodland. One of its major components aims at reducing soil erosion and sediment pollution in lakes, rivers and streams of the region through agro-forestry development, promoting sedentary agriculture in place of migratory, slash-and-burn farming, and establishing tree farms and other regeneration projects. Biodiversity conservation is a major goal.