

Global Environment Facility



726
Box 17

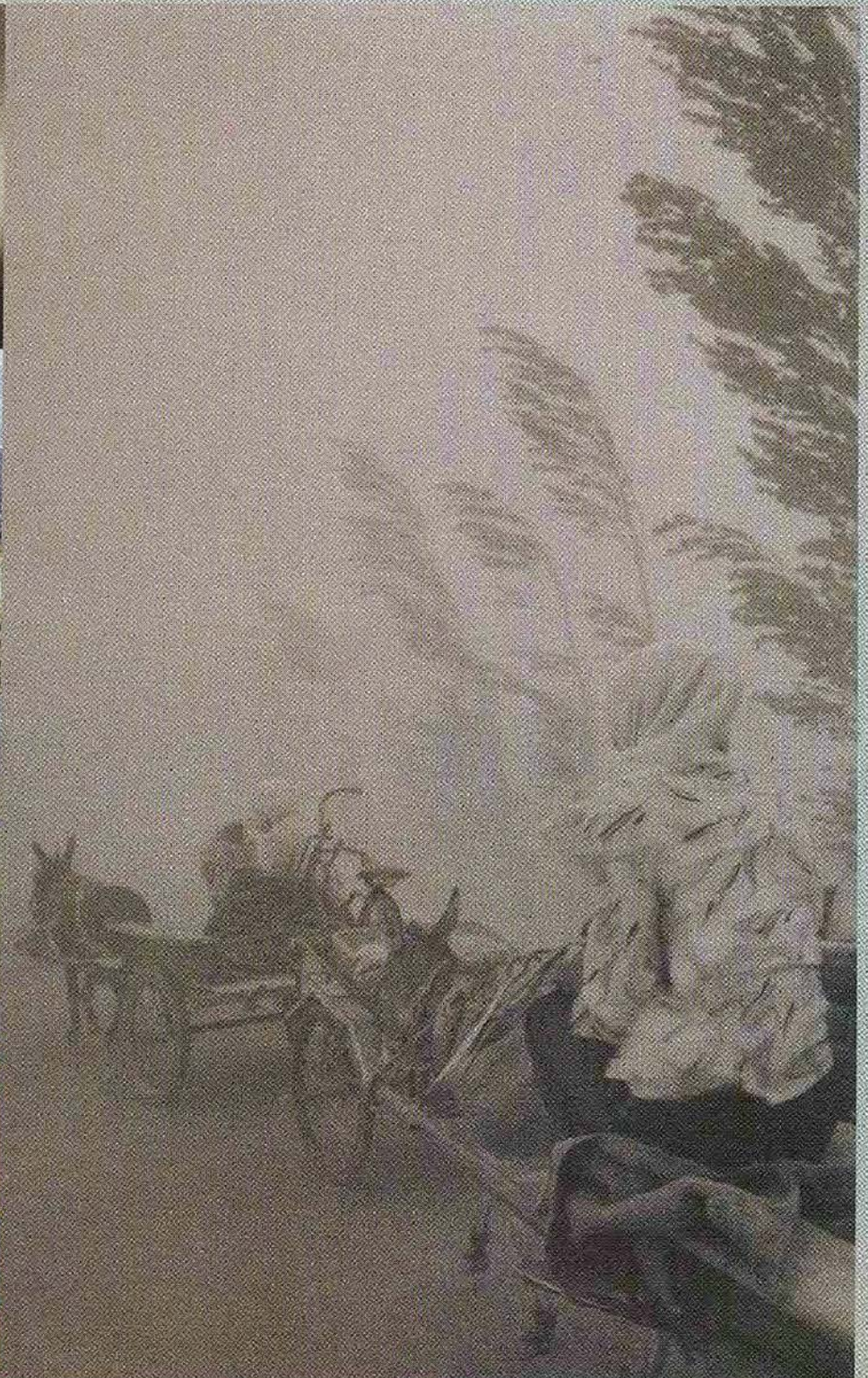
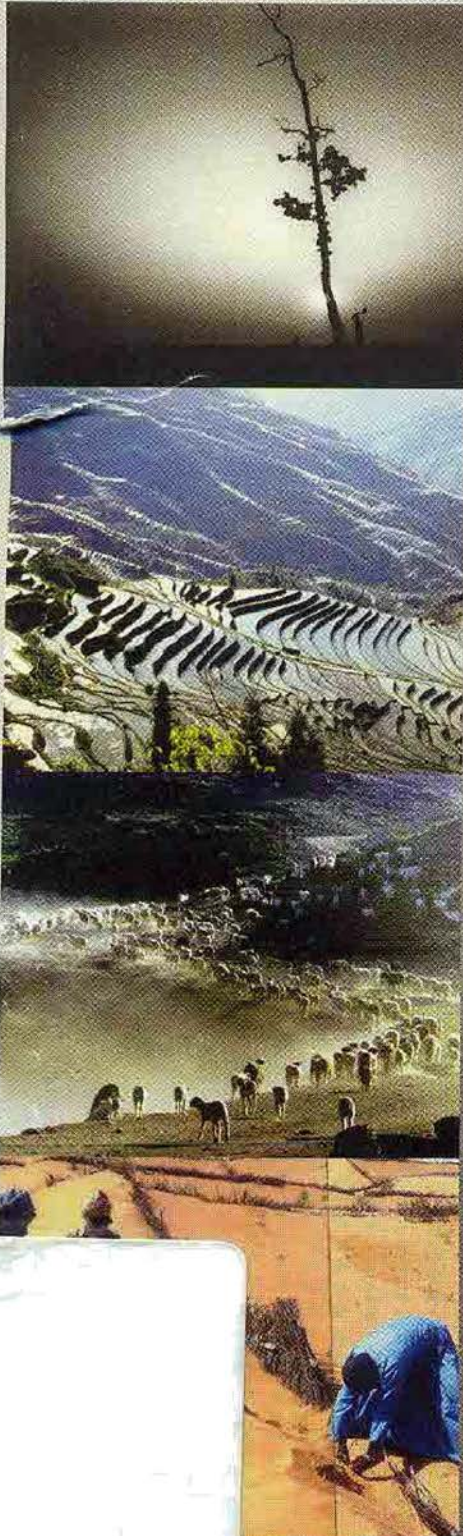


UNEP/GEF

Protecting the Environment from

Land Degradation

UNEP's Action in the Framework of the Global Environment Facility



Nations Environment Programme

MGN - 017298

UNEP/GEF
Protecting the Environment from
Land Degradation

UNEP's Action in the Framework of the Global Environment Facility

Ter
Ar / 216



United Nations Environment Programme

Revised and updated October 2005. First published 1999



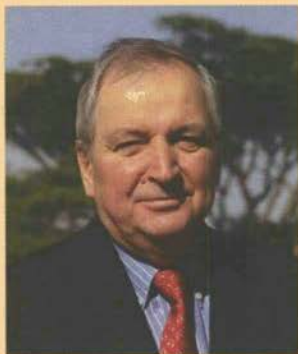
TABLE OF CONTENTS

PREFACE	4
UNEP and the GEF	6
The Global Environment Facility	6
UNEP's Role in the GEF	6
LAND DEGRADATION	10
BACKGROUND	10
GEF PROGRAMMING FOR LAND DEGRADATION	14
UNEP's STRATEGIC APPROACH TO LAND DEGRADATION	15
Capacity building	15
Global Support to OP15	16
NEPAD	17
NCSAs	18
Environmental Assessments, Generation and Dissemination of Knowledge	19
LADA	20
Development, Replication and Upscaling of Tools, Methodologies and Good Practices in Sustainable Land Management	19
Identification and testing of best practices in land management ...	23
Development of policy instruments	25
Demonstration projects	27

Integrated Natural Resources Management in Transboundary Ecosystems	28
Africa	28
Latin America and the Caribbean	32
Central Asia	33
South and Southeast Asia	34
Experiences and Lessons Learned	35
SUMMARY OF UNEP GEF LAND DEGRADATION PORTFOLIO	38

PREFACE

Land degradation is worldwide in geographic extent and global in its environmental and socio-economic impacts. Drylands that are particularly vulnerable to land degradation occupy 41% of Earth's land. More than two billion people live in these areas and are at risk from the effects on their livelihoods. In Africa alone, 36 countries are affected by desertification that is often accentuated by the impacts of droughts.



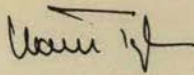
The need to address the global problem of land degradation is increasingly urgent. It is a major cause and mechanism of global loss of productive land resources and contributes to loss of global biodiversity, loss of the earth's biomass and biproductivity, and to global climate change. It can lead to economic instability and political unrest in affected areas, puts pressures on the economy and the stability of societies, and hinders the achievement of sustainable development.

In an effort to halt the worsening problem of land degradation, the international community adopted the United Nations Convention to Combat Desertification (CCD) which aims to promote effective action through innovative local programmes and supportive international partnerships.

The United Nations Environment Programme (UNEP) with support from the Global Environment Facility (GEF) has assisted African countries to develop an Environmental Action Plan under the framework of the New Partnership for Africa's Development (NEPAD). The first priority for African countries under this action plan is to address problems of land degradation, drought and desertification. UNEP is supporting capacity-building activities,

environmental assessments and generation and dissemination of new knowledge, and development, replication and upscaling of good practices, tools and methodologies for sustainable land management. This will help address in a more cost effective manner the problem of land degradation, and support the implementation of sub-regional and regional action programmes of the CCD, including prevention and management of land degradation at a transboundary level.

UNEP's support to sustainable land management within the context of the GEF is contributing to meeting the Millennium Development Goals from reduction of extreme poverty and hunger to empowerment of women and achievement of environmental sustainability. To achieve these objectives, UNEP in its capacity as one of the three Implementing Agencies of the GEF will build on its current land degradation portfolio as reflected in this brochure.



Klaus Töpfer
Executive Director
UNEP

UNEP and the GEF

THE GLOBAL ENVIRONMENT FACILITY

International resolve following the Earth Summit led directly to the establishment of the Global Environmental Facility (GEF) and its strengthening over the last 10 years. Initiated as a pilot programme in 1991, the GEF was formalized by international agreement in 1994 with a mandate to finance the incremental costs of actions taken by developing countries and countries with economies in transition that would provide global environmental benefit.

GEF funds activities that address six focal areas of climate change, biological diversity, international waters, depletion of the ozone layer, land degradation and persistent organic pollutants (POPs). Land degradation and POPs were designated as focal areas by the GEF Assembly in Beijing in October 2002.

GEF has been the financial mechanism to the Convention on Biological Diversity (CBD) and to the United Nations Framework Convention on Climate Change (UNFCCC) since 1994 and 1995 respectively, and in 2001 was designated the responsibility for operating the financial mechanism of the Stockholm Convention on Persistent Organic Pollutants (POPs). Currently, 171 countries participate in the GEF. Box 1 summarizes the GEF's main objectives.

UNEP'S ROLE IN THE GEF

UNEP's role in the GEF is detailed in Annex D of the *Instrument for the Restructured Global Environment Facility*. At its nineteenth session, in February 1997, the Governing Council (GC) of UNEP adopted the Nairobi Declaration, which calls for a strengthened role for UNEP as an implementing agency of the GEF, based on its comparative advantage and scientific and technical expertise.

In response to the overview study of the GEF that was presented to the first GEF Assembly in New Delhi in March 1998, UNEP developed the *Action Plan on Complementarity between the Activities Undertaken by UNEP under the GEF and its Programme of Work*. The 20th Session of the UNEP Governing Council adopted the

Box: Operating principles of the GEF

In March 1994, the Governments participating in GEF adopted the *Instrument for the Restructured Global Environment Facility*, which laid out the essential purposes of GEF as outlined below.

GEF is to operate on the basis of collaboration and partnership among the GEF implementing agencies (United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and the World Bank) as a mechanism for international co-operation with the purpose of providing new and additional grant and concessional funding to meet the agreed incremental costs of measures to achieve global environmental benefits in six focal areas: biological diversity; climate change; international waters; ozone layer depletion; land degradation; and POPS.

A country is eligible to obtain GEF funds if it is a developing country Party to the Convention on Biological Diversity or the United Nations Framework Convention on Climate Change, the Stockholm Convention on POPS, and the United Nations Convention to Combat Desertification for the land degradation focal area; and/or if it is eligible to borrow from the World Bank (IBRD and/or IDA) or receive technical assistance grants from the United Nations Development Programme (UNDP) through a country programme (Indicative Planning Figure-IPF).

GEF projects are country-driven and must be approved by the recipient countries. Funding is provided through one of the three Implementing Agencies, UNDP, UNEP, and the World Bank. The Instrument reflects an expectation that these agencies offer substantially different strengths - investment project management from the World Bank, technical assistance and capacity building from UNDP, and environmental science and convention linkages from UNEP. The International Finance Corporation (IFC), the private sector arm of the World Bank, also provides a means for financing private sector initiatives. In 2001, access to GEF support has been extended through a wider range of cooperating agencies: the African, Asian, and Inter-American development banks, the European Bank for Reconstruction and Development, the UN Industrial Development Organization (UNIDO), the UN Food and Agricultural Organization (FAO) and the International Fund for Agricultural Development (IFAD).

Action Plan on Complementarity between UNEP's GEF activities and its regular programme of work. The 13th session of the GEF Council, held in Washington DC on May 5-7 1999, welcomed the Action Plan and "expressed its appreciation for the quality of the UNEP document which helps to clarify UNEP's niche within the GEF family." The action plan is consistent with paragraph 11 of Annex D of the GEF Instrument, which defines the specific areas of emphasis of each IA and in respect to UNEP states that: "UNEP will play the primary role in catalyzing the development of scientific and technical analysis and in advancing environmental management in GEF-financed activities."

In UNEP/GC.20/44, the specific types of projects that are linked to UNEP's strategic role are defined:

- a) UNEP, with STAP's¹ advice, will play a leading role as an IA for GEF projects that contribute to the ability of the GEF and of countries to make informed strategic and operational decisions on scientific and technical issues in programs and project design, implementation and evaluation, through scientific and technical analyses. These will include assessments, targeted research, methodology development and testing and structured programme learning projects.
- b) UNEP will implement projects that relate national and regional environmental priorities to the global environmental objectives of the GEF through policy and technical advisory services in areas where UNEP has a distinct comparative advantage. The projects will include assistance for enabling activities to prepare national strategies, action plans and reports, outreach and awareness, environmental management and policy instruments to implement global and regional conventions.
- c) UNEP's projects will promote regional and multi-country cooperation to achieve global environmental benefits particularly in international waters and

¹ STAP (Scientific and Technical Advisory Panel) is established as an advisory body to the GEF. STAP provides objective, strategic scientific and technical advice on GEF policies, operational strategies, and programmes; conduct selective reviews of projects in certain circumstances and at specific points in the project cycle as an integral part of ongoing processes; and, maintain a Roster of Experts.

biodiversity— focusing on diagnostic analyses and cooperative mechanisms, and associated institutional strengthening.

- d) Within the short-term measures in the GEF Operational Strategy, UNEP will implement projects that catalyse response to environmental emergencies, particularly in the biodiversity focal area.
- e) UNEP will implement projects to promote specific technologies and demonstrate methodologies and policy tools that could be replicated on a larger scale by other partners. Many of these projects would include MSPs that introduce innovative approaches.

UNEP has long-recognized the synergies that can be realized in project implementation through the formation of strategic partnerships. Central to the execution of the Action Plan on Complementarity has been the continued development and strengthening of partnerships with the GEF Secretariat; STAP and the broader scientific and technical community; the implementing agencies; and programme and project partnerships with other government and scientific agencies, civil society organisations, the private sector and other United Nations and multilateral agencies.



Plate 1: Community enclosures for rehabilitating degraded lands in Turkana District, Kenya

LAND DEGRADATION

BACKGROUND

Land degradation leads to a significant reduction of the productive capacity of land. Human activities contributing to land degradation include unsustainable agricultural land use, poor soil and water management practices, deforestation, removal of natural vegetation, frequent use of heavy machinery, overgrazing, improper crop rotation and poor irrigation practices. Natural disasters, including drought, floods and landslides also contribute.

It has been estimated that 23 per cent of all usable land (excluding mountains and deserts) has been affected by degradation to a degree sufficient to reduce its productivity. In the early 1990s, about 910 million ha of land were classified as 'moderately degraded' with greatly reduced agricultural productivity. A total of 305 million ha of soils ranged between 'strongly degraded' and 'extremely degraded'. The majority of 'extremely degraded' soils were found in Africa.² The world's drylands are particularly sensitive to land degradation and desertification and some 10-20 % of drylands are already degraded according to the Millennium Ecosystem Assessment.³

In Africa where large populations are dependent on natural resources for their livelihood, and subsistence agriculture and pastoralism form the backbone of the economy, the direct and most severe impact of land degradation and desertification is food insecurity that may ultimately result in famine. The only alternative for survival of local communities is often to expand agriculture and grazing areas onto marginal land and wilderness areas – a process that often degrades forests, woodlands and grasslands, fragments natural ecosystems and reduces biodiversity. Unsustainable use of these resources can lead to accelerated erosion and, physical and chemical

² Global Environment Outlook 3. UNEP, 2002.

³ Ecosystems and Human Well-being: Desertification Synthesis. Millennium Ecosystem Assessment, 2005.

Box : Land degradation - definitions

The lack of an agreed definition of desertification, an inevitable consequence of the complexity of the issues, has been one aspect of a problem that has been characterized by controversy, conflicting opinions and differing interpretations. We use the definition adopted by the Convention to Combat Desertification, which is:

Desertification means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities.

Land means the terrestrial bio-productive system that comprises soil, vegetation - including crops, other biota, and the ecological and hydrological processes that operate within the system.

Degradation implies reduction of resource potential by one or a combination of processes acting on the land, such as

- (i) soil erosion by wind and/or water;
- (ii) deterioration of the physical, chemical and biological or economic properties of soil; and
- (iii) long-term loss of natural vegetation.

Sustainable land use is one that is able to continue without degrading the land it is using. It depends both on the properties of the resource and the way it is managed.

(Adapted from UNCCD and UNEP's World Atlas of Desertification)

Figure 1: Extent and severity of land degradation (Source: UNEP, 1992. *World Atlas of Desertification*. London, Arnold)

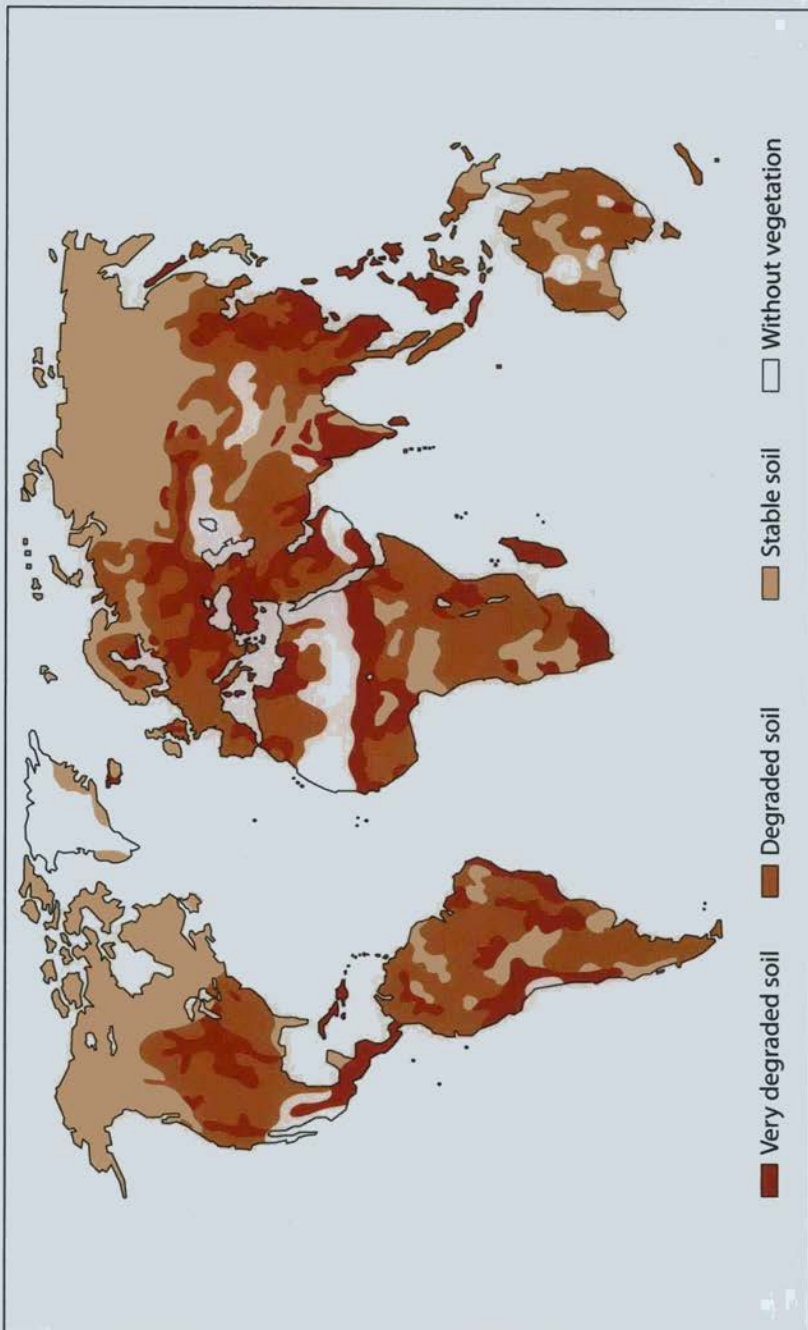
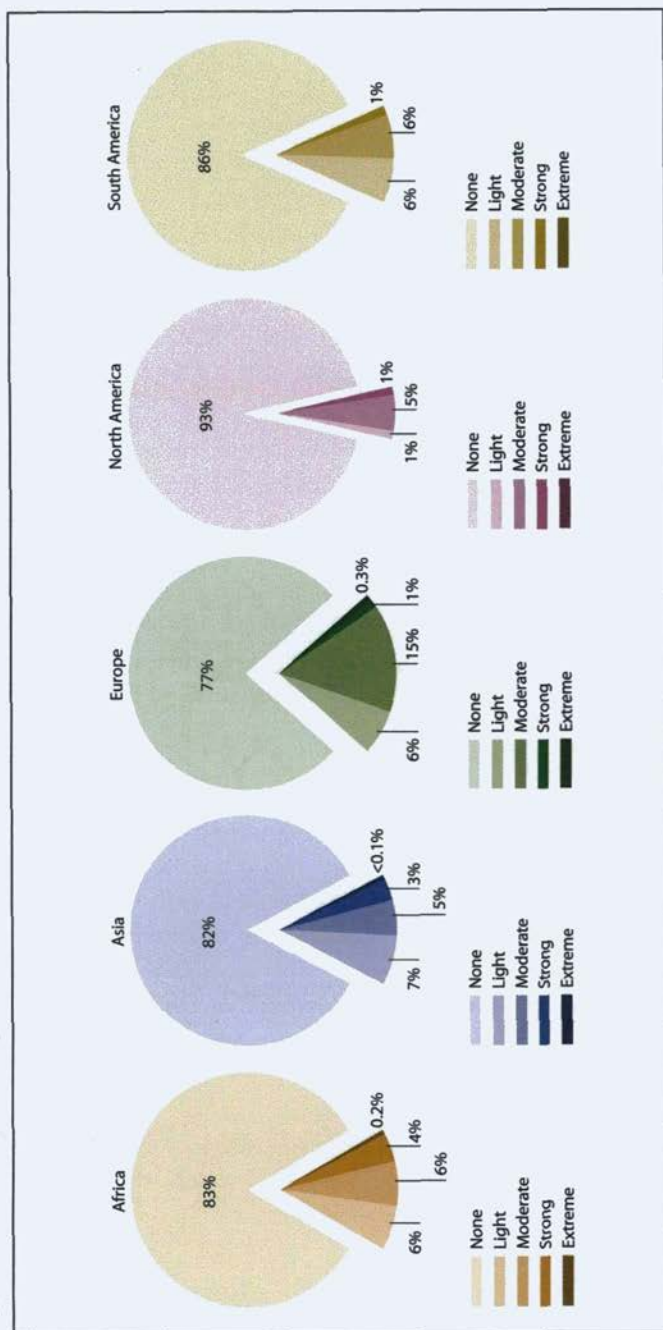


Figure 2: Distribution of degraded soils (Source: GRID Arendal, 1997. *Soil Degradation Map.*)



deterioration of soils beyond the limit of possible restoration of their productive capacity. Serious off-site impacts of land degradation include siltation and pollution of reservoirs, lakes and coral reefs as well as impacts on local, regional and global climate.

Root causes of land degradation are highly complex as well as site specific, but the driving forces often involve adverse climatic conditions in combination with social, political, economic and cultural factors that strain marginal lands beyond ecologically sustainable limits.

GEF PROGRAMMING FOR LAND DEGRADATION

The GEF supports country driven activities aimed at preventing and/or controlling land degradation, particularly desertification and deforestation through its focal area on land degradation and through the interface with the biodiversity, climate change and international waters focal areas. The objective of GEF's Operational Programme 15 on sustainable land management is to mitigate the causes and negative impacts of land degradation on ecosystem stability, functions and services through sustainable land management practices as a contribution to improve people's livelihoods and economic well-being. Support can be provided to sustainable land management activities with regard to:

- Capacity building, including mainstreaming of sustainable land management into national development priorities; integration of land use planning systems; agreements and mechanisms for management of transboundary resources
- On-the-ground investments in sustainable agriculture, sustainable rangeland/pasture management, and forest and woodland management
- Targeted research in order to better understand the policy and institutional failures that drive land degradation, and to facilitate the refinement and adoption of innovative sustainable land management practices and technologies, including early warning and monitoring systems.

Activities addressing land degradation are also funded as cross-cutting issues through several Operational Programmes (OP) of the GEF under the biodiversity, international waters and multiple focal area programmes:

- OP1: Arid and semi-arid ecosystems
- OP2: Coastal, marine and freshwater ecosystems

- OP3: Forest ecosystems
- OP4: Mountain ecosystems
- OP9: Integrated land and water multiple focal area
- OP12: Integrated ecosystem management
- OP13: Conservation and sustainable use of biological diversity important to agriculture

UNEP'S STRATEGIC APPROACH TO LAND DEGRADATION

UNEP's portfolio of projects that are addressing land degradation either directly under the Land Degradation focal area or indirectly as a cross-cutting issue under other focal areas revolves around the following themes:

1. Capacity building
2. Environmental assessment and generation and dissemination of knowledge
3. Development, replication and upscaling of tools, methodologies and good practices
4. Integrated natural resources management in transboundary ecosystems

This brochure provides a summary of the current UNEP GEF land degradation portfolio highlighting projects that demonstrate UNEP's mandate and approach to addressing land degradation under the GEF partnership.

1. Capacity building

UNEP is supporting activities to build capacity in addressing land degradation at global level through a medium-sized project entitled "Global support to facilitate the early development and implementation of land degradation programmes and projects under the GEF Operational Programme 15". At regional level, UNEP is building capacity in integrated natural resources management by supporting the development of agreements and mechanisms for management of transboundary resources in a number of transboundary ecosystems that suffer from land degradation around the world. UNEP is also involved in implementing the capacity-building component of the Environment Initiative of the New Partnership for Africa's Development (NEPAD) that has combat of land degradation, desertification and drought as its first priority area.

At national level UNEP is supporting 35 countries to undertake National Capacity Self Assessments for Improved Environmental Management (NCSAs) to identify country-level priorities and needs for capacity building to address land degradation, biodiversity and climate change.



Plate 2: Dry landscape in Marsabit District, Kenya.

Global support to OP15

At the first session of the Committee for the Review of the Implementation of the Convention (CRIC) held in November 2002, in Rome, Italy, the Parties to the UNCCD expressed their financial, technical and technological capacity needs for combating desertification. To respond to identified needs, a medium sized project on Global Support to OP15 was developed by UNEP in consultation with other partner agencies and approved in October 2003. It aims at bridging some crucial information gaps regarding sustainable land management and providing useful technical tools to CCD and GEF focal points as well as to sub-regional economic bodies.

Nine regional training workshops on GEF's Sustainable Land Management Approach were held as follows:

- Western Asian countries and Libya, Qeshm Island Western Asian countries: Qeshm Island, Iran, 3-5 October 2004.
- Francophone African Countries: Tunis, Tunisia, 11-13 October 2004.
- Anglophone African Countries: Windhoek, Namibia, 1-3 November 2004.
- Pacific Island Countries: Nadi, Fiji, 8-10 November 2004.
- Central Asian Republics: Almaty, Kazakhstan, 22-24 November 2004.
- Spanish Speaking Countries: Natal, Brazil, 7-9 December 2004.
- Caribbean Islands States: Kingston, Jamaica, 13-15 December 2004.
- Central and Eastern European Countries and Turkey: Geneva, Switzerland, 11-13 January 2005.
- Asian Countries: Bangkok, Thailand, 19-21 January 2005.

The nine workshops were attended by around 400 participants from 130 countries, including GEF Operational Focal Points, UNCCD Focal Points, regional coordinators of GEF accredited NGOs, representatives of key sub-regional organizations. The workshops were facilitated by GEF Secretariat and its Partner Agencies including UNEP, UNDP, the World Bank, IFAD, FAO, the UNCCD Secretariat and the Global Mechanism.

The following training material was specifically prepared in several UN languages for the participants:

- Training Handbook on key principles of OP 15 and examples of related eligible activities.
- Guidelines on OP 15 which provide a detailed step-by-step methodology on how to prepare a project proposal from the earlier stage of the project cycle of a concept idea until its approval and implementation.

A project web site will be launched at the Seventh Session of the Conference of the Parties (COP7) of the CCD in October 2005, in Nairobi, Kenya.

NEPAD

The Action Plan for the Environment Initiative of the New Partnership for Africa's Development (NEPAD) was endorsed by the second ordinary session of the assembly of the African Union, held in Maputo, Mozambique, from 10 to 12 July 2003. The action plan was adopted by the African Ministerial Conference on Environment (AMCEN) at its second special session, held also in Maputo, Mozambique, on 9 and 10 June 2003. The Action Plan has been prepared under the leadership of



Plate 3: Sand dune stabilization, Mauritania.

AMCEN and in close cooperation with the NEPAD Secretariat and the African Union as well as with the support of UNEP and the GEF through a Medium-Sized Project. The action plan addresses the daunting challenges facing the African continent in terms of rising poverty and deepening environmental degradation.

The Environment Initiative will be implemented in harmony with the other components of NEPAD. The Action Plan is organized in clusters of programmatic activities to be implemented over an initial period of ten years. The programme areas cover the following priority sectors and cross-cutting issues as identified in the Environment Initiative: combating land degradation, drought and desertification; wetlands; invasive species; marine and coastal resources; cross-border conservation of natural resources; climate change; and cross-cutting issues, such as capacity building.

NCSAs

The objective of the NCSA is to identify national priority capacity-building needs to address global environment management issues related to mainly UNCBD, UNFCCC and the UNCCD. The three conventions cover broad issues and cut across several development sectors and therefore require the consultation with, participation and the collaboration of all major players in the national development

scenes including representation from those who are affected at the regional and local level. The NCSA is a process as well as a product. The NCSA has essentially the following substantial national benefits:

- NCSA offers an opportunity to countries in responding in a coherent, integrated and cost-effective manner to MEAs and hence releasing national resources (financial and otherwise) for other development priorities;
- NCSA helps in realizing the incremental value of linking national priorities with those of global environmental challenges, in other words solving national/local environmental problems while contributing to global environmental conservation efforts and hence;
- NCSA enhances national abilities to negotiate with the donor community regarding technical cooperation and capacity development assistance being offered in the environmental arena.
- NCSA processes considerably help in improving cross-sectoral coordination and dialogue, as the NCSA brings together stakeholders from the various sectors leading to less duplications and institutional conflicts/inefficiencies.
- NCSA strengthens non-governmental roles in environmental management
- NCSA establishes a culture of self-evaluation and problem-solving through the several consultative events built into the various stages of the NCSA process.

The NCSA is not a stand alone process but is linked by virtue of design to other national planning processes at various levels through utilizing existing institutional coordination structures. It promotes collaboration with on-going programmes, projects and activities depending on existing national technical expertise. The NCSA results in two major outputs: 1) Thematic Assessment including Synergies and 2) Action plan (the capacity building programme).

2. Environmental assessments, generation and dissemination of knowledge

In line with UNEP's mandate in the GEF to contribute to informed decision-making with regard to environmental management, UNEP and FAO have launched a project entitled **Land Degradation Assessment in Drylands (LADA)**. LADA will provide a policy tool for the implementation of UNCCD's National Action Programmes and Sub-Regional Action Programmes (SRAPs) through global, national and local-level assessments. LADA will update and build on the last Global Assessment of Soil Degradation (GLASOD) that was published by UNEP in 1992. LADA will also

build on the results and policy recommendations of the **Millennium Ecosystem Assessment (MEA)**, which was funded by GEF through UNEP and contained a specific *Desertification Synthesis*.

Box: LADA

This GEF/UNEP/FAO project will develop tools and methods to assess and quantify the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, carbon storage and biological diversity at a range of spatial and temporal scales. It will also build the national, regional and international capacity to analyse, design, plan and implement interventions to mitigate land degradation and establish sustainable land use and management practices.

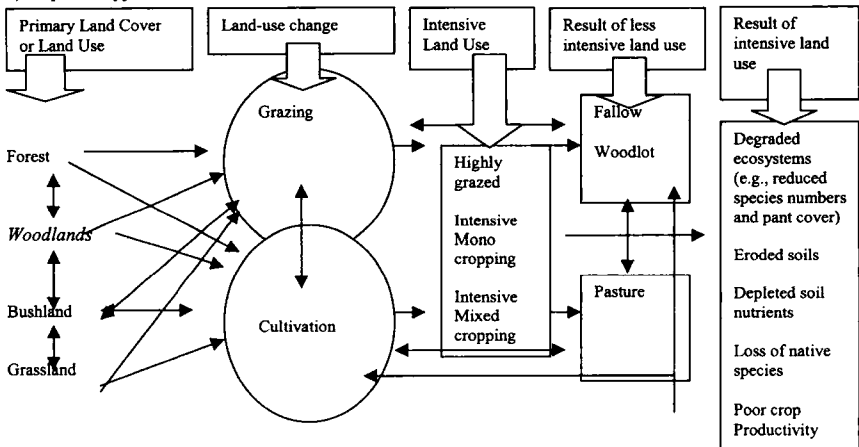
To achieve these objectives, *LADA* will develop standardised and improved methods for dryland degradation assessment, with guidelines for their implementation in a range of scales. Using these methods, it will assess the sub-regional and global baseline condition of land degradation with the view to highlighting the areas at greatest risk. These assessments will be supplemented by detailed local assessments that will focus on root cause analysis of land degradation and on local (traditional and adapted) technologies for the mitigation of land degradation. Areas where land degradation is well controlled will be included in the analysis. 'Good practice' guidelines will be developed and the results widely disseminated in various media. The project is intended to make an innovative generic contribution to methodologies and monitoring systems for land degradation, supplemented by empirically-derived lessons from the six regional node countries involved in the project – Argentina, China, Mexico/Cuba, Senegal, South Africa and Tunisia – up-scaled to countries within their regional remit.

At regional level, UNEP and the Asian Development Bank (ADB) are assisting China, Mongolia, Japan and Korea to assess the impact of dust and sandstorms in Northeast Asia, often called “Yellow Sands”, and to develop early warning systems. In East Africa UNEP has supported research on the interlinkages between land use change, biodiversity loss and land degradation through a targeted research project on **Land Use Change Analysis as an Approach to Assessing Biodiversity Loss and Land Degradation (LUCID)** that has synthesized and analyzed more than 30 years of data. The project has resulted in a tool for land use change analysis and provided new insights on the interlinkages between land degradation and biodiversity loss. Typical land-use change sequences leading to exacerbated land degradation identified by the LUCID project are illustrated below⁴:

1) Sequence sometimes applicable to pastoral areas without cultivation:

Woodlands → *Bushland* → *Grassland* → *Pasture*

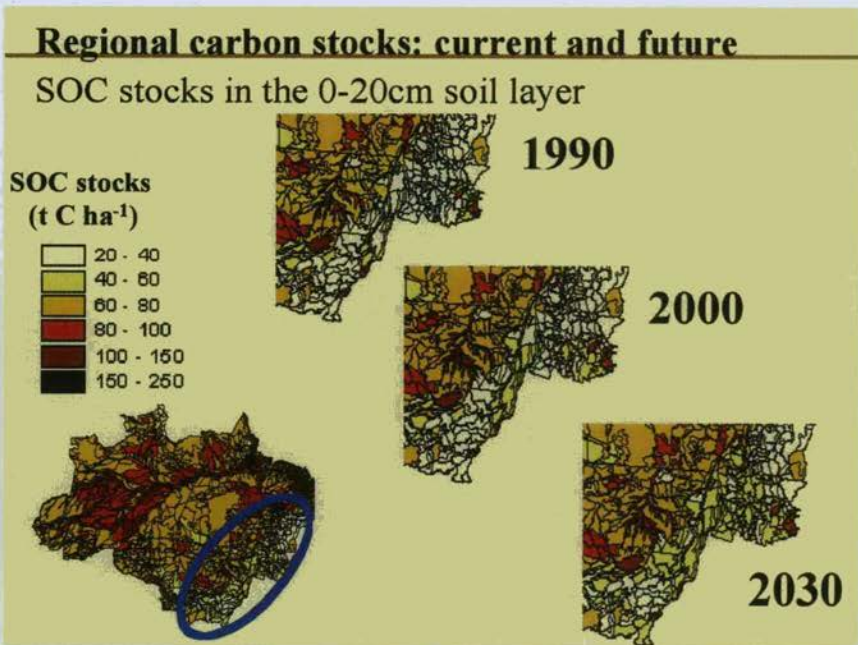
2) Sequence applicable to wetter, cultivated areas:



⁴ Maitima, J, et al., 2004. Regional Syntheses Paper: The linkages between land-use change, land degradation and biodiversity across East Africa. LUCID Working Paper Series Number: 42, ILRI.

Assessment of Soil Organic Carbon Stocks and Change at National Scale (GEFSOC) is a targeted research medium sized project that has and during the past three years developed a tool, the GEFSOC Modeling System, which couples two soil organic carbon models (Roth-C and Century) with Geographic Information System and is driven by national or regional scale datasets of soils, climate, and land use. The model will allow land use planners and policy makers to estimate the effects of land use and land management plans on soil organic carbon stocks. An example of estimation of soil organic carbon stocks in 1990, 2000 and 2030 in the Brazilian Amazon with the GEFSOC Modeling System is given in Box SOC changes in the Brazilian Amazon.

Additionally, the system can highlight geographical areas that are potentially at risk from land degradation, alerting land use planners to the consequences of unsustainable land, management practices in fragile areas, and hence will aid national and regional land use planners in realizing the goals of the UNCCD.



BOX: SOC Changes in the Brazilian Amazon

3. Development, Replication and Upscaling of Tools, Methodologies and Good Practices

Identification and testing of good practices in sustainable land management

UNEP's land degradation portfolio support the identification, testing and scaling up of practices that improve soil productivity, improve quality and quantity of biomass production and at the same time are economically viable and culturally acceptable.

These issues are addressed by projects under:

- **OP1 on Arid and Semi-Arid Ecosystems**, such as the Desert Margins Programme; and Management of Indigenous Vegetation for Rehabilitation of Degraded Rangelands in the Arid Zone of Africa;
- **OP13 on Agrobiodiversity**, such as the GEF/UNEP/UNIDO project on Enhancing conservation and rationale Utilization of Medicinal, Aromatic and Pest-icidal Plants through Sustainable Land Management; and Dryland Livestock Wildlife Environment Interface Project
- **OP15 on Sustainable Land Management**, such as Sustainable Management of Inland Wetlands in Southern Africa: A Livelihoods and Ecosystems Approach.



Plate 4: Small-scale irrigation system developed by DMP tested in Niger.

Box: Desert Margins Programme (DMP)

Areas of transition (ecotones) between more or less arid regions harbour globally significant biodiversity, and are also increasingly being recognized as important areas of speciation and genetic variability. However, areas experiencing desertification are extensive in Sub-Saharan Africa in the regions bordering the Sahara and Kalahari deserts. The gradient of aridity from the core of the Sahara and Kalahari deserts to the neighboring arid and semi-arid lands acts as a natural screener of genetic adaptation to aridity. Although total number of species is lower in these areas than other biomes, the percentage of endemism is very high. Land fragmentation that results from the expansion of crop agriculture, associated with deforestation and sedentary overgrazing, threaten the biodiversity of these ecosystems. There is a strong correspondence between the areas of land degradation and the arid (100-400 mm rainfall per year) and semi-arid zones (400-600 mm rainfall per year).

The imperative for more effective utilization of resources to address common problems in drylands has brought together nine countries of sub-Saharan Africa: Kenya, Botswana, Burkina Faso, Mali, Namibia, Senegal, Niger, South Africa, and Zimbabwe into the Desert Margins Programme (DMP). The DMP will build on the existing National Action Programs (NAPs) of the CCD and involve both development and action-research efforts to unravel the complex causal factors of biodiversity loss through land degradation, and formulate and pilot appropriate solutions.

The overall objective of the DMP is to arrest land degradation in Africa's desert through demonstration and capacity building activities. The GEF increment to this project will enable the programme to address issues of global environmental importance, in addition to the issues of national economic and environmental importance, and in particular the loss of biological diversity, reduced sequestration of carbon, and increased soil erosion and sedimentation. The project will make a significant contribution in reducing land degradation in the marginal areas and help conserve biodiversity. Guidelines and recommendations domains and supportive national policies that address biodiversity concerns will be set in place in implementing countries.

Development of policy instruments

This involves development and strengthening of regional agreements and policies that reduce land and resource-use conflicts, tenure insecurities, etc. at regional, national as well as community level. Projects contributing to this objective include Integrated Ecosystem Management in Shared Catchment between Niger and Nigeria, Integrated Management of the Fouta Djallon Highlands, Sustainable Land Management in the Transboundary Gran Chaco ecosystem in South America, and Sustainable Land Management in the High Pamirs and Pamir-Alai Mountains.

Developing tools for disaster preparedness

This includes the development of tools to strengthen country capacity to mitigate land degradation caused by extreme weather events and climate change, such as desiccation and salinization (in case of drought), siltation and landslides (in case of flooding). A medium-sized project implemented by UN-Habitat aims at developing such tools to reduce the vulnerability to floods in the lower Limpopo basin in Southern Africa .



Plate 5: Salinization of agricultural land in Northern Nigeria.

Box: Sustainable land use planning for integrated land and water management for disaster preparedness and vulnerability reduction in the lower Limpopo Basin

The Lower Limpopo basin presents a highly significant vegetal and animal diversity, which enhance the global importance of its ecosystems. As natural phenomena, flooding and floods are an integral part of the hydrological cycle and cannot be managed in isolation. High flows propagate along the drainage network of a basin, thus affecting both upstream and downstream parts. The lack of adequate land use planning and the uncoordinated relocation of affected communities in response to flooding has had a negative impact on fragile ecosystems, thus threatening the area's biodiversity: affected families (Internally Displaced People) tend to resort to deforestation activities to provide themselves with shelter and firewood. However, if the settlements dimension is properly addressed through improved land-use planning, negative impacts of floods and natural disasters on susceptible bio-diverse environments could be minimised.

The overall objective of the project is to develop and implement participatory land use tools and plans for sustainable land management in the Lower Limpopo River Basin in order to reduce the impact of floods on land, ecosystems and human settlements. In order to deal effectively with flooding and related impacts on ecosystems it will develop and implement a regional collaborative framework that encompasses:

- a) an integrated approach to land use planning and management;
- b) a reliable flood forecasting and warning system linking the three countries (Mozambique, South Africa and Zimbabwe);
- c) effective mechanisms to receive, analyse and react to early warning information as well as to implement disaster mitigation measures and contingency plans;
- d) capacity building for local and national authorities focusing on cross-sectoral planning, implementation of actions and monitoring, and
- e) community-based, eco-sustainable land use planning based on participatory approaches including vulnerability reduction strategies.

Demonstration projects

UNEP is currently supporting two demonstration projects on sustainable land management in tropical mountain forest ecosystems in Kenya, namely **Development and Implementation of a Resource Management Plan for Mt Marsabit**, and, together with IFAD, the **Mt Kenya East Pilot Project for Natural Resources Management**. Both these projects have been preceded by areal surveys and assessments carried out by UNEP on changes in forest cover and related threats. Together with the Aberdare mountain range in Kenya, Mt Marsabit and Mt Kenya were identified as hotspots of deforestation caused largely by high pressure on resources and resource-use conflicts. Hence, both projects will have major components dealing with conflict resolution between conservation and agriculture in these critical watersheds.



Plate 6: Women collecting firewood from the forest on Mt. Kenya.

4. Integrated Natural Resources Management in Transboundary Ecosystems

The land degradation portfolio includes several projects in transboundary semi-arid and arid ecosystems around the world that promote regional cooperation and coordination of activities across political and sectoral boundaries in spatially and temporally variable environments. Several of the projects also support the implementation of the Sub-regional Action Plans (SRAPs) of the UNCCD that have been specifically designed to address transboundary land degradation problems that have negative externalities across borders, such as sedimentation and siltation of downstream areas, distortion of the hydrological functioning of transboundary watersheds, and disruption of wildlife mobility and traditional transhumance and pastoralism.

UNEP supports many sustainable land management projects in Africa, which together with Central Asia has the most vulnerable drylands.⁵ UNEP also has a growing number of projects in other regions where land degradation, particularly desertification and deforestation, are serious problems reflected in regional policy frameworks, such as in Latin America and the Caribbean, and Central Asia.

Africa

Most of Africa is at an advanced stage in developing and implementing SRAPs of the UNCCD, and UNEP is currently assisting three sub-regions in addressing transboundary concerns and to implement their SRAPs through mobilization of GEF and other resources. These projects are also consistent with the priorities outlined in the Environment Initiative of NEPAD.

West Africa: Projects contributing the implementation the SRAP for West Africa and Chad include Integrated Ecosystem Management in Shared Catchment between Niger and Nigeria, a project together with FAO on Integrated Natural Resources Management of the Fouta Djallon Highlands and the GEF/UNDP/UNEP project on Community-based Rehabilitation of Degraded Lands of Transboundary Areas of Senegal and Mauritania.

⁵ Ecosystems and Human Well-being: Desertification Synthesis. Millennium Ecosystem Assessment, 2005.

Box: Integrated Ecosystem Management in the Transboundary Areas between Nigeria and Niger

Phase I: Strengthening of legal and institutional frameworks for collaboration and pilot demonstrations of Integrated Ecosystem Management

The project aims at ensuring conservation and sustainable use of natural resources within the economic and social development frameworks of the transboundary area of Nigeria and Niger. It is a project born out of the observations made by the two countries on the mixed results of fragmentary and isolated interventions, and on the negative impacts of transboundary reciprocal externalities.

Despite the efforts made by the two governments for more than four decades, desertification persists and manifests itself in the field through disappearance of vegetation cover, impoverishment of soils, reduction of water resources, destruction of biological diversity and internal and external population migration. These processes exacerbate the conflicts among the different users of natural resources by increasing livelihood vulnerability of the communities whose local economies are increasingly being weakened. The aggravating factors are many: political-institutional, socio-economic or related to the production systems.

The project will create conditions for sustainable integrated ecosystem management and thereby improve livelihoods in four shared catchments between the two countries. This will be achieved through:

- (1) developing an integrated legal and institutional framework for collaboration and coordinated financing from the Niger-Nigeria Joint Commission for Cooperation to community-based organisations;
- (2) harnessing and improving on research-based and indigenous knowledge, and cultural values, to support natural resource management, conservation and productivity; and
- (3) developing and implementing subregional, catchment and community level ecosystem management plans through participatory and inclusive processes. These plans when implemented will consolidate regional cooperation, conserve habitats and biodiversity, manage water resources, promote sustainable land use practices, control degradation trends, build institutional capacity, improve equity and reduce the vulnerability of local communities to environmental change.

The project responds to the priority of the West Africa SRAP on Sustainable Management of Shared Water Resources, which recommend actions, such as (i) assessment of the availability of water resources, and strengthening of a water resources information system; (ii) capacity-building, institutional strengthening and technical and scientific cooperation; (iii) support to institutional, legislative, regulatory and economic reforms; and (iv) support to cooperation on integrated water resources management in international river, lake and hydrogeological basins, including the establishment of transboundary pilot areas.

Southern Africa: The **Kalahari-Namib Project**: enhancing decision-making through Interactive Environmental Learning and Action in Molopo-Nossob River Basin in Botswana, Namibia and South Africa, contributes to the implementation of the SADC SRAP.

Box: Kalahari-Namib Project

This transboundary project promotes the joint management of the Kalahari-Namib ecosystem in Southern Africa. It is essentially aimed at combating land degradation and desertification and enhancing the livelihoods of communities dependent on these marginal dryland areas. The project addresses modification of responses by decision-makers at all levels to desertification through facilitated consultation and integrated learning. This process of interactive learning and action will be applied to the integrated management of natural resources, involving key stakeholders in the Molopo-Nossob River Basin in Botswana, Namibia and South Africa.

The project proposed forms part of the larger *Kalahari-Namib Action Plan* for the sustainable management of the Kalahari-Namib ecosystem that was inaugurated in 1989. It later became an integral part of the SADC Regional Policy and Strategy for Environment and Sustainable Development. At the same time it was also included in the SADC sub-regional Case Study on Drought and Desertification as programmes/projects under SADC Implementation. South Africa was subsequently included in the Action Plan. In the CCD Consultation on Implementation of the United Nations Convention to Combat Desertification in Southern Africa (In March 1995), it was introduced as one of the SADC Sub-regional Action Programmes to Combat Desertification (SRAP).

East Africa: In East Africa, two projects are under development: Trans-boundary Agro-Ecosystem Management Programme for the **Lower Kagera River Basin** together with FAO; and Sustainable Management of Regional Natural Resources and Biodiversity in the IGAD Region through Building Capacity in Environment Assessment and Monitoring.

Box: Lower Kagera Project

The Kagera River Basin occupies a strategic position in Africa providing a major catchment for the largest inland lake and up to 10% of the water of the downstream Nile Basin. It forms the upper part (75%) of the Lake Victoria basin. The river basin originates in the highlands of Rwanda and Burundi to flow northwards as the Kagera River along the border between Rwanda and Tanzania. The global values of the lower basin are linked to its transboundary ecosystems and to the important, and in some cases unique, biodiversity associated with the characteristic **agricultural ecosystems**. The highly variable rainfall and biological processes together with the varied land-livelihood systems developed by different socio-economic and cultural groups, have led to the conservation and development of characteristic highly adapted species (drought resistant plant species, mobile animal races) and high within-species diversity. However, land degradation resulting from unsustainable land use and management practices is a major threat to these biodiverse systems, that have been developed and maintained over generations and to the sustainability and resilience of the pastoral, cropping and wetland ecosystems. The full project is expected to have the following components:

- Establishment of national and transboundary **co-ordination mechanisms**.
- Creation of an **enabling policy and regulatory environment** and provision of incentive measures to conserve and restore biodiversity and sustainable and productive systems.
- **Institutional strengthening and capacity-building** at all levels, including data and information management, land use/ecosystem mapping and decision support systems and tools for promoting participatory and community-led planning processes.
- **Transboundary diagnostic analysis** to assess the status and trends in terms of biophysical and human management dimensions and interactions, including valuation of the benefits of integrated ecosystem management.
- **Development and implementation of an action-oriented Transboundary Agro-Ecosystem Management Programme**.
- **Awareness raising, natural resources management education and information-sharing**; and
- **Monitoring and evaluation** and feedback.

Latin America and the Caribbean

UNEP is supporting finalization and implementation of SRAPs for several sub-regions in LAC through projects such as Sustainable Land Management in the Transboundary **Gran Chaco Ecosystem** in South America, and Preventing Land Degradation in **Small Island Ecosystems in the Caribbean** through Sustainable Land Management.

Box: Sustainable Land Management in the Transboundary Gran Chaco ecosystem in South America

The Gran Chaco is a biogeographic region that covers 1,000,000 square kilometers. It is located in the center of the South American continent. It encompasses the Center-North of Argentina, the West of Paraguay and the Southeast of Bolivia. The Gran Chaco is a unique ecosystem with special characteristics and limitations and a proven wealth of biological diversity, hosting one of the greatest dryland ecosystems of South America, as well as large, varied wetlands. The Chaco is the greatest area covered by forests in the Americas after the Amazon and it is the largest system in the neo-tropical area. Its forests and arid, semi-arid and humid plains harbour a biological diversity, which is greatly significant at the international level.

The project aims to (1) mainstream sustainable land management into the SRAP Chaco within the framework of the UNCCD as well as into national policy frameworks; (2) formulate and implement integrated local and transboundary land use planning frameworks; and (3) build community capacity in SLM. The components of the project will be the following:

- Creation of an enabling environment for sustainable land management in the transboundary Gran Chaco ecosystem through strengthening of the national and regional policy and collaborative frameworks, enforcement of legislation through the integration of environmental criteria into territorial planning, and the development of local and transboundary sustainable land use planning frameworks.
- Development of monitoring tools for data collection on land degradation and ecosystem status and development of a decision-support system.
- Building of capacity of local communities including indigenous groups, in sustainable land management, in order to alleviate poverty and development of participatory mechanisms.
- Pilot activities on rehabilitation of degraded land that builds on indigenous knowledge in order to restore the integrity and functioning of the natural ecosystem.

Central Asia

A transboundary project linked to the Central Asia SRAP that will address land degradation problems in the “water tower” of Central Asia entitled Sustainable Land Management in the High Pamir and Pamir-Alai Mountains is under development together with United Nations University (UNU). In addition, a medium-sized project is being implemented to provide Support to the Implementation of the Regional Environmental Action Plan (REAP) for Central Asia.

Box: Sustainable Land Management in the High Pamir and Pamir-Alai Mountains - an Integrated and Transboundary Initiative in Central Asia

As in all former Soviet Union states, the transition to a market economy has led to profound changes in Central Asian countries. Mountain areas have been particularly strongly affected by the economic and social transformation processes. The forced return to primary activity and subsistence farming in the context of changing and inadequate natural resource management legislation and limited implementation capacity have posed significant pressure on the environment of mountainous regions, straining its carrying capacity, and thus progressively enclosing local populations in the vicious circle of poverty. The Pamir mountain ranges are a noteworthy case in point. The project focuses on the High Pamirs and Pamir-Alai mountain ranges, which are mainly shared by Tajikistan and Kyrgyzstan. The mountains' northern chains form the border between the two countries. The Pamir Mountains cover about 50 per cent of the territory of Tajikistan. The Pamir-Alai range constitutes the southernmost part of Kyrgyzstan, which is similarly highly vulnerable to land degradation and natural disasters, such as landslides and mudflows, with calamitous consequences for the densely populated southern stretches of the country as well as the Tajik Pamirs.

The main objective of the project is to develop and implement an integrated sustainable land management system for the preservation and rehabilitation of the ecosystems and watersheds in the High Pamir and Pamir-Alai mountain areas as a component of sustainable development of the natural environment and local populations living in the concerned mountain ranges and the adjacent lowlands. This will be achieved through a win-win strategy leading to improved land and water management as well as improved rural livelihoods. The envisaged 4 + 4 -year full project will focus on the following:

- Mainstreaming of sustainable land management in relevant policies, institutions and programmes
- Development and implementation of innovative approaches to sustainable land management.
- Creation and institutionalisation of a trans-national regional policy dialogue and development of joint management plans and policy frameworks for sustainable land management of the High Pamirs and Pamir-Alai mountain range.
- Establishment of a knowledge and monitoring system and a database on status and trends in land and water management, for decision-support and for project monitoring and evaluation.
- Evaluation of the experiences made in the project in order to provide a model methodological framework for programme design and implementation of sustainable land management activities in comparable transboundary mountain regions.



Plate 7: Soil erosion on steep slopes in the Alai mountains, Tajikistan.

South and Southeast Asia

Two regional projects are under development that are not transboundary in nature but nevertheless address common threats to ecosystems typical of the two sub-regions. Combating Desertification in South Asia: the Agriculture-Environment Nexus is a full-size project under development with **India and Pakistan** that will try to find solutions to the management of severely degraded drylands on the sub-continent. In Southeast Asia a medium-sized project is under development with Thailand, Laos and China that focuses on sustainable management of the forest resources in **Montane Mainland Southeast Asia (MMSEA)**.

Box: Combating Desertification in South Asia: the Agriculture-Environment Nexus

South Asia features the world's densest concentration of poverty. The poorest in this region inhabit its drylands. The overwhelming majority of those drylands are located in two countries: India and Pakistan. The project will find ways to make agricultural development more environmentally sustainable and remunerative for the poor in three target areas that are among the poorest and worst-affected by dryland degradation: the Barani zone of Pakistan, the southeastern part of Rajasthan State in India, and the drier south-central zone of Andhra Pradesh State in India. These three areas form a representative sample across a vast transect of the drylands that stretch from south-central India to the base of the Himalayas. They are representative both of the biophysical and socio-economic conditions that plague hundreds of millions living across this agro-ecozone. The project is expected to result in the following outcomes:

- Enhanced understanding of the basic drivers and dynamics of land degradation in these areas
- Enhanced policy and institutional options, context and consequences
- New land use options that balance sustainability with improved livelihoods
- Increased carbon sequestration to help combat global warming
- Improved knowledge exchange

A cross-location analysis will provide a broader understanding of dryland degradation that will be extremely valuable for drawing both regional and global lessons. Global impacts will be delivered through project components focused on carbon sequestration and climate change early-warning and decision-support systems.

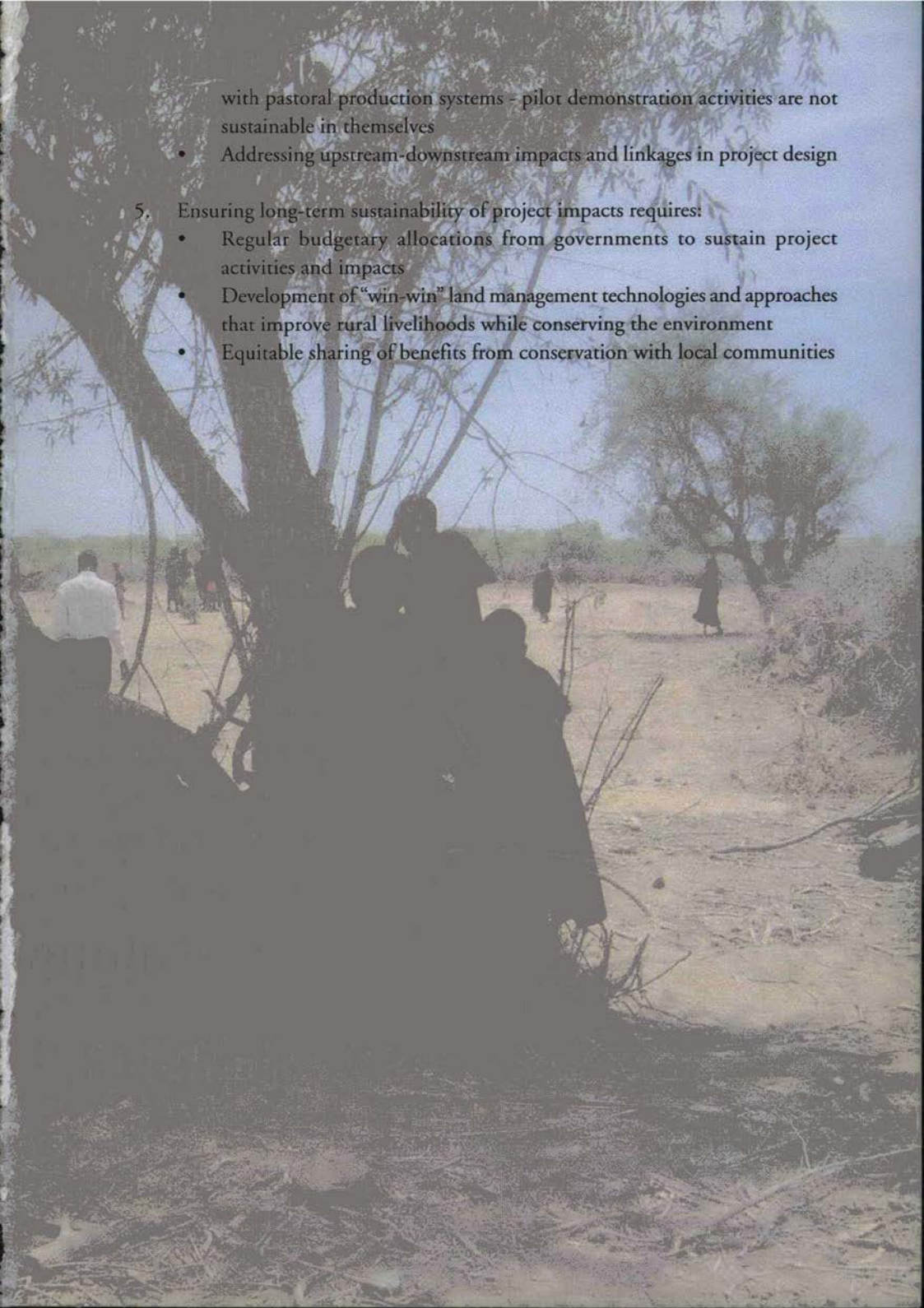
Experiences and Lessons Learned

Lessons from the different types of GEF projects implemented by UNEP are being integrated into new projects in the quickly growing Land Degradation portfolio. Some key lessons are summarized below.

1. Capacity building
 - Capacity building of national focal points and regional institutions is a long-term process
 - Communication, dissemination of information and M&E should be an integral part of projects
 - Intersectoral coordination and mainstreaming of SLM in economic development frameworks should be promoted
 - Capacity building of local communities in SLM is a process which cannot be fast-tracked to suit project time frames
2. Environmental assessment and generation and dissemination of knowledge
To achieve impact of the results, it is important to:
 - Establish linkages/dialogue with policy- and decision-makers
 - Design information products that can be used by decision-makers
 - Include dissemination and outreach to all target groups in the project budget
 - Impacts of scientific and academic research in projects will be most effective when scientists spend time at project sites directly interacting with stakeholders through, for example, feed-back workshops.
3. Development, replication and upscaling of tools, methodologies and good practices
 - Mechanisms for scaling up and out of good practices should be included in project design as well as publication and dissemination of results
 - Adaptive management approaches are needed in order to cope with high climatic variability in arid and semi-arid zones.
4. Integrated natural resources management in transboundary ecosystems
 - Important to resolve land-use conflicts and conflict resolution mechanisms should be included in project design
 - Important to develop transboundary rangeland management plans that regulates equitable access to pastures and water resources in projects dealing

with pastoral production systems - pilot demonstration activities are not sustainable in themselves

- Addressing upstream-downstream impacts and linkages in project design
5. Ensuring long-term sustainability of project impacts requires:
- Regular budgetary allocations from governments to sustain project activities and impacts
 - Development of “win-win” land management technologies and approaches that improve rural livelihoods while conserving the environment
 - Equitable sharing of benefits from conservation with local communities



SUMMARY OF UNEP GEF LAND DEGRADATION PORTFOLIO

APPROVED UNEP /GEF PROJECTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	GEF Grant (US\$M)	Cofinance (US\$M)	Total Proj. Cost (US\$M)	Executing Agency	Current Project Status
Multi-regional, multi-country	Brazil, China, Ghana, Kenya, Papua New Guinea	UNEP	BD	STRM	FP	People, Land Management, and Environmental Change	6.176	4.817	10.993	United Nations University (UNU)	Project completed. Numerous reports and published books (e.g. Harold Brookfield's "Exploring Agrodiversity"; Stocking & Murnaghan's, "Land Degradation - Guidelines for Field Assessment"). Best methods and working guidelines published in "Cultivating Biodiversity: the Understanding, Analysis and Use of Agrodiversity". A list of publications is provided at the PLEC web site: http://www.unu.edu/env/plec .
Africa	Mauritania, Senegal	UNDP/UNEP	BD	1	FP	Biodiversity Conservation through Participatory Rehabilitation of Degraded Lands of Arid & Semi-Arid Transboundary Areas of Mauritania & Senegal	7.996	4.370	12.366	UNDP; UNOPS; Mauritania & Senegal - National Ministries	Project under implementation.
Africa	Botswana, Kenya, Mali	UNDP/UNEP	BD	1	FP	Management of Indigenous Vegetation for the Rehabilitation of Degraded Rangelands in the Arid & Semi-Arid Zone	9.054	4.330	13.384	UNDP; UNOPS; Botswana, Kenya, Mali - National Ministries	Project under implementation. Website: www.twp.rcu.org .
Africa	Botswana, Burkina Faso, Kenya, Mali, Namibia, Niger, Senegal, South Africa, Zimbabwe	UNEP	BD	1	FP	Desert Margins Programme (Tranche 1)	4.987	10.230	15.217	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	First phase of implementation completed as planned. Second tranche funding approved.
Africa	Botswana, Burkina Faso, Kenya, Mali, Namibia, Niger, Senegal, South Africa, Zimbabwe	UNEP	BD	1,12,13	FP	Desert Margins Programme (Tranche 2)	5.617	22.699	28.316	International Crops Research Institute for the Semi-Arid Tropics (ICRISAT)	Second phase of implementation underway. Website: www.dmpafrica.net .

APPROVED UNEP/GEF PROJECTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	GEF Grant (US\$M)	Co-finance (US\$M)	Total Proj. Cost (US\$M)	Executing Agency	Current Project Status
Asia/Pacific	China	UNEP	MF	12	FP	Nature Conservation and Flood Control in the Yangtze River Basin	4.000	22.950	26.950	State Environmental Protection Administration (SEPA), Government of China	Appraisal completed. GEF EOD endorsement gained 30 June 2005. Preparing for implementation.
Africa	Niger, Nigeria	UNEP	MF	12	FP	Integrated Ecosystem Management (IEM) of Natural Resources in the Transboundary Areas of Niger Republic and Nigeria (Phase 1) - Strengthening of legal and institutional frameworks for collaboration and pilot demonstrations of IEM	5.375	9.284	14.659	United Nations Office for Project Services (UNOPS), Federal Ministry of Environment and Federal Ministry of Water Resources (Nigeria), Ministère de l'Environnement et de la Lutte Contre Désertification and Ministère de l'Eau (Niger), in collaboration with Niger-Nigeria Joint Commission for Co-operation (MNUCC) and the Economic Community of West African States (ECOWAS).	Project in appraisal.
Global	Global	UNEP	LD	15	FP	Land Degradation Assessment in Drylands (LADA)	7.725	9.055	16.780	UN Food and Agriculture Organisation (FAO)	Project in appraisal.
Africa	Kenya	UNEP	MF	12	FP	Mount Kenya East Pilal Project for Land and Water Management	5.050	21.840	26.910	International Fund for Agricultural Development (IFAD) in collaboration with UNOPS, with MENR, Forest Department, and KWS	Project in appraisal.
Multi-regional, multi-country	Brazil, Burkina Faso, Egypt, Jamaica, Jordan, Kuwait, Mali, Mexico, Mongolia, Morocco, Nigeria, Pakistan, Senegal, Syria, Tunisia	UNEP	BD	1	MSP	Promoting Best Practices for Conservation and Sustainable Use of Biodiversity in Global Significance in Arid & Semi-Arid Zones	0.750	0.150	0.900	Third World Academy of Sciences (TWAS)	Project completed. Case studies published in Lemons, J., Reginald, V. and Schaffer, D. (eds.), 2003, Conserving Biodiversity in Arid Regions: best practices in developing nations. Kluwer Academic Publishers).

APPROVED UNEP/GEF PROJECTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	GEF Grant (US\$M)	Co-financing (US\$M)	Total Proj. Cost (US\$M)	Executing Agency	Current Project Status
Latin America	Brazil, Chile, Mexico	UNEP	BD	1	MSP	An Indicator model for Dryland Ecosystems in Latin America	0.750	0.361	1.111	Natural Heritage Institute (NHI)	Project completed with all anticipated outputs, including an Indicator Model and databases for pilot sites.
Africa	Kenya	UNEP	BD	1	MSP	Lake Baringo Community-based Integrated Land and Water Management Project	0.750	0.230	0.980	UNOPS	Project completed February 2004. Overall evaluation rating was very good. Web site: www.lakebaringoproject.org.
Africa	Kenya, Uganda, Tanzania	UNEP	BD	1	MSP	Land Use Change Analysis as an Approach for Investigating Biodiversity Loss and Land Degradation	0.796	0.646	1.442	International Livestock Research Institute (ILRI)	Project completed successfully in 2004. Regional synthesis papers: (1) The linkages between land-use change, land degradation and biodiversity across East Africa; (2) A methodological guide on how to identify trends and linkages between changes in land use
Multi-regional, multi-country	Brazil, India, Jordan, Kenya	UNEP	MF	12	MSP	Assessment of Soil Organic Carbon Stocks and Change at National Scale	0.908	1.130	2.038	International Geosphere Biosphere Programme (IGBP)	All activities addressing the six main objectives of the project have been implemented fully. All seven outputs including a generic tool, the GEFSOC Modeling System for quantifying the impact of land management scenarios on carbon sequestration in soils have been achieved. Terminal evaluation expected to be concluded October 2005. Website: www.rdg.ac.uk/gefsoc.
Asia/Pacific	China, Mongolia	ADB/UNEP	MF	12	MSP	Prevention and Control of Dust and Sand Storms in Northeast Asia	0.500	0.715	1.215	Asian Development Bank (ADB)	ADB, acting under the policy of expanded opportunities, is the GEF agency for this project.

APPROVED UNEP /GEF PROJECTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	GEF Grant (U\$SM)	Cofinance (U\$SM)	Total Proj. Cost (U\$SM)	Executing Agency	Current Project Status
Global	Global	UNEP	LD	15	MSP	Global support to facilitate the early development and implementation of land degradation programs and projects under the GEF Operational Programme no. 15	0.722	0.250	0.972	UNEP, UNDP, World Bank, GEF Secretariat	A series of nine sub-regional training workshops was completed, attended by around 400 participants from 130 countries. A Training Handbook and Guidelines on OP 15 were finalized and translated in several UN languages.
Africa	Kenya	UNEP	LD	15	MSP	Development and implementation of a sustainable resource management plan for Marsabit mountain and its associated watersheds.	0.949	2.523	3.472	Agricultural Research Foundation (AGREF); UNOPS	Project under implementation.
Africa	Mozambique, South Africa, Zimbabwe	UNEP	LD	15	MSP	Sustainable Land Use Planning for Integrated Land and Water Management for Disaster Preparedness and Vulnerability Reduction in the Lower Limpopo Basin	0.995	1.859	2.854	UN-HABITAT; Mozambique: Ministry of Environmental Affairs (MICOA). South Africa: Department of Water Affairs and Forestry and the Department of Provincial and Local Government. Zimbabwe: Department of Natural Resources within the Ministry of Mines, Environment and Tourism.	Project under implementation.
Africa	Lesotho, Malawi, Mozambique, South Africa, Swaziland, Tanzania, Zambia, Zimbabwe	UNEP	LD	15	MSP	Sustainable Management of Freshwater Wetlands in Southern Africa : a livelihoods and ecosystem approach	0.999	1.211	2.210	International Water Management Institute (IWMI)	Project under implementation. - First Steering Committee and Project Inception meeting held 11-14 April 2005.
Africa	Burkina Faso, Kenya	UNEP	BD	13	MSP	Dryland Livestock Wildlife Environment Interface Project "DIWEIP"	1.000	2.356	3.356	AU-IBAR	Project in appraisal.

UNEP/GEF PIPELINE WITH APPROVED PROJECT DEVELOPMENT GRANTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	Expected GEF Grant (US\$M)	Expected Financing Confinance (US\$M)	Expected Sub-mission	Executing Agency	Current Project Status
Africa	Guinea, Niger, Nigeria, Sierra Leone	UNEP	BD	13	FP	Enhancing conservation and rationale Utilization of Medicinal, Aromatic and Pesticidal Plants through Sustainable Land Management	6.626	8.050	Jan-06	United Nations Industrial Development Organisation (UNIDO)	PDFB
Africa	Botswana, Burkina Faso, Kenya, Mali, Namibia, Niger, Senegal, South Africa, Zimbabwe	UNEP	BD	1	FP	Desert Margins Programme (Phase 3)	5.366	15.149	Nov-06	International Crop Research Institute in the Semi-Arid Tropics (ICRISAT) with CGIAR Centres and National Agencies	FSP phase 2 ongoing
Africa	Gambia, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, Sierra Leone	UNEP	LD	15	FP	Integrated Management of the Fouta Djallon Highlands	10.718	10.164	Nov-05	FAO (Forestry Resources Division)	PDFB
Eastern Europe - Central Asia	Tajikistan, Kyrgyz Republic	UNEP	LD	15	FP	Sustainable Land Management in the High Pamir and Pamir-Alai Mountains - an Integrated and Transboundary Initiative in Central Asia	6.650	7.475	Jun-06	United Nations University (UNU), Centre for Development and Environment (CDE) at the University of Berne, Switzerland, Tajik National Park - Ministry of Environment and Nature Protection, Tajikistan, Ministry of Ecology and Emergency Situations, Ministry of	PDFB
Africa	Tanzania, Uganda, Rwanda	UNEP	LD	15	FP	Transboundary Agro-Ecosystem Management Programme for the Lower Kagera River Basin	6.700	6.165	Jun-06	Food and Agriculture Organisation of the UN (FAO)	PDFB

UNEP /GEF PIPELINE WITH APPROVED PROJECT DEVELOPMENT GRANTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	Expected GEF Grant (U\$SM)	Expected Financing Co-finance (U\$SM)	Expected Sub-mission	Executing Agency	Current Project Status
Caribbean	Antigua and Barbuda, Barbados, Dominica, Grenada, Jamaica, St Kitts and Nevis, St Lucia, St Vincent and the Grenadines	UNEP	LD	15	FP	Preventing Land Degradation in Small Island Ecosystems in the Caribbean through Sustainable Land Management	6.400	6.200	Nov-06	Regional executing agencies: Organization of American States (OAS) in collaboration with CARICOM (The Caribbean Community) and Tropical Agricultural Research and Higher Education Centre (CAITE), Centro Agronomico Tropical de Investigacion y Enseanza), Antigua and Barbuda; Ministry of Tourism, Culture and the Environment. Barbados: Ministry of Housing Lands and the Environment. Dominica: Ministry of Agriculture and Forestry, Lands and Fisheries. Jamaica: Ministry of Land and the Environment. St. Kitts and Nevis: Ministry of Health and the Environment. St. Lucia: Ministry of Agriculture, Forestry and Fisheries. St. Vincent and the Grenadines: Ministry of Agriculture and Labour. In collaboration with UNEP/KOLAC in its capacity as the Secretariat of the Forum of Ministers.	PDFB
Africa	Botswana, Namibia, South Africa	UNEP	LD	15	FP	Kalahari-Namib Project: enhancing decision-making through interactive environmental learning and action in Mopopo-Nossab River Basin in Botswana, Namibia and South Africa	5.500	8.075	Nov-06	Desert Research Foundation of Namibia	Pipelined concept
Latin America	Argentina, Bolivia, Paraguay	UNEP	LD	15	FP	Sustainable Land Management in the Transboundary Gran Chaco American Ecosystem	6.500	8.400	Nov-06	Organization of American States (OAS) in collaboration with the Environment and Sustainable Development Secretariat (Ministry of Health and Environment, Argentina); General Directorate for Land and Basins Classification (Ministry of Environment, Bolivia);	PDFB

UNEP/GEF PIPELINE WITH APPROVED PROJECT DEVELOPMENT GRANTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	Expected Financing		Expected Sub-mission	Executing Agency	Current Project Status
							GEF Grant (US\$M)	Cofinance (US\$M)			
Africa	Niger, Nigeria	UNEP	MF	12	FP	Integrated Ecosystem Management (IEM) of Natural Resources in the Transboundary Areas of Niger Republic and Nigeria (Phase 2 - Implementation of joint IEM measures)	5.000	9.123	Nov-09	United Nations Office for Project Services (UNOPS), Federal Ministry of Environment and Federal Ministry of Water Resources (Nigeria), Ministère de l'Environnement et de la Lutte Contre Désertification and Ministère de l'Eau (Niger), in collaboration with Niger-Nigeria Joint Commission for Co-operation (MNECC) and the Economic Community of West African States (ECOWAS).	Concept (S/P phase 1 ongoing)
Africa	Kenya, Uganda, Ethiopia	UNEP	LD	15	MSP	Integrating Land Degradation Concerns in Local and National Development Policies and Strategies in Eastern Africa	1.000	0.660	Dec-05	Partnership for African Environmental Sustainability (PAES)	PDFA
Africa	Ghana, Morocco, South Africa, Uganda	UNEP	LD	15	MSP	Stimulating Community initiatives in Sustainable Land Management (SCI-SLM)	1.000	1.000	Dec-05	International Centre for International Cooperation, Vrije Universiteit Amsterdam (CIS), National South Africa - University of the Western Cape: Programme for Land and Agrarian Studies (PLAAS); Morocco - University of Mohamed V (Rabat) and Administration	PDFA
Africa	Djibouti, Eritrea, Ethiopia, Kenya, Somalia, Sudan, Uganda	UNEP	LD	15	MSP	Sustainable Management of Transboundary Natural Resources and Biodiversity in the IGAD Region through Building Capacity in Environment Assessment and Monitoring	1.000	1.000	Dec-05	Intergovernmental Authority on Development (IGAD) in Eastern Africa	PDFA
Asia & Pacific	Democratic People's Republic of Korea	UNEP	LD	15	MSP	Capacity-building and Demonstration in Integrated Land Use Management	0.800	0.400	Jun-06	Ministry of Land and Environment Protection	PDFA

UNEP /GEF PIPELINE WITH APPROVED PROJECT DEVELOPMENT GRANTS

Region	Participating Countries	IA	Focal Area	GEF OP	Project Type	Project Title	Expected GEF Grant (US\$M)	Expected Financing Colinance (US\$M)	Expected Sub-mission	Executing Agency	Current Project Status
Asia & Pacific	Lao PDR, Thailand, China	UNEP	LD	15	MSP	Sustainable Land Management in mountainous regions: Thailand, Lao PDR and China (Yunnan Province)	1,000	1,000	Jun-06	United Nations University (UNU) in collaboration with the Chiang Mai University (Thailand), the National Agriculture and Forestry Research Institute (Lao PDR), Yunnan University (China) and Kyoto University (Japan)	PDFA

LEGEND

Focal Areas:

- BD Biodiversity
- LD Land Degradation
- MF Multi-Focal

Operational Programmes (OP):

- STRM
- 1 Arid and Semi-Arid Zone Ecosystems
- 12 Integrated Ecosystem Management
- 13 Agricultural Biodiversity
- 15 Sustainable Land Management

Project Types:

- FP Full Size Project
- MSP Medium-sized project

Contact persons at UNEP Division of GEF Coordination

Division of GEF Coordination
United Nations Environment Programme
P.O. Box 30552, Nairobi, Kenya
Facsimile +254-2-624041

Anna Tengberg
Senior Programme Officer, Land Degradation
Tel.: +254-2-624147
Anna.Tengberg@unep.org

Daya Bragante
Project Management Officer
Tel.: +254-2-623860
Daya.Bragante@unep.org

Mohamed Sessay
Regional Coordinator, Africa
Tel.: +254-2-624294
Mohamed.Sessay@unep.org

Gabriel Labbate
Regional Coordinator, Latin America and the Caribbean
Tel.: +52-55 5202 6394
Gabriel.Labbate@unep.org

www.unep.org

United Nations Environment Programme
P.O. Box 30552 Nairobi, 00100, Kenya
Tel: (254-20) 624165
Fax: (254-20) 624041
E-mail: gefinfo@unep.org
www.unep.org/gef

