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Walter J. Lusigi  
06/07/2000 06:11 PM

Extn: 34798

GEF

Subject: Global: PDF-A- Dryland Degradation Assessment ( LADA).

The GEF Secretariat has reviewed the above PDF A request and have the following comments:

The objectives of this project proposal are consistent with the GEF operational strategy regarding " integration of efforts to achieve global benefits in other focal areas, where feasible, and in the cross-sectoral area of land degradation , primarily desertification and deforestation". It responds to programs of national priority and that fulfill the obligations of the Conventions - CBD, CCD, and UNFCCC.

The proposal is also consistent with objectives and activities foreseen in the GEF operational program # 1 particularly; - - assessing the impact of natural disturbances and the compound effect of anthropogenic stress;

- Identifying processes and categories of activities which have or are likely to have significant adverse impacts on the conservation of biodiversity;
- piloting selected activities that are country driven national priorities and which develop and/or test methods and tools, such as rapid biological/ecological/social assessment, geographical information systems, and data analysis systems of importance for the conservation of biodiversity; and
- soil conservation and restoration of degraded areas to conserve biodiversity.

The proposed project development should take into account the following:

- Clarify project objectives to take into account relevant convention guidance
- Relate project activities to other programs of other organizations
- Clearly set out activities in terms of geographical distribution
- Clearly elaborate a coordinating mechanism for the project activities
- Clarify sustainability and replicability of project activities
- Define how the project activities will be monitored in the short and long term
- Specify co-funding needs and contribution from other collaborators
- Provide for consultation with, and participation as appropriate of, the beneficiaries and affected groups of people
- Provide for capacity building
- Facilitate networking and exchange of information

The GEF secretariat has no objection to the implementation of this PDF A and further development of this project.

Walter J. Lusigi  
Senior adviser, Biodiversity.

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To: Ahmed.Djoghla@Unep.Org  
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Lars O. Vidaeus  
cc: Gefbio  
Geflwr  
Ramon Prudencio C. De Mesa

EnCorr

Ref #: GEFSEC-N-2000-00178

## PROJECT MANAGEMENT FOR GEFSEC

### Incoming Correspondence Log

Official Use Only

Due Date:

**06/12/2000**

**FOR ACTION: Herbert Acquay**

**STATUS: Open**

**Project Name: Dryland Land Degradation Assesment**

VPU/Dept/Div: GEF	Date Logged: 06/05/2000 11:30:02 AM
Room : G 6-051	Logged By: Ramon Prudencio C. De Mesa (GEF)
Telephone: 458-5781	

#### CORRESPONDENCE DESCRIPTION:

From: Ahmed Djoghlaif  
Organization: UNEP  
Reference #:  
To: Mr. Keneth King  
Dated: 06/05/2000  
Type: OP12  
Subject: PDF A: Global: Dryland Degradation Assesment

#### ACTION INSTRUCTIONS:

*Please reply directly and provide a copy*

#### INFORMATION COPIES:

Colin P. Rees, Mario A. Ramos/Person/World Bank, Kanta Kumari, Maria C. J. Cruz/Person/World Bank, Samia Rechache, Walter J. Lusigi/Person/World Bank



# United Nations Environment Programme

برنامج الأمم المتحدة للبيئة • 联合国环境规划署  
PROGRAMME DES NATIONS UNIES POUR L'ENVIRONNEMENT • PROGRAMA DE LAS NACIONES UNIDAS PARA EL MEDIO AMBIENTE  
ПРОГРАММА ОРГАНИЗАЦИИ ОБЪЕДИНЕННЫХ НАЦИЙ ПО ОКРУЖАЮЩЕЙ СРЕДЕ

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## TELEFAX TRANSMISSION

**To:** Kenneth King  
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**Date:** 5 June 2000

**Copy:** Raphael Asenjo  
Executive Coordinator  
UNDP/GEF

**Ref:** GEF/PDF A

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Executive Secretary  
CBD Secretariat

Hama Arba Diallo  
Executive Secretary  
UNCCD Secretariat

**From:** Ahmed Djoghla  
Executive Coordinator  
UNEP/GEF Coordination Office

**Subject:** PDF A on Dryland Land Degradation Assessment (LADA)

Please find attached for your review and comments a draft PDF A on Dryland Land Degradation Assessment.

Your comments before 12 June 2000 will be highly appreciated.

Regards.

**PDF BLOCK A**

<b>PART I - ELIGIBILITY</b>	
<b>1. Project name:</b> Dryland Land Degradation Assessment (LADA)	<b>2. GEF Implementing Agency:</b> United Nations Environment Program
<b>2. Country or countries in which the project is being implemented:</b> Global	<b>4. Country eligibility:</b> GEF eligible Parties to the Convention on Biological Diversity
<b>5. GEF focal area(s), and/or cross-cutting issues:</b> Biodiversity, International Waters and Climate Change with relevance for the crosscutting issue of Land Degradation	<b>6. Operational program/Short-term measure:</b> 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
<b>7. Project linkage to national priorities, action plans, and programs:</b>	
<p>The New Delhi Statement of the first GEF Assembly in April 1998 requested the GEF, in consultation with the Secretariat of the UN Convention to Combat Desertification (CCD), to better define the linkages between land degradation, particularly desertification and deforestation, and its focal areas in order to help increase GEF support for land degradation activities. In order to meet the request from the Assembly, the GEF Council adopted in December 1999 an Action Plan for Enhancing GEF Support to Land Degradation. The main elements of the Action Plan are:</p> <ul style="list-style-type: none"> <li>(a) Operationalizing the linkages between land degradation and the GEF's focal areas through on-the-ground activities;</li> <li>(b) Strengthening public policy and enabling environment for addressing land degradation including promoting integrated and cross-sectoral approaches to natural resources management;</li> <li>(c) Engaging key stakeholders and mobilizing resources to develop measures to prevent and control land degradation.</li> </ul> <p>The programme of work on dry and sub-humid lands adopted by the Fifth meeting of the Conference of the Parties to the Convention on Biological Diversity, held in Nairobi, Kenya on 15-26 May 2000 points out that there is a clear need for greater knowledge and understanding of dryland biodiversity and the factors affecting its conservation and use. The programme of work identified assessments as one of the two priorities needs. It recognizes that ecosystems of dry and sub-humid lands tend to be naturally highly dynamic systems and assessment of the status and trends of the biological diversity of such lands is therefore particularly challenging. The programme of work recommends that a better understanding of the biological diversity of dry and sub-humid lands, their dynamics, their socio-economic value and the consequences of their loss and change is needed. In adopting the programme of work, the Parties agreed that the operational objective of the assessment is to assemble and analyse information on the state of the</p>	

biological diversity of dry and sub-humid lands and the pressures on it, to disseminate existing knowledge and best practices, and to fill knowledge gaps in order to determine adequate activities.

In addition, a number of agencies, including FAO, IFAD and the Global Mechanism as well as Parties of the Convention to Combat Desertification in those countries experiencing serious drought and/or desertification, particularly in Africa have recently expressed the need for assessment of land degradation. The second meeting of the Conference of the Parties to the Convention to Combat Desertification held in Dakar in December 1998 identified the early warning systems on desertification as a priority and urged countries to start the implementation of information systems on desertification at all levels. The Global Mechanism of the UNCCD identified monitoring of the status of dry-land and early warning as a priority.

Most of the 42 national reports submitted by African countries at the third COP of the UNCCD held in November 1999 in Recife, Brazil identified the need for assessing the status of desertification as a priority. The need for information collection and dissemination as well as exchange of experience at regional and sub-regional levels is including as a priority in most of the nine Nation Action Programme to combat desertification so far submitted by Parties. Such a need is also stressed by the reports submitted to the COP 3 of UNCCD by the regional organizations such as the Permanent Interstate Committee for Drought in the Sahel (CILSS), the Southern African development Community (SADC), IGAD and the Arab Maghreb Union.

Moreover, decision 11 at the COP-3 of the CCD urges the parties as well as international organizations to mobilize technical, scientific and financial support to initiate the testing of impact indicators to enable comparison of status of desertification in national reporting.

An assessment of land degradation and of its impacts on the GEF focal areas will be a first step to address the elements of the GEF Action Plan on land degradation. The LADA will fill information gaps that will facilitate the operationalization of the linkages between land degradation and the GEF focal areas building on the work already undertaken by the Scientific and Technical Advisory Panel of the GEF. It will also provide a policy tool for informed decision-making on desertification control and prevention. The LADA will also contribute to the implementation of the joint work programme between the CBD and the CCD on sustainable use and conservation on dryland ecosystems adopted by the fifth session of the COP of the CBD. It will provide useful information for the implementation of the Biodiversity National Strategies, Plans or Programmes developed by Parties in accordance with Article 6 of the CBD as well as for the implementation of National and Regional Programme of action to combat desertification.

LADA will be implemented on the basis of partnership with all relevant international and regional organizations including the Food and Agriculture Organization, International Fund for Agriculture and Development, the Global Mechanism, the CBD Secretariat, the CCD Secretariat, UNEP/WCMC, UNDP/UNSO, the World Bank, the International Center for Agricultural research in Dry Areas (ICARDA), the international Center for Research in the Semi-Arid Tropics (ICRISAT). The Scientific and Technical Advisory Panel of the GEF will be also closely associated with LADA.

#### **8. GEF national operational focal point and date of country endorsement:**

GEF eligible Parties to the Convention on Biological Diversity

## 9. Project rationale and objectives:

The necessity of having a clear picture of the land degradation status and processes in affected countries has been continuously emphasized since the adoption in 1977 of the United Nations Programme of Action to Combat Desertification.. The information needed usually refers to:

A basic and reliable estimate of the areas affected by the degradation of resources in drylands using a well accepted standardized methodological framework/principles that can be used by actors involved in the combat of desertification at national, regional and international level;

- Harmonization of existing data and information systems dealing with natural resources in drylands, that are or will be produced in the context of numerous initiatives at national level (national information systems and networks), at regional level (regional remote sensing centres, ROSELT, AFRICOVER), and international level (e.g. SOTER, GLASOD, WOCAT, Millennium Assessment of Ecosystems, GIWA, early warning systems on food security, etc.).

To date, although a great deal of data on land resources are available, it is not yet possible to get a clear picture of the status of land degradation at regional or national level. Thus:

- Existing data on the state of degradation of resources are not answering needs:
  - At national level: the available information is scarce, not systematic, not comparable, and does not provide reliable information on the level of degradation of resources and above all on the causes and the trends of desertification; existing documents cannot be used directly for planning purposes at national level in the affected countries.
  - At international level: global data available (e.g. SOTER, GLASOD, GAEZ, WOCAT) still has insufficient resolution to be used in regional and national planning involving the Regional and National Programmes of Action to combat desertification , and do not cover complex socio-economic and environmental interactions.
- Methodologies on land degradation assessment and monitoring are need to be further developed as recognized by the relevant decisions of the Conference of the Parties to the Convention on Biological Diversity. Particularly methods to monitor impacts of land degradation on biodiversity, international waters and climate change need to be better defined. However, most methodologies in existence recommend the use of:
  - Remote sensing and ground truthing of vegetation cover;
  - Use of existing soil maps and surveys, climate data and topographic maps for assessments of vulnerability to wind and water erosion;
  - Use of existing statistics on population and socio-economic variables as well as participatory field surveys for analysis of socio-economic driving forces;
  - Use of field indicators for calibration of broad assessments based on remote sensing and existing data;
- Development of causative models and GIS processing for the integration of data and variables.

The scarcity and unreliability of needed scientific and technical information on land degradation was also pointed out by a STAP (Scientific and Technical Advisory Panel of the GEF) workshop on land degradation held in Dakar, Senegal in September 1996. A STAP follow-up workshop in Bologna , Italy in June 1999 identified, inter alia, the following needs for targeted research in land degradation that could be addressed by LADA:

- Quantification of the extent and intensity of land and water degradation, including both spatial and temporal scales;
  - Inventorying of degraded lands suitable for restoration to more productive uses that would lead enhanced carbon sequestration in soils and vegetation;
- Analysis of feedback linkages between biodiversity and land degradation and ecosystem resilience in drylands.

Hence, the main objective of the LADA is to provide basic standardized information and methodological tools for land degradation assessment at national, regional and global level. An important component will be to assess the impact of land degradation on sensitive ecosystems and international waters, such as shared river basins and watersheds, and coastal ecosystems. LADA will also include a component on relationships between carbon sequestration in drylands and land degradation. Analysis of the impacts of land degradation and interlinkages with the GEF focal areas will be done by using impact indicators of land degradation seriousness such as carbon stocks in dryland soils, ecosystem services, erosion rates and economic indicators. This will in part be achieved by ensuring complementarity and synergies between LADA and the global assessments such as the Millennium Ecosystem Assessment and the Global International Waters Assessments, implemented by UNEP as one of the three Implementing Agencies of the GEF. The LADA, like GIWA, will also provide priorities for GEF interventions in the crosscutting area of land degradation, particularly for sustainable use and conservation of dryland ecosystems and integrated land and water management at the watershed level. It will provide a useful tool for the implementation of the GEF Action Plan on Land degradation as well as the GEF initiative on land and water for Africa initiated by the GEF Heads of Agencies in 1999.

#### 10. Expected outcomes:

The main outputs of the LADA will be:

- A medium-scale (from 1:1 to 2 million according to parameters and areas) comprehensive georeferenced database that can be used by national decision-makers involved in RAP/NAP implementation showing:
  - The different levels of degradation of resources including both actual degradation and risk of degradation:
    - Status of vegetation cover and vegetation types (natural as well as agricultural);
    - Soil erosion (water and wind), soil carbon stocks, salinization etc.;
    - Status of water resources (availability, quality);
  - Processes and dynamics in 'hot spots' of land degradation with identification of:
    - (a) Human induced factors including:
      - Direct, e.g. agricultural practices or land use;
      - Indirect, e.g. low awareness, social conflicts, inappropriate land and natural resources policies, market distortions etc.
    - (b) Climate induced factors (e.g. precipitation trends, droughts and natural disasters);
- Technical guidelines for countries for further use of the LADA database for, for example, implementation of early warning systems, assessments of impacts of land degradation on biodiversity, international waters and climate change.

Different types of output products will be designed according to the demands and needs of different end users, and could include maps of impact indicators, reports, prediction models and a decision-support system.

#### **11. Planned activities to achieve outcomes:**

It is anticipated that the design of the LADA should meet several conditions simultaneously, such as:

- Be realistic and cost effective
- Be flexible and adaptable to various environmental conditions and national needs;
- Be based on a coherent methodology allowing comparison and coupling to national land degradation assessments;  
Capitalize as much as possible on existing databases on soils, conservation approaches, terrain models, population etc.
- Promote an integrated approach linking land degradation to impacts on biodiversity, international waters and carbon stocks in drylands;
- Provide a basis for the preparation and implementation of National and Regional Action Plan to combat desertification;
- Provide reliable data on land degradation for a range of user groups;  
Be targeted at policy-makers.

There is a need to develop a methodology for the LADA that meets the above requirements. It is proposed that the LADA be implemented in two sequential phases. A first preparatory phase will focus on testing of different approaches for land degradation assessment at national, regional and global level using existing databases together with indicators. The second phase will focus on operationalising the LADA so as it can be used as a tool facilitating the implementation of NAPs and SRAPs of the CCD as well as linking this convention to the CBD and the FCCC by assessing the impacts of land degradation on biodiversity, climate change and international waters. It will also assist the implementation of the CBD work programme of dry lands.

FAO will take the lead in the implementation of this activity. It has proposed a scenario for developing the LADA with the main idea to assess land degradation within agroecosystems (step 1), which are homogeneous spatial units both in terms of natural renewable resources and human resources. The assessment within the units is done through i) a preliminary zoning of areas subject to land degradation (step 2) evaluated through an analysis of both actual degradation and risk of degradation using simple models and existing data; ii) a complementary survey (step 3) using remote sensing and intensive ground truthing in sampled areas. In the final analysis (step 4), a systematic assessment of land degradation (status, main causes and trends) and impacts on biodiversity, international waters and climate change is made in each agroecosystem and its subunits. The various steps in the proposed LADA are detailed below:

##### Step 1: Preparing the baseline through the mapping of agroecosystems

Agroecosystems can be identified by stratifying areas in several steps:

1. Agroecological zoning resulting from analysis of climatic data (scale 1:5 to 10 million);
2. Landform zoning resulting from the delineation of main watersheds that are subdivided into morphopedological units using existing data sets, such as SOTER (scale 1:1 to 2 million);
3. Identification of land cover/use based on visual interpretation of high resolution satellite data and existing thematic maps complemented by a field survey with low density sampling



(scale 1:1 to 2 million);

4. Characterisation of socio-economic systems based on population and agricultural statistics and other relevant national statistics (scale 1:1 to 2 million).

The mapping of agroecosystems should be done in collaboration with other global environmental assessments such as the Millennium Ecosystem Assessment and the Global International Waters Assessment. The preparation of the agroecosystems database is considered important because of, inter alia, it is a common base for all applications related to SARD such as food security, preservation of biological diversity and accounting of greenhouse gases.

#### Step 2 Preliminary assessment of actual degradation and risk of degradation

##### (a) Actual degradation

A simple model will be developed that compares trends in long-term series of NOAA NDVI data with rainfall data, assuming that when the NDVI response decreases for a specific level of rainfall in a specific area, the area in question is subject to desertification, while an increase means recovery. This modeling will have to be linked to existing data on land degradation, such as provided by the GTOS network and by GLASOD. The result of this analysis should lead to the development of a map showing three to five levels of degradation and recovery, specifying, when possible, the type of degradation (wind and water erosion, depletion of vegetation cover, salinization etc.)

##### (b) Risk of degradation

A number of models already exist to assess land degradation risk. They usually combine biophysical variables on climate, soil, vegetation cover and topography. It is proposed that a simple model be developed that makes the best use of existing data sets, such as the databases of IIASA, FAO GIEWS (risk due to recurrent droughts), GLASOD, SOTER and the UNEP World Atlas on Desertification. The model should also incorporate the socio-economic data set obtained in step 1. The refining of the model should be made by linking the outputs of the model with the agroecosystems map also obtained in step 1.

#### Step 3: Detailed assessment of land degradation by field sampling and the use of indicators

Broad assessments of actual land degradation and risk of degradation (step 2) are not sufficient, in most cases, to assess the status of degradation and its causes at national and local level. The detailed assessments and field sampling will focus on 'hot spots' of land degradation and areas at risk for degradation within the next few years. Detailed field data will be collected through both rapid and participatory assessments involving both experts and local stakeholders. They will be based on visual observations of land degradation indicators, questionnaire surveys, field verification of large-scale aerial photography as well as participatory mapping and transecting exercises. UNEP/DEAIEW has initiated a field-based assessment of land degradation based on indicators that can be identified by land users themselves. That assessment will form an important input to this step. A special 'field database' will be created for the detailed assessments that will allow for monitoring of changes at specific representative sites that are subject to land degradation. This database will also be important as a basis for sharing of experiences and lessons learnt at the local level on failures and successes in land degradation control.

#### Step 4: Analysis and development of final products

Data collected in all preceding steps will be integrated and analyzed within each agroecosystem

and their sub-units according to the following criteria: i) level of land degradation (wind and water erosion salinization, water availability and quality, soil fertility status, herbaceous and woody vegetation) and areas at risk, ii) impacts of land degradation on biodiversity, climate change and international waters, iii) causes of land degradation (direct and indirect), main processes and feedback mechanisms, iv) trends according to predictions of driving factors and sensitivity and resilience of the environment, v) population at risk; and vi) broad recommendations for remedies.

#### **12. Stakeholders involved in project:**

The primary users of the LADA will be countries affected by land degradation in drylands and their national focal points for the NAPs, sub-regional organizations that are the focal points for the SRAPs (e.g. SADC, ECOWAS, CILSS etc.), as well as civil society and the private sector.

The LADA will also be of use to the Secretariats of the CBD, the FCCC, the CCD and the GEF in identifying priority issues and interventions in drylands.

### **PART II - INFORMATION ON BLOCK A PDF ACTIVITIES**

#### **13. Activities to be financed by the PDF A:**

PDF A resources are being requested to formulate a PDF B proposal. Under the PDF A, the following activities are envisioned:

- a) Conduct a workshop with project stakeholders to discuss LADA methodology, linkages to other global environmental assessments and the GEF focal areas, expected outcomes and objectives and activities of LADA, and to determine priority concerns and expectations.
- b) Prepare a PDF B proposal that will further detail the methodology of the LADA.

It must be noted that GTZ has indicated an interest in financing the public awareness activities during the implementation phase of the full scale project.

#### **14. Expected outputs and completion dates:**

- a) Outline of methodological approach unanimously accepted by the various partners;
- b) Identification of key institutions to be involved in the next step;
- c) PDF B Proposal, in GEF format;
- d) Identification of partners and donors to develop and finance the non-GEF component of the future project.

The PDF A will be completed over a period of five months.

#### **15. Other possible contributors/donors and amounts for the Block A:**

FAO	(in kind)
IFAD	( in kind)
GM/CCD	US\$25,000
GTZ	(to be determined)

#### **16. Total budget and information on how costs will be met for the Block A (including the**

<b>Block A grant):</b>				
<b>Budget Item</b>	<b>GEF</b>	<b>Other (\$)</b>	<b>Other (in-kind)</b>	<b>Total</b>
Consultants	5,000	5,000		10,000
Travel	10,000	10,000		20,000
Workshop	10,000	10,000		20,000
<b>TOTAL</b>	<b>25,000</b>	<b>25,000</b>		<b>50,000</b>
<b>PART III - INFORMATION ON THE APPLICANT INSTITUTION:</b>				
<b>17. Name:</b> FAO in collaboration with IFAD, the Global Mechanism ,ICARDA, ICRISAT, and GTS.		<b>18. Date of establishment, membership, and leadership:</b>		
<b>19. Mandate/terms of reference:</b>		<b>20. Sources of revenue:</b>		
<b>21. Recent activities/programs, in particular those relevant to the GEF:</b> GLASOD, SOTER, WOCAT, AFRICOVER				
<b>PART IV - INFORMATION TO BE COMPLETED BY IMPLEMENTING AGENCY:</b>				
<b>22. Project identification number:</b>				
<b>23. Implementing Agency contact person:</b>  Mr. Ahmed Djoghlaif Executive Coordinator UNEP/GEF P.O. Box 30552 Nairobi, Kenya Ahmed.djoghlaif@unep.org				
<b>24. Project linkage to Implementing Agency program(s):</b> The proposed project falls under UNEP's regular programme on Environmental Assessment, Information and Early Warning (DEAIEW). DEAIEW is already implementing two other global assessments co-funded by the GEF (GIWA and Millennium Ecosystem Assessment). The OAD will also draw on projects in UNEP/GEF's land degradation portfolio, such as 'Management of Indigenous Vegetation for Rehabilitation of Degraded Rangelands in the Arid Zone of Africa' and 'Community-Based Rehabilitation of the Degraded Lands of Transboundary Areas of Senegal and Mauritania', and a number of other land degradation projects under development.				