



United Nations Environment Programme

**Terminal Evaluation
of the UNEP/FAO/GEF Project
“Land Degradation Assessment in Drylands (LADA)”**

Klaus Kellner, Camillo Risoli and Markus Metz

Evaluation Office

May 2011

Acknowledgements

The Team Leader, Prof Klaus Kellner, would like to thank the Supporting Consultant, Mr Camillo Risoli, as well as the GIS/web portal expert, Dr Markus Metz, who have contributed extensively to this report. The evaluation team also thanks the LADA Task and Management Team at the FAO and other participating persons and organisations for their collaboration, inputs, reports, interviews and arrangement of workshops and meetings that were required to conduct the terminal evaluation and produce this report.

The evaluation team is grateful to all the LADA coordinators and their task teams in all the countries for their collaboration, but especially in Argentina, China, Senegal and South Africa who helped in the organisation and coordination of field trips to visit the LADA sites and meet the land users who participated in the project at local level.

LIST OF ACRONYMS AND ABBREVIATIONS

CACILM	Central Asian Countries Initiative for Land Management
CB	Capacity Building
CD	Capacity Development
CILSS	Comité Inter-état pour la Lutte contre la Sécheresse au Sahel
CST	Committee on Science and Technology (of the UNCCD)
DESIRE	Desertification mitigation and Remediation of land
DPSIR	Driving forces, Pressures, States, Impacts, Responses
COP	Conference of Parties
ES	Ecosystem Service
EO	Evaluation Office at UNEP
FAO	Food and Agriculture Organization
GEF	Global Environment Facility
GIS	Geographic Information System
GLADA	Global Land Degradation Assessment for Drylands
GLADIS	Global Land Degradation Information System
GLASOD	Global Assessment of Human-Induced Soil Degradation
IFAD	International Fund for Agricultural Development
INTA	National Institute of Agricultural Technology (Argentina)
IIASA	International Institute for Applied System Analysis
ICRAF	International Centre for Research in Agroforestry
ISRIC	International Soil Reference and Information Centre
LADA	Land Degradation Assessment in Drylands
LADA-L	LADA Local assessment
NDVI	Normalized Difference Vegetation Index
Logframe	Logical Framework
LUS	Land Use System
MDG	Millennium Development Goal
M&E	Monitoring and Evaluation
MTE	Mid-Term Evaluation
NAP	National Action Plan/Programme
NPP	Net Primary Production
NRM	Natural Resource Management
OP	Operational Programme
OSS	Observatoire du Sahel et du Sahara
PALM	Pamir-Alai Land Management
PDF-A/B	Project Development Financing – bloc A/B
PIR	Project Implementation Review
ProDoc	Project Document
ROtI	Review of Outcomes to Impact
SLA	Sustainable Livelihood Approach
SLM	Sustainable Land Management
SMART	Specific, Measurable, Achievable, Relevant, Time-bound
SWOT	Strength, Weakness, Opportunities and Threats
TOR	Terms of Reference
UEA	University of East Anglia
UNCBD	United Nations Convention on Biological Diversity
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC (FCCC)	United Nations Framework for the Convention on Climate Change
UNU	United Nations University
WOCAT	World Overview of Conservation Approaches and Technologies

PROJECT IDENTIFICATION TABLE

GEF project ID:	1329	IMIS number:	GFL/2328-2770-4909
Focal Area(s):	Land Degradation Cross-cutting to Biodiversity, International Waters and Climate Change	GEF OP #:	OP1, OP12 and OP15
GEF Strategic Priority/Objective:	SLM-1	GEF approval date:	29 December, 2005
UNEP approval date:	29/3/2006	First Disbursement:	US\$1,750,000
Actual start date:	1/5/2006	Planned duration:	56 months
Intended completion date:	31/12/2010	Actual or Expected completion date:	31/12/2010 (expected)
Project Type:	FSP	GEF Allocation:	US\$7,000,000
PDF GEF cost:	US\$725,000	PDF co-financing:	US\$875,000
Expected MSP/FSP Co-financing:	US\$8,000,000	Total Cost:	US\$16,600,000
Mid-term review/eval.:	April 2009	Terminal Evaluation (actual date):	January 2011
Mid term review (actual date):	Jan-Mar 2009	No. of revisions:	1
Date of last Steering Committee meeting:	8 December 2010	Date of last Revision:	24/08/2009
Disbursement as of 30 June 2010:	US\$ 5,829,908	Date of financial closure:	N/A
Date of Completion:	N/A	Actual expenditures reported as of 30 June 2009:	US\$ 5,188,690
Total co-financing realized as of 31 December 2010:	US\$ 359,463 cash US\$ 4,974,406 in-kind	Actual expenditures entered in IMIS as of 30 June 2009:	US\$ 4,224,919 (31/12/2009)

Source: UNEP GEF Project Implementation Report (PIR) Fiscal Year 2010

TABLE OF CONTENTS

LIST OF ACRONYMS AND ABBREVIATIONS	I
PROJECT IDENTIFICATION TABLE	II
MAIN REPORT	1
1. EVALUATION BACKGROUND	1
A. CONTEXT	1
B. THE PROJECT	1
C. EVALUATION OBJECTIVES, SCOPE AND METHODOLOGY	4
1. Objective and scope of the evaluation	4
2. Overall approach and methods.....	4
3. Evaluation team, responsibilities and schedule	5
4. Limitations of the Evaluation.....	6
2. PROJECT PERFORMANCE AND IMPACT	6
A. ATTAINMENT OF OBJECTIVES AND PLANNED RESULTS	6
1. Achievements of Outputs and Activities	6
2. Relevance of the project.....	13
3. Effectiveness of the project	14
4. Efficiency of the project.....	17
5. Review of Outcomes to Impacts (ROtI).....	18
B. SUSTAINABILITY AND CATALYTIC ROLE	40
1. Sustainability	40
2. Catalytic role and replication	42
C. PROCESSES AFFECTING ATTAINMENT OF PROJECT RESULTS	43
1. Preparation and readiness	43
2. Implementation approach and adaptive management.....	44
3. Stakeholder participation and public awareness.....	46
4. Country ownership and driven-ness.....	47
5. Financial planning and management.....	47
6. UNEP supervision and backstopping.....	48
7. Monitoring and evaluation	49
8. Complementarities with the UNEP Medium Term Strategy (MTS) and Programme of Work (POW)	49
9. Contribution to FAO's Strategic Framework and Plans	50
3. CONCLUSIONS AND RECOMMENDATIONS	51
A. CONCLUSIONS.....	51
B. LESSONS LEARNED	54
C. RECOMMENDATIONS	56

ANNEXES

- Annex 1: TOR for Terminal Evaluation of LADA project
- Annex 2: Technical report by GIS/web portal expert consultant: Dr Markus Metz
- Annex 3: Templates with questionnaire for LADA Self Assessment
- Annex 4: List of persons interviewed by Team Leader
- Annex 5: Missions by Evaluation Team members (Calendars and Activities)
- Annex 6: Selected bibliography of LADA-related publications
- Annex 7: List of LADA meetings : 2006-2010
- Annex 8: LADA Project Management Organigramme
- Annex 9: Financial statement
- Annex 10: Documents reviewed

EXECUTIVE SUMMARY

1. The project “*Land Degradation Assessment in Drylands (LADA)*” is a global initiative funded by the Global Environment Facility (GEF). The project is executed by the Food and Agriculture Organization (FAO), through its Land and Water Division, in partnership with national institutions in six pilot countries. It is supervised by the United Nations Environment Programme (UNEP) as its GEF implementing agency. The project was approved by GEF on 29 December 2005, financed in May 2006 and eventually started its field operations as late as 2007. Its expected duration was four years, but the project was extended until the end of 2010 following the Mid-term Evaluation (MTE) and, following the Steering Committee meeting early December 2010, another no-cost extension was granted by UNEP for six months bringing the project completion date to June 2011. This Terminal Evaluation of the project is therefore conducted about half a year before the completion of the project and based on information up to 31 December 2010.

2. The GEF grant to the project is US\$7 million and, together with the Project Development Fund (PDF) and co-financing contributions by FAO and six pilot countries, the total budget of the project was estimated at US\$16.6 million. The six pilot countries of the project are Argentina, China, Cuba, Senegal, South Africa and Tunisia, representing different regions of the world. Many national and international organizations, including universities, research centers and other organizations at global, regional, national and local level participate in the project.

3. The LADA project has two principal objectives, i.e. to (i) develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation (land degradation) on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales; and (ii) build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices.

4. These two objectives are realized through four components containing 16 activities. The four components were expected to deliver the following outputs: (1) an improved needs-based and process-driven approach to drylands degradation assessment tested and disseminated; (2) a map with information retrieved from the global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with a special emphasis on areas at greatest risk; (3) detailed local assessments and analysis of land degradation and its impact in the pilot countries; and (4) a proposed global action plan, incorporating main findings from the project, conclusions and recommendations for further action. Component 4 was revised following the MTE and focused on dissemination and scaling-up of LADA results.

5. The Evaluation Team consisted of three persons, i.e. the Team Leader, who put emphasis on the methodology development and land degradation assessment aspects of the project, a Supporting Consultant, who assessed capacity building, policy development and dissemination of lessons learned and best practices, and a GIS/web portal expert. The evaluation approach included a desk review of background and project documentation, a self-assessment exercise by the national LADA Coordinators, interviews with LADA team members, field visits in 4 out of 6 pilot countries, and participation as observers at several LADA meetings and workshops at national and global level. The evaluation criteria, as prescribed by the UNEP Evaluation Office (EO) were followed in the compilation of this report.

6. The evaluation found that the LADA project is a relevant global initiative aiming at providing a reliable, flexible, quantitative and reproducible assessment framework of methods and tools regarding the extent and impact of land degradation in drylands. The project succeeded in developing credible and useful methods and tools to assess, quantify, analyze and map land degradation and, to a certain extent, its impact on ecosystems, watersheds and river basins, assessing and characterizing socio-economic and bio-physical drivers of change and processes in a range of temporal and spatial scales.

7. The LADA project is carried out at three levels, i.e. global, national and local. During the four year period, LADA developed standardized and improved methods for dryland degradation Land Degradation (land degradation) maps and manuals that were constantly updated based on country

specific needs and priorities. The latter are developed by a participatory approach with national and international contributions. The LADA project therefore stimulated the interest in land degradation processes at all three levels.

8. LADA Task forces, with a national coordinator, were established in each pilot country at the institutions that were responsible for LADA. The workload of activities carried out and inputs at all three levels, especially at the global and national level differed significantly between the six pilot countries due to institutional strategies and national policies.

9. The Global Assessment of Human-Induced Soil Degradation (GLASOD) information was updated by a Global Land Degradation Assessment (GLADA) based on an analysis of Normalized Difference Vegetation Indices (NDVI) considering climatic variation. GLADA was superseded by a Global Land Degradation Information System (GLADIS) which combines aspects of biomass, soil health, water resources, biodiversity, economic production, and social and cultural wealth. On-line evaluation and assessment systems were developed and national maps of land degradation and SLM status, as well as a comprehensive database system holding hundreds or more of land degradation indicators (through DISforLADA) is now available for all six pilot countries. GLADA still requires global review and validation before it can be used and accepted world-wide.

10. GLADIS is an additional product that was not anticipated when the LADA project started in 2006. Although the GLADIS system will improve as more data become available, the effectiveness, use and impact of the system has to be assessed in future.

11. Local assessments with participation of highly training professionals, which included scientists, technicians, rural extension officers and local land users/farmers, focused on root cause analysis of land degradation and mitigation at identified “bright and hot spots”, taking different LUS in the geographical areas as the baseline.

12. The location of the 24 local sites in the six pilot countries are based on ‘best practice’ guidelines as identified through previous programmes, such as World Overview of Conservation Approaches and Technologies (WOCAT). The Driving forces, Pressures, States, Impacts and Responses (DPSIR) framework was followed for the national and local scale assessments.

13. Together with the LADA team at the FAO, international organizations and country partner inputs, very good Local level Assessment Manuals (LADA-L) and a National Assessment Manual (Questionnaire and Mapping - QM) were developed. The socio-economic aspects of the surveys do however not show the same analytical depth and accuracy as the bio-physical assessments.

14. One of the outstanding achievements is the LADA website. The website is regularly updated and includes recent, well structured and extensive information about land degradation and the latest outputs, presentations and minutes of LADA meetings. The website needs to be constantly updated.

15. Most countries also developed a very good website for LADA and some countries have taken the initiative to produce a compilation of the “best practices” in handbooks, manuals or CD-Roms, with exhaustive and often visually appealing data (e.g. China, Senegal, Tunisia and South Africa). This is surely a relevant output of the project and can be consulted by practitioners and professionals.

16. LADA contributed greatly to stakeholder participation, awareness and partnership building during the project. More than 30 countries have already been reached by local and regional training workshops in the use of LADA tools, contributing to some extent to the up- and out-scaling at national and regional level.

17. Although the institutional collaboration and eagerness to participate seems to be high, the sustainability, catalytic role and replication, including the uptake by policy and planning processes at especially national Government level, has to be increased in certain countries and regions to make LADA more sustainable over the long-term. Project teams require, beyond their technical research and training capabilities, the capacity to interface with development project managers and policy makers, and to take these stakeholders “on board” during the assessment process.

18. LADA has limited links to the United Nations Convention to Combat Desertification (UNCCD). Better incorporation into the other main UN Conventions, such as the United Nations Convention on Biological Diversity (UNCBD) and the Framework for the Convention on Climate Change (FCCC) is needed.

19. When analyzing the LADA Logical Framework, the lack of an immediate cause/effect linkage between the hierarchical inferior levels and the intended environmental impact appears evident. That reinforces the need that the analysis makes use of a Theory of Change approach that helps identifying Intermediate States, impact drivers and assumptions. The evaluation's review of outcomes towards impact indicates that the project's intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding and the measures designed to move towards intermediate states have started, but have not produced results.
20. The financial sustainability varied greatly from country to country and depended on its institutional up-take and ownership. The extension of the local assessments to new areas and pilot sites would mostly depend on finding supplementary (internal or external) funding.
21. The "in-kind" contributions by both the six pilot countries and especially the FAO, was much higher than anticipated. Many LADA products, meetings and workshops, including personnel, were financed by the countries, but especially the FAO.
22. Due to the funds that are still available (USD 634,700), a no-cost extension till mid 2011 could be granted. Good financial statements per expenditure for each component were only available from UNEP (till June 2011). Only total amounts for allocations, expenditures, and co-funding contributions by pilot countries (till December 2009) and international organizations (till December 2010) were available from the FAO.
23. The infrastructure and data that was created by the LADA and related projects can be used as basis in a follow-up LADA or other projects of the same kind in the six pilot countries. The Evaluation Team is however not convinced that all the activities that are envisaged and planned for the last six months till mid 2011, will be achieved in time
24. The overall rating of the total LADA project is satisfactory (S). Shortcomings include the institutional uptake of project outcomes, the catalytic role and stakeholder involvement outside the project, no clear Monitoring and Evaluation system, especially for country partners and a poor financial reporting structure at national level. The effectiveness and relevance of the project, country ownership and driven-ness was also satisfactory, especially at local level.
25. The main recommendation for the possible follow-up phase of LADA is to consolidate the achievements in the pilot countries rather than "going global" right away with incomplete results. Emphasis should be put on the institutionalization of LADA outputs, so that different stakeholders (land users, land use managers, environmental planning and rural development institutions, and policy makers) in the six pilot countries can adopt the methods and tools and, later on, integrate the assessment results into their national projects, programs, plans and policies. For this to happen, an appropriate strategy for institutional up-take is required for each pilot country.

MAIN REPORT

1. Evaluation Background

A. Context

26. The project “*Land Degradation Assessment in Drylands (LADA)*” defines land degradation as “the reduction in the capacity of the land to provide ecosystem goods and services and assure its functions over a period of time for its beneficiaries”. Land degradation affects 40 percent of the earth’s surface. Its major causes include deforestation, poor farming practices leading to erosion and soil nutrient depletion, sand dune encroachment, overgrazing, inappropriate irrigation, urban sprawl and commercial development, soil pollution and quarrying. Land degradation has been recognized as a global problem associated with desertification and loss of biological diversity, particularly in arid, semi-arid and dry sub-humid zones (commonly called ‘drylands’).

27. Drylands cover more than one third of the world’s terrestrial area. They play a major role in global agricultural production. Some 44 percent of cultivated areas are in drylands. Some two thirds of the global dryland area is used for livestock production, the main source of income for pastoral communities. Land degradation damages the livelihoods of some 2 billion people living in drylands. Around 73 percent of rangelands in drylands are currently being degraded, together with 47 percent of marginal rain-fed croplands and a significant percentage of irrigated croplands. More than 12 million hectares of arable land are lost to desertification every year and the rate is rising as a result of climate change. That is enough land to grow 20 million tonnes of grain.

28. It has been estimated that soil carbon sequestration in dryland ecosystems could achieve about 1 billion tonnes of carbon per year. Not only is this one of the world’s largest terrestrial carbon sinks, but increasing levels of carbon in the soil increases its capacity to retain water and sustain biodiversity. Some 12-18 billion tonnes of carbon have already been lost due to desertification, and this figure could increase with climate change. Climate change has also affected the biodiversity of drylands, partly through temperature and precipitation change but also through overgrazing of plants, and land use change.

29. Land degradation costs an estimated USD 40 billion annually worldwide, without taking into account hidden costs of increased fertilizer use, loss of biodiversity and loss of unique landscapes. The consequences of land degradation are reduced land productivity, socio-economic problems, including uncertainty in food security, migration, limited development and damage to ecosystems. Degraded land is costly to reclaim and, if severely degraded, may no longer provide a range of ecosystem functions and services with a loss of the goods and many other potential environmental, social, economic and non-material benefits that are critical for society and development.

30. Land degradation and desertification are often the result of human activity and can therefore be prevented or controlled by human effort. Because of their magnitude, they are a global issue, and as such can only be addressed through a global partnership. A strong partnership between GEF, FAO, UNEP, the International Fund for Agricultural Development (IFAD) and the three main United Nations Conventions (UN Convention on Biological Diversity - UNCBD, UN Framework for the Convention on Climate Change - UNFCCC and the UN Convention to Combat Desertification - UNCCD) is therefore needed.

B. The Project¹

31. The project “*Land Degradation Assessment in Drylands (LADA)*” is a global initiative co-funded by the GEF and implemented by UNEP. FAO is the project’s main executing agency through its Land and Water Division. The general purpose of the project is to create the basis for informed policy advice on land degradation at global, national and local level. The main goal is to develop methodologies and tools of land degradation assessment at different spatial and temporal scales for the

¹ A more detailed description of the LADA project can be found on the website <http://www.fao.org/nr/lada/>

future monitoring. The two principal objectives of the project are to: (i) develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales; and (ii) build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices.

32. These two objectives would be realized through four expected outcomes: (1) an improved needs-based and process-driven approach to drylands degradation assessment tested and disseminated; (2) a map with information retrieved from the global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with a special emphasis on areas at greatest risk; (3) detailed local assessments and analysis of land degradation and its impact in the pilot countries; and (4) a proposed global action plan, incorporating main findings from the project, conclusions and recommendations for further action. Outcome 4 was revised following the Mid-term Evaluation in early 2009: the global action plan was replaced by dissemination and scaling-up.

33. The LADA project is mainly carried out in six pilot countries representing different regions of the world. Many national and international organizations, including universities, research centers and other organizations participate in the project. The six pilot countries with their respective national executing institutions are: Cuba (Agencia de Medio Ambiente), Senegal (Centre de Suivi Ecologique), South Africa (Agricultural Research Council – Institute for Soil, Climate and Water, Tunisia (Direction Générale de l'Aménagement et de la Conservation des Terres Agricoles), China (National Bureau to Combat Desertification, State Forestry Administration); and Argentina (Secretaria de Ambiente y Desarrollo Sustentable (Argentina)). Various other international organizations, universities, research centers and other projects were or are involved in implementation of pilots, such as the Central Asian Countries Initiative for Land Management (CACILM); Bari Institute of Agronomy (IAMB); University of Sassari; Global Land Cover Network (GLCN); the United Nations Convention to Combat Desertification; ISRIC; Medcoastland Thematic Network; University of East Anglia; Sahara and Sahel Observatory (OSS); Somalia Water and Land Information Management (SWALIM); United Nations University; and World Overview of Conservation Approaches and Technologies (WOCAT) hosted by the University of Bern.

34. LADA seeks to develop standardized and improved methods for dryland degradation assessment, with guidelines for their implementation at a range of scales. Methods are developed to assess the (sub)-national and global baseline condition of land degradation and Sustainable Land Management (SLM) technologies and approaches with the view to highlighting the areas at greatest risk and distribution of interventions. These assessments are supplemented by detailed local assessments that focus on root cause analysis of land degradation and on local (traditional and adapted) technologies for the mitigation of land degradation.

35. LADA follows a decentralized, country-driven and integrated approach and makes use of participatory rural appraisals, expert assessment, field measurements, remote sensing, Geographic Information System (GIS), modeling and other modern technological means of data generation and processing, networking and communication for sharing of information at national and international levels. To better understand the processes of land degradation and to identify appropriate SLM practices in different Land Use Systems (LUS), the Driving Force - Pressure - State - Impact - Response (DPSIR) framework is used.

36. LADA intends to build the national, regional and international capacity to analyze, design, plan and implement interventions to mitigate land degradation and establish sustainable land use and management practices. Many of the LADA field sites at local level in each of the six pilot countries are based on existing projects with a view to contribute to partnership building between different organizations at national level.

37. LADA has links with the UNCCD, and to a lesser extent with the other Multilateral Environmental Agreements such as the UNCBD and UNFCCC. The objectives of LADA are expected to contribute to the environmental goals of GEF's Operational Program (OP) 1, namely the

conservation and sustainable use of the biological resources of arid and semi-arid areas; OP12, to catalyze widespread adoption of comprehensive ecosystem management interventions; and OP15, to mitigate the causes and negative impacts of land degradation on the structure and functional integrity of ecosystems through sustainable land management practices. LADA is consistent with the Strategic Priority on Targeted Capacity-Building in Sustainable Land Management (SLM-1) and collaborates to some extent with the Developmental Goals of the UNCCD and other UN multi-lateral agencies to improve people's livelihoods and economic well being.

38. Table 1 provides an overview of the project components, their expected outcomes and key activities.

Table 1: Project Components, Outcomes and Activities

Component / Outcomes	Activities
Component 1. An improved and needs-based and process-driven approach to drylands degradation assessment tested and disseminated.	a. Review of data sources, methods and frameworks for land degradation assessment for drylands at multiple scales.
	b. Development and testing of integrated land degradation information systems at central and national level
	c. Stratification, national hot spot analysis and population of the network and information system
	d. Development and dissemination of guidelines for an improved needs-based and process-driven approach to dryland degradation assessment
Component 2. Map with information retrieved from the Global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with a special emphasis on areas at greatest risk	e. Collation, geo-referencing and digitizing of all available relevant information on regional and global scales
	f. Global and regional land degradation studies at low resolution
	g. National/regional LADA studies, including training and integration with GLADA results and identification and categorisation of areas at greatest risk of dryland degradation
Component 3. Detailed local assessments and analysis of land degradation and its impact in the pilot countries	h. Development of capacity of national professionals (in pilot countries) to carry out detailed assessments of land degradation, related to key developmental questions such as livelihoods, poverty and food security
	i. Surveys of user needs and information system needs at national level
	j. Pilot detailed assessments in 'hot spot' and 'bright- and hot spot' areas; and recommendations on how to scale-up the findings to national level
	k. Analysis of national and local level policy processes for renewable natural resources information, determination of suitable entry points for land degradation information, and making available and operational of the information system for national and district level planning and practice
Component 4. Dissemination and scaling-up, conclusions and recommendations for further action.	l. Development and testing of the framework for analysis of critical components and driving forces for land degradation based on DPSIR
	m. Collation and synthesis of information on best practices for land conservation, and preparation of a report including policy and resource needs for implementation of the best practices identified
	n. Involvement of the project with other stakeholders in assisting policy development with UNCCD through COPs, RAPs, SRAPs and NAPs at national and regional levels
	o. Collaboration with UNEP and the GEF Secretariat to

Component / Outcomes	Activities
	develop support advice for implementation of OP15
	p. Final packaging, communication and exchange of land degradation information globally, regionally and nationally

Source: UNEP GEF Project Implementation Report (PIR) Fiscal Year 2010

C. Evaluation Objectives, scope and methodology

1. Objective and scope of the evaluation

39. The Terminal Evaluation of the *Land Degradation Assessment in Drylands* (LADA) project was carried out in line with the UNEP Evaluation Policy, the UNEP Evaluation Manual and the Guidelines for GEF Agencies in Conducting Terminal Evaluations, close to the end of the project. The evaluation had two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, FAO, the GEF and their partners. In light of the follow-up of LADA that is currently under preparation, the evaluation tried to look forward and identify lessons and recommendations on what has worked well and could be built and expanded upon, and what has not yet been fully achieved and should be further strengthened and developed.

40. To achieve these purposes, and in line with international evaluation practice, the evaluation sought to assess project performance, impact (actual and potential) stemming from the project, and its sustainability, while trying to identify the underlying reasons for such performance and achievements. The evaluation criteria considered by the evaluation included: (1) Attainment of objectives and planned results, (2) Sustainability and catalytic role, (3) Processes affecting attainment of project results, and (4) Complementarity with the UNEP and FAO strategies and programmes.

41. The Terminal Evaluation was guided by two sets of key questions, based on the project's objectives and outcomes:

- a) To what extent did the project develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales?
- a) To what extent did the project build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices?

42. In addition, the evaluation reviewed the implementation status of the recommendations of the Mid-Term Evaluation of the project, conducted by the UNEP Evaluation Office early 2009.

2. Overall approach and methods

43. The terminal evaluation of the LADA project was conducted under the overall responsibility of the UNEP Evaluation Office (EO) in consultation with the FAO Office of Evaluation (OED). The FAO Office of Evaluation (OED) was consulted throughout the evaluation process, provided advice on the Terms of References (TORs) and the evaluation team composition, and made comments on the zero draft evaluation report and quality assessment of the final report.

44. The evaluation was conducted as an in-depth evaluation using a participatory approach whereby the UNEP/DGEF Task Manager, key representatives of the executing agencies and other relevant staff were kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methodologies were used to determine project achievements against the expected outputs, outcomes and impacts.

45. The findings of the evaluation were based on the following (Also see Annex 1-A):

- a) A desk review of project documents, including²:
- Relevant background documentation, in particular relating to the land degradation situation in the pilot countries;
 - The project documents and monitoring reports (such as progress and financial reports to UNEP and the UNEP/GEF annual Project Implementation Reports) and relevant correspondence;
 - Reports produced by the Pilot Country teams;
 - Other material produced by the project or its partners, in particular the LADA Website, the GLADIS system, presentations, manuals etc.;
 - The Mid-Term Evaluation Report.
- b) Self-assessment by the country teams. Each Country Coordinator was asked to write a self-assessment report, based on a template provided by the evaluation team. These reports were analyzed and considered for the TE.
- c) Interviews with³:
- Project management, supervision and technical support (former and current UNEP/DGEF Task Managers, FAO Project Coordinator, Country Coordinators and members of the Steering Committee);
 - National and international project partners;
 - Other intended users for the project outputs (researchers and academia, local and national policy advisors, development practitioners etc.).
- d) Field visits to selected project sites in four pilot countries, i.e. South-Africa, China, Senegal and Argentina⁴.
- e) Participation as observers in project completion and dissemination events: The Team leader attended the international workshop on LADA methodology (Wageningen, the Netherlands) on 13-14 September 2010, to meet LADA teams and partners and to discuss the evaluation process. He also attended the LADA final workshop in South Africa. The Supporting Consultant attended the LADA final workshop in Argentina. The Team leader, the Supporting Consultant and the UNEP Evaluation Officer were present at the LADA final workshop and Steering Committee Meeting in Rome, from 6 to 8 December 2010.

46. The Team Leader made a presentation of preliminary findings of the TE at the LADA workshop in Rome. After the meeting, LADA teams in Rome and the pilot countries were asked to respond, make corrections, give additional inputs and send outstanding documentation required by the Evaluation Team (such as the financial reports) with the end of the year 2010 as a deadline. Only the team from China responded and sent an updated version of the Self-assessment Template to the Team Leader. No detailed financial reports till December 2010 were received by the pilot countries. The Technical Officer of LADA at FAO also provided a set of additional documents.

3. Evaluation team, responsibilities and schedule

47. For this evaluation, a team of three independent consultants was hired. The full description of the tasks and responsibilities for the consultants are given in Annex 1. Only a summary will follow below.

48. The Team Leader, Professor Klaus Kellner, was responsible for coordinating the data collection and analysis phase of the evaluation and drafting the main report. The Team Leader put emphasis on the methodology development and land degradation assessment aspects of the project, included mostly in components 1, 2 and 3 of the project (see Table 1). He also ensured that all

² Other documents consulted during the desk review are mentioned in Annex 10.

³ See detailed list in Annex 4

⁴ See calendar and activities of field missions by the Evaluation Team in Annex 5.

evaluation criteria were adequately covered by the evaluation team. The Team Leader traveled to South-Africa and Senegal to meet project stakeholders and visit selected project field sites.

49. The Supporting Consultant, Mr Camillo Risoli, put emphasis on capacity building, policy development and dissemination of lessons learned and best practices, embedded in components 2, 3 and 4 of the project. He prepared a Working Paper and provided valuable inputs to the main report on those subjects. The Supporting Consultant traveled to Argentina and China to meet with project stakeholders and visited selected project field sites.

50. A GIS/web portal expert, Dr Markus Metz, provided a short but essential input. He worked with the LADA team at FAO in Rome and prepared a technical working paper that is annexed to the main report (Annex 2).

4. Limitations of the Evaluation

51. Feedback by some of the LADA Country Coordinators was slow and not all reports as asked for the self-assessment (Annex 3) were provided on time (or at all) for consideration by the Evaluation Team. In particular, financial data provided by countries was either not up to date or incomplete (e.g. data on co-financing contributions from LADA countries runs only till December 2009).

52. Due to the extension of the LADA project for another six months till mid-2011, the six pilot countries postponed preparation of their final national reports. These reports would have been very useful for the evaluation. The extension also meant that some unfinished outputs at the time of evaluation might still be delivered by the end of the project. As there is much uncertainty about the feasibility of these additional tasks within a six month period, the Evaluation Team decided to cover only activities and outputs completed or well under way by 31 December 2010.

2. Project performance and impact

A. Attainment of Objectives and Planned Results

1. Achievements of Outputs and Activities

53. The LADA project has four components, each of them with an expected outcome (See Table 1 before). In the evaluators' view, the so-called "outcomes" are actually "outputs" because they refer to goods and services that the project should directly deliver through its activities. Human, material and financial resources are deployed directly by the project for the achievement of those outputs. "Outcomes" should refer to the more systemic and behavioral changes that the project seeks to achieve. In this case, the project's principal objectives are better pitched at the "outcome" level. The assessment of project effectiveness (Section 2.A.3) therefore appreciates the degree of achievement of those project principal objectives.

54. The four outputs under review in this section are:

- (a) Output 1: An improved and needs-based and process-driven approach to drylands degradation assessment tested and disseminated (Activities 1-4).
- (b) Output 2: Map with information retrieved from the global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with an especial emphasis on areas at greatest risk (Activities 5-7).
- (c) Output 3: Detailed local assessments and analysis of land degradation and its impact in the pilot countries (Activities 8-11).
- (d) Output 4: Dissemination and scaling-up, conclusions and recommendations (was initially, before the MTE: Proposed global action plan, incorporating main findings from the project, conclusions and recommendations for further action) (Activities 12-16).

55. No SMART⁵ indicators for the achievement of these outputs were clearly defined in the Logical Framework of the project. What are called “performance indicators” there, are in fact a mix of activities, steps and milestones. Because of this, the LADA management team identified a set of more practical “end-of-project targets” as guiding tools and measures for the status of project achievements.

56. Each project output was actually composed of various aspects, each to be delivered through concrete activities. Even though that happened to a variable extent, the overall assessment is that all four outputs have been satisfactorily achieved, namely:

- The LADA approach has been largely tested and promoted in the six pilot countries (output 1);
- Maps and guidelines have been produced, so that a baseline of the status of land degradation in drylands is now available at global and national level (output 2);
- The method has been tested and validated through local assessments conducted in twenty-four (24) pilot-sites of the six pilot countries and a Local Level Assessment Manual has been produced (output 3);
- The dissemination of the method is globally occurring in more than thirty (30) new countries of the world and the scaling up in the pilot countries has also started (output 4).

57. Below, each of the four project outputs is analyzed in more detail.

Output 1

58. Different strategies, methods and tools are required for different scales of assessment, and the LADA project consequently distinguishes between global, national, and local land degradation assessments. Throughout the three levels of assessment, the Land Use System (LUS) was used as a common denominator.

59. At the **global level**, the only assessment of land degradation that existed prior to this project was the *Global Assessment of Human-Induced Soil Degradation (GLASOD)*. The LADA project built on the global information available through the GLASOD study by adding information on biomass status (and, later, trends as well) through an analysis of Normalized Difference Vegetation Indices (NDVI), taking climatic variation into consideration. “Global Land Degradation Assessment for Drylands (GLADA)” datasets have been produced by the International Soil Reference and Information Centre (ISRIC). The FAO LADA team was not involved in data processing. After doubts were raised about the data quality, particularly from South Africa and China, the dataset was re-analyzed, improved and extended to cover the years 1981 to 2006. The overall fit became thus more acceptable to the pilot country partners.

60. While the GLADA approach can be used in different contexts, its suitability for land degradation assessment is regarded as rather limited. Ecosystem goods and services comprise of more than just biomass or net primary production (NPP) and its change over time. As there are many different ecosystems, services and users, trends in NPP provide a rather limited picture for ecosystem goods and services.

61. At a later stage during the project (September 2009), GLADA was superseded by a “Global Land Degradation Information System (GLADIS)” which combines aspects of biomass, soil health, water resources, biodiversity, economic production, and social and cultural wealth, to provide a more differentiated picture of land degradation and its causes. GLADIS visualizes information in an original way through the use of radar diagrams presenting status and trends on the six aspects listed above. Status and trend are two very different concepts, as is reflected in the way data for these aspects were obtained from different sources (A short description of the data sources, how the axes have been derived, as well as formula used for the twelve axes, is available in more detail in the Technical Report – Annex 2). The GLADIS technical report is still in beta format and needs cleaning-up and clarification, particularly in sections 3 and 4, e.g. some functionality is still missing and download of data and metadata is currently disabled. According to the LADA Management Team at the FAO,

⁵ SMART indicators: Specific, Measurable, Achievable, Relevant, Time-bound

downloading and printing of GLADIS data at low and high resolution will only be available after the completion of the LADA project in mid-2011, when GLADIS will be updated.

62. Many countries now wish to adopt the GLADIS approach to analyze and map the state of natural resources, establish a monitoring system in identified areas on land use and land degradation and management, inform decision makers about the status of the land and water, and assess and report on compliance to certain aspects of the three related UN Conventions (UNCCD, UNFCCC and UNCBD) at global level.

63. For land degradation assessments at the **national level**, LADA followed a double pronged approach, based partly on the analysis of high resolution historical satellite data and images, on the one hand, and on participatory sub-national assessments, on the other. This allowed consistent mapping not only of land degradation in the DPSIR framework, but also provided inventories and maps of SLM interventions. The information was collated in an easily accessible on-line format, containing a wealth of land degradation parameters on status, pressures, drivers and impacts, as well as trends of land degradation.

64. The main tool developed by the project for land degradation assessments at the national level is the “Questionnaire for Mapping Land Degradation and Sustainable Land Management” (QM). It permits the construction of a database for each country with back-ground information on the different LUS, as well as environmental and social data per geographical area. The information also includes data, maps and results of previous studies that were carried out in the regions, as well as an inventory of previous partners. “Bright and hot spots”, that represent “better and more poorly” managed pilot sites at local level regarding the different land degradation aspects and LUS, as well as information on “best practices” already available from WOCAT and SLM databases can be captured. As no clear methodology was defined by LADA to identify “bright and hot spots” in each country, information from previous databases (such as WOCAT) had to be used. The sources used for the development of the databases were overall very good and relevant, and included inputs from scientists in the research organizations responsible for LADA and the LADA Task Teams, experts in different fields, as well as other national and local stakeholders.

65. Due to limited resources, unfortunately only a few “bright and hot spots” representing different LUS in the geographical areas could be selected for the conduct of local assessments (3-6 per country) which limited the extent of the LADA project and the participation of stakeholders, especially farmers, in each pilot country.

66. The QM can be completed using an Excel spreadsheet or a standalone software package developed by the FAO LADA team⁶. There is a draft users’ manual for the QM which is scheduled to be updated on the basis of feedback from users.

67. As for the assessments at the **local level**, the LADA project developed a comprehensive and systematic toolbox approach referred to as the LADA-L approach, that integrates attention to socio-economic drivers of land degradation with the bio-physical characterization of the process. Three conceptual frameworks for analysis are used:

- (a) the DPSIR framework: This is a causal framework for describing the interactions between society and the environment, through the analysis of Driving forces, Pressures, States, Impacts, and Responses. It is widely adopted by the EEA (European Environmental Agency) in the State of the Environment Reports.
- (b) the Ecosystem Service (ES) framework: This is a framework which focuses on the benefits people obtain from ecosystems: Provisioning services, Regulating services and Cultural services.
- (c) the Sustainable Livelihood Approach (SLA): This is a widely used approach for understanding livelihoods and vulnerability of poor people. It draws on the main factors

⁶ At some stage, it was discussed whether the QM should not be an online form where new records are immediately available to the LADA team. This alternative was abandoned for various reasons, e.g. poor internet connection in some countries, and not having the possibility of correction and revision before final submission.

(natural, financial, physical, social and human assets) that affect poor people's livelihoods and the typical relationships between these factors.

68. Local data is collected through field surveys, using the transect methodology and site assessments for soil, erosion, vegetation and water, as well as other resources. Household interviews are held to obtain information on the five types of capitals/assets typically used in the livelihood approach. Although these surveys were proposed and described in the manuals, they were not carried out in all pilot countries. The methods developed, particularly the visual soil, water and vegetation assessment are relatively cheap and easy to apply in the field by land users, making them tools of choice for monitoring purposes. Scorings as prescribed by the manuals were consulted and validated with land users where possible.

69. There are nevertheless two critical aspects to be considered in the LADA local assessment approach:

- (a) The simplification of complex matters (such as land degradation) for purposes of understanding and planning is often necessary but there is a risk of the analysis to become overly generic and simplistic, which may jeopardize the relevance and usefulness of the local assessments despite the impressive and accurate quantitative and qualitative data they may contain. In many cases, for instance, the findings of the DPSIR analysis are resumed in buzzwords that do not help to understand the complexity of the processes that lie behind them. Although their contribution to the creation of new local and national knowledge and their impact on planners and decision-makers was incorporated in some cases, such as in the Limpopo and North-West provinces in South Africa, this aspect was overall minimized.
- (b) Socio-economic variables and the analytical frameworks for social and economic analysis (e.g. Sustainable Livelihoods Approach and, to a certain extent, DPSIR) are not handled with the same level of scientific rigor and accuracy as the biophysical data. Secondary socio-economic data, though foreseen in LADA-L methodology, are rarely used in practice. The Sustainable Livelihood Approach has been mainly or exclusively used through the so-called “Pentagon”, which, in fact, only represents the “static picture” of the five livelihood assets/capitals (Natural, Social, Human, Financial, Physical). The dynamics of livelihood strategies, of household’s vulnerability and of their risk-coping strategies, as well as the institutional framework interacting with them (market forces, national laws, local policies, social rules, etc.) are not often systematically analyzed, if not at all. The LADA project however offered the first attempt and opportunity where this complex interaction of social, economic and biophysical factors was tried to be understood. Where this rather complex methodology was not applied, it can be regarded as a missed opportunity to better understand the root causes of land degradation. Although it is widely recognized that socio-economic processes play an important role in causing land degradation, socio-economic professionals were rarely, if ever, included in the assessment teams at all levels. This finding is of particular relevance when applied to local Assessments, where Rural Livelihood specialists, Rural Sociologists and Economists, Experts in Poverty and Vulnerability Assessments would be of great help. The type of analysis gained through the application of this complex methodology, including local residents and stakeholders, often requires more time than was available for this project.

Output 2

70. The GLADA map and database are unique and new in the sense that they provide an unprecedented global time series analysis on vegetation growth and net primary production spanning 23 years, at least partially corrected for climatic variations. GLADA products - considering their broad range of potential applications - have been made available to the general public as spatial data through the FAO GeoNetwork. The FAO Geonetwork is a specialized platform to share geographic databases by the whole FAO and cannot be substituted by the LADA site (it would be a waste to attempt to

reinvent the wheel). It should be noted, however, that the initial GLADA maps and data, as available on the FAO GeoNetwork, are not the updated ones that were used for GLADIS. The results of the re-analysed GLADA as used in GLADIS are not (yet) available through the FAO GeoNetwork.

71. On-line evaluation and assessment systems were developed and national maps of land degradation and SLM status, as well as a comprehensive database system holding hundreds or more of land degradation indicators (through DISforLADA) are now available for all six pilot countries.

72. Although a land cover change analysis at national level was not compulsory for all six pilot countries, it was finalized for certain LADA pilot countries. The initial objective was to analyze land cover change for all involved countries. Although not a LADA pilot country, Kenya was selected as pilot country for a pilot phase for a first land cover change analysis within the LADA project, but a national land degradation assessment has not been performed for Kenya. The intention was to test tools and methodologies in this pilot phase and then apply these tools to the LADA countries. The next country for which a land cover change analysis was performed was Senegal, followed by Tunisia and South Africa (completed in 2010). A land cover change analysis for Cuba is ongoing at the time of this evaluation. The tools and methodologies used were different between the countries. Land cover change analyses for Argentina and China were not available by 31 December 2010 as it was compulsory to deliver these maps in the current LADA project. This outcome would have helped in the 10 year Strategy of the UNCCD, but it was not envisaged as a LADA objective when it started in 2006.

73. The land degradation maps and GLADIS systems are very useful and efficient and now used in regional (between countries), national and provincial (within one country) awareness and training workshops, especially regarding the identification and categorization of land degradation processes in drylands. The maps are also used in the development of Natural Resource Management (NRM) plans (South Africa and Senegal).

74. Although the last activity under this component 2 was to carry out national or sub-national LADA studies, including the training and integration with GLADA results, as well as the identification and categorization of areas at greatest risk of dryland degradation, this activity was considered way beyond the scope of the current project. Significant innovative approaches and tools of great benefit to the participating countries were however developed. These include:

- A National Land Use System map (jpeg images - on-line);
- The participatory assessment of land degradation and sustainable land management using the WOCAT/LADA questionnaire in each land use system in each appropriate administrative unit of each country;
- Publication of software, guidelines and GIS results of the national land degradation and sustainable land management status (Technical Reports);
- An overview of national important good practices that contribute to sustainable land management (Country Reports).

75. To make maps, data, reports and LADA objectives and procedures available to all levels of participation at global, regional, national and local scale, all six pilot countries developed good websites for the LADA project: Argentina (2), China (2), Cuba (1), Senegal (1), Tunisia (1) and South Africa (1). The websites in China and Argentina are both in English and the local language.

Output 3

Training of trainers

76. Four international and numerous national workshops and training courses were held with the purpose of creating and gradually consolidating a sound understanding of the methodology and its meaningful adaptation to the specific conditions of each country.

77. As a result, a consistent pool of more than thirty (30) national trainers have been trained on LADA methodology and have actively participated in the preparation of the national LADA Manuals

for the Local Assessments. The national trainers have successfully organized and carried out the training of the local teams directly involved in the local assessments at the pilot-sites. As a result, a total of more than 100 professionals and technicians were trained in the pilot countries. Some of the trainers have already organized and implemented at least one workshop or a training course at regional level.

Local Assessments (LADA-L) in pilot-sites

78. Local Assessments were carried out in 24 pilot-sites including “bright and hot spots” in the six pilot-countries with different area sizes⁷. The location of the sites is based on priority issues of decision makers that need to be investigated (e.g. threats to high potential land; areas of accelerated degradation) and on ‘Best practice’ assessments as previously identified through other programmes, such as WOCAT and where ongoing projects exist that are able to in turn respond to LADA findings. The assessments were conducted or facilitated by experts from research, academic and development organizations, and involved, to a limited extent, farmers, extension officers and other local stakeholders. Through these assessments, local teams have applied the approach and tools in real, concrete situations.

79. The local land degradation assessments were so far only in a few cases integrated in the sub-national planning processes as was the case for Limpopo Province in South Africa and to a lesser extent in Argentina. In South Africa the national assessment data was also used to develop an NRM (Natural Resource Management) strategy for the North West Province. Nevertheless, some parts of the information collected in all countries is used for better planning local interventions and sometimes for setting national priorities in combating land degradation. The promotion of the use of assessment results needs further attention and should be continued in the proposed six-month extension period till mid 2011.

Local and National Level Assessment Manuals

80. Two manuals were developed by the LADA Management Team at FAO, in collaboration with the University of East Anglia (UEA), WOCAT, ISRIC, UNU and national LADA teams, and incorporating inputs and feed-back from many professionals and practitioners involved in piloting the tools and methods in the six pilot countries, through technical workshops on the national and local level assessment methods and tools. The manuals are therefore largely the output of a participatory and iterative learning-training process, actively involving the LADA country teams. The manuals are:

- The Local land degradation Assessment Manual in two parts (both parts include livelihoods assessment i.e. Socio-economic aspects) :
 - Part 1A : Planning and Methodological Approach and Part 1B: Analysis and Reporting,
 - Part 2: Field Methodology and Tools (working paper)
- The National land degradation Assessment Manual – QM (Questionnaire for Mapping land degradation and sustainable land management) developed by LADA South Africa.

81. The Evaluation Team received the advanced draft versions in December 2010; publication is planned by February 2011. The manuals will also be translated and printed in French and Spanish and, depending on national resource availability, also into other national languages, such as Arabic and Chinese, by June 2011.

82. As mentioned before, the original Local land degradation Assessment Manual was not always fully suitable to the specific needs of each country. It was therefore revised and adapted by the country teams to better suit their local conditions for better adoption. This fact has to be regarded as very positive. One or more versions of the national and local guidelines have been translated in several languages (French, Spanish, Chinese, Arabic, Russian and Vietnamese) and are now used as basic training material in regional workshops with the participation of many countries surrounding the six pilot countries. The adaptation to local conditions and translation of the manuals were done by several

⁷ Argentina (5), China (6), Cuba (3), Senegal (3), South Africa (4), Tunisia (3).

teams. The French versions of both manuals have been done by a WOCAT-chosen French translator. The Spanish version has been done in Argentina and checked by WOCAT and FAO, while the Russian version was done under the Pamir project of UNU. Only the Chinese and Arabic versions were not checked, due to language capacity.

83. Other LADA guidelines and associated brochures have been widely distributed at national and international workshops, conferences and meetings.

Best practices assessment, compilation and diffusion

84. The LADA Project has initiated a systematic collection of existing “best practices” in SLM and any other technological or social practice contributing to counter land degradation in drylands. The project has done this in a standardized format for easy referencing and dissemination. Some countries have taken the initiative further and produced compilations of “best practices” in handbooks, manuals or CD-Roms, with exhaustive and often visually appealing information (e.g. China, Senegal, Tunisia and South Africa).

Regional Training

85. In the course of the project, the pilot countries were expected to promote the LADA methodology throughout their region (adjacent countries). That has occurred for all the six pilot countries and must be considered a valuable achievement of the project, not only in view of spreading the methodology, but also by taking full advantage of the capacities built in the pilot countries.

- a) Argentina has organized a training course on the LADA national and local land degradation assessment methodology with participants from Argentina, Bolivia, Brazil, Colombia, Chile, Ecuador, Peru and Uruguay (June 2010).
- b) China has established an effective cooperation with the neighboring country Mongolia. A first workshop and a training course already took place in 2009 and a second workshop in Mongolia assisted by Chinese experts with field visits in 2010. China also participated in the implementation of a regional workshop in Bangkok in April 2009 for the South and South East Asia Region and is organizing a regional training for some Central Asia countries.
- c) Cuba has organized a regional workshop for eight countries of Central America and the Caribbean that was preceded by an on-line exchange of information, and included both theoretical and practical sessions.
- d) Senegal has also organized a regional workshop with 19 participants from Burkina Faso, Mali, Niger and Senegal. It included theoretical presentations and practical training on assessments and analysis over a period of 9 days.
- e) South Africa implemented a training & information workshop on the LADA methodology with 9 participants from Botswana, Lesotho, Mozambique, Swaziland, Zimbabwe and South Africa from 2 to 6 August 2010 in Pretoria.
- f) Tunisia's LADA team organized, in collaboration with the Observatoire du Sahel et du Sahara and FAO/Tunisia, a regional workshop in September 2010, which included an initial session in Tunis and a practical session in one of the LADA pilot-sites. Participants from Mauritania, Morocco, Algeria, Libya and Tunisia attended the workshop. This formed part of the South-South Cooperation initiative.
- g) Other LADA local level assessment methodology courses in Asia include the training at Kyrgyz where 150 members of the four pilot communities of the GEF/UNEP PALM Alai project, were trained in the LADA methodology to be used to assess the state of natural resources for planning SLM activities.

86. The “institutionalization” of the LADA regional training courses as recommended by the MTE, or the establishment of LADA Regional Training Centers (as originally foreseen in the ProDoc Logframe) were both considered ambitious and somewhat unrealistic. Furthermore, budgetary provisions for these purposes were not adequate. Nevertheless, these issues are still considered

relevant and the object of reflections and discussions within the LADA teams at country and central level and might still be tackled in the future.

Availability of assessment results for national and district level planning and practice

87. The project has not been able to conduct the planned analysis of national and local level policy processes for renewable natural resources information, nor was it able to determine suitable entry points for land degradation information in all pilot countries. In China and South-Africa, however, assessment results were or are expected to be used for provincial level planning (See box 1 below).

Output 4

88. The LADA website went online in August 2008. Its concept and contents have been user-driven from the beginning, including two user-surveys, one at the beginning and one later after the website went online. The website offers a wealth of information for different audiences, including decision makers and government officials, researchers, land degradation experts, technical personnel, etc. Resources are currently grouped by type (e.g. presentations, manuals, technical reports, software) rather than by theme (e.g. GLADA, GLADIS, national assessment, local assessment etc.) which would probably make more sense. Map navigation and map query is very fast and should also work with slow internet connections.

89. The LADA website is visited by a large number of people not directly involved in the LADA project. By November 2010, LADA documents had been downloaded 130,000 times from the LADA website. Unfortunately no follow-up was carried out on the uses of and downloads from the LADA website.

90. The Project has contributed to disseminate LADA methodology and tools in over 30 countries, through the regional outreach of the six pilot countries and through the direct efforts of the FAO coordination team, which has to be considered as an outstanding result. However, in comparison, in-country dissemination of results has been rather weak and the project did not go significantly beyond the production of some prerequisites for extending and scaling-up the LADA methodology, mainly through the national and local pilot exercises.

2. Relevance of the project

91. The high interest for and dynamics put in place by the project seem to confirm the project relevance at national, regional and global level in the area of Land Degradation and Sustainable Land Management and Development.

92. There was a definite need and priority at all three levels, as expressed by all pilot countries, for the development of the above mentioned tools, but especially at local level where people depend on the land for their livelihoods. The information gained by the LADA project contributed to the improved description and quantification of the data (mainly bio-physical), that can now be included in national databases. Relevance would have been higher with a greater involvement of other stakeholders, especially policy makers.

93. The consistency with international goals and main global institutions' mandates, policies and strategies is evident. It has been observed that, following the Mid Term Evaluation (MTE), the fourth Output ("A proposed global action plan incorporating main findings from the project"), was reformulated as "Dissemination and scaling-up conclusions and recommendations for further action", which reflects a more realistic approach to the complexity of LADA dissemination strategy and does not in any way downsize the relevance of the project.

94. The regional dimension of the project is a relevant aspect. The choice of the six selected pilot countries seems consistent with their capacity to "champion" land degradation assessment in their region, due to their previous experience and installed capacity and to their dynamism in accepting the

challenge of piloting the exercise. In retrospect, their choice seems consistent with the envisaged replication of the project results and the building-up of a regional capacity.

95. The national LADA partners are relevant institutions in the area of land assessment and land use planning and LADA objectives and methodology are consistent with their mandates, programs and services. Many institutions and organizations (Ministries, research institutions and academia, NGO's, Community Based Organizations (CBO's) and others) were engaged in the LADA project at national and local levels.

96. The outcomes of the LADA project are also in line with the mandates, policies and strategies of the FAO, UNEP and GEF related programmes. It also forms part of the NAP (National Action Programme) for the UNCCD in all six pilot countries, but the inclusion of LADA within the framework of the other UN related Conventions (UNFCCC and UNCBD) remains limited.

3. Effectiveness of the project

97. As previously discussed, the project sought to deliver four outputs (mistakenly called outcomes in the Project Document). These four outputs are supposed to lead the project towards two higher-level results which the ProDoc presents as the project's principal objectives. The effectiveness criterion looks at the extent to which the project has achieved these objectives.

Objective 1

Develop and implement strategies, methods and tools to assess, quantify and analyse the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales

Objective 2

Build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices

98. As far as Objective 1 is concerned, the Evaluation Team considers that it is a summing-up of the project outputs, rather than a result of these outputs, higher up the causal pathway. Objective 1 has therefore been largely assessed under Section 2.A.1.

99. Objective 2, however, is an immediate outcome of the project outputs since it refers to the building of new or enhanced capacities (the 1st part of the enunciation) to use and implement the "methods, strategies and tools" referred to in the first objective. The first objective is at a lower level (output level) than the second objective (outcome level). In fact, achievement of the first objective is required for achieving the second objective: there is a causal relationship between them.

100. Moreover, Objective 2 implies, in the second part of its enunciation, that the enhanced capacities would permit the meaningful use of the methods, strategies and tools to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices. But the project did not plan to support directly the use of assessments in land degradation mitigation and SLM interventions except in the pilots, and the second part of objective 2 is therefore not considered to be an *immediate* outcome of the project, for which the project can be held accountable. However, the methods, strategies and tools developed - and capacities built to use these - were still expected to contribute to better planning and design of interventions and their ability or quality to do so will be assessed further in the report (Section 2.A.5 – RotI analysis).

101. Following the logic explained above, the assessment of project effectiveness will focus on the first part of objective 2 of the project, i.e. the extent to which capacities have been built to use and implement the strategies, methods and tools developed by the project.

102. As explicitly stated in the ProDoc, capacity building of the LADA Project was mainly expected to strengthen the capacity to analyze, understand and assess the causes of land degradation

areas at risk, as well as their environmental and developmental impacts. In this regard, the mission has found that many of the activities carried out for the attainment of LADA Outputs 1, 2 and 3 strongly contributed to create or enhance global, national and local capacities to assess land degradation processes.

103. At **global level**, digital maps and on-line information have been produced and made accessible through GLADA and GLADIS. Various international and regional meetings, seminars and workshops, as well as virtual (on-line) forums have taken place bringing a large number of experts, professionals and scholars of academic, environmental and development institutions and international agencies together. There is little doubt that, at a global level, the project has contributed to promote a standardized and more objective methodological framework for land degradation assessment. This is a significant result when compared with a baseline situation characterized by missing, obsolete or inconsistent assessment methodologies and by heterogeneous analysis capacities.

104. **National and local levels** are strategic levels when building the necessary knowledge and awareness. A high level of interest, motivation and involvement can be observed throughout the national teams of professionals working on LADA methodology. Strong – though not very extensive in most pilot countries - national networks and linkages have been created or reinforced through the project, which has definitely presented an opportunity for enhancing national and local capacities. This is arguably one of the most relevant capacity building result of the project.

105. The participatory field surveys (LADA local assessments) conducted in selected sites of the pilot countries with the application of relevant methodological approaches were great opportunities to develop national and local capacities in land degradation assessment. Although the local surveys may differ in style and depth, the overall impression is that the LADA-L Manual, the training of trainers and the local assessments in the pilot-sites have contributed to create or improve decentralized capacities to assess causes and impacts of land degradation.

106. Three innovative aspects played a part in the enhancement of national capacities, namely:

- (a) The multi-disciplinarity of LADA assessment teams, including experts and technicians from different areas, such as Forestry, Agriculture, Livestock, Water Resources: the local assessment gathers in a single study different areas of biophysical research;
- (b) The inclusion of some socio-economic aspects (mainly through DPSIR and SLA) in the assessment of land degradation (i.e. not only biophysical factors);
- (c) The work in real and concrete field situations and the involvement of local land users/managers (farmers, herders, local governments).

107. **Institutional up-take** is an essential part and driver of capacity building. The Project is expected to promote national capacity building at a broader scale through a process of up-streaming of the methodology, so that different stakeholders (land users, land use managers, environmental planning institutions, rural development institutions and policy makers) can adopt the approach and tools and, later, integrate the assessment results into projects, programs, plans and policies. The process of institutional up-take is essential for opening the pathway towards impact, as discussed further in the ROtI analysis (Section 2.A.5).

108. Overall, the institutional up-take of LADA tools and results by potential stakeholders (land users, managers and policy makers) beyond those directly involved in LADA activities is rather weak. Some reasons for that are:

- The main reason was probably that the establishment and setting-up of the project in all six countries was more complex and took longer than foreseen: many key outputs have just been produced and their consolidation and up-take has been practically impossible in a systematic and effective way in the short time left to the project;
- The strategy for institutional up-take of LADA results and for the promotion of policies conducive to SLM has not been properly tackled in the LADA ProDoc. A certain

undervaluation of this key aspect is evident: only one activity⁸ out of 16 partially deals with the issue (see Output 3), the project work-plan relegates this activity to the last 12 months of the project and a budget of less than 2.5% of the total budget is assigned to the activity;

- As a consequence, the project did not develop a thorough analysis of the institutional/policy framework of land degradation, which should be a substantive component of a land degradation national assessment (existing laws and policies, national player's assessment, etc.);
- Most of the LADA work in the pilot countries has been carried out on a technical level with a number of participating organizations (research and development) without analyzing the impact of the project at policy level. The technological fix⁹ has strongly oriented the project choice of national stakeholders towards reliable pilots capable to manage methods and tools of GIS and to carry on the statistically accurate collection, monitoring and processing of environmental field and secondary data, such as climate, geomorphology, soil, water, vegetation and land use. The choice of the national stakeholders has been excellent for that purpose, but the implementation of SLM actions that imply the capacity to interface with developers, programme managers and policy makers, and to take them "on board" was not fully achieved in all pilot countries, as this was not the primary objective of LADA. The however latter entails a different know-how (the "behavioral fix", see note below) that has to be encouraged and promoted.
 - Similarly, significant information to be gathered at local level, such as the "mapping" of local stakeholders and the analysis of past and on-going local initiatives, have been largely neglected in LADA-L assessments. In fact, local assessments have so far mainly served the LADA project as a tool to verify and integrate national data, rather than as a tool for participatory planning in a research/development approach.
 - Despite efforts at the outset in the project design, FAO's proposal to include some steps towards developing participatory action plans as an output were rejected on the grounds that the project should focus on assessment methods and tools, and that there were plenty of projects already intervening in SLM. This was why pilot countries insisted that local assessment sites were identified where projects/programmes were able to take up/respond to some of the findings. The revised local assessment manual includes a chapter on how the findings can be used for decision making.
 - In pursuing the "Scientists - Policy Makers dialogue", the LADA project fosters the implementation of "forums" as a platform for policy dialogue, knowledge dissemination and awareness-raising. This is the usual approach within the UN system of Conventions and programs, which has been proven effective when certain requisites do exist, such as urgent or extensive risks of social instability, strong political demand from civil society organizations and lobbies, economic interests of relevant private sectors and powerful corporations etc. Unfortunately, none of the above conditions may significantly apply to drylands and LADA expectations of tangible results from national forums have probably been over-estimated.

109. However, there is no doubt that strong and dynamic capacities have been built among the national LADA partners. This should enable LADA partners to autonomously be the driving forces for further institutional up-take, dissemination and scaling-up of LADA methodology in other locations of their countries (and regionally) and among other national, sub-national and local partner institutions. It

⁸ "Analysing national and local level policy processes for renewable natural resources information, determining suitable entry points for land degradation information, and making available and operational the information system for national and district level planning and practice"

⁹ Strategies for the solution of problems may be described as fixes. In environmental management "technological fix" refers to the development of new techniques and equipment and the quest for technology-based solutions (e.g. engineering design principles, computer-aided modeling, etc). Other families of solutions are "behavioural fix" (based on changing behaviour, mediation, awareness raising, social learning and horizontal communication), or "administrative fix" (changing the administrative and regulatory framework).

also has to be recognized that promising experiences already exist at the level of the pilot-sites, like those in China and South Africa, and as proposed by examples in Box 1.

Box 1. Stakeholder involvement and institutional up-take

The Minqin oasis in northwest China (Gansu province) suffers from a very serious process of desertification directly linked to the ill-management of the river water that have been increasingly explored for decades in its upper and medium reaches. Minqin oasis has thus become one of the areas in China with most serious water shortage, desertified land and fragile ecosystem (“hot spot”). The results of the exhaustive LADA Local assessment of the oasis have been discussed with the Shiyang River Basin Authority who intends to adjust its strategy as regards its support to the downstream small farmers of the oasis.

In South Africa, the LADA methodology and the results of the assessment in North-West Province have been incorporated into the Natural Resources Management Plan for the province, used for strategic natural resource planning at provincial level.

Identification and integration of SLM best practices

110. The Project was given the relevant complementary task of promoting in each country the systematic and standardized compilation of existing SLM models or any other technological or social practices contributing to counter land degradation in drylands. The exhaustive materials produced so far by the countries represent a sort of “catalogue” of best practices that practitioners and professionals can consult. It has a high potential for networking and knowledge circulation and is therefore an interesting capacity building result of the project. The potential of that information could be higher if more emphasis was given to the analytical and critical approach to the use of “best practices”.

111. But to assess the effectiveness of these materials as capacity building tools, one needs to look at its usefulness for extension and integration of SLM best practices in the field. The Evaluation Team finds that some material could be useful for preparing extension or training tools for technicians, field agents, rural extension officers, local farmers and rural communities. For that purpose, however, a qualitative and substantive “communication shift” should be undertaken in order to adapt the material to that kind of public. In other words, the “catalogue” is not, as such, a tool for rural extension and certainly not packaged for ready adoption by land users.

4. Efficiency of the project

112. The project was approved by GEF in December 2005, started in May 2006 and should have been completed by May 2010 after four years of implementation. After the Mid-Term Evaluation it was however suggested to extend the project until the end of 2010, to complete ongoing activities and ensure the scaling-up and dissemination of results. The latter was not fully achieved by the end of 2010 and the Steering Committee agreed on another extension of six months until mid-2011.

113. The Evaluation Team fully agrees with the observations made in the draft Final Report (till December 2010) prepared by the Technical Officer of the LADA Team at FAO regarding the efficiency of the project, namely:

- (a) The process of project approval was considerably hampered by divergent rules and regulations in the partner agencies (GEF, UNEP and FAO in particular). This resulted in unacceptable delays in the approval of the project (there was a 2 year gap between the PDF B phase and the full sized project) but also in a very cumbersome way to deal with budgets and audits;
- (b) Collaborating efficiently and equally with six very different pilot countries and host institutions, with very different internal rules, stretched the capacities of the FAO Team to the limit. Some of the contractual arrangements at national level and with the FAO were not carefully considered beforehand. If the national LADA Coordinator was not housed by the national Ministry assigned as the GEF National Focal point, as is the case in South Africa for instance, endorsement and permission had to be granted first at national level

before the project could proceed. Overall things went more smoothly towards the end, mainly thanks to the flexibility of the implementing and executing agencies.

114. The national coordinators of the six LADA pilot countries indicated in their self-assessment that the project was very efficient and cost effective at the country level, although no detailed financial reports were received by the Evaluation Team. All pilot countries contributed extensively to the project mostly in the form of “in-kind” contributions but exact figures on these contributions are not available.

115. The LADA Team at FAO is also under the impression that the project was very cost effective, after the FAO provided additional funding to deliver products and outputs as required. It was therefore mentioned that the FAO’s “in-kind” and “in-cash” contributions were extensive, and not always accounted for because many of the products, such as the different maps, inputs to GLADA and GLADIS were produced “in-house” without the hiring of external consultants. This way, many savings to the project could be made, but those were to a large extent at the expense of FAO.

5. Review of Outcomes to Impacts (ROtI)

116. The Evaluation Team reviewed project progress along the pathways from immediate outcome to impact by identifying the sequence of conditions and factors deemed necessary for project outcomes to yield impact and by assessing the current status of and future prospects for impact.

117. Identifying the project’s intended impact is the first step of the ROtI assessment. As a matter of fact, the primary aim of any GEF project is to achieve a specific category of impacts called “Global Environmental Benefits” defined as “lasting improvements in the status of an aspect of the global environment that safeguards environmental functioning and integrity, as well as benefiting human society”¹⁰. It must be emphasized that this definition was established five years after the ProDoc for the LADA project was developed. The environmental goal – i.e. the intended impact – of the LADA project is ultimately *the conservation and sustainable use of essential and globally important ecosystems and land resources in the world’s drylands*. This enunciation satisfactorily encompasses the safeguard of environmental functions and ecosystems integrity (the conservation), as well as benefiting human society (the sustainable use) as expected by the GEF definition of impact.

118. The second step of the ROtI analysis is a review of the project’s Logical Framework (Logframe), to assess to what extent the project design was consistent and appropriate to deliver the intended impact. The original Logframe has a number of shortcomings that need to be adjusted for better representing the causal chain from activities to outcomes, as already mentioned earlier in the report:

- What in the Logframe is called an outcome, is in fact a result at the output level;
- Objective 1 of the original Logframe is just a summary of the first three project outputs and should not be considered a consequence of these outputs;
- Objective 2 is the project’s key expected outcome, resulting from the four project outputs, with its first part being the immediate outcome of the project (capacities built) and the second part being an expected outcome not fully under control of the project (methods and tools are widely used for assessments at different scales).

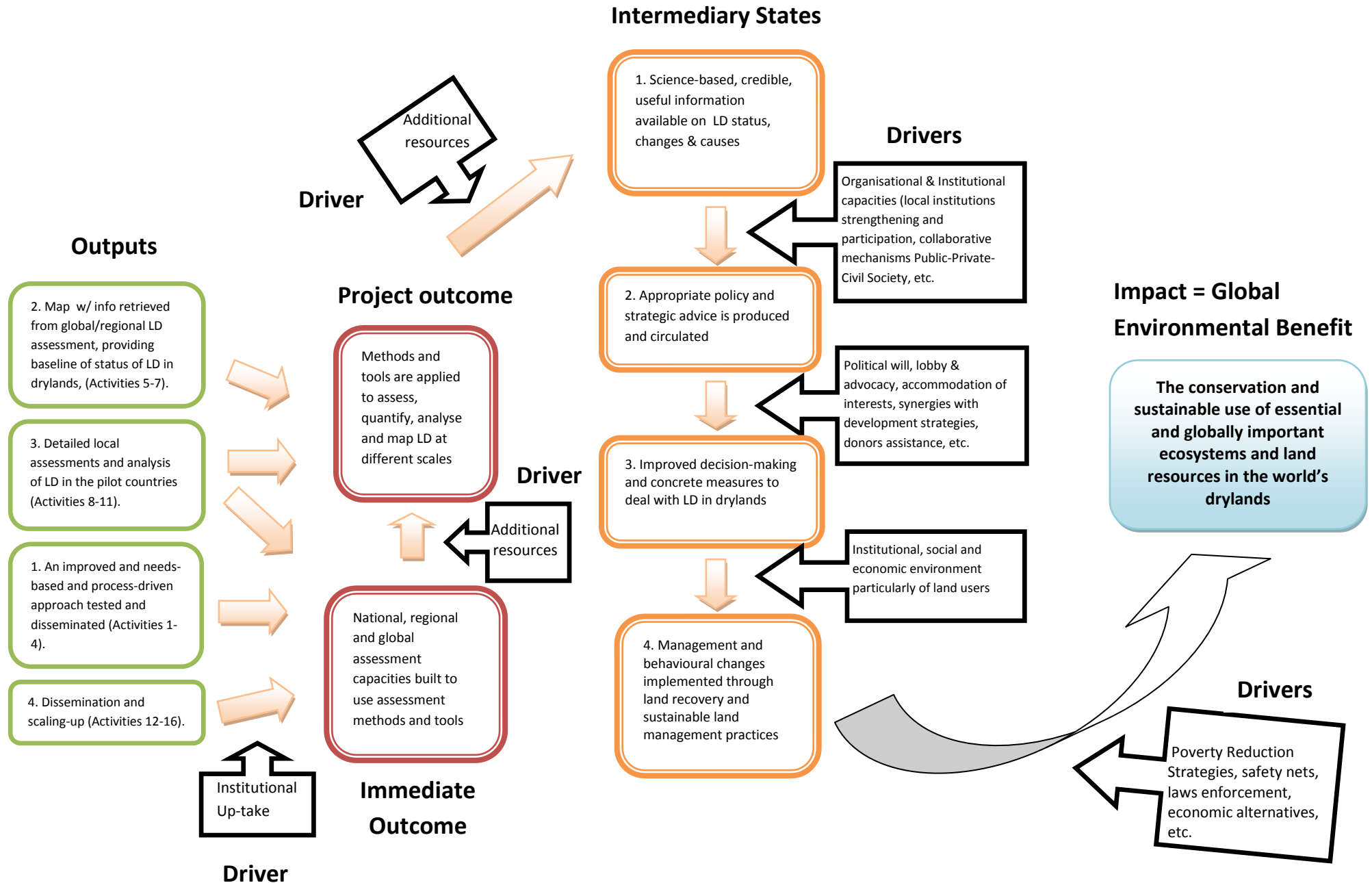
119. When analyzing the LADA Logical Framework, it appears evident that there is no immediate or direct cause/effect linkage between the outcome (assessments are conducted at different scales) and the intended impact (the environmental benefit – i.e. the conservation and sustainable use of essential and globally important ecosystems and land resources in the world’s drylands). That reinforces the need of the analysis of the “Impact Pathway”, i.e. the whole logical chain of Intermediate States (IS),

¹⁰ ROtI Practitioner’s Handbook, GEF, 2009

Drivers and Assumptions¹¹ needed to convert the project outcome into the ultimate impact/environmental goal and to achieve sustainability. Figure 1 below, presents the Theory of Change of the LADA project as understood by the Evaluation Team.

¹¹ In the Theory of Change, significant factors that, if present, are expected to contribute to the realisation of project impacts are called drivers (within the ability of the project to influence) or assumptions (largely beyond the power of the project to influence or address).

Figure 1. Theory of Change of the LADA project



Intermediary States to impact

120. Assuming that a critical mass of assessment capacities have been built at national, sub-national and local levels, which includes institutional up-take at these different levels (immediate outcome = first part of objective 2 of the project), “needs-based and process-driven” assessments can be carried out and/or updated (project outcome = second part of objective 2 of the project), which provide relevant, quality information (i.e. science-based, comprehensible, credible and useful) on the status, changes, causes and impact of land degradation (= Intermediary State 1). This information is converted and packaged into relevant strategic and policy advice to decision-makers at different levels (policy makers, programme and project planners and implementers, and land users) (=IS 2). Based on this information, decision-makers could then make better informed decisions to establish concrete policies, strategies and plans to deal with land degradation in drylands (= IS 3). As a result of the latter, significant management and behavioral changes can be promoted through a variety of initiatives and measures for land recovery and sustainable land management in drylands (= IS 4). These could then, ultimately, lead to the conservation and sustainable use of essential and globally important ecosystems and land resources in the world’s drylands, which is the expected impact of the project.

121. As mentioned under the effectiveness assessment, the project’s immediate outcome of building capacities for land degradation assessments has been achieved only partially so far, due to the limited institutional up-take and scaling-up of LADA methods and tools beyond the institutional and geographical boundaries of the pilot-sites. However, the foundations are certainly in place and LADA partners in the pilot countries will most likely continue to promote institutional up-take, dissemination and scaling-up of LADA results in other locations of their countries and regionally, among other national, sub-national and local partner institutions. Whether these enhanced capacities will then lead to further land degradation assessments at different scales (the project outcome), and whether these assessments are going to be used by decision-makers to design better policies, strategies and programmes for tackling land degradation in drylands (through different Intermediary States), depends on several drivers and assumptions discussed hereafter.

Drivers and assumptions

122. In order to move beyond the project objective towards impact, the capacities put in place so far need to be further institutionalized and up-scaled. This could be a major thrust of the follow-up project as recommended by this evaluation.

123. Whether these capacities are used to conduct further land degradation assessments (elsewhere or repeat-assessments) in order to reach the project outcome, will depend on the availability of additional resources (human, material, financial) at global, national and local levels. This question is further discussed under financial sustainability of the project (Section 2.B.1). Current LADA stakeholders (both at FAO and in the pilot countries) are fully aware of this “driver” and are taking steps to ensure that it remains present in the future.

124. For the assessment results to be used by the different categories of decision-makers (IS 3), they must be relevant to their needs (which they would be to a large extent if the LADA methods are well applied) and packaged and communicated in the right way and at an appropriate time in the decision-making processes. The latter was in fact planned in project component 3 which was expected to conduct analyses of policy processes to determine suitable entry points for land degradation information in the pilot countries. Training and guidance was given to the country teams for strategic planning and institutional assessment at the Sassari workshop that had to be conducted during the final stakeholder workshops. However this was applied to varied extents and happened only to a limited extent, as mentioned before, in China and North-West Province in South-Africa where there is evidence of assessment results being used for natural resource management planning. Improved decision-making will further be driven by factors related to socio-political sustainability, such as political will, the capacity of stakeholders to lobby and engage in advocacy action, the accommodation of different interests at stake, synergies with development strategies, donor support etc.

125. Managerial and behavioral changes (IS 4) will be highly influenced by the institutional, social and economic environment surrounding the stakeholders, particularly the land users who would benefit from improved decision-making but also assume the risk of suffering from wrong decisions. This is particularly true as far as land management and use is concerned, where alternative/competing uses are possible, common and privately owned goods may be at stake, externalities are present and so on.

126. Eventually, the achievement of the intended environmental goal/impact will be subject to other external factors, such as poverty reduction strategies in place, safety nets, law enforcement capability, the existence of economic alternatives for the rural youth in drylands areas etc.

127. Overall, based on the above, the likelihood of impact achievement for the LADA project is rated as moderately likely¹². The project's immediate outcome was mostly delivered, and was designed to feed into a continuing process, but with no prior allocation of responsibilities for after-project funding and the measures designed to move towards intermediary states have started, but have not yet produced significant results.

B. Sustainability and catalytic role

1. Sustainability

Financial sustainability

128. As far as financial sustainability is concerned, the situation varies greatly from country to country. While the overall finding is that countries can presently assume most of the costs of running the LADA project at national level, certain training and capacity building activities for the institutional up-take and scaling-up of the project, especially at local level, could still be in need of external support (such as other donors or from the private sector).

129. The extension of the local assessments to new areas and pilot sites would mostly depend on finding supplementary (internal or external) funding. The enlargement of the system to other countries of the region would also entail additional costs for which external funding is necessary.

130. The financial sustainability of the LADA project at country level depends on its institutional up-take and ownership at national level and that will be ensured, as soundly expressed in the ProDoc, "by mainstreaming land degradation assessment approaches into integrated ecosystem planning, sustainable land management and related policy instruments".

131. Some countries, such as Argentina and Tunisia are in the process of developing project proposals that will be submitted to international funding agencies, such as GEF and FAO, as well as private donors, to ensure the continuation of the LADA project after 2011. These project proposals are based on the current LADA project framework and achievements. Great expectations have been created at national and local level which should promote the meeting of the financial requirements for LADA associated projects.

132. Follow-up LADA type projects could also benefit from other projects that are already taking place or start soon in the six pilot countries, such as the Great Green Wall initiative in Senegal and other African countries, or the development of a national monitoring system for land degradation in countries such as Argentina, China and South Africa. All of these projects already have large financial inputs from national and international sources.

Socio-political sustainability

133. The Socio-political sustainability of the project much depends on the public and stakeholder's awareness, interest and incentives to maintain and further the "drylands issue" on the political agenda.

¹² Based on the ROTl rating matrix - ROTl Practitioner's Handbook (GEF, 2009)

134. The UNCCD is the political, global framework by which participating countries commit themselves to implement national, sub-regional, and regional action programmes (NAPs) to combat desertification. The LADA project has been recognized as a key initiative at national level and forms an integral part of the NAPs for the UNCCD in Argentina, Cuba and China. In Argentina, the GEF Focal Point is located within the Secretary of Environment and Sustainable Development of the Republic of Argentina, which is also responsible for the overall coordination of the LADA project. In Tunisia and Senegal, the government agency responsible for the UNCCD-NAP forms part of the LADA committee. In South-Africa, however, the Department of Environmental Affairs, that hosts the GEF Focal point and is responsible for the UNCCD-NAP, is not involved at all in LADA at this stage.

135. One of the main characteristics of the LADA project is that it follows a multi-institutional approach whereby many government agencies at national and provincial level, as well as some NGO's, academic institutions and research organizations are involved. This somewhat strengthens the acceptability of the project at policy level, which will contribute to the long-term sustainability.

136. The challenge in most LADA pilot countries is to make the drylands and desertification monitoring and assessment agenda, including the identification of suitable indicators, part of the political priorities. The latter will be promoted through the strong involvement of the communities addressing certain social and economic strategic needs, especially at local level, such as rural poverty and vulnerability, food security and rural development.

137. It would be important that the "drylands" related projects, such as LADA, also form part of other related UN Conventions, such as the UNFCCC and UNCBD. This is currently only happening to a limited extent, e.g. the development of global indicators under sustainable agro-ecosystems for the UNCBD.

Institutional framework

138. LADA is essentially an approach and, as such, it has been conceived for being applied and integrated in projects, programs and NRM plans, mainly at national level. Therefore, the sustainability of LADA outcomes and the onward progress towards impact are absolutely dependent on the institutional and policy framework in which the method is integrated.

139. Overall, the LADA project is managed by a strong institutional framework in all six pilot countries with strong partnerships of stakeholders at all levels. This ensures that LADA complies with governance, policies and legal frameworks of the different institutions that are responsible for sustainability of the project. The LADA national stakeholders are excellent "pilots" for their capacity to manage large databases, to conduct research and trainings and by being largely respected in the national technical and scientific arena.

140. However, as mentioned under the effectiveness assessment, institutional up-take of the LADA approach and tools beyond the institutional and geographical boundaries of the partners and stakeholders directly involved in the project has been limited. It can be argued that, without a solid uptake of LADA method by "development-oriented" institutions, the "supply" of LADA will face a weak "demand" by its targeted potential users. Up-take by program managers can only happen when their institutions assume LADA as an integral part of their intervention approach and make appropriate institutional arrangements for this purpose (formal agreements, insertion in work plans, budgeting, etc.). Argentina, and to some extent South Africa and China, are the only pilot countries that have made a big step in that direction (see Box 2).

Box 2. A strong institutional environment for LADA in Argentina

In Argentina, formal agreements were signed between the LADA host institution (Secretariat for Environment and Sustainable Development) and a pool of national institutions (the National Directorate for Soil Conservation and Combating Desertification of the Ministry of the Environment, the National Institute of Agricultural Technology and some Universities) to create a larger and diversified institutional environment for LADA national uptake.

Environmental sustainability

141. Climate change, prolonged droughts and floods have been pointed out by LADA country teams as possible increased threats of land degradation and desertification, which will also impact negatively on expected the long term benefits of the project. The competition for scarce natural resources, namely water and land, is particularly high in drylands, and the environmental benefits potentially stemming from the project will only be sustained if the pressure from socio-economic activities is lowered. Three assumptions are relevant if SLM practices are to be maintained, a) the enhancement of alternative sources of income enabling sustainable livelihood strategies for poor households (which is actually occurring through the seasonal or permanent work outside the farm of members of the family); b) conducive development policies for rural smallholders and c) the enforcement of SLM models in public or communal lands. Therefore, environmental sustainability is strongly linked to the macro-economic framework and governance issues.

142. The LADA project will only be sustainable if it provides solutions for improvement of the national and local land degradation assessment system which forms the basis of decision making for environmental sustainability and SLM practices. National and local assessment results do not directly inform decision making on environmental sustainability at the moment, except in some areas of China and South-Africa.

2. Catalytic role and replication

Scaling-up and dissemination

143. The strategy of project implementation through the six pilot countries in different regions of the world, representing different climatic zones, political structures and land use systems, as well as through the assessments at local scale in pilot sites, not only underlines the innovative/demonstrative character of LADA, but also shows the important expectations regarding the catalytic role and replication of the project. The fact that LADA worked on three levels, namely global, national and local, with frequent workshops and meetings at all these levels, has strengthened visibility of the LADA project, especially from the end of 2009 and after COP 9 of the UNCCD. The project has indisputably contributed to catalyze awareness and innovations with LADA stakeholders (the LADA country teams and their institutions) and has given them the opportunity to “champion” the method in their country and region.

144. The LADA project has created a good platform of stakeholders and expertise in SLM and land degradation assessment methods and processes in different organizations at the regional, national and local scales, contributing to a higher awareness of the value of such a project. This was strongly helped by the involvement of the LADA management team and their collaborators at different national and international forums with many presentations, pamphlets, brochures, and a few research papers in scientific journals (Annex 6 and LADA website). All this exposure has contributed to the visibility of the project and, if managed correctly, can lead to more replication and scaling-up. Due to the regional workshops, trainings and networks that have been built, some replication in the use of LADA technologies is already taking place in Asian, North African, South American and Caribbean countries surrounding the six LADA pilot countries. The strong involvement and network that has been created by the WOCAT program, not only in the six LADA pilot countries, should also provide more opportunities for the application of LADA approaches and tools and better SLM practices. The tools and methods developed by the LADA have already been taken up by several initiatives, such as the Forest Degradation project in Senegal, the GEF Palm project in Senegal, the LandCare project and the National Rangeland Monitoring System in South Africa, the “demonstration site” project in Cuba, the GEF partnership program in China and, in the near future, the National Networking and Monitoring System for Drylands Degradation in Argentina.

145. The replication of the LADA methods and tools in non-pilot countries is a process started with actions of awareness raising by FAO, UNEP and WOCAT and was implemented so far through the organization of workshops and training sessions addressed to professionals and institutions of other countries invited or interested, such as Kagera, the Philippines and Grenada who are starting with the implementation of LADA. Replication in other countries, however, is faced by significant differences in socio-economic and institutional situations. Actually, all six pilot-countries are middle income countries with relatively strong research and institutional capacities, when compared to their

surrounding countries. Therefore, replication will entail in many cases (notably the least developed countries of Africa, but also in Central Asia and Latin America) strong adaptations and creativity.

146. There is, however, one factor that could hamper wider-scale dissemination of LADA methods and tools, which is their lack of scientific peer review and publication in scientific journals. Until this has been done, LADA results might neither be accepted nor adopted by a wide range of research and academia nor by policy makers outside the group of current LADA partners.

147. As mentioned, the LADA project is in line with the objectives of the UNCCD and has contributed to the identification and selection of land degradation indicators for the Convention. As confirmed by Decision 19 of COP 9, some cross fertilization between the Committee for Science and Technology of the UNCCD and the LADA project, particularly regarding the impact indicators, already takes place. The Committee is also called to consult with the LADA project as it consolidates, in accordance with Decision 17 of COP 9, the impact indicators related to land degradation and related methodologies. After the implementation of the LADA project, the Committee is also encouraged to develop regional training activities on land degradation in order to improve capacities for monitoring and assessing the implementation of the ten year strategic plan and framework of the UNCCD (the so called Strategy for 2008-2018) that will enhance the implementation of the Convention. More UNCCD signatory countries will be implementing LADA technologies shortly which might, ultimately, lead to policy changes in those countries.

148. Finally, it should be noted that the overall impression created by the final LADA workshop in Rome (6-8 December 2010), was that many international organizations and programs, such as WOCAT, UNCCD, ICRAF, IIASA, OSS, UNU, CILSS, etc. are interested in working with the current and future LADA teams to ensure further and/or extended collaboration and replication of the project. It has to be stressed that most of the pilot countries envisage a second phase of the LADA project exactly with the purpose of scaling-up and replicating the methodology in other locations.

C. Processes affecting attainment of project results

1. Preparation and readiness

149. An earlier draft of the LADA methodological framework was conceived in 2002 and the first “Guidelines for a methodological approach for LADA” were drafted in 2003¹³. In August 2004 the simplified version of the document “Methodological Framework for Land Degradation in Drylands (LADA)”¹⁴ was eventually published and has since represented the basic, main conceptual framework of reference.

150. The LADA Project had a quite long and complex preparation phase due to its global reach and to its programming, implementing and executing context that was shared between GEF, UNEP, FAO and six very distinct pilot countries. Although conceived and discussed since 2003, it was approved in December 2005, financed in 2006 and eventually started its field operations as late as 2007.

151. The project document is clear and exhaustive in defining its background and context, as well as its rationale, strategic objectives and components. The operational design of the project was necessarily less precise, due to the amplitude of levels at which the project was expected to operate and to its geographic scale covering six countries across three continents.

152. A lot of time and energy was successively spent in setting-up the methods and the tools of the LADA approach at global and national level, consolidating the country teams, organizing training courses and workshops, searching laborious consensus on mappings, guidelines and manuals, and conceiving, preparing and implementing the pilot local assessments.

153. LADA is therefore a complex and very large project that involved many players at national and international level, including a lot of personnel at the FAO.

¹³ Koohafkan et al.

¹⁴ R. Ponce-Hernandez & P. Koohafkan, FAO, 2004

154. It is evident that highly capable professionals and technicians were available at the lead institutions to implement the LADA project at global, national and local scale. LADA task forces were established at national level at the institutions that were responsible to serve as the LADA Coordinators. These institutions will further serve as the regional “hubs” for the different dryland regions of the world.

155. A consortium of institutions working in the LADA project at national level was established. Good coordination between the institutions resulted in the formulation of achievable schedules, work plans and standardized criteria and guidelines expected over the project duration.

156. Because the project started late, the implementation of the assessment methodologies at the pilot sites only took place towards the end of the project. This contributed to often hasty implementation strategies and a lower adoption rate by local land users at the pilot sites.

157. Although the National Coordinators were mostly happy with the original time-line and duration of the LADA project (2006 – 2010), all of them were in favor of a no-cost extension for another six months until mid-2011. This extension will allow the countries to try and finish the outstanding activities of especially Output/Outcome 4. The Evaluation Team of the TE is however not convinced that all outstanding activities will be completed in a six months time period.

158. As mentioned, due to the short time frame of the LADA project, LADA teams at national and local level had to “push themselves” to comply to all the activities mentioned in the ProDoc. The evaluators therefore think that some of the activities that were mentioned in the Logframe were a bit over ambitious to be carried out in the four year period of the project.

159. Many fundamental principles that underpin the structure of the LADA framework, its function and application (System’s approach, Participation, Based on empirical knowledge and practical experience, Integrative in the interdisciplinary sense, based on DPSIR framework, Results-based outcomes, etc) did not receive the same level of attention and reflection in each of the six pilot countries, being probably “given for granted”, or perhaps perceived as “buzzwords” or left for being “tackled” in a posterior moment.

160. The ProDoc did not really provide a convincing justification for the choice of the pilot countries and of the national partner institutions in each country. As a consequence, it is not made explicit whether the choice of the national stakeholders followed a previous definition of the implementation approach (much “research-oriented”) or whether it was the selected partners’ who oriented the project by their nature and expertise towards the approach eventually put in place (i.e. the promotion of an information system largely based on GIS tools). In any case, the strategy to be adopted for the involvement of “development-oriented” stakeholders was ill-defined and that, as previously discussed (see ROTI assessment), can make the institutional up-take of the method and its practical use by its potential users more difficult.

2. Implementation approach and adaptive management

161. The management framework of the LADA project was overall good, both at the FAO and the LADA Tasks forces at national level.

162. The FAO provided support and backstopping to all six pilot countries on a continuing basis, especially through the workshops and many meetings that were held in the different LADA countries (Annex 7). The FAO was therefore effective and helpful and demonstrated a great availability to discuss and solve problems, which contributed to a good communication system between all country partners and the FAO.

163. Any changes in the project were discussed at the annual Steering Committee meetings which were attended by all LADA Coordinators, members of international organizations and the LADA management team. This finding at the end of the project is quite contrary to the finding of the MTE which reported that “the FAO project management team makes most decisions pertaining to the implementation of the LADA project in consultation with UNEP-DGEF. It is not a participatory decision-making process and it prevents to keep a strong ownership of the project by all stakeholders. The FAO Team Members are the only ones who have the “big picture” by communicating regularly

with all country representatives and the LADA international partners”. Indeed, the situation significantly improved in the last two years of the project, when the higher frequency of regional meetings and workshops and annual Steering Committee meetings allowed for a lot more exchange and discussion between project partners.

164. Although the LADA project management organigramme (Annex 8) was somewhat ambitious at first (as presented in the ProDoc), it was adjusted over the project duration (see general notes in Annex 8). The LADA Coordination included a Steering committee to deal with the strategy and policies and a Scientific Committee that dealt with the technical matters. The members of the scientific committee never met formally as such but could meet informally from time to time during LADA events.

165. National LADA country management teams were able to be sufficiently pro-active and clear in defining their specific problems and in identifying management and implementation solutions in order to adapt to their particular conditions. The workload of activities carried out and inputs at all three levels, especially at the global and national level, differed significantly between the six pilot countries. This can be seen by the different inputs of each country at global level (e.g. maps and manuals produced), but also the number of workshops and pilot sites which are often far distances apart and difficult to reach in each country. This means that the National Coordination teams often had to depend on other organizations to help with surveys, assessment methodologies and active implementation at the pilot sites.

166. The LADA management team at the FAO was however not very prescriptive of how the Outputs/Outcomes and Activities in the specified timelines had to be presented or reported on by each of the Country Coordinators, as long as they did comply to the ProDoc instructions and more or less followed the Logframe designed for the project. This “hands off” and “flexible attitude” of the LADA management team at the FAO sometimes contributed to confusion about the manner of reporting, the exchange of data and results between countries and what was expected at the different stages of the project. The pilot country reporting was therefore not according to certain rules or frameworks which resulted in the delivering of different datasets and outputs at different levels between all six countries.

167. The continuous improvement of the LADA-L manual with all the country inputs, and the adoption of a more simplified and effective monitoring system of results and activities are two positive examples of adaptive management implemented by the project.

168. The MTE report was comprehensive, well balanced and covered all aspects of the project. The overall message that emerged from the report is that the project was on target and had produced results in a satisfactory way. Nevertheless, the report raised a number of genuine concerns which required a response. Thirteen recommendations were made by the MTE. The LADA management team at the FAO, in collaboration with the steering committees, discussed the 13 recommendations of the MTE report and made project adjustments as needed. Reasons for achievement (not-, partly-, mostly-, achieving, etc) of the recommendations were given and communicated to all pilots.

169. Recommendations by the MTE included, (1) the extension of both the project and the Technical Advisor of LADA at the FAO until the end of 2010, which alleviated some of the pressures on the project; (2) the establishment of the Regional Centers and an enhanced communication strategy, including a priority of finalization for other activities (e.g. global assessment); and (3) to monitor closely the overall progress and the financial reporting of counterparts agencies in the LADA countries.

170. Not all the recommendations by the MTE report were achieved. These included (1) the establishment of the Regional Centers; (2) the upgrading of the web design to GeoNetwork, as this was beyond the responsibility of the project and did not include FAO standard rules in this respect, and (3) monitoring the overall progress and financial reporting of counterpart agencies, especially at country level.

3. Stakeholder participation and public awareness

171. As previously mentioned, the LADA stakeholders originally foreseen have actively participated in the implementation of the project. The national institutions in charge of the project at country level show high motivation and a strong grip on activities. In the pilot countries one governmental institution was identified as the main reference point, the so called “National LADA Coordinator” which provided the technical and organizational backstopping for the project at global, national and local level. The National LADA Coordinators successfully involved other divisions in their own organization (e.g. GIS and database sections, administration, soil sciences divisions, etc), as well as in other national institutions from the academic and research sector and, importantly, in the line ministries (Agriculture, Rural Development or Environment Ministries). As such, the number of national agencies and staff involved in LADA, one way or another, was significant in each country and, importantly, their contributions were mostly funded by “in-kind” contributions.

172. The level of involvement of these other national stakeholders, however, was quite variable across countries. The most participatory scheme has been the one adopted in Argentina, where other institutions (such as academic and research centers, and agricultural extension institutes) have signed independent agreements with FAO for project implementation at provincial and local levels. Some countries (Senegal, South Africa and Tunisia) have also promoted partnerships with local NGOs for the implementation of local assessments. The latter represents a first step for further involving civil society and for raising awareness among a larger public on the causes and effects of land degradation. In China, there was only an agreement between FAO and the coordinator institution. Agreements with other institutions to conduct local assessments were signed between the coordinator institution and these other institutions.

173. Local government involvement seems uneven, according to each specific situation. Local technicians were trained and usually actively participated in the field surveys. Generally, but not in all cases, district and county administrators were informed on the initial and final results of the assessments. In some cases their contribution to the formulation of suggestions for the future has been significant.

174. Local farmers and rural households have been involved mainly as key-informants during the local Assessment and in some phases of the survey, like the mapping and the DPSIR analysis. Their participation was uneven depending on the conditions at the field sites and their motivation. Since the survey was not directly linked to any action of development, it can be argued that the local participation was just an input to the survey, hence less meaningful than expected. Language barriers sometimes also reduced their effective participation and understanding of the LADA approach and assessment results.

175. Bringing LADA outside the community of researchers and practitioners toward the larger community of developers and land users was definitely a great challenge for the methodology built upon a “needs-based” and “process-driven” approach, where the “entry points” should be the concrete land degradation problems experienced in the field.

176. Frequent feed-back sessions were held by the LADA teams and partner organizations involved in data collection and assessments at the pilot sites in the six pilot countries. Reports of activities and data from assessments were also discussed at these meetings, either individually or in groups.

177. The Evaluation Team is however concerned that the awareness of the LADA project and its outputs was mainly created with partners that were directly involved in the project and not to the broader public.

178. Information dissemination from LADA stakeholders to other policy makers from different institutions, as well as NGOs, has only recently begun through contacts, meetings, conferences and forums and should be improved over time. Initiatives of awareness raising for a larger public through the media, schools and other training institutions, including NGOs did not occur significantly to date. According to the extended work plan, these activities will be addressed in the no-cost six month extension of the LADA project till mid-2011. There are some doubts, however, that this period will suffice to achieve significant additional results.

179. All essential information regarding the LADA project is available on the LADA website (<http://www.fao.org/nr/lada/>), such as: the overview and background of the project, description and goals of the project, progress reports, announcement of events and meetings, minutes and proceedings of all the events, meetings and workshops, project achievements and outputs (documents, library, maps, GLADA and GLADIS results, manuals, etc), names of national and international pilots, links to other important websites, a discussion forum, national databases, global, national and local assessment data, indicator toolbox for land degradation assessment, news about capacity building and policy support, etc.

4. Country ownership and driven-ness

180. Participating countries appear to recognize the value of LADA approach and its innovative features, and value, in particular, the inter-disciplinarity of the method, the introduction of socio-economic components in land degradation analysis and the depth of assessments at local level.

181. In the LADA countries, ownership of the project was obviously strongest with the lead organization (the national LADA Coordinator), but the project was also strongly driven by the extended national partners (research, academia, extension services etc.) at all levels. All stakeholders involved in this project, especially at national and local level, appear to be very enthusiastic and collaborative, and willing to participate in new activities or any follow-up project of the same kind after 2011.

182. The significant “in-kind” co-financing by the pilot countries is indicative of their acceptance and ownership of the LADA project, and so is the time made available by many partners to attend national and local workshops.

183. In countries where the national Government Ministry of Agriculture and/or Environment was not directly involved, such as South Africa, ownership at the national level was more limited. Then again, ownership by provincial government was in that case a lot stronger than what could be achieved in most pilot countries at the national level, as evidenced by how the land degradation assessment in North-West Province has fed into provincial natural resources management planning.

5. Financial planning and management

184. Annex 9 presents a breakdown of the GEF grant allocation and expenditure as of 30/11/2010 and the forecasts until the end of the project on 30/06/2011. Overall, the estimated budget at design for LADA was adequate. There were two well justified revisions (August 2009 and December 2010), basically to increase “personnel costs” to cover for the salary of the project Technical Officer at FAO during the extension periods, and to increase the “training & meetings” budget to support countries in organizing regional trainings and workshops in 2010 and in preparing a summary report of the final results of the LADA assessment, containing proposals for the use of the assessments to support policy processes and decisions in the country. Savings were made on the budgets allocated to sub-contracts (socio-economic stratification and DPSIR modeling in particular), international meetings and reporting. By 30 June 2011, the entire GEF grant is expected to be disbursed.

185. Annex 9 also presents the figures on co-financing made available to the Evaluation Team. Co-financing by FAO clearly by far exceeded the expected amount at design. FAO reports to have contributed US\$237,500 cash and US\$3,024,000 in-kind to the project by 31/12/2010. That is, respectively, 19 and 68 percent more than expected. By the same date, the other co-financiers would have provided all of the cash and in-kind contributions foreseen at project design: ISRIC provided US\$348,000; GLCN provided US\$200,000; UN University provided US\$140,000; and WOCAT provided US\$88,000. Only UNEP’s expected in-kind contribution of US\$1,675,000 did basically not materialize: according to FAO, UNEP contributed only US\$10,000 by 31/12/2010. According to the current UNEP GEF Task Manager, changes in the management-, personnel- and funding structure at UNEP could be at the origins of this much reduced co-funding from UNEP.

186. Most recent figures on co-financing by LADA partner countries date back to 31/12/2009. As previously mentioned, all six LADA pilot countries made significant resource contributions to the project. By the end of 2009, China reported to have reached already their full expected amount of in-

kind contributions of US\$1.1 million. The other countries had not reached their expected amounts yet, but were quite close with Senegal carrying the red lantern by having reached only 57 percent of the expected amount. More recent figures would be required to assess the extent to which countries have reached or exceeded their co-financing commitments. More details on how co-financing was spent across project activities would also be useful for a deeper analysis.

187. The Evaluation Team did not conduct an in-depth analysis of the financial management of the project. However, according to the project teams, the project never suffered from financial constraints or mismanagement from the part of FAO or UNEP. In all appearances, good financial records were kept, especially by FAO and UNEP who strictly applied their in-house standards for accounting. However, the financial management and reporting requirements of UNEP/GEF necessitated the duplication of some financial tasks by the project management team, which, logically, followed FAO financial guidelines. Indeed, the expenditure categories used by the FAO system are not entirely the same as the expenditure categories of UNEP/GEF. A second reporting layer had to be developed in order to meet the UNEP/GEF requirements which drained human resources at FAO.

188. Since in the pilot countries the LADA project was carried out by national Ministries or large research organizations, all having their own management and auditing processes for project funds, financial management and reporting at the partner institution level was acceptable to the national standards and included audits of the LADA project funds. However, financial reporting towards FAO was not as regular and complete as could be expected, in particular in terms of spending of country contributions.

6. UNEP supervision and backstopping

189. Financial supervision by the consecutive UNEP Task Managers and Fund Management Officers was satisfactory. Disbursements from UNEP to the FAO were always on time, which enabled timely payments to the pilot countries for each phase.

190. According to the LADA management team at the FAO, the collaboration with UNEP was overall good and backstopping, when required, regarding strategic, administrative and financial matters was adequate. UNEP provided guidance to the LADA project management team at FAO and National Country Coordinators, mostly on the occasion of Steering Committee meetings and while attending the larger workshops (Annex 7).

191. However, the monitoring by UNEP of timely achievement of project milestones over the duration of the LADA project could have been better. Due to the complexity and extent of the whole project at global scale, UNEP was quite lenient and showed much confidence in the leadership of the LADA Management Team at the FAO. Therefore, UNEP supervised project execution quite superficially and might not always have been aware of the project realities and risks, which resulted sometimes in inconsistencies and uncertainties, especially at country level. But, admittedly, the FAO team was diligent and experienced enough to deal with most problems when they came up.

7. Monitoring and evaluation

Planning for M&E

192. Although the M&E Plan in the ProDoc (Annex H of the Project Document) follows the UNEP and GEF requirements at the time of design, the proposed M&E system appears complex and unclear. Especially the performance indicators identified in the Logical Framework were ill-defined, being a mix of activities indicators, steps and milestones. No actual SMART (specific, measurable, attainable, realistic and time-bound) indicators were presented.

193. A baseline analysis was equally lacking, probably due to the amplitude and variety of country situations, as discussed previously in section C 1 on Project Preparation and Readiness.

194. No proper budgeting and funding for M&E activities was made, which created difficulties for proper M&E planning and implementation. Fortunately, the project partners agreed to set aside an adequate budget to conduct the MTE and this Terminal Evaluation.

M&E implementation

195. Although there was no prescribed format, monitoring reports as foreseen in the ProDoc were timely produced. These include the half-year Activity and Progress Reports (by Country Coordinators), Consolidated Half-Year Progress Reports (by FAO Project Manager), Consolidated Annual Summary Progress Reports (by FAO Project Manager) and the Annual Project Implementation Reviews.

196. Progress reports produced by the six pilot countries were discussed at Steering Committee meetings. However, not one country established a rigorous M&E system at national and local scale to assess and track the implementation, effectiveness and impact of their activities, especially at local level. This was partly due to a lack of proper guidance and instruments to be provided to the national LADA Coordinators or Project Teams by the FAO LADA Management Team.

197. The M&E system implemented by the LADA team at the FAO to track the performance and project outputs of the LADA project at global level, as well as the six pilot countries was also not very effective. Feedback on reports by the FAO to LADA Country Coordinators was mainly provided during the annual Steering Committee meetings and also task-based e-mail communications (FAO team did provide feedback by email communications), which was not enough to clear up uncertainties at country level regarding the monitoring and reporting expectations of the LADA Team at the FAO.

198. The Mid-term Evaluation took place at an appropriate moment (two years after the actual field inception of the activities) and was useful in identifying the most important drawbacks and delays and in formulating meaningful recommendations that are in their majority being implemented (see paragraphs 168-170).

8. Complementarities with the UNEP Medium Term Strategy (MTS) and Programme of Work (POW)

Linkage to UNEP's Expected Accomplishments and POW 2010-2011.

199. Through the outputs of the LADA project, at least one of the thematic properties of the UNEP MTS was addressed, namely "ecosystem management". This was partly achieved by creating awareness, broadening the knowledge and developing assessment technologies for more effective ecosystem management to ensure that countries utilize the ecosystem approach and enhance human well-being as reflected in the Millennium Ecosystem Assessment.

200. The latter implies that through LADA, UNEP facilitated a cross-sectoral, integrated approach to ecosystem management to reverse the decline in ecosystem services and improve ecosystem resilience with respect to such external impacts as habitat degradation, invasive species, climate change, pollution and over-exploitation. Due to the time limitation of the project, the true effect of climate change is not well understood, especially by local land users, but other drivers of ecosystem change that reverse degradation and increase ecosystem resilience have been addressed to some extent.

201. Capacities of regional, sub-regional, national and local entities to assess and minimize the impacts on ecosystems and to reverse their decline and build resilience to maximize the delivery of ecosystem services were built by the LADA project.

202. The integration of the LADA outputs with the priorities of other international Conventions, especially UNCBD and FCCC was however not completely accomplished. Collaboration with UNCCD has been established and should grow over time.

Alignment with the Bali Strategic Plan (BSP)

203. Through the LADA project, international cooperation and action was catalyzed to some extent, but it did not provide sufficient policy advice, assist in planning frameworks and create early warning information based on sound science and assessments as emphasized by the BSP.

204. Through the manuals, workshops, good websites and other material that was developed by the LADA project, technology support and capacity was strengthened that are in line with country needs and priorities, especially for developing countries.

205. Through its comparative advantage, UNEP can ensure that capacity building and technology support is implemented and constituted as an integral part of its programmes, such as LADA. Sustainable long-term commitment and financial support for this could however not be secured in this project.

South-South Cooperation

206. Through the LADA Steering Committee meetings and workshops (Annex 7), where assessments technologies for the development of manuals was discussed, good collaboration between scientists of different backgrounds from the six pilot countries of the four main continents in Africa, Asia, Latin America and the Caribbean's was established.

207. The regional workshops that were held in and around the six LADA pilot countries that included many scientific and NRM organizations also contributed to the South-South cooperation.

9. Contribution to FAO's Strategic Framework and Plans

208. The FAO Strategic Framework 2000-2015 and the Medium Term Plan 2006-11 are the two main FAO strategic reference documents taken into account during the formulation of the Project.

209. LADA is fully inscribed in Corporate Strategy D (Supporting the conservation, improvement and sustainable use of natural resources for food and agriculture), more specifically:

(77):A variety of policy support tools will be developed and used to optimize decision-making, programming and project formulation.... They will include best practices, guidelines, norms and standards, advice....

(80): ...serving as a point of reference and source of knowledge on key issues of natural resource management, and facilitating the sharing of experiences at the national, regional and global levels;and developing and strengthening monitoring, assessment and valuation of natural resources to optimize decision-making for the efficient management and sustainable use of natural resources...

210. LADA is one of the projects contributing to the Priority Area for Interdisciplinary Action (PAIA) on Combating Desertification (DSRT). In this context, LADA's role has been relevant in:

- *At international level:*
 - Producing global maps and guidelines on Land Degradation accessible through website;
 - Contributing to publications on best practices to combat desertification (WOCAT, TerrAfrica)
 - Producing Web sites on desertification (<http://www.fao.org/nr/lada>)
- *At regional level:*

- Promoting standardised and improved land degradation assessment tools through the dissemination of the method by the six LADA pilot countries among almost forty (40) neighbouring countries;
 - Promoting improved land degradation assessment methodologies among relevant regional or sub-regional bodies, such as CACILM (Central Asia Countries Initiative for Land Management), CILLS (Comité permanent Inter-Etats de Lutte contre la Sécheresse du Sahel), OSS (Observatoire du Sahel et du Sahara);
- *At national level:*
 - Promoting an interdisciplinary approach to Land Degradation.

3. Conclusions and recommendations

A. Conclusions

211. The LADA project is a relevant global initiative aiming at providing a reliable, flexible, quantitative and reproducible assessment framework of methods and tools regarding the extent and impact of land degradation in drylands. Although the objectives of the LADA project were very ambitious for the original four-year time frame, the project succeeded in developing credible and useful methods and tools to assess, quantify, analyze and map land degradation and, to a certain extent, its impact on ecosystems, watersheds and river basins.

212. Despite its inherent complexity due to diverse technical, institutional and geographical challenges, the project has satisfactorily achieved its main outputs, namely:

- (a) the LADA approach has been largely tested and promoted in the six pilot countries (output 1);
- (b) maps and guidelines have been produced, so that a baseline of the status of land degradation in drylands is now available at global and national level (output 2);
- (c) the method has been tested and validated through local assessments conducted in twenty-four (24) pilot-sites of the six pilot countries and a Local Level Assessment Manual has been produced (output 3);
- (d) the dissemination of the method is globally occurring in nearly forty (40) new countries and the scaling-up in the pilot countries has also started (output 4).

213. An important product of the project is the on-line Global Assessment and Information System (GLADIS), which is partly based on existing datasets but enriched by additional analysis and providing a comprehensive global picture of causes and consequences of land degradation. The GLADIS system is still expected to be improved as more data from the countries becomes available and its effectiveness, use and impact will need to be re-assessed at a later stage. GLADA also still requires global review and validation before it can be used and is acceptable.

214. The international partnership created by the LADA project triggered regional, national and local support and collaboration, which also reinforced continued commitments at country level. The LADA project has been highly successful through its central and national websites to provide relevant information and data on land degradation and SLM best practices for the different LUS in each country. A wide audience is being reached through these websites and other information material produced by the project, contributing to the high visibility of the LADA project in general.

215. Through the successful completion of Outputs/Outcomes 1 and 2, the LADA project was able to identify good indicators and assessment methodologies for land degradation and desertification. These indicators will help in the development and identification of a suitable set of impact indicators that can also be used for future monitoring of impacts of desertification in the UNCCD framework. This will further expand the visibility and use of LADA outputs to other UNCCD countries that have dryland areas.

216. Although the LADA approach has been tested and promoted, guidelines and maps have been produced and local assessments have been piloted, yet, the development of a comprehensive, balanced and self-contained methodology (strategies, methods and tools) as foreseen in output 1, is a challenging process still in need of further consolidation. As a matter of fact, the impression is that what has been achieved so far is still an information/data system “encapsulated” in a DPSIR framework, rather than a comprehensive methodological framework for land degradation assessment. The assessment of the socio-economic aspects of land degradation still has to be improved and consolidated. LADA outputs haven’t been confronted to rigorous scientific peer review yet as only four scientific papers were published during the project duration. The other publications are reports, working papers, conference contributions/proceedings, references to LADA on websites or citations to the LADA project in books and other articles (Annex 6).

217. The systematic compilation of “best practices” of SLM produced by the project has the potential for dissemination and networking, particularly if further adapted to produce extension and training tools.

218. A significant enhancement of national capacities to analyze, understand and assess causes and impacts of land degradation has been achieved through training, knowledge circulation/networking and field application of the methodology. Strong national networks and linkages have been created or were reinforced through the project and positive institutional dynamics and partnerships have been promoted in all pilot countries. These form a good basis for the extension and up-scaling of the LADA methods and tools. However, institutional up-take of the LADA outputs by potential users (land users, programme managers and policy makers) did not happen yet in any significant way, nonetheless an essential step towards making the land degradation assessments influence dryland management policies and practices. The likeliness of LADA results to move towards the intended impact of the project will mainly depend on the stakeholders’ capacity to establish and maintain effective partnerships with “development-oriented” institutions, particularly at decentralized level, and that will probably be the key-challenge for LADA consolidation and up-scaling.

219. The project has also contributed to disseminate LADA methodology and tools in over 30 countries through regional outreach from the six pilot countries and through direct efforts and support by the FAO LADA Management Team.

220. The LADA project is very complex and involves many stakeholders in the six different countries globally. This was a great challenge for the LADA management teams. The M&E system to track the progress of the LADA project in terms of producing milestones towards outputs and outcomes was weak, both at the FAO and country level.

221. Overall, the project did promote the LADA methodology proactively and obtained most of the foreseen outputs but did not fully succeed in achieving its main objective, i.e. the creation of national land degradation assessment capacities for the design, planning and implementation of interventions for land degradation mitigation and for sustainable land use and management practice. The overall rating for the LADA project is *satisfactory*.

The *overall rating table* is the following:

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results	Institutional up-take is a determinant factor for the attainment of the project objective.	S
1. Effectiveness	National and local capacities in land degradation assessments have been enhanced. DPSIR framework implemented and indicators identified. Good LADA-L manuals developed. Positive institutional dynamics and partnerships were promoted, which led to effective networking. A lot of awareness was raised about land degradation processes, but the adoption of the assessments still needs improvement. Institutional uptake of LADA by potential users and policy has to be enhanced. More publications in scientific journals needed.	S
2. Relevance	Ambitious project for short time period. Needs and priorities at national and local level addressed. Collaboration, interest and dynamics stimulated and generated at all three levels. Outcomes of the LADA project are in line with the mandates, policies and strategies of the FAO, UNEP and GEF related programmes. Activities in ProDoc could have been better explained.	HS
3. Efficiency	Delays happened due to country specific needs and policies. Complex project was time-efficient and resource-efficient.	S
B. Sustainability of project outcomes		ML
1. Financial	National and FAO commitments high. Pilot countries are middle-income countries and depended on LADA income, but created good capacity in many disciplines.	ML
2. Socio-political	Drylands agenda may lack strong appeal for policy makers. LADA should be part of NAPs, especially UNCCD. LADA outputs can be part of programs at national scale, addressing national priorities, such as poverty, vulnerability, decentralisation, livelihood strategies, etc.)	ML
3. Institutional framework	Overall good. LADA country stakeholders are pro-active and motivated but sustainability depends on their capacity to establish and maintain effective partnerships with “development-oriented” institutions, particularly at decentralised level.	ML
4. Environmental	Climate change and ecosystems fragility are relevant threats. Macro-economic situation and governance issues are also threatening factors. Socio-political and institutional framework may mitigate threats. Quite variable within and among countries. Project duration too short to assess environmental changes and impacts.	ML
C. Catalytic role	Mainly through “champions” (LADA stakeholders). Remarkable potential but still no significant institutional up-take and policy changes and mainstreaming. Replication and scaling-up of LADA approach in non pilot-countries started.	MS
D. Stakeholders involvement	High involvement of main LADA stakeholders, especially at national and provincial level, but uneven or less at local	S

Criterion	Summary Assessment	Rating
	level. Awareness raising high. Involvement of NGOs and CBOs could have been higher.	
E. Country ownership / driven-ness	Generally good. GEF focal point not always involved.	S
F. Achievement of outputs and activities	Expected outputs almost completed. Six month extension will determine if targets have been reached.	MS
G. Preparation and readiness	Took long before LADA was approved and implemented. Organizations involved had high capacity and expert knowledge. Good on technical issues but less on strategic/institutional aspects. Readiness and preparation at national level good.	S
H. Implementation approach	Complexity tackled with adaptive management through “trial & error” approach. Frequent Steering Committee meetings to adapt project pro-actively. Adapted organigramme not published. Decentralized approach. Strategy by FAO very “flexible”.	HS
I. Financial planning and management	Good with high in-kind contributions in particular from FAO. Efficient management at global (FAO & UNEP) and national level. Transparency high. Collaboration with other projects created additional funding. Infrequent and heterogeneous financial reporting to FAO by countries.	S
J. Monitoring and Evaluation	No adequate monitoring and evaluation plan was provided by FAO. Countries often did not know how to report. No M&E format was available.	MU
1. M&E Design	Confusing and ill-defined in the ProDoc design. Mainly “activity-” and not “result-oriented”. No SMART indicators applied. No M&E plan at national level, but regular reporting to FAO and UNEP.	MU
2. M&E Plan Implementation	The revision has been positive. Not uniform throughout the countries.	MS
3. Budgeting and funding for M&E activities	No proper budgeting and funding for M&E activities	MU
K. UNEP Supervision and backstopping	Satisfactory especially to FAO. Ssupervision of administration and finances of high standard. Hands-off approach acceptable with FAO as technically strong executing agency. Participated in Steering Committee meetings and gave recommendations and advice.	S

B. Lessons learned

222. **Lesson 1.** The LADA partners are all relevant institutions in the area of land assessment and land use planning with an institutional anchorage in the Ministries of Environment (Argentina, Cuba, Senegal) or Agriculture (South Africa and Tunisia), or in the National Forestry Administration (China). Some of them are also the national focal point institutions responsible for the NAP against Desertification in the framework of the UNCCD (Argentina, China, Cuba) or are relevant partners in their implementation.

223. The choice of the national stakeholders has been excellent for the purpose of creating of a reliable and standardized global, national and local information system of biophysical data and indicators for the assessment and monitoring of land degradation processes. This helped a lot in giving the LADA project visibility and credibility in the pilot countries and neighboring countries. However, notwithstanding some positive and promising cases, there is a general consensus among LADA partners that the institutional up-take of LADA methods and tools by potential users (land users, managers and policy makers) did not yet significantly take place. For this to happen, an appropriate

strategy for institutional uptake is required, based on a good understanding of the institutional environment in each country including the national laws and policies, the role of national players (public institutions, civil society actors, private sector, donors and cooperation agencies), the market forces and financial instruments in play and the overall socio-economic and environmental context. Project teams require, beyond their technical research and training capabilities, the capacity to interface with development project managers and policy makers, and to take these stakeholders “on board” during the assessment process.

224. **Lesson 2.** The delays in start-up of country activities can be attributed to the long project preparation and approval process between UNEP and the GEF, the different rules and regulations of the UN and other scientific agencies involved, as well as the different policies that exist in each of the six pilot countries to carry out such an extensive project at global, national and local scale. As a result of these delays, the project needed extension twice, and even after its second extension the evaluation team is not confident that all objectives will be met. Indeed, in most countries a critical mass of field experiences in local assessments was only achieved towards the end of the project and there was not enough time to seriously tackle the issue of institutional up-take of the methods and tools. In projects of this scope and complexity, the preparation time, before formal approval and start-up, needs to be better utilized to negotiate and clarify cooperation agreements and administrative arrangements so that, after start-up the project team can focus on implementation towards the achievement of the project outcome.

225. □ **Lesson 3.** The LADA project benefitted from a strong partnership and good ownership of project outputs by the country teams. This was possible thanks to the flexible management approach by the LADA team at FAO and the participatory decision-making and method/tool validation processes put in place, particular in the second half of the project period when many national, regional and global meetings, workshops and trainings provided opportunities to the FAO and country teams to meet, discuss and exchange experiences. Obviously, this flexible and participatory approach in a global project bore a cost, both in resources and time, especially by the FAO team.

226. **Lesson 4.** The monitoring system of LADA was poorly designed and under-budgeted. The LADA team at FAO has attempted to put in place a number of more appropriate progress indicators and basic reporting requirements for the country teams, but overall, project monitoring and reporting from the countries remained insufficient, mainly due to the flexible management approach of the LADA team at the FAO. A good project monitoring system needs to focus on what is necessary to monitor for management purposes and feasible to monitor within the project’s context (limited resources versus a global scope). As a lot of autonomy was given to the country teams within the overall framework of the LADA project objectives, outputs and activities, it might have been more appropriate to decentralize project monitoring at the national level, as some LADA countries did on their own initiative. The country teams would then be required to report to the global team on a regular basis on a limited number of output and outcome level indicators.

227. **Lesson 5.** When developing products with partners such as assessments, methodologies and tools to be used globally, caution in the use of initial results is required. Partners should be reminded that methods and assessment results belong to the project and before these results can be disseminated, they should be submitted to a rigorous quality control. Publication of results in scientific journals is an efficient way of “testing” the methods and tools developed by the project against the knowledge, experience and critical thinking of scientists external to the project, and can considerably raise the visibility and credibility of the project’s products.

228. **Lesson 6.** Land degradation cannot be properly assessed and understood without taking into consideration the risks and trade-offs between different modalities of land use and management, that is the socio-economic choices that land users and managers have to make between different ecosystem services potentially provided by the land. Particularly at national and local level, those choices can explain the motivations that lie behind land degradation, and understanding those choices can provide valuable insights for the identification of remedial actions. If properly applied, the Sustainable Livelihoods Approach and DPSIR frameworks could provide a better picture and more depth in terms of socio-economic analysis of risks and trade-offs in land use choices, but need to be applied by experts and with the same scientific rigor as the collection and analysis of biophysical data.

C.

Recommendations

229. The evaluation team reviewed the actions proposed at the SC meeting in Rome for the six-month extension of the project and agrees with the completion activities proposed. There are, however, a number of strategic and technical recommendations to be made for the possible follow-up project to LADA.

Strategic recommendations

230. Recommendation 1: The main strategic recommendation for the possible next phase of LADA is to consolidate the achievements in the pilot countries rather than “going global” right away with incomplete results. Emphasis should be put on the institutionalization of LADA outputs, so that different stakeholders (land users, land use managers, environmental planning and rural development institutions, and policy makers) in the six pilot countries can adopt the methods and tools and, later on, integrate the assessment results into their national projects, programs, plans and policies. For this to happen, an appropriate strategy for institutional up-take is required for each pilot country.

231. The institutional up-take strategy should contain the following elements:

- a) An in-depth analysis of the institutional environment and policy processes including the national laws and policies regarding land use and management and the role of national and sub-national players (public institutions, civil society actors, private sector, donors and cooperation agencies) to determine suitable entry points for land degradation information in the pilot countries. This analysis should in fact become a substantive component of a national land degradation assessment.
- b) The country teams should partner-up with rural development actors and environmental and government institutions at sub-national (e.g. province) and local (e.g. district) levels, there where LADA local assessments are conducted, in order to identify concrete applications of LADA methodology for purposes of planning and decision-making at decentralized levels;
- c) Local assessments should be integrated into a broader participatory planning process for natural resources management, providing useful, in-depth information to local stakeholders that can be translated into concrete proposals for action.

232. Recommendation 2: At the global level, the possible follow-up to LADA should work with the UNCCD and the GEF Secretariat to develop and support the implementation of their projects, especially within the GEF Operational Programmes regarding land degradation, i.e. OP15. The LADA approach should also be incorporated into the other main UN Conventions with a relation to land degradation, such as the United Nations Convention on Biological Diversity (UNCBD) and the Framework for the Convention on Climate Change (FCCC). The linkages between land degradation, climate change and loss in biodiversity need to be highlighted, not only in scientific terms, but also in the perception of land users.

Technical recommendations

233. Recommendation 3: More peer reviewed scientific papers should be published regarding the achievements and approaches used by LADA in order to test the outputs, make them more justifiable and enhance its replicability.

234. Recommendation 4: A sustainable mechanism should be created and resources should be secured to regularly update the GLADIS database, to ensure a more reliable information system for global and national scale use. It should also be investigated how the gap between global and national scale data can be narrowed.

4. ANNEX 1

TERMS OF REFERENCE

Terminal Evaluation of the Land Degradation Assessment in Drylands (LADA)

GFL/2328-2770-4909

PROJECT BACKGROUND AND OVERVIEW

A. Project General Information

GEF project ID:	1329	IMIS number:	GFL/2328-2770-4909
Focal Area(s):	Land Degradation Cross-cutting to Biodiversity, International Waters and Climate Change	GEF OP #:	OP1, OP12 and OP15
GEF Strategic Priority/Objective:	SLM-1	GEF approval date:	29 December, 2005
UNEP approval date:	29/3/2006	First Disbursement:	US\$1,750,000
Actual start date:	1/5/2006	Planned duration:	56 months
Intended completion date:	31/12/2010	Actual or Expected completion date:	31/12/2010 (expected)
Project Type:	FSP	GEF Allocation:	US\$7,000,000
PDF GEF cost:	US\$725,000	PDF co-financing:	US\$875,000
Expected MSP/FSP Co-financing:	US\$8,000,000	Total Cost:	US\$16,600,000
Mid-term review/eval. (planned date):	10/2008	Terminal Evaluation (actual date):	To be agreed
Mid term review (actual date):	Jan-Mar 2009	No. of revisions:	1
Date of last Steering Committee meeting:	28/9/2009	Date of last Revision:	24/08/2009
Disbursement as of 30 June 2010:	US\$ 5,829,908	Date of financial closure:	N/A
Date of Completion:	N/A	Actual expenditures reported as of 30 June 2009:	US\$ 5,188,690
Total co-financing realized as of 31 December 2010:	US\$ 359,463 cash US\$ 4,974,406 in-kind	Actual expenditures entered in IMIS as of 30 June 2009:	US\$ 4,224,919 (31/12/2009)

Source: UNEP GEF Project Implementation Report (PIR) Fiscal Year 2010

B. Project Rationale

a) The LADA project defines land degradation as “the reduction in the capacity of the land to provide ecosystem goods and services and assure its functions over a period of time for its beneficiaries”. Its major causes include deforestation, poor farming practices leading to erosion and soil nutrient depletion, sand dune encroachment, overgrazing, inappropriate irrigation, urban sprawl and commercial development, soil pollution and quarrying. Land degradation has been recognized as a global problem associated with desertification and loss of biological diversity, particularly in arid, semiarid and dry sub-humid zones (commonly called ‘drylands’). Land degradation affects over one third of the world’s inhabitants and the Earth’s land surface. Around 73 percent of rangelands in drylands are currently being degraded, together with 47 percent of marginal rain-fed croplands and a significant percentage of irrigated croplands. Land degradation costs an estimated US\$40 billion annually worldwide, without taking into account hidden costs of increased fertilizer use, loss of biodiversity and loss of unique landscapes. The consequences of land degradation are reduced land productivity, socio-economic problems, including uncertainty in food security, migration, limited development and damage to ecosystems. Degraded land is costly to reclaim and, if severely degraded, may no longer provide a range of ecosystem functions and services with a loss of the goods and many other potential environmental, social, economic and non-material benefits that are critical for society and development.

a) The global environmental goal of the LADA project is the conservation and sustainable use of essential and globally important ecosystems and land resources in the world’s drylands, consisting of all arid and semi-arid areas. The LADA project strategy is to help to overcome current policy and institutional barriers to sustainable land use in dryland zones that are occasioned by the lack of quality information on the extent and severity of dryland degradation. The project has two **principal objectives**: (i) develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales; and (ii) build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices.

a) These two objectives would be realized through four **expected outcomes**: (1) an improved needs-based and process-driven approach to drylands degradation assessment tested and disseminated; (2) a map with information retrieved from the global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with a special emphasis on areas at greatest risk; (3) detailed local assessments and analysis of land degradation and its impact in the pilot countries; and (4) a proposed global action plan, incorporating main findings from the project, conclusions and recommendations for further action. Outcome 4 was revised following the Mid-term Evaluation in early 2009: the global action plan was replaced by dissemination and scaling-up.

C. Executing Arrangements

a) The project is a global initiative supported by the Global Environment Facility (GEF) as main donor. UNEP is the implementing agency of the project, through its Division for GEF Coordination (DGEF), and FAO is the executing agency, through its Land and Water Division. The project was approved by GEF on 29 December 2005 and started on 1 May 2006. Its expected duration was four years, but the project was extended by 8 months and should be completed by 31 December 2010.

a) Six countries participate in the project with their national institutions: Cuba, Senegal, South Africa, Tunisia, China and Argentina. The national partners are: Agencia de Medio Ambiente (Cuba); Centre de Suivi Ecologique (Senegal); Department of Agriculture (South Africa); Direction Générale de l’Aménagement et la Conservation des Terres Agricoles (Tunisia); National Bureau to Combat Desertification (China); and Secretaria de Ambiente y Desarrollo Sustentable (Argentina). Various other international organizations, universities, research centers and other projects are implementation

partners, such as the Central Asian Countries Initiative for Land Management (CACILM); Bari Institute of Agronomy (IAMB); University of Sassari; Global Land Cover Network (GLCN); the Global Mechanism - United Nations Convention to Combat Desertification; ISRIC; Medcoastland Thematic Network; University of East Anglia; Sahara and Sahel Observatory (OSS); Somalia Water and Land Information Management (SWALIM); United Nations University; and World Overview of Conservation Approaches and Technologies (WOCAT).

D. Project Cost and Financing

a) The project has a total budget of US\$16.6 million. The GEF contributes US\$7.73 million and co-financing to the tune of about US\$8 million is expected *inter alia* from FAO (US\$2 million), UNEP (US\$1.68 million), the International Soil Reference and Information Centre (ISRIC) (US\$0.35 million), and the six participating countries (US\$3.45 million).

E. Project Components and Activities

a) The project has four components corresponding to its four expected outcomes. The planned activities under each of the four components are presented in the table below:

Outcomes/Components	Activities
1. An improved and needs-based and process-driven approach to drylands degradation assessment tested and disseminated.	a. Review of data sources, methods and frameworks for land degradation assessment for drylands at multiple scales.
	b. Development and testing of integrated land degradation information systems at central and national level
	c. Stratification, national hot spot analysis and population of the network and information system
	d. Development and dissemination of guidelines for an improved needs-based and process-driven approach to dryland degradation assessment
2. Map with information retrieved from the global/regional land degradation assessment in drylands, which will constitute a baseline of the status of land degradation in drylands, with a special emphasis on areas at greatest risk	e. Collation, geo-referencing and digitizing of all available relevant information on regional and global scales
	f. Global and regional Land Degradation studies at low resolution
	g. National/Regional LADA studies, including training and integration with GLADA results and identification and categorisation of areas at greatest risk of dryland degradation
3. Detailed local assessments and analysis of land degradation and its impact in the pilot countries	h. Development of capacity of national professionals (in pilot countries) to carry out detailed assessments of land degradation, related to key developmental questions such as livelihoods, poverty and food security
	i. Surveys of user needs and information system needs at national level
	j. Pilot detailed assessments in 'hot spot' and 'bright spot' areas; and recommendations on how to scale-up the findings to national level
	k. Analysis of national and local level policy processes for renewable natural resources information, determination of

Outcomes/Components	Activities
	suitable entry points for land degradation information, and making available and operational of the information system for national and district level planning and practice
4. Dissemination and scaling-up, conclusions and recommendations for further action.	l. Development and testing of the framework for analysis of critical components and driving forces for land degradation based on DPSIR
	m. Collation and synthesis of information on best practices for land conservation, and preparation of a report including policy and resource needs for implementation of the best practices identified
	n. Involvement of the project with other stakeholders in assisting policy development with UNCCD through COPs, RAPs, SRAPs and NAPs at national and regional levels
	o. Collaboration with UNEP and the GEF Secretariat to develop support advice for implementation of OP15
	p. Final packaging, communication and exchange of land degradation information globally, regionally and nationally

Source: UNEP GEF Project Implementation Report (PIR) Fiscal Year 2010

5. TERMS OF REFERENCE FOR THE EVALUATION

Objective and Scope of the Evaluation

a) In line with the UNEP Evaluation Policy¹⁵, the UNEP Evaluation Manual¹⁶ and the Guidelines for GEF Agencies in Conducting Terminal Evaluations¹⁷, the terminal evaluation of the Land Degradation Assessment in Drylands Project is undertaken at the end of the project to assess project performance (in terms of relevance, effectiveness and efficiency), and determine outcomes and impacts (actual and potential) stemming from the project, and their sustainability. The evaluation has two primary purposes: (i) to provide evidence of results to meet accountability requirements, and (ii) to promote learning, feedback, and knowledge sharing through results and lessons learned among UNEP, FAO, the GEF and their partners. In light of the follow-up project of LADA that is currently being designed, the evaluation should be forward-looking and identify lessons and recommendations on what has worked well and could be built and expanded upon, and what has not yet been fully achieved and should be further strengthened and developed. It will focus on the following sets of **key questions**, based on the project's objectives and outcomes, which may be expanded by the evaluation team as deemed appropriate:

(a) **To what extent did the project develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales?** In particular:

- To what extent did the project develop, test and disseminate a needs-based and process-driven approach to drylands degradation assessment? How innovative and useful are the land degradation assessment methods/tools and the integrated land degradation information systems developed by the project? How clear and accessible are the guidelines developed on the methods, tools and systems for assessment of and information management on dryland degradation?
- What is the quality of the baseline map with information retrieved from the global/regional land degradation assessment in drylands? Does it clearly and accurately show areas at greatest risk? What is the quality of the national and regional land degradation studies carried out by the project?
- What is the quality of the detailed local assessments and analysis of land degradation and its impact in the pilot countries?

(b) **To what extent did the project build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices?** In particular:

- How was the capacity of national professional improved to carry out detailed land degradation assessments?
- How is land degradation information made available and operational for national and local level planning and other uses?
- To what extent has the project contributed to dissemination and scaling-up of the main findings from the project, and drawn conclusions and recommendations for further action?

a) In addition, the evaluation will review the recommendations of the Mid-Term Evaluation and their implementation.

¹⁵ <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationPolicy/tabid/3050/language/en-US/Default.aspx>

¹⁶ <http://www.unep.org/eou/StandardsPolicyandPractices/UNEPEvaluationManual/tabid/2314/language/en-US/Default.aspx>

¹⁷ http://www.thegef.org/gef/sites/thegef.org/files/documents/TE_guidelines7-31.pdf

F. Overall approach and methods

a) The terminal evaluation of the LADA project will be conducted under the overall responsibility of the UNEP Evaluation Office and jointly managed with the FAO Office of Evaluation (OED). The FAO OED will be consulted regularly throughout the evaluation process, will provide advice on the TORs and the evaluation team composition, and comments on the draft evaluation report and quality assessment of the final report.

a) The evaluation will be conducted as an in-depth evaluation using a participatory approach whereby the UNEP/DGEF Task Manager, key representatives of the executing agencies and other relevant staff are kept informed and consulted throughout the evaluation process. Both quantitative and qualitative evaluation methodologies will be used to determine project achievements against the expected outputs, outcomes and impacts.

a) The findings of the evaluation will be based on the following:

(a) A **desk review** of project documents¹⁸ including, but not limited to:

- Relevant background documentation, in particular relating to the land degradation situation in the pilot countries;
- The project documents and monitoring reports (such as progress and financial reports to UNEP and the UNEP/GEF annual Project Implementation Reports) and relevant correspondence;
- Reports produced by the Pilot Country teams;
- Other material produced by the project or its partners, in particular the LADA Website, the GLADIS system, presentations, manuals etc.;
- The Mid-Term Evaluation Report

(b) **Self-assessment** by the country teams. Each country team will be asked to write a self-assessment report, based on a template provided by the evaluation team;

(c) **Interviews**¹⁹ with:

- Project management, supervision and technical support (former and current UNEP/DGEF Task Managers, FAO Project Coordinator, Country Coordinators and members of the Steering Committee);
- National and international project partners (see paragraph 5 above);
- Other intended users for the project outputs (researchers and academia, local and national policy advisors, development practitioners etc.).

The evaluation team shall determine whether to seek additional information and opinions from representatives of donor agencies and other organisations.

(d) **Field visits** to selected project sites. The evaluation team will make field visits to up to four pilot countries. The selection of pilot countries to be visited will be based on the type of activities supported by the project and budget availability. Tentatively, the countries visited would be South-Africa, China, Senegal and Argentina.

(e) **Direct observation of project completion activities:** members of the evaluation team will attend the International workshop on LADA methodology (Wageningen, the Netherlands) on 13-14 September 2010, to meet LADA teams and partners and to discuss the evaluation process. The team could also attend the LADA final workshops in South Africa and Argentina (October) and the final workshop of the overall project in Rome, from 6 to 8 December.

¹⁸ Documents to be provided by DGEF are listed in Annex 5.

¹⁹ Live or through any other appropriate means of communication.

G. Key Evaluation principles

a) Evaluation findings and judgements should be based on **sound evidence and analysis**, clearly documented in the evaluation report. Information will be triangulated (i.e. verified from different sources) to the extent possible, and when verification was not possible, the single source will be mentioned²⁰. The analysis leading to evaluative judgements should always be clearly spelled out.

a) The evaluation will assess the project with respect to a **minimum set of evaluation criteria** grouped in four categories: (1) Attainment of objectives and planned results, which comprises the assessment of outputs achieved, relevance, effectiveness and efficiency and the review of outcomes towards impacts; (2) Sustainability and catalytic role, which focuses on financial, socio-political, institutional and ecological factors conditioning sustainability of project outcomes, and also assesses efforts and achievements in terms of replication and up-scaling of project innovations, lessons and good practices; (3) Processes affecting attainment of project results, which covers project preparation and readiness, implementation approach and adaptive management, stakeholder participation and public awareness, country ownership/driven-ness, project finance, UNEP supervision and backstopping, and project monitoring and evaluation systems; (4) Complementarity with the UNEP Medium Term Strategy and Programme of Work, which describes linkages to UNEP's Expected Accomplishments, project contributions in line with the Bali Strategic Plan, and South-South Cooperation. and (5) Relevance to FAO Strategic Frameworks for 2000-2015 and 2010-19. The evaluation team can add other evaluation criteria as deemed appropriate

a) **Ratings.** All evaluation criteria will be rated, either on a six-point or a four-point scale. However, complementarity of the project with the UNEP Medium Term Strategy and Programme of Work and relevance to FAO's Strategic Frameworks is not rated. Annex 2 provides detailed guidance on how the different criteria should be rated and how ratings should be aggregated for the different evaluation criterion categories.

a) In attempting to attribute any outcomes and impacts to the project, evaluators should consider the difference between **what has happened with** and **what would have happened without** the project, with particular attention at the national level of the pilot countries. This implies that there should be consideration of the baseline conditions and trends in relation to the intended project outcomes and impacts. This also means that there should be plausible evidence to attribute such outcomes and impacts to the actions of the project. Sometimes, adequate information on baseline conditions and trends is lacking. In such cases this should be clearly highlighted by the evaluator, along with any simplifying assumptions that were taken to enable the evaluator to make informed judgements about project performance.

a) As this is a terminal evaluation, particular attention should be given to learning from the experience. Therefore, **the "why?" question** should be at front of the evaluation team's minds all through the evaluation exercise. This means that the evaluation team needs to go beyond the assessment of "what" the project performance was, and make a serious effort to provide a deeper understanding of "why" the performance was as it was. The evaluation criteria under Category 3 (Processes affecting attainment of project results) will therefore receive special attention. This should provide the basis for the lessons that can be drawn from the project. In fact, the usefulness of the evaluation will be determined to a large extent by the capacity of the evaluation team to explain "why things happened" as they happened and are likely to evolve in this or that direction, which goes well beyond the mere assessment of "where things stand" today.

H. Evaluation criteria

Attainment of Objectives and Planned Results

a) The evaluation should assess the relevance of the project's objectives and the extent to which these were effectively and efficiently achieved or are expected to be achieved.

- (a) *Achievement of Outputs and Activities:* Assess, for each component, the project's success in producing each of the programmed outputs as presented in paragraph 7, both in quantity and quality, as well as their usefulness and timeliness. Briefly explain why the project was successful or less successful in achieving its different outputs, cross-referencing as needed to more detailed explanations provided in Section 3, which covers the processes affecting attainment of objectives.
- (b) *Relevance:* Assess, in retrospect, whether the project's objectives and implementation strategies were consistent with: (i) UNEP's and FAO's mandate, policies and strategies at the time of design and implementation; (ii) the GEF Land Degradation Focal Area (cross-cutting the Biodiversity, International Waters and Climate Change Focal Areas), the GEF Strategic Priority on Targeted Capacity-Building in Sustainable Land Management (SLM-1) and the GEF Operational programs 1, 12 and 15²¹; (iii) Pilot country policies

²⁰ Individuals should not be mentioned by name if anonymity needs to be preserved.

²¹ OP 1: Conservation and sustainable use of the biological resources of arid and semi-arid areas; OP12: Catalyse widespread adoption of comprehensive ecosystem management interventions; OP15: Mitigating the causes and negative impacts of land degradation on the structure and functional integrity of ecosystems through sustainable land management practices.

and strategies regarding land degradation, and in particular the national partner agencies' mandate and (iv) the project beneficiaries' needs and priorities.

- (c) *Effectiveness*: Appreciate to what extent the project has achieved its intended outcomes as presented in paragraph 3. Briefly explain what factors affected the project's success in achieving its different outcomes and its cost-effectiveness, cross-referencing as needed to more detailed explanations provided in Section 3, which covers the processes affecting attainment of objectives.
- (d) *Efficiency*: Assess the cost-effectiveness and timeliness of project execution. Describe any cost- or time-saving measures put in place. Analyse how delays may have affected project execution, costs and effectiveness. Wherever possible, compare the cost and time over results ratios of the project with that of other similar projects.
- (e) *Review of Outcomes to Impacts (ROtI)*: Appreciate progress made towards impacts, taking into account achieved outcomes, assumptions and impact drivers, using the methodology presented in the GEF Evaluation Office's ROtI Practitioner's Handbook²² which is summarized in Annex 6 of these TORs. The main question would be **in how far the project has already and is likely to contribute to the adoption of sustainable land management practices and the mitigation of land degradation and its negative impacts on dryland ecosystems at a regional and global scale**, taking into consideration: (i) the outcomes and possibly intermediary states it has contributed to achieve (see the key questions under paragraph 8) ; (ii) the extent to which the necessary impact drivers are present and assumptions surrounding the project are proved valid, such as an evolution of institutional, political and legal aspects surrounding land degradation and its consequences; and (iii) the current capacity and motivation of stakeholders to follow through what is needed to achieve the intended impacts.

Sustainability and catalytic role

a) **Sustainability** is understood as the probability of continued long-term project-derived outcomes and impacts after the external (i.e. GEF, UNEP and other external donors) project funding and assistance ends. The evaluation will identify and assess the key conditions or factors that are likely to undermine or contribute to the persistence of benefits. Some of these factors might be outcomes or outputs of the project, e.g. stronger land degradation assessment capacity in pilot countries or a well maintained LADA website. Other factors will include contextual circumstances or developments that are not outcomes of the project but that may condition sustainability of outcomes, such as political will in pilot countries to fund further land degradation assessments, sustainable land management practices or land degradation mitigation measures. The evaluation should ascertain to what extent follow-up work has been initiated and how project outcomes will be sustained and enhanced over time. For instance, continuous improvement of methodologies and tools for land degradation assessment may be needed to sustain interest and funding for the national partners' work in the field. "Enhancement" should, however, not be understood as "replication" or "up-scaling" which are covered under the following evaluation criterion (Catalytic role and replication).

a) Application of the ROtI method will assist in the evaluation of sustainability, as it will help to identify the impact drivers and assumptions that need to be verified to assess the likelihood that project outcomes and impacts will be sustained.

a) Four aspects of sustainability will be addressed:

- (a) *Financial resources*. To what extent are the outcomes and eventual impact of the project dependent on continued financial support? What is the likelihood that adequate financial resources²³ will become available once the external assistance to the project ends? Are there any financial risks that may jeopardize sustenance of project outcomes and onward progress towards impact?

²² http://www.thegef.org/gef/sites/thegef.org/files/documents/Impact_Eval-Review_of_Outcomes_to_Impacts-RotI_handbook.pdf

²³ Those resources can be from multiple sources, such as the public and private sectors, income generating activities, other development projects etc.

- (b) *Socio-political sustainability.* Are there any social or political factors that may influence positively or negatively the sustenance of project outcomes and progress towards impacts? Is the level of stakeholder ownership sufficient to allow for the project outcomes to be sustained? Are there sufficient public and stakeholder awareness, interest and incentives in support of the long term objectives of the project? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Do the users of project investments have the necessary know-how to operate and maintain the project investments?
- (c) *Institutional framework.* To what extent is the sustenance of the outcomes and onward progress towards impacts dependent on issues relating to institutional and policy frameworks? Are there any institutional achievements, legal frameworks, policies and governance structures and processes in place, that will contribute to sustaining project benefits?
- (d) *Environmental sustainability.* Are there any environmental factors, positive or negative, that can influence the future flow of project benefits? Do certain activities that affect the environment in the project areas pose a threat to the sustainability of the project outcomes?

a) **Catalytic Role and Replication.** The catalytic role of UNEP, FAO and the GEF is embodied in their approach of supporting the creation of an enabling environment, investing in activities which are innovative and showing how new approaches and market changes can work. UNEP, FAO and the GEF aim to support activities that upscale new approaches to a national (or regional) level, with a view to achieve sustainable global environmental benefits. The evaluation will assess the catalytic role played by this project, i.e. to what extent the project has:

- (a) provided *incentives* (social, economic, market based etc.) to contribute to catalyzing changes in stakeholder behaviour;
- (b) contributed to *institutional changes*. An important aspect of the catalytic role of the project is its contribution to institutional uptake or mainstreaming of project-promoted innovations in public and private services;
- (c) contributed to *policy changes* (on paper and in implementation of policy);
- (d) contributed to sustained follow-on financing (*catalytic financing*) from Government or other donors;
- (e) created opportunities for particular individuals or institutions ("*champions*") to catalyze change (without which the project would not have achieved all of its results).

a) Replication, in the context of GEF projects, is defined as lessons and experiences coming out of the project that are replicated (experiences are repeated and lessons applied in different geographic areas) or scaled up (experiences are repeated and lessons applied in the same geographic area but on a much larger scale and funded by other sources). The evaluation will assess the approach adopted by the project to promote replication effects and appreciate to what extent actual replication has already occurred or is likely to occur in the near future. What are the factors that may influence replication and scaling up of project experiences and lessons? What has been FAO's role in facilitating future replication of the project's achievements?

a) The LADA terminal evaluation will pay particular attention to the extent to which non-pilot countries and regional organisations have sought LADA support for adopting LADA methodologies, and in how far the project has provided the required support. The usefulness of the Regional trainings organized by LADA will also be assessed. To what extent are LADA methodologies adopted in non-pilot countries?

Processes affecting attainment of project results

a) **Preparation and Readiness.** Were the project's objectives and components clear, practicable and feasible within its timeframe? Were the capacities of executing institution and counterparts properly considered when the project was designed? Was the project document clear and realistic to enable effective and efficient implementation? Was the choice of pilot countries well justified? Were the partnership arrangements properly identified and the roles and responsibilities negotiated prior to project implementation? Were counterpart resources (funding, staff, and facilities) and enabling legislation assured? Were adequate project management arrangements in place? Were lessons

from other relevant projects properly incorporated in the project design? What factors influenced the quality-at-entry of the project design, choice of partners, allocation of financial resources etc.?

a) **Implementation Approach and Adaptive Management.** This includes an analysis of approaches used by the project, its management framework, the project's adaptation to changing conditions (adaptive management), the performance of the implementation arrangements and partnerships, relevance of changes in project design, and overall performance of project management. The evaluation will:

- (a) Ascertain to what extent the project implementation mechanisms outlined in the project document have been closely followed and were effective in delivering project outputs and outcomes;
- (b) Assess the role and performance of the various committees established and the project execution arrangements at all levels;
- (c) Evaluate the effectiveness and efficiency of project management by the FAO project team and the pilot country teams, and how well the management was able to adapt to changes during the life of the project;
- (d) Assess the quality and regularity of coaching and back-stopping provided by the FAO project team to the pilot country teams;
- (e) Assess the extent to which the project responded to Steering Committee, UNEP supervision and mid-term evaluation recommendations;
- (f) Identify administrative, operational and/ or technical problems and constraints that influenced the effective implementation of the project.

a) **Stakeholder²⁴ Participation and Public Awareness.** This consists of three related and often overlapping processes: (1) information dissemination, (2) consultation, and (3) "stakeholder" participation. The evaluation will specifically assess:

- (a) the mechanisms put in place by the project for identification and engagement of stakeholders in pilot countries, and establish, in consultation with the stakeholders, whether these mechanisms were successful, and identify their strengths and weaknesses with respect to the achievement of the intended outcomes of the project;
- (b) the degree and effectiveness of collaboration and interactions between the various project partners and institutions during the course of implementation of the project.
- (c) the degree and effectiveness of any various public awareness activities that were undertaken during the course of implementation of the project, and, in particular, of the communication between the project, the wider community of researchers and practitioners in the field of land degradation, politicians and the general public. Was there any political resistance in pilot countries to make land degradation information more publicly available?

a) The ROI analysis should assist the evaluation team in identifying the key stakeholders in each step of the causal pathway from activities to objectives.

a) **Country Ownership and Driven-ness.** The evaluation will assess the performance of the Governments of the six pilot countries, namely:

- (a) in how far the Governments have assumed responsibility for the project and provided adequate support to project execution, including coordination of the various departments involved in the project;

²⁴ Stakeholders are the individuals, groups, institutions, or other bodies that have an interest or stake in the outcome of the project. The term also applies to those potentially adversely affected by the project.

- (b) to what extent the policy and institutional framework has been conducive to project performance. This question should largely be answered by the ROtI analysis;
- (c) to what extent the GEF Grant Agreement has been observed;
- (d) to what extent the Governments have promoted the participation of communities and their non-governmental organisations in the project;
- (e) how responsive the Governments were to supervision and Mid-Term Evaluation recommendations; and
- (f) What factors affected country ownership and driven-ness, e.g. the institutional arrangements of the project or its intervention focus?

a) Financial Planning and Management. Evaluation of financial planning requires assessment of the quality and effectiveness of financial planning and control of financial resources throughout the project's lifetime. Evaluation includes actual project costs by activities compared to budget (variances), financial management (including disbursement issues), and co-financing. The evaluation will:

- (a) Verify the application of proper standards (clarity, transparency, audit etc.) and timeliness of financial planning, management and reporting to ensure that sufficient and timely financial resources were available to the project and its partners. How did differences in FAO and UNEP financial reporting rules affect the project? Were there particular problems in financial reporting from pilot country teams?
- (b) Appreciate other administrative processes such as recruitment of staff, procurement of goods and services etc. to the extent that these might have influenced project performance;
- (c) Present to what extent co-financing has materialized, including counter part (i.e. from Governments and beneficiaries) funding. The evaluation will provide a breakdown of final actual costs and co-financing for the different project components (see tables in Annex 4).
- (d) Describe the resources the project has leveraged since inception and indicate how these resources are contributing to the project's ultimate objective. Leveraged resources are additional resources—beyond those committed to the project itself at the time of approval—that are mobilized later as a direct result of the project. Leveraged resources can be financial or in-kind and they may be from other donors, research and academic institutions, NGO's, foundations, governments, communities or the private sector.

a) UNEP Supervision and Backstopping. The purpose of supervision is to verify the quality and timeliness of project execution in terms of finances, administration and achievement of outputs and outcomes, in order to identify and recommend ways to deal with problems which arise during project execution. Such problems may be related to project management but may also involve technical/ substantive issues in which UNEP has a major contribution to make. The evaluator should assess the effectiveness of supervision and administrative and financial support provided by UNEP including:

- (a) The adequacy of project supervision plans, inputs and processes;
- (b) The emphasis given to outcome monitoring (results-based project management);
- (c) The realism and candour of project reporting and ratings (i.e. are PIR ratings an accurate reflection of the project realities and risks);
- (d) The quality of documentation of project supervision activities; and
- (e) Financial, administrative and other fiduciary aspects of project implementation supervision.

a) **Monitoring and Evaluation.** The evaluation will include an assessment of the quality, application and effectiveness of project monitoring and evaluation plans and tools, including an assessment of risk management based on the assumptions and risks identified in the project document. The evaluation will appreciate how information generated by the M&E system during project implementation was used to adapt and improve project execution, achievement of outcomes and ensuring sustainability. M&E is assessed on three levels:

(a) *M&E Design.* Both the original design of the M&E system (as per the Project Document) and the design of the effectively used M&E system should be assessed. The evaluator should use the following questions to help assess the M&E design aspects:

- Quality of the project LOGFRAME as a planning and monitoring instrument;
- SMART-ness of indicators: Are there specific indicators in the logical framework for each of the project objectives and outcomes? Are the indicators measurable, attainable (realistic) and relevant to the objectives and outcomes? Are the indicators time-bound?
- Adequacy of baseline information: To what extent has baseline information on performance indicators been collected and presented in a clear manner? Is the methodology for the baseline data collection explicit and reliable?
- Arrangements for monitoring: Have the responsibilities for M&E activities been clearly defined? Were the data sources and data collection instruments appropriate? Was the frequency of various monitoring activities specified and adequate? In how far were project users involved in monitoring?
- Arrangements for evaluation: Have specific targets been specified for project outputs? Has the desired level of achievement been specified for all indicators of objectives and outcomes? Were there adequate provisions in the legal instruments binding project partners to fully collaborate in evaluations?
- Budgeting and funding for M&E activities: Determine whether support for M&E was budgeted adequately and was funded in a timely fashion during implementation.

(b) *M&E Implementation.* The evaluation will verify that:

- the M&E system was operational and facilitated timely tracking of results and progress towards projects objectives throughout the project implementation period;
- annual project reports and Progress Implementation Review (PIR) reports were complete, accurate and with well justified ratings;
- the information provided by the M&E system was used during the project to improve project performance and to adapt to changing needs;
- the project provided proper training, instruments and resources for parties responsible for M&E.

Complementarities with the UNEP Medium Term Strategy and Programme of Work

a) UNEP aims to undertake GEF funded projects that are aligned with its strategy. Whilst it is recognised that UNEP GEF projects designed prior to the production of the UNEP Medium Term Strategy (MTS)²⁵/ Programme of Work (POW) 2010/11 would not necessarily be aligned with the Expected Accomplishments articulated in those documents, complementarities may still exist. The evaluation should present a brief narrative on the following issues:

²⁵ <http://www.unep.org/PDF/FinalMTSGCSS-X-8.pdf>

- (a) *Linkage to UNEP's Expected Accomplishments and POW 2010-2011.* The UNEP MTS specifies desired results in six thematic focal areas. The desired results are termed Expected Accomplishments. Using the completed ROTI analysis, the evaluation should comment on whether the project makes a tangible contribution to any of the Expected Accomplishments specified in the UNEP MTS. The magnitude and extent of any contributions and the causal linkages should be fully described.
- (b) *Alignment with the Bali Strategic Plan (BSP)²⁶.* The outcomes and achievements of the project should be briefly discussed in relation to the objectives of the UNEP BSP.
- (c) *South-South Cooperation.* This is regarded as the exchange of resources, technology, and knowledge between developing countries. Briefly describe any aspects of the project that could be considered as examples of South-South Cooperation.

Contribution to FAO's Strategic Framework and Plans

a) In its role of executing agency, FAO should undertake the execution of projects that are relevant to its mandate, as defined in Strategic Framework 2000-15 and Medium Term Plans. LADA was fully inscribed in Corporate Strategy D as formulated in the Medium Term Plan 2006-11, by being one of the projects contributing to the Priority Area for Interdisciplinary Action (PAIA) on Combating desertification (DSRT). In this context, the evaluation should assess:

- (a) LADA's role in the PAIA DSRT;
- (b) Benefits to LADA from being located in FAO NRL and in being part of the PAIA as well as contributions it made to achieving Corporate Strategy D2, Conservation, rehabilitation and development of environments at the greatest risk.

I. The Consultants' Team

a) For this evaluation, a team of three independent consultants will be hired. Because both the Team Leader and the Supporting Consultant will visit two pilot countries separately, they will both require solid expertise in land use management and land degradation.

a) The **Team Leader** will have strong experience in the evaluation of environmental projects and a background in dryland degradation. (S)He will be responsible for coordinating the data collection and analysis phase of the evaluation, and drafting the main report. The team leader will put emphasis on the methodology development and land degradation assessment aspects of the project, included mostly in the components 1, 2 and 3 of the project. (S)He will, however, ensure that all evaluation criteria are adequately covered by the evaluation team. The Team Leader will travel to South-Africa and Senegal to meet project stakeholders and visit selected project field sites. He will also attend the LADA methodology workshop in the Netherlands and the final workshop of the project in Rome (6-8 December).

²⁶ <http://www.unep.org/GC/GC23/documents/GC23-6-add-1.pdf>

a) The **Supporting Consultant**, experienced in the evaluation of environmental projects and expert in land use management, institutional capacity building and policy assistance, will put emphasis on capacity building, policy development and dissemination of lessons learned and best practices, embedded in components 2,3 en 4. (S)He will provide inputs to the main report as agreed with the Team Leader. The Supporting Consultant will travel to Argentina and China to meet with project stakeholders and visit selected project field sites.

a) A **GIS/web portal expert** will be recruited for a short input. (S)He will work with the LADA team at FAO in Rome and prepare a technical working paper that will be annexed to the main report, the content of which will be agreed upon with the Team Leader.

a) The consultants will certify to the EO that they have not been associated with the design and implementation of the project in any way which may jeopardize their independence and impartiality towards project achievements and project partner performance. In addition, they will not have any future interests in the short term (within six months) with the project's executing or implementing agencies.

J. Evaluation Deliverables and Review Procedures

a) **De-briefings at the end of the field missions.** At the end of each field mission, the visiting evaluation consultant will present his/her first findings to project stakeholders, in the form of a PowerPoint presentation. The purpose of these de-briefings is to inform country-level stakeholders about the first impressions of the evaluator, discuss any outstanding issues and obtain preliminary feedback from stakeholders to strengthen the evidence-base and analysis for the evaluation. Comments made by stakeholders during these meeting, will be annexed to the evaluation report. It is therefore important that the consultants make sure that detailed minutes are kept of these meetings. The pilot country teams are expected to facilitate the organisation of these meetings.

a) **Presentation of the zero draft report to the final workshop.** The Team Leader will present the first evaluation findings and recommendations at the final workshop of the project in Rome on 6-8 December. The purpose is again to obtain preliminary feedback on the evaluation results from key project stakeholders and also to increase their ownership of the evaluation outcomes and by-in for the recommendations. The presentation will be made in the form of a PowerPoint Presentation. Feedback from project stakeholders during this workshop will also be annexed to the evaluation report. Again, the Team Leader should ensure that detailed notes are taken of feedback received from stakeholders.

a) **The main evaluation report**, drafted by the Team Leader with inputs by the Supporting Consultant, should be brief (no longer than 40 pages – excluding the executive summary and annexes), to the point and written in plain English. It must explain the purpose of the evaluation, exactly what was evaluated and the methods used (with their limitations). The report will present evidence-based and balanced findings, consequent conclusions, lessons and recommendations, which will be cross-referenced to each other using paragraph numbering. The report should be presented in a way that makes the information accessible and comprehensible. Dissident views in response to evaluation findings will be appended in footnotes or an annex as appropriate. It is the consultant team's joint responsibility to have clarified the respective roles and expected contributions to the main report between team members, before the team initiates data collection and analysis for the evaluation. The Team Leader holds the final responsibility for the evaluation report.

a) **Technical working paper by the GIS/web portal expert.** The format and contents of the working paper is free, but should be agreed upon with the Team Leader before the onset of the evaluation. Preferably, it will not exceed 10 pages in length. As it is not expected that all readers of the main evaluation report will be able to read the working paper, it is essential that key evidence, analysis and findings presented in the working paper are integrated in the main report. The Team Leader will carry out a first review of the working paper and provide comments to the GIS/web portal expert for improvement. Only a version acceptable to the Team Leader will be submitted to the EO as a technical annex to the draft main report.

a) **Review of the draft evaluation report.** The draft report, including the working paper in annex, shall be submitted to the Head of Evaluation. The EO will share the first draft with the FAO Office of Evaluation and review the report for comprehensiveness, soundness and clarity. The consultants will improve the report on the basis of comments provided. When found acceptable, the report shall be shared by the EO with the UNEP/DGEF Task Manager and his supervisor. The Task Manager will forward the draft to project stakeholders, in particular the Executing Agencies (FAO and the country partners). All stakeholders will be invited to provide feedback on any inaccuracies and to highlight the significance of such in the conclusions, lessons learned and recommendations. Consultations will be held through appropriate means of communication between the consultants, EO staff, the Task Manager and key members of the project execution team. These consultations will seek feedback on the proposed recommendations and lessons. The EO will collate all review comments and provide them to the consultants for their consideration in preparing the final version of the report.

a) The consultants will prepare a **response to any comments** that contradict their own findings and could therefore not be accommodated in the final report. This response will be shared by the EO with the interested stakeholders to ensure full transparency.

a) **Submission of the final Terminal Evaluation reports.** The final report shall be submitted by Email to:

Segbedzi Norgbey, Head

UNEP Evaluation Office

P.O. Box 30552-00100

Nairobi, Kenya

Tel.: (+254-20) 762 3387

Fax: (+254-20) 762 3158

Email: segbedzi.norgbey@unep.org

a) The Head of Evaluation will share the report with the following persons:

Tullia Aiazzi, Senior Evaluation Officer

Evaluation Service

FAO

Email: tullia.aiazzi@fao.org

Maryam Niamir-Fuller, Director

UNEP/Division of GEF Coordination

Nairobi, Kenya

Tel: + 254-20-7624686

Email: maryam.niamir-fuller@unep.org

Stephen Twomlow, Senior Program Officer Biodiversity, Land Degradation
and POPs

UNEP/Division of GEF Coordination

Nairobi, Kenya

Tel: +254-20-7625076

Email: stephen.twomlow@unep.org

a) The final evaluation report will be published on both UNEP and FAO evaluation units' web-sites www.unep.org/eou and <http://www.fao.org/pbe/pbee/en/index.html>. Subsequently, the report will be sent to the GEF Office of Evaluation for their review, appraisal and inclusion on the GEF website.

a) As per usual practice, the two evaluation units will prepare a quality assessment of the final report, which is a tool for providing structured feedback to the evaluation consultant. The quality of the draft evaluation report will be assessed and rated against both GEF and UNEP criteria as presented in Annex 4.

a) FAO, as per its evaluation policy, will prepare a Management Response to the evaluation, that will also become a public document on OED's website.

K. Resources and Schedule of the Evaluation

a) This Terminal Evaluation will be undertaken by three independent consultants contracted by the UNEP Evaluation Office.

a) The evaluation team will consult with the UNEP and FAO Evaluation Offices on any procedural and methodological matters related to the evaluation. It is, however, the evaluation team members' individual responsibility to arrange for their travel, obtain documentary evidence, meetings with stakeholders, field visits, and any other logistical matters related to their assignment. They will liaise with the UNEP/DGEF Task Manager, the FAO project

coordination team and the country teams, who will provide full support on any logistical issues, allowing the consultants to conduct the evaluation as independently as possible.

a) The **Team Leader** will be hired for 42 days (6 days for desk study, 24 days for travel and field work, 12 days for presenting results). Her/his contract will start on 8 October 2010 and end on 31 January 2011.

a) The **Supporting Consultant** will be hired for 29 days (2 days for desk study, 22 days for travel and field work, 5 days for presenting results). Her/his contract will start on 8 October 2010 and end on 31 December 2010.

a) The **GIS/ web portal expert** will be hired for 7 days, of which 5 days in Rome. Her/his contract will start on 8 October 2010 and end on 15 November 2010.

a) The Team Leader will submit the first draft report on 28 November 2010 to the UNEP EO and revise the draft following the comments and suggestions made by the EO. The EO will share the revised draft with FAO Office of Evaluation and circulate afterwards with project partners. The Team Leader will present the findings and recommendations of the evaluation to the project team in Rome, at the Final Workshop of the project on 6-8 December by means of a PowerPoint Presentation. On that occasion, the project team will have an opportunity to provide feedback on the draft findings and recommendations. Detailed comments on the draft report from stakeholders would be expected within two weeks after the draft report has been shared. Any comments or responses to the draft report will be sent to UNEP / EO for collation and the Team Leader will be advised of any necessary revisions. The Team Leader will submit the final report no later than 3 weeks after reception of EO and stakeholder comments.

L. Schedule Of Payment

a) The consultants will be hired under individual Special Service Agreements (SSA). The fee will be estimated as a lumpsum, inclusive of all expenses such as travel, accommodation and incidental expenses. The consultants will receive an initial payment covering the travel costs upon signature of the contract. 40% of the remainder will be paid upon acceptance of a draft report from the Team Leader deemed complete and of acceptable quality by the EO. The final payment will be made upon satisfactory completion of the work.

a) The Team Leader will assess the performance of the Supporting Consultant and GIS / web portal expert, and advise the EO whether they have completed their work in a satisfactory way.

a) In case the consultants are not able to provide the deliverables in accordance with these TORs, in line with the evaluation principles spelled out in Section C above or other expected quality standards by the UNEP Evaluation Office, payment may be withheld at the discretion of the Head of the Evaluation Office until the consultants have improved the deliverables up to a satisfactory level.

a) If the consultants fail to submit a satisfactory final product to UNEP in a timely manner, i.e. later than one month after the last day of contract, the Evaluation Office reserves the right to employ additional human resources to finalize the report, and to reduce the consultants' fees by an amount equal to the additional costs borne by the Evaluation Office to bring the report up to standard.

6. TORs - Annex 1. Annotated Table of Contents of the Main Report

Project Identification Table	An updated version of the table in I.A. of these TORs
Executive Summary	Overview of the main findings, conclusions and recommendations of the evaluation. It should encapsulate the essence of the information contained in the report to facilitate dissemination and distillation of lessons. the main points for each evaluation parameter should presented here (with a summary ratings table), as well as the most important lessons and recommendations. Maximum 4 pages.
I. Evaluation Background	
A. Context	A. Overview of the broader institutional and country context, in relation to the project's objectives.
B. The Project	B. Presentation of the project: rationale, objectives, components, intervention areas and target groups, milestones in design, implementation and completion, implementation arrangements and main partners, financing (amounts and sources), modifications to design before or during implementation.
C. Evaluation objectives, scope and methodology	C. Presentation of the evaluation's purpose, evaluation criteria and key questions, evaluation timeframe, data collection and analysis instruments used, places visited, types of stakeholders interviewed, and limitations of the evaluation.
II. Project Performance and Impact	
A. Attainment of objectives and planned results B. Sustainability and catalytic role C. Processes affecting attainment of project results D. Complementarity with the UNEP Medium Term Strategy and Programme of Work	This section is organized according to the 4 categories of evaluation criteria (see section D of these TORs) and provides factual evidence relevant to the questions asked and sound analysis and interpretations of such evidence. This is the main substantive section of the report. Ratings are provided at the end of the assessment of each evaluation criterion.
III. Conclusions and Recommendations	
A. Conclusions	This section should summarize the main findings of the evaluation, told in a logical sequence from cause to effect. It is suggested to start with the positive achievements and a short explanation why these could be achieved, and, then, to present the less successful aspects of the project with a short explanation why. The conclusions section should end with the overall assessment of the project. Findings should be cross-referenced to the main text of the report (using the paragraph numbering).

	The overall ratings table should be inserted here (see Annex 2).
B. Lessons Learned	Lessons learned should be anchored in the main findings of the evaluation. In fact, no lessons should appear which are not based upon a conclusion of the evaluation. The number of lessons learned should be limited. Lessons learned are rooted in real project experiences, i.e. based on good practices and successes which could be replicated or derived from problems encountered and mistakes made which should be avoided in the future. Lessons learned must have the potential for wider application and use. Lessons should briefly describe the context from which they are derived and specify the contexts in which they may be useful.
C. Recommendations	As for the lessons learned, all recommendations should be anchored in the conclusions of the report, with proper cross-referencing, and their number should be limited to 3 or 4. Recommendations are actionable proposals on how to resolve concrete problems affecting the project or the sustainability of its results. They should be feasible to implement within the timeframe and resources available (including local capacities), specific in terms of who would do what and when, and set a measurable performance target. In some cases, it might be useful to propose options, and briefly analyze the pros and cons of each option.
Annexes	<p>These may include additional material deemed relevant by the evaluator but must include:</p> <ol style="list-style-type: none"> 1. Evaluation TORs 2. Evaluation program, containing the names of locations visited and the names (or functions) of people met 3. Bibliography 4. Summary co-finance information and a statement of project expenditure by activity (See annex of these TORs) 5. Details of the project's 'impact pathways' and the 'ROtI' analysis 6. Technical working paper 7. Brief CVs of the consultant <p>TE reports will also include any formal response/ comments from the project management team and/ or the country focal point regarding the evaluation findings or conclusions as an annex to the report, however, such will be appended to the report by UNEP Evaluation Office.</p>

Examples of UNEP GEF Terminal Evaluation Reports are available at www.unep.org/eou.

7. TORs - Annex 2. Evaluation Ratings

The evaluation will provide individual ratings for the evaluation criteria described in section II.D. of these TORs. Some criteria contain sub-criteria which require separate ratings (i.e. sustainability and M&E). Furthermore, an aggregated rating will be provided for Relevance, effectiveness and efficiency under the category “Attainment of project objectives and results”.

Most criteria will be rated on a six-point scale as follows: Highly Satisfactory (HS); Satisfactory (S); Moderately Satisfactory (MS); Moderately Unsatisfactory (MU); Unsatisfactory (U); Highly Unsatisfactory (HU). Sustainability is rated on a four-point scale (see below).

In the conclusions section of the report, ratings will be presented together in a table, with a brief justification cross-referenced to the findings in the main body of the report. Please note that the order of the evaluation criteria in the table will be slightly different from the order these are treated in the main report; this is to facilitate comparison and aggregation of ratings across GEF project evaluation reports.

Criterion	Summary Assessment	Rating
A. Attainment of project objectives and results		HS → HU (6-point)
1. Effectiveness		HS → HU (6-point)
2. Relevance		HS → HU (6-point)
3. Efficiency		HS → HU (6-point)
B. Sustainability of project outcomes		L → U (4-point)
1. Financial		L → U (4-point)
2. Socio-political		L → U (4-point)
3. Institutional framework		L → U (4-point)
4. Environmental		L → U (4-point)
C. Catalytic role		HS → HU (6-point)
D. Stakeholders involvement		HS → HU (6-point)
E. Country ownership / driven-ness		HS → HU (6-point)
F. Achievement of outputs and activities		HS → HU (6-point)
G. Preparation and readiness		HS → HU (6-point)
H. Implementation approach		HS → HU (6-point)
I. Financial planning and management		HS → HU (6-point)
J. Monitoring and Evaluation		HS → HU (6-point)
1. M&E Design		HS → HU (6-point)
2. M&E Plan Implementation		HS → HU (6-point)
3. Budgeting and funding for M&E activities		HS → HU (6-point)
K. UNEP Supervision and backstopping		HS → HU (6-point)

Rating of Attainment of project objectives and results. A compound rating is given to the category based on the assessment of relevance, effectiveness and efficiency. This aggregated rating is not a simple average of the separate ratings given to the evaluation criteria, but an overall judgement by the consultant. Relevance and effectiveness, however, will be considered as critical criteria. This means that the aggregated rating for Attainment of objectives and results may not be higher than the lowest rating on either of these two criteria.

Ratings on sustainability. Each of the dimensions of sustainability of project outcomes will be rated as follows:

Likely (L): There are no risks affecting this dimension of sustainability.

Moderately Likely (ML). There are moderate risks that affect this dimension of sustainability.

Moderately Unlikely (MU): There are significant risks that affect this dimension of sustainability

Unlikely (U): There are severe risks that affect this dimension of sustainability.

According to the GEF Office of Evaluation, all the dimensions of sustainability are deemed critical. Therefore, the overall rating for sustainability will not be higher than the lowest rating on the separate dimensions.

Ratings of monitoring and evaluation. The M&E system will be rated on M&E design, M&E plan implementation, and budgeting and funding for M&E activities (the latter sub-criterion is covered in the main report under M&E design) as follows:

Highly Satisfactory (HS): There were no shortcomings in the project M&E system.

Satisfactory(S): There were minor shortcomings in the project M&E system.

Moderately Satisfactory (MS): There were moderate shortcomings in the project M&E system.

Moderately Unsatisfactory (MU): There were significant shortcomings in the project M&E system.

Unsatisfactory (U): There were major shortcomings in the project M&E system.

Highly Unsatisfactory (HU): The Project had no M&E system.

M&E plan implementation will be considered critical for the overall assessment of the M&E system. Thus, the overall rating for M&E will not be higher than the rating on M&E plan implementation.

8. TORs - Annex 3. Project costs and co-financing tables

Project Costs

Component/sub-component	Estimated cost at design	Actual Cost	Expenditure ratio (actual/planned)

Co-financing

Co financing (Type/Source)	IA own Financing (mill US\$)		Government (mill US\$)		Other* (mill US\$)		Total (mill US\$)		Total Disbursed (mill US\$)
	Planned	Actual	Planned	Actual	Planned	Actual	Planned	Actual	
- Grants									
- Loans									
- Credits									
- Equity investments									
- In-kind support									
- Other (*) - -									
Totals									

* This refers to contributions mobilized for the project from other multilateral agencies, bilateral development cooperation agencies, NGOs, the private sector and beneficiaries.

9. TORs - Annex 4. Quality Assessment of the Evaluation Report

All UNEP evaluation reports are subject to a quality assessment by the Evaluation Office. The quality assessment is used as a tool for providing structured feedback to the evaluation consultant. The quality of the draft evaluation report is assessed and rated against the following criteria:

GEF Report Quality Criteria	UNEP EO Assessment	Rating
A. Did the report present an assessment of relevant outcomes and achievement of project objectives in the context of the focal area program indicators if applicable?		
B. Was the report consistent and the evidence complete and convincing and were the ratings substantiated when used?		
C. Did the report present a sound assessment of sustainability of outcomes?		
D. Were the lessons and recommendations supported by the evidence presented?		
E. Did the report include the actual project costs (total and per activity) and actual co-financing used?		
F. Did the report include an assessment of the quality of the project M&E system and its use for project management?		
UNEP additional Report Quality Criteria		
G. Quality of the lessons: Were lessons readily applicable in other contexts? Did they suggest prescriptive action?		
H. Quality of the recommendations: Did recommendations specify the actions necessary to correct existing conditions or improve operations ('who?' 'what?' 'where?' 'when?'). Can they be implemented? Did the recommendations specify a goal and an associated performance indicator?		
I. Was the report well written? (clear English language and grammar)		
J. Did the report structure follow EOU guidelines, were all requested Annexes included?		
K. Were all evaluation aspects specified in the TORs adequately addressed?		
L. Was the report delivered in a timely manner		

$$\text{Quality} = (2*(0.3*(A + B) + 0.1*(C+D+E+F)) + 0.3*(G + H) + 0.1*(I+J+K+L))/3$$

The Totals are rounded and converted to the scale of HS to HU

Rating system for quality of Terminal Evaluation reports: A number rating between 1 and 6 is used for each criterion: Highly Satisfactory = 6, Satisfactory = 5, Moderately Satisfactory = 4, Moderately Unsatisfactory = 3, Unsatisfactory = 2, Highly Unsatisfactory = 1.

10. TORs - Annex 5. Documentation list for the evaluation to be provided by DGEF

- Project supervision plan, with associated budget
- Correspondence related to project
- Supervision mission reports
- Steering Committee meeting documents, including agendas, meeting minutes, and any summary reports
- Project progress reports, including financial reports submitted
- Cash advance requests documenting disbursements
- Annual Project Implementation Reports (PIRs)
- Mid-term Evaluation and associated action plans, (if any)
- Management memos related to project
- Other documentation of supervision feedback on project outputs and processes (e.g. comments on draft progress reports, etc.).
- Extension documentation. Has a project extension occurred?
- Project revision documentation.
- Budget revision documentation.
- Project Terminal Report (draft if final version not available)

TORs - Annex 6. Introduction to Theory of Change / Impact pathways, the ROTI Method and the ROTI Results Score sheet

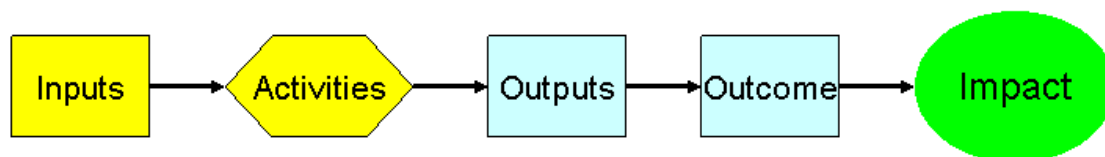
Terminal evaluations of projects are conducted at, or shortly after, project completion. At this stage it is normally possible to assess the achievement of the project's outputs. However, the possibilities for evaluation of the project's outcomes are often more limited and the feasibility of assessing project **impacts** at this time is usually severely constrained. Full impacts often accrue only after considerable time-lags, and it is common for there to be a lack of long-term baseline and monitoring information to aid their evaluation. Consequently, substantial resources are often needed to support the extensive primary field data collection required for assessing impact and there are concomitant practical difficulties because project resources are seldom available to support the assessment of such impacts when they have accrued – often several years after completion of activities and closure of the project.

Despite these difficulties, it is possible to enhance the scope and depth of information available from Terminal Evaluations on the achievement of results **through rigorous review of project progress along the pathways from outcome to impact**. Such reviews identify the sequence of conditions and factors deemed necessary for project outcomes to yield impact and assess the current status of and future prospects for results. In evaluation literature these relationships can be variously described as 'Theories of Change', Impact 'Pathways', 'Results Chains', 'Intervention logic', and 'Causal Pathways' (to name only some!).

Theory of Change (ToC) / impact pathways

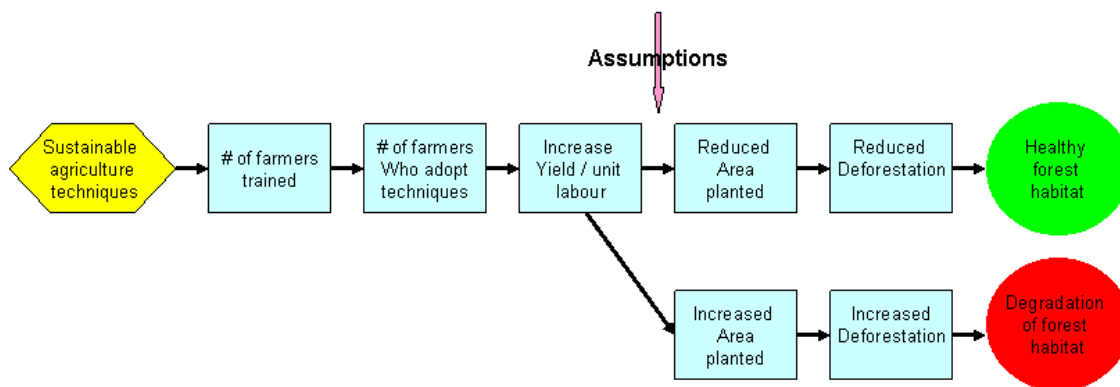
Figure 1 shows a generic impact pathway which links the standard elements of project logical frameworks in a graphical representation of causal linkages. When specified with more detail, for example including the key users of outputs, the processes (the arrows) that lead to outcomes and with details of performance indicators, analysis of impact pathways can be invaluable as a tool for both project planning and evaluation.

Figure 1. A generic results chain, which can also be termed an 'Impact Pathway' or Theory of Change.



The pathways summarise casual relationships and help identify or clarify the assumptions in the intervention logic of the project. For example, in the Figure 2 below the eventual impact depends upon the behaviour of the farmers in using the new agricultural techniques they have learnt from the training. The project design for the intervention might be based on the upper pathway assuming that the farmers can now meet their needs from more efficient management of a given area therefore reducing the need for an expansion of cultivated area and ultimately reducing pressure on nearby forest habitat, whereas the evidence gathered in the evaluation may in some locations follow the lower of the two pathways; the improved faming methods offer the possibility for increased profits and create an incentive for farmers to cultivate more land resulting in clearance or degradation of the nearby forest habitat.

Figure 2. An impact pathway / TOC for a training intervention intended to aid forest conservation.



The GEF Evaluation Office has recently developed an approach that builds on the concepts of theory of change / causal chains / impact pathways. The method is known as Review of Outcomes to Impacts (ROtI)²⁷ and has three distinct stages:

- a. Identifying the project's intended impacts
- b. Review of the project's logical framework
- c. Analysis and modelling of the project's outcomes-impact pathways

The **identification of the projects intended impacts** should be possible from the 'objectives' statements specified in the official project document. The next stage is to **review the project's logical framework** to assess whether the design of the project is consistent with, and appropriate for, the delivery of the intended impact. The method requires verification of the causal logic between the different hierarchical levels of the logical framework moving 'backwards' from impacts through outcomes to the outputs; the activities level is not formally considered in the ROtI method²⁸. The aim of this stage is to develop an understanding of the causal logic of the project intervention and to identify the key 'impact pathways'. In reality such process are often complex; they often involve multiple actors and decision-processes and are subject to time-lags, meaning that project impact often accrue long after the completion of project activities.

The third stage involves analysis of the 'impact pathways' that link project outcomes to impacts. The pathways are analysed in terms of the '**assumptions**' and '**impact drivers**' that underpin the processes involved in the transformation of outcomes to impacts via **intermediate states** (see Figure 3). Project outcomes are the direct intended results stemming from the outputs, and they are likely to occur either towards the end of the project or in the short term following project completion. **Intermediate states** are the transitional conditions between the project's immediate outcomes and the intended impact. They are necessary conditions for the achievement of the intended impacts and there may be more than one intermediate state between the immediate project outcome and the eventual impact.

Impact drivers are defined as the significant factors that if present are expected to contribute to the realization of the intended impacts and **can be influenced** by the project / project partners & stakeholders. **Assumptions** are the significant factors that if present are expected to contribute to the realization of the intended impacts but are largely **beyond the control of the project** / project partners & stakeholders. The

²⁷ GEF Evaluation Office (2009). ROtI: Review of Outcomes to Impacts Practitioners Handbook. http://www.gefweb.org/uploadedFiles/Evaluation_Office/OPS4/Roti%20Practitioners%20Handbook%2015%20June%202009.pdf

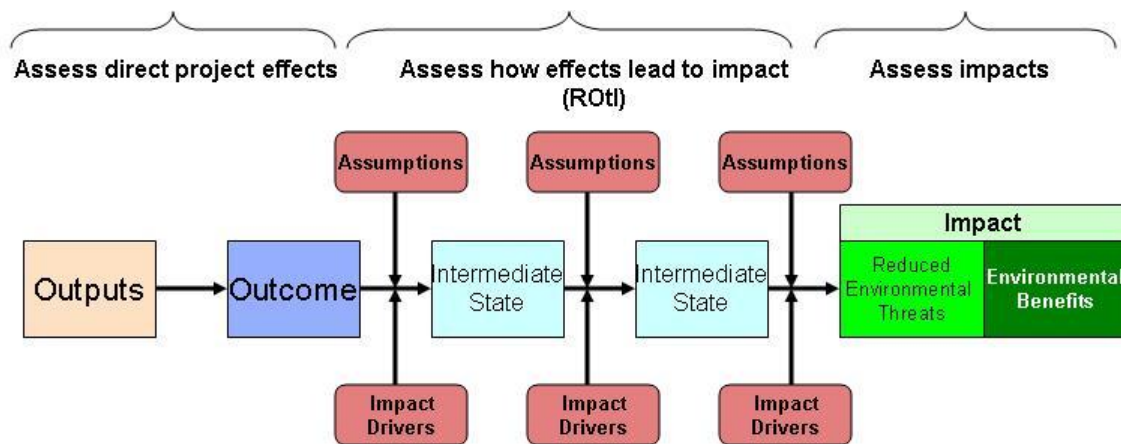
²⁸ Evaluation of the efficiency and effectiveness in the use of resources to generate outputs is already a major focus within UNEP Terminal Evaluations.

impact drivers and assumptions are ordinarily considered in Terminal Evaluations when assessing the sustainability of the project.

Since project logical frameworks do not often provide comprehensive information on the processes by which project outputs yield outcomes and eventually lead, via ‘intermediate states’ to impacts, the impact pathways need to be carefully examined and the following questions addressed:

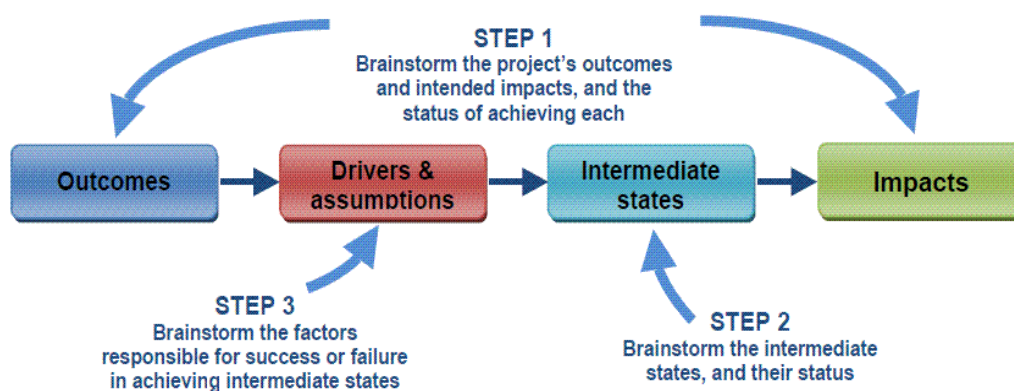
- Are there other causal pathways that would stem from the use of project outputs by other potential user groups?
- Is (each) impact pathway complete? Are there any missing intermediate states between project outcomes and impacts?
- Have the key impact drivers and assumptions been identified for each ‘step’ in the impact pathway.

Figure 3. A schematic ‘impact pathway’ showing intermediate states, assumptions and impact drivers (adapted from GEF EO 2009).



The process of identifying the impact pathways and specifying the impact drivers and assumptions can be done as a desk exercise by the evaluator or, preferably, as a group exercise, led by the evaluator with a cross-section of project stakeholders as part of an evaluation field mission or both. Ideally, the evaluator would have done a desk-based assessment of the project’s theory of change and then use this understanding to facilitate a group exercise. The group exercise is best done through collective discussions to develop a visual model of the impact pathways using a card exercise. The component elements (outputs, outcomes, impact drivers, assumptions intended impacts etc.) of the impact pathways are written on individual cards and arranged and discussed as a group activity. Figure 4 below shows the suggested sequence of the group discussions needed to develop the ToC for the project.

Figure 4. Suggested sequencing of group discussions (from GEF EO 2009)



Once the theory of change model for the project is complete the evaluator can assess the design of the project intervention and collate evidence that will inform judgments on the extent and effectiveness of implementation, through the evaluation process. Performance judgments are made always noting that project contexts can change and that adaptive management is required during project implementation.

The ROtI method requires ratings for outcomes achieved by the project and the progress made towards the ‘intermediate states’ at the time of the evaluation. According the GEF guidance on the method; *“The rating system is intended to recognize project preparation and conceptualization that considers its own assumptions, and that seeks to remove barriers to future scaling up and out. Projects that are a part of a long-term process need not at all be “penalized” for not achieving impacts in the lifetime of the project: the system recognizes projects’ forward thinking to eventual impacts, even if those impacts are eventually achieved by other partners and stakeholders, albeit with achievements based on present day, present project building blocks.”* For example, a project receiving an “AA” rating appears likely to deliver impacts, while for a project receiving a “DD” this would seem unlikely, due to low achievement in outcomes and the limited likelihood of achieving the intermediate states needed for eventual impact (see Table 1).

Table 1. Rating scale for outcomes and progress towards ‘intermediate states’

Outcome Rating	Rating on progress toward Intermediate States
D: The project’s intended outcomes were not delivered	D: No measures taken to move towards intermediate states.
C: The project’s intended outcomes were delivered, but were not designed to feed into a continuing process after project funding	C: The measures designed to move towards intermediate states have started, but have not produced results.
B: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, but with no prior allocation of responsibilities after project funding	B: The measures designed to move towards intermediate states have started and have produced results, which give no indication that they can progress towards the intended long term impact.
A: The project’s intended outcomes were delivered, and were designed to feed into a continuing process, with specific allocation of responsibilities after project funding.	A: The measures designed to move towards intermediate states have started and have produced results, which clearly indicate that they can progress towards the intended long term impact.

Thus a project will end up with a two letter rating e.g. AB, CD, BB etc. In addition the rating is given a '+' notation if there is evidence of impacts accruing within the life of the project. The possible rating permutations are then translated onto the usual six point rating scale used in all UNEP project evaluations in the following way.

Table 2. Shows how the ratings for 'achievement of outcomes' and 'progress towards intermediate states translate to ratings for the 'Overall likelihood of impact achievement' on a six point scale.

Highly Likely	Likely	Moderately Likely	Moderately Unlikely	Unlikely	Highly Unlikely
AA AB BA CA BB+ CB+ DA+ DB+	BB CB DA DB AC+ BC+	AC BC CC+ DC+	CC DC AD+ BD+	AD BD CD+ DD+	CD DD

In addition, projects that achieve documented changes in environmental status during the project's lifetime receive a positive impact rating, indicated by a "+". The overall likelihood of achieving impacts is shown in Table 11 below (a + score above moves the double letter rating up one space in the 6-point scale).

The ROtI method provides a basis for comparisons across projects through application of a rating system that can indicate the expected impact. However it should be noted that whilst this will provide a relative scoring for all projects assessed, it does not imply that the results from projects can necessarily be aggregated. Nevertheless, since the approach yields greater clarity in the 'results metrics' for a project, opportunities where aggregation of project results might be possible can more readily be identified.

Results rating of project entitled:							
Outputs	Outcomes	Rating (D – A)	Intermediary	Rating (D – A)	Impact (GEBs)	Rating (+)	Overall
1.	1.		1.		1.		
2.	2.		2.		2.		
3.	3.		3.		3.		
	Rating justification:		Rating justification:		Rating justification:		

Scoring Guidelines

The achievement of **Outputs** is largely assumed. Outputs are such concrete things as training courses held, numbers of persons trained, studies conducted, networks established, websites developed, and many others. Outputs reflect where and for what project funds were used. These were not rated: projects generally succeed in spending their funding.

Outcomes, on the other hand, are the first level of intended results stemming from the outputs. Not so much the number of persons trained; but how many persons who then demonstrated that they have gained the intended knowledge or skills. Not a study conducted; but one that could change the evolution or development of the project. Not so much a network of NGOs established; but that the network showed potential for functioning as intended. A sound outcome might be genuinely improved strategic planning in SLM stemming from workshops, training courses, and networking.

Examples

Funds were spent, outputs were produced, but nothing in terms of outcomes was achieved. People attended training courses but there is no evidence of increased capacity. A website was developed, but no one used it. (Score – D)

Outcomes achieved but are dead ends; no forward linkages to intermediary stages in the future. People attended training courses, increased their capacities, but all left for other jobs shortly after; or were not given opportunities to apply their new skills. A website was developed and was used, but achieved little or nothing of what was intended because users had no resources or incentives to apply the tools and methods proposed on the website in their job. (Score – C)

Outcomes plus implicit linkages forward. Outcomes achieved and have *implicit forward linkages* to intermediary stages and impacts. Collaboration as evidenced by meetings and decisions made among a loose network is documented that should lead to better planning. Improved capacity is in place and should lead to desired intermediate outcomes. Providing implicit linkages to intermediary stages is probably the most common case when outcomes have been achieved. (Score - B)

Outcomes plus explicit linkages forward. Outcomes have *definite and explicit forward linkages* to intermediary stages and impacts. An alternative energy project may result in solar panels installed that reduced reliance on local wood fuels, with the outcome quantified in terms of reduced C emissions. Explicit forward linkages are easy to recognize in being concrete, but are relatively uncommon. (Score A)

Intermediary stages:

The **intermediate stage** indicates achievements that lead to Global Environmental Benefits, especially if the potential for scaling up is established.

“Outcomes” scored C or D. If the outcomes above scored C or D, there is no need to continue forward to score intermediate stages given that achievement of such is then not possible.

In spite of outcomes and implicit linkages, and follow-up actions, the project dead-ends. Although outcomes achieved have *implicit forward linkages* to intermediary stages and impacts, the project dead-ends. Outcomes turn out to be insufficient to move the project towards intermediate stages and to the eventual achievement of GEBs. Collaboration as evidenced by meetings and among participants in a network never progresses further. The implicit linkage based on follow-up never materializes. Although outcomes involve, for example, further participation and discussion, such actions do not take the project forward towards intended intermediate impacts. People have fun getting together and talking more, but nothing, based on the implicit forwards linkages, actually eventuates. **(Score = D)**

The measures designed to move towards intermediate states have started, but have not produced result, barriers and/or unmet assumptions may still exist. In spite of sound outputs and in spite of explicit forward linkages, there is limited possibility of intermediary stage achievement due to barriers not removed or unmet assumptions. This may be the fate of several policy related, capacity building, and networking projects: people work together, but fail to develop a way forward towards concrete results, or fail to successfully address inherent barriers. The project may increase ground cover and or carbon stocks, may reduce grazing or GHG emissions; and may have project level recommendations regarding scaling up; but barrier removal or the addressing of fatal assumptions means that scaling up remains limited and unlikely to be achieved at larger scales. Barriers can be policy and institutional limitations; (mis-) assumptions may have to do with markets or public – private sector relationships. **(Score = C)**

Barriers and assumptions are successfully addressed. Intermediary stage(s) planned or conceived have feasible direct and explicit forward linkages to impact achievement; barriers and assumptions are successfully addressed. The project achieves measurable intermediate impacts, and works to scale up and out, but falls well short of scaling up to global levels such that achievement of GEBs still lies in doubt. **(Score = B)**

Scaling up and out over time is possible. Measurable intermediary stage impacts achieved, scaling up to global levels and the achievement of GEBs appears to be well in reach over time. **(Score = A)**

Impact: Actual changes in environmental status

“Intermediary stages” scored B to A.

Measurable impacts achieved at a globally significant level within the project life-span. . (Score = ‘+’)

ANNEX 2

Technical Report by GIS/web portal expert

Background

The first principal objective of the LADA project is to “develop and implement strategies, methods and tools to assess, quantify and analyze the nature, extent, severity and impacts of land degradation on ecosystems, watersheds and river basins, and carbon storage in drylands at a range of spatial and temporal scales”. Different strategies, methods and tools are required for different scales, and consequently the LADA project distinguishes between global, regional, national, and local land degradation assessment. The scope of this technical working paper, part of the LADA Terminal Evaluation, is to assess the GIS components of the global land degradation assessment and related web portal components and tools and methodologies developed by the FAO LADA team for national assessment.

The LADA website

The LADA website went online in August 2008. Its concept and contents have been user-driven from the beginning, including two user-surveys, one at the beginning, one at a later stage after the website went online. Efforts in terms of public awareness and information dissemination were successful: the LADA website is visited by a large number of people not directly involved in the LADA project. When going to the LADA website, the initial view (LADA home) shows selected important news. Important links – GLADIS, DISforLADA, LADA manuals – are prominently placed here. The LADA website offers a wealth of information for different kinds of visitors, e.g. decision makers and government officials, researchers, land degradation experts, technical personnel, etc. Resources are currently grouped by type, e.g. presentation, manual, technical report, software. Grouping the resources by theme, e.g. GLADA, GLADIS, national assessment, local assessment, workshops, could be an alternative which could be the subject of a user survey. This would however exceed the timeframe of LADA and could be investigated in LADA-II.

GLADA

GLADA is an important outcome of LADA that can be used within different contexts, although its suitability for land degradation assessment is limited. It is unique and new in the sense that it provides an unprecedented global time series analysis on vegetation growth and net primary production spanning 23 years, at the same time at least partially corrected for climatic variations. GLADA products have been made available to the general public as spatial data through the FAO GeoNetwork which is a logical choice considering its broad range of potential applications.

All GLADA datasets have been produced by ISRIC, the FAO LADA team was not involved in data processing. After doubts were raised about the data quality, particularly from South Africa and China, the dataset has been re-analysed, improved and extended to cover the years 1981 to 2006.

None of the GLADA maps and data as available on the FAO GeoNetwork is used in GLADIS, and the results of the re-analysed GLADA as used in GLADIS are not available through the FAO GeoNetwork (Oct 2010).

The input data

As input NDVI data, the GIMMS NDVI dataset as publicly available through the Global Land Cover Facility (GLCF) was used. This dataset was derived from AVHRR coverages and consists of bimonthly data from July 1981 to December 2006. The GIMMS NDVI data are available in different projections, once as global

coverage in geographic projection with a resolution of 0:04:21.81874 degrees, and once per continent in Albers Equal Area projection with a resolution of 8 km. All analyses were performed by ISRIC.

The GIMMS documentation for the global dataset in geographic projection states that -0.1 represents water, -0.05 is the fill value if no data were available, and actual NDVI values range from 0.0 to 1.0. The datasets themselves have a data range from -10000 to 1000, suggesting a scaling factor of 0.001, leaving out an explanation for the value -10000 or scaled -10 (apparently water).

Additional datasets used in the first analysis were climatic data, soil and terrain data, land cover and land use systems data, and indices for population, urban areas, and poverty.

The results provided by ISRIC to LADA are in geographic projection with a resolution of 0:04:21.8172 degrees. In decimal degrees, that would be a change from 0.072727270424366 to 0.07272727. This slight difference is most probably negligible but indicates that some of the software used by ISRIC does not support full precision for all operations which could damage the grid geometry of larger datasets with higher resolution.

First analysis

The first analysis used GIMMS NDVI data from July 1981 to December 2003, because at that time the extended dataset up to 2006 was not yet available. The documentation provided by ISRIC does not mention any filtering or correction of erroneous NDVI values. Consequently the annual sum, the basis for all further analysis, was often based on invalid data. Annual NDVI indicators referred to the calendar year in the northern hemisphere and from 1 October to 30 September in the southern hemisphere. It is not clear how the annual sums for 1981 and 2003 have been calculated because the AVHRR coverage is incomplete for 1981, starting only in July, and GIMMS data for January 2004 to September 2004 were not available.

The GIMMS NDVI time series data have been translated to net primary production (NPP) using MODIS data, where annual mean MODIS NPP at 1km resolution has been resampled to 8km using nearest neighbor assignment. Using a statistical mean, median or maximum instead of nearest neighbour assignment for resampling would have reduced error propagation during resampling (the ISRIC report itself refers to Plummer (2006) stating that MODIS NPP is far from perfect).

The results as available on the FAO GeoNetwork are in Mollweide projection with a resolution of (rounded) 8146.4322 km in east-west direction and (rounded) 8146.0965 km in north-south direction. whereas the documentation mentions a resolution of exactly 8km. Some of the software used by ISRIC itself can probably not maintain full precision of grid geometry parameters; therefore it would be intuitive to use e.g. exactly 8km in order to support a wider variety of GIS packages (also some of those used by ISRIC). The GLADA data on the FAO GeoNetwork are provided in the widely supported native Erdas Imagine .img file format and as un-georeferenced JPEG. JPEG images accompanying spatial raster data are commonly used as preview. The JPEG image previews for the GLADA data are fairly large and could be reduced by a factor 5 to 10. The additional .mxd and .rrd files are not necessary and just increase download size. Metadata are provided in a separate document included in the download archive which is a very good idea.

Despite the points criticized above, this first GLADA analysis provided highly valuable results on global vegetation trends adjusted for climatic variations. This analysis and the methodology used therein is applicable not only to land degradation assessment, but to a much wider scope, in particular long-term vegetation monitoring. Further on, the NDVI trend analysis can be extended using MODIS data.

After the results of the first long term NDVI analysis were investigated for their quality, it became apparent that the absence of any filtering or correction of erroneous NDVI values did indeed lead to systematic errors in the derived products. In a workshop where LADA representatives from South Africa and China were also

present and insisted on a new analysis, it was agreed that ISRIC will apply methods to cope with erroneous NDVI values and re-analyse the GIMMS NDVI data.

Second analysis

The second analysis used the extended GIMMS NDVI dataset for July 1981 to December 2006. As with the first analysis, it is not clear how annual sum NDVI could be calculated for 1981 since coverage for 1981 starts only in July. The methodology applied to detect and remove outliers is known as Harmonized Analysis of NDVI Time Series (HANTS), has been published and tested and was able to correct a large number of erroneous values. Although ISRIC stated that “The removal of residual cloud effects from the 1981-2006 GIMMS dataset by HANTS harmonic analysis had little effect on trends or areas affected”, the annual NDVI sums were substantially affected, differing between the uncorrected and the corrected version not just by a few percent, but often by a factor of 2 or higher. Although trends did not change much, the explaining power (coefficients of determination) did change to a considerable degree, see Figure 1 for a global overview and Figure 2 for a zoom to the Sahel zone. Coefficients of determination indicating the explaining power can be used to determine how reliable a trend is, i.e. a not very reliable trend in the first analysis may have become a highly reliable trend in the second analysis, even if the trend (e.g. absolute change in NDVI per year) remained nearly constant.

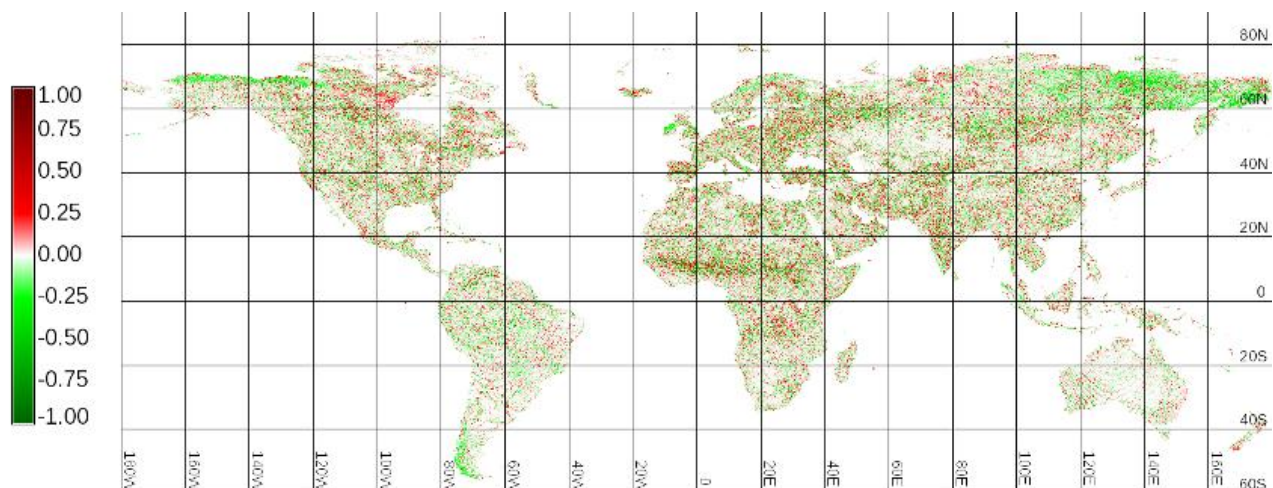


Figure 1 Differences between the second and first GLADA analysis in the explaining power of NDVI trends. Values close to 1 mean that the explaining power increased considerably, values close to 0 mean that the explaining power did not change substantially, and values close to -1 mean that explaining power decreased considerably from the first to the second analysis.

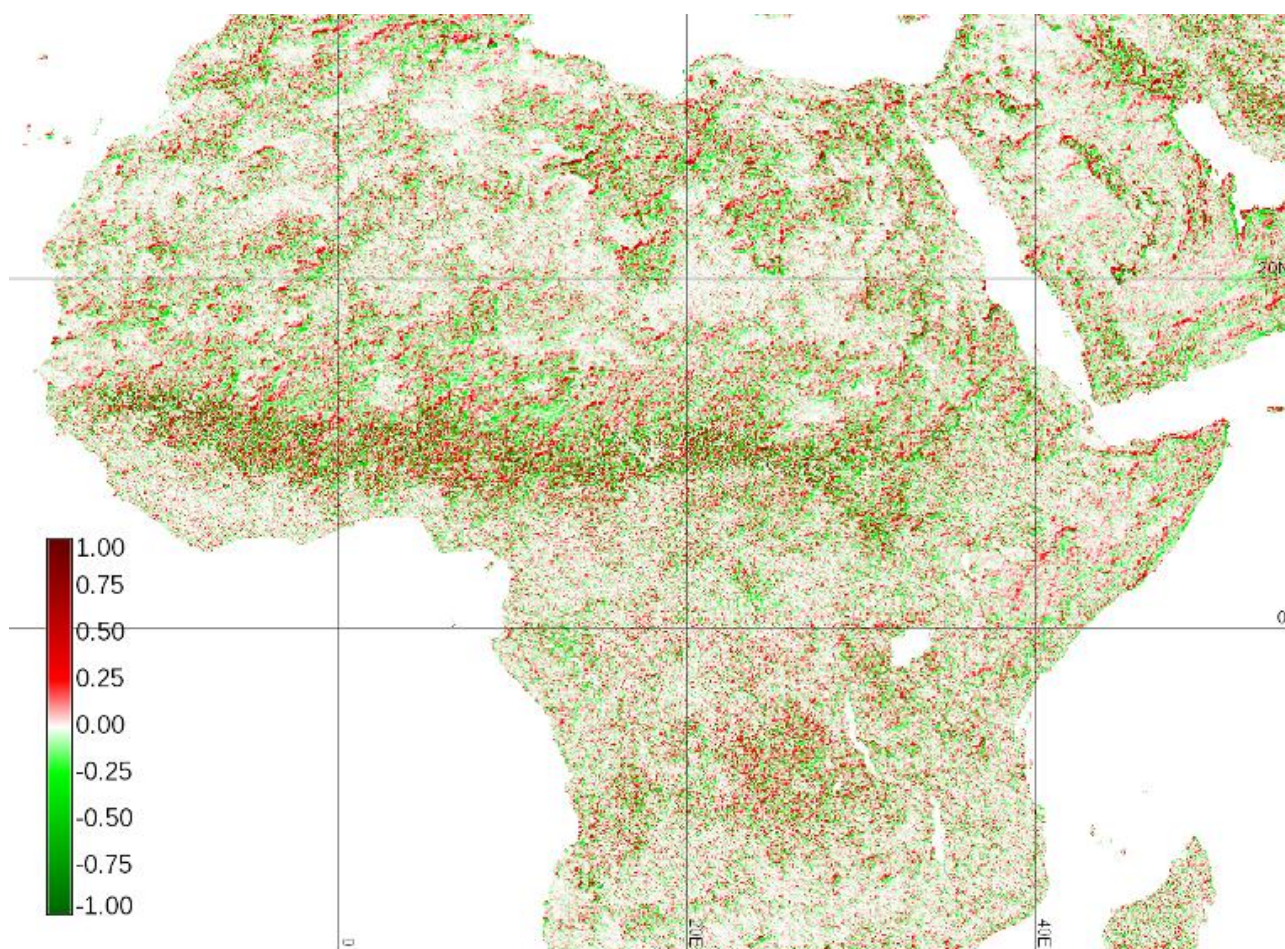


Figure 2 The Sahel zone was identified as one of the areas with a positive NDVI trend in the second GLADA analysis. Comparing the first and second GLADA analysis, the explaining power differed between the two analysis considerably but not uniformly in this zone. Both strong increases and strong decreases in the explaining power could be observed. The meaning of the numbers is identical to Figure 1.

For statistical analysis, the level of significance was set to $\alpha = 0.1$; more commonly used in the scientific literature is a significance level of $\alpha = 0.05$.

Although all outputs of the first analysis have been reproduced in the second analysis, a simplified approach was used to distinguish between climate-induced and human-induced NDVI trends for GLADIS.

Recommendations

ISRIC has re-done the initial GLADA analysis with the improved dataset and extended the temporal coverage to 2006 (previously 2003). The data available on the FAO GeoNetwork are however still the results of the first analysis and should be updated with the results of the second, improved analysis. It is recommended to update the corresponding maps and data on the FAO GeoNetwork for two reasons, first to provide more accurate data, second, to extend the temporal coverage. The final report on the second GLADA analysis should be made available through the LADA website; currently only the first GLADA report from August 2008 is available.

GLADIS

The LADA project defines land degradation as “the reduction in the capacity of the land to provide ecosystem goods and services and assure its functions over a period of time for its beneficiaries”. Within the course of the project it became apparent that ecosystem goods and services comprise more than just biomass or net primary production (NPP) and its change over time. Further on, GLADA described not NPP status but trends in NPP. There are several different goods and services identified for GLADIS, and the importance of each of these goods and services depends on the ecosystem's user's point of view. As there are many different ecosystems and many different users, using trends in NPP as the only one proxy does not suffice in describing these goods and services. Therefore a number of additional layers were included to provide a more differentiated picture of land degradation. This new approach was named GLADIS (Global Land Degradation Information System) and started only on September 14th 2009. While GLADA describes only one trend in land degradation (biomass production), GLADIS describes various aspects of both the status and the trend in land degradation, i.e. both degraded and degrading land. GLADIS is the main outcome of global land degradation assessment. Results are visualized using radar graphs with six axes for six different aspects of land degradation. The GLADIS technical report is still in beta and needs cleaning up and clarification, particularly in sections 3 and 4.

The six axes of the radar graphs

Six categories – biomass, soil health, water resources, biodiversity, economic production, social and cultural – were used to describe ecosystem goods and services, and each category is split into status and trend. All categories cover a maximum range of 0 to 100, 0 – 50 indicating a negative status or trend, and 50 – 100 indicating a positive status or trend. The different layers used to describe aspects of land degradation status were dating from approximately 2000 to 2009. Some input layers in turn may be based on data older than 2000. It is noteworthy that datasets of very different spatial resolution were combined with some available only on national level whereas other datasets, e.g. NDVI-based indicators, are available with a resolution of a few kilometers. Social and cultural as well as water resource indicators in particular were often only available on national level.

The six axes are actually twelve axes because for each aspect both the status and the process/trend has been estimated. Status and trend are two very different concepts, as is reflected in the way data for these twelve axes were obtained: for each axis, status and process are estimated from different sources.

Biomass status and trend

Land cover for the year 2000 (GLC2000) was used to estimate biomass status (range 0 - 100), biomass trend (range 0 - 100) was estimated from the results of the second GLADA analysis combined with results from the forest resources assessment project (FRA 2005).

Soil status and trend

Soil status was determined from various soil qualities available from the Global AEZ study. The range of soil status values differs between the documentation (0 – 100) and the website (25 - 100). Estimation of the soil degradation process (range 0 - 75) was the result of a complex analysis including potential soil loss, soil compaction, soil nutrient mining, soil pollution, soil salinization, and soil improvement trends. Positive and negative soil health trends were determined separately. Altogether, 15 factors were taken into consideration of soil degradation status and trend which were in turn derived from many different source data. The GLADIS soil degradation trend axis is probably the most complex index.

Water status and trend

The status of water availability (range 1 – 100 in the documentation and 0.1 – 100 on the website) was derived from actual renewable water resources on national level. Trends in water availability (range 1 - 100) were established by combining water availability as percentage of renewable water resources, again on national level, with a trend in aridity derived from climatic time series data.

Biodiversity status and trend

Biodiversity status (range 10 - 100) was estimated by reclassifying global land use, one of the outputs of LADA. Trends in biodiversity (range 4 - 50) were based on an existing model for global biodiversity risk which in turn is based on various biophysical and socio-economic input layers and in itself a highly derived dataset.

Economic status and trend

Economic production status (range 1 – 100 in the documentation and 0 – 100 on the website) was estimated from average crop yields, livestock intensity, climate, and national forest GDP figures for the year 2006. Economic trends (range 1 – 100) are based on trends in crop and livestock production between 1990 and 2003, and forestry production between 1990 and 2006.

Figure 30 (Economic status) in the documentation is identical to Figure 33 (Economic trend), which is probably a mistake. Figure 30 may need to be replaced with the correct figure for economic status.

Social and cultural status and trend

Social and cultural status (range 0 – 100) was estimated as accessibility (distance to infrastructure) of certain land combined with data on tourism and protected areas. Accessibility (distance to infrastructure) was rated in four distinct classes; considering that distance to infrastructure is a metric variable, a continuous scale from 0 – 100 could also have been produced instead. Social and cultural trend (range 19.1 – 91 in the documentation and 10 – 100 on the website) was estimated using the Human Development Index of UNDP which is available at national level only.

Derived land degradation indices

Based on the above twelve indicators, two indices describing land degradation status and four indices describing land degradation process were derived. The twelve axes generally range from 0 to 100, the indices range from 0 to 1. The formula for e.g. the Ecosystem Services Status Index (ESSI) is given as

$$ESSI = 1 - ((600 - (\text{SUM } B,S,W,Bd,E,So))/600)$$

which is missing one parenthesis and should probably read

$$ESSI = 1 - ((600 - (\text{SUM } B,S,W,Bd,E,So)))/600)$$

which would be equivalent to

$$ESSI = (\text{SUM } B,S,W,Bd,E,So)/600$$

which would translate to 0: poor status, 0.5: medium status, and 1: good status. However, the formulas and meaning of the resulting values need to be clarified in the documentation for all six indices. Several of the formulas given below are guessed from the index descriptions.

Ecosystem Services Status Index (ESSI)

The Ecosystem Services Status Index combines all six status axes and thus represents the overall land degradation status. The formula is probably (equivalent to)

$$ESSI = (\text{SUM } B,S,W,Bd,E,So)/600$$

Biophysical Status Index (BSI)

The Biophysical Status Index combines status of biomass, soil, water, biodiversity, but only if these status indicators were below 25 (poor status). Medium or good biophysical status is not included in this index. This index has been renamed on the GLADIS website to Biophysical Status Severity Index to reflect the fact that it indicates only poor status. The formula is not given but probably

$$\text{BSSI} = (\text{SUM B,S,W,Bd}) / 400 \text{ for B,S,W,Bd} < 25$$

Land Degradation Index (LDI)

The Land Degradation Index combines all six process axes and thus represents the overall land degradation status. No threshold value has been applied, that is, improvement, no change, and ongoing degradation are represented by this index. The formula for the LDI is given as

$$\text{LDI} = 1 - ((600 - (\text{SUM B,S,W,Bd,E,So})/600)$$

which is missing one parenthesis (see ESSI above) and should probably read

$$\text{LDI} = 1 - ((600 - (\text{SUM B,S,W,Bd,E,So}))/600)$$

which would be equivalent to

$$\text{LDI} = (\text{SUM B,S,W,Bd,E,So})/600$$

Goods and Services severely affected

This index of severity combines all six process axes based on a threshold rule using only indicator values below 25 (negative process). Analogous to the BSI, stable or improving processes are not included in this index. The formula is not given, probably

$$\text{index of severity} = (\text{SUM B,S,W,Bd,E,So})/600 \text{ for B,S,W,Bd,E,So} < 25$$

The documentation for this index is included in the documentation for the Land Degradation Index and should get its own paragraph for consistency.

Biophysical Degradation Index (BDI)

Analogous to the BSI, combines the process axes of biomass, soil, water, biodiversity using a threshold rule considering only biomass, water, and biodiversity below 25 and soil below 37.5. A justification for the special threshold for soil is not given. The BDI thus only represents clearly negative trends and no stable or improving trends. The formula is given as

$$\text{BDI} = 1 - ((400 - \text{B,S,W,Bd})/400)$$

which would be equivalent to

$$\text{BDI} = (\text{SUM B,S,W,Bd})/400$$

Land Degradation Impact Index (LDII)

The Land Degradation Impact Index was calculated by weighing the Land Degradation Index with population and poverty. Poverty and land degradation can be mutual cause and effect, i.e. one could just as well calculate a poverty impact index as driver for land degradation. Poverty has been estimated from national and, where available, sub-national infant mortality rates. Both population and poverty data were reclassified to a range of 0 to 1. Factors other than degraded land causing infant mortality were not considered. LDII was calculated as

$$\text{LDII} = \text{LDI} * (\text{adjusted (Population} * \text{Poverty level)}) \text{ for infant mortality rate} > 10$$

GLADIS Web presentation

Before the main GLADIS website can be entered, a warning is displayed to not misuse the tool for national and sub-national decision making. This warning is important since some of the data presented show detail far below national level, but the whole concept of GLADIS aims at global assessment. GLADIS can thus not be used as a substitute for national or sub-national assessments. Nevertheless, GLADIS can be used as guideline to identify potential problem areas, and to direct efforts for detailed national and sub-national land degradation assessments.

The map display of GLADIS has been implemented using Mapserver and Openlayer, two widespread and well-tested tools. Map navigation and map query is very fast and should also work with slow internet connections.

The GLADIS web presentation is still in beta stage and some functionality is still missing, e.g. download of data and metadata is currently disabled. For the final version, it would be nice if radar graphs could be printed out or saved to file (preferably jpg or pdf).

The GLADIS website is organized into four different interfaces: Simplified Output, Analysis, Land Use Systems, and Database. The grouping of the links could be improved, e.g. the links to Simplified Output, Analysis, Land Use Systems, and Database should be presented as one group, separated from Help, Download and metadata, Google Earth, Documentation, Credits. Currently, all these links appear in one horizontal line next to each other with the exception of the Database interface.

Recommendations

- The difference between degraded land (Status) and degrading land (Process) needs more emphasis, both on the website and in the GLADIS technical report, here e.g. in section 4.
- Expand “G&S” to “Goods & Services” or “Goods and Services”
- Streamline the nomenclature. Some of the axes and indices have different names in the Technical Report and on the website.
- The window that appears when clicking on a map is partially overlaid by the map navigation tools: move this window a bit away so that it is not overlaid by other elements.
- When radar graphs are produced, the graphs for status and process should be shown together (applies to GLADIS analysis view only).
- Add options to print out radar graphs or save radar graphs to file (preferably jpg or pdf).
- On the GLADIS website in Analysis view, legends could read e.g. “1 Biomass: Status” and “1 Biomass: Process” instead of both times “1 Biomass”. Equivalent for the five other ecosystem goods and services indicators.
- The GLADIS technical report shows maps in geographic projection with a scalebar in kilometers as units, 7,000 kilometers long. This is misleading because a scalebar in kilometers as units can not be produced for a geographic location because the kilometer to geographic degree is latitude-dependent, see Figure 3.

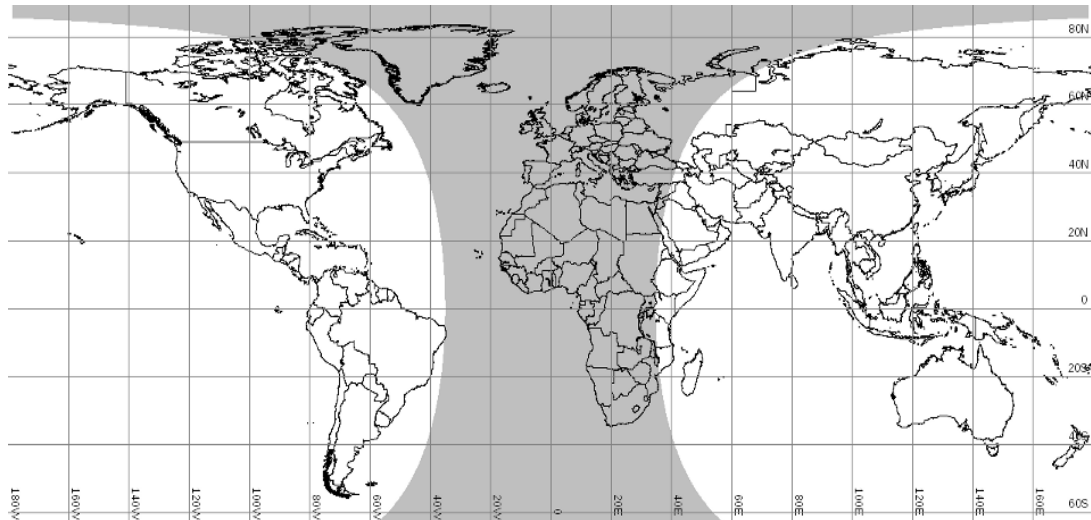


Figure 3 The grey area shows a stripe with a constant horizontal width of 7,000 km in geographic projection.

QM

The “Questionnaire for Mapping Land Degradation and Sustainable Land Management” was changed from an Excel spreadsheet to be filled in to downloadable software for Microsoft Windows which does not require an Internet connection for installation or running the software. At some stage it was discussed whether the QM should be an online form where new records are immediately available to the LADA team. This alternative was abandoned for various reasons, e.g. poor internet connection in some countries, having the possibility of correction and revision before final submission. The software substantially reduces the possibility of typing errors when filling in the questionnaire which makes the integration into a larger database much easier.

The main manual for the questionnaire (independent of whether the Excel-spreadsheet or the software is used) is scheduled to be updated according to user feedback.

Recommendation

The documentation accompanying the software should be revised (content, structure, proof-reading).

Suggestion

Within the software, “Export to Excel” could be changed to “Export to csv” if possible in order to avoid the cumbersome manual conversion of numbers from text to real numbers. Citation from the manual:

“The Export Tool of the QM software converts all data to Excel. Data in Excel are in “text” format (even if they are numbers). By using number as text, certain operations are not possible in GIS, such as prepare a classified legend (text cannot be classified). You will need to convert all Exported Excel data to numbers.

To convert string to numbers you should :

- open the exported files in Excel,
- drag to select the number to be converted from text to number,
- click on the yellow alert icon that will appear in the upper left of the selection,

1	ID_MAP	ID LUS	ID ADMIN	de
2	CUB	1	10	Hj
3	CUBA1	1	12	Cf
4	CUBA1	1	13	Hj
5	CUBA1	1	3	Hj
6	CUBA1	1	5	Hj
7	CUBA1	1	6	Hj
8	CUBA1	1	9	Hj
9	CUBA1	11	10	Cs
10	CUBA1	11	3	W

- click on “Convert to number”.

1	ID_MAP	ID LUS	ID ADMIN	degradati	degr
2	CUB	1	10	Hp	
3	CUB	1	10	Hp	
4	CUB	1	10	Hp	
5	CUB	1	10	Hp	
6	CUB	1	10	Hp	
7	CUB	1	10	Hp	
8	CUB	1	10	Hp	
9	CUB	1	10	Hp	
10	CUB	1	10	Hp	
11	CUB	1	10	Hp	
12	CUB	1	10	Hp	
13	CUBA1	11	9	Cs	Hp
14	CUBA1	13	10	Cs	Hp
15	CUBA1	13	12	Wt	Cn

NOTE: In Excel, you will have to select many cells.

To select a range of cells: click the first cell in the range, and then drag to the last cell, or hold down SHIFT while you press the arrow keys to extend the selection.

To select nonadjacent cells or cell ranges: select the first cell or range of cells, and then hold down CTRL while you select the other cells or ranges. You cannot cancel the selection of a cell or range of cells in a nonadjacent selection without cancelling the entire selection.”

The csv format is readily recognized by Microsoft Excel and numbers are immediately recognized as such. The lengthy procedure described in the manual would be no longer necessary.

National assessment - Land Cover Change

The initial objective was to analyze land cover change based on Landsat imagery for all involved countries. Kenya was selected as pilot country for a first land cover change analysis within the LADA project, but a national land degradation assessment has not been performed for Kenya. The original objective was to test tools and methodologies in this pilot phase and then apply these tools to the LADA countries. The next country for which a land cover change analysis was performed was Senegal, followed later by Tunisia (completed this year). A land cover change analysis might start soon for Cuba (Oct 2010; confirmation from Cuba needed). The tools and methodologies used differed between the three countries Kenya, Senegal, and Tunisia. It is possible that the land cover change analysis for Cuba will not be finished before the end of LADA. Land cover change analysis for Argentina, China, and South Africa will definitely not be available

when LADA will have terminated. This means that outcomes requested by UNCCD will not have been produced.

There are several reasons for the delay in land cover change analysis. One reason is that the FAO GIS unit which develops and continuously improves these tools and methodologies delayed the next analysis until the next new toolset was ready to use. Or phrased differently, the FAO GIS unit preferred to wait a bit longer and then use new methodology instead of using existing (and tested) methodology. It is notable that Kenya and Senegal have not been re-analyzed with the latest tool-chain, which may imply that the quality of the existing results would not be significantly improved by a re-analysis. Another reason for the delay can be attributed to the LADA team who did not insist on using identical (standardized) methodology for land cover change analysis for all LADA countries. Other reasons for the delay are located in the countries, Argentina not willing to perform a land cover change analysis, China in a deadlock of competing competencies, South Africa insisting on its own methodology (South Africa has created its own land cover map from Landsat imagery, referred to as NLC2000, but the status of an updated land cover map and a land cover change analysis remains to be confirmed).

Nevertheless, it is safe to assume that LADA accelerated the development of new and improved tools and methodologies for both land cover mapping and land cover change analysis by the FAO GIS unit which are needed by numerous other projects and programmes. The software used and tested within the LADA scope consists of GeoVis, Mapping Accuracy Program (MAP), and MApping Device–Change Analysis Tool (MAD-CAT). All are available through the software page of the GLCN website. The latest version of the software tool-chain may still not be able to process land cover derived from Landsat imagery for larger countries (Renato Cumani), e.g. China, Argentina, and South Africa may exceed the software limits. The concepts used by this tool-chain are fairly recent albeit not unknown, e.g. image segmentation by object recognition, object based analysis, the combination of raster and vector data in one complex analysis, and vector topology. Implementations of these concepts are computationally expensive and became more common only in recent years with rapid advances in hardware performance. Although several GIS packages include some of these components, the combination in MAD-CAT is innovative and will most probably influence the development of land cover classification tools in other GIS packages.

ANNEX 3

Templates with questionnaire for LADA Self Assessment

Klaus Kellner – Team leader

(Klaus.Kellner@nwu.ac.za and Klaus.Kellner274@gmail.com)

Camillo Risoli - Supporting consultant (risolicamillo@hotmail.com)

Markus Metz - GIS/Remote sensing consultant (Markus.Metz@uni-ulm.de)

The country project coordinators for LADA in each of the 6 participating countries are hereby asked to do a “self assessment” of the LADA project for this terminal evaluation of the project. This self assessment will consist of two templates/questionnaires (A and B) to guide the coordinators and ensure that all partners respond more or less equally. The templates are only guidelines, which mean that each country partner may include other information that is not covered by the questions in the templates. BOTH questionnaires must be answered and send back to Klaus Kellner (Team leader) and (Supporting consultant) by the end of October 2010. (See e-mails above). Some of the questions in the templates may be overlapping, but please answer both.

Camillo will be visiting China and Argentina and Klaus will be visiting Senegal and South Africa during the evaluation. The other two partner countries, Tunisia and Cuba, were visited during the Mid Term evaluation.

Mr Markus Metz will be evaluating all the GIS and remote sensing inputs by the countries, mostly at a global level (GLADA). He will only travel to Rome and visit the HQ of the LADA office at the FAO towards the end of October 2010.

Please do the self assessment report with the supporting template on separate pages in typing (12pt – Arial). The report for Template A has to be in English. Although the answers to the questions in the self assessment can be very long, the country coordinators are asked to be brief and only concentrate on the most important issues. The documents should not exceed 20-25 pages.

Both the templates/questionnaires (A and B) may also be used by the Consultants as guidelines during the visits to the 4 countries mentioned above.

Please provide the name of your country, as well as all the contact details of the country coordinator who completed the questionnaires.

TEMPLATE A

A. Site Description/Baseline information

1. How is land degradation (LD) defined in your country and how does it coincide with the LADA definition?
2. How many LADA sites are in your country?
3. What criteria, variables and approaches (ecological, social and economic) were used to choose the LADA sites in your country?
4. Do the sites include “bright spots” and “hot spots”? Explain.
5. Provide a short description of the LADA study sites with regard to environment (e.g. climate, temperature, soil, geology, etc). Also give the GPS readings for the sites.
6. Describe the land management system at each site – before, during and after the project.
7. Give a short description of the ecosystem goods and services at the chosen sites.
8. How does Land Degradation (LD) influence the people at the sites?
9. What are the nature, extent and impacts of LD on the ecosystems at the sites – spatial and temporal?

B. Methodologies and data assessment

10. What methodologies AND tools were followed and used to assess LD at different scales – qualitative and quantitative? (e.g. transects, remote sensing, size of sites, etc – local, provincial, regional assessment reports, etc).
11. Were the capacities of the executing institutions/organizations ready, effective and equipped to do the site assessment and overall LADA project in your country? Briefly describe.
12. Were the partnership arrangements in your country regarding the LADA project identified and the roles and responsibilities properly negotiated prior to project implementation?
13. Were adequate project management arrangements in place before and during the project?
14. What methodologies and/or tools were used to mitigate LD and establish SLM practices within the LADA framework at the sites?
15. What is the quality of the local assessments and analysis of LD? How is the data verified?
16. To what extent was the DPSIR framework of LADA followed in your country?

C. Publications and documents (including manuals)

17. Do you use the general LADA manual? If yes, to what extent and at what level?
18. Do you have your own, local LADA manual? If yes, how is it used? Please give one of the local manuals to evaluator (hard and/or electronic copy)
19. How clear are the guidelines/manuals developed on the methods, tools and systems for the assessment of dryland degradation?
20. How does your local manual (if available), coincide with the general LADA manual?

21. Does your country have a LADA website? If yes, please provide the address (or links to access it).
22. What material was used to promote LADA at different scales and to different stakeholders? How was this information effectively packaged and distributed? Please explain.
23. Any documents or publications that were produced during the LADA project? Please list and specify.
24. Did the LADA outputs contribute to any databases in your country?
25. Can the LADA outputs be used in any other assessment systems in your country with regard to:
 - a) LADA outputs are kept updated and improved through an effective LADA M&E system in place.
 - b) LADA outputs and outcomes are used for defining environmental / SLM policies (National Plans or Programs, Local plans, etc)
26. How are the LADA outputs validated in your country – local, national, regionally and global?
27. How does the site information gained through the LADA project contribute to GLADIS, especially regarding the 6 ecosystem services provided by GLADIS?

D. Contributions and involvements (country and others) to the LADA project

28. Who “owns” LADA in your country?
29. Who “drives” LADA in your country?
30. What were the country contributions to LADA – “in cash” and “in kind”?
31. What is the involvement of the National GEF focal point in your country in LADA?
32. What is the involvement of the National UNCCD focal point in your country in LADA?
33. Which Governmental institutions and NGO’s were involved in LADA in your country and to what extent? Please explain.
34. Which other international organizations, universities, research centers or other projects are involved as partners? Explain the role of each.
35. Give a short description of how the results and LADA impacts were scaled-up and scaled-out at different levels (local, national, regional and global).

E. Local M&E’s

36. Were any M&E’s carried out at local or national scale during the LADA project? If yes, please specify (when, who and how) and provide the reports to the evaluators.

F. Outputs and outcomes

37. How does the information created from the LADA project contribute to the application of “best practices” for land conservation and policy needs?
38. Do the outcomes of the LADA project promote environmental sustainability in your country (local and national)? Please specify?
39. What incentives were produced for the different stakeholders through the LADA project?
40. Is the LADA project part of any NAP’s for the main UN Conventions in your country? Please specify.

41. Can the LADA outputs contribute to other projects AND in other areas of dryland degradation and mitigation in your country? Please specify.
42. Did the LADA project contribute to other national AND international projects? Explain how and which projects.
43. How was LADA used in training and capacity building initiatives and at what level?
44. Were LADA projects involved in the planning and practical application regarding information systems at national and/or district level?
45. Are there any delays in project outcomes? Explain why and when they will be produced.
46. What follow-up work has been initiated and how will the project outcomes be sustained and enhanced over time?

G. General

47. If LADA would stop now, what effect would it have on LD at the sites? Would the initiatives be able to continue without the aid of the LADA project?
48. Do you think that a holistic approach (socio-economic, physical and biological) was followed during the LADA project? Explain.
49. Do you think that the LADA project is (or was) in line with the national country needs, priorities and policies?
50. Briefly describe what would have happened at local and national scale if the LADA project would not have taken place in your country?
51. Do you think that the LADA project was cost effective in your country, taking all the inputs, time and resources into consideration? Please specify.
52. Do you think that the timeline for the LADA project are effective?
53. Are there any social or political factors that may influence positively or negatively the sustenance of the project outcomes and progress towards impacts?
54. Do you think that the LADA outputs from your country contributed to non-pilot countries and regional organizations (catalytic role)? Explain. Also see below
55. How was the FAO and UNEP “backstopping” to the LADA project in your country?
56. Do you think LADA should continue to a second phase within GEF5? If yes, why?

H. Catalytic role of the LADA project

57. What catalytic role did the LADA project play with regard to:
 - (a) *Incentives* provided (social, economic, market based etc.) to change stakeholder behaviour;
 - (b) Contribution to *institutional changes*, mainly regarding the uptake or mainstreaming of project-promoted innovations in public and private services;
 - (c) Contribution to *policy changes* (on paper and in implementation of policy);
 - (d) Contribution to sustained follow-on financing (*catalytic financing*) from Government or other donors;
 - (e) Creating opportunities for particular individuals or institutions (“*champions*”) to catalyze change (without which the project would not have achieved all of its results).

PLEASE PROVIDE THE FOLLOWING DOCUMENTS

1. Any relevant background documentation related to the LADA project that could help the terminal evaluation.
2. Any progress reports (including financial).
3. Any M&E reports carried out at country level.
4. Other material produced by the project or through the partners involved, in particular the LADA Website, the GLADIS system, presentations, manuals, etc.

TEMPLATE B

LADA CAPACITY BUILDING - QUESTIONNAIRE FOR APPRAISAL

- 1) **LADA Objective n.2** is *“To build national, regional and global assessment capacities to enable the design, planning and implementation of interventions to mitigate land degradation and establish sustainable land use and management practices”*.

Please list, in **ORDER OF RELEVANCE**, at least five (maximum 10) activities **ACTUALLY** implemented in your country contributing to Objective n.2.

N.	ACTIVITY	FREQUENCY (1)						RELEVANCE (2)						
		1	Y	Q	M	W	D	VH	H	MH	ML	L	VL	
1														
2														
3														
4														
5														
6														
7														
8														
9														
10														

(1) **Please TICK AS APPROPRIATE:** 1= realized ONCE (e.g. one regional training course); Y= Yearly (once a year); Q= Quarterly; M=Monthly; W=Weekly; D=Daily

2) **Please TICK AS APPROPRIATE:** VH= Very High, H=High; MH=Moderately High; ML=Moderately Low; L=Low; VL=Very Low

- 1) Can you relate any of the activities listed above with at least one **CONCRETE OUTPUT / PRODUCT** ? In other words: “At the end of this activity we produced.....” Can you also identify to which of the four **LADA OUTCOMES** (n.1, n.2, n.3, n.4) are they contributing to?

N	ACTIVITY	OUTPUT / PRODUCT	OUTCOME
			n.
			n.
			n.

- 2) LADA believes that “*multi-stakeholder participation is an essential requisite*”. Using the following list of **stakeholders**, could you please score their overall **QUALITATIVE contribution to project RESULTS** in a scale from 0 to 6 (0=no contribution; 1=very poor; 2=poor, 3=quite poor; 4= quite good; 5=good: 6=very good, excellent)

STAKEHOLDER / PARTNER	score	STAKEHOLDER / PARTNER	score
Local (District) Authorities		Newspapers	
Ministries Staff at provincial level		Training Centers	
Donors representatives		International NGOs staff	
Small farmers, Rural Cooperatives		Member of the Government	
Adaptive Research Centers		Community Leaders (Chefs de Village)	
Staff of relevant Ministries at central level		National NGOs (Environment, Rural Development, etc)	
Medium-Large Farmers		Provincial Authorities	
University Professors & Researchers		Local Entrepreneurs	
Mining and Industries entrepreneurs		Radio and TV	
Extensionists, Rural Extension		Protected Areas (Reserves, Parks, etc)	
Women Groups		UN agencies staff	
Members of Municipality Councils		Universities	
Journalists		Development Practitioners	
Tourism operators		Members of Parliament	
Local Associations and Groups		OTHER: (specify)	

2.1) Has LADA project established a formal Steering Committee in your country? (Yes or No)_____

2.2) In your country has the Project organized any group of stakeholders for purpose of project monitoring? If yes, at what level? With whom? Please elaborate on:

3) Please list here below:

- in the first column the main **performance indicators** that the **Project is currently using** to assess and demonstrate the achievements of outcomes and objectives related to Capacity Building & Dissemination at different levels;
- In the second column the **current rate of achievement** (100%=Fully Achieved)

INDICATORS	RATE OF ACHIEVEMENT (%)
1)	
2)	
3)	
4)	
5)	
6)	
7)	
8)	
9)	
10)	
11)	
12)	

4) Taking into account the **DPSIR** framework, do you have any **evidence-based** example of “response” induced by the Project? If yes, please elaborate on:

5) All comments on any of the above issues, on the evaluation exercise and on the validity of the questionnaire itself are very welcome (the questionnaire is obviously confidential):

6) COUNTRY _____ date _____

7) NAME & INSTITUTION _____

ANNEX 4

List of persons interviewed by Team Leader

Apart from the people that took part in the discussions during the field visits and LADA meetings and workshops (Wageningen and Rome), interviews were held with some core members of the LADA management team in Rome (6-9 December 2010) and LADA Coordinators at the meeting in Wageningen (12-14 September 2010). Interviews were held with the following persons:

- Liesl Stronkhorst and Lehman Lindeque, Coordinators of the South Africa LADA Team
- Hedi Hamrouni, Coordinator of the Tunisia LADA Team
- Nery Urquiza, Coordinator of the Cuba LADA Team
- Yang Weixi, Coordinator of the China LADA Team
- Maria Laura Corso and Vanina Pietragalla, of the Argentina LADA Team
- Freddy Nachtergaele (Coordinator: LADA)
- Riccardo Biancalani (Technical Officer: LADA. FAO Land and Water Division)
- Sally Bunning (Technical Officer: LADA. FAO Land and Water Division)
- Stefan Schlingloff (LADA Budget and Technical officer)
- Dominique Lantieri (Coordinator: LADA and LADA 2)
- Interviews with local land users during the mission to Senegal local LADA sites in October 2010
- Interviews with local land users during the mission to South African local LADA sites in Kwazulu Natal (commercial and communal) during January 2011
- Discussions were also held with Mr Steve Twomlow of UNEP and Me Tullia Aiazzi, Senior Evaluation Officer of the FAO

ANNEX 5

Missions by Evaluation Team members (Calendars and Activities)

1. Team Leader: Prof. Klaus Kellner (12 September 2010 – 16 January 2011)

Date	Location	Activity
12 – 15 September 2010 (4 days)	Wageningen, Netherlands	Return travel (2 days) to Wageningen and attend International workshop on LADA methodology (13 – 14 September 2010)
12 - 13 October 2010 (2 days)	Pretoria, South Africa	Attend LADA Final National Workshop of South Africa
13 October 2010 (1 day)	Potchefstroom, South Africa	Desk review
14 – 19 October 2010 (6 days)	Senegal	<p>Return travel (2 days) from South Africa to Senegal and visit LADA sites. Meet with LADA National Coordinator, Mr Dethie Soumare of CSE and follow program as organised. Places visited and discussions with extension officers, farmers and managers held include: Kebemer; Lompoul, Konkh; Louga; Gabar and Dakar.</p> <p><u>Details:</u></p> <p>1. On 15 October travel Kebemer and hold discussions with Departmental officials: Chief Dame Diop (Chief of the Dept Services of Agriculture), Commandant Mouhamadare Fall (National Directorate of Forestry) and local level extension officer (“Chef de Triaje”) – responsible for resource development in Lompoul area, Paul Walyndiaye. Interview local land users.</p> <p>2. On 16 October travel to Khonkh Yoye and Lompour and have discussions with “Cheikh Sarr” and “Modou Sarr”</p> <p>3. On 17 October, travel to Gabar and visit local land users and the micro-irrigation system of “Code Faye”, and meet with the Chief of the district services for Dept of Agricult at Louga : Ndiaye Amadou Methiour</p> <p>4. On 18 October – Discussions with LADA Task force and feedback</p>
1 November 2010 (1 day)	Pretoria, South Africa	Meet with LADA management team at the ARC-ISCW in Pretoria.
November (5 days)	Potchefstroom, South Africa	Continuation of desk review and studying reports and information. Compilation of notes for first report back in Rome

5-10 December 2010 (6 days)	Rome, Italy	Return travel (2 days) to Rome to attend LADA final workshop (6 - 8 December 2010), present preliminary findings and hold interviews with LADA team members (9 December 2010)
2 January 2010 (1 day)	Potchefstroom, South Africa	Desk review of reports, website and other information
3 – 6 January 2011 (4 days)	Pretoria and Kwazulu Natal, South Africa	Travel to Pretoria and field visit to local sites in Kwazulu Natal Province (Potshini and Situlwane assessment sites in the Emmanaus communal managed assessment area) and the Gourton and Gums commercial managed assessment areas) as organised by Ms Liesl Stronkhorst of the LADA team in South Africa. Meet with farmers and interviews with stakeholders at study sites.
7 – 9 January 2011 (3 days)	Potchefstroom, South Africa	Desk review of reports, website and other information
10 – 16 January 2011 (7 days)	Potchefstroom, South Africa	Writing draft report for LADA terminal evaluation

2. Supporting Consultant: Mr Camillo Risoli (1 October – 14 December 2010)

Dates	Activities
1 - 15 October 2010	<p><u>Desk review</u> of relevant documentation relative to the six pilot countries and to project documents, namely:</p> <ul style="list-style-type: none"> •Background documentation •The Project Document and all its annexes, UNEP/GEF PIR (Project Implementation Report), the Mid-Term Evaluation (MTE) Report •The country reports (project reports, training reports) available on the LADA websites (FAO and national web sites); •All the reports (more than 20) of the Local Assessments implemented in the pilot countries; •The LADA Local Level Assessment Manual
16 - 27 October 2010	<p><u>Mission to China</u> :</p> <ul style="list-style-type: none"> •16-17/10 Travel to Beijing •18/10: Briefing with the LADA Country team (Mr. Yang Weixi – LADA Director, Mr. Wang Guosheng, resp. Monitoring, Ms. Jia Xiaoxia, LADA coordinator); •18/10: meeting with Mr. Zhang Kebin (Beijing Forestry Univ. / National training Center UNCCD, LADA-L team leader), •18/10: meeting with Mr. Tian Yougou (Nat. Extension Service, LADA-L team leader) •19-21/10 : visit to the pilot-site of Wulan Aodou (Inner Mongolia); meetings with Mr. Li Xuehua (Inst. of Applied Ecology, LADA-L team leader) and all members of LADA-L team (Institute of Applied Ecology – Shenyang); visit to households and meetings with a group of local farmers. •21/10 : Return to Beijing

	<ul style="list-style-type: none"> •22-24/10: visit to the pilot-site of Minquin (Gansu province); visit to County Governor; meeting with Mr. Xu Xianying and Mr Wei Huaidong (Gansu Desert Control Research Inst.); meeting with local farmers. •25/10: return to Beijing, preparation of be-briefing notes and PPP •26/10: Final meeting and PPP (Power Point Presentation) with the LADA country team •27/10: Departure from Beijing
1 - 15 November 2010	Continuation of <u>Desk Review</u> of documents, preparation of <u>draft notes for reporting</u>
16 - 26 November 2010	<u>Mission to Argentina:</u> <ul style="list-style-type: none"> • 16/11: flight to B. Aires • 17/11: arrival to Bariloche, visit to the INTA (National Institute of Agr. Technology) Office of Bariloche, meeting with INTA Bariloche Director, meeting with LADA local team coordinator (Mr Donald Bran) and team members; • 18-20/11: visit to the INTA/LADA pilot-site of Ing. Jacobacci (Patagonia), meetings with Local Stakeholders (local INTA office, Min. of agriculture, Provincial Agric. Programme, local farmers) • 21/11: return B. Aires • 22/11: preparation of PPP for final meeting • 23-24/11: participation to the final LADA national workshop in San Miguel del Monte (with a Power Point Presentation); meeting with FAO national programme officer; meetings with LADA national team and several LADA local team members. • 25/11: participation to the open final presentation of LADA project at the Nat. Secr. For Environment in Buenos Aires • 26/11: Departure from B. Aires
6 - 8 December 2010	Participation to the <u>LADA Final workshop at FAO / Rome</u> ; meetings with other evaluation team members
9 - 14 December 2010	<u>Drafting of the Final Report</u>

3. GIS/web portal expert: Mr Markus Metz (17 – 23 October 2010)

Sunday 17/10/10			
19:00	M. Metz arrival in Rome		Fiumicino Airport
Monday 18/10/10			
10:00 – 11:00	LADA presentation	F. Nachtergaele, R. Biancalani, S. Schlingloff	FAO
11:00 – 12:00	Briefing with evaluation	A. Guerraggio (OEDD)	FAO

	officer		
14:00 – 16:00	Meeting on GLADIS and GIS	M. Petri, F. Nachtergaele, R. Biancalani	FAO
Tuesday 19/10/10			
10:00 – 11:00	Meeting on LADA Web and documentation	I. Verbeke, R. Biancalani	FAO
14:00 – 16:00	Meeting on remote sensing and land cover change	J. Latham and team, R. Biancalani	FAO
Wednesday 20/10/10			
09:30 – 11:00	Meeting on remote sensing and GLADA	R. Biancalani, M. Petri	FAO
14:00 – 16:00	Wrap-up outstanding issues	F. Nachtergaele, LADA team	FAO
Thursday 21/10/10			
09:30 – 10:30	Debriefing with evaluation officer	A. Guerraggio	FAO
10:30 – 12:00	Report writing		FAO
13:00 – 18:00	Report writing		FAO
Friday 22/10/10			
9:00 – 12:00	Report writing		FAO
13:00 – 18:00	Report writing		FAO
Saturday 23/10/10			
9:35	M. Metz departure		Fiumicino Airport

The time outside meetings was used to review additional documentation received at FAO and write on the evaluation report. Furthermore, during this week the LADA team was available outside scheduled meetings for any further questions.

ANNEX 6

Selected bibliography of LADA-related publications

“LADA DRYLANDS” leads to 459 citations in GOOGLE SCHOLAR

Please note that internal publications by project partners are not always included. Also note that links may point to journals that are available only upon subscription.

A. Referenced articles written by LADA team or by other groups working with part of LADA method (excluding FAO and LADA publications) or articles using LADA data, or articles using LADA nomenclatures explicitly (even not using data)

1. R. Armas, M. Caetano, H. Carrão, A. Soares, M.J. Pereira, A. Gutierrez, A. Rocha, G. Pace, C. Zucca, G. Del Barrio, M. Paganini, 2010. EARTH OBSERVATION FROM SPACE TO SUPPORT THE UNCCD: THE DESERTWATCH EXTENSION PROJECT. European Space Agency Living Planet Symposium 2010, 28 June to 2 July 2010.
http://www.igeo.pt/gdr/pdf/Armas2010_ESA.pdf
2. Z. G. Bai, D. L. Dent, L. Olsson & M. E. Schaepman, 2008. Proxy global assessment of land degradation. *Soil Use and Management*, 24, 223–234
<http://onlinelibrary.wiley.com/doi/10.1111/j.1475-2743.2008.00169.x/full>
3. Beck J, Sieber A (2010) Is the Spatial Distribution of Mankind’s Most Basic Economic Traits Determined by Climate and Soil Alone? *PLoS ONE* 5(5): e10416. doi:10.1371/journal.pone.0010416
4. D.L. Dent and Z.G. Bai, 2008. Assessment of Land Degradation Using NASA GIMMS: A Case Study in Kenya. *Digital Soil Mapping with Limited Data, Part III*, 247-258.
<http://www.springerlink.com/content/r77112282858nj74/>
5. de Jong, R., de Bruin, S., de Wit, A., Schaepman, M.E., Dent, D.L., 2010. Analysis of monotonic greening and browning trends from global NDVI time-series. *Rem. Sens. of Env.* doi:10.1016/j.rse.2010.10.011
6. Freddy O. Nachtergaele, Monica Petri and Riccardo Biancalani, 2011. Land Degradation. Accepted in *Advances in Soil Sciences*, Taylor and Francis.
7. Freddy O. F. Nachtergaele and Clemencia Licona-Manzur, 2009. The Land Degradation Assessment in Drylands (LADA) Project: Reflections on Indicators for Land Degradation Assessment. *The Future of Drylands* 5, 327-348. <http://www.springerlink.com/content/h666115wwlp57371/>
8. B.G.J.S. Sonneveld and D.L. Dent, How good is GLASOD? 2009. *Journal of Environmental Management*. Volume 90, Issue 1, January 2009, Pages 274-283
http://www.sciencedirect.com/science?_ob=MIimg&_imagekey=B6WJ7-4RD44F6-1-1&_cdi=6871&_user=6718006&_pii=S0301479707003441&_origin=search&_coverDate=01%2F31%2F2009&_sk=999099998&_view=c&_wchp=dGLzVlz-zSkzk&_md5=6794814aa429986b2406cff78fc62442&_ie=/sdarticle.pdf
9. STOCKING, M. 2008. Developing a Global Strategy to Combat Land Degradation and Promote Sustainable Land Management. Paper to the International Conference on Integrated Ecosystem Approaches and Applications, Beijing, 6-7 November. Invited presentation.
http://www.uea.ac.uk/polopoly_fs/1.101016!stocking%20-%20iem%20paper%20beijing%20nov-08.pdf

10. Anna Tengberg and Svanhild-Isabelle Batta Torheim, 2007. The Role of Land Degradation in the Agriculture and Environment Nexus. *Climate and Land Degradation*
11. Environmental Science and Engineering, 2007, 267-283
<http://www.springerlink.com/content/r5j8n16g14902nh3/>
12. K. J. Wessels, 2009. Comments on 'Proxy global assessment of land degradation' by Bai et al. (2008). *Soil Use and Management*, March 2009, 25, 91–92
http://researchspace.csir.co.za/dspace/bitstream/10204/3267/1/Wessels_2009.pdf
13. Wessels, KJ, Pretorius, DJ and Prince, SD. 2008. Reality of rangeland degradation mapping with remote sensing: the South African experience. 14th Australasian Remote Sensing and Photogrammetry Conference, Darwin, Australia, 29 September - 3 October 2008, pp 7
http://researchspace.csir.co.za/dspace/handle/10204/3266?mode=simple&submit_simple=Show+simple+item+record
14. K.J. Wessels , S.D. Prince, I. Reshef, 2008. Mapping land degradation by comparison of vegetation production to spatially derived estimates of potential production. *Journal of Arid Environments* Volume 72, Issue 10, October 2008, Pages 1940-1949
15. Schwilch, G., Bestelmeyer, B., Bunning, S., Critchley, W., Herrick, J., Kellner, K., Liniger, H., Nachtergaele, F., Ritsema, C., Schuster, B., Tabo, R., van Lynden, G. and Winslow, M. , Experiences in monitoring and assessment of sustainable land management. *Land Degradation & Development*, n/a. doi: 10.1002/ldr.1040

B. Articles by scientific/technical groups (not referenced)

1. Colombo V., Zucca C., Enne G., 2006. Indicatori di desertificazione: approccio integrato e supporto alla decisioni. Nucleo di Ricerca sulla Desertificazione, Università degli Studi di Sassari. ENEA, Roma
http://eprints.uniss.it/2569/1/Colombo_V_Articolo_2006_Indicatori.pdf
2. Anantha Kumar Duraiappah and Asmita Bhardwaj, 2007. Measuring Policy Coherence among the MEAs and MDGs. International Institute for Sustainable Development <http://www.environmentalmanager.org/wp-content/uploads/2008/01/measuring-policy-and-coherence-among-the-meas-and-mdgs.pdf>
3. P.J. Gerber and H. Steinfeld, 2008. Worldwide growth of animal production and environmental
4. Consequences. RAMIRAN (Research Network on Recycling of Agricultural and Industrial Residues in Agriculture) http://www.ramiran.net/doc08/RAMIRAN_2008/Gerber.pdf
5. Johnson P.M., K. Mayrand, Paquin, M., 2006. The united nation convention to combat desertification in global sustainable development governance. In: *Governing Global Desertification: Linking Environmental Degradation, Poverty And Participation* (Johnson P.M., K. Mayrand, Paquin, M. eds.). The Global Environmental Governance Series, Canadian International Development Agency. http://books.google.com/books?hl=en&lr=&id=da6vhzHEpf0C&oi=fnd&pg=PA1&dq=lada+dryland&ots=8ACEcFmpaa&sig=umW50F4gKDIOdukH5Pt_jazWHnk#v=onepage&q=lada%20&f=false
6. Batjes NH 2010. Soil property estimates for Tunisia derived from SOTER and WISE (SOTWIS-Tunisia, ver. 1.0). Report 2010/01, ISRIC – World Soil Information, Wageningen (41p. with data set)
7. Fritz J. Hani, László Pintér, Hans R. Herren, IISD, 2007. Sustainable Agriculture: From Common Principles to Common Practice. International Institute for Sustainable Development (IISD), Manitoba, Canada
8. http://www.google.com/url?sa=t&source=web&cd=1&sqi=2&ved=0CB4QFjAA&url=http%3A%2F%2Fwww.iisd.org%2Fpublications%2Fpub.aspx%3Fpno%3D915&rct=j&q=sustainable%20agriculture%20from%20common%20principles%20to%20comm&ei=Q6UQTfKKMcmwhAemsOyaBQ&usg=AFQjCNHa0dj6RejIbDRM5dbRpxzdQd_Rw&cad=rja
9. IAN HANNAM, BEN BOER, 2004. DRAFTING LEGISLATION FOR SUSTAINABLE SOILS: A GUIDE INTERNATIONAL UNION FOR CONSERVATION OF NATURE AND NATURAL RESOURCES, GLAND, SWITZERLAND AND CAMBRIDGE, UK. X + 100PP <HTTP://DATA.IUCN.ORG/DBTW-WPD/EDOCS/EPLP-052.PDF>
10. R. Hiederer, F. Ramos, C. Capitani, R. Koeble, V. Blujdea, O. Gomez, D. Mulligan and L. Marelli, 2010. Biofuels: a New Methodology to Estimate GHG Emissions from Global Land Use Change. A methodology involving spatial allocation of agricultural land demand and estimation of CO₂ and N₂O emissions. JRC Scientific and technical reports.

http://eusoiils.jrc.ec.europa.eu/esdb_archive/eusoiils_docs/other/EUR24483.pdf

11. Hurni H, Giger M, and Meyer K (eds). 2006: Soils on the global agenda. Developing international mechanisms for sustainable land management. Prepared with the support of an international group of specialists of the IASUS Working Group of the International Union of Soil Sciences (IUSS). Centre for Development and Environment, Bern, 64 pp.
http://www.cde.unibe.ch/CDE/pdf/Soils_on_the_Global_Agenda.pdf
12. Olson, J.M.; Misana, S.; Campbell, D.J.; Mbonile, M.; Mugisha, S. 2004. A research framework to identify the root causes of land use change leading to land degradation and changing biodiversity. LUCID Working Paper, no. 48. Nairobi (Kenya): ILRI
http://mahider.ilri.org:8080/jspui/bitstream/10568/2070/1/Lucid_wp48.pdf
13. Vargas R, Omuto CT, Njeru L. 2007. Land degradation assessment of a selected study area in Somaliland: The application of the LADA-WOCAT approach. Project Report L-10. FAO-SWALIM. Nairobi, Kenya.
http://www.faoswalim.org/ftp/Land_Reports/Cleared/L-10%20Land%20Degradation%20Assessment%20of%20a%20Selected%20Study%20Area%20in%20Somaliland.pdf

C. Scientific conferences papers

1. C. Licona Manzur, F. Nachtergaele, S. Bunning, and P. Koohafkan . 2004. The Land Dcgradation Assessment in Drylands (LADA): An example of the Application of the Integrated Ecosystem Management Approach. In: Workshop proceedings (P. Zdruli and G. Trisorio Liuzzi (Eds) "Promoting participatory management of the land and systems to enhance soil conservation" Alexandria, Egypt 9-13 October 2004. Number 3. 390pp. MEDCOASTLAL\O series of publications. CIHEAM-IAM Bari, Italy. ISBN 2-X5352-324-1
2. F. O. Nachtergaele, M. Petri and R. Biancalani, 2010. Global land degradation assessment (LADA). Conference on "Advanced Scientific Tools for Desertification Policy" Rome, 28-29 Sept., 2010
http://desurvey.enea.it/materiali/LADA_GLADIS.pdf
- 3.
4. Freddy Nachtergaele, Riccardo Biancalani, Sally Bunning and Hubert George, 2010. Land Degradation Assessment: the LADA approach. 19th World Congress of Soil Science, Soil Solutions for a Changing World. 1 – 6 August 2010, Brisbane, Australia.
<http://www.iuss.org/19th%20WCSS/symposium/pdf/1730.pdf>
5. Schweers W, Fritsche U, Lucas M, Jiang Tong, Scanlon A, Qin Zhihao, Li Wenmei, Ye Ke, Li Zifu, Huba E, Mang HP, Jie Jiancheng, Gemmer M, Vaucel L. Assessing the Potential of Energy Crop Production in China by Remote Sensing. ERSEC International Conference Proceeding. Sustainable Land Use and Ecosystem Conservation, 4-7 May 2009 Beijing China
<http://www.valwood.uni-freiburg.de/Downloads/185730m.pdf#page=199>
6. Sombroek, W. 2003. From GLASOD to LADA: successive efforts to quantify land degradation. 3rd International Conference on Land Degradation and Meeting of the IUSS Subcommission C - Soil and Water Conservation, Rio de Janeiro, Brazil, 17-21 September 2001.

7. Kate Trumper, Corinna Ravilious and Barney Dickson, 2008. Carbon in Drylands: Desertification, Climate Change and Carbon Finance. A UNEP-UNDP-UNCCD Technical Note for Discussions at CRIC 7, Istanbul, Turkey - 03-14 November, 2008
<http://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.154.7735&rep=rep1&type=pdf>

8. Kirsten Wiegmann, Klaus J. Henning, Uwe R. Fritsche, 2008. Degraded Land and Sustainable Bioenergy Feedstock Production Issue Paper at the Joint International Workshop on High Nature Value Criteria and Potential for Sustainable Use of Degraded Lands, Paris, June 30-July 1, 2008. Öko-Institut, Darmstadt Office
<http://www.unepie.org/energy/activities/mapping/pdf/degraded.pdf>

9. R. Biancalani, FAO-LADA Team (2007) – Land Degradation Assessment in Drylands, in C. King, H. Bigas & Z. Adeel (Eds), Desertification and the International Policy Imperative – Proceedings of a Joint International Conference, Algiers, UNU

D. References papers or books citing LADA (NOT PUBLICATIONS FROM LADA)

1. Zafar Adeel, 2009. Findings of the Global Desertification Assessment by the Millennium Ecosystem Assessment – A Perspective for Better Managing Scientific Knowledge. Chapter I The Future of Drylands, 10, 677-685. <http://www.springerlink.com/content/w51x322258800627/>
2. Dar WD, Bantilan MCS, Anand Babu P, Anupama KV, Deepthi H and Padmaja R. 2007. Dryland Agriculture in Asia: Ideas, Paradigms, and Policies. In Reasserting the rural development agenda-lessons learned and emerging challenges in Asia (Balisacan AM and Fuwa N., eds.). Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA), Laguna, Philippines and Institute of Southeast Asian Studies (ISEAS), Pasir Panjang, Singapore. http://books.google.com/books?hl=en&lr=&id=FOrHRmnbVpwC&oi=fnd&pg=PA191&dq=lada+drylands&ots=sM1ZwNt2Ee&sig=pHO0iUo9iDsW1b18YcoZab_XIKQ#v=snippet&q=lada%20drylands&f=false
3. G. Del Barrio, J. Puigdefabregas, M.E. Sanjuan, M. Stellmes, & A. Ruiz 2010: Assessment and monitoring of land condition in the Iberian Peninsula, 1989-2000. Remote Sensing of Environment, 114 (8), 1817-1832, doi:10.1016/j.rse.2010.03.009. http://www.sciencedirect.com/science?_ob=MIimg&_imagekey=B6V6V-5003BYX-1N&_cdi=5824&_user=6718006&_pii=S0034425710000970&_origin=search&_coverDate=08%2F16%2F2010&_sk=998859991&_view=c&_wchp=dGLzVtz-zSkWA&md5=2911c941d0633f6a73097ea067868dd7&ie=/sdarticle.pdf
4. Bellone, T., P. Boccoardo and F. Perez, 2009. Investigation of Vegetation Dynamics using Long-Term Normalized Difference Vegetation Index Time-Series. Am. J. Environ. Sci., 5: 461-467. DOI: [10.3844/ajessp.2009.461.467](http://www.thescipub.com/abstract/10.3844/ajessp.2009.461.467) URL: <http://www.thescipub.com/abstract/10.3844/ajessp.2009.461.467>
5. GAD, I. LOTFY, 2008. USE OF REMOTE SENSING AND GIS IN MAPPING THE ENVIRONMENTAL SENSITIVITY AREAS FOR DESERTIFICATION OF EGYPTIAN TERRITORY. EARTH DISCUSSIONS 3, 2 (2008) 41-85 [HTTP://HAL.ARCHIVES-OUVERTES.FR/HAL-00298259/](http://HAL.ARCHIVES-OUVERTES.FR/HAL-00298259/)
6. GEIST H (ED) (2006) OUR EARTH'S CHANGING LAND: AN ENCYCLOPEDIA OF LAND-USE AND LAND-COVER CHANGE. 2 VOLUMES. GREENWOOD: WESTPORT, CT, LONDON. [HTTP://BOOKS.GOOGLE.COM/BOOKS?HL=EN&LR=&ID=JXWPDTA9Z6IC&OI=FND&PG=PR7&DQ=LADA+DRYLANDS&OTS=VARIYQTGAA&SIG=2W9ZK4FDHRWVOT46QYSUK_LZGPO#V=ONEPAGE&Q=LADA%20&F=FALSE](http://books.google.com/books?hl=en&lr=&id=JXWPDTA9Z6IC&oi=fnd&pg=PR7&dq=LADA+DRYLANDS&ots=VARIYQTGAA&sig=2W9ZK4FDHRWVOT46QYSUK_LZGPO#v=ONEPAGE&q=LADA%20&f=false)
7. GEIST H., 2005. THE CAUSES AND PROGRESSION OF DESERTIFICATION. 262PP. ASHGATE PUBLISHER, ENGLAND [HTTP://BOOKS.GOOGLE.COM/BOOKS?HL=EN&LR=&ID=ACBWDYNLU3CC&OI=FND&PG=PR7&DQ=LADA+DRYLANDS&OTS=5JNZMC4GY_&SIG=ABVN3GTMMPLJT68PI2KWLM9XCFS#V=ONEPAGE&Q=LADA%20&F=FALSE](http://books.google.com/books?hl=en&lr=&id=ACBWDYNLU3CC&oi=fnd&pg=PR7&dq=LADA+DRYLANDS&ots=5JNZMC4GY_&sig=ABVN3GTMMPLJT68PI2KWLM9XCFS#v=ONEPAGE&q=LADA%20&f=false)
8. Le Gouée, P.; Delahaye, D.; Bermond, M.; Marie, M.; Douvinet, J.; Viel, V. 2010. SCALES: a large-scale assessment model of soil erosion hazard in Basse-Normandie (northern-western France). Earth Surface Processes and Landforms, vol. 35, issue 8, pp. 887-901.
9. DOI: [10.1002/esp.1942](http://onlinelibrary.wiley.com/doi/10.1002/esp.1942) <http://onlinelibrary.wiley.com/doi/10.1002/esp.1942/pdf>
10. A GRAINGER, 2009. The role of science in implementing international environmental agreements: the case of desertification. Land Degrad. Develop. 20: 410-430 (2009) <http://onlinelibrary.wiley.com/doi/10.1002/ldr.898/pdf>
11. Jeffrey E Herrick, Veronica C Lessard, Kenneth E Spaeth, Patrick L Shaver, Robert S Dayton, David A Pyke, Leonard Jolley, and J Jeffery Goebel. 2010. National ecosystem assessments supported by scientific and local knowledge. *Frontiers in Ecology and the Environment* 8: 403-408. doi:10.1890/100017 <http://www.esajournals.org/doi/abs/10.1890/100017?journalCode=fron>
12. C. A. Kessler and L. Stroosnijder, 2006. Land degradation assessment by farmers in bolivian mountain valleys. Land Degrad. Develop. 17: 235-248 <http://onlinelibrary.wiley.com/doi/10.1002/ldr.699/pdf>
13. Lestrelin, G. & Giordano, M. 2007. Upland development policy, livelihood change and land degradation: interactions from a Laotian village. *Land Degradation and Development*, 18: 55-76. <http://onlinelibrary.wiley.com/doi/10.1002/ldr.756/pdf>

14. Liniger, Hanspeter; van Lynden, Godert, 2005 **Building up and sharing knowledge for better decision making on soil and water conservation in a changing mountain environment - the WOCAT experience**
In: Renewable natural resources management for mountain regions 103-114 Publisher: Hill Side Press
http://74.125.155.132/scholar?q=cache:DDiJw482DTcJ:scholar.google.com/+lada+drylands&hl=en&as_sdt=2000&as_ylo=2004
15. Lisa Lobry de Bruyn (2009), Reasons, means and consequences: monitoring soil condition for 'the proper use of land, in Professor Cheryl Lehman (ed.) *Extending Schumacher's Concept of Total Accounting and Accountability into the 21st Century (Advances in Public Interest Accounting, Volume 14)*, Emerald Group Publishing Limited, pp.261-294
<http://www.emeraldinsight.com/books.htm?chapterid=1780792&show=abstract>
16. Paassen, A. van; Roetter, R.P.; Keulen, H. van; Hoanh, C.T. 2007. Can computer models stimulate learning about sustainable land use? Experience with LUPAS in the humid (sub-)tropics of Asia. *Agricultural Systems* 94 (2007)3. - ISSN 0308-521X - p. 874 - 887.
http://www.sciencedirect.com/science?_ob=ArticleURL&_udi=B6T3W-4MSY8PC-6&_user=6718006&_coverDate=06%2F30%2F2007&_rdoc=1&_fmt=high&_orig=search&_origin=search&_ort=d&_docanchor=&_view=c&_searchStrId=1585689133&_rerunOrigin=scholar.google&_acct=C00005286&_version=1&_urlVersion=0&_userid=6718006&md5=20a45d388cf96394b969d35bd9a23d85&searchtype=a
17. Perez, C., Neely, C., Roncoli, C., Steiner, J.L. 2006. Can carbon sequestration markets benefit low-income producers in semi-arid Africa? Potentials and challenges. *Agricultural Systems*. 94(1):2-12.
<http://www.springerlink.com/content/v4065228g4318851/fulltext.pdf>
18. Rasmus Fensholt and Kjeld Rasmussen. Analysis of trends in the Sahelian 'rain-use efficiency' using GIMMS NDVI, RFE and GPCP rainfall data. *Remote Sensing of Environment*, November 2010.
http://www.sciencedirect.com/science?_ob=MImg&_imagekey=B6V6V-51D5RP4-2-1D&_cdi=5824&_user=6718006&_pii=S0034425710002877&_origin=search&_coverDate=11%2F05%2F2010&_sk=999999999&_view=c&_wchp=dGLbVtb-zSkWA&md5=c0f41b9eb6e1d2388c49a2cf2fc2a418&ie=/sdarticle.pdf
19. Rey, E. Pegoraro, C. Oyonarte, A. Were, P. Escribano, J. Raimundo, 2010. Impact of land degradation on soil respiration in a steppe (*Stipa tenacissima* L.) semi-arid ecosystem in the SE of Spain In Press, Corrected Proof, *Soil Biology and Biochemistry* doi:10.1016/j.soilbio.2010.11.007
http://www.sciencedirect.com/science?_ob=MImg&_imagekey=B6TC7-51J1RVK-2-H&_cdi=5163&_user=6718006&_pii=S003807171000427X&_origin=search&_coverDate=11%2F23%2F2010&_sk=999999999&_view=c&_wchp=dGLzVlb-zSkzk&md5=acab564f7907d0b240b85e7e2b8a076e&ie=/sdarticle.pdf
20. Jose´ M. Rey Benayas, Ana Martins, Jose´ M. Nicolau and Jennifer J. Schulz, 2007. Abandonment of agricultural land: an overview of drivers and consequences. *CAB Reviews: Perspectives in Agriculture, Veterinary Science, Nutrition and Natural Resources* 2007 2, No. 057
http://www2.uah.es/josemrey/Reprints/RevBenayasetal_Landabandonment_Perspectives_07.pdf
21. G. Schwilch, F. Bachmann and H.P. Liniger, 2009. Appraising and selecting conservation measures to mitigate desertification and land degradation based on stakeholder participation and global best practices. *Land Degrad. Develop.* 20: 308–326.
<http://onlinelibrary.wiley.com/doi/10.1002/ldr.920/pdf>
22. HOLLY STRAND, PETER LEIMGRUBER, THOMAS MUELLER, 2007. CHAPTER 5. TRENDS IN SELECTED BIOMES, HABITATS, AND ECOSYSTEMS: DRY AND SUB-HUMID LANDS. CONVENTION ON BIOLOGICAL DIVERSITY TECHNICAL SERIES NO.32
<HTTP://WWW.CBD.INT/TS32/TS32-CHAP-5.SHTML>
23. Paul L. G. Vlek, Quang Bao Le, Lulseged Tamene, 2008. Land decline in Land-Rich Africa
24. A creeping disaster in the making. CGIAR Science council and ZEFF Boon.
http://www.sciencecouncil.cgiar.org/fileadmin/user_upload/sciencecouncil/SC_9_Meeting/Land_degradation_complete.pdf
25. Bettina Wolfgramm, Bruno Seiler, Mathias Kneubühler, Hanspeter Liniger, 2007. Spatial assessment of erosion and its impact on soil fertility in the tajik foothills. *European Association of Remote Sensing Laboratories EARSeL eProceedings* 6, 1/2007
http://www.eproceedings.org/static/vol06_1/06_1_wolfgramm1.pdf

26. P. Zdruli, P. Steduto, C. Bogliotti, 2006. Fostering networking and exchange of information
27. In the Mediterranean region: The MEDCOASTLAND Thematic Network. In: *Desertification in the Mediterranean Region : a Security Issue* (W. G. Kepner, J. L. Rubio, D. A. Mouat, F. Pedrazzini, eds), 400 pp. Springer, Netherlands.
<http://www.springerlink.com/content/15q25uk2m0u70105/fulltext.pdf>
28. Costantini, E. A. C., Urbano, F., Aramini, G., Barbetti, R., Bellino, F., Bocci, M., Bonati, G., Fais, A., L'Abate, G., Loj, G., Magini, S., Napoli, R., Nino, P., Paolanti, M., Perciabosco, M. and Tascone, F. (2009), Rationale and methods for compiling an atlas of desertification in Italy. *Land Degradation & Development*, 20: 261–276. doi: 10.1002/ldr.908

ANNEX 7

Schedule of LADA meetings : 2006 - 2010

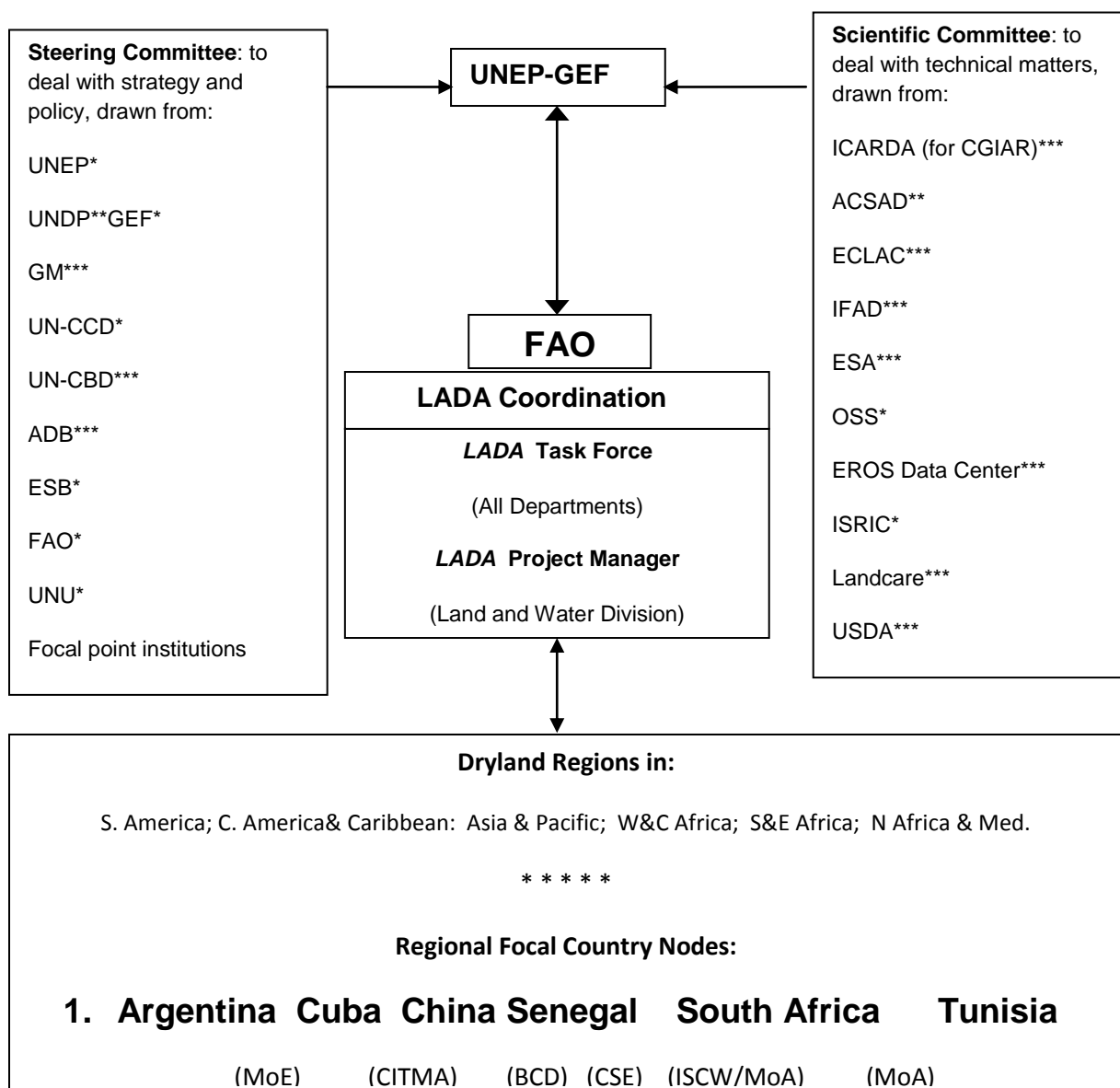
2006	
Panama, 16-23/07/06	Latin American and Caribbean Regional Conference of Parties of the UNCCD
Tunis. 18-23 June 2006	Year of Desert meeting UNESCO
Cape Town 28-31/08	GEF council: LADA launch
Havana October	LADA National Workshop on national assessment
Hammamet 14-15 November 2006	LADA launching workshop
Alma Ata 15-16/11/06	Regional CACILM task force meeting
Mexico	National Dryland meeting
Rome, 28/11- 1/12/06	LADA Project Steering Committee Meeting and Technical Workshop
Algiers 16-20 December 2006	Joint International Conference: Desertification and the International Policy Imperative
2007	
Rome, January 2007	GEF meeting
Beijing 23-25/01/07	LADA National inception meeting
Pretoria, 13-14/03/07	LADA stakeholder launching workshop
Buenos Aires, 28-30/03/07	LADA stakeholder launching workshop
Havana, 26-27 April 2007	LADA Second national workshop
Norwich, 4-8 June 2007	LADA local level assessment workshop
Palermo, 26-30 June 2007	Congress of the European Society for Soil Conservation
Tashkent, 1-5 July 2007	Inception workshop of the CACILM programme
Bern, 4-6 July 2007	WOCAT/LADA/DESIRE on finalization manual of national land degradation mapping
Reykjavik 28/8-3/09 NOT LADA FUNDED	International Forum on Soils, Society and Global Change, Selfoss
Wageningen, 26-28 September 2007	LADA-ISRIC meeting
Tunis, 28-30 October 2007	LADA indicator meeting launching workshop

Pretoria, 15-19 October 2007	WOCAT workshop on national mapping of LADA and land improvement
Bohol Island (Philippines) 13-17/11	WOCAT Workshop
Bishkek, 29/10-4/11	Regional CACILM Steering Committee meeting
Beja, 18-30/11/07	LADA Local Assessment Workshop
Bridgetown 8-12/10	Regional Workshop on Land Degradation Assessment Methodologies in the Caribbean
Tunis, 28-30 October 2007	LADA-Desertlinks indicators workshop
2008	
Bonn 29-30 January 2008	KM project meeting
Rome, 28-29 Jan. 2008	LADA/DE SURVEY Technical meeting - Global and Regional NDVI based analysis
Bariloche, Argentina, 2-9 February 2008	LADA workshop on local assessment
Havana, 10-16 February 2008	LADA Training workshop
Beijing 13-19/04	LADA National Workshop
Washington 6 May 2008	GEF meeting LADA and SLM.
Argentina May 2008	LADA workshop on national assessment
Tunis 25-29 May	LADA/Desertlink 2nd indicator workshop
Hammamet 13-18 July	LADA: national assessment workshop
Pretoria, 16-18/09/08	LADA:National Land Degradation Assessment meeting
Bari 18-22/09/08	5th International Conference on Land Degradation
Inner Mongolia 10-15/10/2008	LADA Local assessment workshop
Istanbul, 7/11/08	LADA Steering Committee Meeting of the project. LADA side event at CRIC meeting
Ispra 2-5/12	Participation in the First meeting on Desertification Atlas
Marsa Matrouh (Egypt) 14-16 December	Training workshop for N. Africa and M. East countries
2009	
Wageningen, 14-16 January 2009	LADA-ISRIC meeting
Mendoza, 26-31/01/09	LADA Local Assessment Workshop

Bonn 3-5/03	UN-CCD: 4th Meeting of the Bureau of the CST
Bonn 25-26 May	UN-CCD: 5th Meeting of the Bureau of the CST
Bonn, 1-3 July	UN-CCD: preparation scientific conference COP-9.
Kenya, 7-9/04/09	LADA International Meeting Global Assessment
Bangkok, 25-29/04/2009	LADA/FAO/DLD training workshop for Southeast Asia
Tunis, 7-18/06/09	LADA local assessment workshop
Dakar, 9-20/06/09	LADA/GLCN workshop on LU change and land degradation map
Godollo, 28-30/07/09	FAO/EU: Soil Summer School Meeting
Buenos Aires, 20-26/09/09	UNCCD-CST and LADA Steering Committee
Cuba 11-25 October 2009	LADA training workshop national assessment
Morocco, 12-20/10/09	WOCAT Workshop and Steering Meeting
St Lucia 16-20/11/09	Caribbean investment workshop
Alghero, 24-27/11/09	LADA workshop on integrating country specific indicators in LADA indicators sets and updating DIS4LADA. SWOT analysis training
2010	
Washington, 13-17/01/2010	GEF monitoring/GIS meeting
Tunis 24-30/01/10	LADA local training workshop
Rome 16/02/2010	WOCAT/LADA workshop
Cuba February 2010	LADA: local training workshop
Jujuy, Argentina, 8-12 March 2010	National indicators workshop
Buenos Aires May 2010	LADA workshop in preparation of regional training
Mendoza, 7-18 June 2010	LADA Regional Training Workshop.
Tunis, 5-7 July 2010	LADA institutionalization workshop
Tunis, 19-23 July 2010	LADA summary review workshop
Beijing, 19-24/07/2010	LADA final national workshop.
Brisbane, 31/7 - 7/08/2010	19th World congress of Soil Science: LADA Poster.
Pretoria, 1-7/08/2010	LADA Regional Training Workshop.
Namibia, 1-3/09/2010	FANRPAN 2010 Regional Policy Dialogue
Wageningen/Amsterdam, 6-14/09/10	LADA: International Meeting/Scientific Committee

Tunis, 20-30 September 2010	LADA training and final national workshop
Bonn, 20-22 September 2010	LADA-UNCCD meeting
Dakar, 3-10 October 2010	LADA final national workshop
Rome, 6-8 December 2010	LADA international workshop and Steering Committee
Bonn, 16-17 December 2010	UNCCD workshop on impact indicators

LADA Project Management Organigram



General notes

- The structure of the management organigram has been changed in the practice of the project, in the sense that there has been no formal Scientific Committee, and all the decisions, both technical and managerial, have been discussed in the Steering Committee, sometimes enlarged to some other technical partner/expert.
- In the scheme above, the institutions marked by an *, are those partners that have participated in all the meetings of the Steering Committee. Of those, ESB/JRC, WOCAT and ISRIC have been particularly active in the definition of the technical choices of the project.
- The two institutions marked by **, UNDP and ACSAD, have participated only in the first meeting in November 2006.
- Those institutions marked by ***, have never participated (since 2006 at least). However, in particular the GM has been regularly invited to all meetings. EC and Italy as co-funding donors were planned at a certain moment but never materialized. However, representatives of European and Italian institutions have been invited and have participated in some of the major events of LADA.
- In the scheme, the GEF is linked to UNDP. However, the GEF has always participated individually in all the SC meetings.
- Although the Scientific Committee never had an independent life, LADA has involved more technical partners than those listed above. Particularly relevant and continuous have been the contributions of the UEA-East Anglia, NRD-Sassari and IIASA.
- All the partner countries have regularly participated in all the meetings, both managerial (SC) and technical, with the only exception of the GLADA meeting in January 2008. They have however participated in the two following meetings on the global assessment (Nairobi 2009 and Wageningen 2010).

11. ANNEX 9. PROJECT COSTS AND CO-FINANCING TABLES

GEF grant allocation and expenditure

Component/sub-component	Allocation at design	Total Reported Expenditure	Forecast	Total Expected Expenditure a)	Expected Expenditure Ratio %
<i>UNEP/GEF Reporting</i>		As of 30/06/2010	Until 30/06/2011	By 30/06/2011	By 30/06/2011
a. Project Personnel	1,709,334	1,682,377	a) 281,761	a) 1,964,138	114.9
a) b. Sub-contracts	a) 3,179,818	a) 2,302,228	572,589	2,874,817	90.4
c. Training/meetings	1,174,585	637,006	626,675	1,263,381	107.6
d. Equipment and premises	114,000	89,582	24,418	114,000	100.0
e. <u>Miscellaneous</u>		<u>536,031</u>	<u>247,332</u>	<u>783,363</u>	<u>95.3</u>
TOTAL	<u>822,263</u>	<u>536,031</u>	<u>247,332</u>	<u>783,363</u>	<u>95.3</u>
	7,000,000	5,247,224	1,752,775	7,000,000	100.0
<i>FAO Reporting</i>		As of 30/11/2010	Until 31/12/2010	By 31/12/2010	By 31/12/2010
Argentina	449,162	391,210	a) 25,000	416,210	92.7
Cuba	342,592	58,592	284,000	342,592	100
China	765,930	541,714	60,000	601,714	78.6
Senegal	365,450	333,012	20,000	353,012	96.6
South Africa	470,947	375,415	11,500	386,915	82.2
Tunisia	309,062	232,236	17,000	249,236	80.6
LADA Global	<u>4,296,857</u>	<u>3,847,320</u>	<u>168,300</u>	<u>4,015,620</u>	<u>93.5</u>
TOTAL	7,000,000	5,779,500	585,800	6,365,299	90.9
Balance					

Co-financing

Co-financing from International Institutions/Organizations				
as of 31 December 2010 (in US Dollars)				
	Cash Contributions		In-kind Contributions	
	Budgeted	Received	Budgeted	Received
FAO	200,000	237,500	1,800,000	3,024,000
UNEP			1,675,000	10,000
ISRIC			348,000	348,000
WOCAT			88,000	88,000
UNU	40,000	40,000	100,000	100,000
GLCN			200,000	200,000

(National) Co-financing from LADA Partner Countries				
as of 31 December 2009 (in US Dollars)				
	Cash Contributions		In-kind Contributions	
	Budgeted	Received	Budgeted	Received
Argentina	132,000	148,629	730,000	623,542

China			1,100,000	1,100,000
Cuba			250,000	228,000
Senegal			380,000	215,800
South Africa			500,000	418,121
Tunisia	92,000		462,000	220,000

	Cash Contributions		In-kind Contributions	
	Budgeted	Received	Budgeted	Received
TOTAL	464,000	426,129	7,633,000	6,575,463

Note: Whilst the summary schedules in the project document refer to budgeted co-finance of US\$ 8,000,000, the Annex 1c to the Prodoc which breaks down the co-finance actually totals to US\$ 8,097,000. No explanation is apparent for this discrepancy. The above figures for the budget are based on the annex 1C figures.

ANNEX 10

Documents reviewed by the evaluation team

The following documents were reviewed for the Terminal Evaluation (in no particular order or alphabetically):

1. Background documentation relating to land degradation and rural poverty in the drylands of the six pilot countries, including their National Action Programmes (NAP) against Desertification, the Country Environmental Profiles and the PRSP (Poverty Reduction Strategy Papers) when existing, recent MDGs reports;
2. The Project Document (ProDoc) and all its annexes, the most recent (06/2010) UNEP/GEF PIR (Project Implementation Report), the Mid-Term Evaluation (MTE) Report of April 2009;
3. The country reports (project and training reports) available on the LADA websites (FAO and National web sites);
4. All the reports (more than 20) of the Local Assessments implemented in the pilot countries;
5. All the manuals developed by FAO, which includes the LADA Local Level Assessment Manuals Part 1 and 2 (LADA-L), ;
6. The Methodological Framework for LADA (simplified version) of August 2004. considered
7. The LADA website and all the sections presented by the website
8. The Final Mid-Term Evaluation Report (April 2009)
9. The Work plan for the six month no-cost extension with tables as presented at the steering committee meeting in Rome, 8 December 2010.
10. CD-Roms as provided by National Coordinators of the six pilot countries
11. Reports and publications of Best Practices at country level and as provided by National Coordinators
12. Brochures, pamphlets and other promotional material
13. Terminal Report (EP/GLO/502/GEF) by Technical Officer for LADA in the Land and Water Division at the FAO (December 2010)
14. Any other material, including e-mails, power point presentations, etc. that were send to the Evaluation Team.