Land Degradation Assessment in Drylands (LADA)

ASSESSING THE STATUS, CAUSES AND IMPACT OF LAND DEGRADATION

Land degradation is a serious problem that crosses national borders, ecological zones and socio-economic levels. It can be especially devastating for the world's poorest people living in dryland areas. The Land Degradation Assessment in Drylands (LADA) project, executed by FAO with funding from UNEP, GEF and others, assesses the causes and impacts of land degradation at global, national and local levels in order to detect hot spots and identify remedial measures. LADA approaches land degradation as a biophysical, social, economic and environmental issue that must be dealt with through a combination of geo-informational, scientific and local knowledge tools.

LAND DEGRADATION: THE SCOPE OF THE PROBLEM

Estimates put the annual global cost of land degradation at some US$40 billion. However, this estimate does not include degradation's hidden costs such as the need for increased fertilization when lands are damaged and the loss of biodiversity and unique landscapes. In addition to reduced productivity, land degradation leads to socio-economic problems such as food insecurity, limited development and migration. Damaged land is costly to reclaim and, if severely degraded, its inability to provide ecosystem functions and services leads to a loss of environmental, social, economic and non-material benefits that are critical for society and development.

INTEGRATED APPROACH AND CAPACITY BUILDING

LADA follows an integrated approach at local, national and global scales to assess land degradation as well as land restoration or improvement. LADA provides tools and products that help countries and regions improve their knowledge and understanding of status, trends, causes and drivers of land degradation. Local assessments, including in-depth case studies of the situations faced by local communities, inform decision-makers of the effects of national policies and actions and help identify bottlenecks, constraints and opportunities to reverse degradation.

Linking of local and national assessments enables the identification of

- incentives
- support mechanisms
- actions

that promote the adoption of sustainable land use and management practices.

These can be applied in the short and long term, across the range of ecosystems, scales and actors including farmers, herders and other users of land resources,

LADA defines land degradation as a reduction in the capacity of land to perform ecosystem functions and services that support society and development

CHANGE

Worsening in the status of the land which damages soil, vegetation, water or the ecosystem as a whole, and ultimately affects people's livelihoods.

PERCEPTION

Raising awareness of land degradation's warning signs enables earlier responses that are more effective and less costly. The problem is that most people perceive land degradation as a threat only when it impacts their own livelihoods.

TIME AND SPATIAL SCALES

Establishing a time frame in which degradation occurs and spatial links among factors that contribute to land degradation is important in establishing an early warning system. This information feeds into the assessment of processes and their effects on farms, catchments, landscapes and interactions that affect ecosystem functions and resilience.

communities and their territories, and the public and private sector. All methodological information produced by LADA is made available through workshops, publications, Web-based information systems and the increased expertise of the national and international organizations involved.

LAND DEGRADATION ASSESSMENT AT THREE LEVELS OF SCALE

Global

Indicators and trends - Data from a 23-year (time series) of Normalized Difference Vegetation Index (NDVI) is being analysed and converted in Net Primary Productivity (NPP). Together with Rainfall Use Efficiency (RUE), the aridity index (P/PET) and rainfall variability, the data are used to identify trends and changes that might be linked to land degradation in large areas of the world. Areas with worsening trends are considered "hot spots", while areas with improving trends are "bright spots".

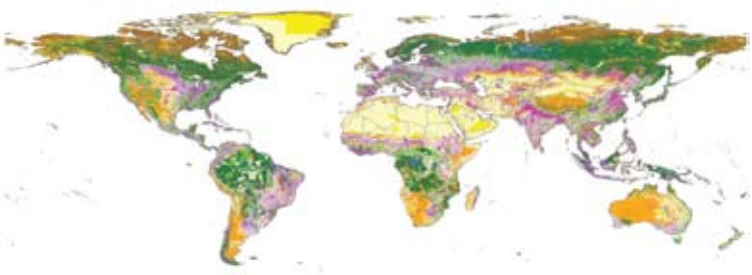
Land Use Systems (LUS) mapping - Land use is considered the major driving force of land degradation. LUS mapping analyses natural resources, land cover and socio-economic data using a combination of simple spatial modelling and expert knowledge. The LUS-map units also include other sets of biophysical and socio-economic information of relevance to land resources and ecosystems degradation that provide a cartographic basis for national assessments.

National

Partnerships - LADA works with six partner countries: Argentina, China, Cuba, Senegal, South Africa and Tunisia that cover a large share of the world's drylands.

Land cover change - Mapping compares recent Landsat images with images taken in the 1970s and 1980s. This indicator determines hot spots where there has been a substantial change from forest or rangeland to agriculture or urban uses.

Land Use Systems mapping - In-country land degradation assessments require refining and detailing of the global land-use maps obtained under the global study. National expert knowledge is applied to enhance the base map with land degradation and land management characteristics at sub-national level.



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Local

Assessment areas - Each partner country initiates detailed assessments for two to six local areas selected from its national land degradation assessment. Areas are chosen based on national policy priorities and local opportunities for monitoring or promoting sustainable land and ecosystem management.

Assessment training - The local component uses biophysical information and historic context as well as socio-economic indicators and local perceptions and behaviours to identify status, causes and effects of land degradation in a given terrain. Intersectoral teams are trained to use a toolbox that includes low-cost, user-friendly biophysical measures and rural appraisal tools that consider socio-economic contexts as well as land-use practices.

GEF UNEP LADA

FOR FURTHER INFORMATION:

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