

Global land degradation and dryland ecosystems

Monica Petri, Riccardo Biancalani,
Freddy Nachtergaele, Sally Bunning

Activity coordinated by NRL/FAO

COFO Side event
“Dryland Forests and Agroforestry Systems”
FAO, 25 June 2014

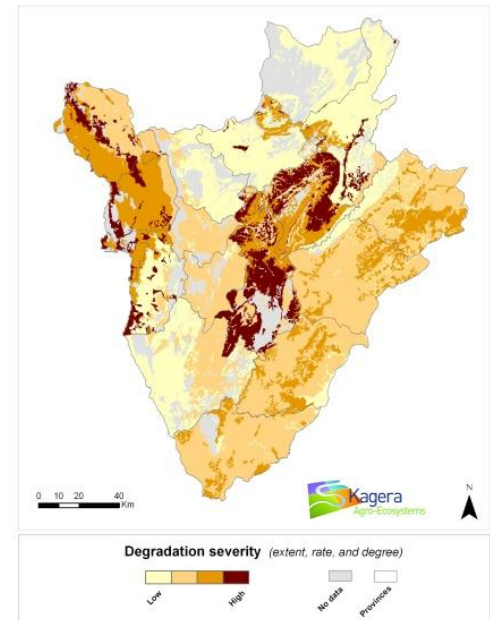
Land degradation

LADA, 2008 definition:

- a decrease of the capacity of the land to provide ecosystem services;
- impact on a specific user, or category of users;
- over a timeframe.

...It includes present capacity (status) and trend over time

Land degradation severity



Which ecosystem service ?



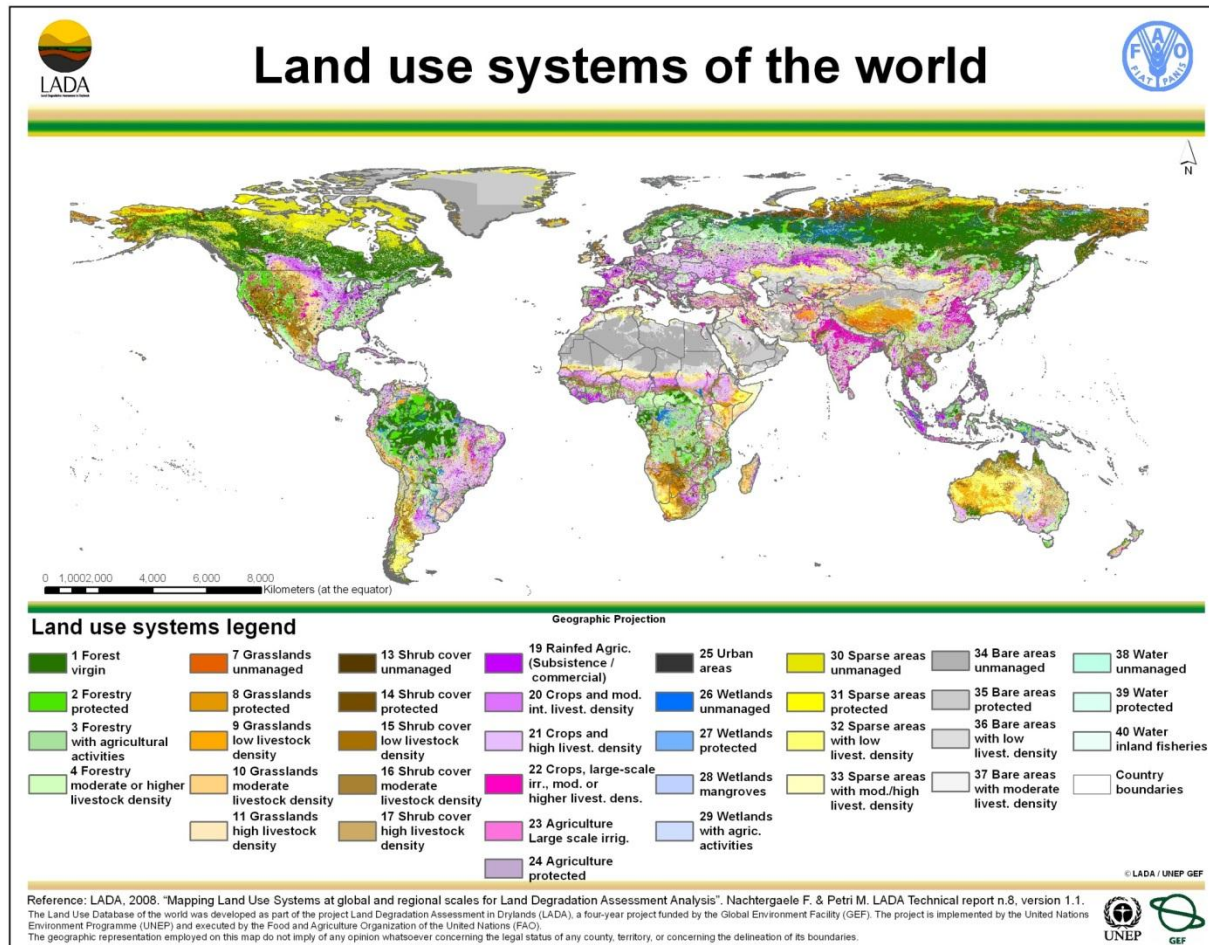
Each actor values ecosystem goods and services and degradation differently

Challenges assessing E G&S at the global scale?

- Need to value each ES : not an absolute figure
- Match goods and services (G&S) through existing global information
- Compare and trade-off between different options and the G&S they provide consistently (neutral point of view; win-wins; win and losses)



Which use ?

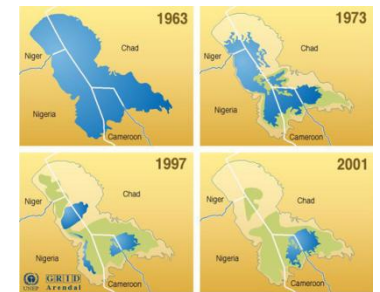


*Human activities of land use and management practices (direct pressures)
is what drives change in NR quality and trends (degrading, stability, improving)*

Which time frame ?

- Time frame strongly influences results and is an essential factor for analysis
- However, timeframe has to be chosen based on available data

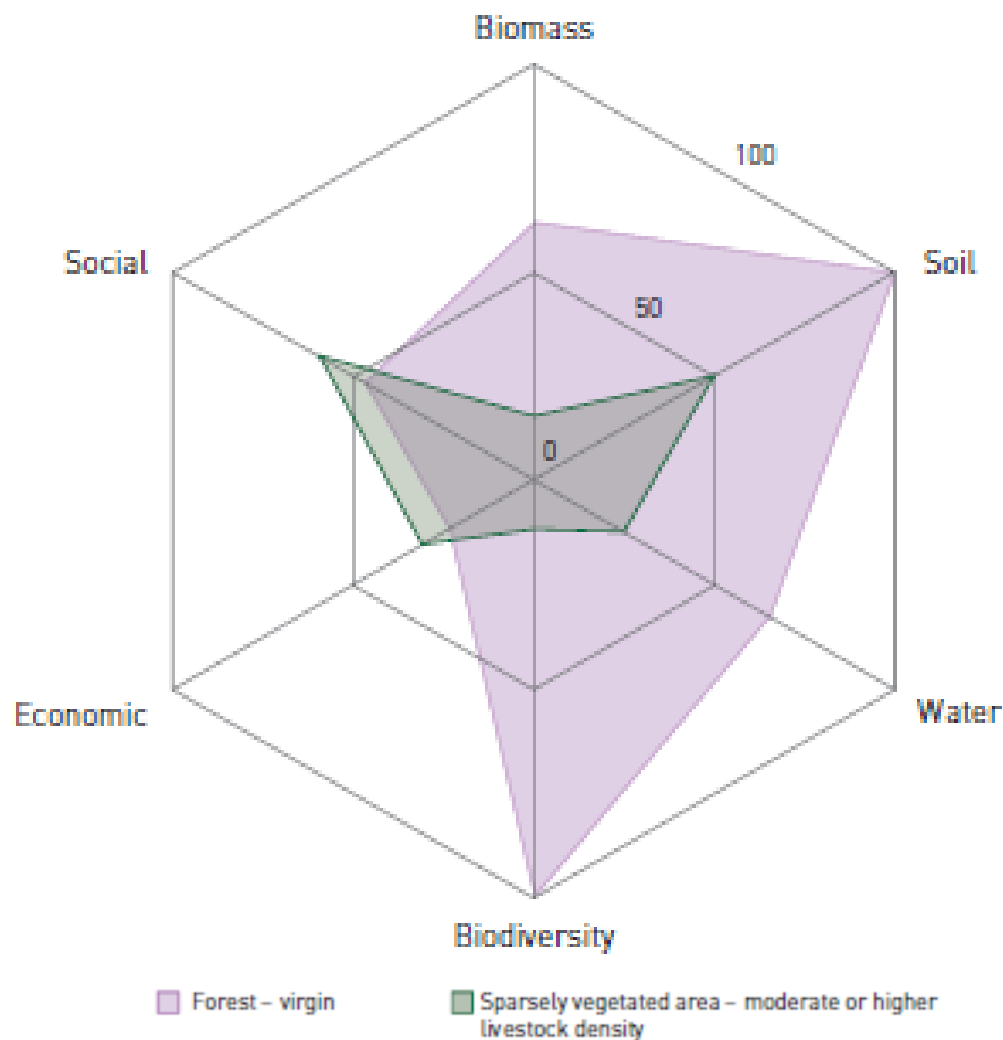
Ex. Analysis over time in Chad



→ 36 global datasets available from 1981 to 2006

- Data quality differs and might be unreliable
- First attempt: there are no agreed method and models

Status of land use / land degradation



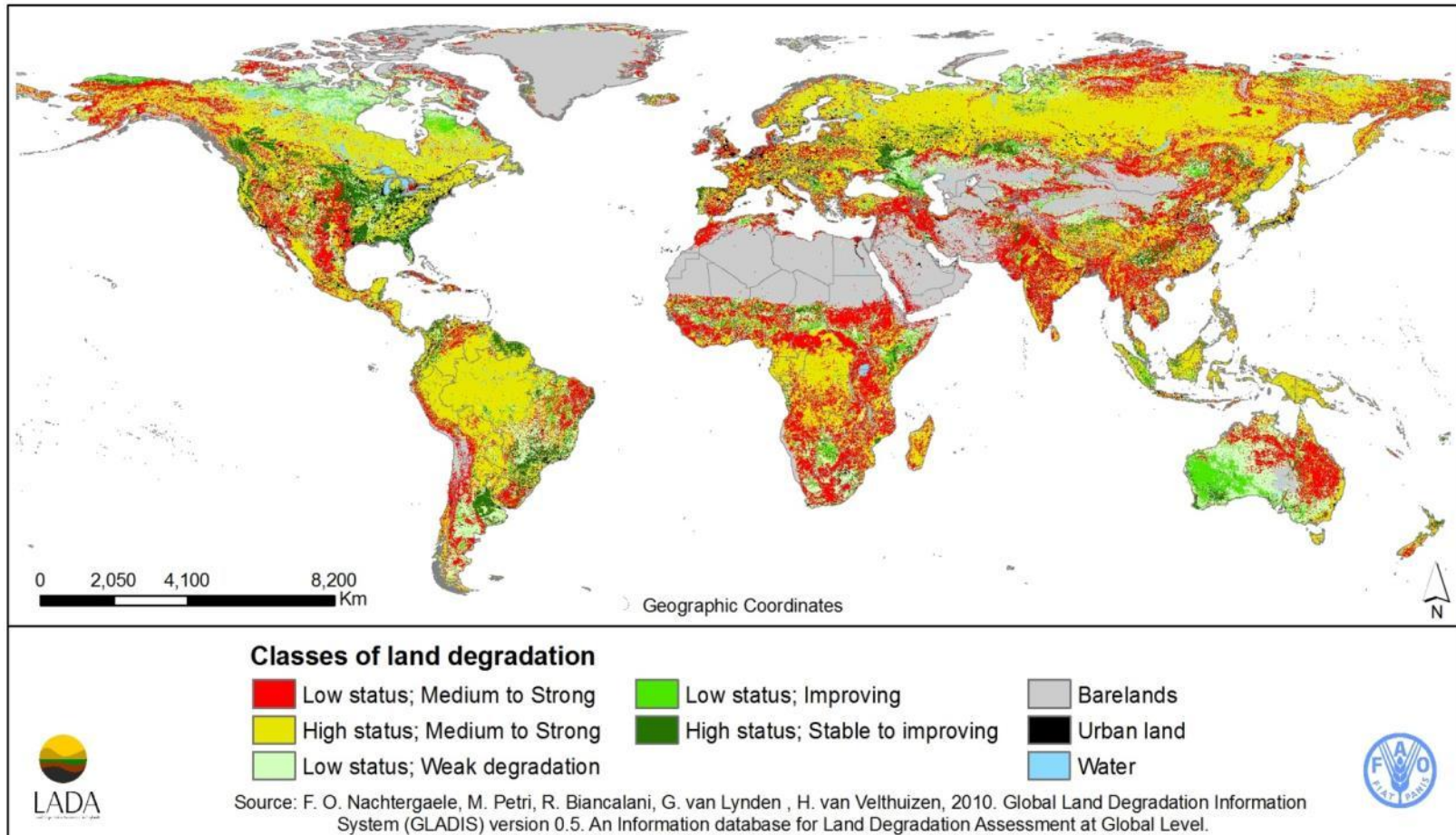
- Global level → in a given location for comparison
- Present status and as a process over time
- Trade-offs between ES are depicted
- 0 = Quality nihil ; 100 = Quality optimal

Online at

<http://www.fao.org/nr/lada/gladis>

Graphs per land use,
per pixel, per country

Status and trend of land degradation



Status: today (2006)

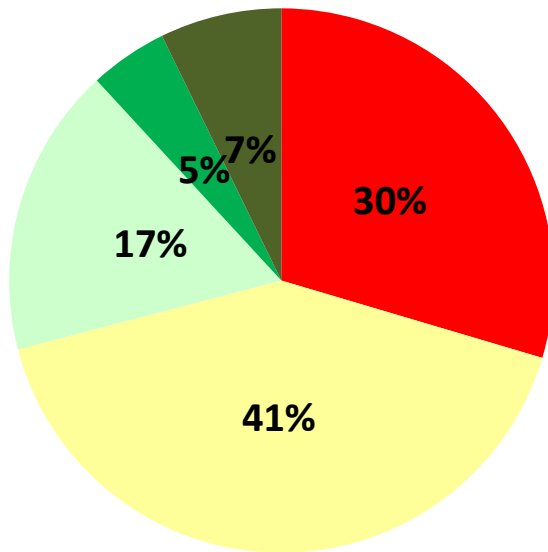
Source: GLADIS

Process (degrading/improving): over time (1981/2006)

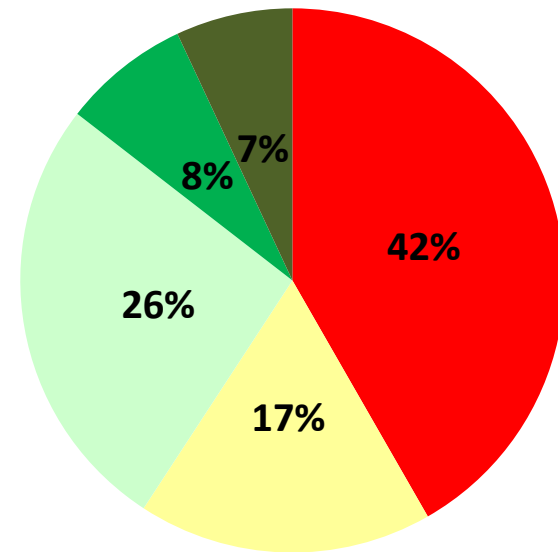
Global Land degradation

A higher % of land is degraded or degrading in drylands

GLOBALLY

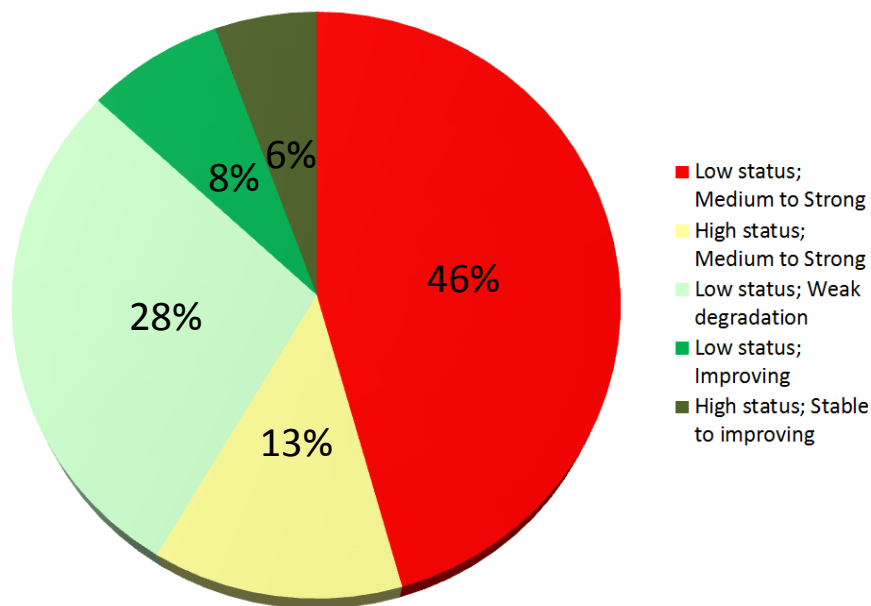


IN GLOBAL DRYLANDS



- Low status; Medium to Strong
- High status; Medium to Strong
- Low status; Weak degradation
- Low status; Improving
- High status; Stable to improving

Degradation in drylands with pastoral/agro-pastoral use

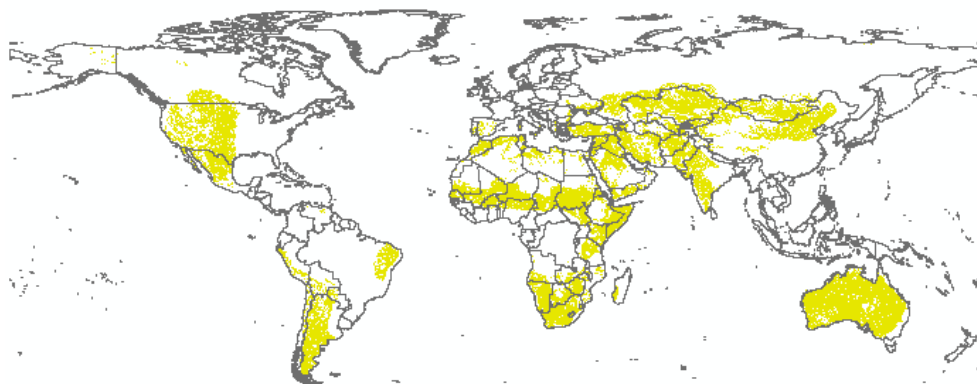


Nearly half have a low status and are degrading

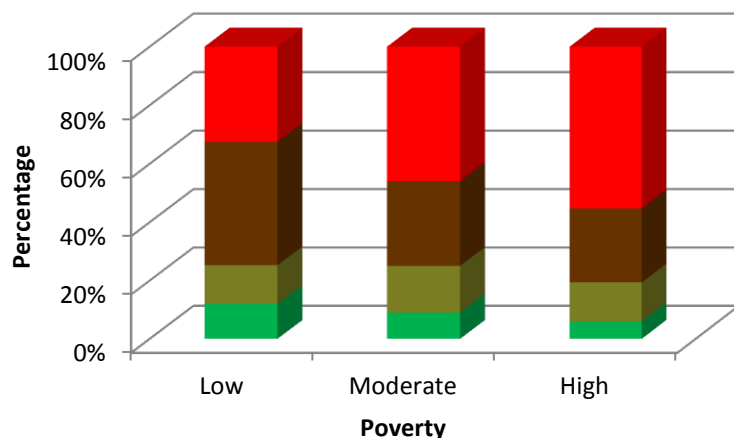
However, a third have a low status and weak degradation

(all land covers including forest, grasslands, and agro-pastoralism)

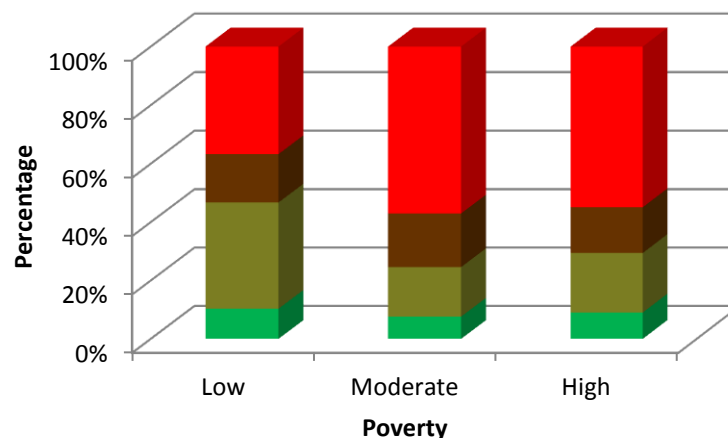
Pastoral/agro-pastoral drylands



GLOBALLY



IN GLOBAL DRYLANDS



Globally, development could strongly improve ecosystem health.

In dryland areas :

More poor people in degraded areas (high or moderate poverty)

Less poor people In high status areas

- Low status; Medium to Strong
- High status; Medium to Strong
- Low status; Weak degradation
- Improving

Source: GLADIS, excluding water, bareland, and urban areas

Expanded partnerships - 2014



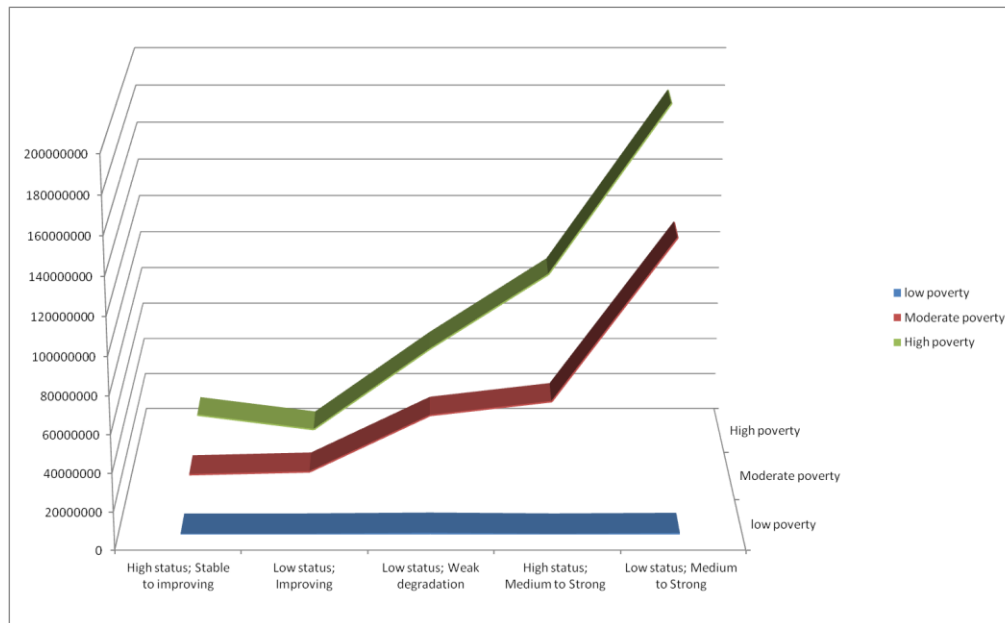
World Overview of Conservation Approaches and Technologies

- From informal management group / network of members > 60 organizations
- ...to formal consortium including:
 - CDE/Uni. Bern, FAO, ISRIC + SDC, GIZ, ICARDA, ICIMOD, CIAT, Kwazulu Natal University*
- → stronger network for greater synergy, coherency and impact in promoting SLM knowledge management

WB Africa Drylands report

- A report in economics of resilience in the drylands of Africa includes GLADIS statistics and maps
- The partnership include Terrafrica, CILLS, WRI, PROFOR, CIRAD, Africa Re-greening Initiative, CGIAR Centers

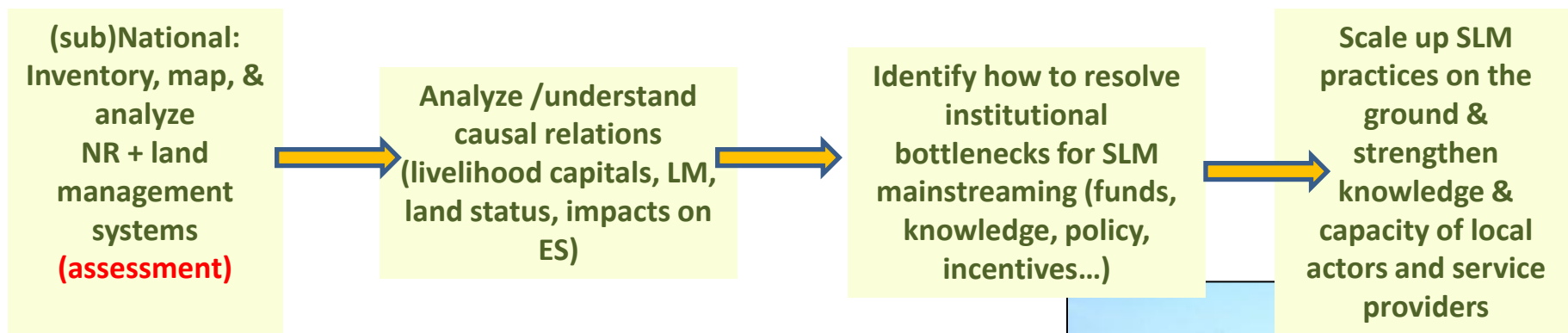
Land degradation classes and poverty in Africa



Decision support for SLM scaling up and mainstreaming (2014-2018)

Global Component supports National component :

- National databases developed & harmonized (WOCAT SLM database & UNCCD best practices reporting & relevant FAO global databases)
- Enhance monitoring and reporting on extent, impacts & effectiveness of SLM strategies
- → Influence UNCCD decisions.



Countries

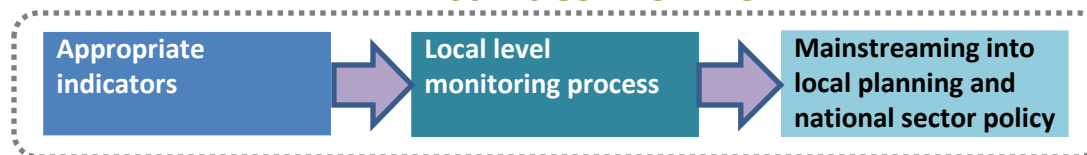
- Argentina, Colombia, Ecuador, Panama,
- Bangladesh, China, Philippines, Thailand
- Bosnia & Herzegovina, Turkey, Uzbekistan
- Lesotho, Morocco, Nigeria, Tunisia.



Participatory assessment of degradation and livelihoods in agro-pastoral systems

Improve the decision making process to reverse land degradation (LD), enhance food security and climate resilience, and improve biodiversity conservation

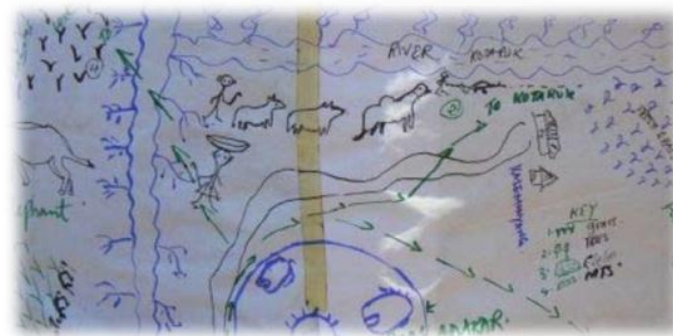
Activities Workflow:



Global AGP/FAO GEF project with IUCN, IFAD, research, civil society, Pastoralist Knowledge Hub (AGA), DSS GEF project (NRL), and Mountain Partnership, Action Against Desertification, Global Forest Inventory (all in FOR)



*Proposed testing countries:
Angola, Argentina, Kyrgyzstan,
Burkina Faso, Niger, Kenya, Lesotho,
Tanzania, Morocco
...project just approved...*



Conclusions: value of a global assessment of LD and ES

- Fills a gap in global databases, allowing to consider all aspects of ecosystem degradation
- At global level proxy variables have to be used, quality/scale of some data is questionable, continuous updates needed
- Provides a global picture of hotspots and bright spots, areas of change but lacks precision for policy makers (maps and figures) in indicating priority areas affected by LD and or showing positive trend
- Need to understand its value for the global community and for comparisons across regions but also its present limitations for in country use.
- Stronger networks will reinforce synergy and coherency in the developed of global LD/SLM information through analysis at country or smaller level



Thanks

Provisional GLADIS results are available at
<http://www.fao.org/nr/lada/gladis/>

LADA-Secretariat@fao.org