

THE COST OF INACTION: DIRECT AND INDIRECT LOSSES IN PRODUCTIVITY

Len Berry, Lakhdar Boukerrou, Jenny Olson

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PURPOSE OF CASE STUDIES

■ Review of national land degradation and sustainable land management data on:

- Extent
- Costs
- Current remedial actions

■ Countries included:

- | | |
|-------------|------------|
| - Chile | - Ethiopia |
| - Mexico | - Uganda |
| - China | - Rwanda |
| - Indonesia | |



CAUSE AND EFFECTS

CHANGES (50 yrs)

- Environmental
- Political
- Socio-economic

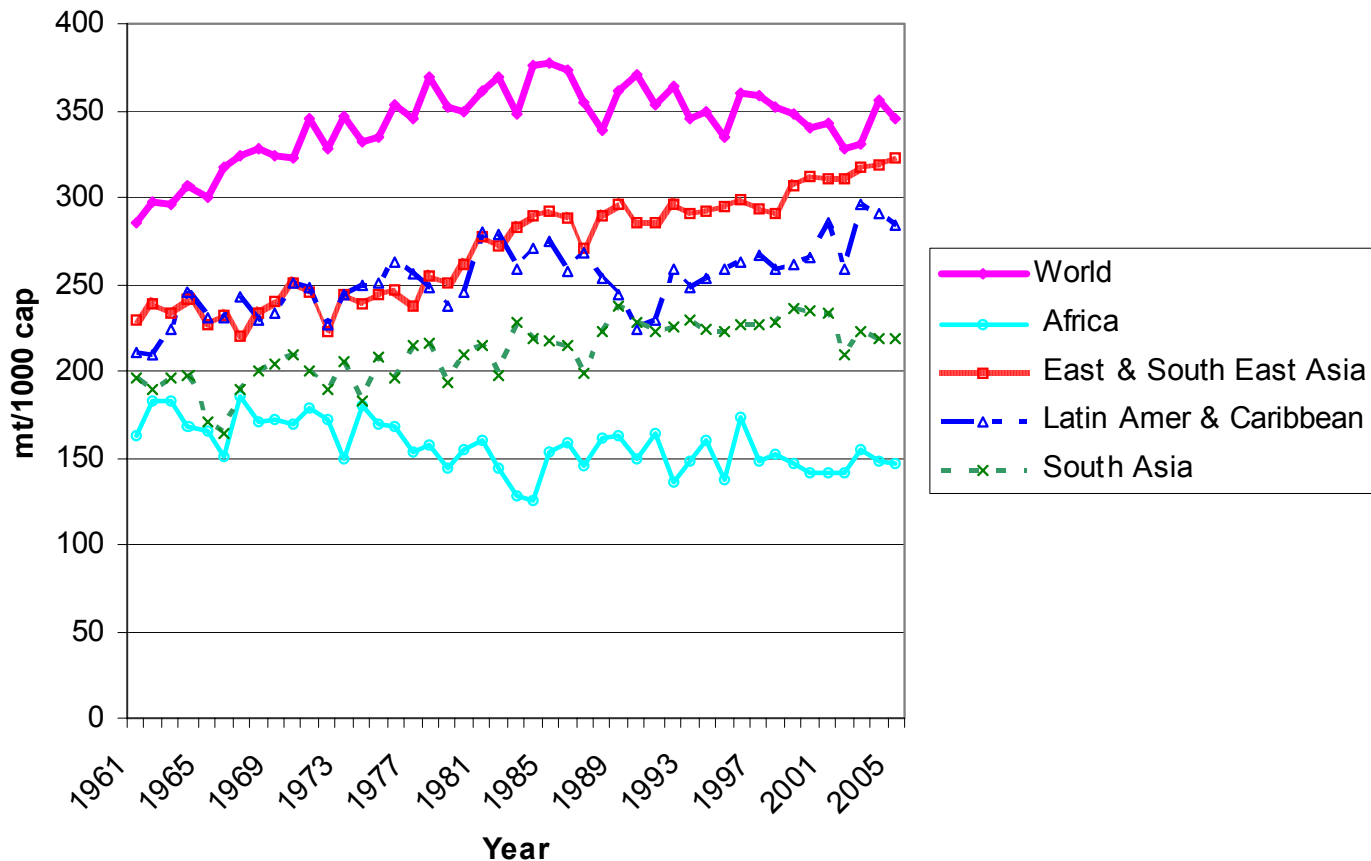
POSITIVE EFFECTS

Productive viable rural economies

NEGATIVE EFFECTS

- Lower productivity
- Increased degradation
- Reduced viability of livelihood systems

PER CAPITA CEREAL PRODUCTION 1961-2005



Data source: FAOStats

CONTRIBUTORS AND LOSSES

CONTRIBUTORS

- Land use change
- Land use pressures
- Change in cropping systems
- Economic changes
- Population growth and migration
- Rural demographics
- Local, national and international policies
- Climate change (lack of rainfall ...)

LOSSES

- Crop production (yield)
- Livestock raising
- Grazing areas
- Environmental services
- Natural and agricultural biodiversity
- Water quality and quantity (human and irrigation)

RESULTS

- Change in rural society
- Social costs of poverty
- Reduced ability to invest

NATIONAL ASSESSMENTS

- Agricultural productivity is reduced by land degradation at a minimum rate of 3 to 7% of Ag GDP.
- Investment in remedial action was an order of magnitude smaller than estimated costs.
- Governments' past responses were typically top-down and directed to the on-site physical problems of soil and nutrient losses.
- Policy issues can be critical factors in causing or reducing land degradation.

DATA ANALYSIS

- Problem identified as national problem but responses focus on physical remedies.
- Less focus on policy, institutional and socio-economic parameters.



DATA ANALYSIS

- Data mainly refers to the cost of direct components of soil and nutrient loss.
- Only in a few cases are indirect costs and benefits considered.



COUNTRY DATA

Country	Extent of land degradation	Cost of land degradation	Level of Response	Type of response
China	Widespread, especially North & West	\$7.76 Direct \$ 31 billion Indirect 4% GDP	\$ 1-2 billion annually	Forestry, Physical Structures
Ethiopia	Highlands and Drier Areas 50% highlands	4% GDP Direct, Acute poverty	0.2 –0.5 % Ag GDP	Fertilizer, Physical Structures
Mexico	65% of land area	\$3.5 billion Migration	Varied over time. Hard to quantify	Policy change. Reforestation
Uganda	Varied 60% land area	4% GNP?	Hard to quantify	Policy, Terracing in SW
Rwanda	Extreme especially SW	3.5% Ag GDP Direct, acute poverty	Hard to quantify	Centralized terracing policy
Chile (Coquimbo)	Widespread	50% on wheat 23% goat	Not known	Not known
Indonesia	Varied	0-4% crop value	Not known	Long term soil & water management

COUNTRY FINDINGS

- Mexico - A case where land degradation is an important problem for the rural economy and a major backdrop to migration of rural workers to other marginal areas, to urban areas and to the US. Policy issues are very critical with NAFTA and SAP imposing new constraints, and diverting attention from rural investment. Most recent policies begin to support integrated rural approaches.
- Rwanda - Land degradation is a problem especially in the southwest of the country. Detailed economic data is sparse but there are wide differences between the perceptions of government and farmers about the most important components and remedies to the problem. Responses need to include a comprehensive approach to a revitalized rural economy.

OVERALL FINDINGS #1

1. A close link between poverty and land degradation.
2. The poverty-degradation link is particularly evident where there is:
 - Lack of diversification of alternative livelihoods
 - Limited ability of land managers to invest in mitigation

OVERALL FINDINGS #2

3. Policy environment is critical
4. Policy can **cause or reduce** land degradation through:
 - Directly targeting proximate mitigation efforts
 - Indirect impact on the economic and social context
5. Responses to the problem:
 - Emphasize local physical measures
 - Do not address policy or related poverty issues

OVERALL FINDINGS #3

6. Responses appear to be an order of magnitude less than the economic impact of the problem.
7. Countries vary widely in their databases on this issue.
8. Many components of impact are not precisely measured or not taken into account.

OVERALL FINDINGS #4

9. Recognition that approaches to assessment of the costs of land degradation need to go beyond on-site assessment.

RECOMMENDATIONS #1

- Assessment should examine the variety of off-site costs of land degradation, including:
 - Replenishment of aquifers
 - Environmental costs, such as siltation of reservoirs and disruption of streamflow
 - Societal costs, such as those associated with poverty and the differential impact of government policy and trade agreements

RECOMMENDATIONS #2

- Countries need to define a comprehensive framework for assessment that would include consideration of the following factors:
 - Environmental
 - Social
 - Institutional
 - Economic
- The framework would enable identification of both proximate and root causes of land degradation



RECOMMENDATIONS #3

- Build partnerships to enhance capacities at national and sub-regional levels.
- Improve database and trend analyses.





THANK YOU