

WG3-Ch3

Economic Aspects & Social Drivers

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Why Economics ?

DLDD is outcome of economic activity

though not objective of this activity

- but a by-product due to **market failures**
- \implies **resource mismanagement**
- pushed by **external social drivers** like population pressure or poverty
- or short-term profit ("making fast buck")

Economic Pay-offs of SLM

- raise incomes, combat poverty
- extend productive use of land into future (food security)
- reduce vulnerability to climatic fluctuations



The Economic Framework

Define DLDD

as predominantly the
"outcome of resource management failure"

Remark:

Presented economic approach mainly **ex-ante** solution



(a) DLDD as Externality

DLDD is a result of production activity

also a negative factor in it, though with time lag

- inappropriate means of producing

For production process, DLDD is external

prodigal exploitation due to

- collective operation (when public property)
- no prices, no markets for DLDD sensitive goods
- population pressure, small plots, poverty
- climate change



Economic theory proposes internalizing

e.g. by

- attributing clear property rights
- establishing regulatory instruments (taxes & subsidies, norms & laws)
- ...

in order to **fix the markets**

need to study causalities and adaptive solutions

- Constraints like low income, lack of knowledge, corruption, political
→ **institution failures**
- Space & time scale problems in modelling and valuation

(more in 2nd part: policy mechanisms)



(b) Economic Valuation of the Environment

	Use value	Non-use value of	
	direct	indirect	existence
present	measurement of products obtained from environment	measurement of benefits of services & quality provided by environment	
future		"options"	inheritance

Valuation by agro-ecological models

Millennium Ecosystem Assessment **MA2005** approach
values services provided by ecosystems

Spatial approaches based on land-use data

based on dividing the rural space
according to its main economic uses

(c) costs of DLDD

Although research publications on cost of DLDD are numerous due to **insufficient data**, cost-benefit analyses are based on coarse assumptions and vary considerably

Limitations

- internal: e.g. time and space scale problems
- external: e.g. reference price and activity

All values are greatly under-estimated

due to suppression of **indirect costs**, e.g.

- silting-up of dams: losses of water, disturbances concerning fishing, shipping, tourism
- impacts of dust clouds on human health
- losses of carbon and biodiversity
- econ. consequences of poverty, hunger, and migration

Policy Mechanisms

On finding appropriate modelling

- For example, utility approach shows problem of **under pricing scarce natural resources**
- Economic instruments (tradable certificates, resource pricing, fiscal mechanisms) try to **reinstall full-cost pricing** to yield efficient resource allocation



(a) Cross-scale and related Mechanisms

Excessive resource depletion and environmental degradation arise from distorted price signals (**market failures**)

With exclusive property rights, resource depletion is internal to production process

i.e. responsibility of resource use can be attributed to a specific economic activity & stakeholder

Then further mechanisms can be established, e.g.

- **Payments for Environmental Services:**
(cover watershed protection, biodiversity conservation, landscape aesthetics, carbon sequestration)
- permits for land/water use referring to aggregated levels

(b) State Mechanisms and international cooperation

Recall: Aim is internalization of LD by

taxes, subsidies, legal enforcements via damage payments, ...

⇒ e.g. **Environ. Fiscal Reforms**

Examples

- fiscal mechanisms
- legal liability
- moral suasion
- debt-for-nature swaps



(c) "private" Mechanisms (self-regulation)

Sustainable resource utilization has positive benefit

Often producers are forced by circumstances to harvest environmental resources at a non-sustainable rate

To reduce pressure on resources, create alternative earnings

- Forests and other natural resources can provide opportunities for income generation, value addition, and enterprise development
- ... or outside agriculture / related fields
- need **credit and grant schemes** for promoting local livelihoods
- need **secure property rights**



Valuation of action to combat DLDD and to promote international investments

Necessary to measure success of action (for donors, NGOs, etc.) to select most efficient techniques

Typical Problems

- rates are high when DLDD is moderate weak for prevention, and very weak for degraded land
- ex-ante return difficult to predict
- problems of short- vs long-term and time lags
- should take into account the indirect benefits

