Global Governance for Sustainable Land Use

Systemic Indicators: Concept, Examples and Implementation Options

Uwe R. Fritsche
Scientific Director, IINAS
International Institute for Sustainability Analysis and Strategy

Co-Authors: Ulrike Eppler, Leire Iriarte (IINAS)
with input from the GLOBALANDS team

“Soils, Food Security and Sustainable Land Management” Conference,
Tutzing, Feb. 11-13, 2015
Background (1)

• GLII Shortlist on Land (Social)
  – Perceived tenure security
  – Secure land rights
  – Equal rights of women and men
  – Legal recognition of a continuum of land rights

• GLII seeks input on “environmental” indicators for land-soil
Background (2)

• EEA/GLII/IASS Thematic workshop “Possibilities for indicators on sustainable land management for the Global Land Indicators Initiative” (last week in CPH)

• **Shortlist of land and soil indicators:**
  – Land cover/land use change
  – Land productivity change
  – Soil organic carbon change

• Indicators be included in UN Statistical Commission document and considered in the SDG process
Background (3)

Changes in

Land cover/land use
(allowing to stratify)

Land productivity dynamics

Soil organic carbon content

Complementary indicators

Agricultural statistics
Actor-and region-specific land-use practices
Citizen-sourcing

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Introduction

• GLOBALANDS: transdisciplinary research project carried out by IINAS in cooperation with Ecologic Institute, Oeko-Institut and Leuphana University

• Funding: German Ministry for Environment (BMUB) through Federal Environment Agency (UBA), runs from Fall 2011 until April 2015

• Approach for systemic indicators is presented

• Working papers available at www.globalands.org
Systemic Indicator Approach

• Basics: focus on land **use** and **positive** signals
• Approach aims to **integrate** environmental and social aspects, including traditional knowledge
• Social **actor group** differentiation and focus: e.g. large corporate vs. small-scale farming
• Metrics: **combination** of sustainable LU **practices** and actor groups in specific regions

☞ Meant to **complement** policy development and monitoring
Systemic Indicator Approach

Goals & targets: Sustainable land use

and/or

Indicators
- Laws
- Incentives, etc.

Practices

Systemic Indicator Approach
- SLM practices (use WOCAT database)
- Actors (e.g. subsistence farmers, commercial farmers, ..)
- Regional conditions (soil, climate, terrain, etc.)

Traditional approach (top-down):
Based on direct indicators towards the targets

GLOBALANDS approach (bottom-up):
Based on evidence-based best SLM practices of WOCAT

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Oko-Institut e.V.
Institut for Applied Ecology

LEUPHANA
campus St. Augustin

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Umwelt Bundesamt
Systemic Indicators (cont.)

- Systemic indicators could help defining/ negotiating SDGs to include sustainable land use on indicator level
- Approach is worked out for two examples addressing most relevant global land uses:
  - Small vs. large-scale farming
  - Small/communal vs. corporate forestry
- Working Paper:
Systemic Indicators (cont.)

SLM practices from WOCAT database (e.g. agroforestry, integrated soil fertility management)

screened with regard to
• major environmental and social benefits
• well applicable in regions
• accepted by multiple stakeholders

Specific actors (e.g.: commercial farmer, subsistence farmers, etc.)

Specific regions (e.g.: biomes, agro-ecological zones etc.)

Conditionalities (Filter “only to the extent that”)
(e.g.: land use change; secure tenure; Genetically Modified Organisms; etc.)

Systemic Indicators
<table>
<thead>
<tr>
<th>Screening Indicators</th>
<th>SLM Practices out of WOCAT data base</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Agroforestry</td>
</tr>
<tr>
<td><strong>Environmental</strong></td>
<td></td>
</tr>
<tr>
<td>Land degradation</td>
<td>+++</td>
</tr>
<tr>
<td>Biodiversity</td>
<td>+++</td>
</tr>
<tr>
<td>Soil (SOC, nutrients)</td>
<td>+++</td>
</tr>
<tr>
<td>Water resources</td>
<td>++</td>
</tr>
<tr>
<td>Water productivity</td>
<td>+++</td>
</tr>
<tr>
<td>Climate change</td>
<td>++</td>
</tr>
<tr>
<td><strong>Socio-Economic</strong></td>
<td></td>
</tr>
<tr>
<td>Food security</td>
<td>+++</td>
</tr>
<tr>
<td>Rural poverty</td>
<td>+++</td>
</tr>
<tr>
<td>Rural employment</td>
<td>0</td>
</tr>
<tr>
<td>Land tenure and ownership</td>
<td>-</td>
</tr>
<tr>
<td>Traditional knowledge</td>
<td>0</td>
</tr>
<tr>
<td>Improving crop production</td>
<td>++</td>
</tr>
<tr>
<td>Improving fodder production</td>
<td>++</td>
</tr>
<tr>
<td>Supporting gender equity</td>
<td>++</td>
</tr>
</tbody>
</table>

Source: own compilation based on Liniger (2011); impact levels: + = positive; o = moderate; - = low/none
# Systemic Indicators: Example

<table>
<thead>
<tr>
<th>Land Use Practice</th>
<th>Actors</th>
<th>Region</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agroforestry</td>
<td><strong>Small-scale</strong> land users; mixing of woody and non-woody species</td>
<td>dry and semi-arid regions, sub-humid mountains + temperate zones</td>
</tr>
<tr>
<td>Example:</td>
<td>Poor farmer, herders, woman</td>
<td>“Re-greening” of arid regions (e.g. Sahel/Niger)</td>
</tr>
<tr>
<td>Agroforestry</td>
<td><strong>Large-scale</strong> land user; extensive and intensive</td>
<td>temperate and tropical zones</td>
</tr>
<tr>
<td>Example:</td>
<td>Tea/coffee plantations</td>
<td>Latin America, Asia</td>
</tr>
<tr>
<td>Example</td>
<td>Montado</td>
<td>South and central Portugal</td>
</tr>
<tr>
<td>Water harvesting</td>
<td>Poor small-scale farmers mainly &lt; 1ha, partly 1-2 ha/2-5 ha</td>
<td>Arid and semi-arid zones</td>
</tr>
<tr>
<td>Example:</td>
<td>Poor farmers using plant pit system/Zaï</td>
<td>Burkina Faso</td>
</tr>
<tr>
<td>Cross slope barriers</td>
<td><strong>Small-scale</strong>, average level of wealth to poor land users</td>
<td>subhumid, semi-arid</td>
</tr>
<tr>
<td>Example</td>
<td>Earth-banked terraces in cereal and almond cropland covered with drought resistant shrubs</td>
<td>Spain, Murcia, Region Guadalentin catchment</td>
</tr>
<tr>
<td>Example:</td>
<td>Small scale farmers using Fanya juu terrace</td>
<td>Eastern province Kenya</td>
</tr>
</tbody>
</table>
Systemic Indicators: Implementation

- Implement SI approach as part of the indicator framework for the SDGs on which discussions started.

- Concept will be introduced to and presented at platforms (i.e. GLTN/GLII, UN-SDSN), GSW, WB 2015 Land Conference.

- "Real" application of SI would take place when SDGs - once agreed - are nationally implemented in participatory processes to allow for adequate screening and agreement on safeguards – and also to “define LDN”?

- Safeguarding approach for sustainable land use in existing UN schemes could make use of SI, e.g. in regionalized REDD+ schemes, or indicators under CCD.
Global Sustainable Land Use:
Concept and Examples for Systemic Indicators
GLOBALANDS Working Paper 3.3

prepared by
Uwe R. Fritsche, Ulrike Eppler, Leire Iriarte

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www.globalands.org
contact: uf@iinas.org

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