Criteria and indicators for ecosystem reward and compensation mechanisms: realistic, voluntary, conditional and pro-poor

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Who wants to reward me for what service?

Just stop bothering us, let us live our lives without fear of eviction
Mr. Bounhuedeang Duangphachan, Provincial Governor, Luang Prabang in his welcome address to SSLWM workshop 12-12-2006

• “...in order to develop tourism, we have paid more attention to environmental protection, particularly the green and sustainable management of watershed, lands and forests in order to attract more tourists.”
Only one earth -- but we already need 1.5

Living Planet Report 2006

WWF

Ecological footprint

- More than 5.4 global hectares per person
- 3.6–5.4 global hectares per person
- 1.8–3.6 global hectares per person
- 0.9–1.6 global hectares per person
- Less than 0.9 global hectares per person
- Insufficient data
The equation is given by:

\[ y = 0.0732e^{3.953x} \]

with a coefficient of determination \( R^2 = 0.853 \).

Countries of SSLWM participants:
- Africa
- Asia
- Americas
- Europe

The diagram shows a scatter plot with the Human Development Index on the x-axis and Ecological footprint (ha p.p.) on the y-axis. The data points are color-coded according to the regions mentioned.
Ecosystem quality

High

Low

Biodiversity

Environmental services

Low

High

Agricultural productivity: goods

impossible

Pathways to be avoided

Socially desirable pathway

‘Natural’ point of reference

‘Potential production’ as reference

Pathways to be avoided

Socially desirable pathway

A. Agroforest landscapes

B. Fragile agro-ecosystems

C. Biodiversity friendly agriculture?

D. Intensive agriculture landscapes
intensive agriculture

intensive, multifunctional landscape: crops, trees, meadows and forest patches

Tree plantations

natural forest

production

protection

conservation

Agroforestry

current reality

current legal, institutional & educational paradigm

integrate functions

segregate functions

‘loss of forest functions’

‘deforestation’
Integrate

Segregate

Tree cover: Deforestation, Reforestation

Less patchy: Integrate

More patchy: Segregate

More trees

Less trees

Fields, fallow, forest mosaic

agroforestation

re- and afforestation

Forest modification

Deforestation

Farms, forestry, agroforests

Fields, forests & parks

Open field agriculture

100% forest

Farm forestry, agroforests
Environ-mental Service providers

Natural capital & properties that 'come with the territory'

Absence Mitigation, increase in filtering

Dynamic landscapes

Control over territory

Direct benefits

Opportunity costs for change in practice

Environmental Service modifiers

Implications

Biodiversity & landscape beauty

Water quantity, evenness of flow & quality

Terrestrial carbon storage

Efforts

Environ-mental Service beneficiaries

Alternative service providers

Costs for other service providers

Recognition & rewards transaction costs
Carrots or sticks? What is the best way for the farmer to get the donkey to move towards the market?
Political prominence

Δ people * influence * concern

Stage of the issue cycle

- Scoping
- Stakeholder analysis
- Negotiation response
- Implementation
- Re-evaluation

- Is it a problem?
- Who’s to blame?
- Cause-effect mechanisms
- What will it cost?
- What can be done to stop, mitigate, undo or adapt?
- How much and where?
- Who’ll have to pay?

- Regulate and/or reward
- Who will monitor compliance?
- Implement & monitor
- Evaluate, re-assess
- Litigation
Minimum acceptable behaviour and its effect on ES is set by *regulation*. Base line of 'business as usual' under current driver conditions.

<table>
<thead>
<tr>
<th>Public policy context:</th>
<th>Actor position</th>
<th>Trend</th>
<th>Mechanism</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>RED</strong></td>
<td><strong>Unacceptable environmental degradation</strong></td>
<td>CES1: Polluter pays compensation for damage inflicted</td>
<td></td>
</tr>
<tr>
<td><strong>Amber</strong></td>
<td><strong>Current practice and ‘rights to pollute’</strong></td>
<td>CES2a: Tradable pollution and ES-use rights used as ‘offsets’</td>
<td></td>
</tr>
<tr>
<td><strong>Green</strong></td>
<td><strong>Maintenance and enhancement of ES</strong></td>
<td>CES2b: Tradable pollution and ES-use rights bought for conservation sake</td>
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<tr>
<td></td>
<td></td>
<td>RES1: Rewards for ES enhancement through ‘stewardship’</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>RES2: Rewards for ES maintenance (avoided degradation) by guardians</td>
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</table>

*RED* refers to unacceptable environmental degradation, *Amber* to current practice and 'rights to pollute', and *Green* to maintenance and enhancement of ES.
Four criteria for effective rewards for environmental services

– Realistic
  ❖ Based on cause-effect mechanisms at appropriate temporal & spatial scale
  ❖ Align with opportunity costs for ‘sellers’ and avoided costs for ‘buyers’: market can seek price level in between

- Conditional: ‘no honey no money’, clarity of criteria for monitoring

– Pro-poor: as rural poor are both victims & actors; many PES mechanisms involve exclusion and are linked to land ownership (not ‘pro-poor’)

– Voluntary: free & prior informed consent, bargaining power
| **Realistic** | or aligned with the opportunities, opportunity costs and trade-offs that constrain the decisions of the upstream and downstream actors, linked to their preferences |
| **Voluntary** | complementing existing regulation and providing ‘additionality’ from the downstream perspective and bridging collective and individual action at the upstream side, alleviating the most constraining livelihood concern |
| **Conditional** | with clarity on performance and evaluation criteria in a contractual sense; conditionality can be a mix of 5 levels (Figure 4) |
| **Pro-poor** | acknowledging the distributional impact of rewards on resource-poor local stakeholders and selecting mechanisms that enhance equity & gender balance |
Realistic
Paningahan – Nagari with good governance, forest protection, interest in rehabilitation

Can/should they get bigger share in hydroelectricity royalties as PES?
Land use change scenario’s, even extreme ones, will not lead to large changes in the amount of water the hydroelectricity company (HEPP) can use.
Scoping: K ↔ K

- Words (articulation of existing land use and effects on products and services, such as ‘shifting forestry’)
- Icons/images
- Maps of space and lateral flows
- Representation of historical roots of the present situation
- Explanatory models used by various stake-holders for local system dynamics
Stakeholder identification: A ⇔ A

- Stakeholder typology based on concerns and preferences
- Maps of ‘rights and resources’
- Negotiation table (‘neutral’)
- Workable bounds in the tradeoff between an ‘all stakeholder’ paradigm, leakage (‘external impacts’) concerns and transaction cost
Conditional
Local agents

Objectives, criteria

Management plans

Actions

Agro-ecosystem condition

External agents

Objectives, criteria

Management plans

Actions

Consequences for Development & Environment:

Indicators

Trust

Co-management

Input control

Other influences

Other influences

MvNetal_Fig11
Voluntary
The roundtable on sustainable oil palm (RSOP) accepted the following criteria (a.o.) as effort to reduce the costly conflicts with local communities and claimants of land rights:

1. Free, prior and informed consent (FPIC) principles ensure that people’s voices are heard and accommodated in decision-making processes.
2. No diminishment or loss of customary rights without free, prior and informed consent (FPIC).
3. Open and transparent communications.
4. Compliance with the law including ratified international laws and respect for customary law.
5. Demonstrable right to use the land and absence of legitimate land conflicts.
6. Recognition of the right to organise and free collective bargaining.
7. Documented and acceptable systems for resolving disputes and achieving negotiated agreements based on FPIC.
Voluntarily accepting restrictions to use ‘existing rights’ to negatively affect ES

<table>
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<tr>
<th>Land</th>
<th>Infrastructure</th>
<th>Water</th>
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<tr>
<td>Ownership, tenure &amp; use rights</td>
<td>Development planning &amp; implementation of infrastructure, resettlement, power generation, mines, industries</td>
<td>Obligations to protect riparian zones and areas surrounding springs</td>
</tr>
<tr>
<td>Forest zonation (restrictions on forest use) on public &amp; private lands</td>
<td></td>
<td>Subsidy/extension programs on soil conservation and watershed</td>
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Relevance of new legislation on ‘environmental services’? Regulating ‘voluntary’ restrictions on ES-reducing activities as basis for ‘rewards’?

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<th>International conventions</th>
<th>Biodiversity</th>
<th>Pollution (water, soil, air)</th>
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<tbody>
<tr>
<td>UNFCC: Climate Change &amp; Kyoto Protocol (CDM)</td>
<td>Legal protection of flora and fauna: restricting use CITES &amp; restrictions on international trade</td>
<td>Restrictions on use of agro-chemicals (pesticides, fertilizer) to avoid water pollution</td>
</tr>
<tr>
<td>CBD: biodiversity</td>
<td>Protected area mana-ge-ment &amp; buffer zones</td>
<td>Regulations on waste mana-ge-ment to avoid water pollution</td>
</tr>
<tr>
<td>Human rights (‘free and prior informed consent’)</td>
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<td>Restrictions on use of fire</td>
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<tr>
<td>Transparency</td>
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new components & technologies

Plots (land uses etc)

Matrix (filter)

Roads/streams (channel)

agreed changes

spontaneous change

Negotiations process

performance indicators

actors, stake-holders
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<td><strong>Implementation, Monitoring and Learning:</strong> unified $K \Leftrightarrow$ unified $A$ (or reverting to $(K \Leftrightarrow K) \Leftrightarrow (A \Leftrightarrow A)$)</td>
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Pro-poor & gender balanced
PATHWAYS FOR CES TO ALLEVIATE POVERTY

P1  Stop negative 'drivers' that enhance poverty and degrade environmental services ('PUPES')

P2  Enhance local environmental services and resources (e.g. regular supply of clean water, access to beneficial plant and animal resources)

P3  Enhanced security of tenure, reduced fear of eviction or 'take-over' by outsiders, allowing investment in land resources; increased asset value

P4  Enhanced trust with (local) government, increased 'say' in development decisions

P5  Increased access to public services (health, education, accessibility, security)

P6  Payment for labour invested at a rate at least equal to opportunity cost of labour

P7  Increased access to investment funds (micro credit or otherwise) for potentially profitable activities

P8  Entrepreneurship in selling 'commoditized' environmental services
Lampung territory:
3.5 million ha,
8 million people

State forest land:
1.2 million ha (32%)

Forested:
20% of SFL

Settlers:
0.5 million people
HKM Forest edge 2005/6 BASIS CRSP impact study

River care

RUPES
Rewarding Upland Poor for Environmental Services

Sumber Jaya 3 nested scales:

Stream users River quality for hydro-electric
Implementation, Monitoring and Learning: unified $K \equiv unified \ A \ (or\ \ revert\ \ to\ \ (K \equiv K) \equiv (A \equiv A)$

- Operational indicators for monitoring aligned with the main criteria for success
- Certificates of compliance to agreed standards
Negotiation: ($K \Leftrightarrow K) \Leftrightarrow (A \Leftrightarrow A)$, aiming for (unified $K \Leftrightarrow$ unified $A$)

- Tradeoff matrix as ‘agreement to disagree’ and baseline of current ES provision
- Scenario analysis based on all major stakeholder concerns and plausible change
- Assessments of additionality, leakage and permanence
- Project Design Document (PDD) in the Clean Development Mechanism cycle
- New use of existing legal opportunities for ‘community based forest management’
- Standards of service delivery respecting multiple ‘ways of knowing’
- Contracts: conditional service delivery agreements with realistic rewards and voluntary ‘buy in’
Invitation

We are currently designing the second phase of RUPES – anyone interested in sharing the learnings on

• Voluntary
• Conditional
• Realistic &
• Pro-poor

ES rewards, please get in contact with us….

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