Presentation given at the Southeast Asia Katoomba meeting

Katoomba XVII
Taking the Lead: Payments for Ecosystem Services in Southeast Asia

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Hanoi, Vietnam

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KATOOMBA XVII

Taking the Lead: Payments for Environmental Services in Southeast Asia

23 and 24 June 2010, Hanoi, Vietnam

Designing REDD+ bottom up

By: Eveline Trines

Eveline.Trines@Silvestrum.com

GSM: +31 612 47 47 41

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Presentation Outline

- Designing and Operationalising a national REDD+ approach: drivers of forest degradation and deforestation
- Designing sustainable solutions
- Connecting different levels: nesting
- MRV and the role of local people
- Challenges
- Take home messages

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REDD+ is about….

- Forestand Carbon
- Different drivers of forest degradation and deforestation
- Different land users / stakeholders

- So, it is also about people
- And change
- Change that must be sustainable; for the long term (otherwise 100% leakage within the country)

- Connectivitybetween national, local and international level key

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Drivers of deforestation and forest degradation

- Governed deforestation
  - Clear felling for industrial scale agriculture, urban sprawl, road construction, etc.
- Ungoverned deforestation
  - Medium sized companies, illegal clearings
- Forest degradation
  - Subsistence, communities, smaller scale, mainly illegal logging

- Different stakeholders are involved, that need to be dealt with differently, using different measures
  - E.g. law enforcement, improved land-use planning, poverty alleviation, tax incentives, improved agricultural techniques

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Landscape mosaics

Within one country:

- Various land covers and various land uses
- Different land tenures
  - Small holders
  - The State
  - National Parks or protected areas
  - Commercial / agro-industrial companies (soy beans, oil palm, sugar cane, etc.)
- Management of land cover with different objectives
  - Subsistence
  - Large scale / industrial agriculture
  - Timber
  - Protection of other services: water, biodiversity, income from tourism, coastal protection, erosion control, etc.

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Options to reduce emissions

- Revision of forest law and tax reforms
- Increased staffing in forest department and local forest offices for monitoring
- Improved land-use planning and integrated conservation and development programmes that is also implemented and enforced;
- Market-oriented instruments, including Payment for Environmental Services (PES) and carbon offset projects;
- Improved farming techniques (less new agricultural land required);
- Shift from traditional forestry practices to Sustainable Forest Management (SFM);
- Transfer of responsibility for open-access forest to community authorities;
- Projects financed by NGOs, bilateral assistance, multi-lateral donor funds;
- Establishment of environmental trust funds at national or regional level to channel financial resources from different origins, share risks, and decentralize financial resources to the local level; and,
- Etc.

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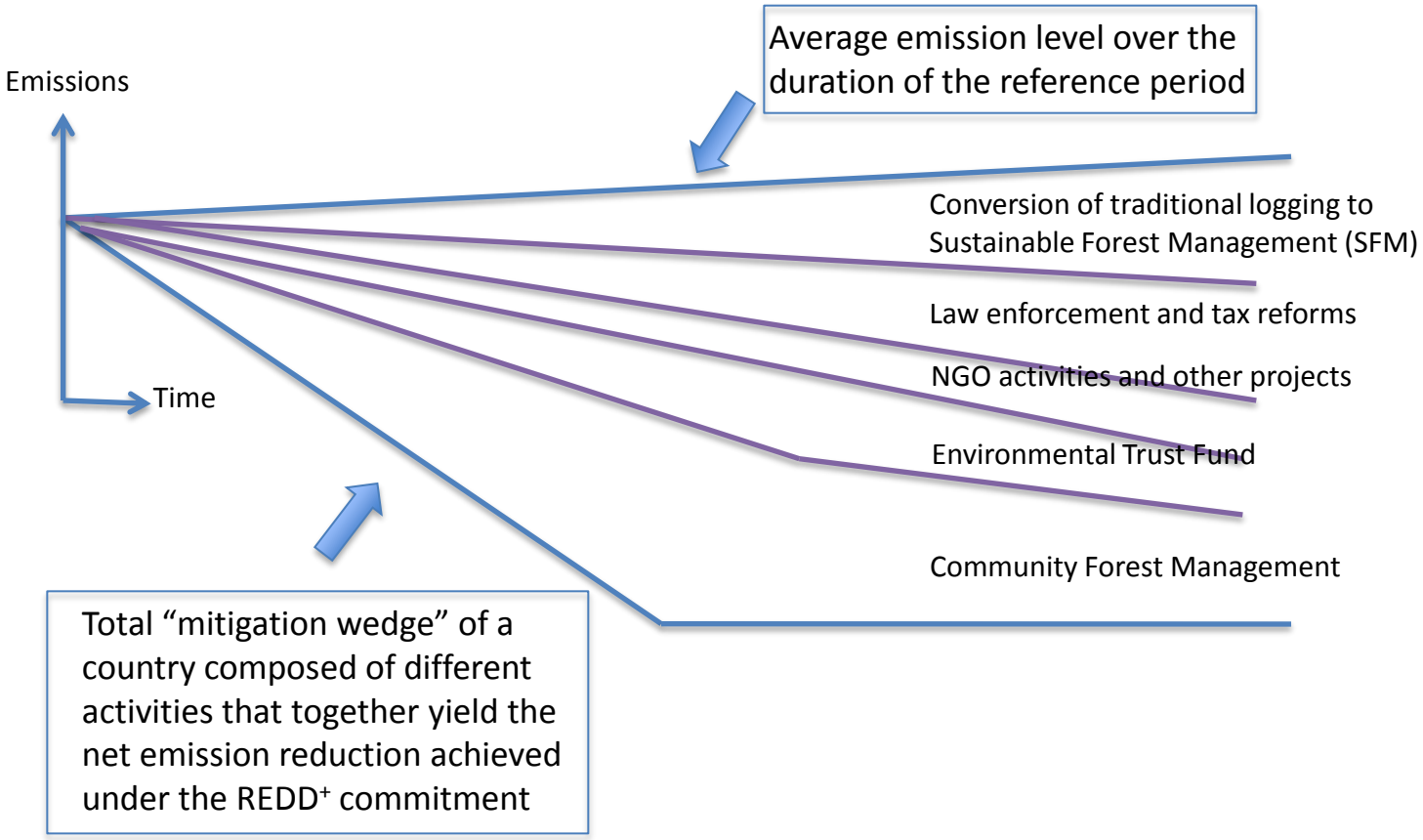
“Mitigation wedge”



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Sustainable solutions

- Make sure the policies and measures are in line with sustainable land use
- Deploy solutions for each stakeholder group that:
  - Provide at least the same level of income
  - Continue to deliver the same level of goods and service
  - Respectful of customary and traditional structures

- PES is a vehicle, an instrument
- PES in particular relevant and challenging in relation to local communities => forest degradation

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Causes of community-driven degradation

- Unsustainable agriculture, hence, need for more land (or more fertilizer)
- Roaming cattle (eats natural regeneration)
- Timber removal for household use
- Firewood collection
- Charcoal making
- Shifting cultivation
- Traditional land clearing by burning, resulting in wild fires

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Possible measures:

integrated land management strategies

- Removal of cattle grazing from the forest, possibly replacing it with stall feeding; production of fodder
- Limit or geographically spread fodder and/or firewood collection (fire wood plantations)
- Limits the extraction of leaf litter for fertilizer, but work on composting
- Patrolling of forest and fines for transgressors; exclusion of outsiders intending to remove timber and/or other products
- Fire watchers and establishment of fire lines

But, maintain same level of income; and,

The same access to good and services!

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Household as starting point for PES system

- Design solutions that meet the needs at the household level
  - What income does a family need
  - What goods and services are indispensible
- If the solutions do not meet those needs, they are not sustainable and will not last
- Solutions need to respect customary and traditional structures
- Income generating activities can also include the protection of the forest area itself

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Example from Chattisgarh State, India

- Effective fire prevention for 1000 ha (establish new and maintain existing fire lines, removing inflammable material from the forest floor):
  - Flat terrain: 1 Forester, 2 Forest Guards and 12 Forest Workers for three months every year
  - Mountainous terrain: double the above
- Removal of lantana and other invasive species: 1 Forester, 2 Forest Guards and 12 Forest Workers for 2 months; and,
- Pest and disease control: 1 Forester, 2 Forest Guards and 12 Forest Workers for 1 month every year

- Finance **labour**with **income** from **carbon** or **other ES**

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Monitoring changes in forest degradation

- To assess the **success of interventions**, carbon stock changes need to be **monitored**, which requires **ground level surveys**
- Forest degradation in particular in savanna type forests cannot be monitored using a combination of low and high resolution remote sensing systems; selective logging in tropical wet forests can. Reason: the slow, scattered and relatively low impact changes in carbon stocks associated with community subsistence uses are too small/slow to be picked up
- Airborne LiDar, IKONOS, and Quickbird are also in many cases not suitable (various reasons, including high costs and required data processing skills)

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Research results from K:TGAL project monitoring conducted by communities

www.communitycarbonforestry.org

- Based on **39 sites** in **7 countries** over periods ranging from **2 to 7 years**; 31 were sites managed by communities, one was privately owned and 7 were control sites
- After limited training, **communities** are **capable of taking carbon measurements** in their forests, in most cases **as reliable** as those taken by scientists and foresters, at less than **half the cost**
- Effective method is use of **participatory GIS methods** using PDAs and ArcPad, with attached GPS Instruments or Smart Phones and **Cybertracker software** (originally developed for wildlife monitoring by San bushmen)
- Sites in **dry savanna woodlands** gained an average of **3.1 tons per ha per year**, **temperate mountain forests 4.5 tons** per ha per year, and **tropical and subtropical humid forests** gained an average of **10.1 tons** per ha per year.

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Challenges

- Can REDD deliver? Is the potential income from REDD enough to change practices for the long-term? Or will the overheads be too much?
- Will REDD be able to overcome macro-economic barriers (e.g. agricultural subsidies in industrialized countries) and major earnings for companies and gov's from e.g. timber (opportunity costs - legal and "under the table")
- Challenge of determining the reference emission level, national and sub-national baseline(s): to measure progress you need a reference case
  - in case of lack of baseline data for forest degradation this can be resolved by monitoring forest regrowth only once improved management is underway (e.g. savanna forest yielded over 3 tC/ha/yr)

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Nested system

- Monitor average national emission levels against a single national reference emission level (baseline)
- In reality it is likely that countries will implement a package of policies, measures and activities, some taking the shape of projects at sub-national level
- Effectiveness of individual interventions needs to be compared and evaluated
- Requires an infrastructure and decision-making capacity on sharing of financial compensation for ES

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Pre-conditions for successful PES systems

- A **legal framework**that is consistent with sustainable solutions
- **Willingness and ability to empower communities**giving them entitlements to govern forest areas
- **Map** land mosaics and identify hotspots to allow for better land-use planning and prioritisation of areas to be included in PES systems
- **Ability to model** some of the emission and removal trends to scale up information to reliable estimates (the traditional “national system” under the UNFCCC)
- A **reliable administrative system**to record monitored and verified changes in carbon stock, together with information on who achieved the emission reduction in order to determine the **appropriate compensation/reward**

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Experience from PNG

- 98% of the land owned by extended families; clans
- Threat of forest degradation or conversion to oil palm extremely high
- Very limited opportunities for the government to work directly with communities: work through large, mainly foreign companies that enter into contracts with Integrated Land Groups (ILGs: a number of clans organised in a group)
- Timber is often taken in exchange for (promises for the provision of) basic services (school, road, medical centre, etc.) or in exchange for cash (which doesn't necessarily last long)
- PES system would be one way for the government to work directly with the communities

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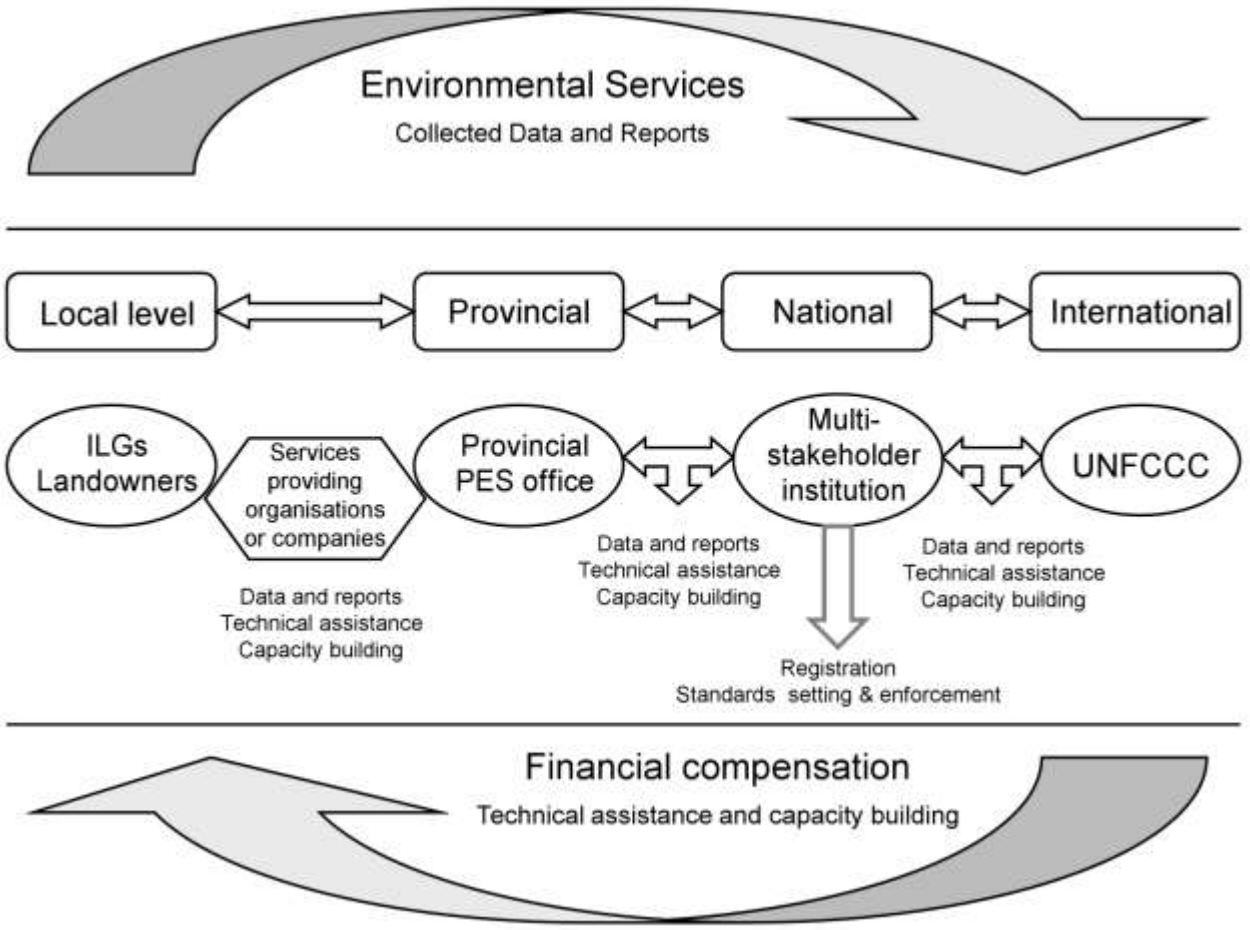
Environmental Services
Collected Data and Reports
Local level
Provincial
National
International
ILGs
Landowners
Services
providing
organisations
or companies
Provincial
PES office
Multi-
stakeholder
institution
UNFCCC
Data and reports
Technical assistance
Capacity building
Data and reports
Technical assistance
Capacity building
Data and reports
Technical assistance
Capacity building
Registration
Standards setting & enforcement
Financial compensation
Technical assistance and capacity building

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Take Home messages

- Design REDD+ activities in such a way that the natural resources continue to provide goods and services as before;
- Connect the different levels: local to national and international
- (Show the willingness to) empower and share

Thank you!

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