Policy Relevance
... recommendations potentially useful to policy makers

- An innovative way to determine level of incentive for conducting government programs.
- Inputs on alternative scenarios in developing a reward scheme for environmental services.
- Strong scientific basis for negotiation
- Inputs for efficient (and effective) budget allocation (in public funding scheme)

"We expect that this study will answer a number of questions in the policy domain, especially in between the paradigm of 'principled valuation' and 'fully market based, negotiated deals'. We look for negotiations that are informed by the science of watershed functions…"

Thank You

More information about RUPES

RUPES Program

c/o World Agroforestry Centre
PO Box 161, Bogor, 16001, INDONESIA
Tel: +62 251 625415
FAX: +62 251 625416
Email: RUPES@cgiar.org

http://www.worldagroforestrycentre.org/sea/Networks/RUPES

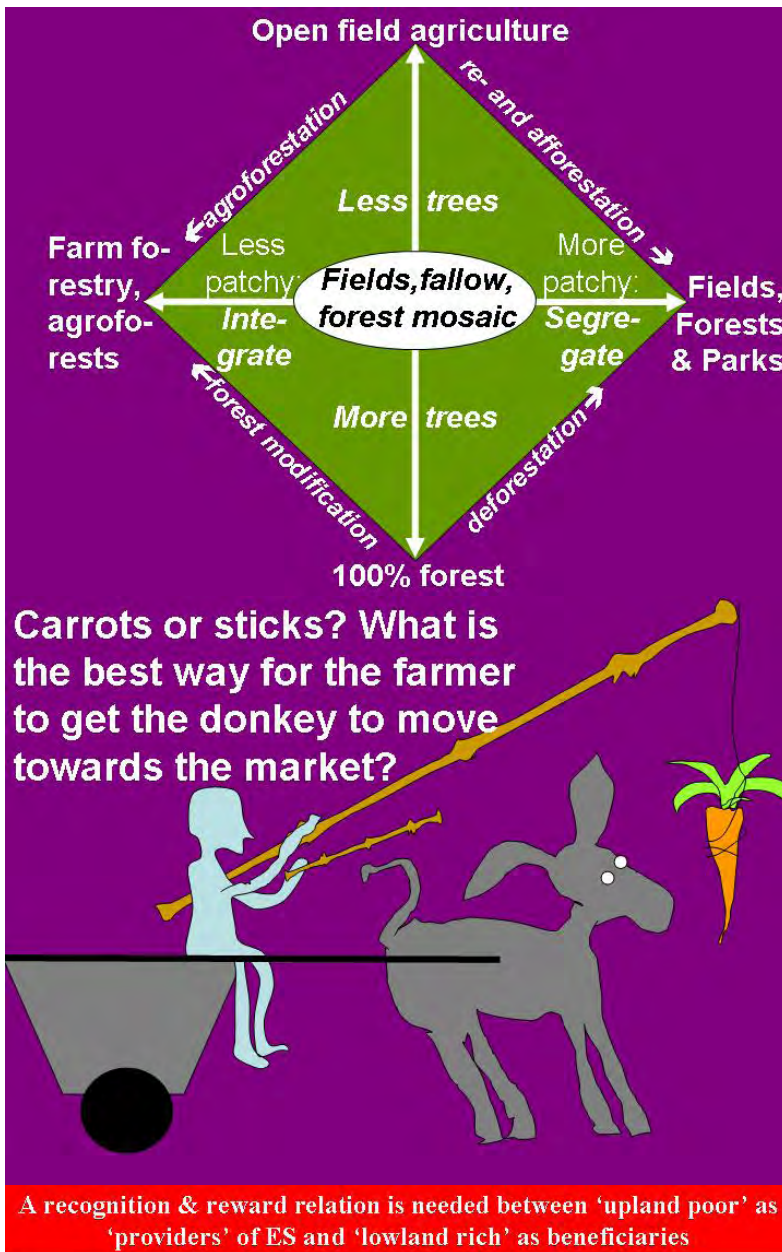"This study is just starting – further details are available on request… Updates will be provided through the RUPES website and newsletter. You can find us at **www.icraf.org/sea/networks/rupes** ...."

Donkeys, Carrots, Sticks and Roads to a Market for Environmental Services: Rapid Agrobiodiversity Appraisal for the PES – ICDP Continuum

Meine van Noordwijk & co-authors
ICRAF-Southeast Asia

World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

RUPES
Rewarding Upland Poor for Environmental Services

"In our efforts to synthesize what we learn from the efforts to make reward mechanisms work, we are reflecting on the combination on regulatory and incentive-based approaches. The simple "rules haven't worked, now the market will fix it" is way too naïve…"

Open field agriculture

re- and afforestation

agroforestation

Less trees

Farm fo-restry, agrofo-rests

Less patchy: **Inte-grate**

Fields,fallow, forest mosaic

More patchy: **Segre-gate**

Fields, Forests & Parks

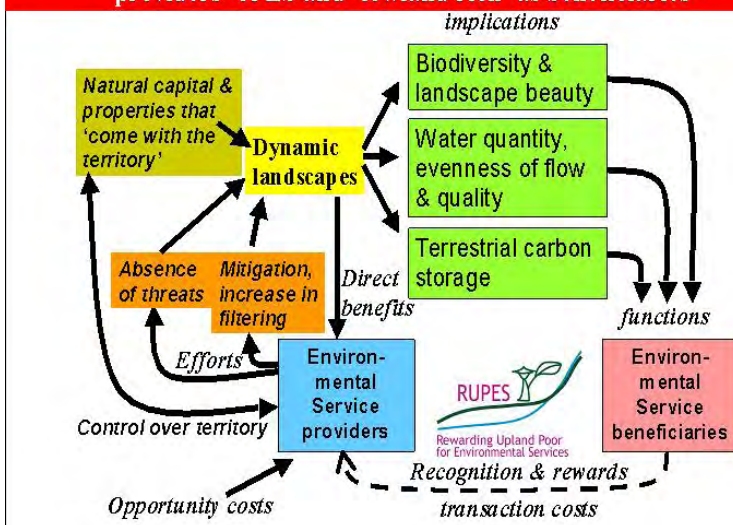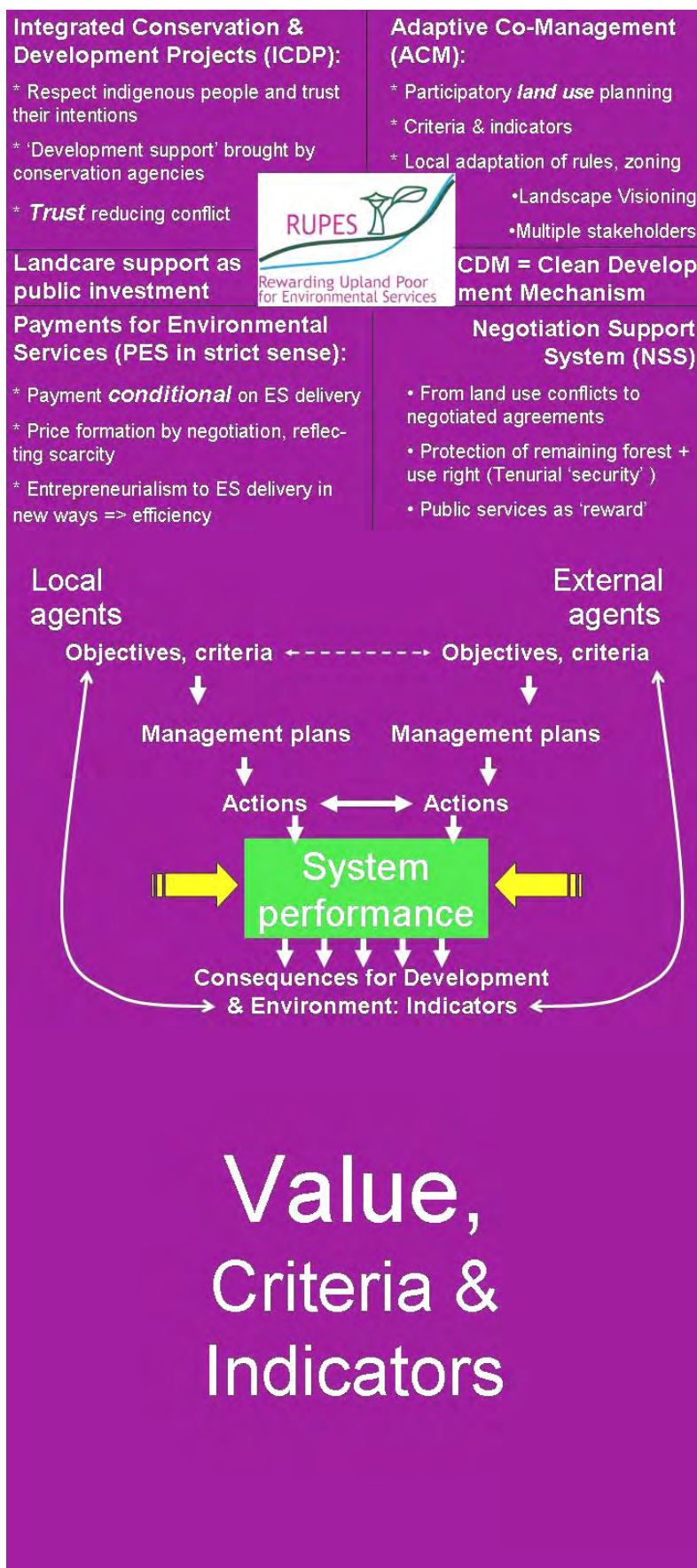forest modification

deforestation

More trees

100% forest

"We find that much of the dialogue on environmental services is still framed in a deforestation/ reforestation language. In fact, however, in landscapes in between '100% open field agriculture' and '100% forest' the issues are as much about spatial pattern as they are about the number of trees or area of forest. In 'integrate' tradeoffs need to be guarded"

Carrots or sticks? What is the best way for the farmer to get the donkey to move towards the market?

"The simple **rules** versus **rewards** choice is often framed as carrot or stick, assuming that the farmer indeed has to go to the market and that the donkey doesn't want to move… Can we learn from this analogy? How can rules & rewards be used in synergy?"

A recognition & reward relation is needed between 'upland poor' as 'providers' of ES and 'lowland rich' as beneficiaries

implications

Natural capital & properties that 'come with the territory'

Dynamic landscapes

Biodiversity & landscape beauty

Water quantity, evenness of flow & quality

Terrestrial carbon storage

Absence of threats

Mitigation, increase in filtering

Direct benefits

functions

Efforts

Environ-mental Service providers

RUPES
Rewarding Upland Poor for Environmental Services

Environ-mental Service beneficiaries

Control over territory

Recognition & rewards

Opportunity costs

transaction costs

"The starting point for RUPES is that land use in the uplands can affect many 'lateral flows' and 'services', but that these impacts don't translate to benefits or costs that the upland farmers see when they choose among the options they have. Recognition & rewards can help, but transactions can be costly."
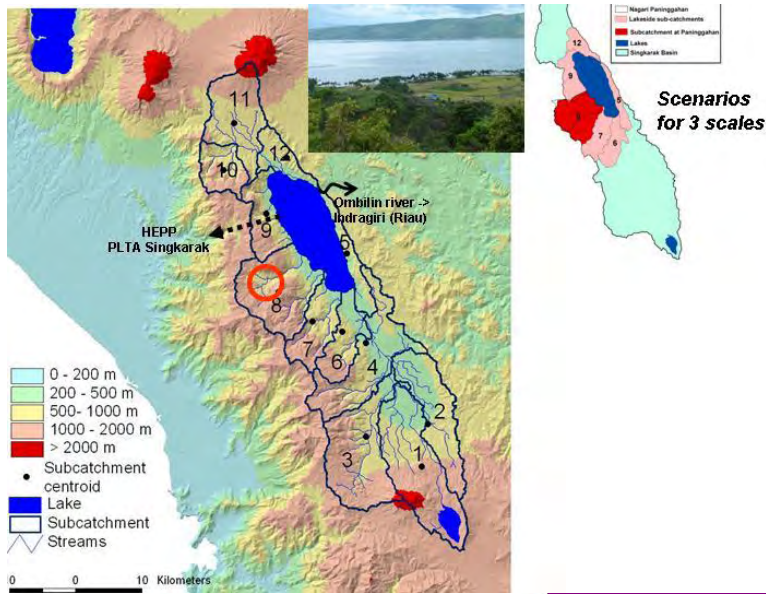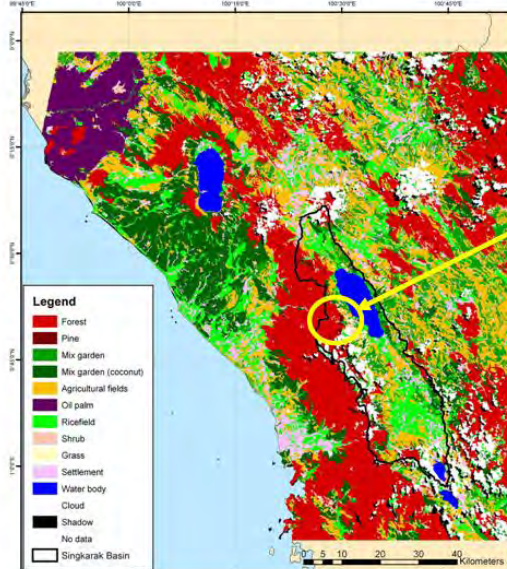
Integrated Conservation & Development Projects (ICDP):

* Respect indigenous people and trust their intentions

* 'Development support' brought by conservation agencies

* *Trust* reducing conflict

Landcare support as public investment

Payments for Environmental Services (PES in strict sense):

* Payment *conditional* on ES delivery

* Price formation by negotiation, reflecting scarcity

* Entrepreneurialism to ES delivery in new ways => efficiency

Adaptive Co-Management (ACM):

* Participatory *land use* planning

* Criteria & indicators

* Local adaptation of rules, zoning

•Landscape Visioning

•Multiple stakeholders

CDM = Clean Development Mechanism

Negotiation Support System (NSS)

• From land use conflicts to negotiated agreements

• Protection of remaining forest + use right (Tenurial 'security')

• Public services as 'reward'

RUPES
Rewarding Upland Poor for Environmental Services

Local agents — External agents

Objectives, criteria ⇠ - - - - - - - ⇢ Objectives, criteria

Management plans — Management plans

Actions ⇠⇢ Actions

System performance

Consequences for Development & Environment: Indicators

Value, Criteria & Indicators

"In fact there have been and still are many attempts to make the goals of livelihood improvement/development and environmental conservation a reality. RUPES is inclusive and sees a 'strict' form of PES (payments/markets for ES) as only one of a range of options."

"Basically the interaction between local agents, an agroecosystem and external stakeholders can be considered at the level of **outcomes** (for ES and livelihoods), **inputs/ actions** (what farmers do), **plans** or **objectives**. The interaction with external stakeholders can focus on any of these levels."

"In developing ES reward mechanisms we have learnt that four dimensions need to be considered, right from the start. The first may seem to be very obvious: Value or the presence of '**real**' and '**significant**' environmental service effects of land use change."

"In practice, however, perceptions of ES effects rather than real ES effects drive the discussion. To be sustainable, however, reward mechanisms must withstand scrutiny. An example is the case of Lake Singkarak where a hydroelectricity company pays and money would be used for 'reforestation'…"

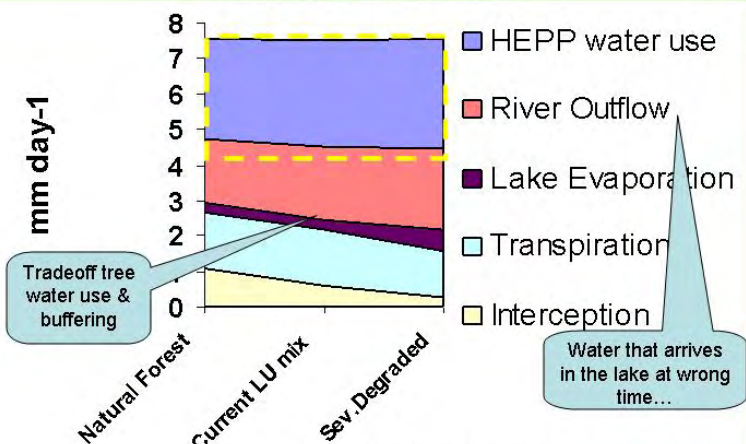
Lake Singkarak

Paningahan – Nagari with good governance, forest protection, interest in rehabilitation

Can/should they get bigger share in hydroelectricity royalties as PES?

"The Paninggahan community maintains the best forest cover of the whole catchment and expected to get a major part of the ES payments. Is 'their' forest indeed responsible for the water that drives the turbines? We started a 'rapid hydrological appraisal' or RHA."

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

Tradeoff tree water use & buffering

Water that arrives in the lake at wrong time…

GenRiver1.1 calculations for Lake Singkarak

"Our water balance model suggests that land cover in the catchment will influence a number of terms in the balance, but have little effect on electricity production ('HEPP water use'). The main issue probably is water quality of the lake – with complex cause-effect relations."

RAMES = Rapid Appraisal of Marketable ES				
	RHA: Hydrological services	**RABA:** agrobio-diversity	**RaCSA:** carbon stocks	**Eco-tourism**
PRA: land use, stakeholders				
Land use change analysis				
LEK = local knowledge&values	Interviews	Interviews, **ethnobotany**	Soil + ve-getation typology	??
PEK = policy perceptions&values	Interviews, sec. data	Interviews, sec. data	Check Kyo-to eligibility	??
MEK = ecological models	GenRiver	Survey + scaling	Measure C-stocks	??
Plausible ΔLU scena-rios+indicators: tradeoffs				??

Threat, Tradeoffs & Externatities

Perceived relevance of intervention

Problem will take

Problem

Threat

"Similar to the RHA we have developed methods and tool boxes for the appraisal of agrobiodiversity, carbon stock issues. Our target is to compare all stakeholder perceptions plus ecological models, but at af-fordable cost and in < 6 months… The methods can be used jointly for 'bundled' services"
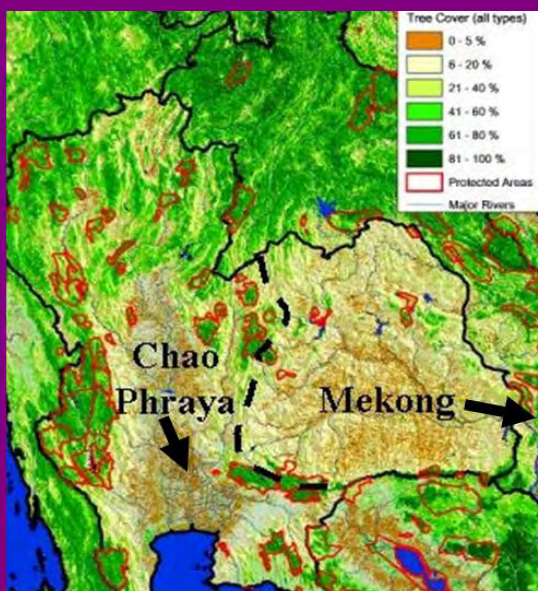
"When the 'value' is clear, we find that the willingness to engage by external stakeholders depends on the level of threat: at low level of threat the ES is perceived to still be a **public good** that can be appreciated free of charge by all. At high levels of threat, external stakeholders don't want to be 'black-mailed'…"
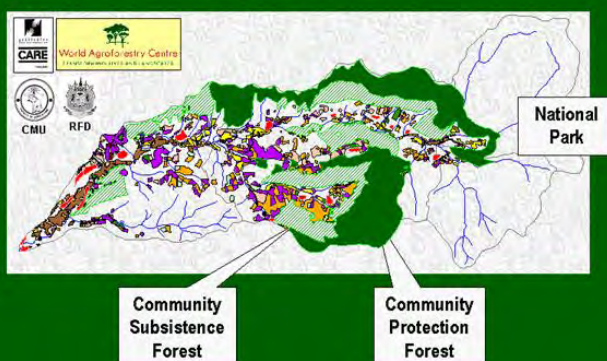
"In between these two levels of threat are the options to engage… However the same 'case' can be presented in multiple ways. For example, the rubber agroforests of Jambi may appear a 'lost case' because of oil palm threat, or 'still safe' in agroforest romanticism. Communication is the key…"

Prototype for formal recognition under community forestry law??

Mae Raek Land Use Plan
produced through localized negotiations

"Partly compensating for the level of threat, when seen as the private profitability of less ES friendly land use options, is the opportunity that derives from community scale regulation. Local ES concerns may coincide with external ones and reduce the levels of threat…"

"As example of these community-scale regulations we may consider the forest situation in Thailand – where much of the uplands of the Chao Phraya that flows by Bangkok is considered to be protected ('Class I') watershed. Any farming in these area is illegal…"
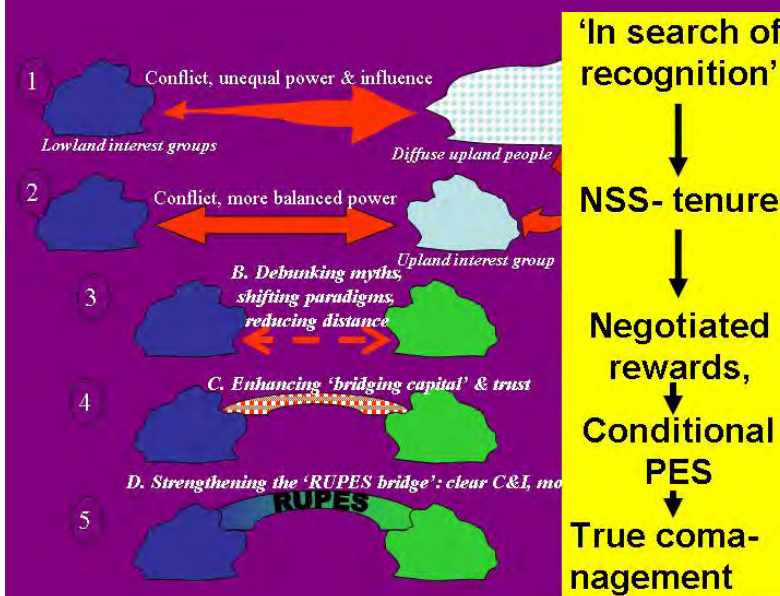
"When we zoom in, however, we see that local scale regulation and land use planning provides effective protection to the more sensitive landscape positions, while farming is allowed elsewhere. Supporting this local 'regulation' rather than declaring it 'illegal' probably makes sense."

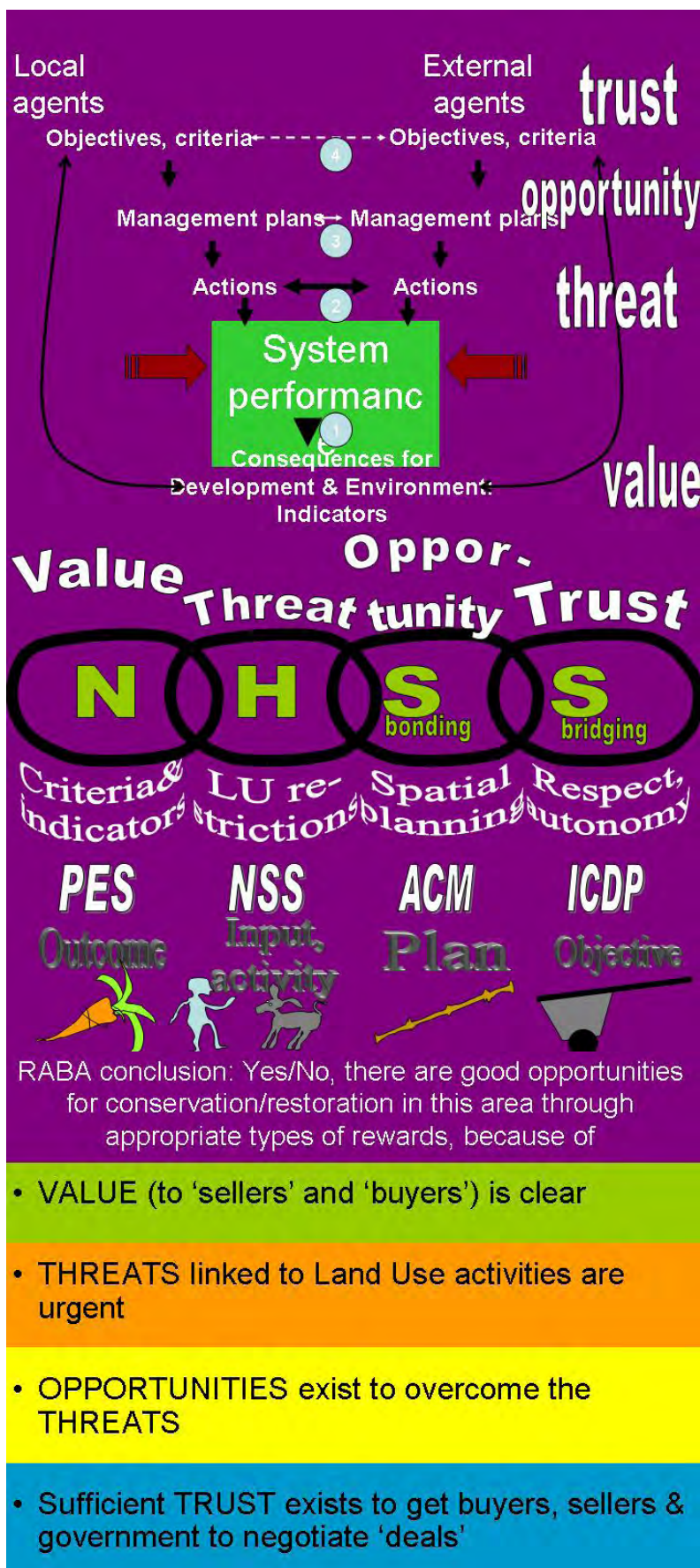Landscape-Level Negotiation, Planning & Mapping

"This paradigm shift has lead to a strong interest in local resource mapping, negotiation support systems and planning exercises. Local rules can indeed modify the tradeoffs and it may be more effecttive to deal with a 'farmer group' or 'community" than with individual farmers."

Trust

"The fourth dimension relates to 'trust' or the likelihood that negotiations between local community members and outside agents can even get started, let alone lead to tangible results and implementable agreements. Trust between government and farmers is often at a low level."

"In the relationship between 'upland' forest-farmers and government we can recognize a number of stages, from latent to open conflict, with the realization of 'myth- perceptions' that lead to unnecessary lose-lose, and the early exploration of 'win-win'… RUPES ideas can help form a bridge."

"In fact the four dimensions **value**, **threat, opportunity** and **trust** match the **outcomes, actions, plan** and **objectives** level of understanding the linked farmer-agroecosystem-ES-beneficiary system. We can now see how the various conservation + development approaches all solve part of the puzzle."

"Our four dimensions also refer to four types of 'capital', and the keywords 'Criteria & Indicators, LU restrictions, Spatial planning and Respect & autonomy. In fact we see that the carrot, the (locally operated) sticks, the dancing farmer & donkey and the cart all have a place…"

"In a nutshell, every proposal for a locally adapted ES reward mechanism will have to be able to make a convincing case on each of the four dimensions – otherwise we're probably all wasting our time… We need ecological, agronomic, spatial, social, economic and institutional expertise to make sense of this type of landscape agroforestry."

The agroforesters of Asia have a lot of opportunity to transform and improve their lives and landscapes…

We can help by removing constraints, artificial divisions and by challenging 'myth-perceptions'…