Exploring of Reward for Environmental Services in Asia

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The Rewarding Upland Poor for Environmental Services – RUPES Project

Asia-Pacific Tropical Forest Investment Forum:

Issues and Opportunities for Investment in Natural Tropical Forest

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RUPES

aims to enhance the livelihoods and reduce the poverty of upland poor in Asia while supporting environmental conservation at the global and local levels

Supported by IFAD

Coordinated by the World Agroforestry Centre (ICRAF)

Implemented with local, national and international partners

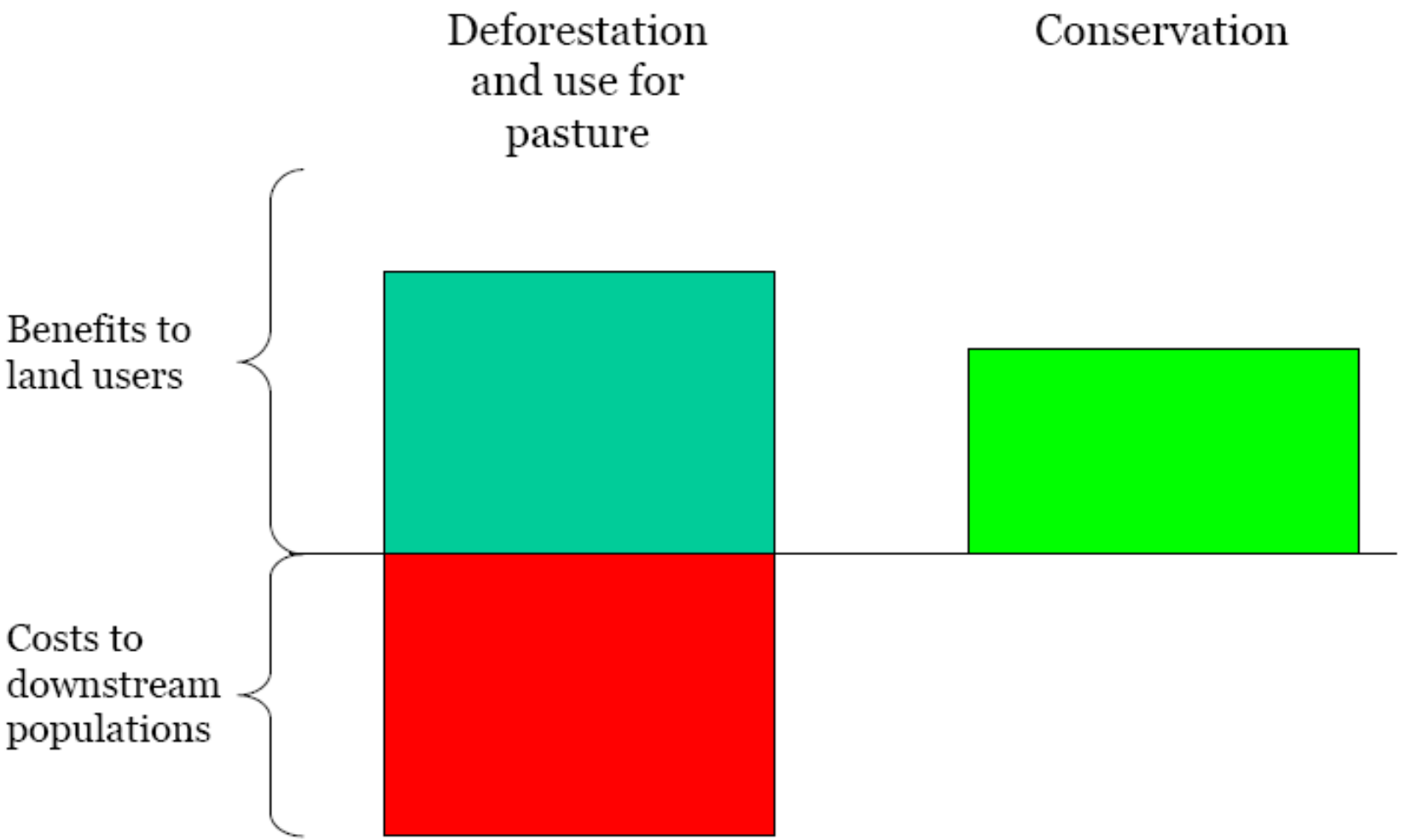
RUPES

Rewarding Upland Poor for Environmental Services

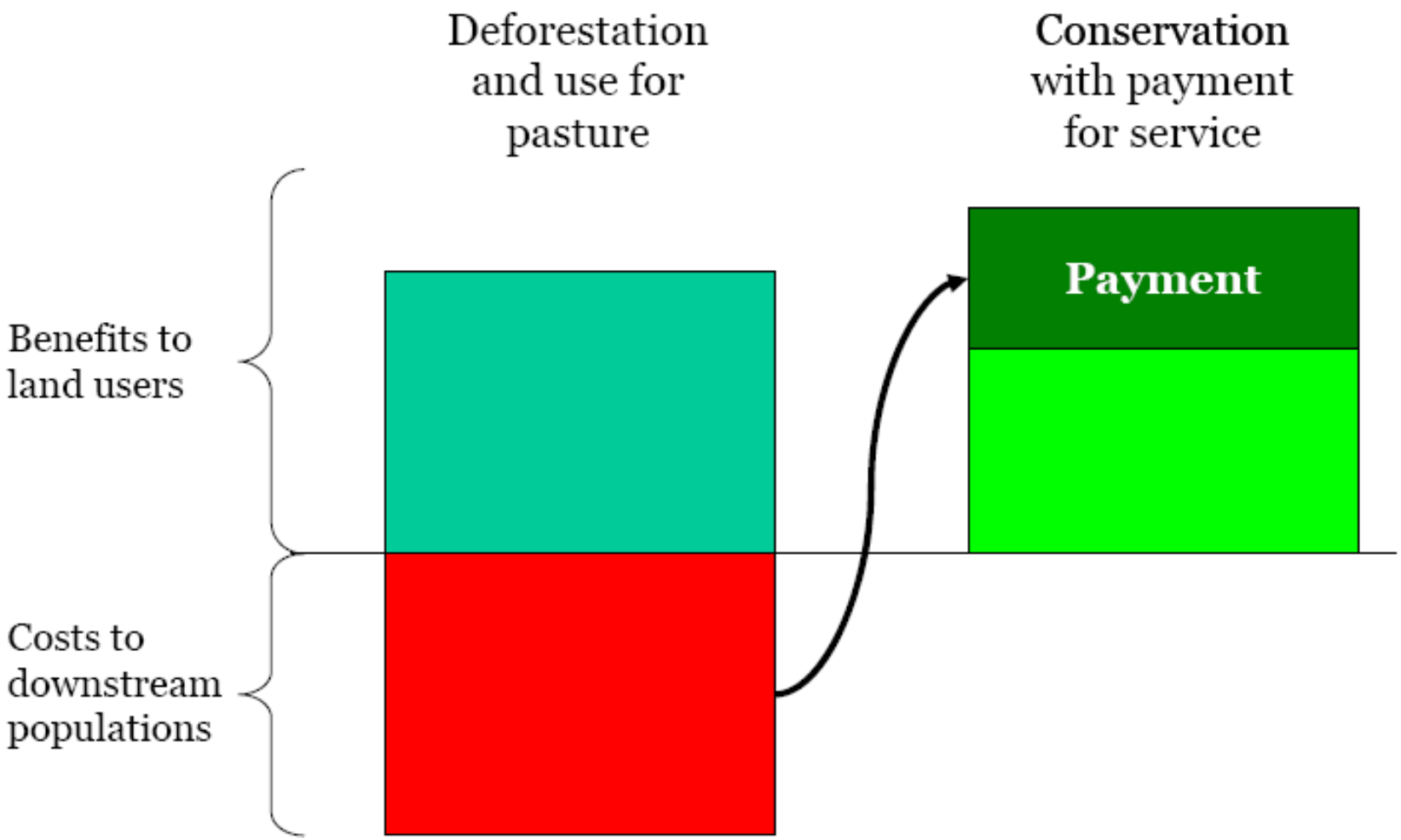
Background and Rationale

- Growing interest in reward mechanisms to secure environmental services
  - Carbon sequestration, biodiversity conservation
  - watershed services, scenic beauty
- Limited application of such mechanisms, especially outside of Latin America
- Concern about income distribution effects

The problem


Deforestation and use for pasture
Conservation
Benefits to land users
Costs to downstream populations

The logic of payments for environmental services



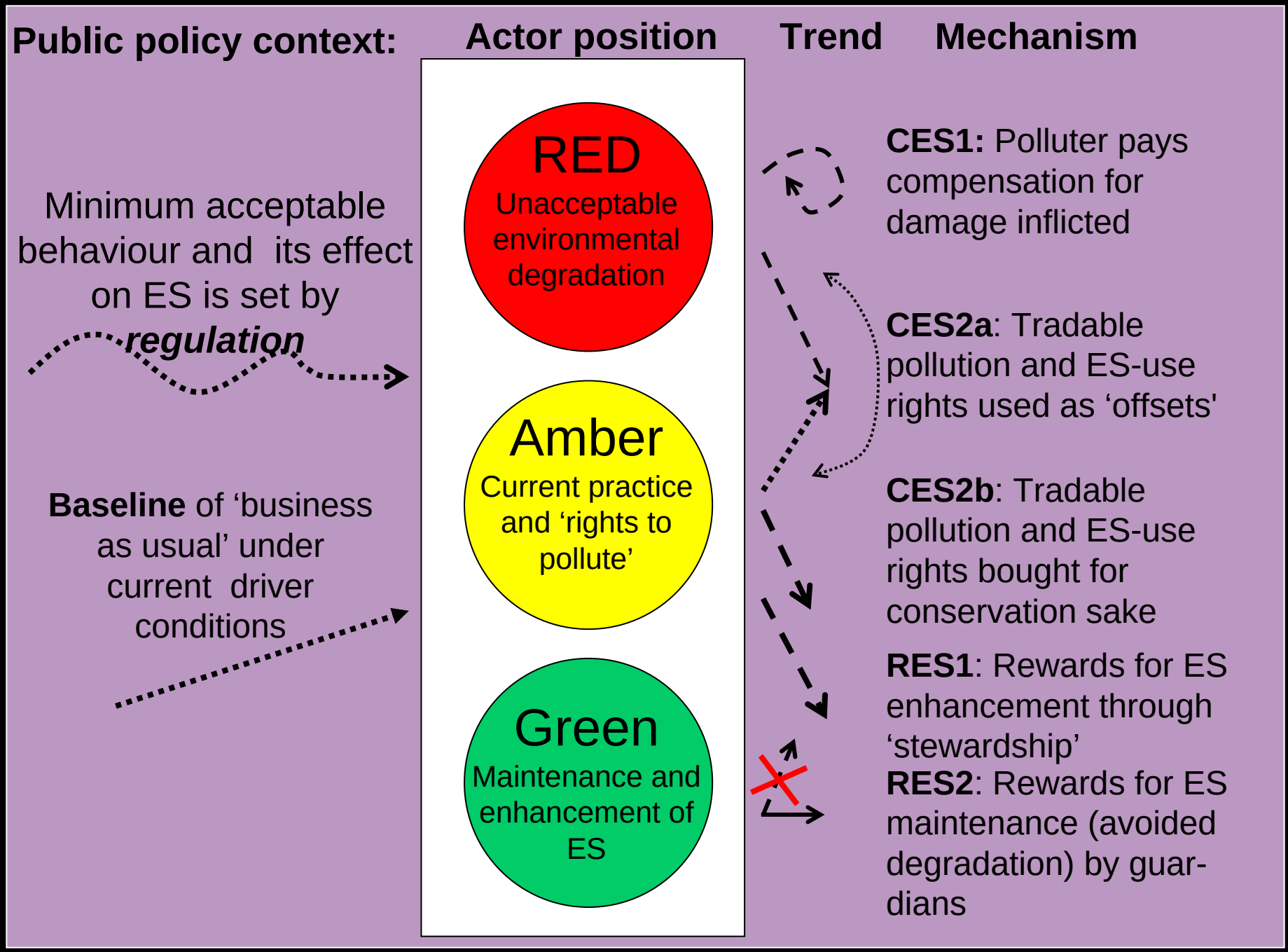
Definition of PES

A mechanism to improve the provision of indirect environmental services in which

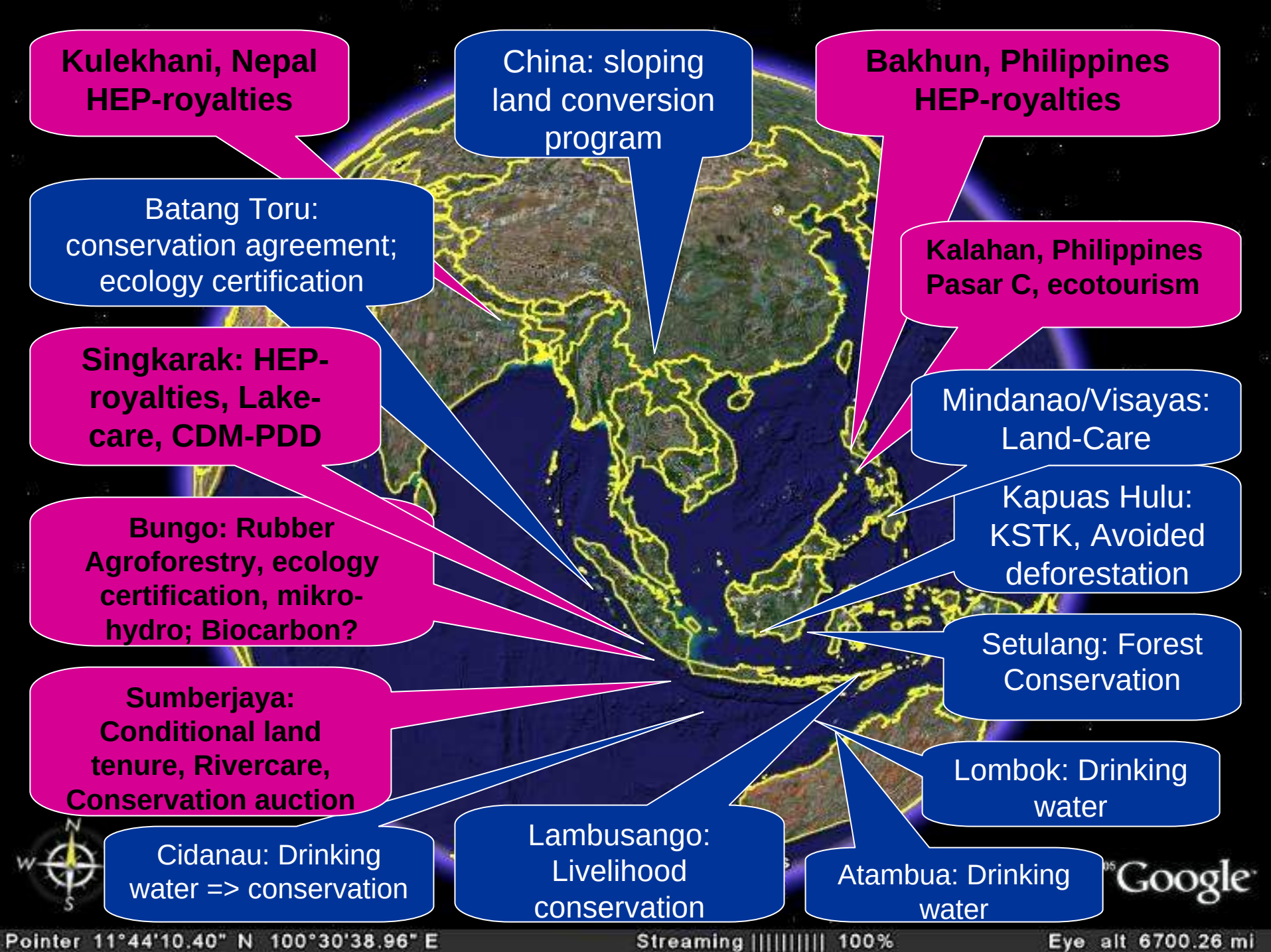
- Those who provide environmental services get paid for doing so ('provider gets')
- Those who benefit from environmental services pay for their provision ('user pays')
- Payments are conditional for both parties
- Participation is voluntary for both parties

Special case: 'Supply-side PES'

- Payments are with government funds or obligatory fees from service users


Public policy context:
Actor position
Trend
Mechanism
Minimum acceptable behaviour and its effect on ES is set by
regulation
Baseline of 'business as usual' under current driver conditions
RED
Unacceptable environmental degradation
Amber
Current practice and 'rights to pollute'
Green
Maintenance and enhancement of ES
CES1: Polluter pays compensation for damage inflicted
CES2a: Tradable pollution and ES-use rights used as 'offsets'
CES2b: Tradable pollution and ES-use rights bought for conservation sake
RES1: Rewards for ES enhancement through 'stewardship'
RES2: Rewards for ES maintenance (avoided degradation) by guardians


Kulekhani, Nepal
Bakun
the Philippines
Kalahan
6 Action research sites
Singkarak
West Sumatra
Indonesia
Bungo
Jambi
Sumberjaya
Lampung
RUPES
Rewarding Upland Poor
for Environmental Services


Kulekhani, Nepal
HEP-royalties
China: sloping land conversion program
Bakhun, Philippines
HEP-royalties
Batang Toru: conservation agreement; ecology certification
Kalahan, Philippines
Pasar C, ecotourism
Singkarak: HEP-royalties, Lake-care, CDM-PDD
Mindanao/Visayas: Land-Care
Kapuas Hulu: KSTK, Avoided deforestation
Bungo: Rubber Agroforestry, ecology certification, mikro-hydro; Biocarbon?
Setulang: Forest Conservation
Sumberjaya: Conditional land tenure, Rivercare, Conservation auction
Lombok: Drinking water
Cidanau: Drinking water => conservation
Lambusango: Livelihood conservation
Atambua: Drinking water
Google
Pointer 11°44'10.40" N 100°30'38.96" E
Streaming 100%
Eye alt 6700.26 mi

Asia experience:

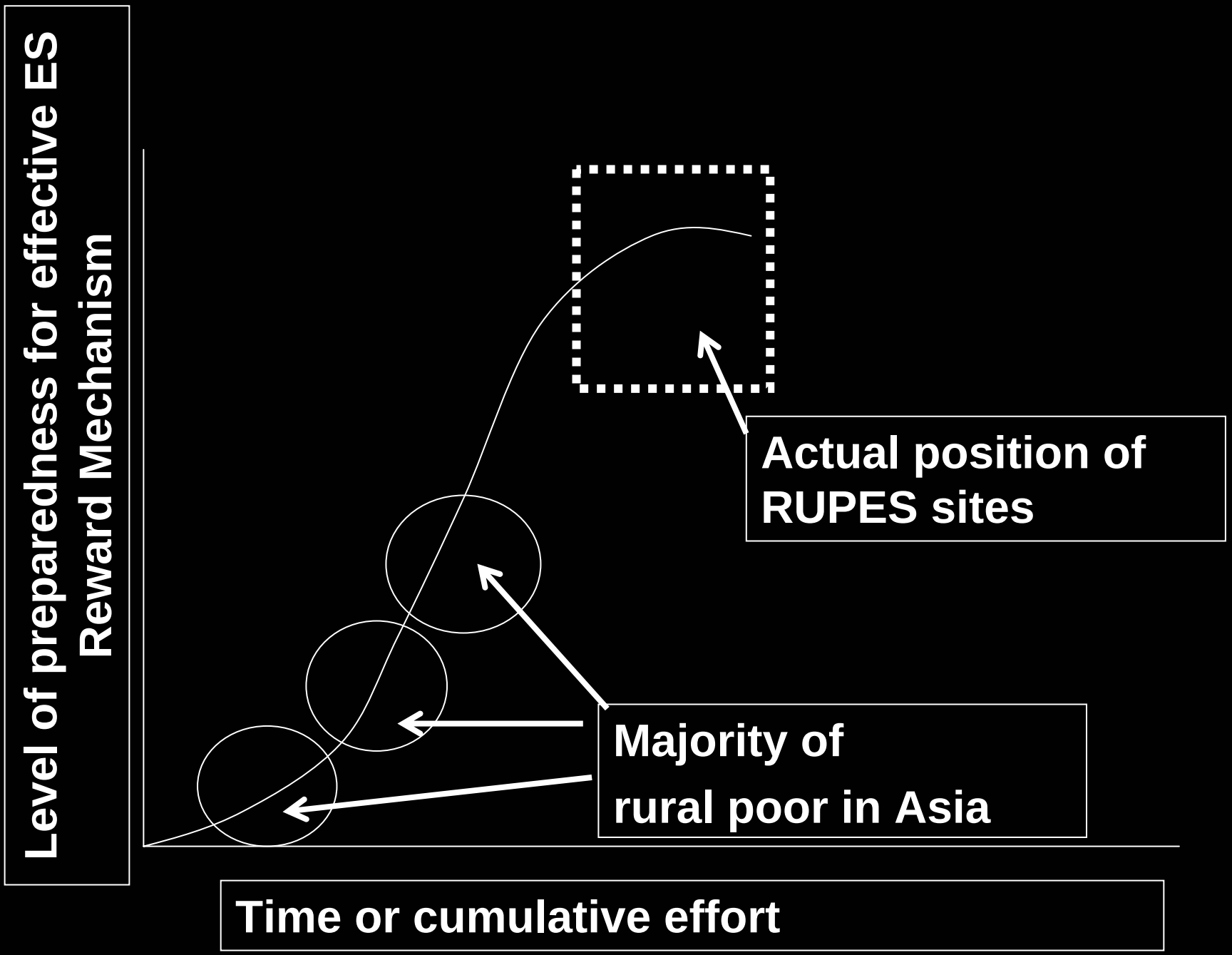
- Major differences in context within and between South Asia, Southeast Asia, and China
- Significant state involvement in management of common pool resources and direction of the economy
- India has largest experience with smallscale CDM projects, mostly in energy efficiency and energy substitution
- Concerns about joint forest management as an unfinished project – need to focus on greater tenure security and local management
- India: Public interest litigation, backed by science, as a tool for improved environmental management

Asia experience:

Compare:

- **Pollution from textile industry in the Noyyal river basin, Tamil Nadu – use of valuation to assess damage; inequities in allocation to landless people**

- **Watershed management projects under RUPES (Philippines, Nepal, Indonesia): building up the case for rewards for watershed protection through scientific case, legal and institutional arrangements, and appeals to sustainable and corporate social responsibility of companies**


Level of preparedness for effective ES Reward Mechanism
Actual position of RUPES sites
Majority of rural poor in Asia
Time or cumulative effort

Four Criteria in Developing Reward for Environmental Services Mechanisms:
(van Noordwijk et al 2006)

- ***Conditional***: mechanism should be based on real cause-effect relations between land use and environmental services to ensure its sustainability
- ***Realistic***: reward slightly exceeds the willingness to accept for land managers to take actions in providing ES but less than the willingness and ability to pay of ES beneficiaries
- ***Voluntary***: schemes are adaptive and reflect effective voice of communities and balanced negotiation power at all levels
- ***Pro-poor***: schemes to understand the relations between poverty and ES provision and to develop pro-poor mechanisms

Conditional – sustainable, effective and transparent

Natural Capital

Landscape Dynamic

- Biodiversity conservation
- Landscape beauty
- Water quantity and quality
- Carbon stock

Environmental Service Function

Stewards

Terrace, agroforestry

Guardians

Forest protection efforts

Voluntary – adaptive and efficient

Land management

Direct benefit

Providers of Environmental service

Beneficiaries of Environmental Service

Pro-poor – equity

RUPES Rewarding Upland Poor for Environmental Services

Recognition and Rewards

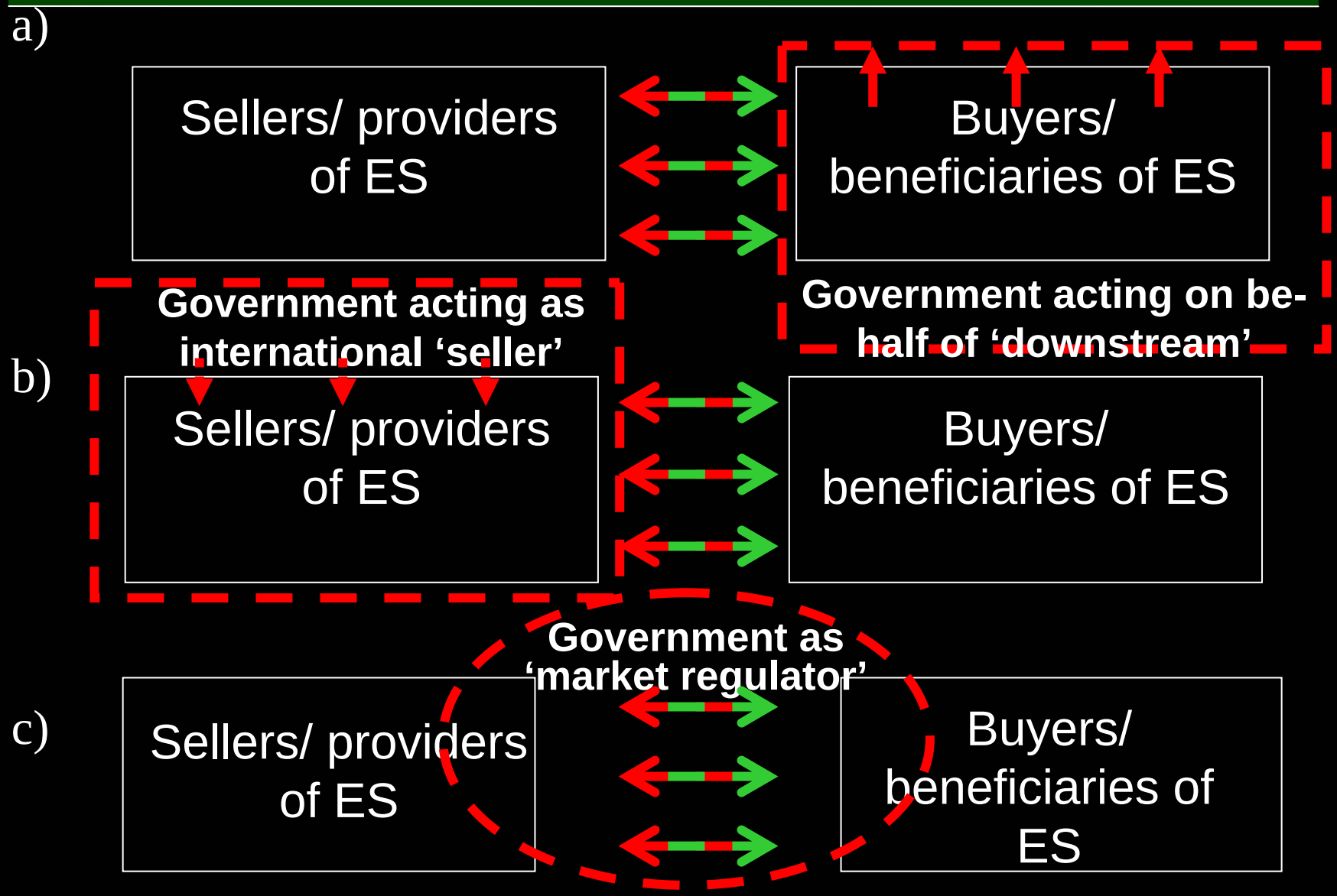
- Opportunity cost
- Land control and access

Policy and Institution

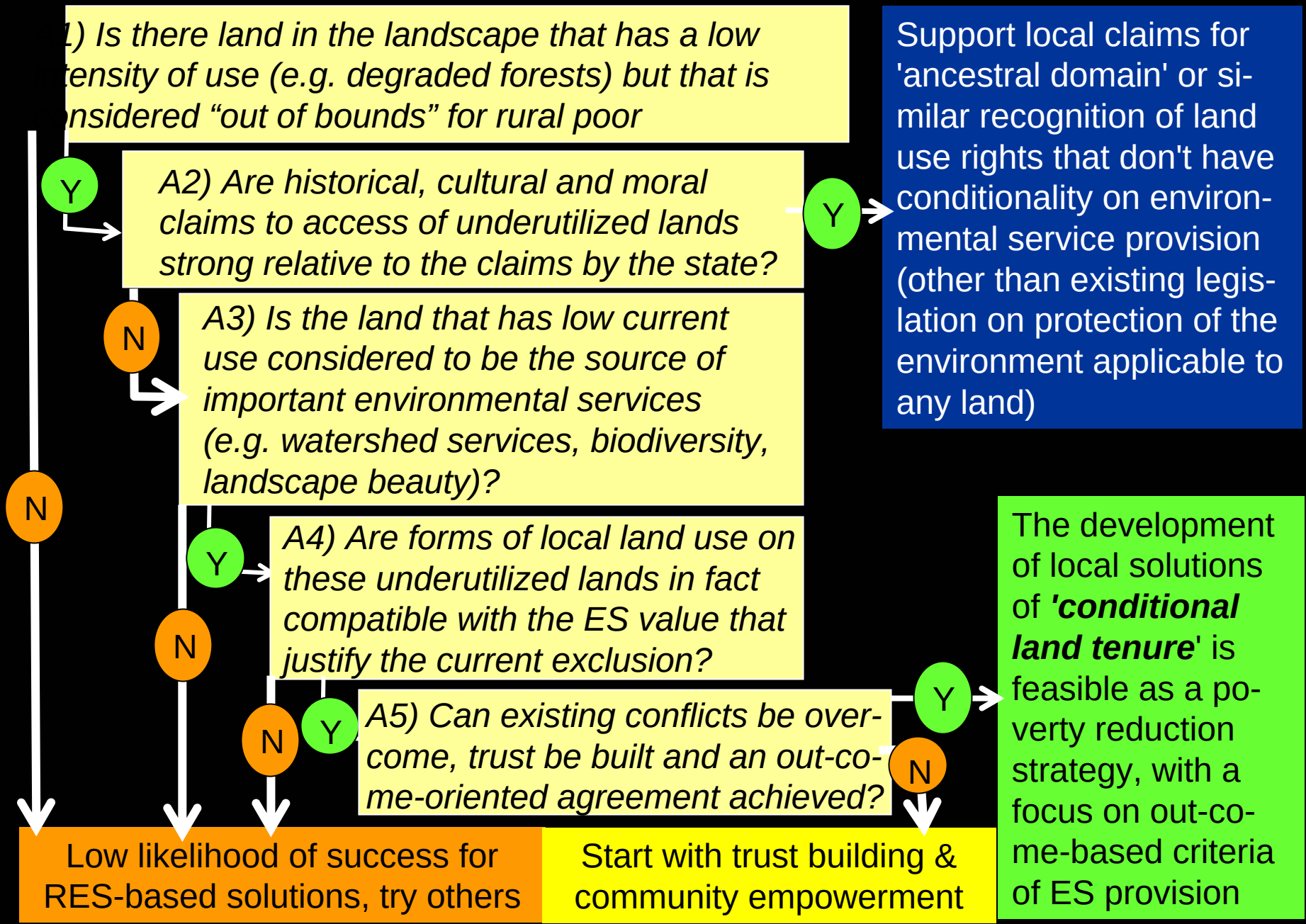
- Transaction cost
- Supports and challenges

Realistic

Issue: Govt roles



Pro poor: Lack of access to and use rights of land



Conditionality: ex River Care

- Almost all PES on hydrology services based on belief not based on conditionality or outcome.
- ES need to be clear and measurable, ex. reduce sediment by 30%
- Mechanism is not yet developed
- Rupes initiated to test mechanism of PES based on outcome, the project call: RIVER CARE
- Electricity company will adopt this scheme this year

River Care : Mechanism

- Contract with community to establish rive care group.
- Provide 10 million rupiah for their activity to reduce sediment
- Rules for compensation, if sediment is reduced by:

  $1,000 for a reduction of 30% or more

  $700 for a 20 to 30% reduction

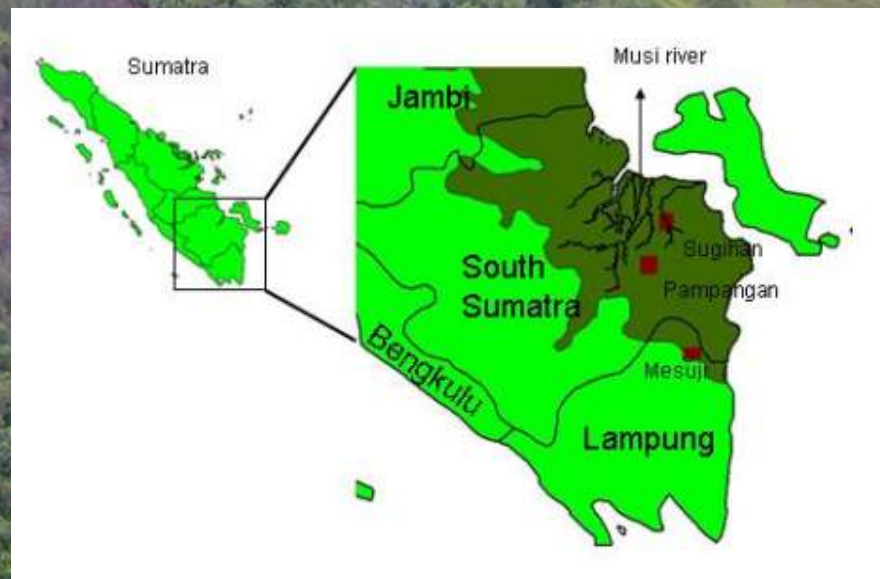
  $500 for a 10 to 20% reduction

  $250 for a less than 10% reduction

Realistic: potential carbon market for peat land

In the 1997/1998 fire episode, peatland fires accounted for :

- **15 % of the burnt area**
- **60 % of the smoke/haze production**
- **76 % of the carbon emissions from Indonesian fires**



The Sonor system:

In El Nino years with long dry seasons, wetland forest is burnt, lightly cleared, burnt a second time and then planted with rice.

Yield level 1.5 – 2 t/ha

Fallow regrowth is mostly gelam (Melaleuca quinque-nervia, Paper bark or Cajuput).

Local income: 0.14 $/ t CO_2 emitted

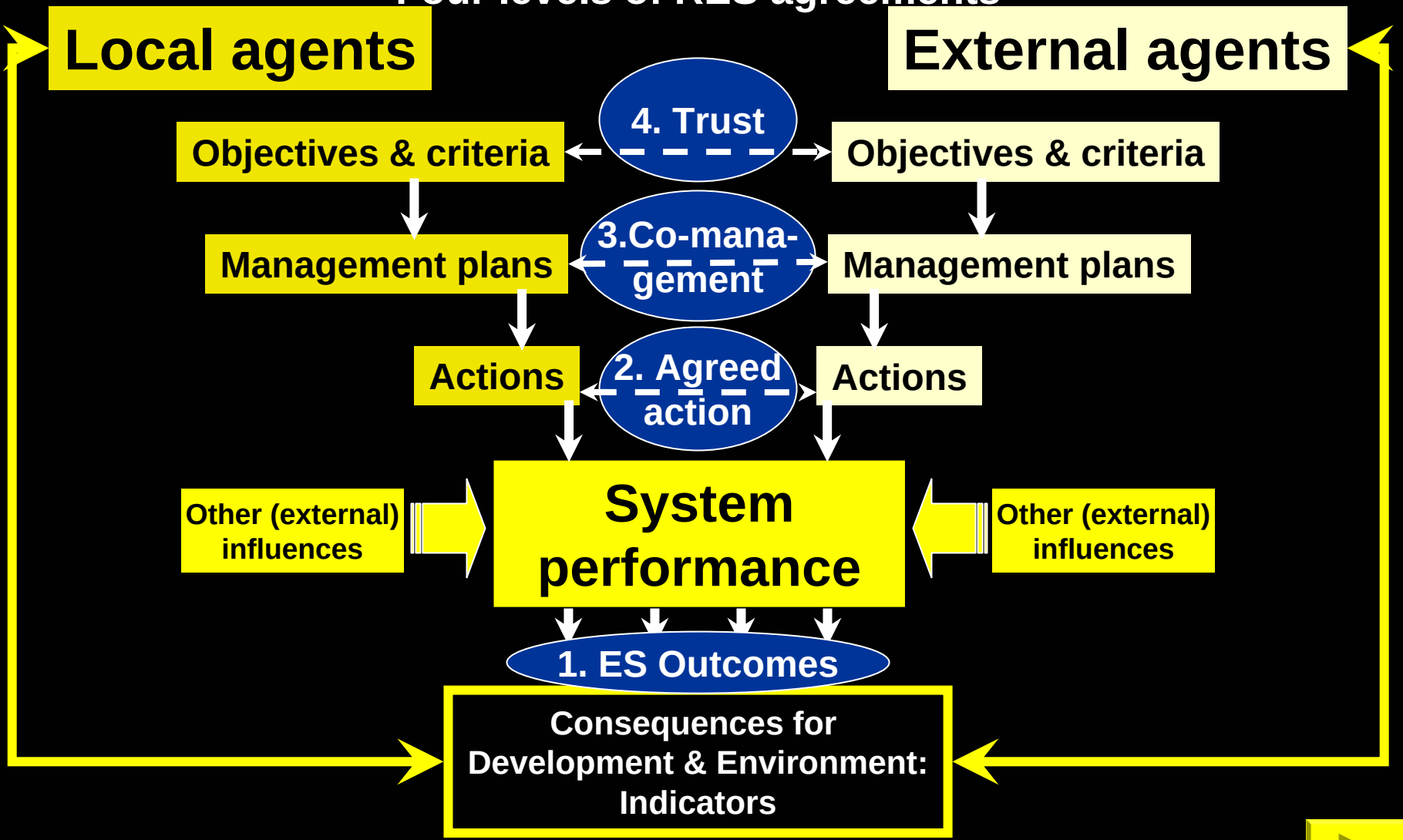
	Air Sugihan Village			
Source of income	**Year with 'sonor'**		**Year without 'sonor'**	
Suyanto & Novi	**(1997/1998)**		**(2001/2002)**	
	Rupiah/year	%	Rupiah/year	%
Sonor – rice 7 ha per family	4,441,588	**40**	0	**0**
Fish	4,734,038	**43**	5,086,050	**58**
Gelam forest harvesting	65,188	1	1,108,562	13
Other ag & forest	675,752	6	911,188	10
Wages, remittances & businesses	1,208,298	11	1,644,443	18
Total Income	**11,124,864**	**100**	**8,750,243**	**100**
Per capita income, $/day	0.68		0.53	

0.14 $/ t CO_2

Extra income from 'Sonor' is 53 $ p.p.p.y. from 1.4 ha p.p.

Carbon loss, at least 30+60 t C/ha

Four levels of RES agreements



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