RUPES

Rewarding Upland Poor for Environmental Services

Can Carbon Market Mechanisms Recognize PES in Post-2012?

Daniel Murdiyarso

Center for International Forestry Research (CIFOR)

on behalf of
RUPES International Steering Committee

Outline

- Introduction
- RUPES and its works in Asia
- A/R CDM related projects
- Post 2012 - Reducing emissions from deforestation in developing countries
- Will PES have a place?
- Conclusions

IFAD
INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT

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

World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

Supported by IFAD

Coordinated by the World Agroforestry Centre (ICRAF)

Implemented with local, national and international partners

RUPES

Rewarding Upland Poor for Environmental Services

RUPES Agenda

What services to whom and where?

Watershed functions, Biodiversity, Landscape beauty, Carbon storage ~ as influenced by land use practices

How do all stakeholders know?

Bridging local, scientific and policy ecological know-ledge, negotiation support systems, local monitoring

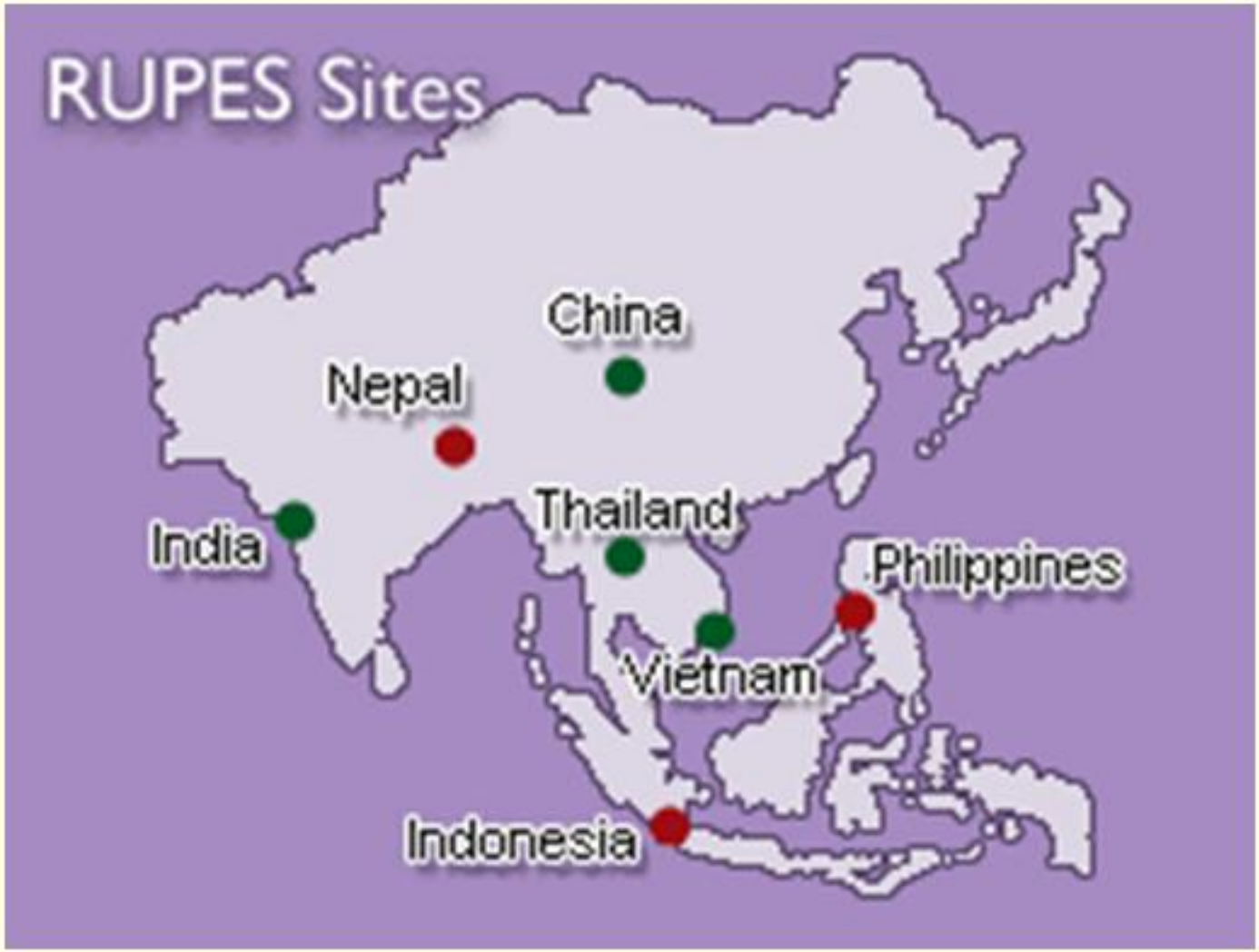
Which reward mechanisms and how they work?

Land tenure, Trust funds, Infrastructure, Social capital support, Eco-label markets, Ecotourism – Equity, Efficiency, Effectiveness

Which policies can support?

Direct involvement of local governance, clear implementation of global conventions, integrated natural resource management, community-based forestry

RUPES Action Research Sites
Areas of Interest



Kalahan

Kulekhani, Nepal

RUPES

Rewarding Upland Poor
for Environmental Services

Bakhun

Singkarak-
W.Sumatra

Bungo-
Jambi

Sumber Jaya

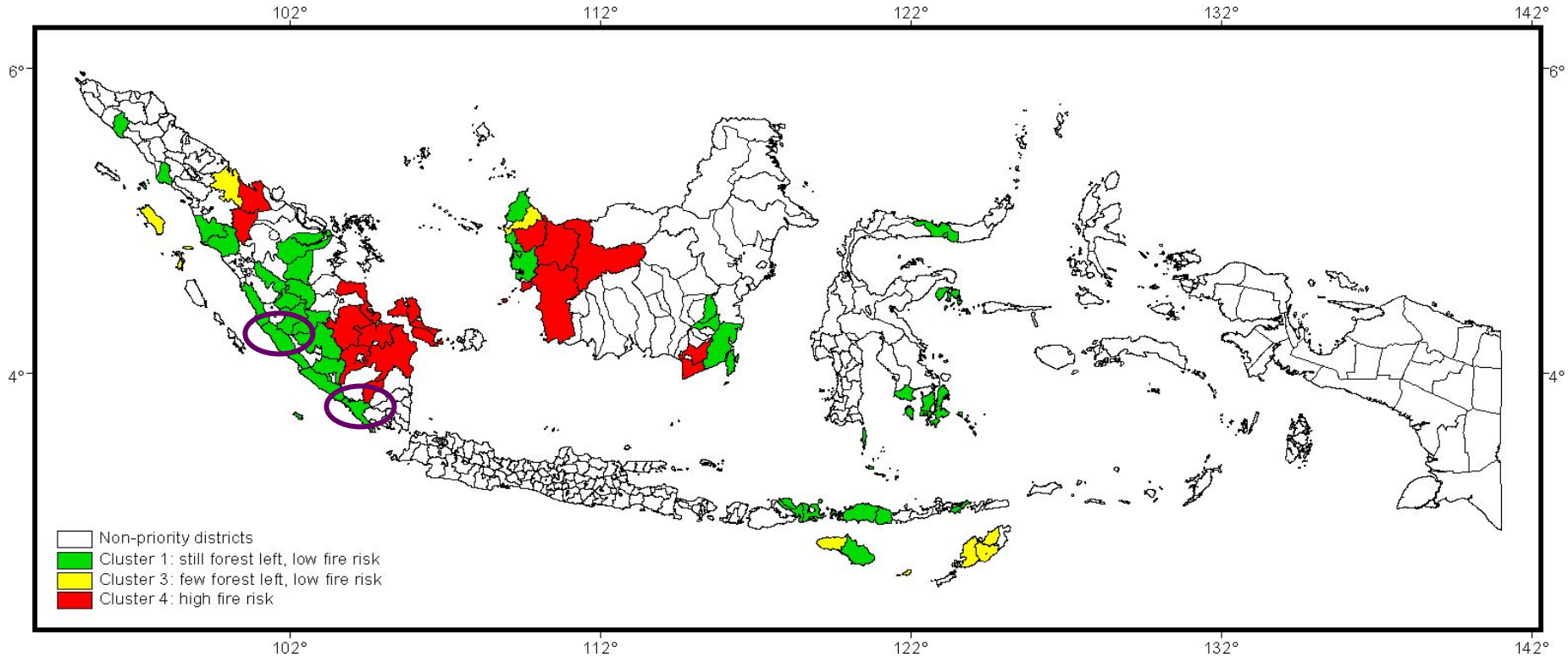
C-seq Project in the Ancestral Domain, Kalahan, the Philippines

Objectives:

- To convert the 900 ha of marginal lands to more productive tree-based systems (total area of ancestral domain 58,000 ha)
- To enhance the livelihood of the communities through agroforestry
- To protect the watershed, enhance biodiversity, improve tourism

Timber trees:	Dipterocarp species, *Bischofia javanica*
Fast growing sp.:	*Alnus nepalensis* intended to rapidly establish vegetative cover especially in degraded areas
Planting date:	2007
Total project costs:	? (<$ 0.5 million)
C-seq – 2012:	18,430 tons CO2
- 2025:	89,776 tons CO2
Co-benefits:	Jobs/income, reduced runoff and erosion, tourism

Clusters of CDM priority districts, Indonesia



26 districts, 6 Mha

Source: Murdiyarso et al. (2006)

Range of scenarios and C-benefits

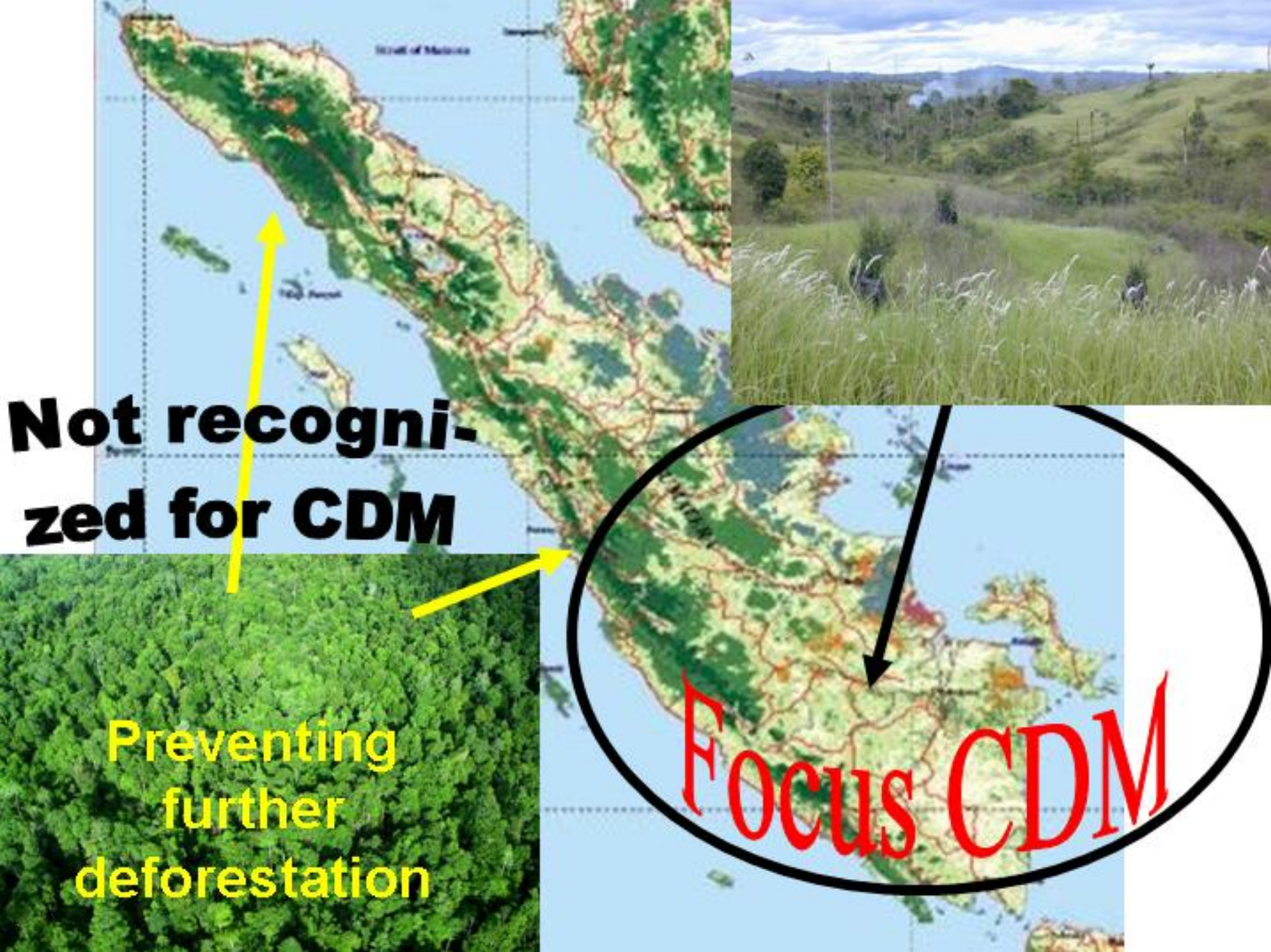
	Way Tenong (Lampung) Scenarios	Project scale carbon gain (Gg, Time-averaged)	Land-scape scale carbon gain (Gg)	Carbon leakage (%)	Income effect (million Rp.capita^{-1})
1.	Promoting **tree planting** project through **subsidy and extension**	**32.0**	**56.2**	*-75%*	**-0.28**
2.	Giving **legal tenure rights** to farmers to access grasslands freely	Not applicable	**25.5**	Not applica-ble	1.55
3.	Giving **legal tenure rights** to farmers to access grasslands freely, and promoting tree-based systems through **extension, subsidy** & **market improvement**	Not applicable	**25.9**	Not applica-ble	**6.13**
4.	Giving **legal tenure rights** to farmers to access grasslands for multistrata coffee systems practices, and **promoting multistrata coffee systems through extension, subsidy & market improvement**	Not applicable	**60.4**	Not applica-ble	**0.10**

C-sequestration on Abandoned Lands of Singkarak Lake, W. Sumatra

Objectives:

1. To convert 15,000 ha of abandoned lands to tree-based systems
2. To increase economic activity in the project area
3. To reduce pressure on the natural forests by illegal logging
4. To protect the lake watershed

Timber trees:	Mahagony, *Toona Sureni, Shorea sp*
Cash crops:	Clove, Cacao, Candlenut, Nutmeg, Coffee
Fruit trees:	Avocado, Mango, Rambutan, Durio
Planting date:	2006-2008
Total project costs:	US$ 11,250,000
C-seq – 2012:	144,013 tons CO2
- 2025:	3,956,610 tons CO2
Co-benefits:	Jobs/income, reduced erosion, increased fish prod.

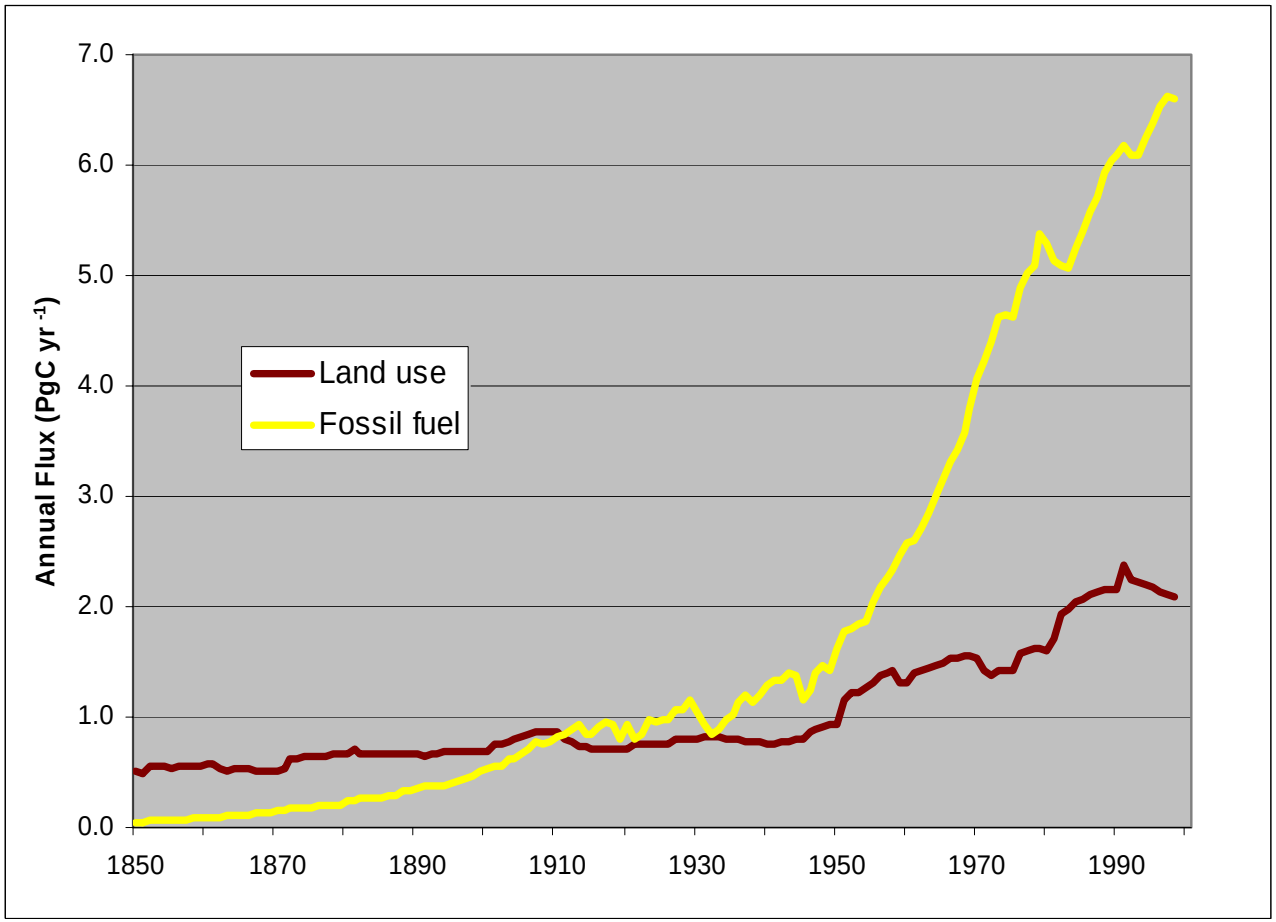

Not recogni-
zed for CDM
Preventing
further
deforestation
Focus CDM


How far will C-stock
Environmental service reward schemes have important parts still missing….
C-benefit
SD benefit
payments bring him/us?

How will post-2012 market look like?

- Both the rich and the poor deforest
- The poor - for survival but often gets better off
- The rich - often destroys livelihoods
- Is the global community willing to pay emissions reduction from deforestation?
- Will it be:
  - Voluntary (compensated reduction)?
  - Mandatory (legally binding)?
  - New trading systems (market-based)?

C-emissions from LUC in the Tropics



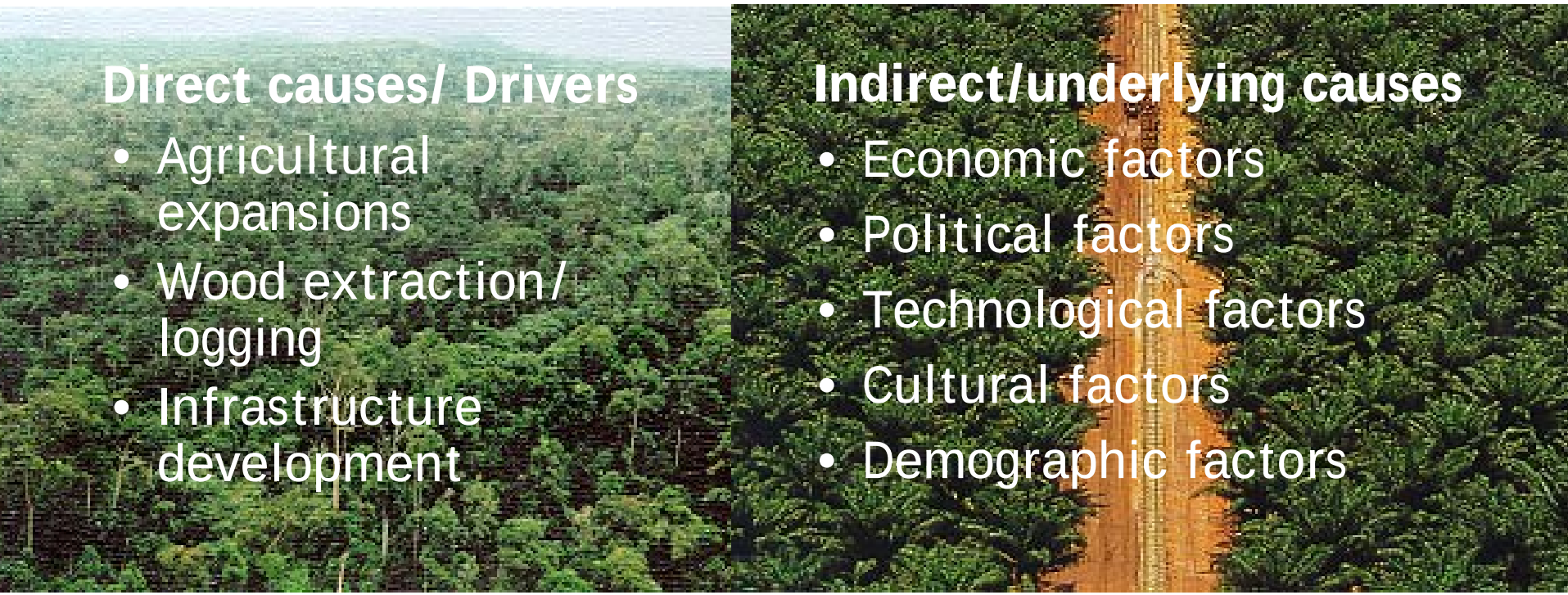
Source:. Houghton 2004

Deforestation rates in Indonesia - 1990s

Image and Date	Forest cover	Deforestation rate (Mha/yr)	Reference
LANDSAT 1997	95,843,088	1.7	Holmes (1999)
LANDSAT 1998	95,628,800	1.8	WRI-FWI-GFW (1999)
SPOT vegetation 2000	103,793,886	1.2	JRC/EU (2000)

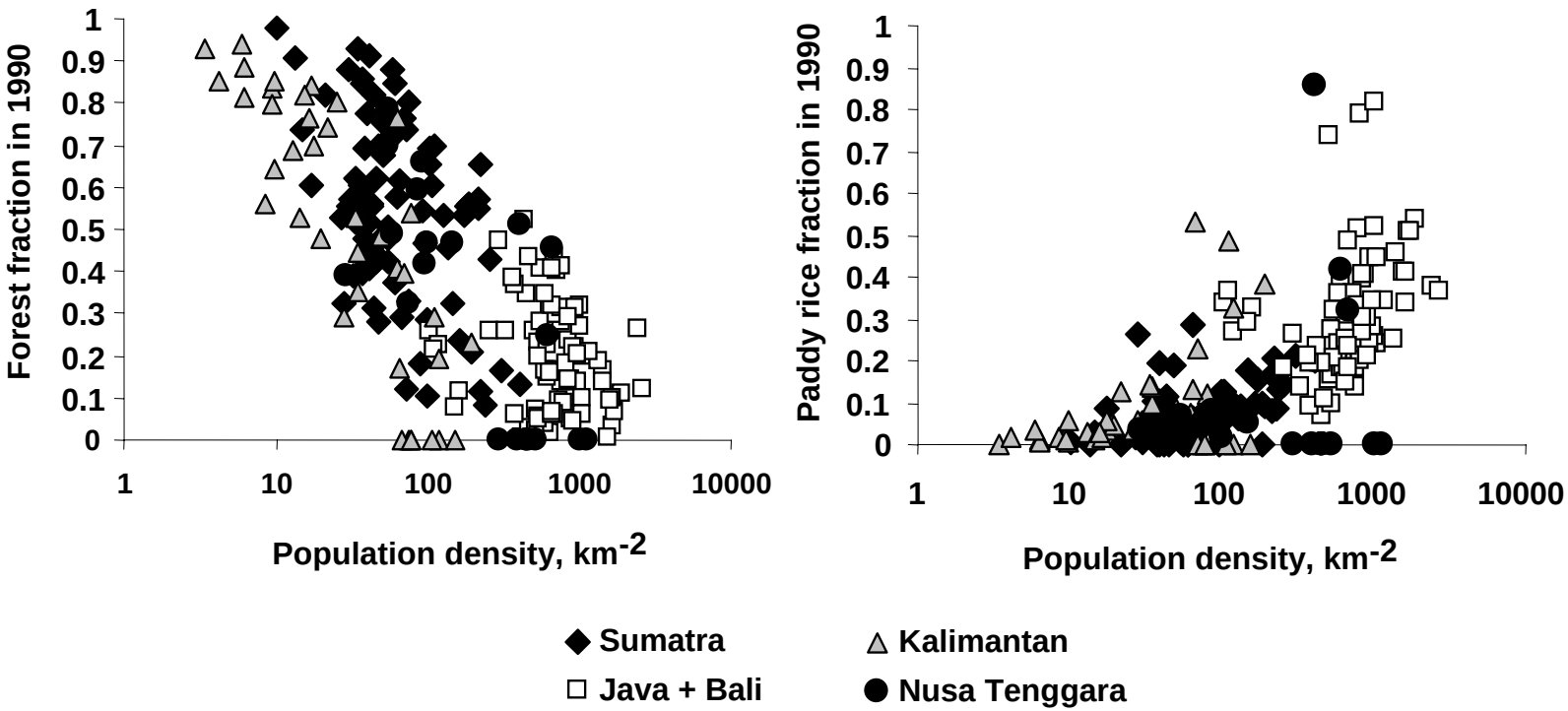
- Are they economically rational for people and country?

Causes of deforestation



Policies that favor agriculture in most cases promote deforestation

Demographic factors



Source: Murdiyarso et al. (2006)

Will PES have a place?

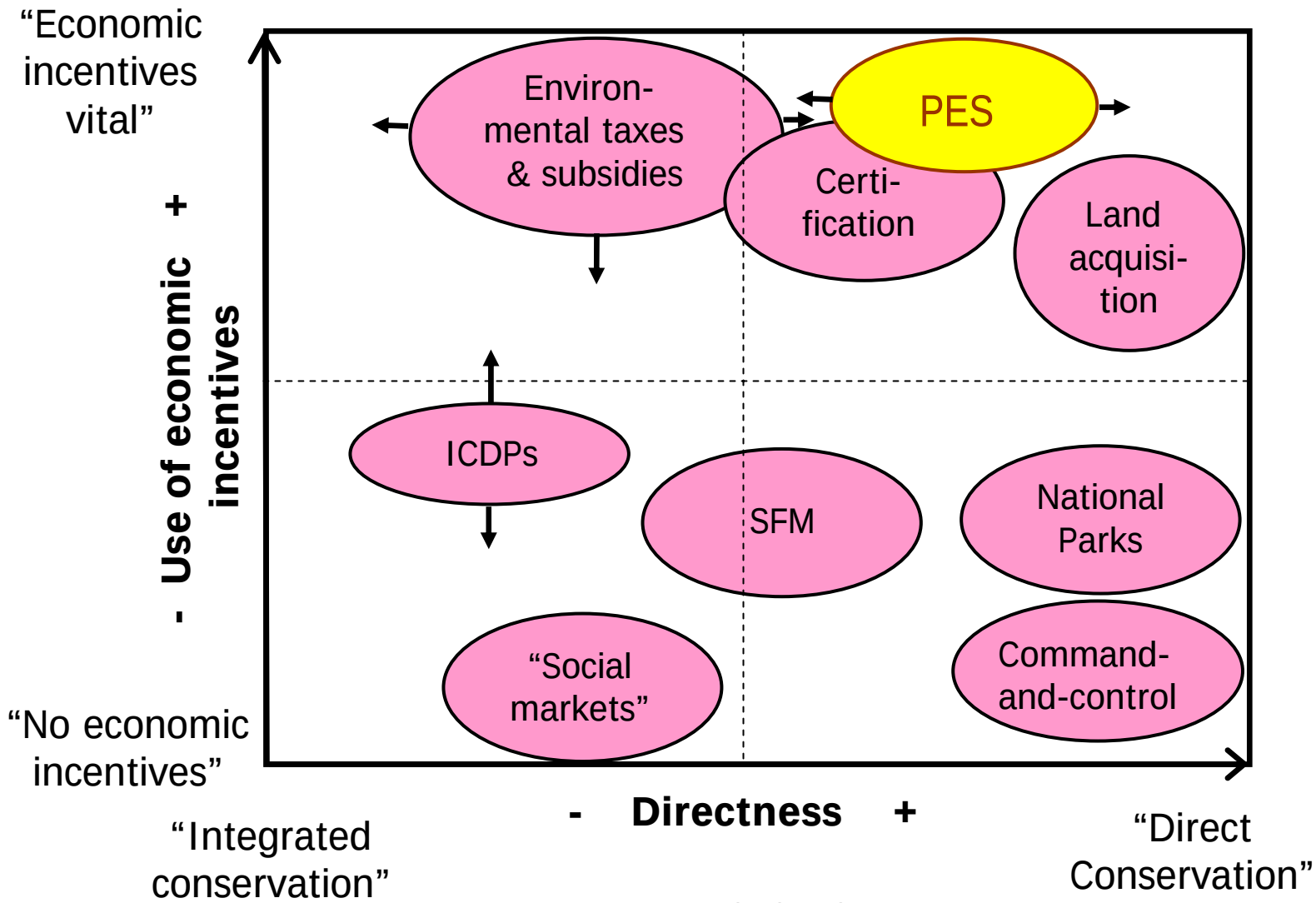
- Recognize the players and drivers of deforestation
- Mismatch: global, national and local agendas
- PES may be (partly) passed to landholders
- Compensated reduction may be ideal
- Government is liable

$CO_2 \uparrow$ $CO_2 \downarrow$ $\$ \uparrow$ $Q \approx$



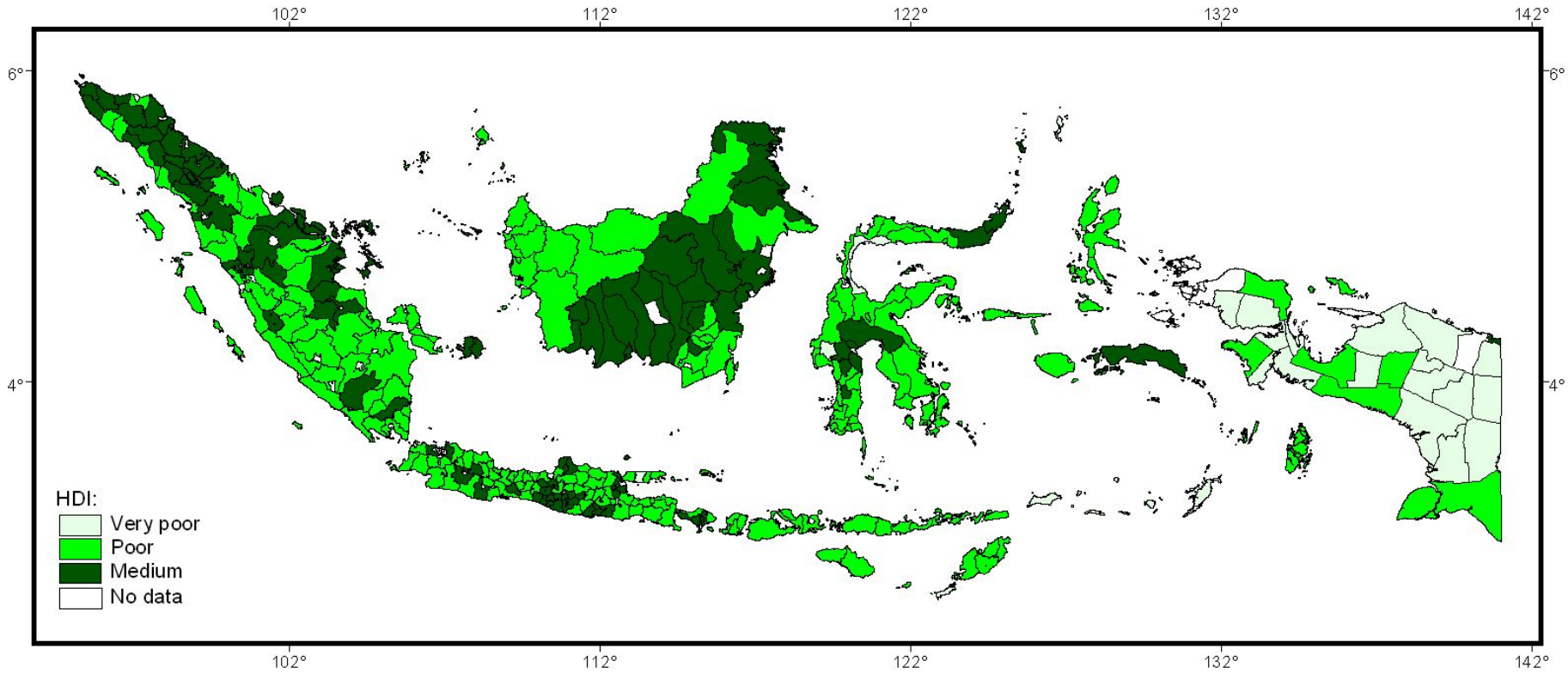


Why should PES be recognized?



Source: Wunder (2005)

Where to demonstrate SD objectives?



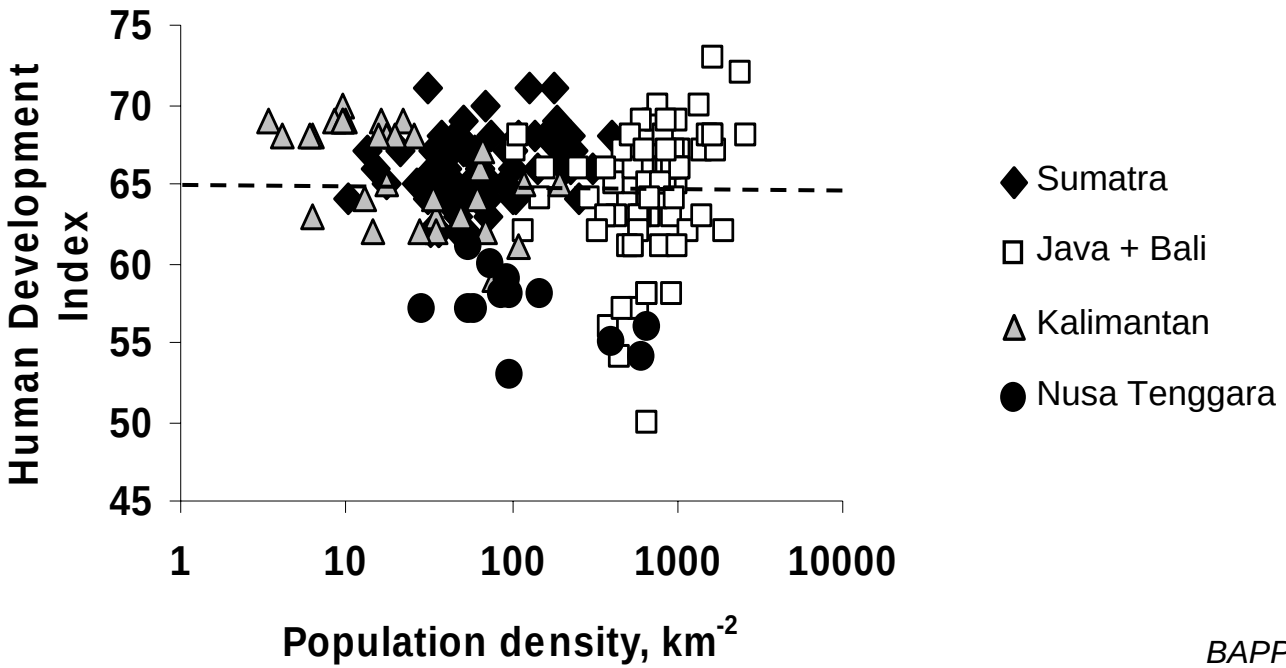
Source: Murdiyarso et al. (2006)

Use of Human Development Index

HDI = 1/3 (Index X1 + Index X2 + Index X3)

Where X1: live longevity,
X2: educational attainment
X3: standard of living respectively

Very poor:	<50
Poor:	50-66
Medium:	66-80
Not poor:	>80



BAPPENAS & UNDP (2004)

Concluding remarks

- RUPES has played a bridging role connecting local, scientific and policy communities in various parts of Asia
- Watershed functions have been the entry points to engage stakeholders concerns with increasing interests in C-sequestration projects
- A/R CDM projects have been extremely slow to meet the targets and SD objectives (even for the small-scale one)
- Emissions from deforestation have steadily increased with significant rates
- The market-based mechanism for LUCF sector in the first Commitment Period is at stake
- New mechanisms (under the UNFCCC or some trading systems) have to be explored
- PES may be developed BUT reducing poverty not necessarily reduces emissions (tenure issues)

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