

Preparedness for REDD+ in Indonesia

Fahmuddin Agus, Meine van Noordwijk and
Herry Purnomo

3rd REDD ALERT Meeting, 28-30 September 2011, Lam Dong, Vietnam

Coverage

- Introduction
- Drivers of deforestation

What is the problem?

Brief overview of NAMAs
National strategy, and REL

High-level responses

- Land tenure issues
- Forest governance issues
- Measures to address safeguards
- Existing sources of funding

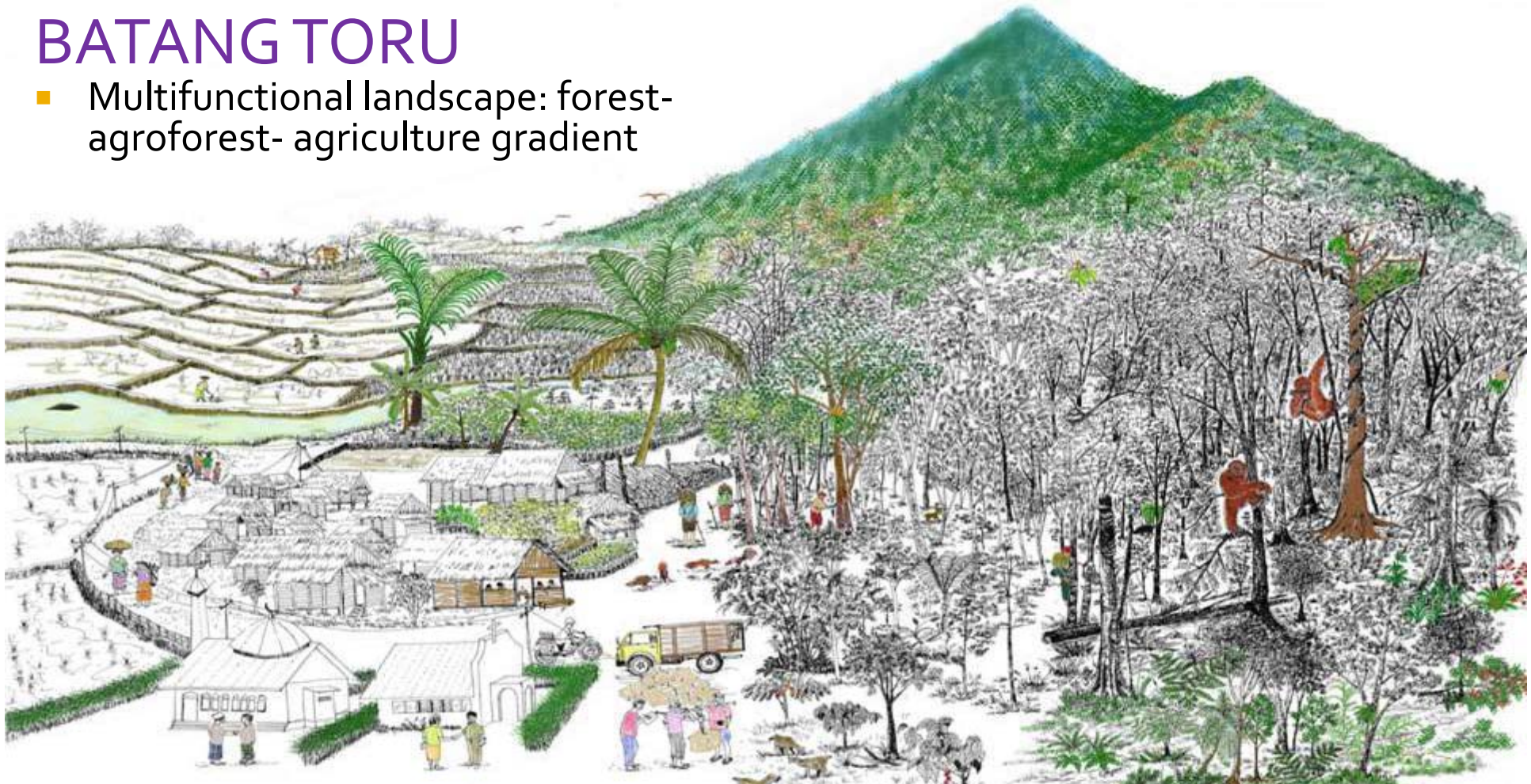
Specific actions

Introduction

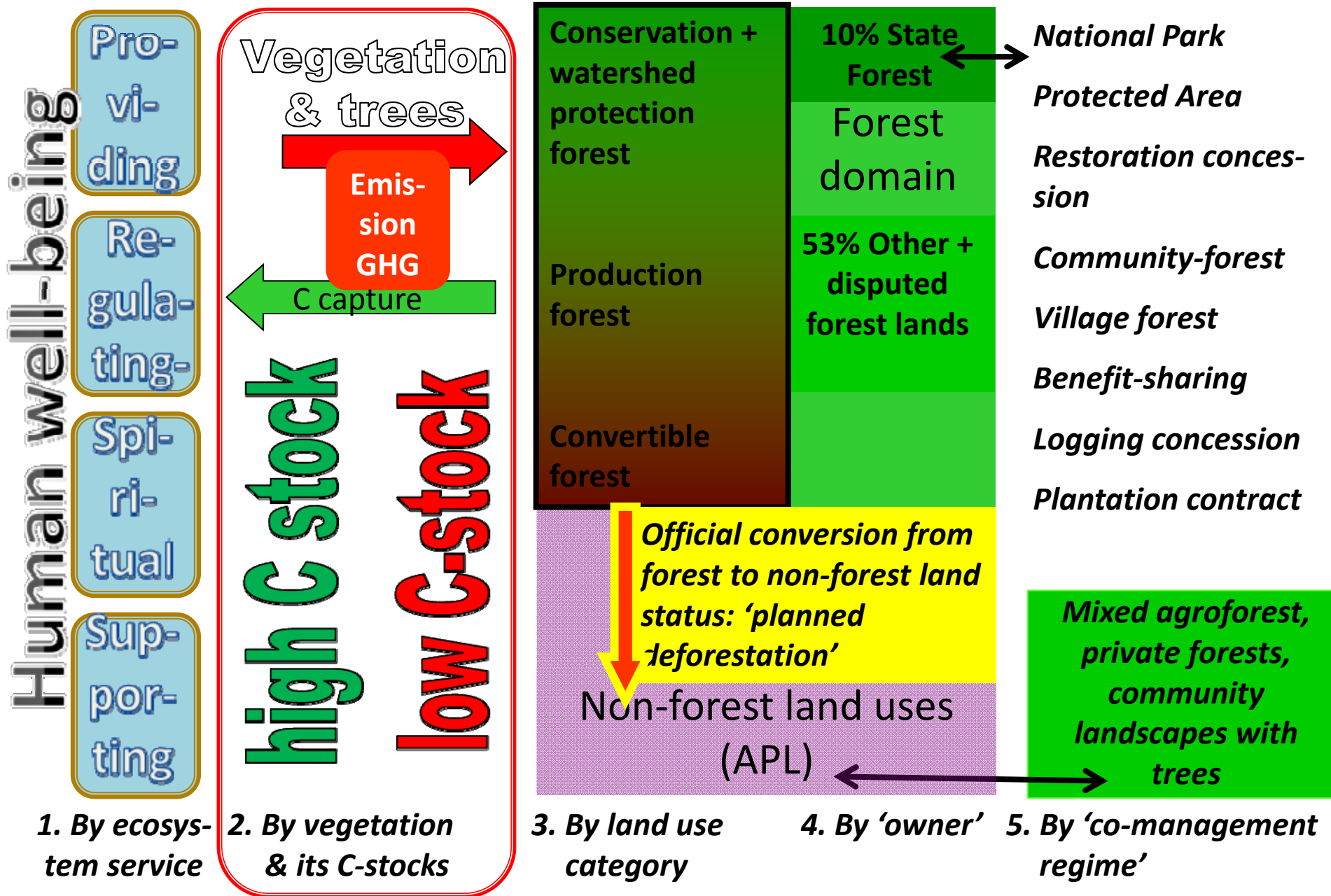
- Indonesia hosts the third largest tropical rainforest in the world, with forests officially covering approximately 70% of the country.
- The country also have the largest tropical peatland with the total land area of 21 Mha and C storage of 37-55 Gt
- The rate of deforestation depends on the forest definition used 0 – 5%/year
- Forest land ('institutional forest') <> Tree cover

BATANG TORU

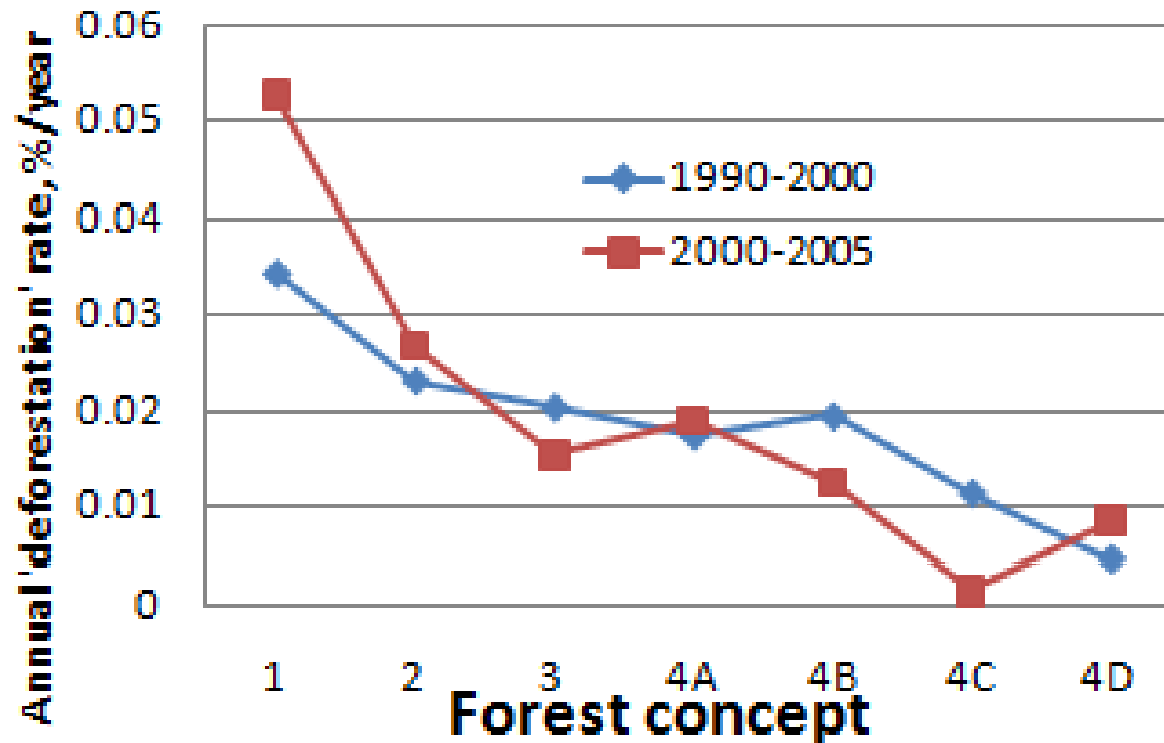
- Multifunctional landscape: forest-agroforest- agriculture gradient



Rights to define forest ~ 5 different ways of classifying forest:



Indonesia's deforestation rate ~ forest definition



World Agroforestry Centre
TRANSFORMING LIVES AND LANDSCAPES

Stakeholder:

- 1. Undisturbed natural forest ← **Rainforest foundation**
- 2. Undisturbed + sust. logged natural forest ← **Conservation agency**
- 3. Closed canopy undisturbed + logged forest
- 4A. as 3 + agroforest ← **Forest ecologist**
- 4B. as 3 + timber plantations ← **Ministry of Forestry**
- 4C. as 3 + agroforest + timber plant's + estate crops ← **UNFCCC definition**
- 4D as 4C + shrub ← **Modis data**

Deforestation rate

Class name	1990		2000		2005	
	M ha	%	M ha	%	M ha	%
Undisturbed forest	105.02	56.10%	74.82	40.00%	57.87	30.90%
Logged over forest	22.44	12.00%	29.28	15.60%	38.55	20.60%
Timber plantation	1.26	0.70%	1.99	1.10%	3.25	1.70%
Total forested area	128.72	68.80%	106.08	56.70%	99.66	53.30%

	1990-2000	2000-2005
Forest loss (M Ha)	22.64	6.42
Forest loss rate (M	2.26	1.28

Using forest concept of the Ministry of Forestry: closed-canopy (natural or logged) forest + industrial timber plantations

Source: Ekadinata et al. (2011), ALLREDDI Brief 1.

Reducing emissions from deforestation, inside and outside the 'forest'

New data from Indonesia suggests that one-third of greenhouse gas emissions from deforestation originate from areas not officially defined as 'forest'.

Accounting for carbon in the whole landscape and Reducing Emissions from All Land Uses (REALU) can be more effective in reducing emissions.



1. One third of Indonesia's forest emissions (total of 0.6 Gt carbon per year) occur outside institutionally defined forests, and are not accounted for under the current national policy for Reducing Emissions from Deforestation and forest Degradation (REDD+).

<http://www.asb.cgiar.org/>

Main findings

1. One third of Indonesia's forest emissions (total of 0.6 Gt carbon per year) occur outside institutionally defined forests, and are not accounted for under the current national policy for Reducing Emissions from Deforestation and forest Degradation (REDD+).

Implications

- Current REDD+ approaches in Indonesia may not reduce net CO₂ emissions
- An approach for Reducing Emissions from All Land Uses

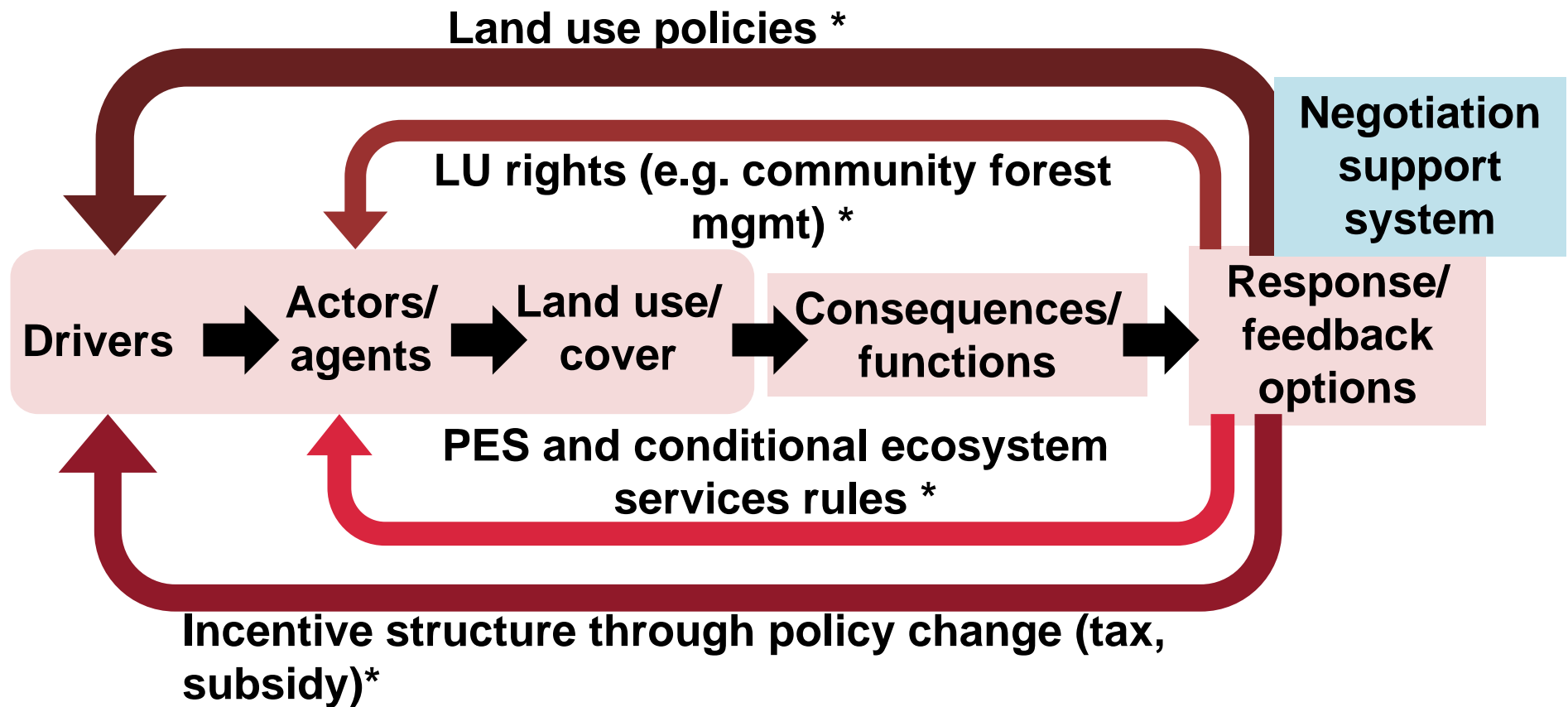
Drivers of Deforestation

- Population growth, migration into forest margins & economic development paradigm, using forest as 'springboard' and export-oriented plantation economy as source of public and private wealth

Details:

- Depends primarily on what concept of forest is used:
- Untouched primary forest is lost by 5%/year
- Land base with enough tree cover to meet FAO/UNFCCC forest definition is approximately stable
- Substantial ongoing change in the type of tree cover:
 - Untouched=>Logged over
 - Logged over=>Plantations & tree crop estates
 - Agroforest => Plantations and tree crop estates

Drivers/ agents/ change/ consequences/ feedback loops



** Avenues through which intervention can be channeled as relevant to the types of “driver/agent- response” loops*

Drivers of tree cover change

Low intensity swiddening maintains forest

Logging concessions harvest large trees & create road access

Post-logging institutional vacuum allows settlers

Over-capacity of wood-based industry => demand for 'illegal logging'

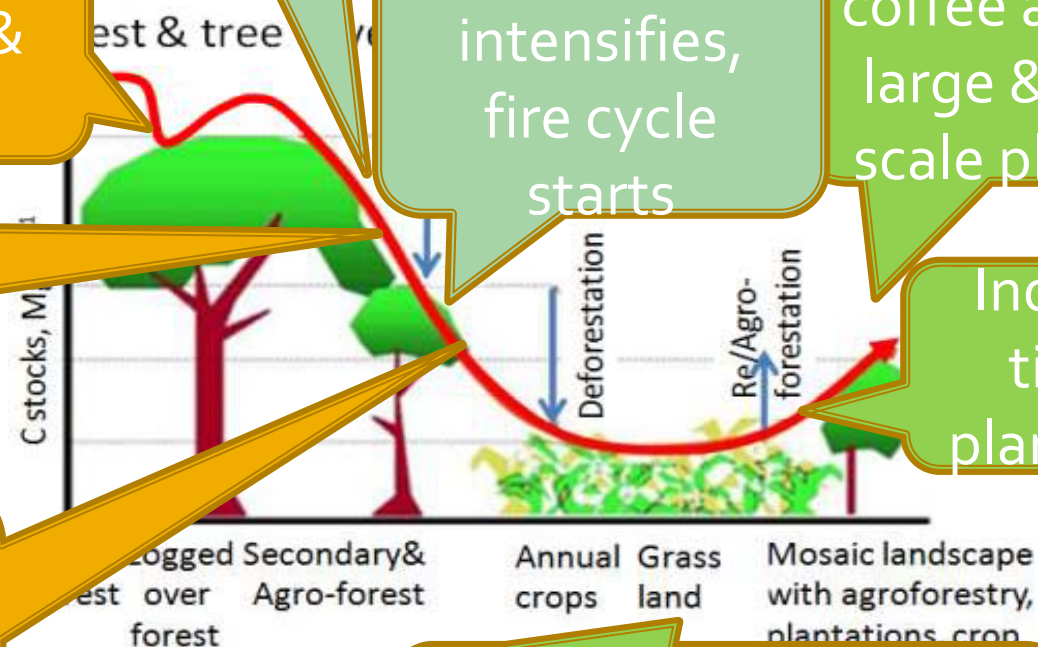
Fallow => agroforest

Swiddening intensifies, fire cycle starts

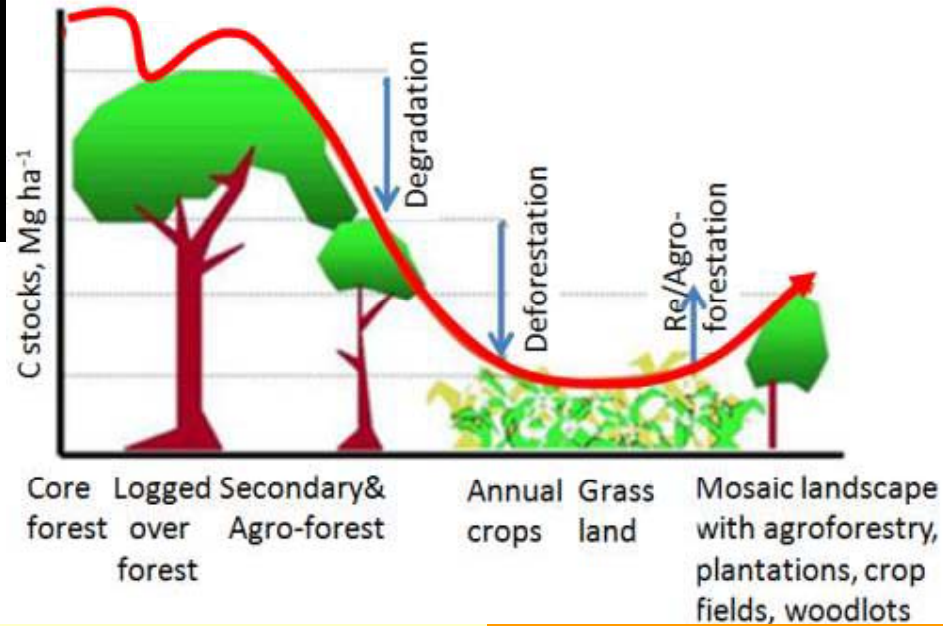
Economic opportunity of oil palm, rubber, coffee attracts large & small scale planters

Industrial timber plantations

Forest tenure reform creates incentives for tree planting

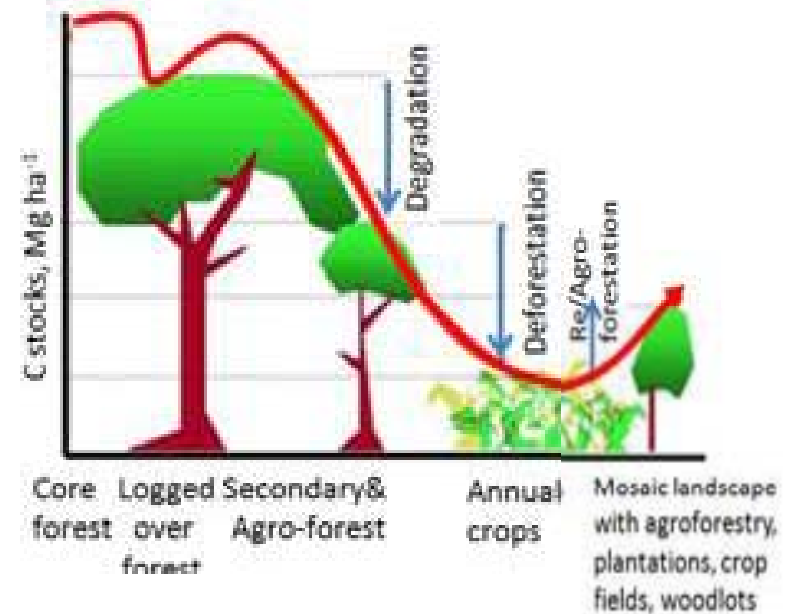
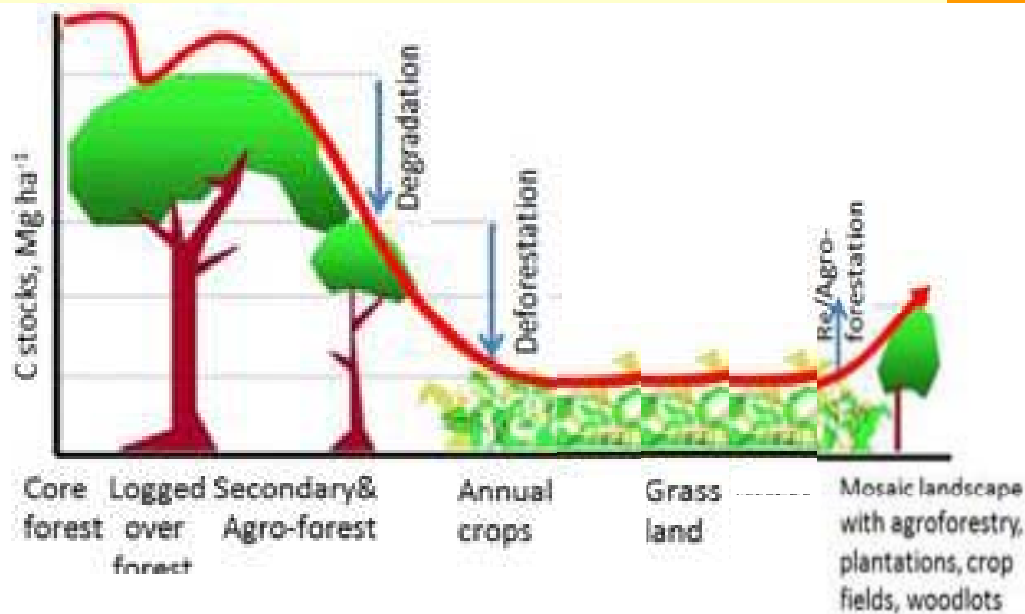


Tree cover transition

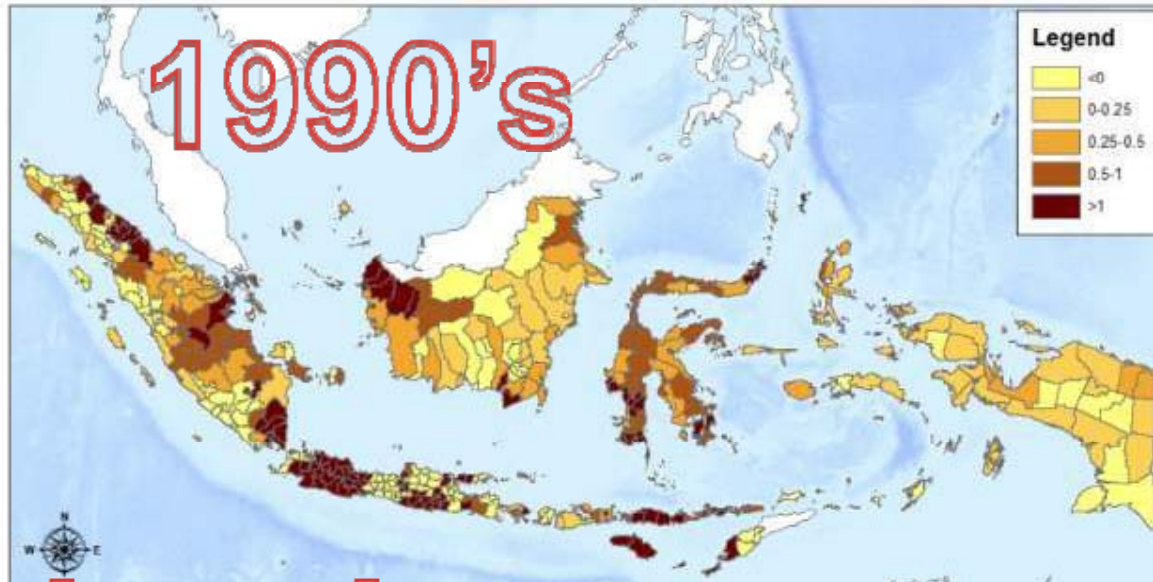


Widening: area planted < area cleared

Contracting: area planted > cleared



INCREASE OF MONOCULTURE TREE COVER VS LOSS OF CLOSED CANOPY-FOREST 1990-2000



In the 1990's loss of natural cover increased the amount of 'low C-stock'/low economic value land; tree (crop) planting was 28% of the loss of natural forest area

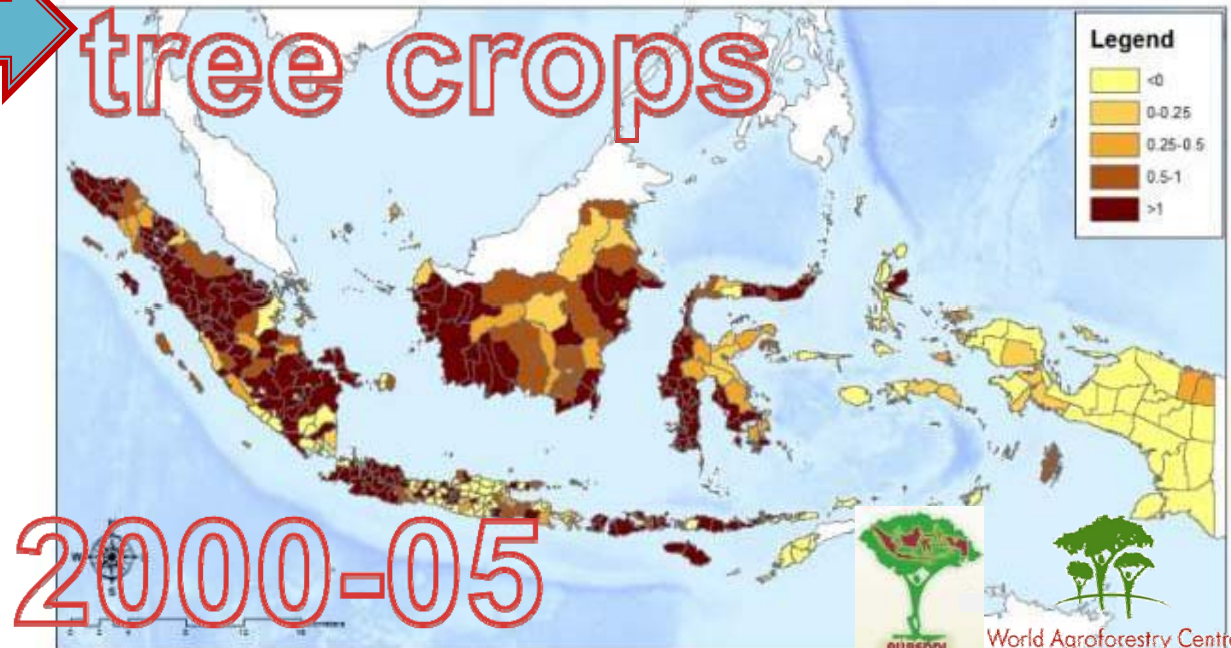
logging



tree crops

After 2000 planting of tree (crop)s equals 90% of concurrent loss of natural forest; the amount of low C-stock/low economic value land decreases

INCREASE OF MONOCULTURE TREE COVER VS LOSS OF CLOSED CANOPY-FOREST 2000-2005





Swidden,
Shifting cultivation,
Fallow
High
Slash and Burn
(100-300
t C/ha)
review for Indonesia

Landscape C stock

Medium
(30-100 t
C/ha)

Low
(< 30 t
C/ha)

Swidden

Mixed-fruit &
rubber
agroforest

-- only ser-
vices mar-
keted--

Ecocertified
agro-forests?

Food-crop based
transmigration

Short-fallow
local food
crops

Rubber, oil
palm, fast-
wood, crop
monocultures

Abandoned
grassland

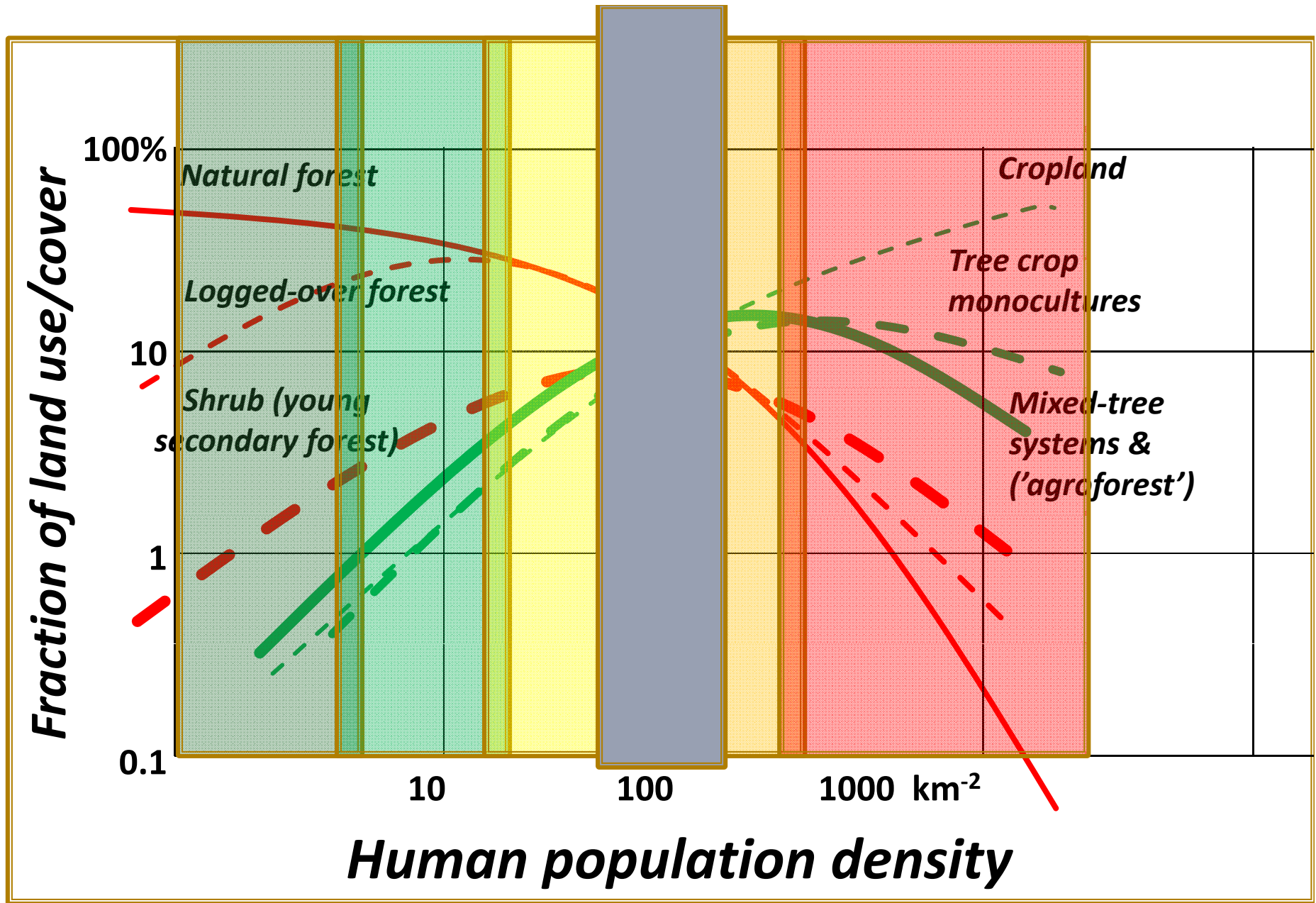
Intensive
cassava
production

Low (<10)

Medium (10-30)

High (>30-100)

Sustainable livelihoods. # km⁻²



SPACE \approx TIME Dewi et al. in prep.

Can 'forest land' be used for oil palm plantations? For 4 weeks the answer was...

PERATURAN MENTERI KEHUTANAN REPUBLIK INDONESIA

NOMOR : P.62/Menhut-II/2011

YES...

TENTANG

**PEDOMAN PEMBANGUNAN HUTAN TANAMAN BERBAGAI JENIS
PADA IZIN USAHA PEMANFAATAN HASIL HUTAN KAYU PADA
HUTAN TANAMAN INDUSTRI (IUPHHK-HTI)**

Ditetapkan di Jakarta
pada tanggal 25 Agustus 2011

**MENTERI KEHUTANAN
REPUBLIK INDONESIA,**

ttd.

ZULKIFLI HASAN

NO

Oops..

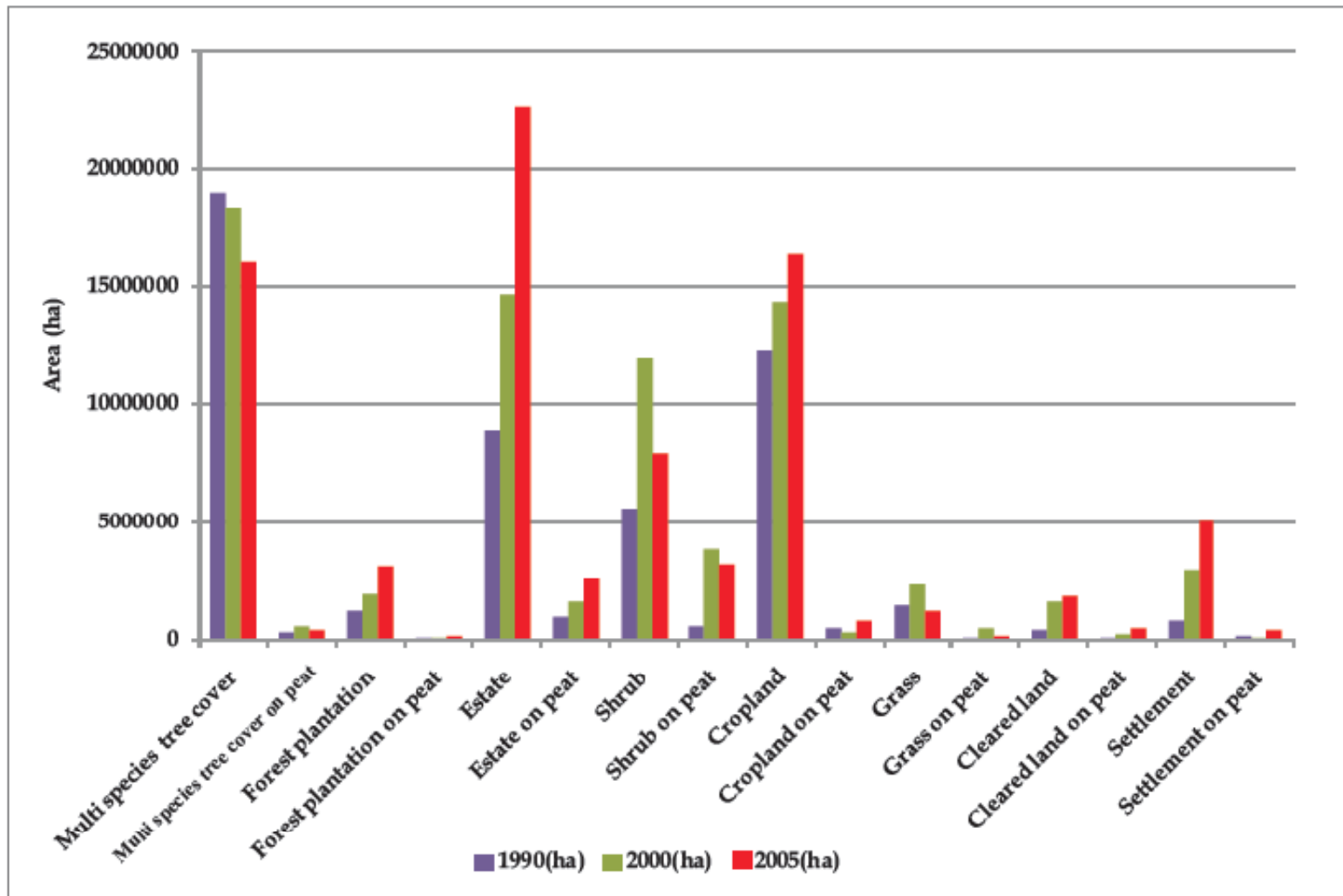
Minister Zulkifli Hasan confirmed
P.62/2011 is revoked.

[http://m.kompas.com/news/read/
2011/09/23/0840292/Permenhut.
622011.Pasti.Dicabut](http://m.kompas.com/news/read/2011/09/23/0840292/Permenhut.622011.Pasti.Dicabut)

Major land cover (Mha)

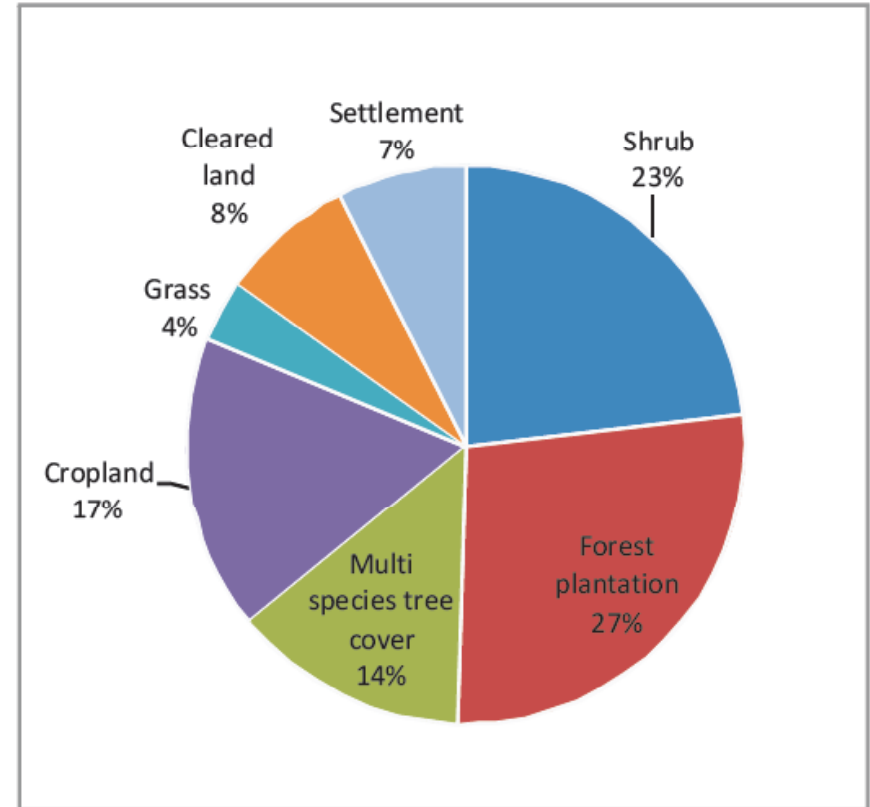
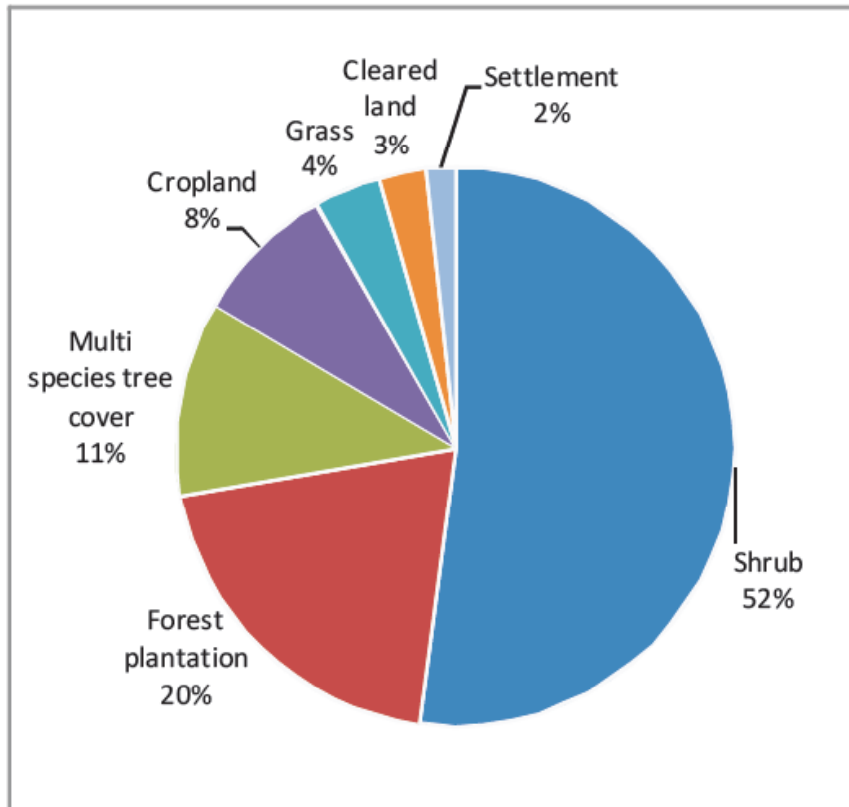
Year	Undist For	Dist For	Agric	Shrub	Source
2005	58	39	42	11	ALLREDDI
2010	55	37			MOF (2011)
	49	30	34	23	Unpubl.

Non forest lands 1990, 2000, 2005



Source: Ekadinata et al. (2011), ALLREDDI Brief 1.

Succession of forest 1990-2000 (left) and 2000-2005 (right)



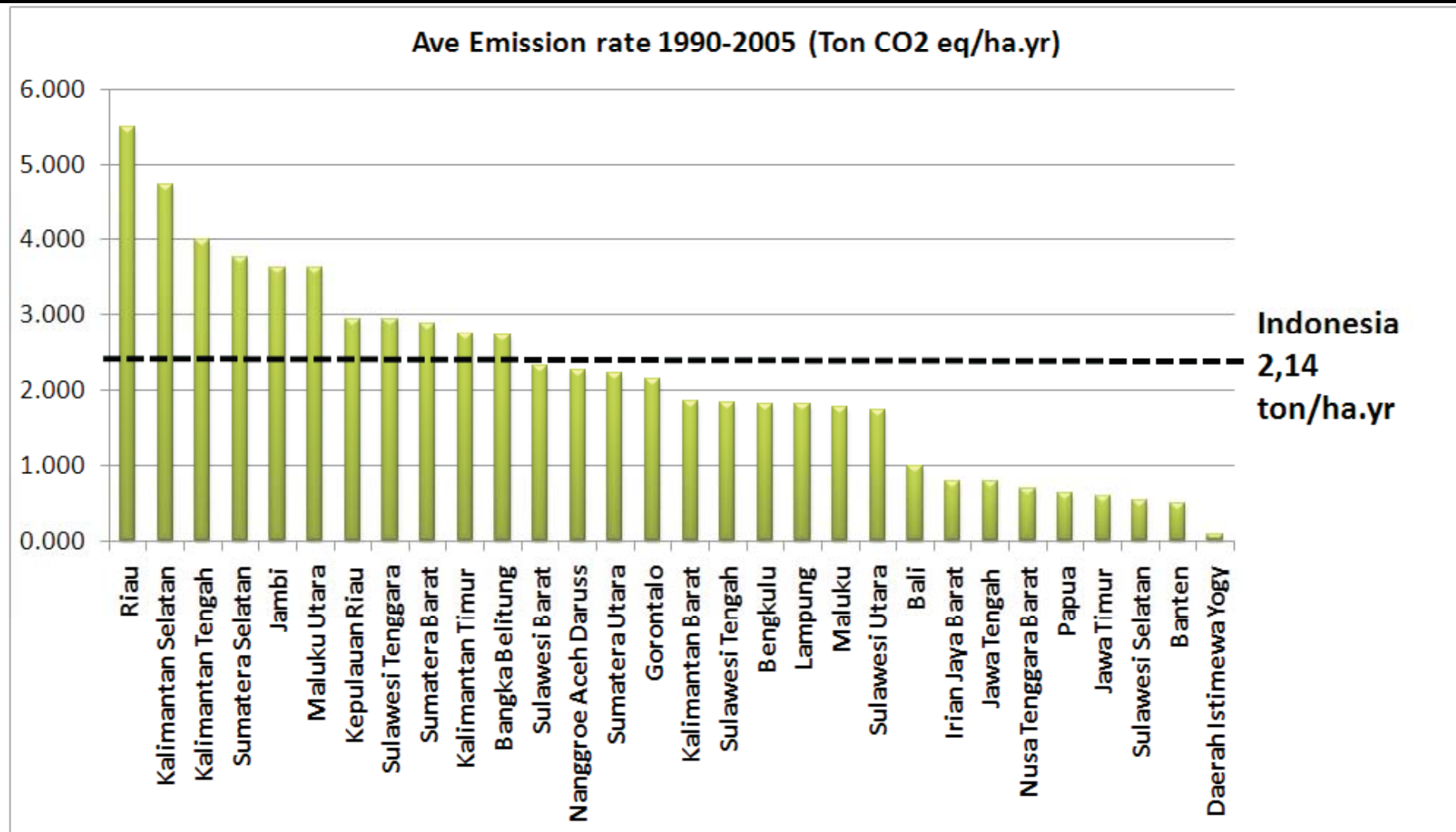
Source: Ekadinata et al. (2011), ALLREDDI Brief 1.

Emission from AG

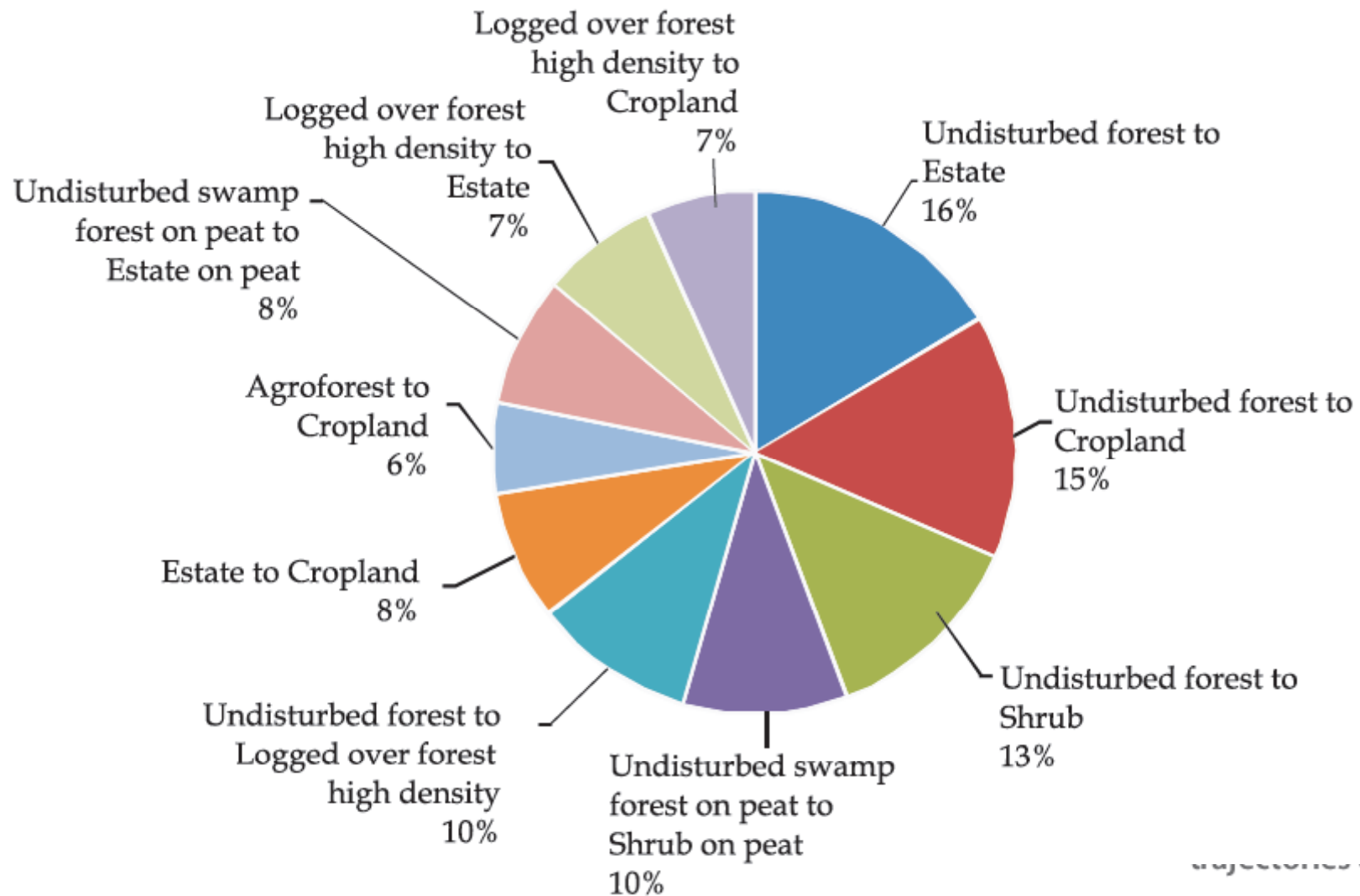
	90-00	00-05	90-05
Net emission (Gt CO ₂ -e)	6.99	1.25	9.23
Average (Gt CO ₂ -e/yr)	0.79	0.47	0.68

Source: Ekadinata et al. (2011b), ALLREDDI Brief 3.

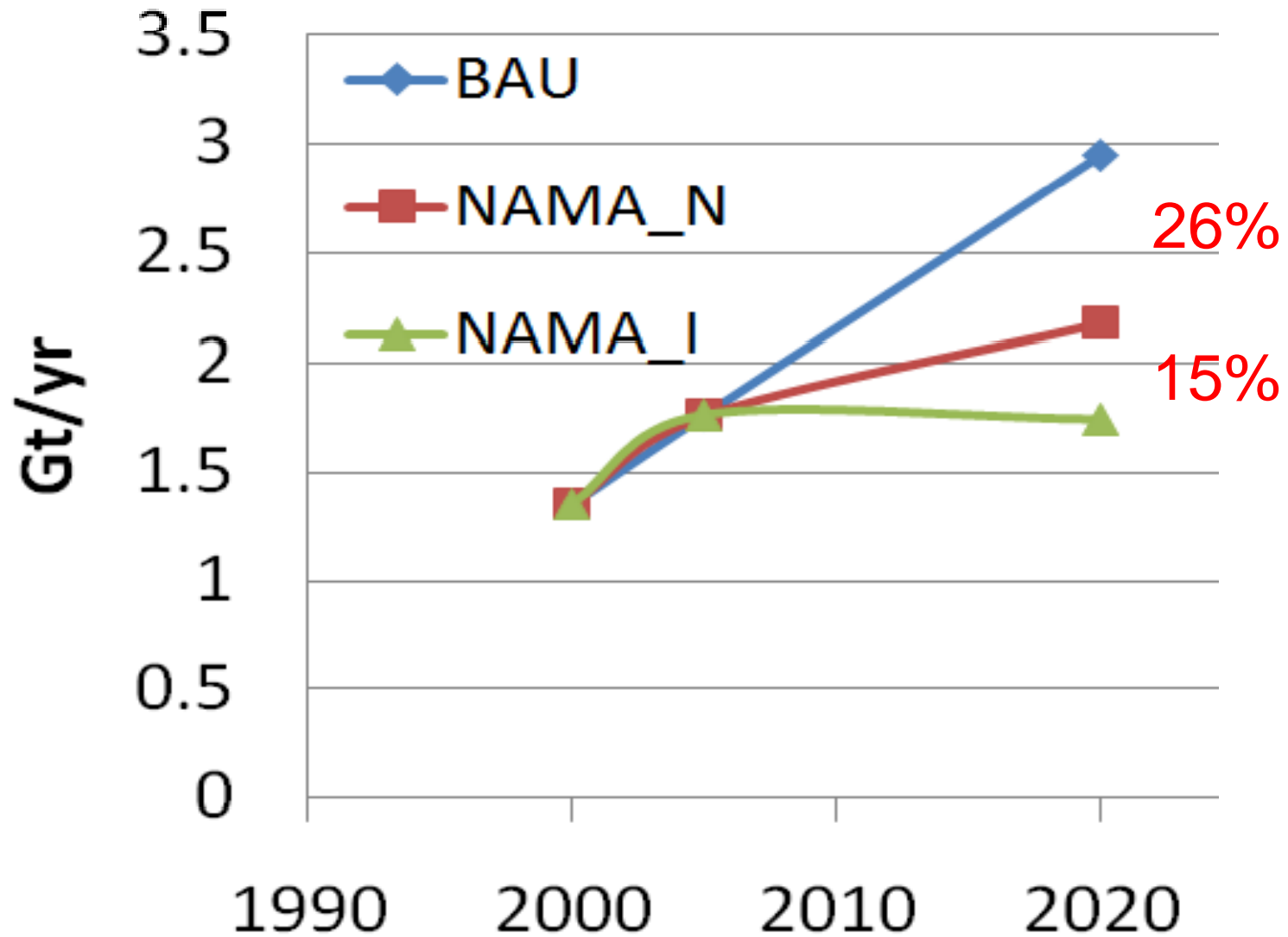
AG emission by Province



AG Emission 2000-2005 by trajectories



REL and ER Target



ER Target by 2020, by sector (MoE, 2009)

Sector	ER target (Gt CO ₂ -e)		Action Plan	Main Implementer
	26%	15% (total 41%)		
Forestry and peatland	0.672	0.367	Fire control, drainage control, forest/land rehabilitation, forest plantation, community forest, eradication of illegal logging, avoided deforestation, capacity building	MoF, MoE, MoPW, MoA
Waste management	0.048	0.030	Pembangunan TPA, pengelolaan sampah dengan 3R dan pengolahan air limbah terpadu di perkotaan	MoPW, MoE
Agriculture	0.008	0.003	Low emission (rice) variety, irrigation efficiency, organic fertilizer	MoA, MoE
Industry	0.001	0.004	Energy efficiency, use of <i>renewable</i> energy	MoT&I
Energy and Transportation	0.038	0.018	Use of biofuel, high efficiency engines, infrastructure and transportation improvement, <i>demand side management</i> , efisiensi energi, <i>renewable energi</i>	MoT, MoESDM (E&Mrs.), MoPW
	0.767	0.422		



Partnership for the
Tropical Forest
Margins

Policybrief

21

Hot spots of confusion: contested policies and competing carbon claims in the peatlands of Central Kalimantan, Indonesia

Central Kalimantan has been selected as the primary REDD+ pilot in Indonesia. In its peatlands expectations of payments for carbon emission reduction currently shape the discourse over natural resource management as a means of influencing policy and exercising power. Different types of actors use their own interpretation of history, facts, rules and norms to support their claims. Shifting national policies have over the past decades shaped the distribution of power and actual use of peatland. Actions to reduce emissions will need to appreciate the institutional complexity.





APPROXIMATELY 5000 people come to the Lubuk Beringin village

Partial answer to the issues of local use rights and tenure security?



Stewardship Agreements to Reduce Emissions from Deforestation and Degradation (REDD) in Indonesia

<http://www.asb.cgiar.org>

Conflicts over who controls the forests and forest margins is now widely recognized as a key issue that needs to be addressed if the world wants to see a reduction of emissions from deforestation and degradation. Indonesia, the country with the highest carbon emissions from change in its forest cover, is now expressing global leadership in commitments to Nationally Appropriate Mitigation Actions (NAMA) that include forests, peatland and an increasing attention for the 'trees outside forest', in the form of agroforests and trees in agricultural landscapes. Agreements on stewardship in the forest margin are key to the success of such programs, but rules need to be simplified for wider application.



photo by Jasnari

Main findings

Implications

- Increased tenure security for agroforests

Measures to address safeguards

Balancing act is needed

Efficiency



Fairness

Free and prior
informed
consent



Fairness & Efficiency

ES bene-
ficiaries

Respect, recognition

Commitment

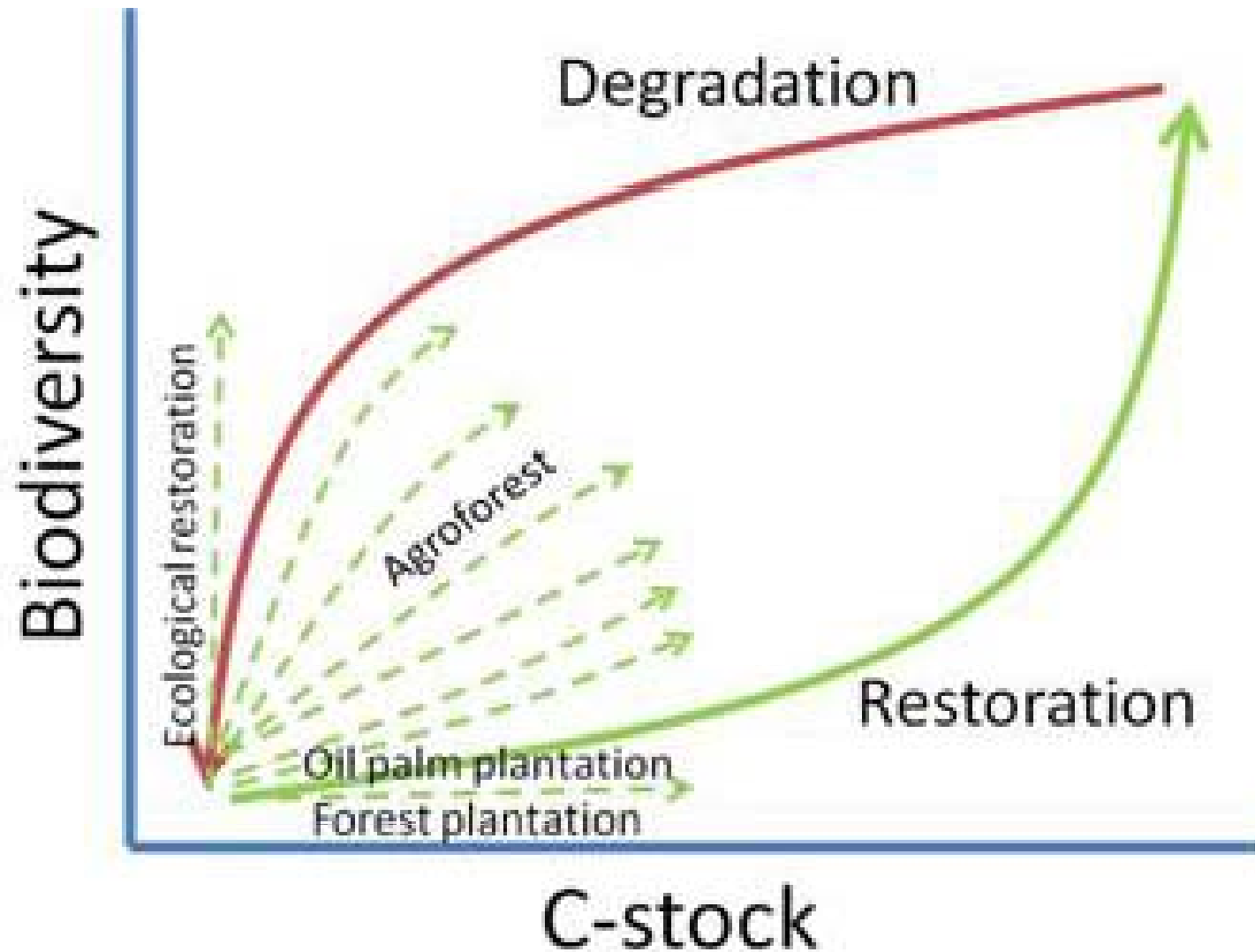
Local ES

providers

Economic incentives

Enhanced ES

Biodiversity ↔ C-stock dynamics



LUWES (Land Use Planning for Low Emission Development Strategy)

$\Delta NPV \ll$

$\Delta NPV \gg$

Strategy)

$\Delta CO_{2-eq} \ll$

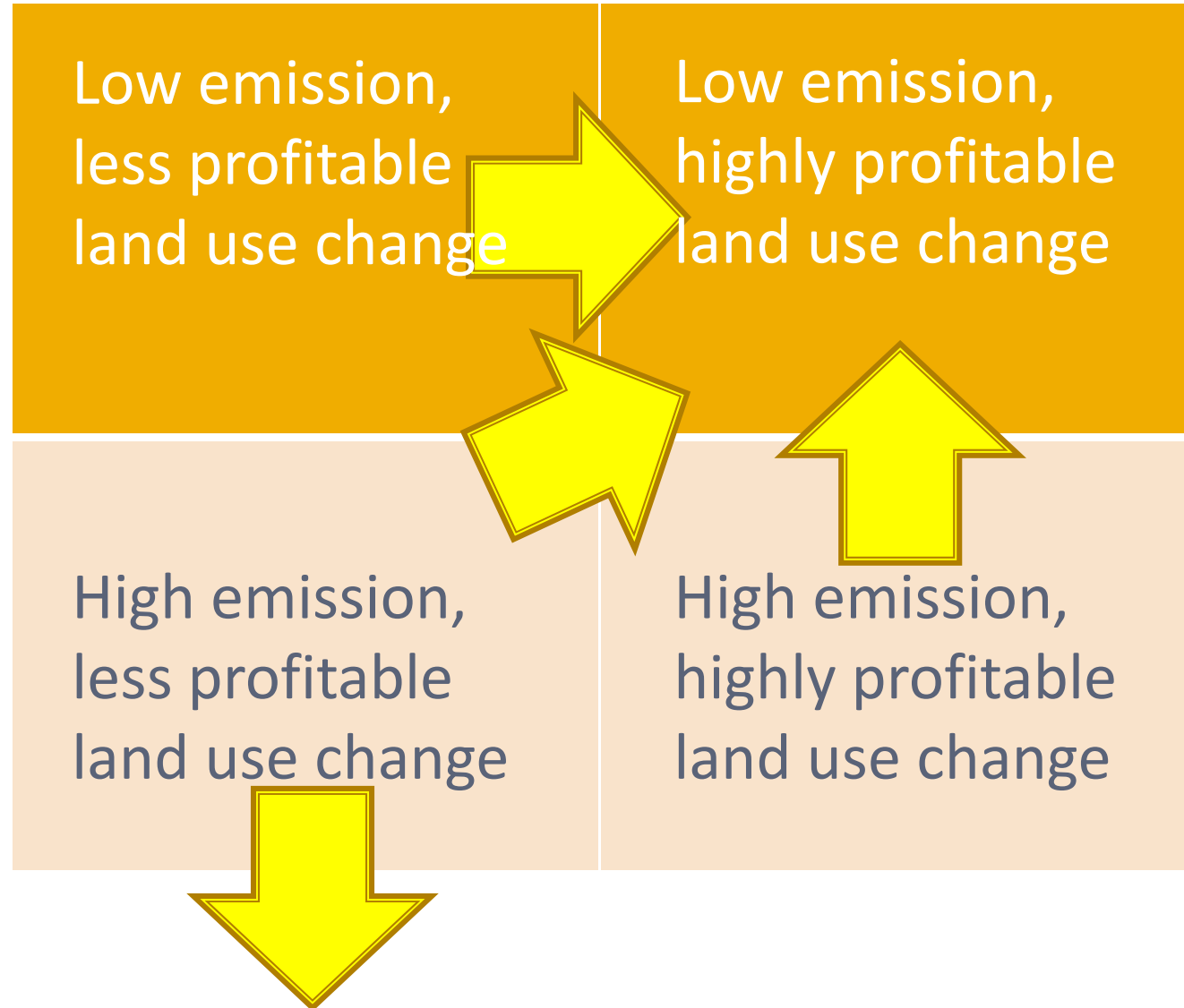
Low emission,
less profitable
land use change

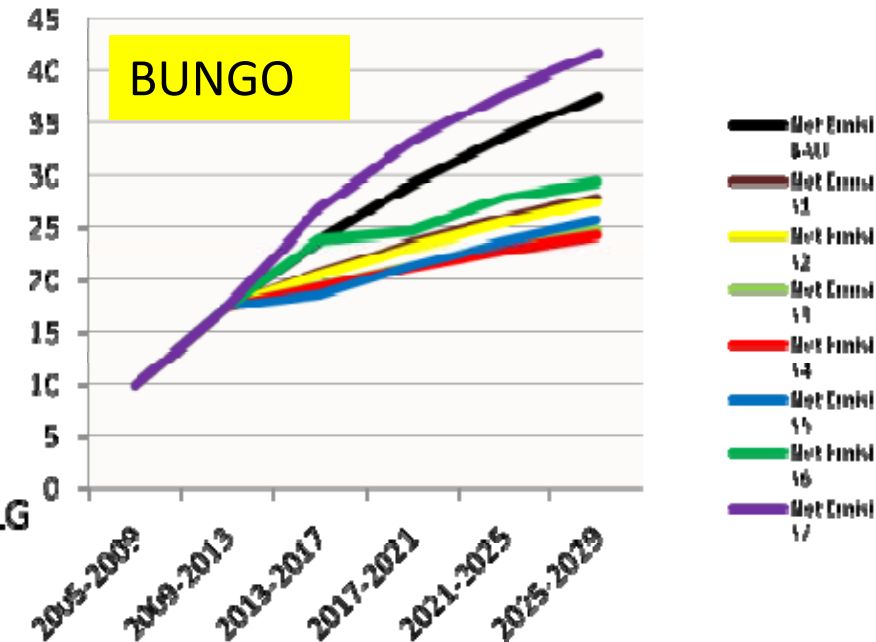
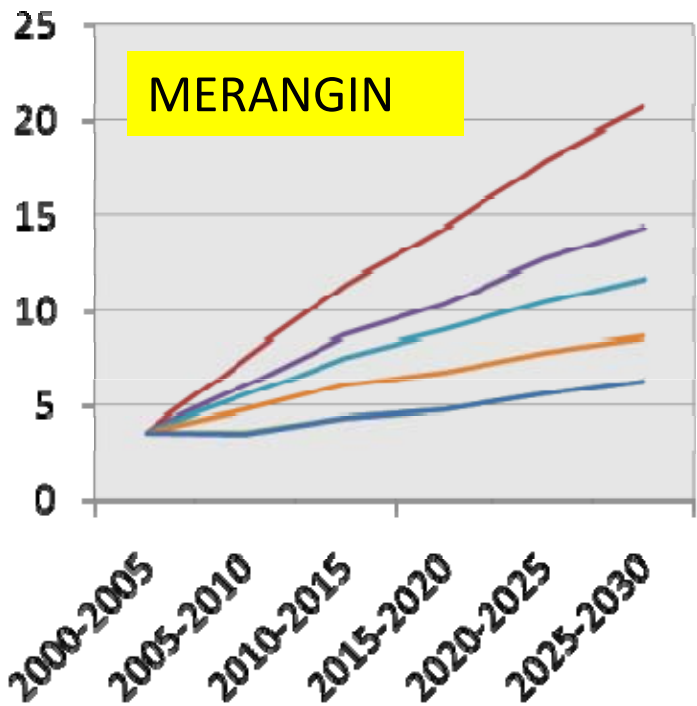
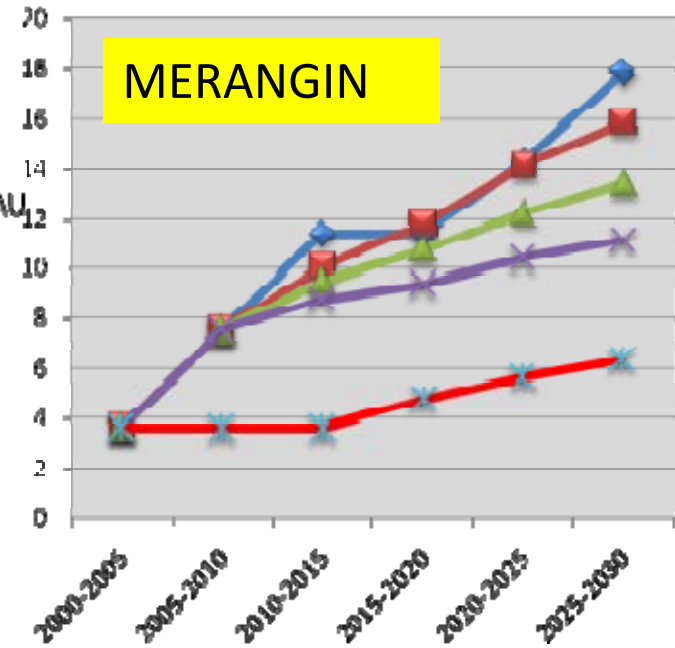
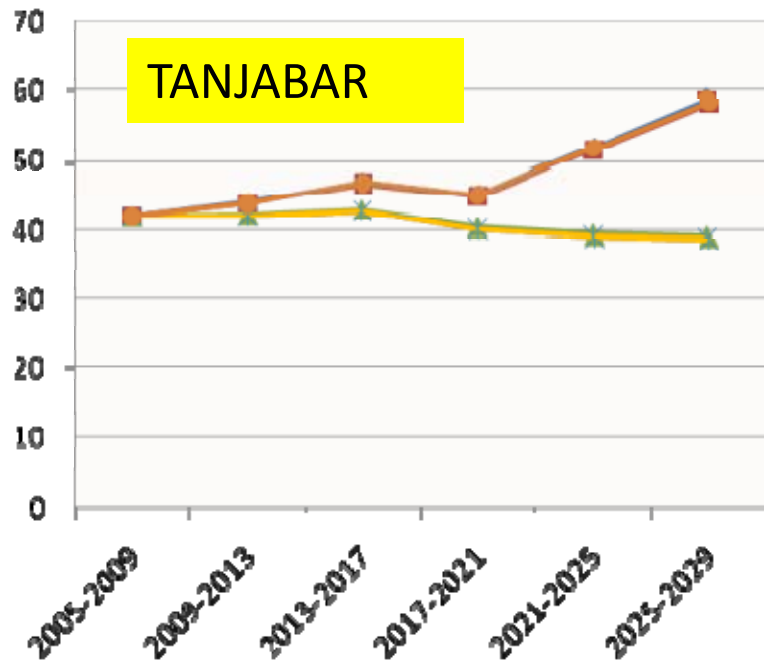
Low emission,
highly profitable
land use change

$\Delta CO_{2-eq} \gg$

High emission,
less profitable
land use change

High emission,
highly profitable
land use change





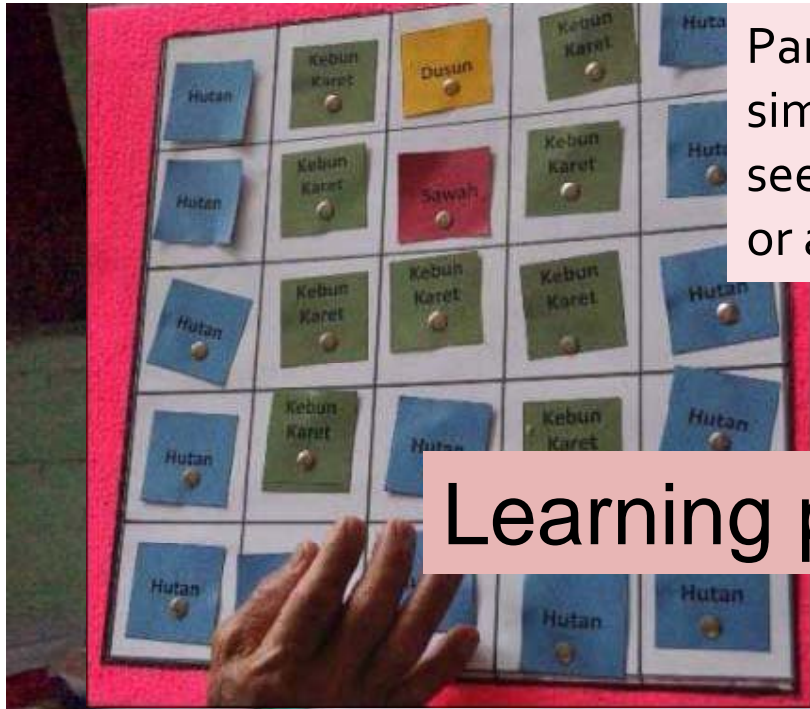


Learning platform at provincial level...



Participatory resource mapping followed by simulation board game with agents of change: seeking contracts for logging or oilpalm conversion, or agreements on forest protection and ecolabelling

Learning platform at village level...



(Photographs: Grace Villamor)

Milestone: at MoF+Right Reform Ind meeting in Lombok (July 2011)



Vice-president,
Special advisor p Kuntoro
Minister of Forestry,
Commit to major tenure
reform

Supporting Legal Instruments

- Indonesia-Norway Lol (2010):
 - Moratorium of new permit of primary forest concession
 - Development of MRV system
 - Mapping of “wasteland” and tenure status
 - Reformation of legal systems
 - Demonstration Activities
 - Implementation at national level
- Presidential Instruction (INPRES 10/2011) in support of the 2 yr moratorium
- Presidential Regulation (Perpres 61/ Sept. 2011): NAMAs

Presidential Regulation (Perpres 61/ Sept. 2011)

Sector	26% ER (Gt CO ₂ -e)	41% ER (Gt CO ₂ -e)	Action Plan
Agriculture	0.008	0.001	<ul style="list-style-type: none"> • Sustainable agriculture system for food security and production increase • Development of OP, rubber, cacao on low C lands within APL
Forestry and peatland	0.672	1.039	<ul style="list-style-type: none"> • Reestablishment of forest borders • Sustainable peatland management • Use of degraded peatland for plantation, livestock, and horticulture • Social forestry • Timber plantation • Surveillance of protection forest • Fire control

Institutional Setting

- National level: MoF, UKP₄ (Special Task Force under the President, Climate Change National Board (DNPI))
- Formation of REDD+ Agency
 - MRV
 - ensure the development of REDD+ strategy and NAMAs
 - set up funding instrument
 - develop criteria and strategy for pilot project
- Sub National level??

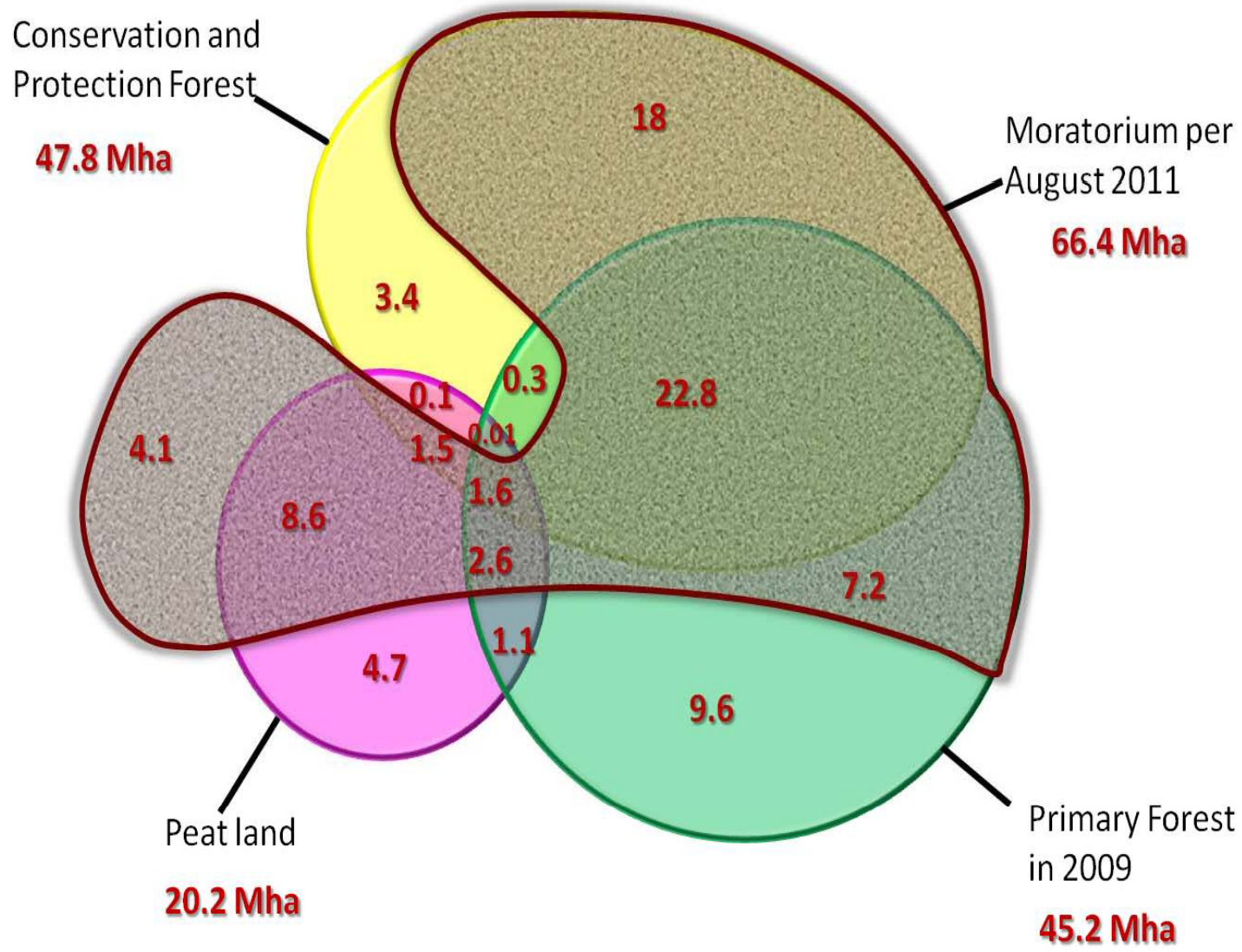
Issues around the moratorium

- a rush to obtain licences or amend spatial plans before the deadline
- stakeholders with an interest in logging and forest conversion simply wait out the moratorium, while resisting the reform processes
- interest groups and lobbyists would use their own analyses of the impact of the moratorium on jobs and economic activity to build political

Issues of Forest maps and licenses

- No single coherent map of Indonesian forest lands and licences applicable to them. Forest area 110 ± 20 million ha, or $\pm 18\%$).
- Knowledge of the size, distribution and condition of degraded lands is as yet too unreliable to support land swap scheme
- Incoherence of national forest status map with provincial and district spatial planning

Is 'moratorium' providing additional protection to forest and peat C stocks?

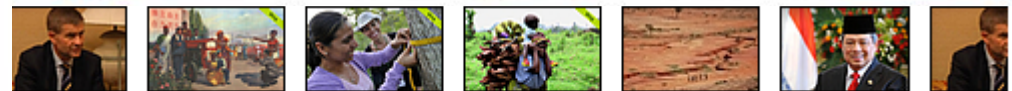


Source of Funding

- National
- Provincial and district (?)
- International (Norway \$2B): 2010-2013
Preparation), 2014-2016 (implementation)
UN-REDD scheme??
- Others



Indonesia's leader says he will dedicate final years of his presidency to protect rainforest



Norwegian Minister for Environment praises Indonesia's fight against climate change