

**PES AND POLICY IMPLICATION:  
CASE OF VOLUNTARY CDM-LIKE MECHANISM  
IN WEST SUMATRA, INDONESIA**

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# Rewards for, Use of and Shared Investment in Pro-poor Environmental Services Schemes

(Phase-II)



- **Goal:** Rewards for provision of environmental services flow to poor people in an Asian context.



- A. National policy framework:** participation by national policy makers in international fora; and development and improvement of policy frameworks for voluntary, realistic, conditional and pro-poor RES.
- B. International and national buyer and investor engagement:** 'business case' for investment in pro-poor environmental service schemes.
- C. Environmental service intermediaries enabled:** good practices and capacity building for intermediaries
- D. Innovations in effective, efficient and pro-poor RES mechanisms:** rural poor as ES local providers and conditions for success of established and new types of RES mechanisms.
- E. Mainstream RES into IFAD rural development initiatives:** awareness of the potential for RES in rural development.

# RUPES

increase the ecosystem services and human well-being

- RUPES is working in a wide variation of landscapes in **Indonesia, the Philippines, India, Nepal, Vietnam and China** with solid collaboration with RUPES-II partners for testing of **new in-kind rewards** and their **mechanisms**, such as bundling local benefits on **watershed protection** and **global carbon payments, bio-rights** schemes, **micro-hydro reward projects** and market access for **organic products** derived from well-managed landscapes.



**RUPES** working with the rural poor to benefit from rewards for the provision of environmental services and through the adoption of more productive and sustainable land management systems.





**Natural Capital**

**Landscape Dynamic**



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

*Stewards*  
Terrace, agroforestry

*Guardians*  
Forest protection efforts

**Land management**

**Direct benefit**

**Environmental Service Function**



**Providers of Environmental service**



**Beneficiaries of Environmental Service**

- **Opportunity cost**
- **Land control and access**

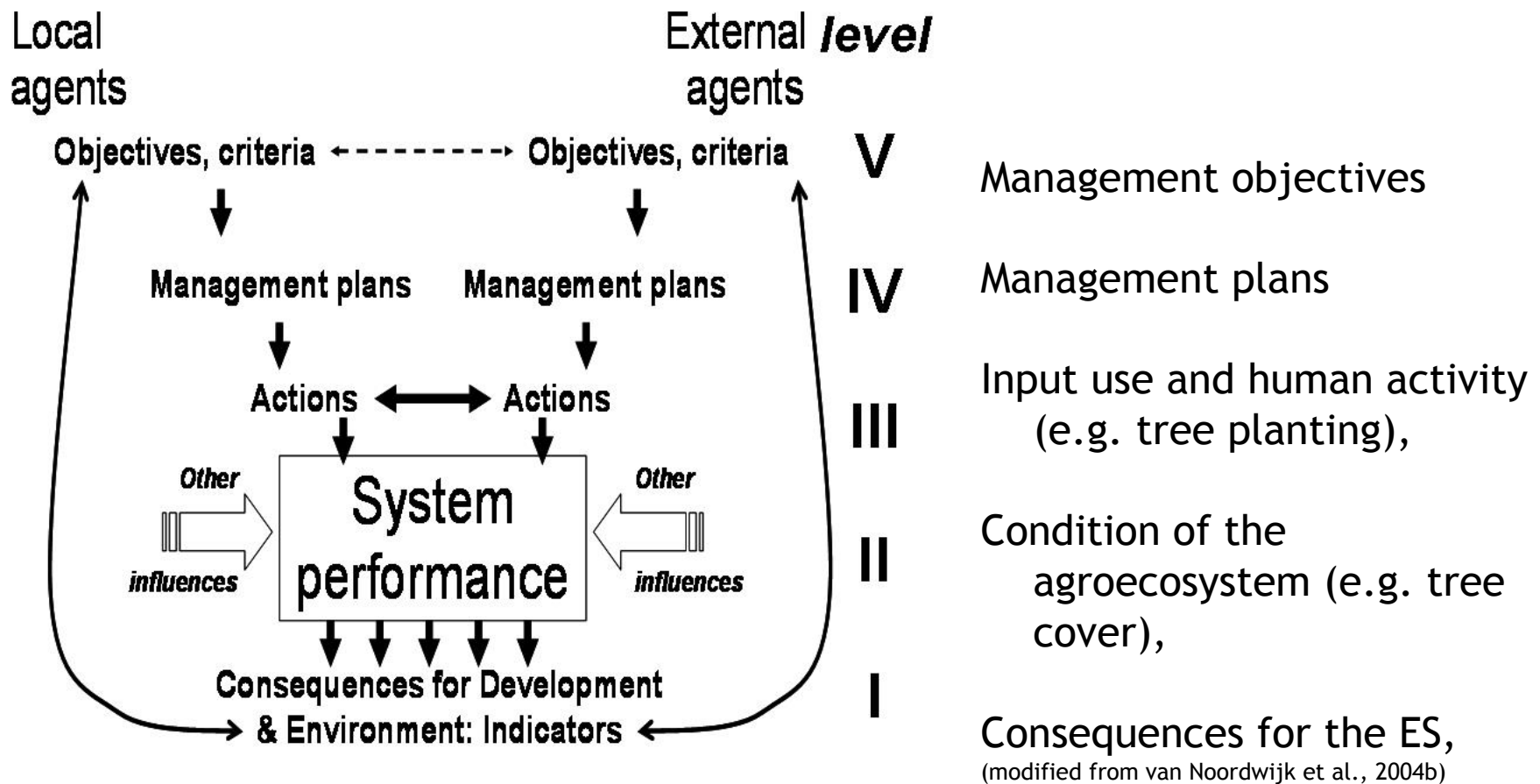


**Recognition and Rewards**

**Policy and Institution**

- **Transaction cost**
- **Supports and challenges**

Five levels at which agreements on ES reward schemes between **local agents** as 'ES providers' and **external actors** as 'ES beneficiaries' can be 'conditional':



Consequences for the ES,  
(modified from van Noordwijk et al., 2004b)

<b>Site</b>	<b>Focus of ES</b>	<b>Conditionality applied</b>	<b>Type of scheme and current status</b>
<b>Bungo</b>	Jungle rubber for conservation of the diversity of local plant species and wildlife habitat	Level IV Management plan of rubber agroforestry in general, including specified agricultural technique No slash-and-burn Conserving buffer zone and 'lubuk larangan' No intensive and commercial wild-hunt and NTFP	<ul style="list-style-type: none"> <li>○ 'Hutan desa' recognition by central government for local forest management role within watershed protection forest</li> <li>○ Testing mini hydropower as intermediate reward for biodiversity conservation</li> <li>○ A private buyer (automotive wheel industry) showing interests for rubber for "green" vehicles</li> </ul>
<b>Cidanau</b>	Water quality and regular flow for private water companies	Level II Planting and maintaining timber and fruit trees with the total minimum of 500 trees per hectare for 5 years	<ul style="list-style-type: none"> <li>○ A private water company is paying 120/hectare for the contract</li> </ul>

Site	Focus of ES	Conditionality applied	Type of scheme and current status
Singkarak (Watershed)	Water quality for hydropower, native fish conservation and ecotourism	Level IV Planting a 40-hectare grass land with timber and fruit trees	oConservation fund from local government to revitalize organic coffee in the upstream watershed.
Singkarak (CDM)	Carbon sequestration for voluntary markets under CDM setting	Level I Planting and main-taining specified number of trees to achieve agreed amount of carbon sequestrated	oCarbon market negotiated with private buyer (consumer goods distributor)
Sumberjaya (Community Forestry)	Watershed rehabilitation for the District Forestry Service	Level II Planting and maintaining specified number of trees with certain composition of species	oConditional tenure rewarded to farmer groups
Sumberjaya (River Care)	Water quality for hydropower	Level I Conducting collective action in riparian rehabilitation and sedimentation reduc-tion to achieve a specified percentage (above 30%) of erosion reduction	oHydroelectric Power company (HEP) royalty agreements signed for River Care groups along the river

## Local perspective of constraints at each RES development stage

Stages/Site	Bungo	Singkarak	Sumberjaya	Bakun	Kalahan	Kulekhani
<b>Scoping</b>	Not mentioned	Limited land size to provide ES	Not mentioned	Lack of information about types of land management practices	Not mentioned	Not mentioned
<b>Stakeholder analysis</b>	Difficult to identify (international) buyers	Not mentioned	Weak local institutions	Not mentioned	Individual rights/ local equity Ensuring transparency of decision	Not mentioned

## Local perspective of constraints at each RES development stage

Stages/Site	Bungo	Singkarak	Sumberjaya	Bakun	Kalahan	Kulekhani
<b>Negotiation</b>	Lengthy and cumbersome	Lengthy and cumbersome Unbalanced power of negotiation, low capability of sellers to negotiate	Conflict existing with potential buyers Time consuming Limited funding from buyers	Unsure that rewards will flow back to the community	Asymmetric information available between sellers and buyers Unclear negotiation rules	Potential risk that the poor's concerns neglected Lengthy and cumbersome
<b>Monitoring and implementation</b>	Difficult to monitor ES	Not mentioned	Not mentioned	Not mentioned	Payment not sustainable	Not mentioned

## Kyoto Protocol Commitment in 1997

Annex 1 Countries to reduce their carbon emission through:

1. Joint Implementation
2. Carbon Trading
3. Clean Development Mechanism

A/R CDM includes:

- Afforestation is the conversion of land that has not contained a forest for at least 50 years to forested land.
- Reforestation is the conversion of land that was not forested on 31 December 1989 to forested land.



## Reducing Emissions from Deforestation in Developing Countries (REDD)

- Introduced in the Conference of Parties (on Climate Change) in Montreal (Dec 2005)
- Addressing the issue of reducing emission from deforestation
- Supporting efforts and actions to reduce deforestation and to maintain and conserve forest carbon stocks in developing countries.
- This will imply complex problems, different national circumstances and multiple drivers of deforestation and forest degradation



## Indonesian policies and legal framework

- New Order (pre-1998): standardizing the subjects of development in the interest of legibility and control (Scott, 1998)
  - shifted the control of local institutions and resources to the centre.
- Reformation Era (1999- 2004): resurgence of local claims to authority and resources “people power” politics but unsettled balance of power between central, regional and local political and economical arenas.
- Post Reformation era (2005 - now)
  - Government Regulation Number 6/2007 opening the opportunity for provincial and district government to engage more in forest management.



## Post Reform situations

- Government Regulation Number 6/2007 opening the opportunity for provincial and district government to engage more in forest management.
  - Appointed Forest Management Units on their regions (criteria and standards determined by the Central government)
  - Published forestry permits for utilizing timber and non-timber products
- Provincial Regulation Number 2/2007 on Nagari structure and governance and Number 2/2007



## Legal and policy framework on climate change

- Law Number 17/2004: Ratifying Kyoto Protocol to the United Nations Framework Convention on Climate Change.
- Government Regulation Number 68/2008 - implementation of demonstration activities of REDD
- Government Regulation Number 30/2009 - the procedures for implementing Reducing Emissions from Deforestation and Forest Degradation.
- Government Regulation number 36/2009 - the procedures for applying permits of A/R CDM and REDD.
  - The attachment mentioned about **allocation of carbon payment** in percentage to government (40% central, 20% provincial, and 40% district), community and developer.





## Some analysis of Indonesian policy and legal framework on NRM

- Despite of good progress towards the forest co-management, unsolved problems on forest management & ownership (due to decentralization) impacted on unclear 'carbon rights'.
- Customary forest should be recognized as an independent entity not as a part of state-forest → not recognized rights of customary people.
  - One-way appointment of state-forestland and its permits to other stakeholders.
- Claim's from NGOs: carbon contract can limit the access of these people to forest
- State dominated but lack of coordination
- Unclear resolution for vertical customary land conflicts.



## Bundle ES at different scale of the Singkarak

### Landscape level:

1. Watershed functions of the  
overall Singkarak catchment  
Commitment of 12 Nagari  
surrounding the lake to  
conserve the environment

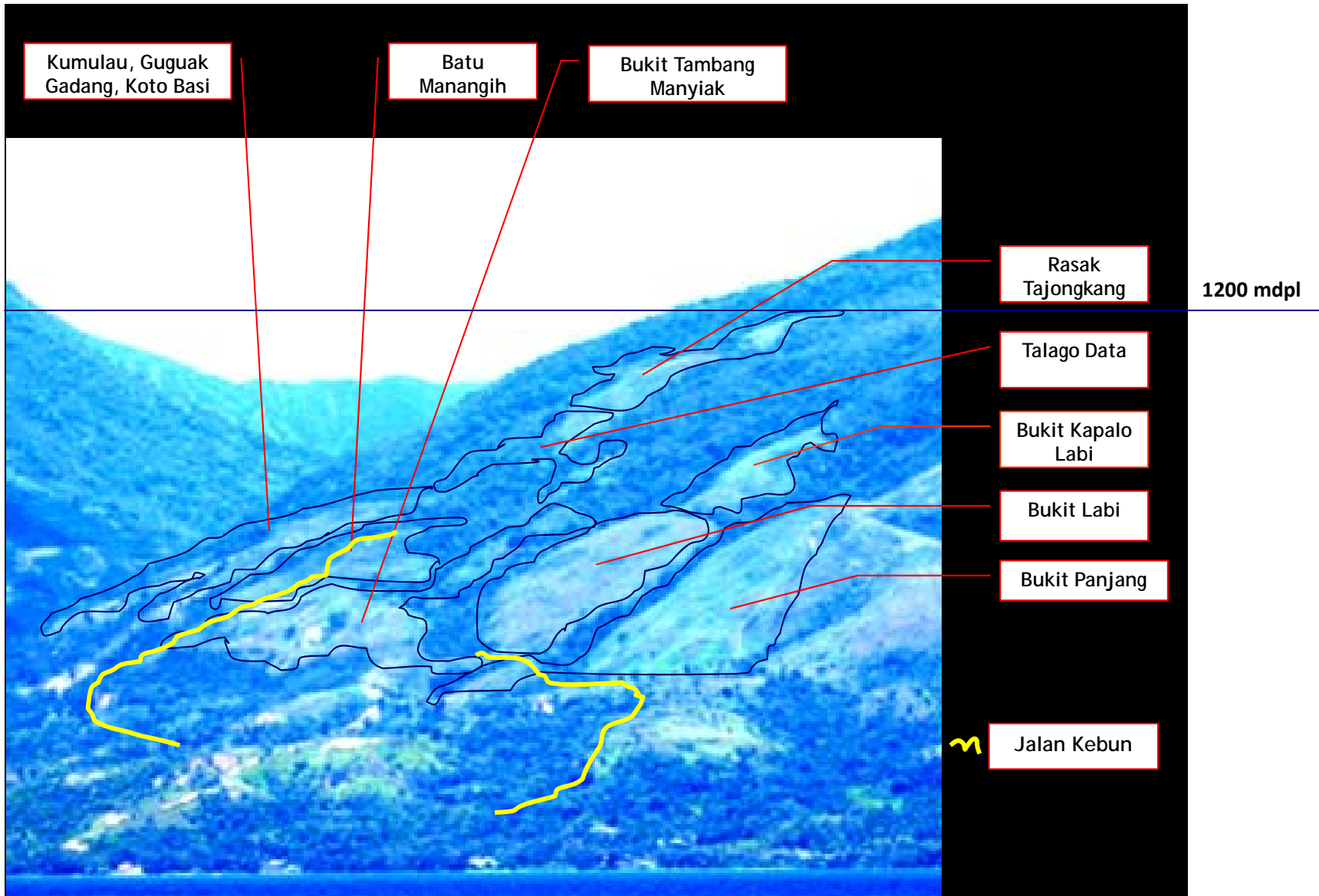
2. Landscape beauty: potential  
ecotourism of Lake Singkarak

### Nagari level:

1. Kopi Ulu organic market
2. Small scale voluntary market CDM



# Potential Site for CDM (Imperata Grassland since 1990)

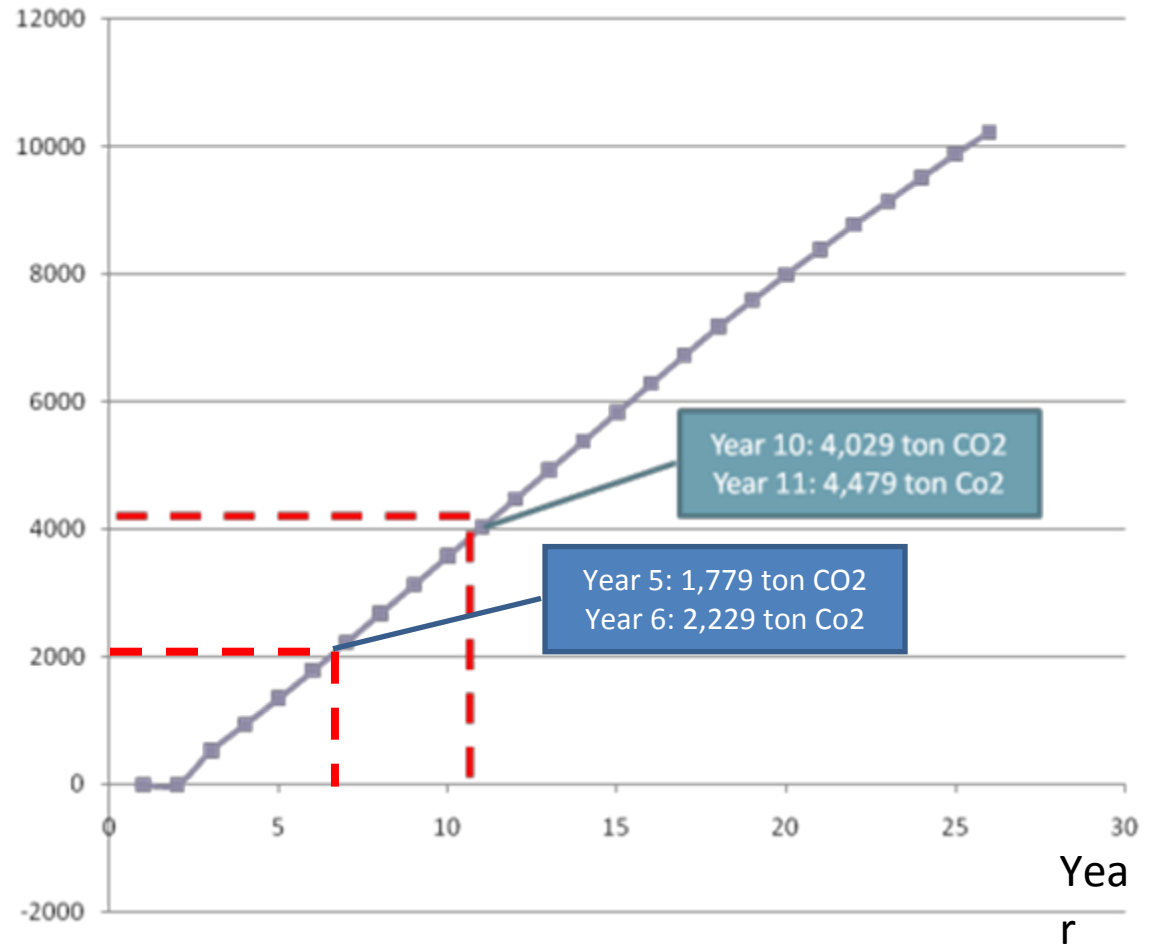


# How much carbon? When?



- Target for CO2 credit contract: **2,045 ton over 5 years** OR 112 ton C yearly
- Realistic C-sequestration rate by an agroforestry system: **1.6 ton C per ha yearly**
- This requires about **28K trees** planted
- The investment fund is **EUR 20K** or about **Rp. 10,318** per tree planting

ton CO2 emission



## Lesson 1. Local governance problems

- Unmanaged citizenship administration: expired ID cards or even rural citizen without ID cards;
- Unclear land boundary and land-ownership administratively
  - Constraints to contract development and administration, even they are represented by the Nagari.
  - Decentralization's failure: decentralized power to district and regional does not solve micro problems in information management, i.e. population data, land-ownership data, etc.



## Lesson 2. Bonding social capital

Active (and administratively and customarily recognized) role of Nagari (Wali Nagari and its KAN - Nagari's Customary Board)

- Good access to community for self-coordinating and managing the contract implementation, minimizing transaction cost (cutting 'value chain' effect), reducing conflicts.
- Strong self-decision making on the implementation, such as the distribution and allocation of payment for Nagari, public investments related to the contract implementation, i.e. irrigation and transportation path, individual/group owners.



## Lesson 3. Mismatch jurisdiction

- Unclear government regulation on permit (and coordination at higher level, i.e. district, provincial, even national level) for implementing private (in broader term, including customary lands), voluntary carbon market.
- Legal gaps exist.
  - Current regulations on carbon market are mostly government regulation from Ministry of Forestry thus only regulating state-forest lands (existing - but unclear - for REDD but not A/R CDM).



## Some conclusions:

- The expectation of financial incentives for carbon emission reduction has led to the concept of ‘carbon rights’- new arena for contest and potential inducement to cooperation.
- Forest policies and regulations in Indonesia have not been designed to deal with the current issues of carbon emission in global climate debate, but it frames rights and responsibilities that apply.



## Some conclusions:

- Enforcing formal rights to carbon for local stakeholders requires changes in the balance of power. Neglect to this situation leads to conflict and sabotage as ultimate way for local agents to make their points.
- It is crucial to enhance the understanding of multiple interactions between existing rights and regulations.
- Fact from the site: international pressures can potentially increase both the urgency and challenges of forest tenure reform and cross-scale governance.





## Biodiversity-Based Economy Development Organization (BEDO)

United Nations Development Programme



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