

# On the proposed A/R CDM projects funded by ADB in Indonesia

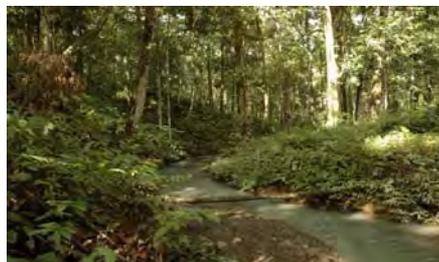


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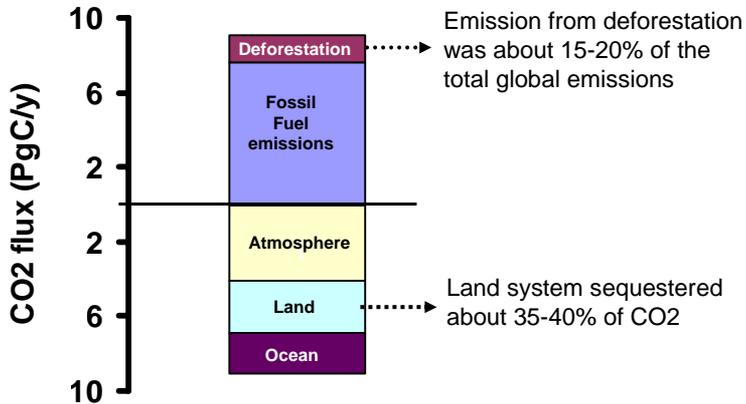
Centre for Climate Risk and Opportunity  
Management in South East Asia and Pacific  
Bogor Agriculture University

## Outline

- Introduction
- A/R CDM Development in Indonesia
- Process of Site Selection for PDD Development
- Available lands for forest carbon projects and A/R CDM
- Barriers and their solution
- Integrated forest carbon projects
- Conclusion



## Introduction: Global Carbon Budget (2000-2006)



## A/R CDM Development in Indonesia

- NSS on CDM for Forestry Component
- ***ADB study: TA on Carbon Sequestration (Winrock International in collaboration with LMGC-Bogor Agriculture University)***
- Other initiatives:
  - Wetland International
  - Sumitomo
  - JIFPRO
  - Etc

## **Process for Site Selection (ADB Funded Project)**

*Four key factors considered:*

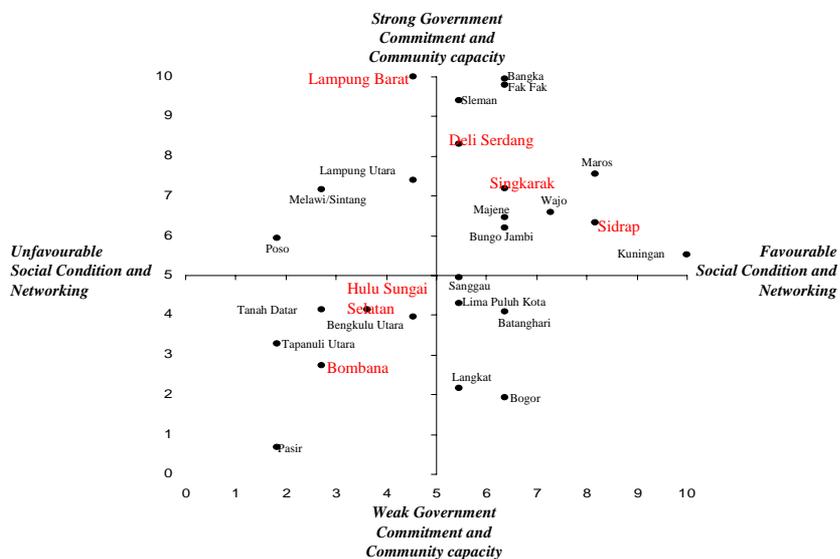
- 1. The readiness of the district stakeholders to implement AR CDM projects (Social network and Government Commitment).*
- 2. Analysis of eligible CDM lands and other district level conditions (conducted by CIFOR/ICRAF).*
- 3. A balanced geographic representation from across the country.*
- 4. Other considerations that indicate a district has a high potential to successfully implement an AR CDM project.*

## **Process for Site Selection**

- 302 districts considered in the site selection process*
- 180 invited to national workshop (based on land eligibility and NSS)*
- 27 districts completed questionnaires used to evaluate readiness*
- 13 districts were selected for to attend the National Project Identification Workshop held 28-29 April 2005*
  - Districts scored favorably on 2 composite indices – i) government commitment/community capacity and ii) social conditions/ network linkages.*

No	District/Province Name	Score of Presentation	Social Network	Government Commitment	Final Score	Rank	Region	Area proposed for the project*
<b>Region 1 – Sumatra &amp; Java</b>								
1	Lampung Barat, Lampung	7.8	9.1	10	9.07	1	1	5,000
2	Solok, West Sumatra	10.0	5.2	7.2	7.44	2	1	15,000
3	Deli Serdang, North Sumatra	8.3	5.7	8.0	7.41	3	1	1,500
4	Kuningan, West Java	7.6	4.8	8.0	6.93	5	1	45.65
5	Sleman, DIY	7.9	10.0	3.2	6.65	7	1	500
6	Bungo, Jambi	6.1	7.8	5.2	6.25	8	1	6,500
7	Bangka, Bangka	7.1	5.2	2.4	4.65	11	1	6,667
8	Bengkulu Utara, Bengkulu	6.7	3.0	2.8	4.02	12	1	n/a
<b>Region 2 – Kalimantan</b>								
9	Hulu Sungai Selatan, South Kalimantan	7.3	5.7	3.2	5.17	10	3	7,000
10	Melawi, West Kalimantan	7.0	4.8	0.8	3.87	13	3	30,000
<b>Region 3 – Sulawesi &amp; Irian</b>								
11	Sidderang Rappeng, South Sulawesi	8.2	3.9	8.4	6.98	4	2	25,538
12	Fak-Fak, Irian Jaya	7.3	8.7	4.8	6.72	6	2	26,861
13	Bombana, Southeast Sulawesi	9.0	7.0	1.6	5.44	9	2	14,762

## Process for Site Selection



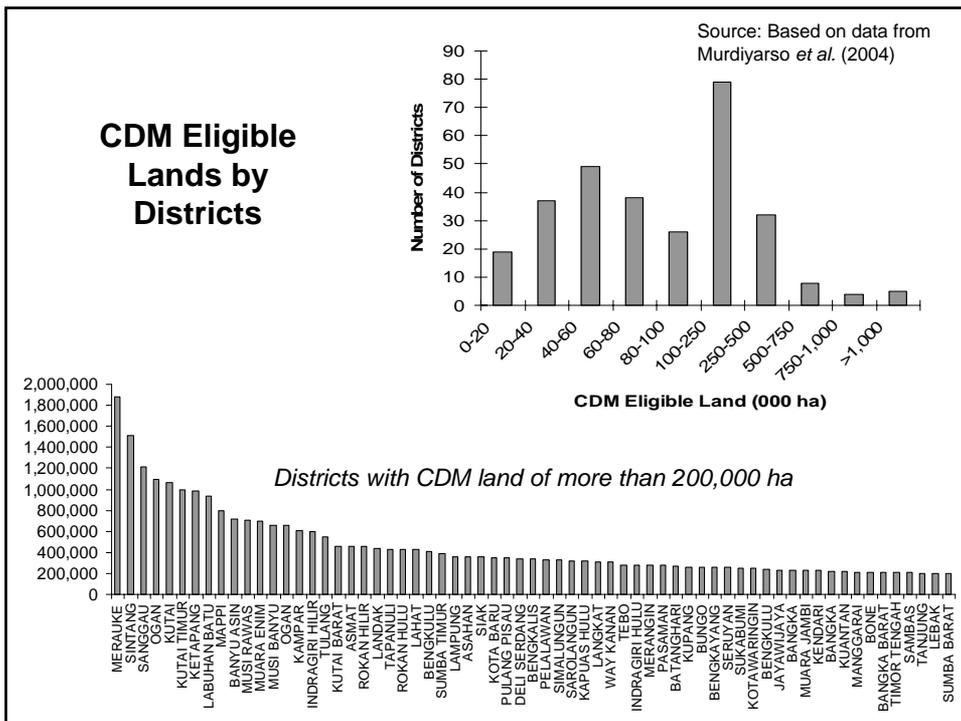
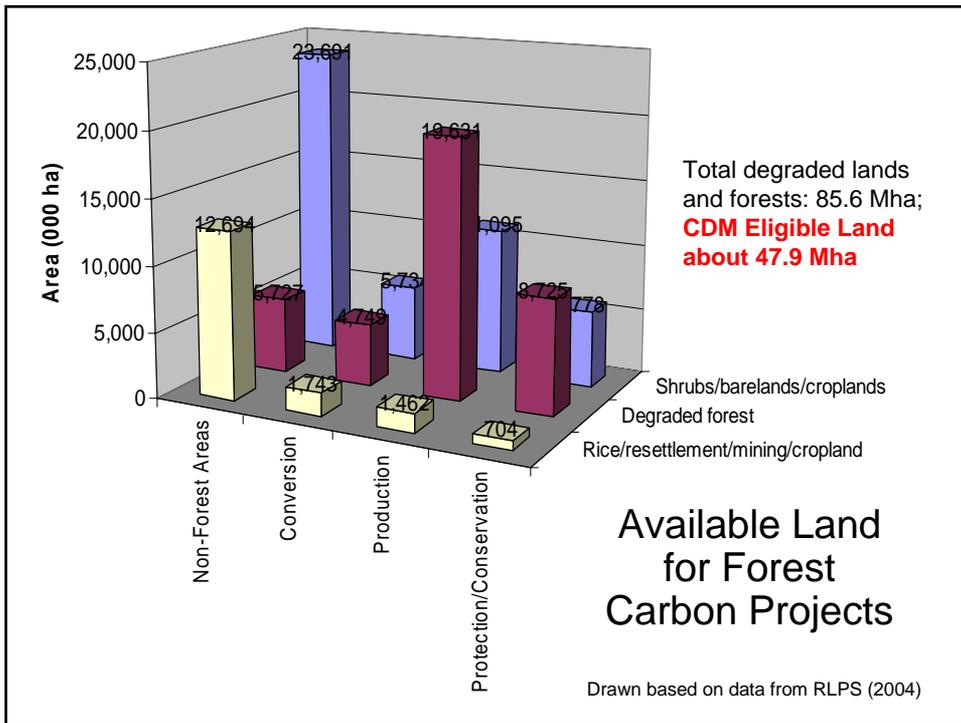
# Process for Site Selection

- As a result of the process described the following six districts were prioritized for PDD development:
  - *Sindenreng Rappan (Sidrap), South Sulawesi*
  - *Bombana, Southeast Sulawesi*
  - *Deli Serdang, North Sumatra*
  - *West Lampung, Lampung*
  - *Hulu Sungai Selatan, South Kalimantan*
  - *Singkarak, West Sumatra*
- *None of the projects get host country approval and registered (proponents have no initial investment). Bappenas has indicate will assist the district to get initial investment for the above A/R CDM projects and MoF will accelerate the process of getting host country approval. Due to revision in the methodology all the PDDs need revision following appropriate approved methodologies and some activities are still needed such as stakeholder process, and validation*

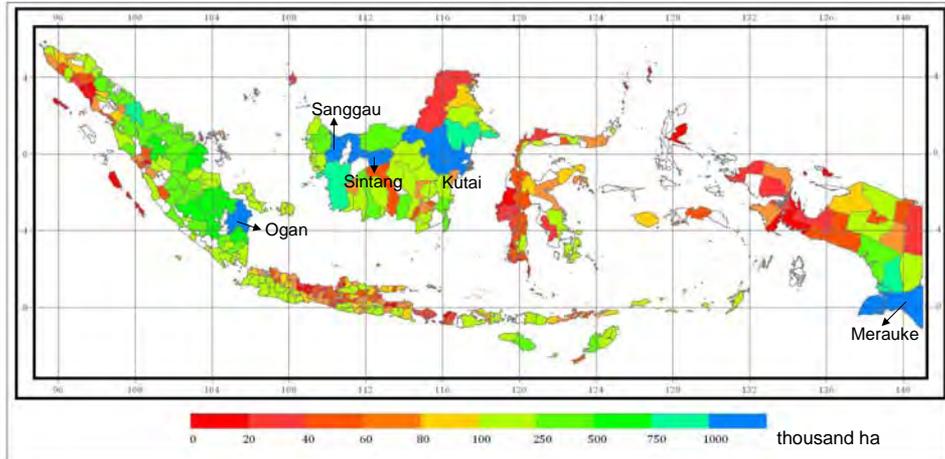
## Status of PDD

Activities under the TA	Sidrap	Bombana	Deli Serdang	HSS	Lampung	Singkarak
PDD Development Process	√	**	**	√	*	*
- Stakeholder Process	√	√	√	√	*	*
- Stakeholder Agreement	√	**	*	√	**	*
- Institutional Structure	√	**	**	√	√	√
- Land Tenure Clarified	√	√	√	√	*	√
- Baseline Information	√	**	*	√	*	-
- Monitoring Plan	√	*	*	√	*	-
<b>Post TA activities</b>						
Financial Arrangements	*	-	-	-	-	-
Host country Approval	-	-	-	-	-	-
- MOF	-	-	-	-	-	-
- KomNas	-	-	-	-	-	-
Validation Process	-	-	-	-	-	-
- Validation Review	√	-	-	-	-	-
- Validation by DOE	-	-	-	-	-	-
Registration	-	-	-	-	-	-
Implementation	-	-	-	-	-	-

Key: X = complete; \*\* = nearly complete; \* = in process; - = remaining.



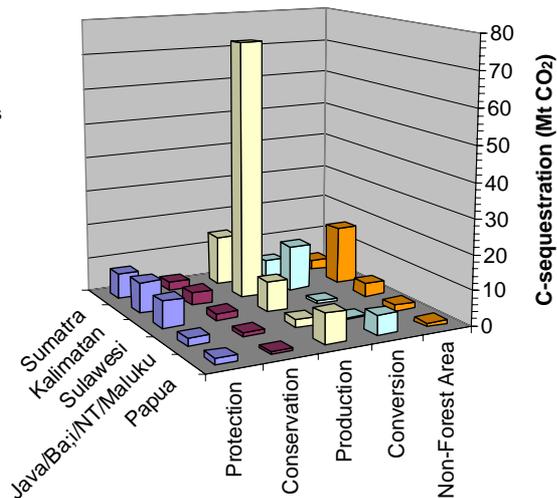
# CDM Eligible Land by districts



Redrawn based on data from Murdiyarto *et al.* (2004)

## Potential CO<sub>2</sub> sequestered from Forest Restoration Sink Enhancement

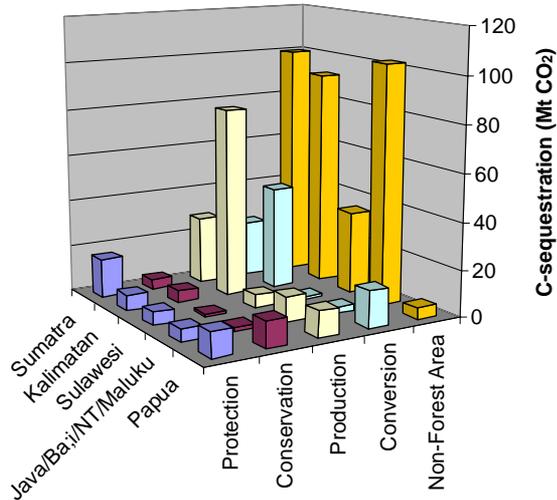
Calculated based on data from RLPS data.  
Assumption: Rate of carbon sequestration is 2 tC/ha/year



# Potential CO2 sequestered from Forest Plantation

## Forest Plantation

Calculated based on data from RLPS data.  
Assumption: Rate of carbon sequestration is 5 tC/ha/year



# Potential Proponents for Forest Carbon Projects

	Shrubs/Barelands/Croplands	Degraded Forests
Protection/ Conservation	Government-Park Authorities/Communities	Government-Park Authorities/Communities
Production	Private/State Companies/Communities	Private/State Companies/Communities
Conversion	Private/State Companies/Communities	Private/State Companies/Communities
Non-Forest Areas	Local Government/Private/ Local State Companies/ Communities	Local Government/Private/ Local State Companies/ Communities

Potential for A/R CDM projects

Potential for Forest Carbon Projects

## Barriers for Developing AR CDM Projects and the solution

- **Land access, land tenure, land use regulations often restrict options:**
  - MOF or district/provincial governments can grant land use rights farmers in return for establishing tree-based systems. Successful examples exist (In the case of Sidrap~Bupati Decree).
  - MOF can issue letter of agreement on the use of National Park for Forest Carbon Project (Sumitomo case and Bromo National Park)
  - CDM land in state land or forest area may be occupied illegally by communities (source of conflict). Participatory approach, legalizing land use right for the community and involving them as project participants (Successful case: Case of Pengalengan with Electricity State Company; Community-based forest management in Java with Perum Perhutani)

## Barriers for Developing AR CDM Projects and the solution

- **Additionality:**
  - Reforesting protection forest and conservation forest for A/R CDM projects: Need official documents to justify that without CDM the area can not be reforested (e.g. due to fund availability ~ not enough funding from governments; high cost for managing drought and fire etc) ~ *in many cases this is not well documented*
  - A/R CDM project for timber plantation. To prove the project is not economically viable without CDM (adding indirect cost such as community involvement and additional fund for community development for implementing CDM, risk management etc)

## Barriers for Developing AR CDM Projects and the solution

- **Initial Investment**

- Must stress to stakeholders that up-front funding is not common. Proponent, local government and other stakeholders should provide financial or in-kind investment. Other financial support will be required.

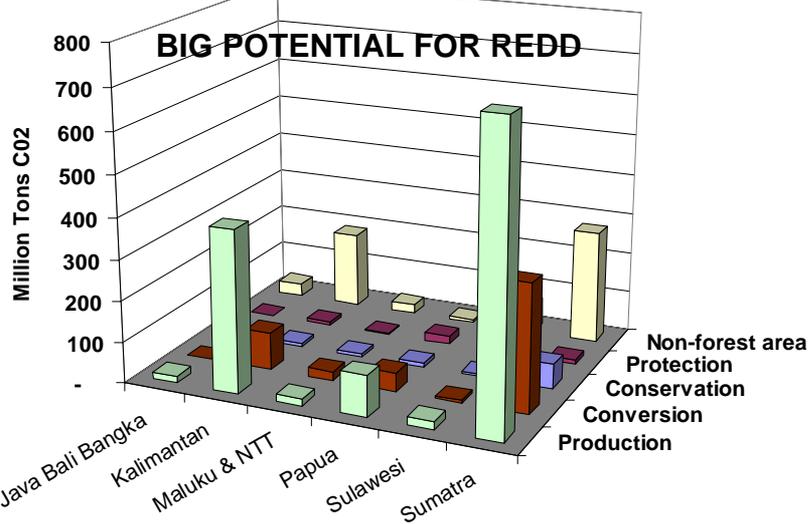
## Barriers for Developing AR CDM Projects and the solution

- **Technical**

Maps of proposed project sites may be limited. Land cover land use maps available from national and district agencies but not detail enough to be used for assessing eligibility of the lands. If historical maps lacking written or verbal legal documents confirming historical land cover can be used.

- **For SS A/R CDM** ~ in some cases farmers are poor, risk-adverse, lack experience with intensive tree-farming and lack market access/linkages: Project should provide farming community with extension services that include assistance with species/variety selection, nursery production (of quality germplasm), training in intensive tree management, development of market linkages, and assistance with capital/agriculture input resources.

**Total CO2 Emissions from Vegetation & Soil  
By Forest Classification and Island Group**  
(Total 2510 MtCO2 during 2000-2005, IFCA Analysis & Assumptions)

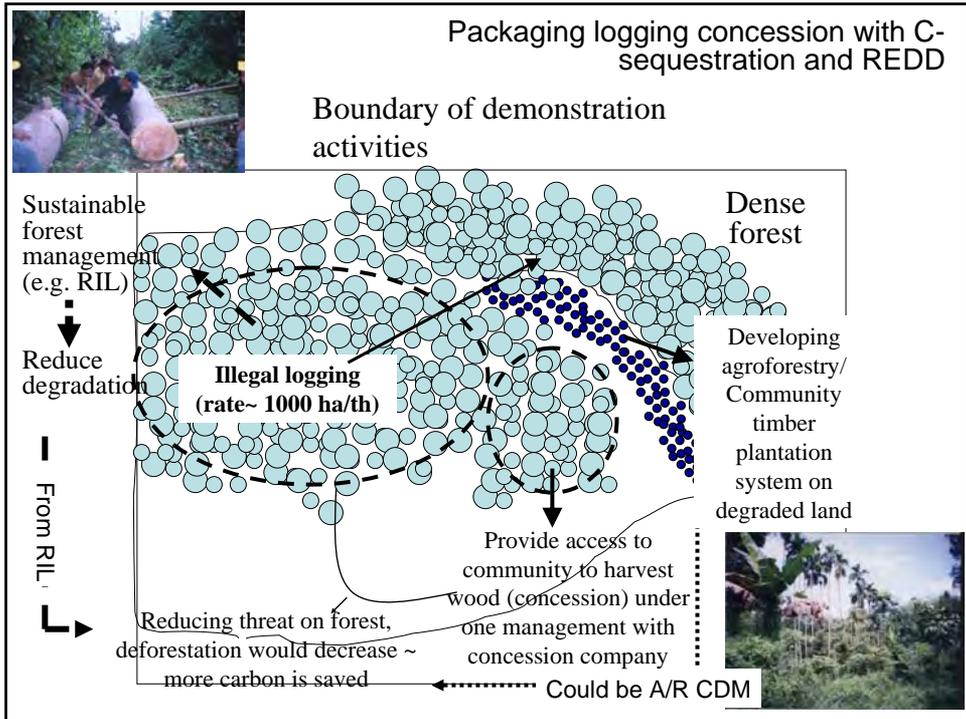
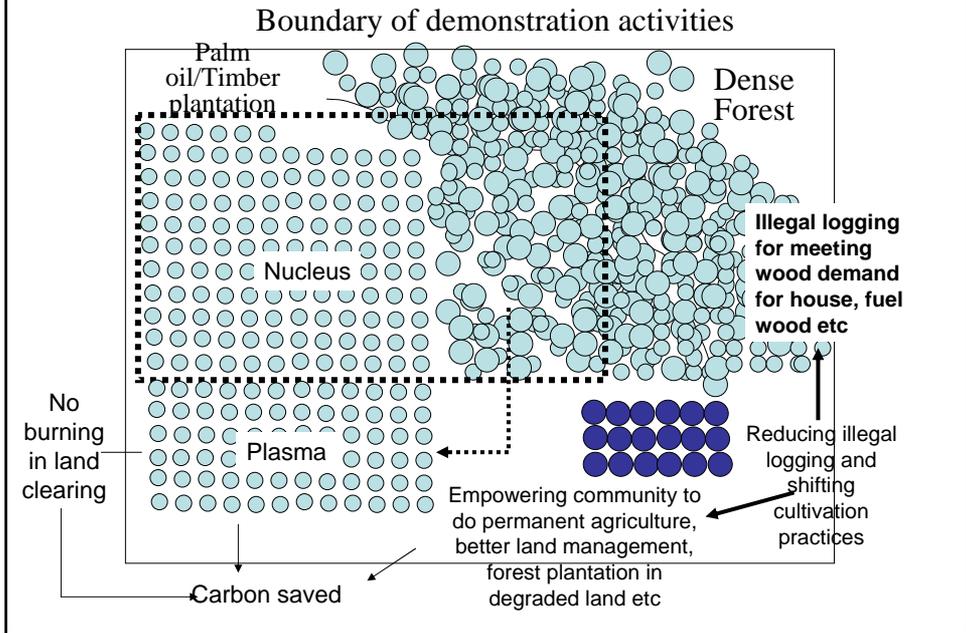


- Production & conversion forest on Sumatra & Kalimantan = greatest concern

## Integrated approach in doing forest carbon projects (Packaging C-sequestration projects with REDD)

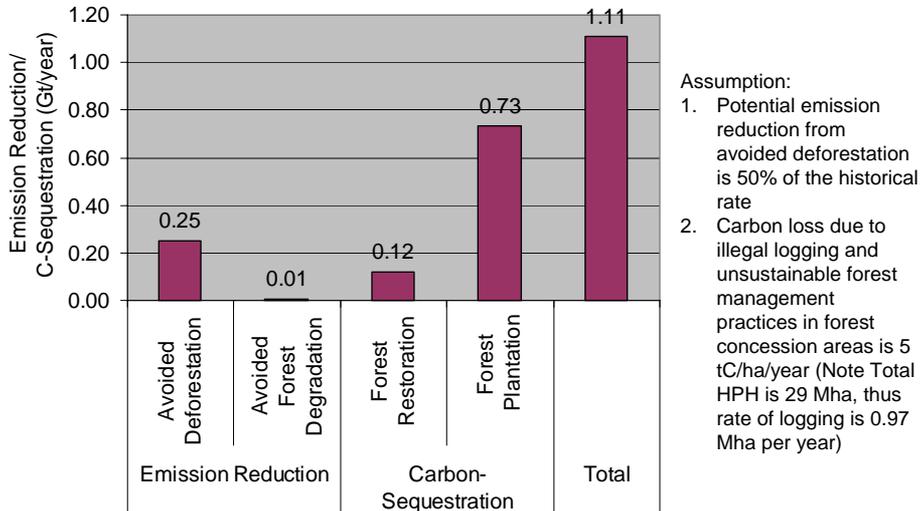
- Process:
  - Identify main sources of GHG emission from forest and land uses (where and how much)
  - Identify the main actors that contribute to the emissions
  - Identify strategies and activities to reduce emissions with the involvement of all main stakeholders through participatory process
  - Conduct the activities in integrated ways
  - Develop monitoring system for measuring emission reduction
  - Develop fair and transparent system for distribution of carbon payment
- IFCA (Indonesia has developed REDD strategies)
- Supporting regulations on REDD is being prepared

# Packaging Palm Oil Development with REDD



## Concluding Remarks

- Indonesian has big potential for reducing emissions from DD, A/R CDM and sink enhancement



## Concluding Remarks

- Supporting regulations for implementation of forest carbon projects are available
- To reduce risk, integrated forest carbon projects are encouraged
- Project Design Documents on A/R CDM for a number of districts are available but still need revision following new approved methodologies

## Sidrap District, South Sulawesi

**Title:** Reforestation of unproductive grassland through smallscale fruit and timber tree systems

**Short Description:** The purpose of the proposed AR CDM project activity is to reforest 650 hectares of *Imperata* grassland, which has become a climax landcover due to its tolerance of the wildfires that occur every 1-2 years.

**Net Anthropogenic GHG removal:** At a crediting period of 30 years, the project activity will yield an estimated net anthropogenic GHG removal of 179,335 net tons.

**Species:** Cotton tree (*Ceiba pentandra*), candlenut (*Aleurites moluccana*), teak (*Tectona grandis*), gmelina (*Gmelina arborea*), cacao (*Theobroma cacao*) and cashew nut (*Anacardium occidentale*).

**Partners:** Farmers in six villages, District Forest Office, MPI Reformasi (development organization), Lestari Foundation (an association of forest enterprises), District Government, Local CDM Steering Committee (which includes local NGOs and market agents) and NGOs.

## HSS District, South Kalimantan

**Title:** Reforesting grassland areas at Loksado Protected Forest Land through CDM

**Short Description:** The purpose of the project activity is to reforest 2,500 hectares of grassland located in protected forest areas with 40% rubber trees and 60% timber and cinnamon trees.

**Net anthropogenic GHG removal:** There will be approximately removals 402,747 tons of CO<sub>2</sub>-eq over the crediting period (20 years).

**Species:** Rubber (*Hevea brasiliensis*), cinnamon (*Cinnamomum burmanii* Blume), gmelina (*Gmelina arborea*) and mahoni (*Swietenia macrophylla*).

**Partners:** Farmers in two villages (Haratai and Ulang) of Loksado Sub-District, District Forest and Plantation Office, District Government, community *Adat* (traditional cultural) organizations, Amandit Cooperative, and Local CDM Steering Committee (which includes local NGOs, local state company and private sector representatives).

## Bombana District, Southeast Sulawesi

**Title:** Reforesting grassland of Rarowatu Subdistrict through SS AR CDM project activity

**Short Description:** The purpose of the project activity is to reforest 700 hectares of degraded private and government land that is currently covered with grasslands. Farmers will reforest the area with cashew and teak plantations in exchange for land use rights.

**Net anthropogenic GHG removal:** The project activity will yield an estimated net anthropogenic GHG removal of 154,886 net tons in 20 years.

**Species:** Cashew nut (*Anacardium occidentale*) and teak (*Tectona grandis*).

**Partners:** Farmers in five villages; Farmers Cooperative; District Forest Office; District Government; PT. Bulusu Prima (forest enterprise); and the Local CDM Steering Committee (which includes local NGOs, private sector representatives and market agents).

## Deli Serdang District, North Sumatra

**Title:** Reforestation of Degraded Agricultural Land through Community-based Rubber Plantations

**Short Description:** The purpose of the project activity is to reforest 3,000 hectares of degraded state lands, which are currently managed on a 3-year slash and burn cycle.

**Net anthropogenic GHG removal:** There would be an approximate removal of 1,080,519 tons of CO<sub>2</sub>-eq from the atmosphere over the 20 year crediting period.

**Species:** Rubber (*Hevea brasiliensis*), mangosteen (*Garcinia mangostana*), durian (*Durio zibethinus*), duku (*Lansium domesticum*), gluger (unknown) and calliandra (*Calliandra calothyrsus*).

**Partners:** Farmers in four villages, District Forest Office, District Government, Pendamping (NGO), and Local CDM Steering Committee (which includes NGOs, private sector representatives and market agents).

## West Lampung District, Lampung

**Title:** Increasing the Sink Capacity of Coffee Plantation through AR CDM Project

**Short Description:** The purpose of the proposed project activity is to increase the sink capacity of 7,500 hectares of monoculture smallholder coffee plantation by interplanting other tree species among the coffee.

**Net anthropogenic GHG removal:** There would be an approximate removal of 13,418,894 tons of CO<sub>2</sub>-eq from the atmosphere over the 20 year crediting period.

**Species:** Avocado (*Persea americana*), pinang (*Areca catechu*), durian (*Durio zibethinus*), petai (*Parkia speciosa*), & cempaka (*Michelia champaca*).

**Partners:** Farmers in seven villages, District Forest and Natural Resource Office, District Government, Local CDM Steering Committee (which includes local NGOs, private sector representatives and market agents).

## Singkarak, West Sumatra

**Title:** Improvement of Farmers Welfare through the Reforestation - CDM Carbon Project on Critical Land of Nagari Paninggahan, Solok District, West Sumatra, Indonesia

**Short Description:** Convert 1000 ha of marginal and abandoned land to more productive timber and multi purposes tree species

**Net anthropogenic GHG removal:** There would be an approximate removal of tons of 220,000 CO<sub>2</sub>-eq from the atmosphere over the 20 year crediting period.

**Species:** Mahagony (*Swietenia macrophylla*), Surian (*Toona sureni*), Teak (*Tectona grandis*); and multi purposes tree species (Avocado (*Persea Americana*), Clove (*Syzigium aromaticum*), Candle nut (*Aleurites moluccana*), Cacao (*Theobroma cacao*), Sawo, Petai (*Parkia speciosa*)

**Partners:** 23 farmers group at 3 villages, Nagari Paninggahan Environmental Management Office, CDM Steering Committee and Local Government

**THANK YOU**