REDD and Climate Change Adaptation

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Forestry's role in global carbon

Reservoirs

1650 GtC
(~ 2 x C in atmos)
(> C in oil reserves)

Sinks

2.6 GtC/yr

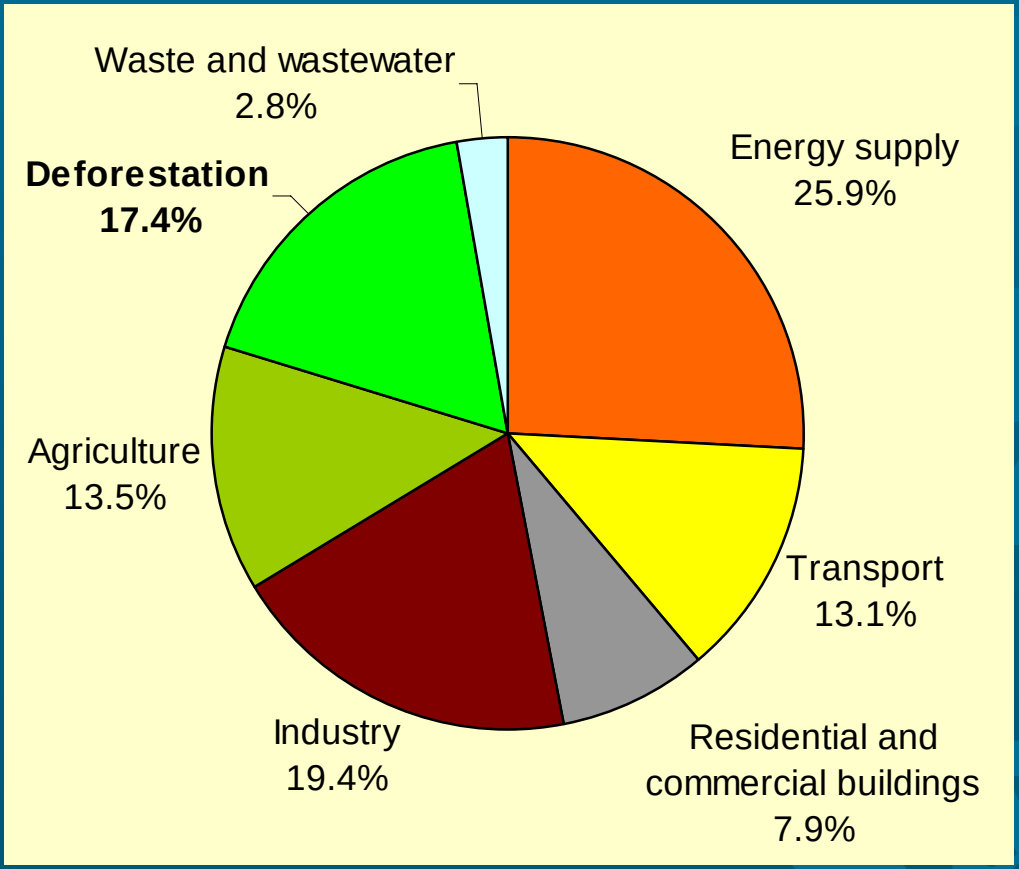
Sources

(mainly deforestation)

1.6 GtC/yr

Deforestation and climate change

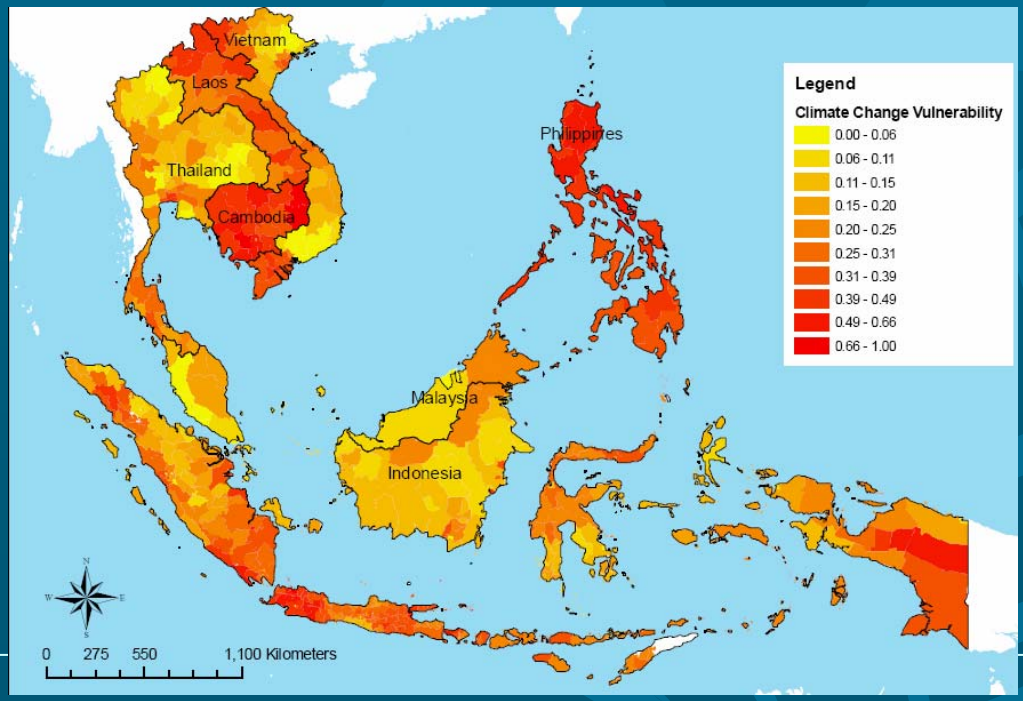
Deforestation accounted for 17.4% of global greenhouse gas emissions in 2000



Source: IPCC 4th Assessment

Climate change impacts in SE Asia

- Decreased freshwater availability;
- Increased risk of flooding in coastal and deltaic areas;
- Increased occurrence of extreme rains and landslides.
- ENSO?
- Drought?



Source: IPCC, 2007

What are forest mitigation options?

1. Maintain or increase forest land area
   - Reduce deforestation (REDD)
   - Increase afforestation and reforestation (CDM)
2. Maintain or increase forest carbon density
   - Reduce forest degradation
   - Forest restoration
   - Forest conservation
   - Wild fire management
3. Increase use of wood products for increased carbon stocks and fossil fuel substitution

What is REDD?

- Reduced Emissions from Deforestation and Degradation;
- Making forest conservation pay by selling carbon credits from REDD

The cost of reducing emissions from deforestation and degradation may be low in comparison with current carbon credit prices.

Forests and climate change adaptation

1. Adaptation of forests and forestry
   - Forest management changes in relation to drought, fire, pest and diseases;
   - Implement Sustainable Forest Management.
2. Adaptation using forests and forestry
   - Coastal protection;
   - Watershed protection (coastal erosion, landslides on sloping land).

Mitigation and adaptation

- How will climate change affect forest policy and REDD objectives?
- Without adaptation, mitigation measures (REDD strategy) may fail
  - it will be necessary to increase resilience of forests and trees to climate change through adaptation measures.

The need for adaptation

Ecosystem collapse in Kalimantan -

- Logging ⇨ reduction of dipterocarp seed trees and forest drying;
- ENSO events ⇨ drought;
- Forest drying + drought + land clearance ⇨ fire ⇨ less forest.

Source: Curran et al 1999, 2004

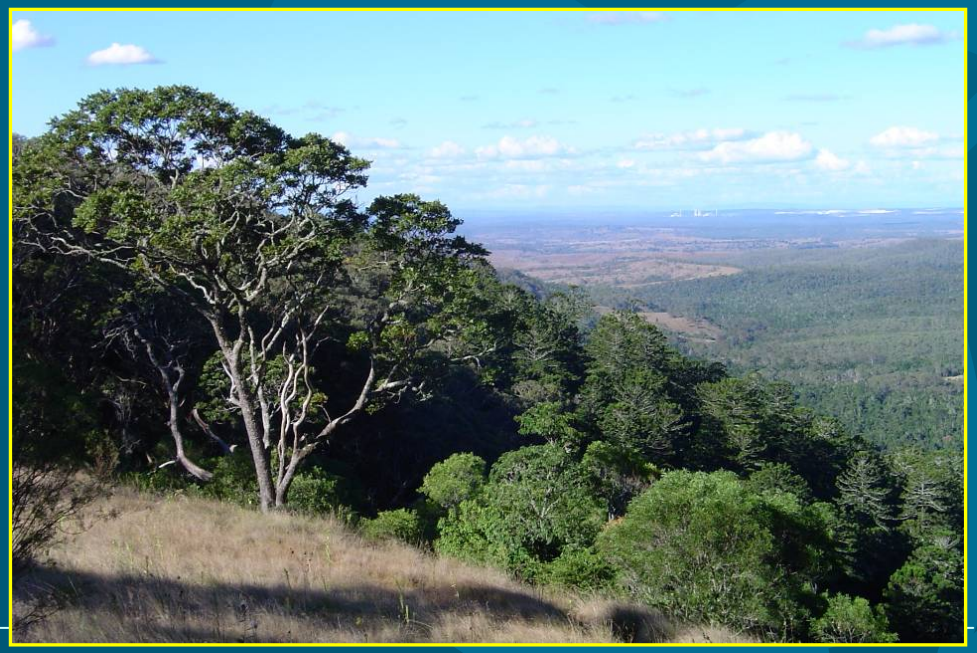
Adaptation-mitigation links

- Sustainable Forest Management
  - Maintain forest health, diverse and resilient ecosystems, effective monitoring, flexible and responsive management;
- Reduce stress
  - logging, pollutants, fragmentation;
- Restore functions after disturbance,
- Increase locations where particular habitats are managed, connect habitats and landscapes.

Adaptation and REDD

- REDD will involve detailed monitoring necessary for adaptation;
- REDD plus includes conservation of forests and enhancement of carbon stocks.

REDD will not pay for adaptation directly but in most cases it shouldn't matter.



E.g. Protected areas in Lao PDR

- PAs are IUCN grade VI, i.e. managed mainly for the sustainable use of natural ecosystems;
- Monitoring during REDD implementation will provide detailed information on forest resources;
- Adaptation of management may be necessary to mitigate climate change impacts on carbon storage.

Adaptation-mitigation conflicts

- REDD mitigation objectives will differ with adaptation objectives if adaptation does not reduce deforestation and degradation, e.g.:
  - If forest thinning is needed;
  - If adaptation concerns low carbon forest and is inefficient in reducing carbon emissions;
  - If afforestation or reforestation is needed.

The future for carbon and forestry

- Negotiations on post-2012 compliance markets by end of 2009 – REDD+(?);
- Voluntary REDD transactions already being made.

Thank You