

A map of Indonesia is shown in the background, with the islands of Sumatra, Java, Sulawesi, and Irian Jaya highlighted in white against a light blue background. The title 'Deforestation in Indonesia' is centered over the map.

# Deforestation in Indonesia

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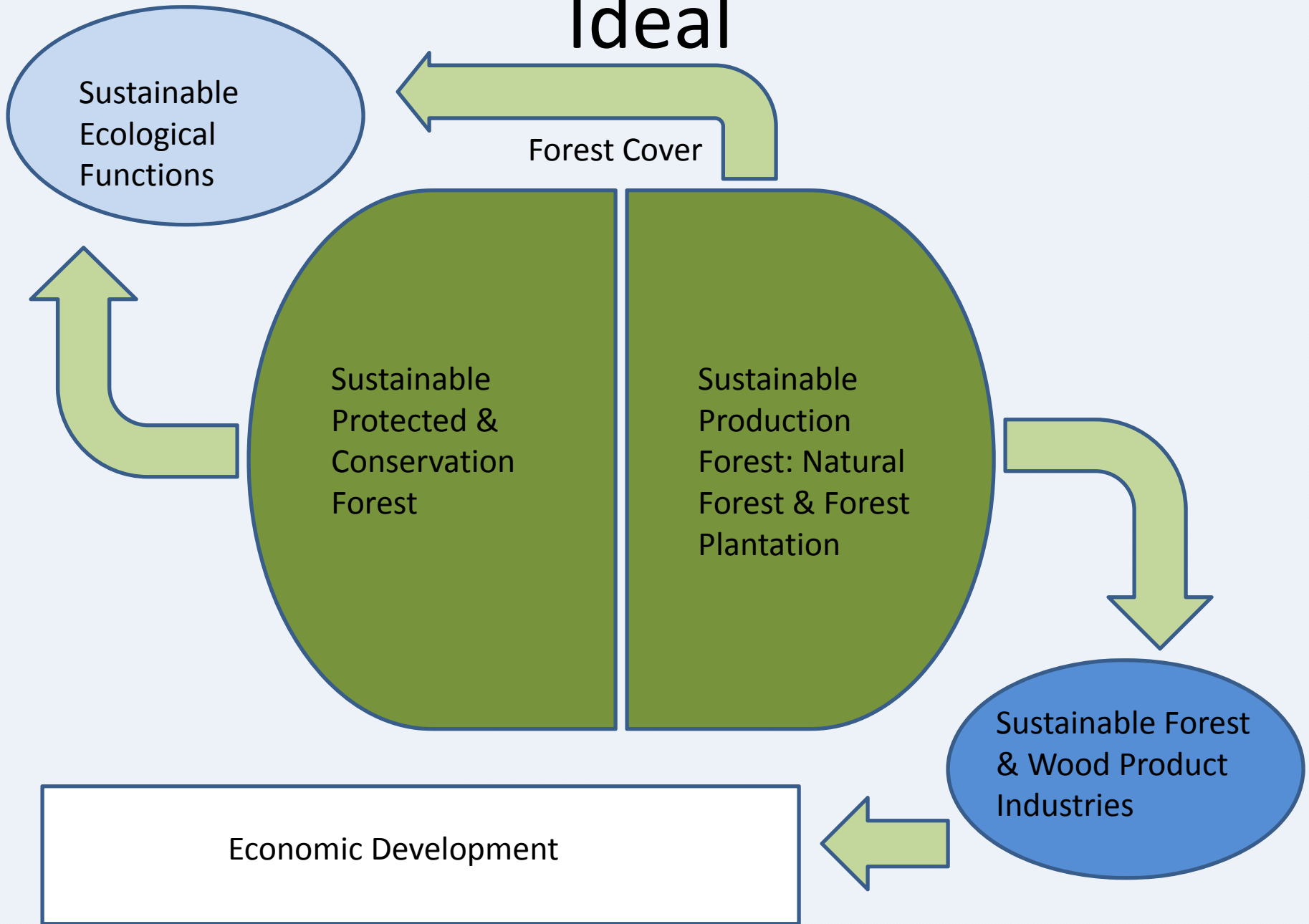
The Australian National University

# Roles of Indonesian Forest

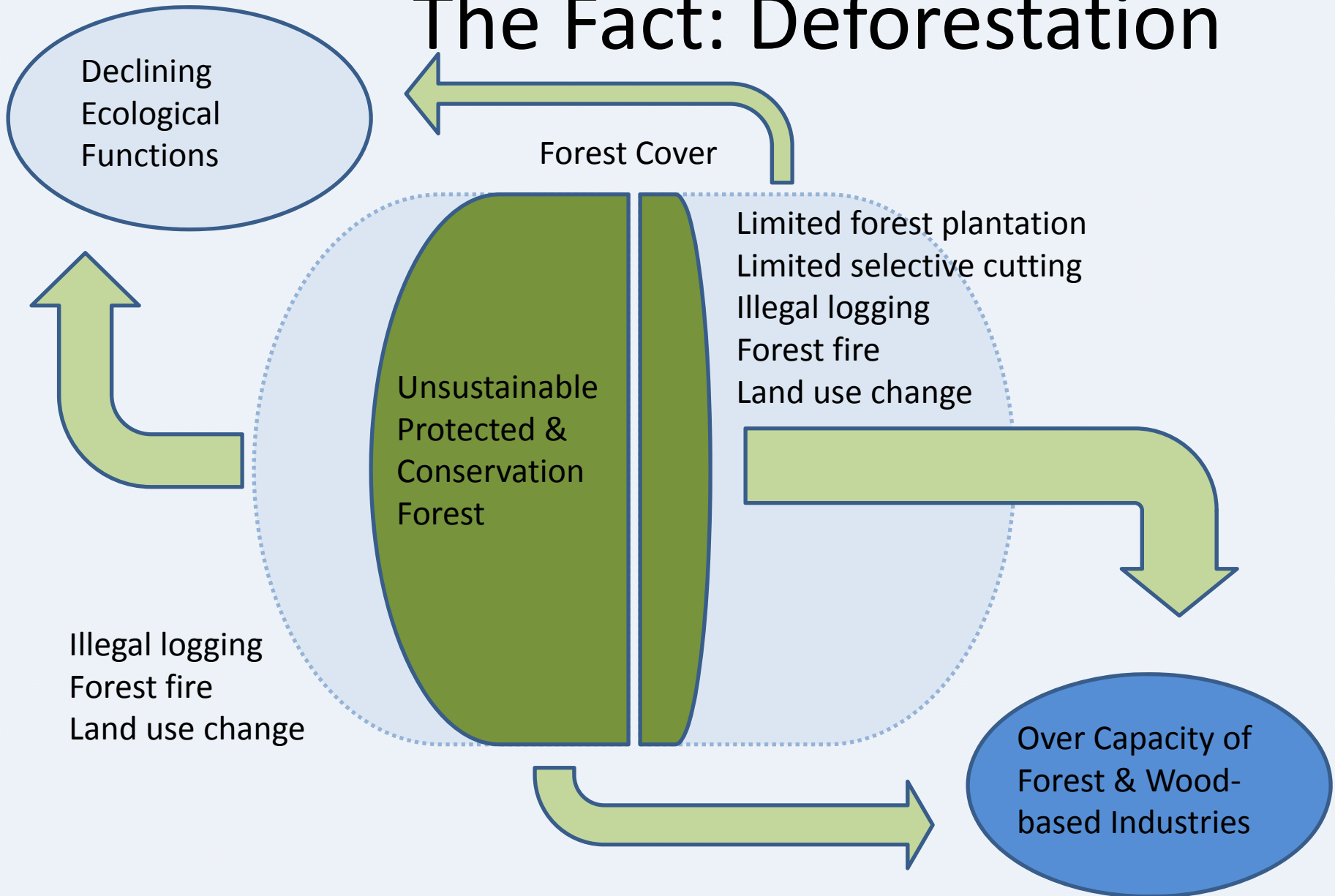
The third largest tropical forest in the world  
(+/-90 M ha)

- Crucial for world biodiversity:
  - 5-15% of total species in the world
  - > 1,500 endemic plants & >100 endangered animals
- Potential as the world's carbon locker
- A major supply to the world market of wood products
- Important to the Indonesian economy:
  - 3.8 % of GDP or around US\$ 7 billion (2003)
  - 9% of total export or US\$ 5 billion (2003)
  - 3% of total labor forces or 3 million people (2005)
- A livelihood for +/- 30 million Indonesians

# Ideal



# The Fact: Deforestation



# General Driver of Deforestation

- **Economic factors**
  - commercialization and growth of timber markets due to national and international demands; urban industrial growth; low domestic costs for land, labour, fuel, and timber; increases in product prices mainly for cash crops
- **Institutional or policy factors**
  - pro-deforestation policies on land development; economic growth including infrastructure improvement ; subsidies for land-based activities; property rights and land-tenure insecurity; policy failures such as corruption, lawlessness, or mismanagement
- **Technological factors**
  - poor application of technology in the wood industry leading to wasteful logging practices
- **Cultural or socio-political factors**
  - public attitudes and values; individual/household behaviour; public unconcern toward forest environments ; missing basic values; and unconcern by individuals
- **Demographic factors**
  - natural increment; in-migration into sparsely populated forest areas

# More Specific Main Direct Drives

in the case of Indonesia:

domination of economic and institutional factors

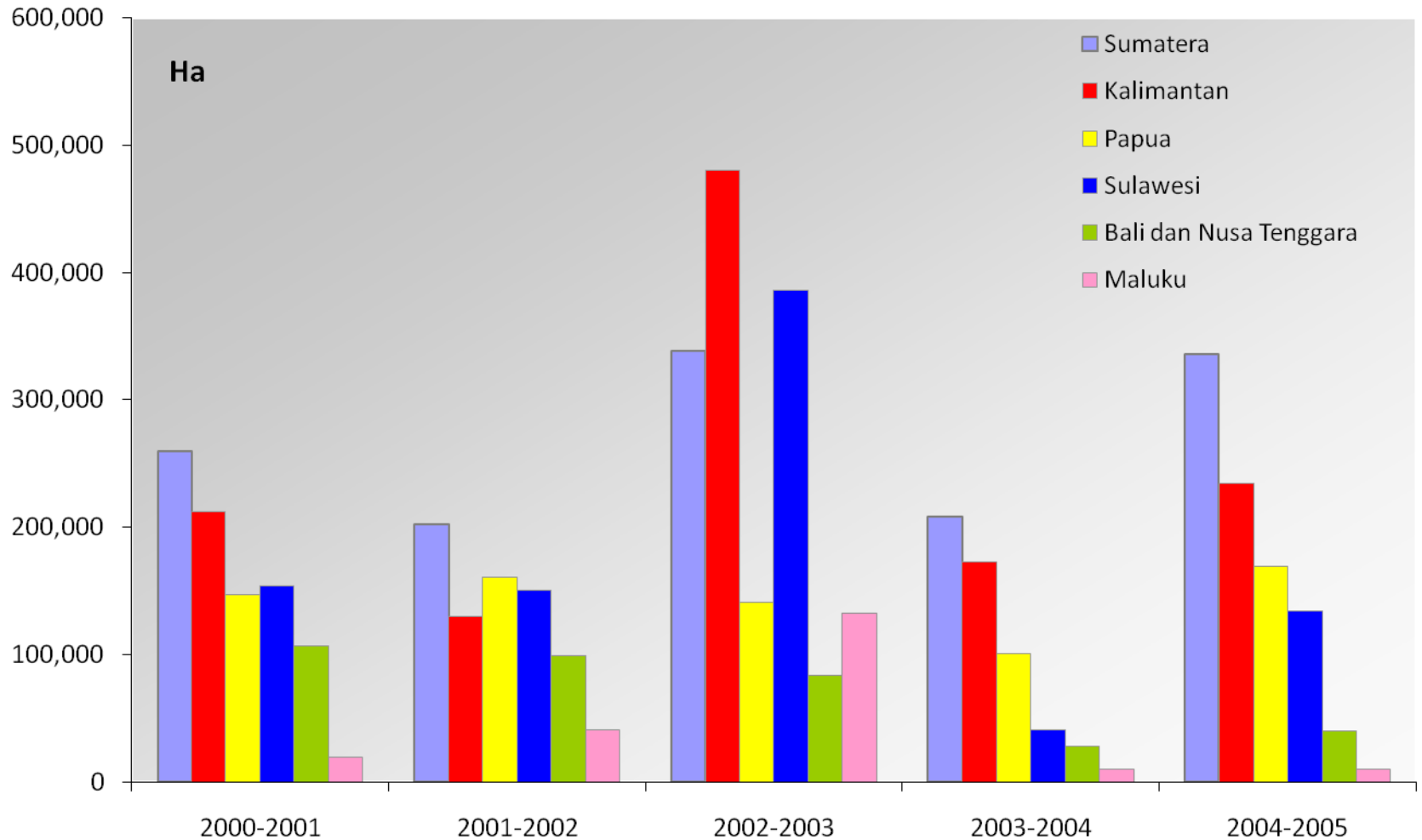
- Illegal logging
  - domestic and international demand on timber
  - weak law enforcements
  - poverty, equity and social issues
- Limited selective cutting
  - difficult and costly
  - no enforcement and reward to comply
- Limited forest plantation
  - “access” to natural forests is still available
- Forest fire:
  - mother nature
  - land clearing (slash and burn, but mostly for plantation)
- Land use change
  - population growth
  - plantation
  - mining

# Rates of Deforestation

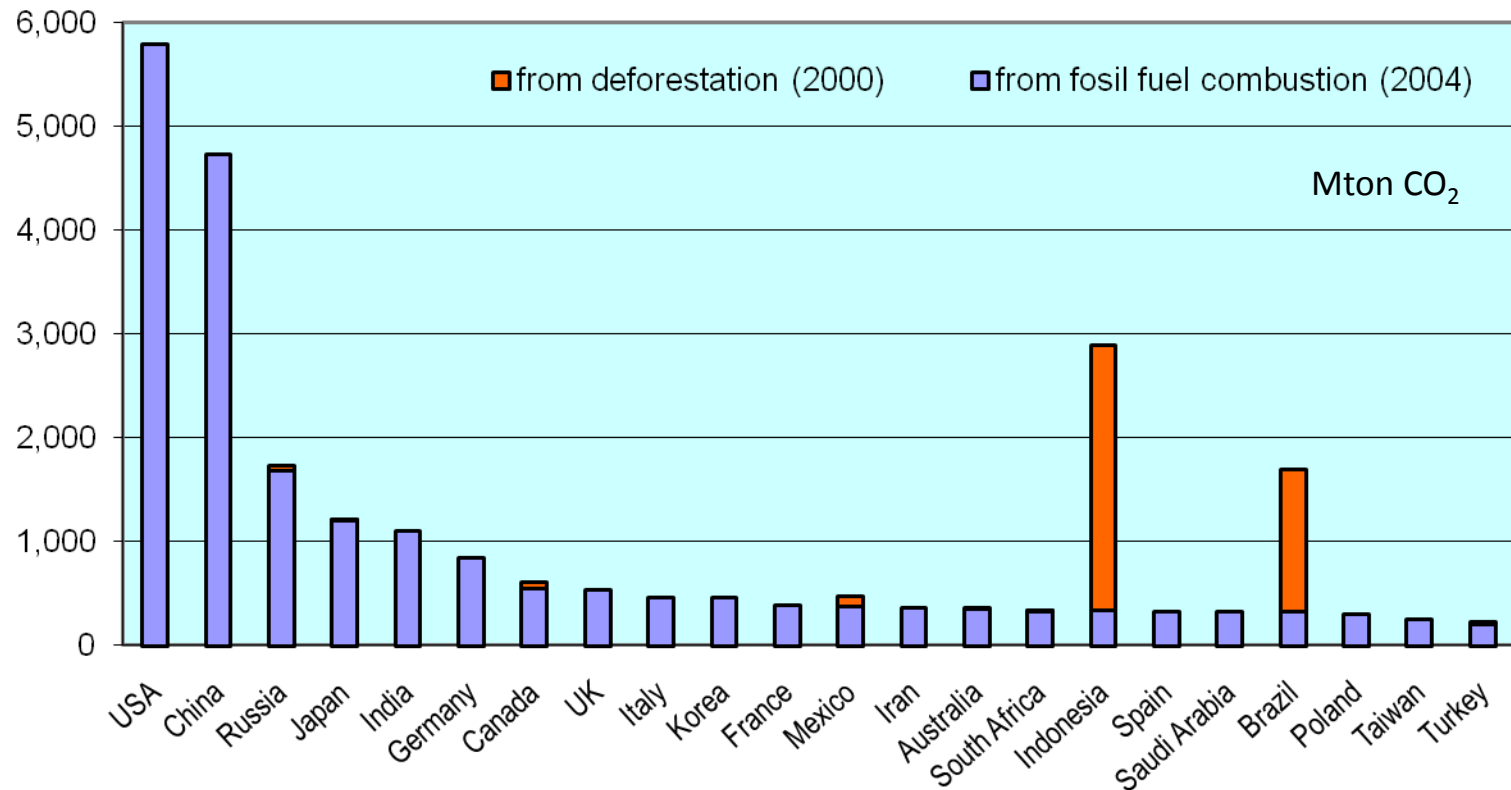
Country / Region	1990-2000		2000-2005	
	1,000 ha/yr	%	1,000 ha/yr	%
Indonesia	1,872	1.7	1,871	2.0
Brazil	2,681	0.5	3,103	0.6
Congo	532	0.4	319	0.2
Asia	792	0.14	1,003	0.18
Latin America	3,802	0.44	4,251	0.5
Africa	4,375	0.64	4,040	0.62
World	8,868	0.22	7,317	0.18

*Source: Global Forest Resources Assessment 2005, FAO*

# Regional Deforestation



# CO<sub>2</sub> emission



Indonesia is among the top 25 emitters from fossil fuel combustion, but among the top 5 emitters if deforestation included

# Options

- Business as usual → Forest will soon disappear
  - Forest industry will be OK for a while, but then dies → affect the economy and create unemployment
  - Ecosystem problems: CO<sub>2</sub> emission, biodiversity loss, etc.
- Simply reduce harvest → reduce deforestation
  - Negative impact on forest and wood-based industries → affect the economy and employment
  - Still might not sustain the ecosystem function
- Stop felling from protected & conservation areas, increase forest plantation, implement sustainable practices, and control the capacity of forest and wood-based industries

# REDD

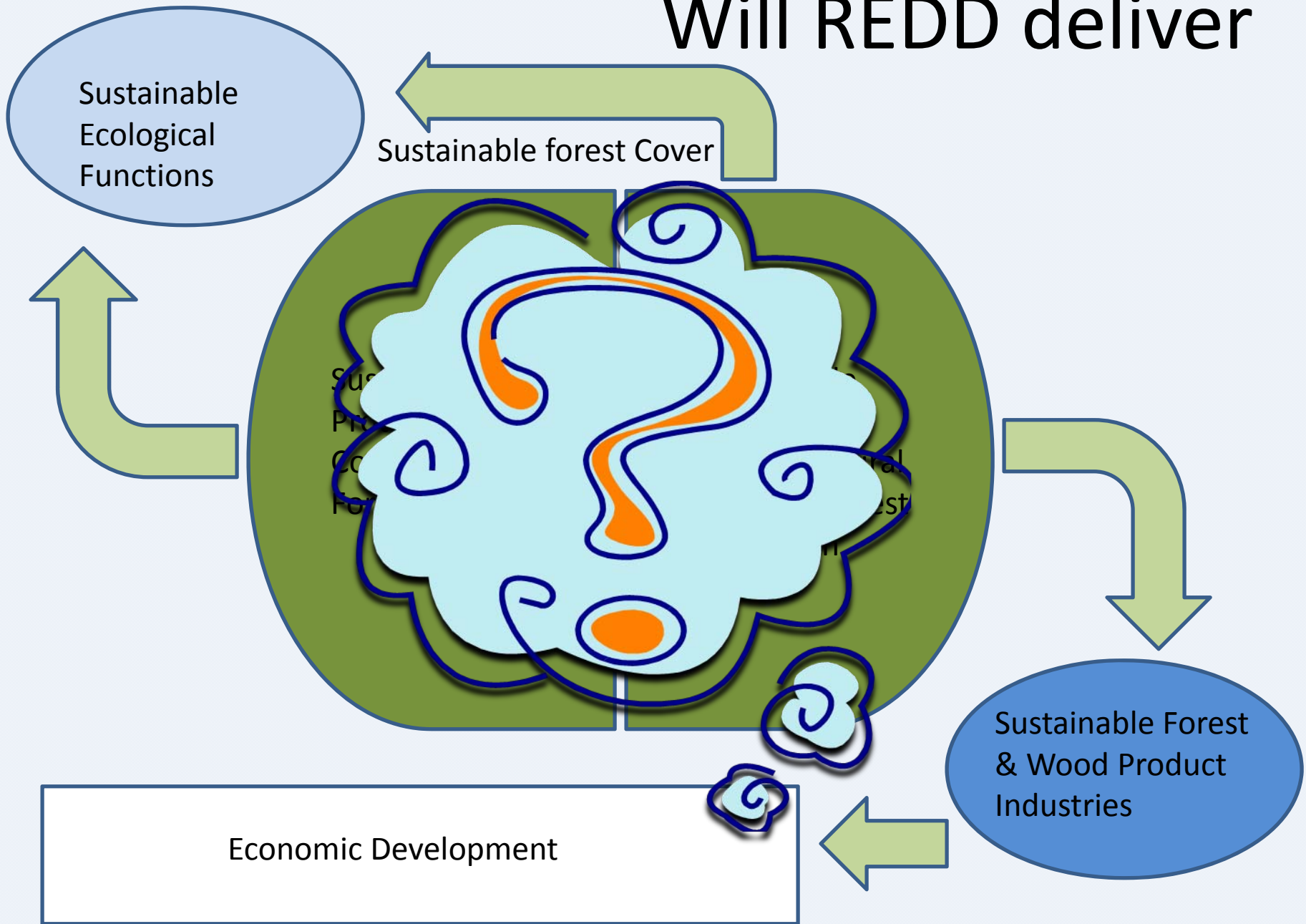
## Reducing Emission from Deforestation and Degradation

- General definition:
  - Provide incentives to support policy approaches that result in reductions in GHG emissions from deforestation
  - Positive incentives: non-market and/or market based options
  - Market based option: putting monetary value on the existing forest
- General mechanism:
  - Baseline rate of deforestation in area
  - A target of reduced rate of deforestation
  - Compensate the reduction based on an agreed/market price of carbon (market based option)
- Hope:
  - Will significantly reduce the rate of deforestation
  - Will reduce poverty in forest communities

# Some Challenges in Indonesia

- Understanding international mechanisms
- Determining the right condition for Indonesia
  - at what price of carbon
  - calculation/definition of deforestation
- Within the country
  - Institutional issues:
    - horizontal and vertical conflicts among government institutions
    - land tenure is a problem
    - distributional of funding: among government, between government and the people, and among the people
    - governance
  - Technical:
    - baseline on the rate of deforestation
    - Monitoring, enforcement and leakage

# Will REDD deliver



# Conclusion

- Indonesian forests are important both for ecological functions and economic development
- Deforestation is a real and serious issue → undermining the important roles of forests for the ecosystem and human
- Economic and institutional factors dominant as drivers of deforestation
- REDD provides an opportunity, but remains to be seen