



Appendix P

Donors' Perspectives: Asian Development Bank

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Responses (2)

- ❖ Adaptation for safeguarding ecosystem functions
 - ❖ Agro-ecological networks and conservation corridors as:
 - ❖ Early warning systems
 - ❖ Allowing for adjustments in rainfall and temperature regimes

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Realizing Challenges, Exploring Opportunities

Proceedings of the International Conference-Workshop on Biodiversity
and Climate Change in Southeast Asia: Adaptation and Mitigation

19-20 February 2008 • Sofitel Philippine Plaza Hotel • CCP Complex, Pasay City, Philippines



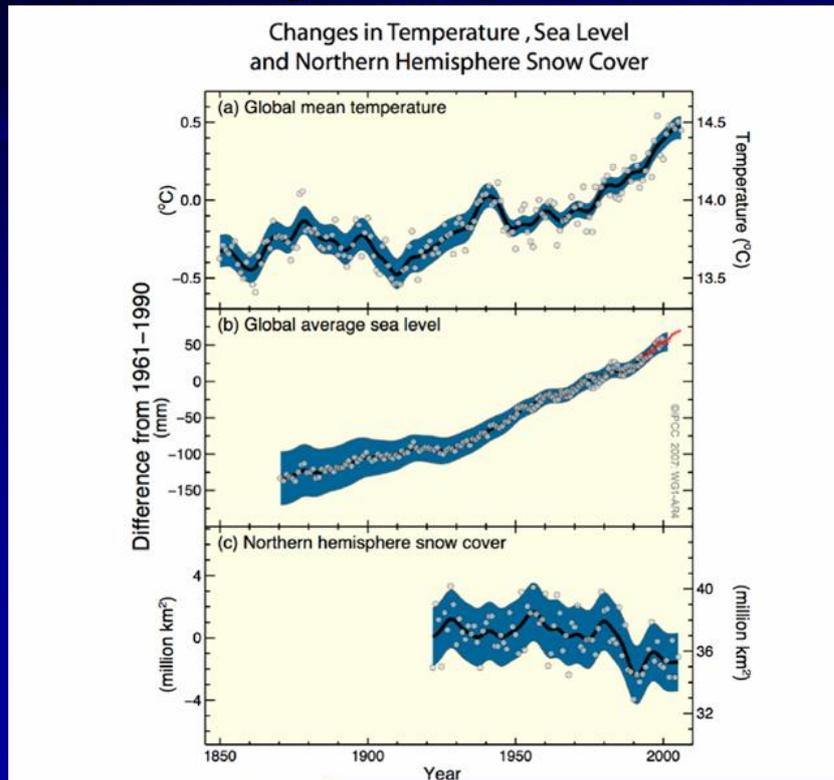
Overview

- ❖ Climate change - our current understanding
- ❖ Potential impact on human and environmental welfare
- ❖ Risks and Vulnerabilities
- ❖ Responses

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What do we know? Global warming is "unequivocal" IPCC 2007

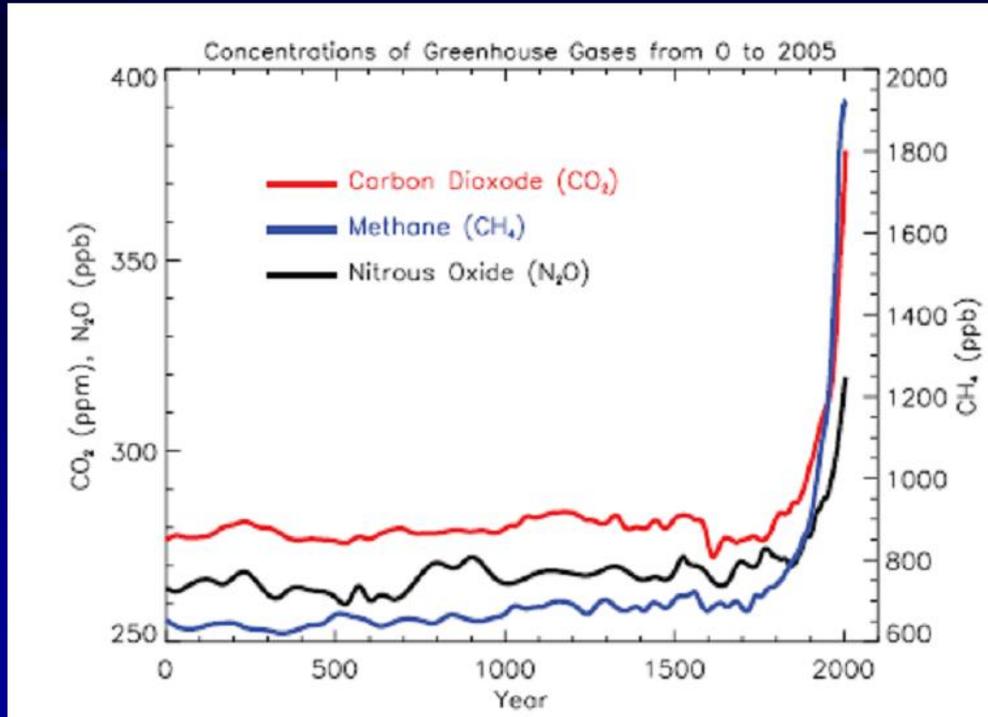


©IPCC 2007: WG1-AR4

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GHG concentrations



Source: IPCC, 2007

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Climate Change, Tropical Forests and Biodiversity

- **CLIMATE CHANGE:** Slowing tropical deforestation is bound to play a much larger role in mitigating climate change; CO₂ emissions from tropical deforestation are expected to increase atmospheric CO₂ by 29-129 ppm within 100 years, far above prior estimates (IPCC, 2007).
- **BIODIVERSITY:** Tropical forests harbor over half of all plant and animal species.
- **LAND DEGRADATION:** Tropical forests provide livelihoods and vital environmental services to millions of people.

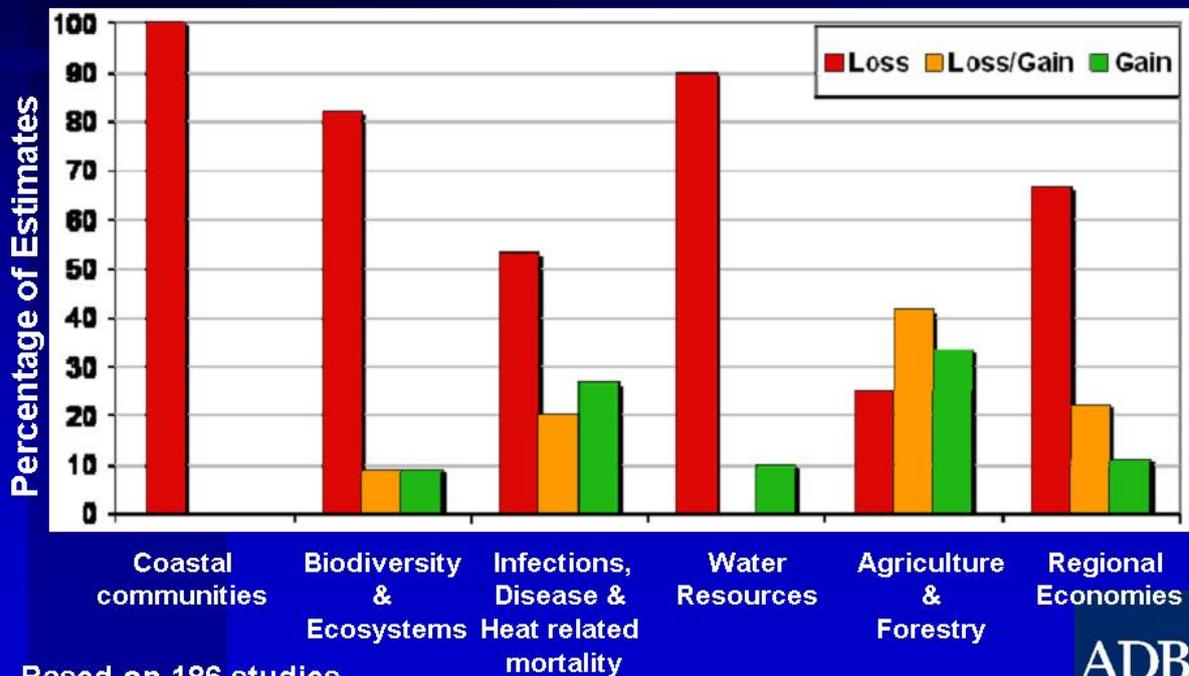
(Source: GEF 2007)



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Vulnerability of Asia/Pacific to climate change



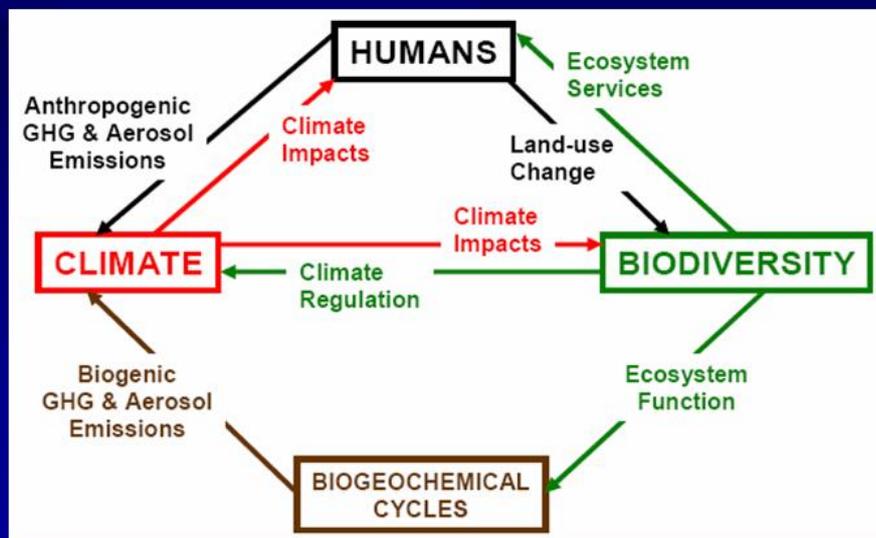
Source: CSIRO, 2006

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Climate change and Ecosystem Services

Links between Biodiversity, Climate Change and Human Well-being



Source: *Biodiversity-Climate Interactions: adaptation, mitigation and human livelihoods* (The Royal Society, 2007)





Risks

- ❖ Risk from sea level rise, greater risk of storm surges, increased sea temperatures, and increased acidity of the sea
- ❖ Changes in hydrological conditions causing higher silt loads and flooding
- ❖ Increased rainfall and extreme weather events are going to cause landslides

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Vulnerabilities

- ❖ Communities
- ❖ Food and livelihood security

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Responses (1)

- ❖ Mitigation (Lowering Carbon Intensity)
- ❖ Adaptation for safeguarding ecosystem functions

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Responses (2): The Greater Mekong Subregion (GMS) Experience

- ❖ Climate Proofing GMS Economic Cooperation Program
 - ❖ Carbon sequestration
 - ❖ Adaptation strategies

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The Greater Mekong Subregion (GMS)

Myanmar

Land area: 677 thou sq km
 Population: 54.8 M
 GDP per capita: US\$255 (2005)

Thailand

Land area: 513 thou sq km
 Population: 65.8 M
 GDP per capita: US\$3,133

The GMS in 2006

Land area: 2.6 M sq km
 Population: 323 M
 GDP per capita: US\$1,453*
 * excludes Myanmar



People's Republic of China

Land area: 633 thou sq km
 Population: 97.3 M
 GDP per capita: US\$1,135
 (figures for Yunnan and Guangxi only)

Viet Nam

Land area: 332 thou sq km
 Population: 84.1 M
 GDP per capita: US\$724

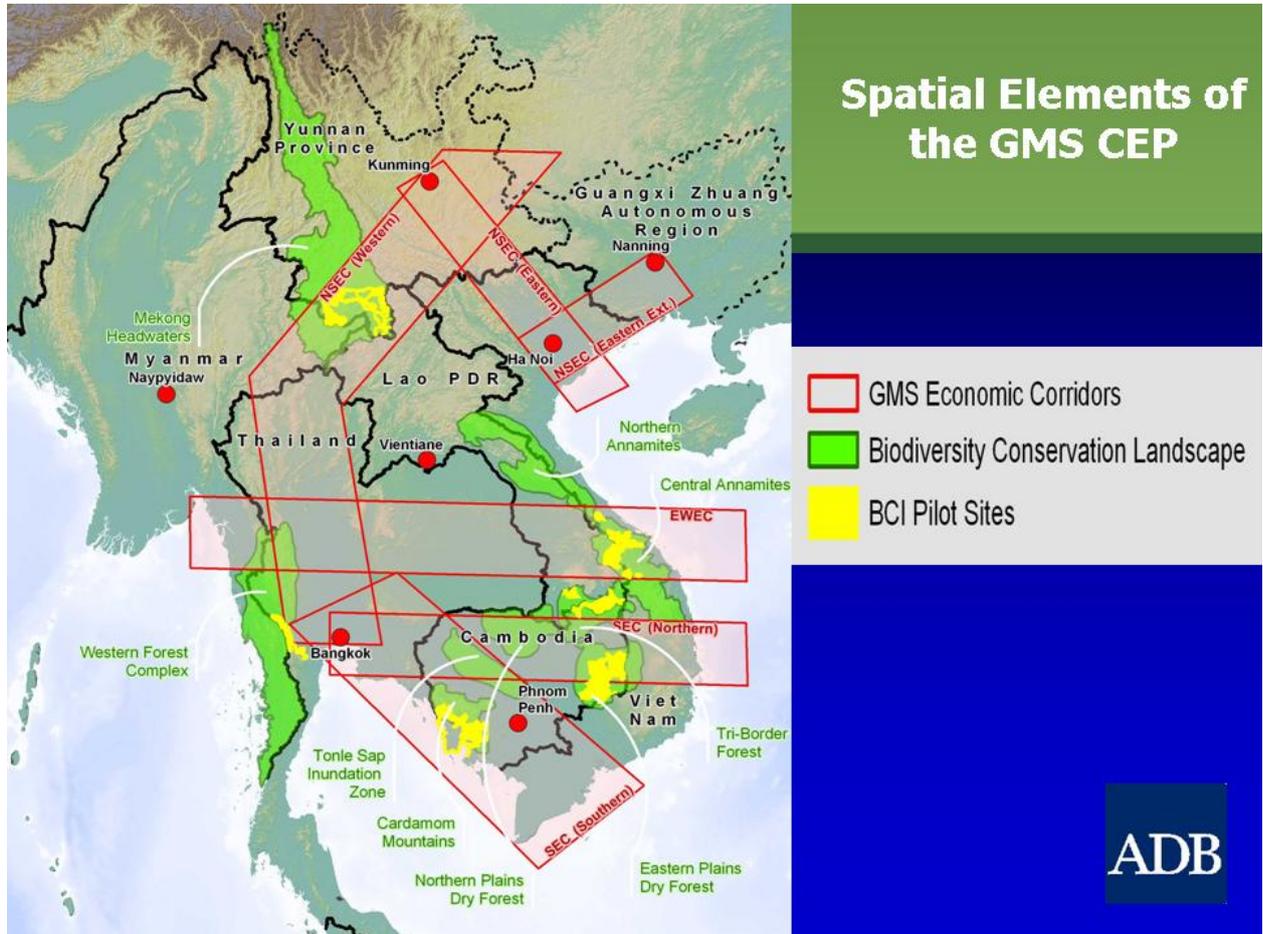
Lao PDR

Land area: 237 thou sq km
 Population: 5.7 M
 GDP per capita: US\$601

Cambodia

Land area: 181 thou sq km
 Population: 14.1 M
 GDP per capita: US\$510

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Response (2 continued)

Mitigation: Carbon Sequestration in the GMS

- ❖ NSEC=4 mill tons (3 mill from freight) excluding Bkk (3 mill); EWEC=1.1 mill tons (600,000 from freight)
- ❖ To sequester current CO₂ emissions would require reforestation of around 120,000 ha for the E-W corridor and 450,000 ha for the N-S corridor
- ❖ Estimates of net additional CO₂ sequestration from replacing grass and shrubby vegetation with forest/tree cover are about 10 tonnes per ha annually
- ❖ CO₂ emissions are expected to increase at about 5% annually with some of the growth due to economic expansion being offset by improved vehicle efficiency (larger freight vehicles with more fuel efficient engines)

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