Forest Biodiversity and Climate Change

Singapore City, Singapore, 2-5 September 2009

Nature-based solutions to climate change:

- **What are they?**
- **Challenges to securing them**
- **Why do we need them?**
- **Evidence that they can help**

Complementary nature-based solutions:

Reducing Emissions from
Deforestation & forest
Degradation in developing
countries

AD ⟶ REDD ⟶ REDD+

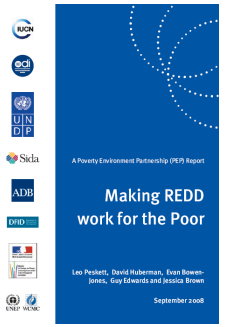
Ecosystem-based Adaptation

- protected area systems
- sustainable management of water, agricultural land, fisheries & forests
- disaster risk reduction
- restoration

Challenges for REDD: Making REDD work for the poor

- Carbon rights?
  - High social risks in areas of unclear or inequitably allocated land tenure

- Effects on food & commodity prices?
- Stability & equity of benefit flows?
- Availability of information?
- Corruption, accountability, & transparency?

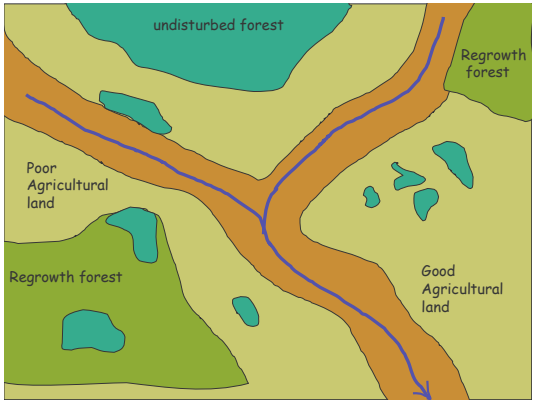


Challenges for nature-based solutions: *Governance issues are fundamental*

Important barriers to overcome:

- Weak / undefined land tenure
- Limited access to markets / information
- Elite capture and corruption
- High transaction costs of small-scale, participatory approaches
- Restricting access to forests could harm some forest-dependent groups
- Uncertain market demand for ‘pro-poor’ carbon
- Lack of standards / reporting to ensure poverty reduction benefits

Why we need nature-based solutions:



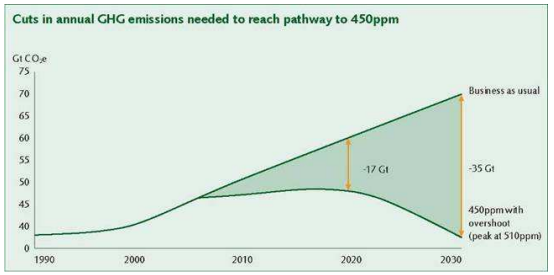
- Shouldn't rely on artificially-engineered & high-tech fixes only
  - Not yet scalable
  - Uncertain safety & cost
- Both artificial & nature-based solutions:
  - To avoid mal-adaptation
  - To get the best and immediate results from the investment & effort
- Opportunity for locally appropriate & community-based solutions





Why we need nature-based solutions:

- Provide an opportunity for effective, efficient & equitable mitigation



- Relevant to the big adaptation issues:
  - Food security
  - Coping with natural disasters
  - Relocating people and land-uses

Nature-based solutions:
some evidence they can help

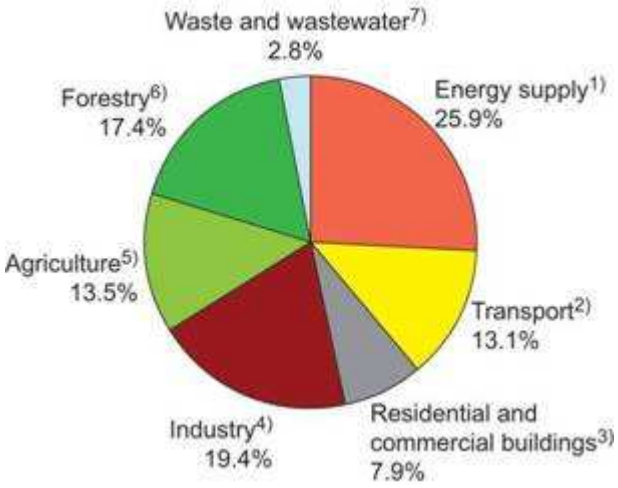
1. Global scale

2. Successful policy approaches:
   - Economic valuation
   - Multi-stakeholder dialogues



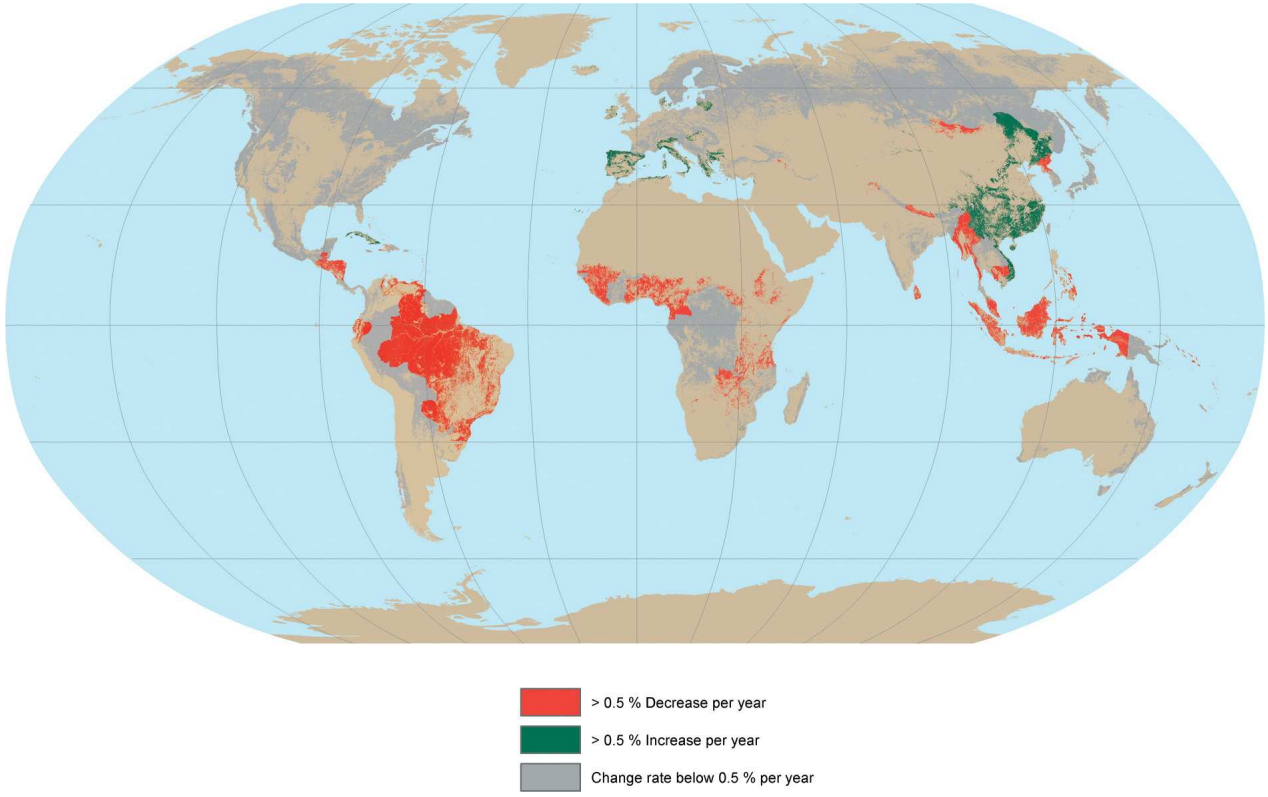

3. On the ground:
   - More trees in crop & pasture lands: Tanzania
   - Restored forest landscapes: Thailand

1. Global scale: potential



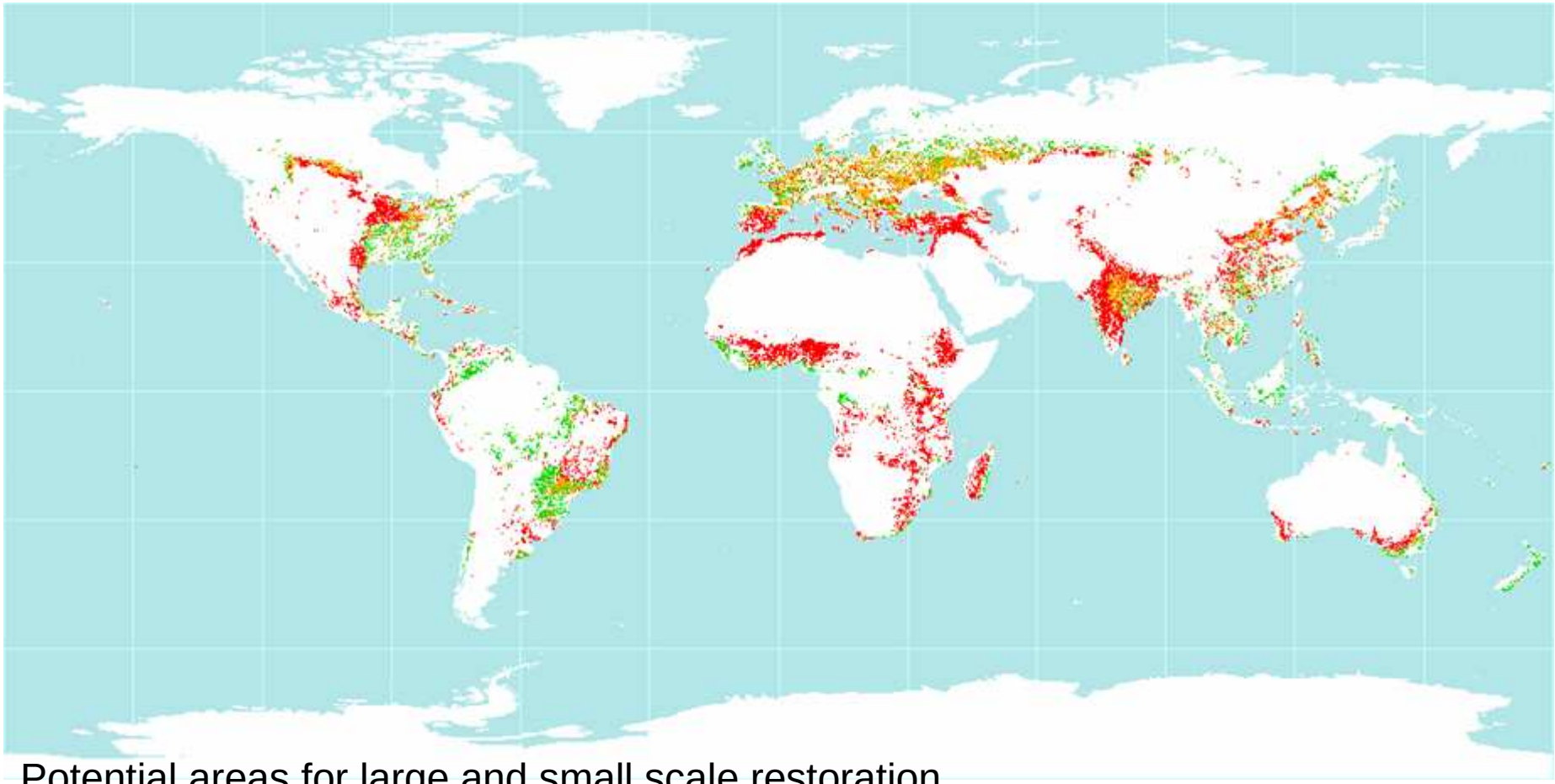
GHG emmissions
(Source: IPCC 2007)

Change in Forest Cover
(Source FAO, 2005)



2. Global scale: additional potential

Estimated 850 million hectares of degraded forest lands & secondary forests worldwide = up to 117 GtCO2e (UNFCCC 2008)

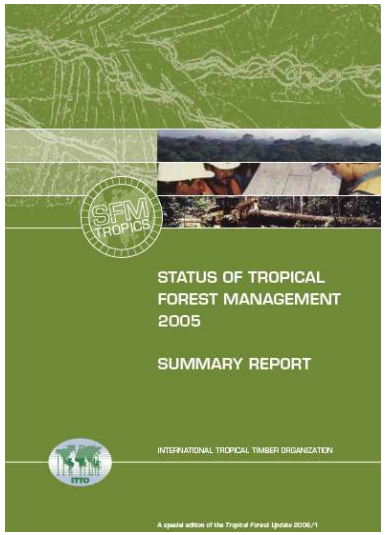


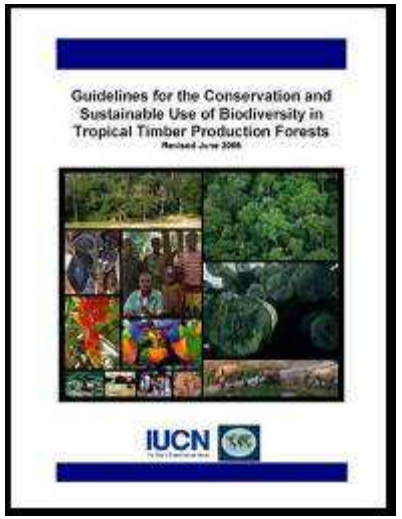
Potential areas for large and small scale restoration
(Source: WRI)

2. Potential in the working forests

ITTO producer member countries in Asia-Pacific:

15% of natural (tropical) production forests under sustainable management (2005)





Draft Guidelines discussed and approved for field testing at 40th session of ITTC December 2005

3. Global scale: low cost, high speed

ELIASCH REVIEW

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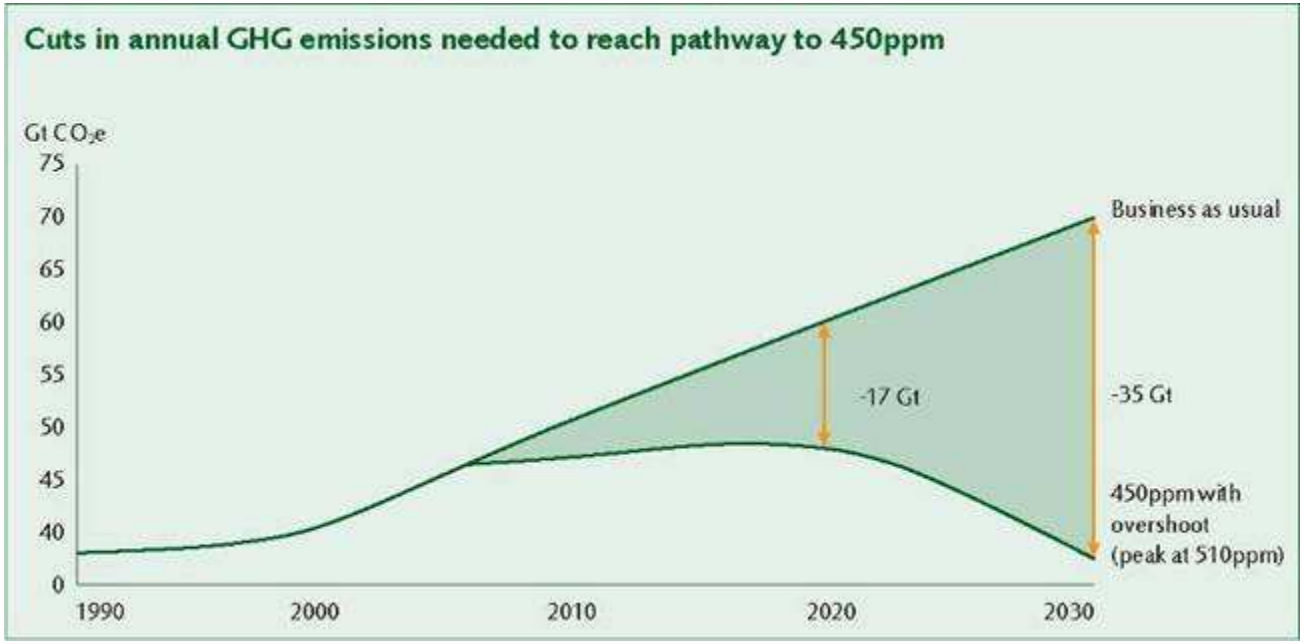
"… the cost of halving global carbon emissions from 1990 levels could be reduced by up to 50% in 2030….

This is due to the relatively low cost of forest abatement compared to some mitigation in other sectors."

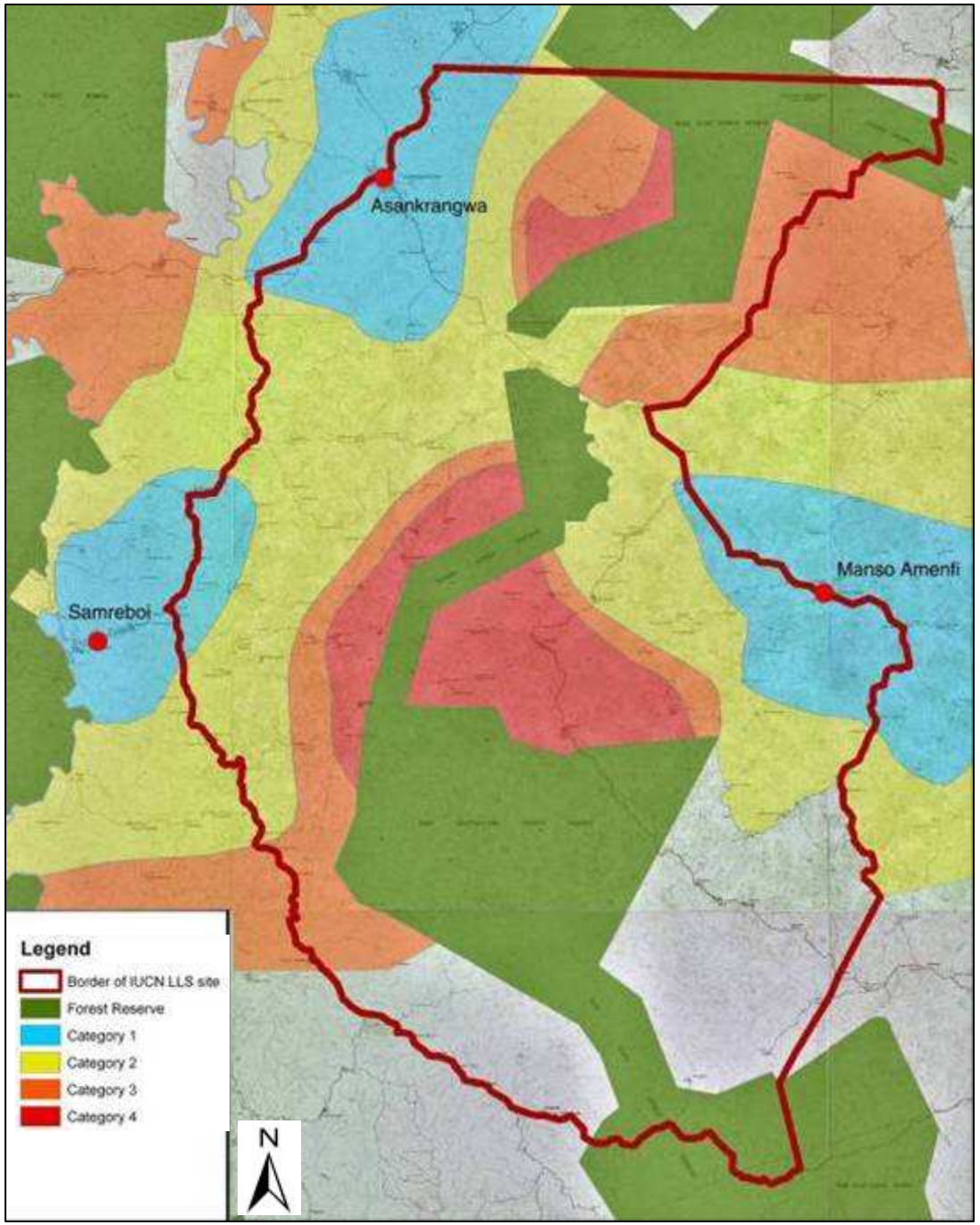
Stabilisation of GHG emmissions at 450 ppm

(Source: McKinsey Report , 2008)



4. Equity

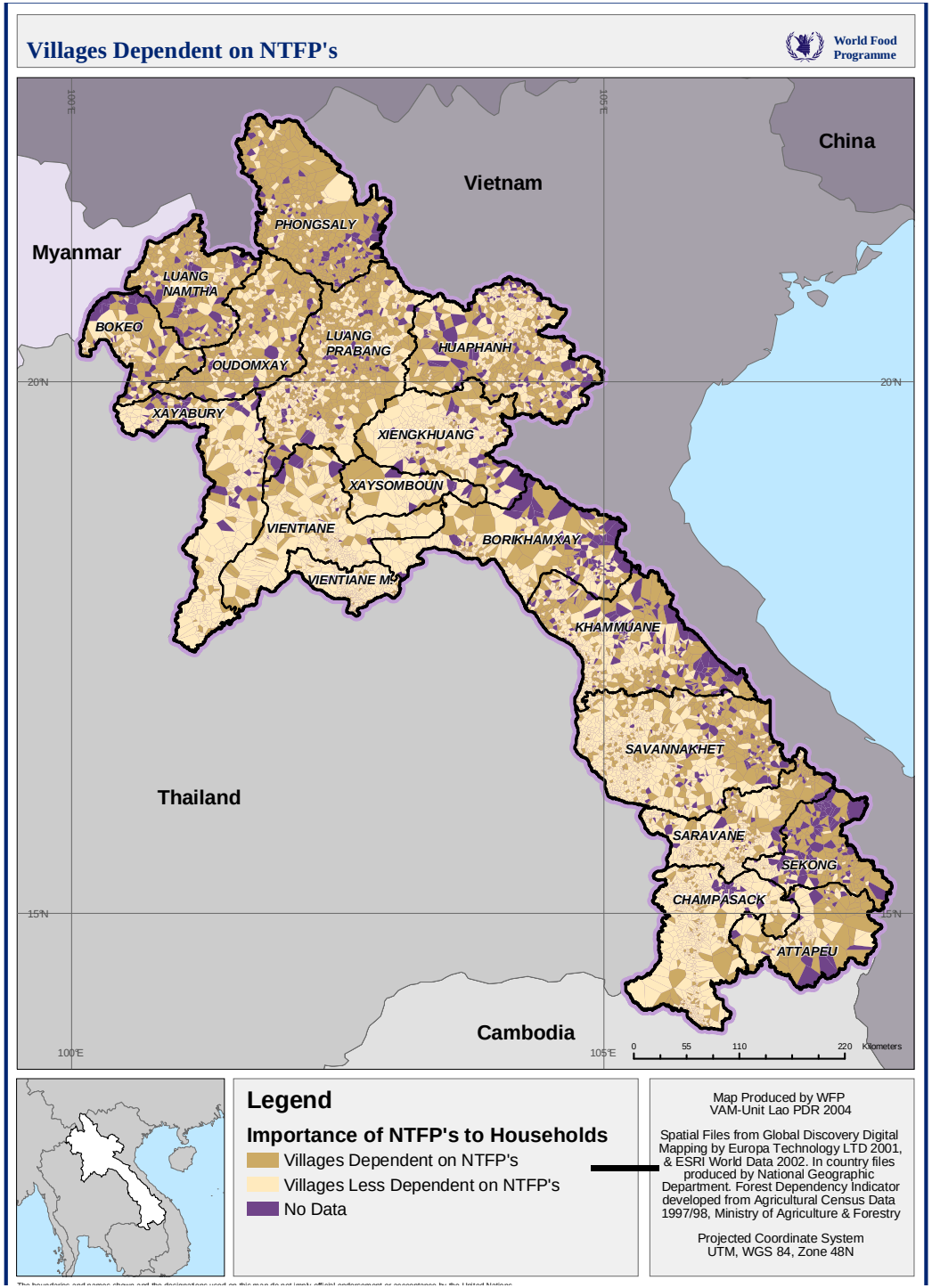
multiple benefits, potentially accessible to the poor



Poverty in the Landscape in Western Region, Ghana

(Source: IUCN, 2008)

0 5 10 20 Kilometers



4. Equity

Forest & food security: an example from Lao PDR

nationwide survey by UN World Food Programme in 2004:

- ➢80% of households have some dependency on forests for food
- ➢41% of villages dependent on food from forests within 20 km radius
- ➢24% of villages are dependent on forest foods but have degraded forests & are suffering food insecurity

Policy approach:
1. Economic valuation (e.g. mangroves)

Coastal ecosystems are our best allies in the face of climate change

Sequester carbon, maintain the resilience of local livelihoods through the provision of goods and services

Enabling policies & investments for mangroves needed which show that there are economic and development benefits from conservation

Economic valuation helps advocate for such policies and investments

Policy approach:
1. Economic valuation (e.g. mangroves)

Protecting against disasters

Sri Lanka
$300 per ha erosion and storm damage control

Vietnam
$5,000 per km^2
storm protection

Combating climate change

Southern Thailand
$100 per ha
carbon sink

Indonesia
$150 per ha
carbon sink

Supporting livelihoods

Pakistan
contribute $1,300 per ha to on-shore fisheries (95% of local income), and $900 per ha to off-shore commercial fish stocks (half of catch)

Indonesia
yield Nypa cigarettes worth $220 per ha, medicinal plants worth $75 per ha

Alleviating poverty

Indonesia (Papua)
contribute up to 60% of income for the poorest households, worth more than farming and wage employment

Policy approach:
2. Multi-stakeholder Dialogues (MSDs)

Convention on Biological Diversity

Principle 1. of the Ecosystem Approach

"The objectives of management of land, water and living resources are a matter of societal choice"

Basic Aim of MSDs:	bring different stakeholders together to discuss, negotiate & decide on solutions to a particular problem concerning them
Challenges of MSDs:	Degree of sharing power Quality of facilitation Quality of representation Clarity of aims, responsibilities, procedures etc. Legitimacy of dialogue Sustainability (if open-ended)

MSD results in Ghana

Illegal logging and deforestation are rampant
Forest loss having profound ecological, socio-economic consequences

2008: VPA provides for a timber licensing scheme with:

- A definition of legal timber
- A system for verifying legality
- A timber tracking system
- An export licensing system
- Independent monitoring of the system

- Includes measures to improve legality in Ghana's domestic market & reform timber industry
- plus provisions to avoid adverse effects on vulnerable groups

MSD results in Sri Lanka

2000: declaration of Knuckles Environment Protection Area

- little consultation with local people
- reduced incomes of some by up to 40%
- private landowners had to sell land at predetermined prices
- tensions escalated

- MSDs led to a multi-stakeholder management forum for the forest, recognised under law in 2007
- First case of community-based organisations formally incorporated into decision-making for a protected area
- Management plan now being revised through a multi-stakeholder process
- Government studying the feasibility of replicating the approach in other forest areas

On the Ground: Shinyanga, Tanzania

Massive deforestation between 1920-40

Traditional woodland & pasture enclosures further declined after “Villagisation policy” 1975

1986 → 2002

Widespread restoration of woodland enclosures:

In 172 of 833 villages, counted 18, 323 restored enclosures (87,742 ha)

Estimate 350,000 ha woodland has been restored by all villages

(Source: W. Mlenge, & E. Barrow)

Shinyanga, Tanzania: multiple benefits

- Economic value of products from restored enclosures per year:
  - $1,200 per household
  - $700,000 per village
  - $372 million in the region
  - 36% use returns to pay education costs
- 2 to 6 hours - reduced collection time for fuelwood, medicinal plants, water, fodder, food
- 145 bird, 13 mammal species, 30 families of grasses & herbs found in restored forests

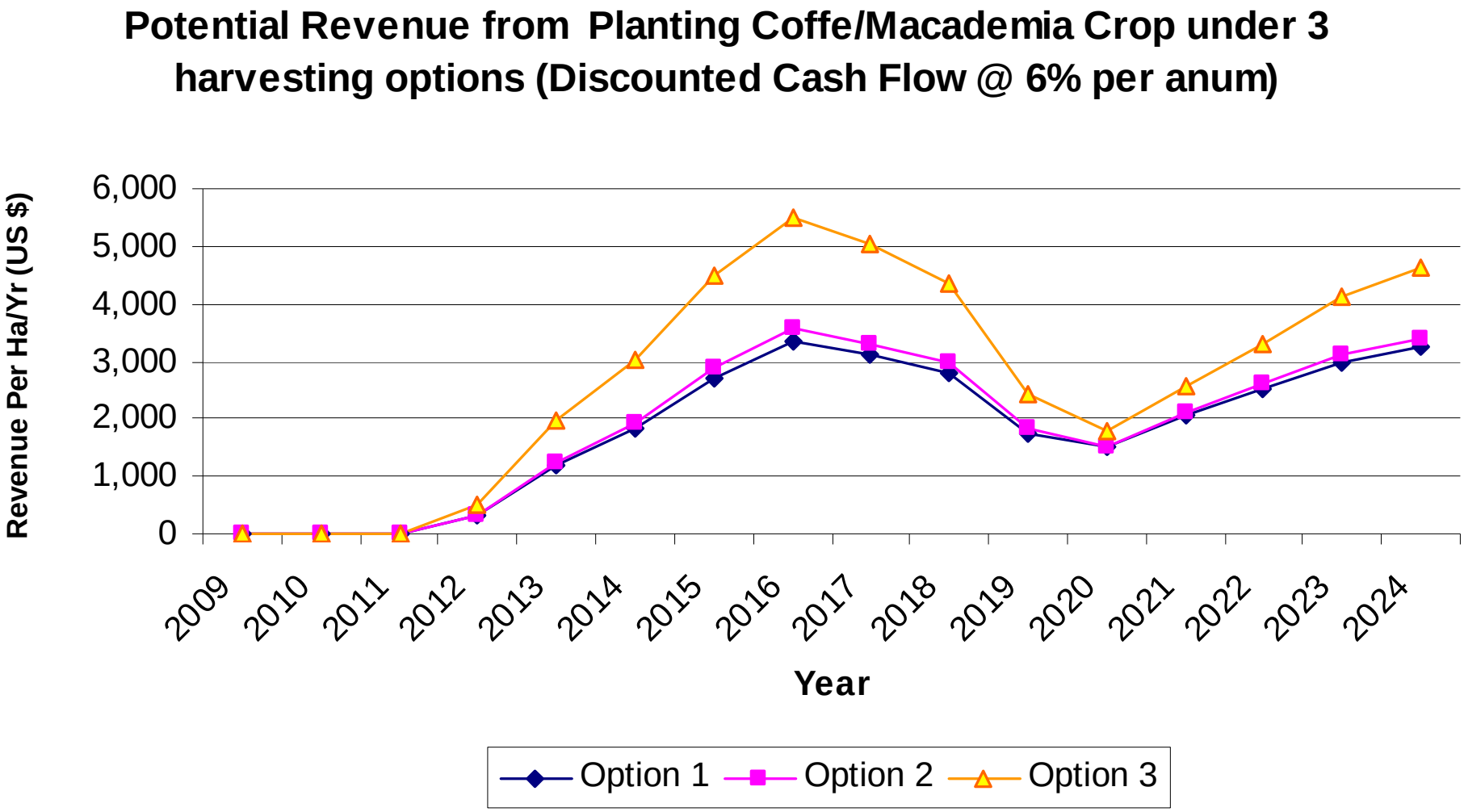
On the Ground: Doi Mae Salong, Thailand

335 km^2 degraded watershed, 35,000 people
Landscape restoration (agricultural intensification & reforestation)
Species selected for commercial use and biodiversity reclaimation






Doi Mae Salong, Thailand



Concluding messages:

If we want **effective**, **efficient** & **equitable** mitigation and adaptation to climate change….then we need:

- A REDD regime that makes provision for:
  - Conservation of currently non-threatened forests
  - Sustainable management of working forests
  - Enhancement of carbon stocks on non-forest and degraded lands
- Investment in ecosystem-based adaptation to CC yields multiple benefits for the poor, biodiversity conservation & ecosystem services that underpin our economy







For further information, please visit

www.iucn.org/unfccc

www.iucn.org/climate

www.iucn.org/forest

www.mangrovesforthefuture.org

Thank you!