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Economic assessment of REDD+ options:

Valuing multiple benefits and estimating costs

REDD+ beyond carbon workshop – 14 November 2012

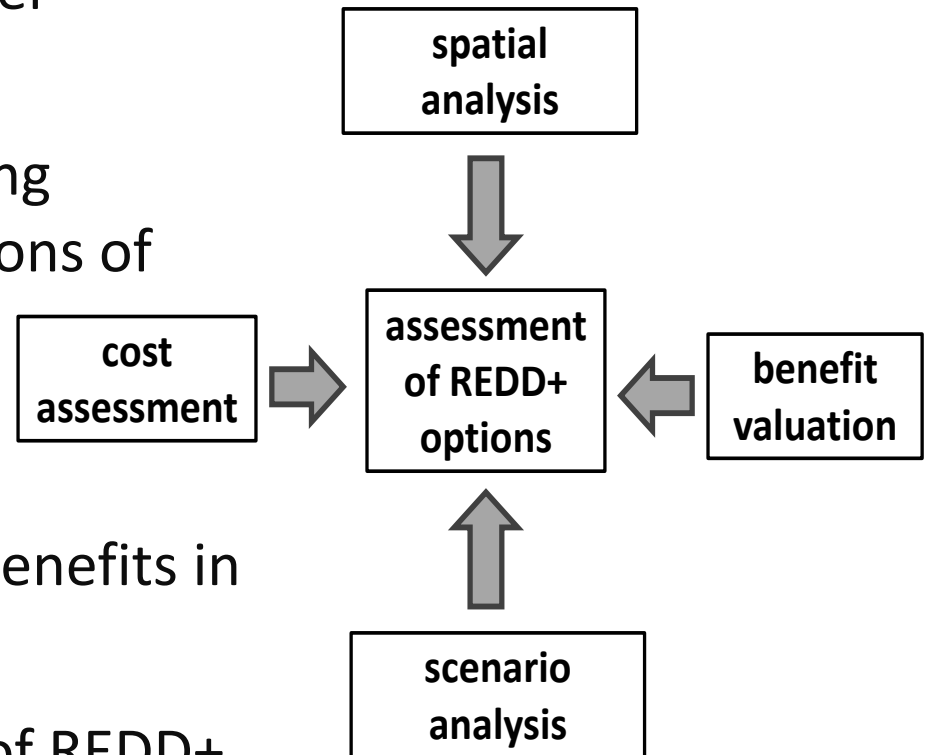
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1. Background

- REDD+ is an instrument to alter economic incentives
 - Different REDD+ activities bring different costs and combinations of benefits
 - Variation across space
 - Sensitive to future scenarios
 - Spatial analysis of costs and benefits in different scenarios
- ➔ Comprehensive assessment of REDD+ options



2. REDD+ cost assessment

- REDD+ costs include:

- (i) **opportunity costs**: forgone benefits from commercial/subsistence agriculture, logging, mining

- (ii) **implementation costs**: undertaking REDD+ actions

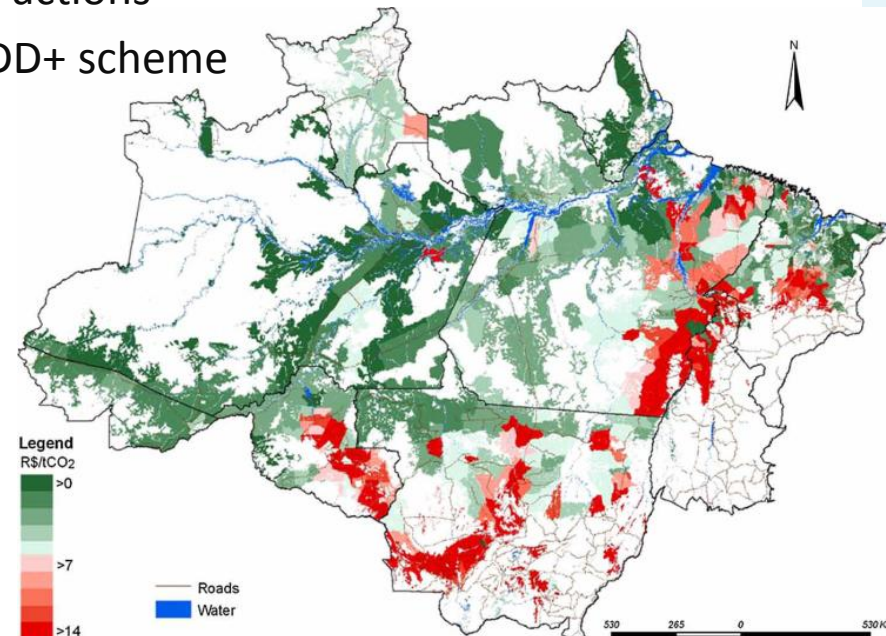
- (iii) **transaction costs**: running/operating a REDD+ scheme

- Relevant questions:

- (i) **extra costs** of securing biodiversity & ecosystem services

- (ii) **cost-effective solution** to attain multiple goals

➔ cost-effectiveness analysis

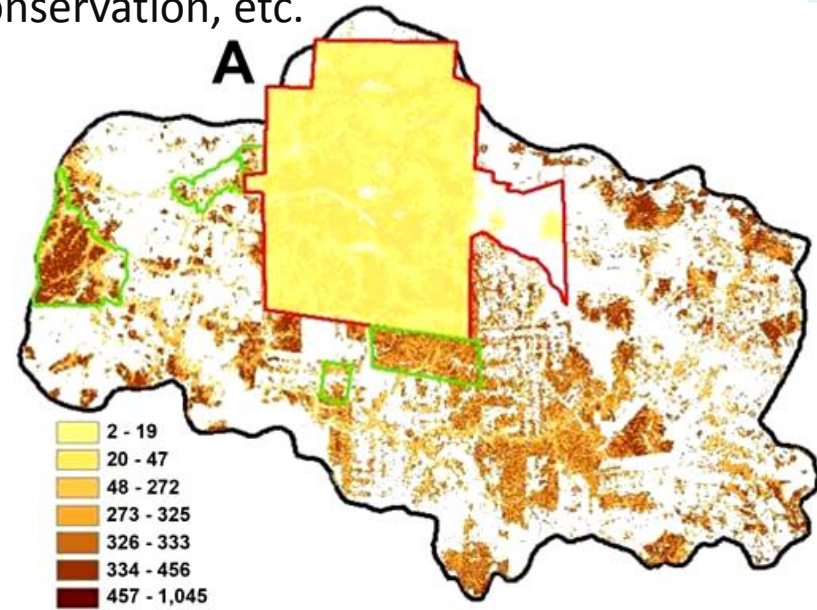


Boerner et al. , 2010, *Ecological Economics*: Spatial distribution of REDD+ opportunity costs per tCO₂ in the Brazilian Amazon

3.1 Multiple benefit valuation

- Estimate the economic values of:
 - (i) **carbon benefits**: reduced carbon emissions
 - (ii) **market-based benefits** : sustainable timber/NTFP harvest, eco-tourism
 - (iii) **non-market benefits**: water services, soil conservation, etc.

- Relevant questions:
 - (i) **economic trade-offs** between alternative land uses/management options
 - (ii) overall **economic importance** of REDD+ options



Naidoo & Ricketts, 2006, PLoS Biology: economic benefits of forest conservation in the Mbaracayau Forest Biosphere Reserve in Paraguay

3.2 Economic valuation

- Benefits can be expressed in monetary or non-monetary terms
- **Monetary valuation** provides a straightforward decision-making metric
 - cost-benefit analysis
 - technically challenging, time-consuming and costly
 - conceptual limitations (sustainability/justice debate)
- **Non-monetary valuation** can be a practical alternative
 - multi-criteria analysis





4. Conclusions

- Economic assessments can help countries to make complex choices through **decision-support tools** such as:
 - (i) cost-effectiveness analysis
 - (ii) cost-benefit analysis
 - (iii) multi-criteria analysis

➔ target those options that optimize multiple benefits at lowest costs
- Optimizing economic values of biodiversity and ecosystem services in addition to carbon
 - ➔ catalyse **green economy transformations**

Thank you for listening!



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