Biodiversity and ecosystem services in REDD+ scenarios

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14 November 2012, Cambridge

What can scenarios do?

Assess possible REDD+ impacts on biodiversity and ecosystem services in a complex and changing future

- Identify a range of possible futures (in which REDD+ might occur)
- Compare outcomes in REDD+ versus non-REDD+ futures
- Examine implications of REDD+ policy choices

Help those involved think through potential REDD+ activities, their practicality, risks and benefits

- Participatory exercises involving decision-makers to both yield plausible scenarios and build consensus on preferred futures
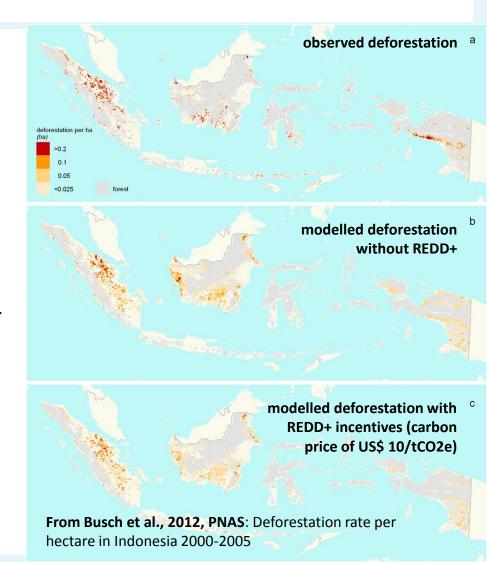- Narrative and modelled scenarios are complementary and ideally iterative

CANNOT predict the future!

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REDD+ scenario elements

- Policy narratives

  (i) how REDD+ implemented

  (regulation v incentives; activities)

  (ii) other land-use policy

- Economic / land-use models

  (i) varying commodity demand/prices

  (ii) different international contexts for REDD+ (e.g. carbon prices)
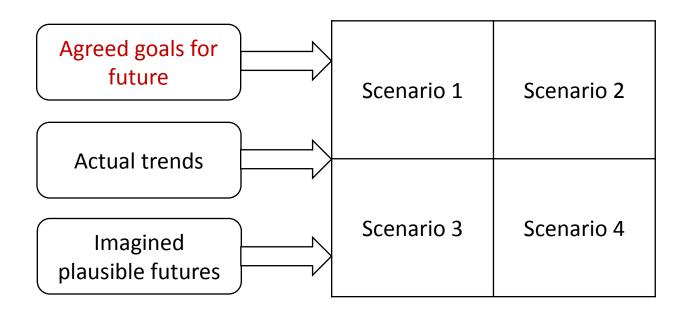
- Impacts modelling

  (i) land use/cover change and its impacts on biodiversity & ecosystem services

observed deforestation [a]

deforestation per ha (ha)
- >0.2
- 0.1
- 0.05
- <0.025   forest

modelled deforestation without REDD+ [b]

modelled deforestation with REDD+ incentives (carbon price of US$ 10/tCO2e) [c]

From Busch et al., 2012, PNAS: Deforestation rate per hectare in Indonesia 2000-2005

Policy narratives for land-use scenarios

Some inputs to a narrative scenario exercise:

Agreed goals for future	Scenario 1
Actual trends	Scenario 2
Imagined plausible futures	Scenario 3
	Scenario 4

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CBD "Aichi Targets" 2011-2020 - key forest references

Target 5 :

"By 2020, **the rate of loss of** all natural habitats, including **forests, is at least halved** and where feasible brought close to zero, and degradation and fragmentation is significantly reduced"

Target 7:

"By 2020 **areas under** agriculture, aquaculture and **forestry are managed** sustainably, **ensuring conservation of biodiversity**. "

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Incorporating biodiversity into REDD+/land-use modelling

Modelling impacts of REDD+

- Assessing **biodiversity impacts** of modelled land use change through, **e.g.**: LUC in priority areas or species ranges; loss of species habitat; change in landscape function (connectivity); dynamic approaches (incremental increase in impact)

Modelling existing conservation policy

- Accounting for effect of **existing and future protected areas**

Modelling policies that promote & support safeguards:

- Applying **biodiversity priorities** when targeting REDD+ action and/or constraining land-use change

- Recognising and protecting **natural forest**

....in Congo Basin and Brazil

National work

Panama and **Paraguay**:
REDD+ scenarios that incorporate multiple benefits

      - storylines
      - data → impacts analysis

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Thank you for listening!

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