



## REDD & Co-benefits: Supporting Sound Decisions

# Draft Version

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## Emergence of REDD+

- ◆ Full mechanism still to be resolved
- ◆ Reducing pressure on tropical forests
- ◆ Potential for multiple benefits in addition to carbon storage, e.g.
  - » Biodiversity
  - » Ecosystem services (water, soil ...)
  - » Livelihoods
- ◆ ‘Ecosystem co-benefits’
- ◆ But these outcomes not automatic
- ◆ . . . there are also some risks



## REDD+ and 'Co-benefits'

- ◆ Importance of 'co-benefits' recognised
- ◆ some inclusion of safeguards likely,
- ◆ but not formal co-benefit criteria(?)

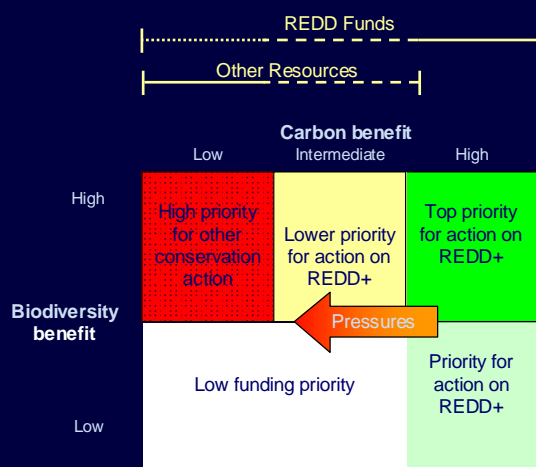
## Moving towards action on REDD+

- ◆ Countries (and other actors) need to make decisions
  - Where to act
  - What actions
  - How and by whom

# Where? Not all forests are equal



## Benefits (and risks) for biodiversity

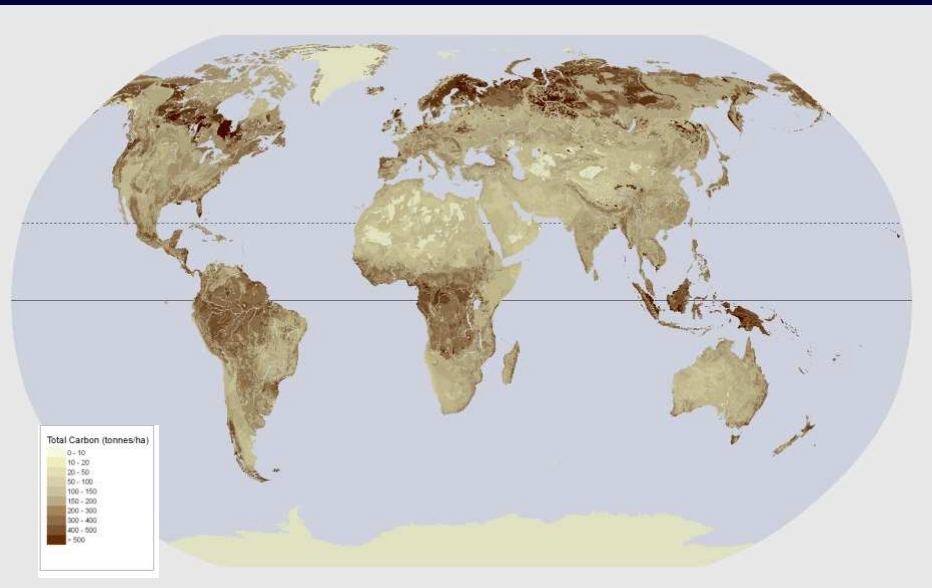


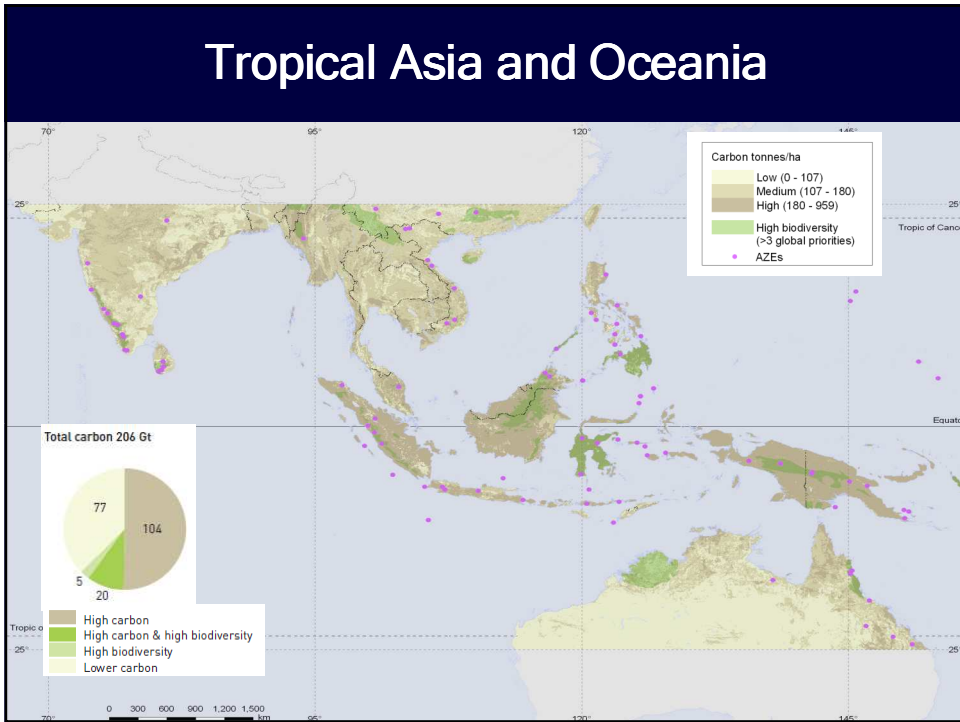
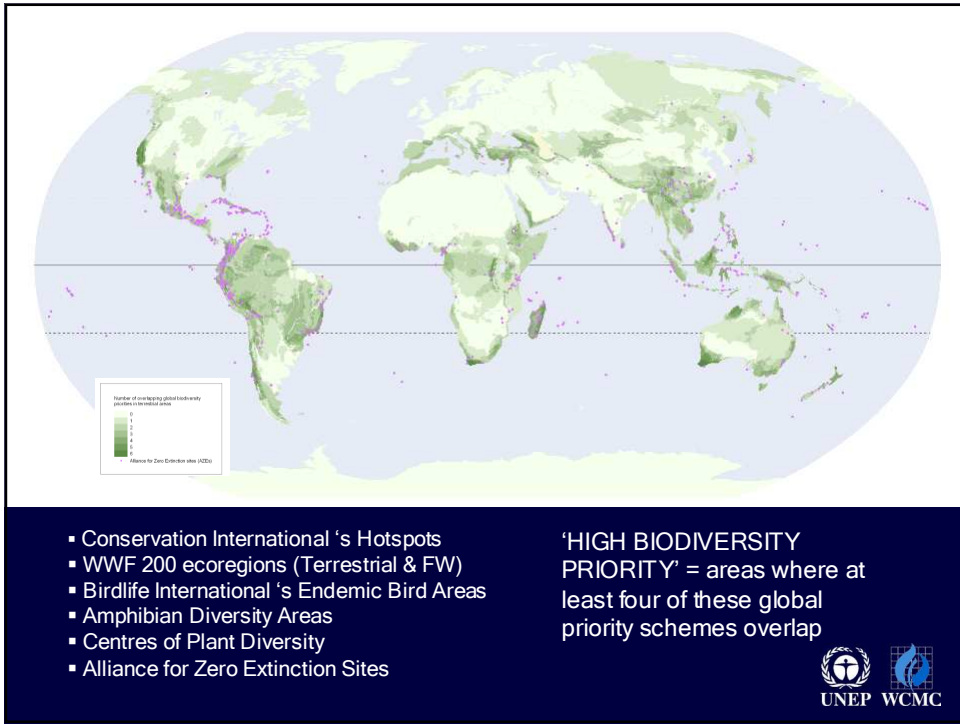
## Identifying opportunities (and risks) for co-benefits:

- ◆ Spatial analyses
  - ◆ Help with visualisation
  - ◆ Identifying areas where co-benefits can potentially be maximised and areas at risk
- ◆ Demonstration approach
  - ◆ Global, regional data for coarse national overviews



## The global carbon map



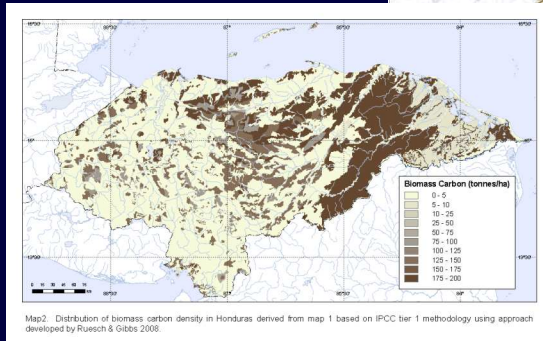
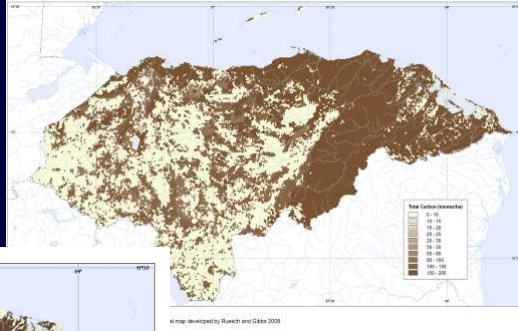




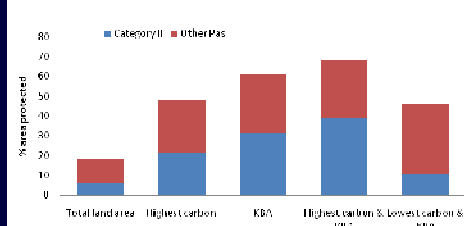
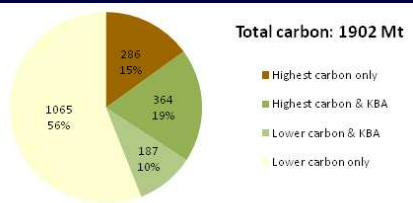
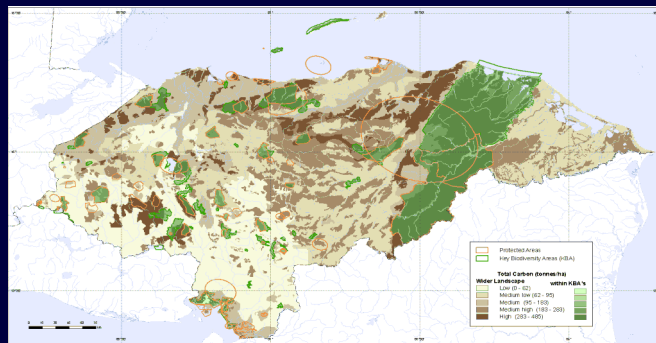
# Honduras: global vs. national level data

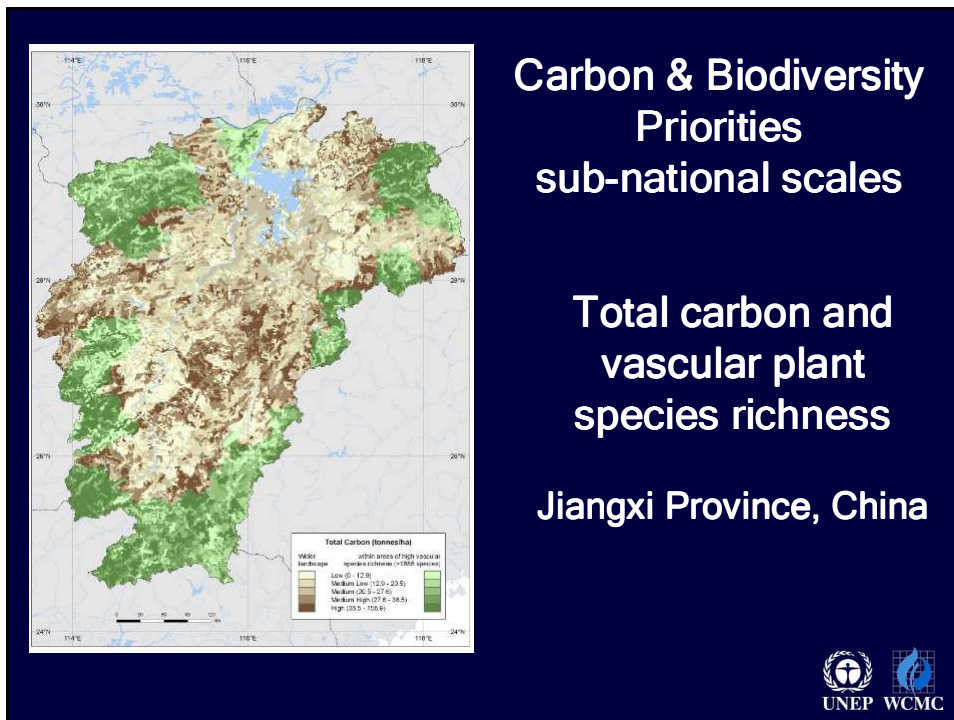
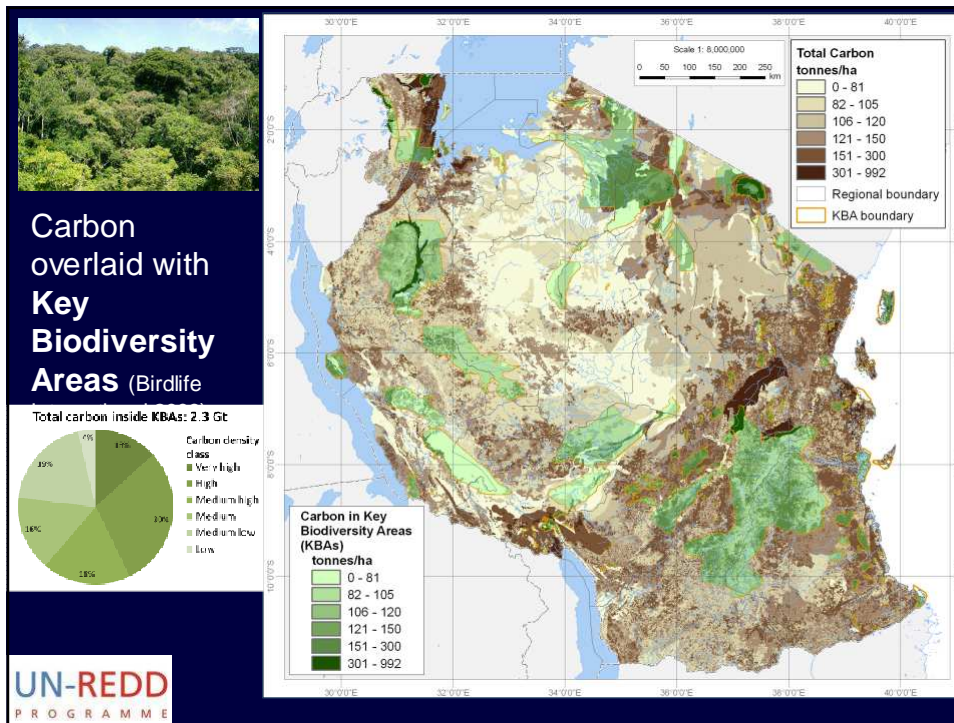
Global level data →

National level data ↓



## Carbon & Biodiversity Priorities (Key Biodiversity Areas) at national scale

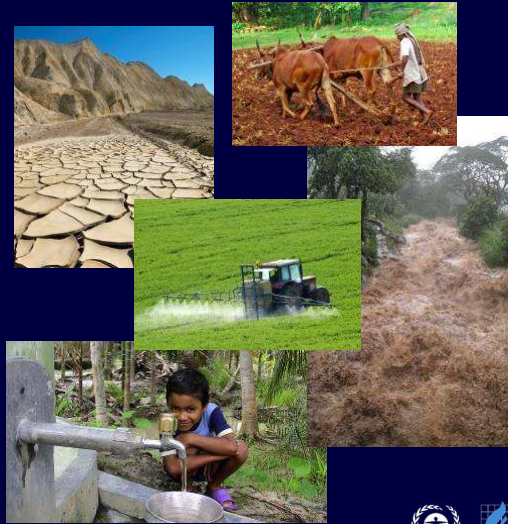




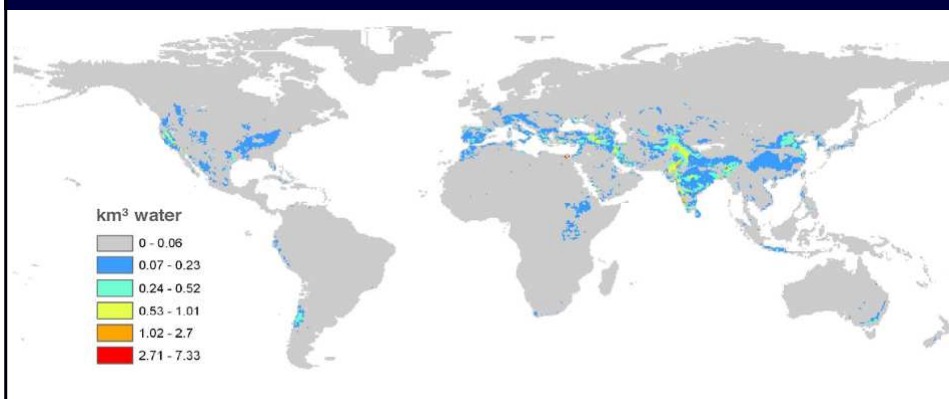
## Benefits for people - Ecosystem services

e.g.

- ◆ Carbon storage
- ◆ Provision of fresh water
- ◆ Soil conservation
- ◆ Pollination
- ◆ Pest control
- ◆ Forest products



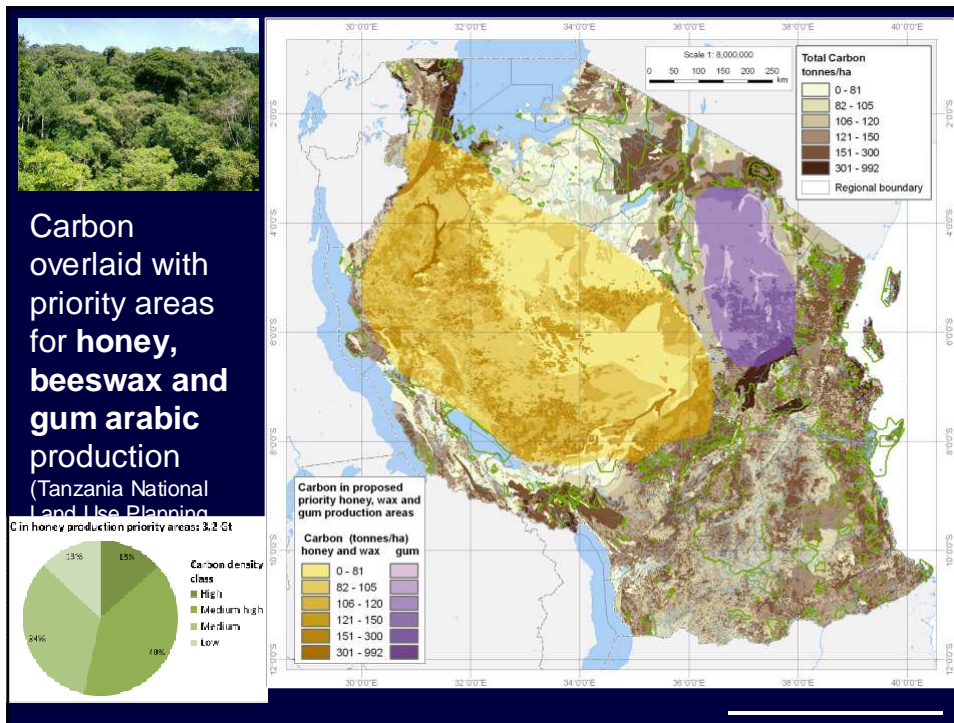
## Ecosystem service mapping - global scale



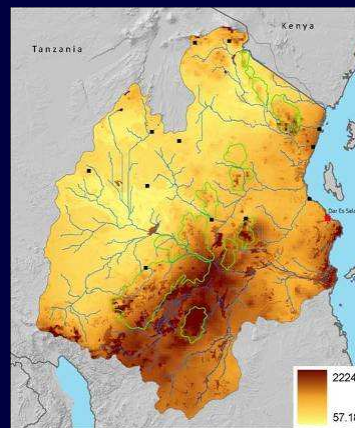
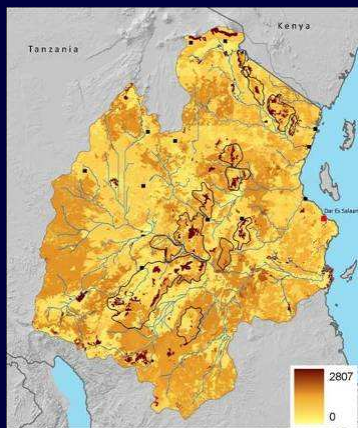
Global surface (0.5 deg resolution) of water provision

Naidoo *et al.* 2008

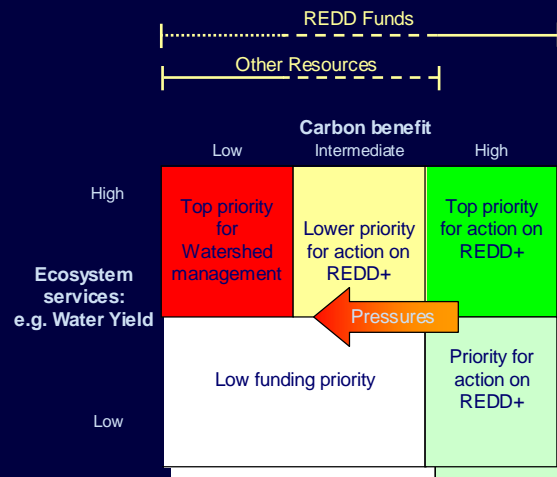




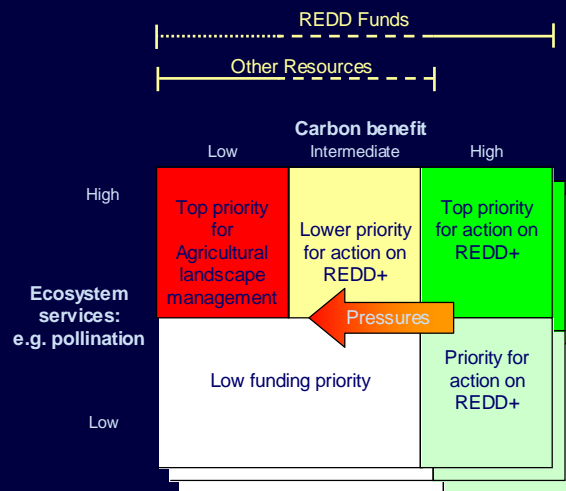
## Modelling & mapping ecosystem services - local scales



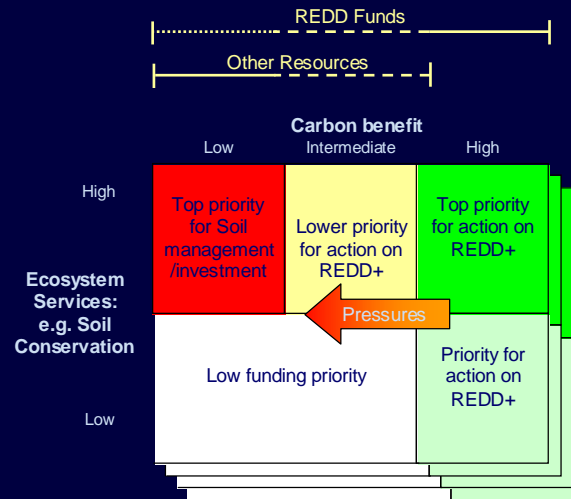
# Benefits (and risks) for people - Ecosystem services



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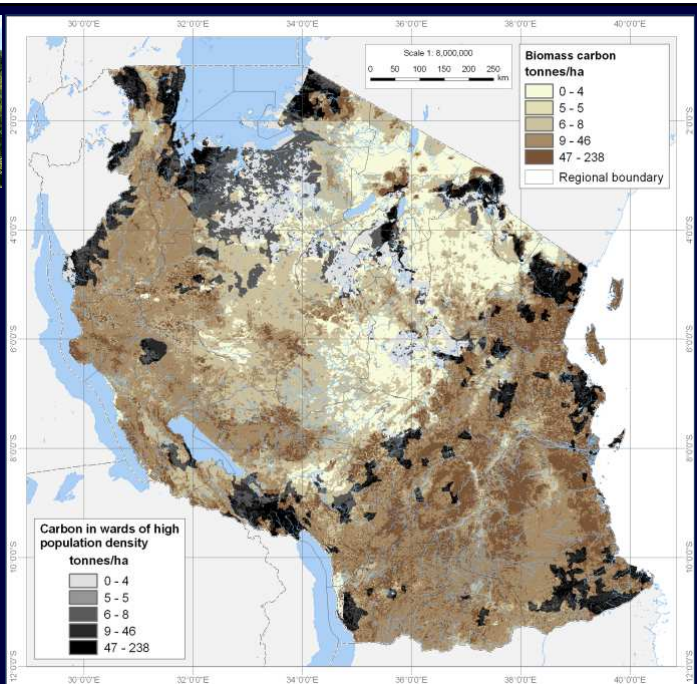
## Benefits for people - Livelihoods

- ◆ As much about the 'how' as the 'where'
- ◆ Depend on many factors besides the ecosystem



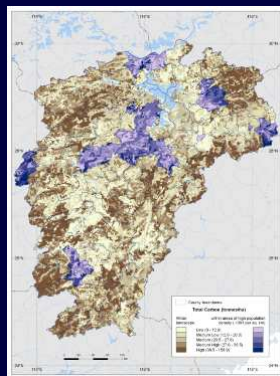


People who may be affected by REDD: areas of high population density (>5136 people/ha, Tanzanian Bureau of Statistics 2002) overlaid with biomass carbon



## People who may be affected by or affect REDD+ actions and co-benefits

Total carbon and areas of high population density



Total carbon and areas of high vertebrate species richness



Jiangxi Province, China

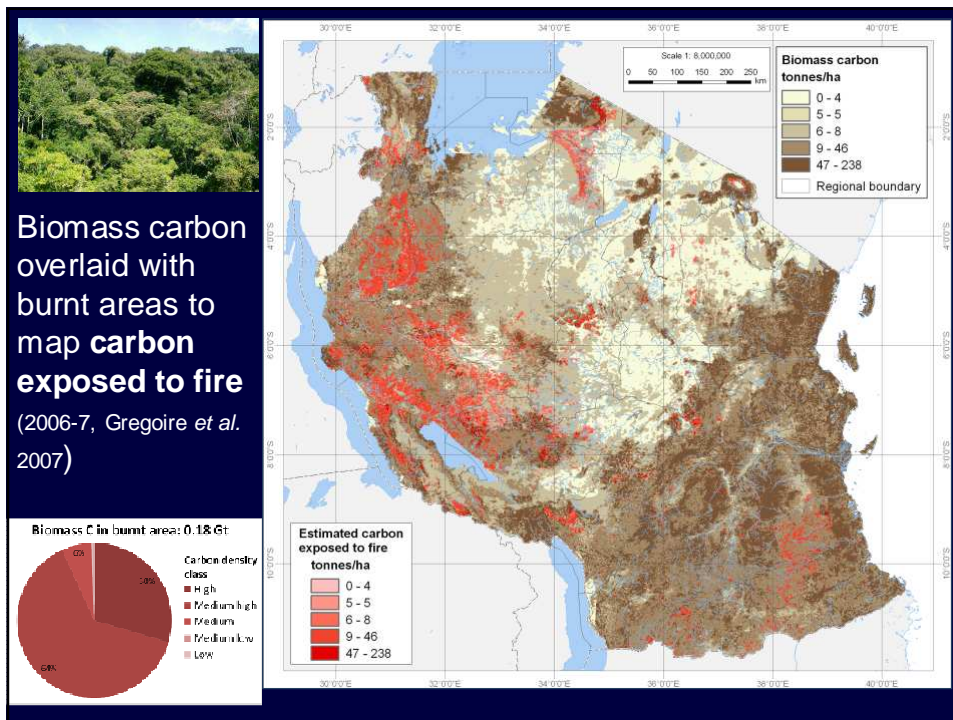




# Identifying risks to carbon and co-benefits

- ◆ Deforestation, degradation & fragmentation
- ◆ Drivers of land use change
  - Agricultural demand
  - Infrastructure development
- ◆ Fire
- ◆ Climate Change

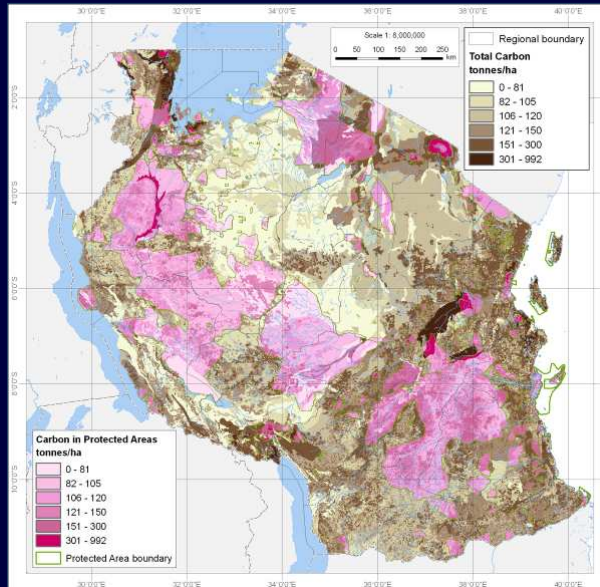
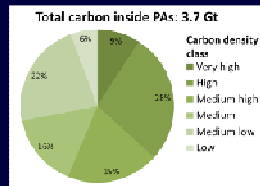
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What?

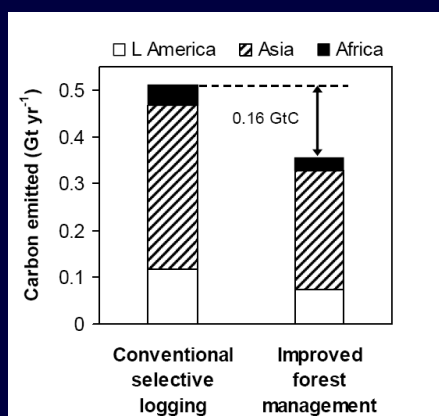
## Management decisions: Protected areas



## But . . . Deforestation in Protected Areas



## Management decisions: Improved forest management



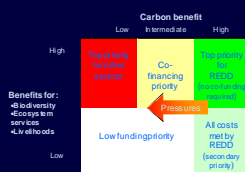
Putz *et al.* 2008, PLoS Biology

- ◆ Reduced collateral damage
- ◆ Reduced fire susceptibility
- ◆ Better biodiversity retention
- ◆ Higher future timber yields



## In sum . . .

- ◆ REDD can deliver co-benefits in addition to securing carbon - e.g. biodiversity
- ◆ But not automatically - issues (and science) are complex
- ◆ Tools (including mapping) are essential identify opportunities and risks and to support sound decisions on where and how to take action for REDD+



## Further reading

- ◆ Miles & Kapos 2008 *Science*
- ◆ *Carbon and Biodiversity: A Demonstration Atlas*  
[http://www.unep-wcmc.org/l/news/atlas/Carbon\\_and\\_Biodiversity\\_screen%20friendly.pdf](http://www.unep-wcmc.org/l/news/atlas/Carbon_and_Biodiversity_screen%20friendly.pdf)
- ◆ Naidoo *et al.* 2008 *Proceedings of the National Academy of Sciences*
- ◆ Peskett *et al.* 2008. *Making REDD work for the poor*  
 Poverty & Environment Partnership (PEP)
- ◆ Griffiths 2008 *Seeing 'REDD'? Forest Peoples Programme*

**A world where biodiversity counts**

[www.unep-wcmc.org](http://www.unep-wcmc.org)



## Benefits for carbon, biodiversity & people

