

Impacts of forest and land management on biodiversity and carbon

Valerie Kapos
UNEP-WCMC



REDD+ comprises 5 activities

REDD+

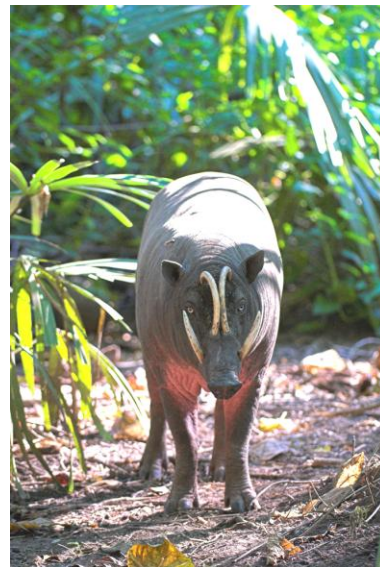
= Reducing Emissions from Deforestation
and forest Degradation

+

Conservation of forest carbon stocks
Sustainable management of forests
Enhancement of forest carbon stocks

Many different management actions have a role in REDD+

- Protection measures
 - Strictly protected areas
 - Multiple use reserves
 - Other models



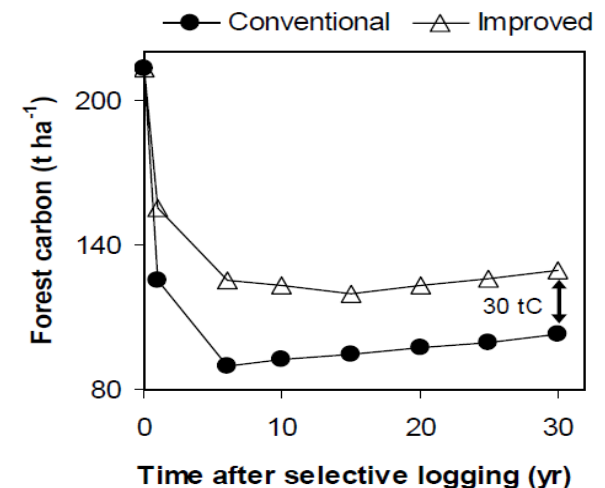
Many different management actions have a role in REDD+

- Improving agricultural practice
 - Sustainable agricultural intensification
 - Agroforestry
 - Sustainable shifting cultivation
 - Fire management



Many different management actions have a role in REDD+

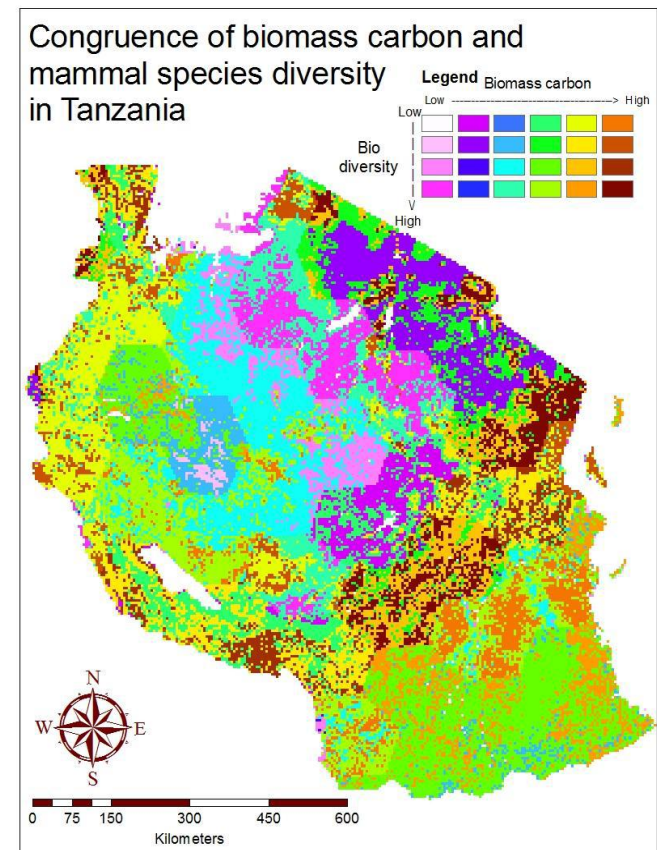
- ▣ Reducing impacts of extractive use:
 - Reduced impact logging
 - Sustainable NTFP use



Many different management actions have a role in REDD+

- Restoration & Reforestation
 - Assisted natural regeneration
 - Forest plantation

- Landscape scale planning

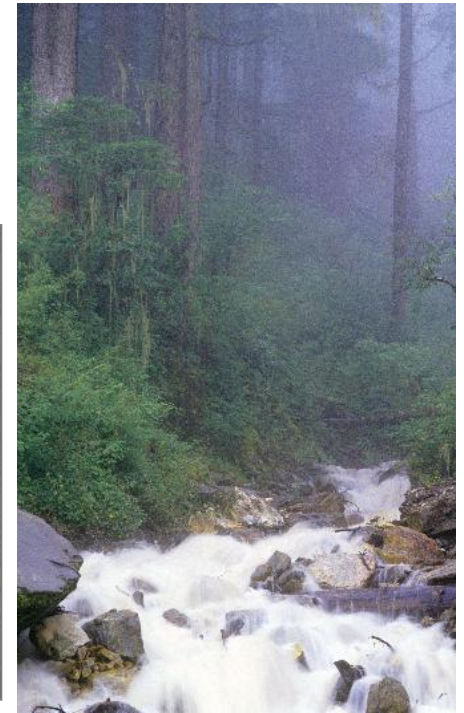
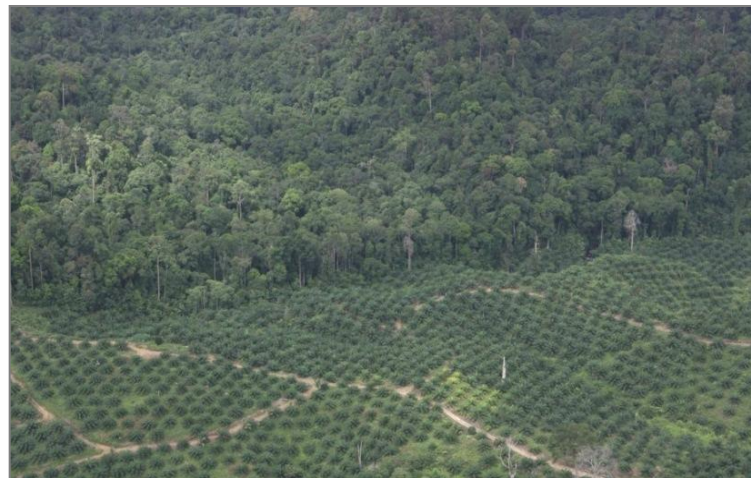


Management actions support multiple REDD+ activities

	Reduce emissions from deforestation	Reduce emissions from forest degradation	Carbon stock enhancement	Sustainable Mgmt of forests	Conservation of carbon stocks
Improving agricultural practice					
Sustainable Agricultural intensification	●●	●	●		●
Agroforestry		●	●		
Sustainable shifting cultivation	●	●●	●		●
Fire management	●	●●	●●	●●	●
Protection measures	●●	●●	●	●	●●
Reducing impacts of extractive use					
Reduced Impact Logging		●●		●●	
NTFPs		●●		●●	
Restoration/Reforestation					
Assisted natural regeneration	●	●	●●	●	
Afforestation & reforestation		●	●●		
Landscape scale planning & coordination	●●	●●	●	●●	●

Impacts of Management Actions on Carbon and Biodiversity

- Highly variable, depending on
 - location
 - scale of implementation
 - initial conditions & historical impacts
 - forest type
 - wider landscape context



Impacts of Management Actions on Carbon and Biodiversity

- Greatest and most immediate benefits from actions for effectively reducing deforestation and forest degradation
- Benefits from other actions smaller/slower
- Biodiversity benefits often achieved more slowly than carbon benefits



Impacts of Management Actions on Carbon and Biodiversity

- Not all impacts easily anticipated or measured
 - Displaced pressures on biodiversity
 - Downstream impacts on aquatic systems
- Both magnitude and direction of impacts can change over time
 - Fire suppression in fire adapted systems:
 - short term C benefit
 - Long terms adverse impact on both C and biodiversity



Many knowledge gaps

- Better information base is needed
 - especially on differences amongst forest types and conditions
- Monitoring needed
 - Can build on data for MRV to derive biodiversity proxies
 - Other data needed
 - Spatial patterns of biodiversity
 - Responses to specific management actions

Understanding management impacts on Carbon & Biodiversity

- Essential for
 - Applying of safeguards
 - Effective REDD+ action

