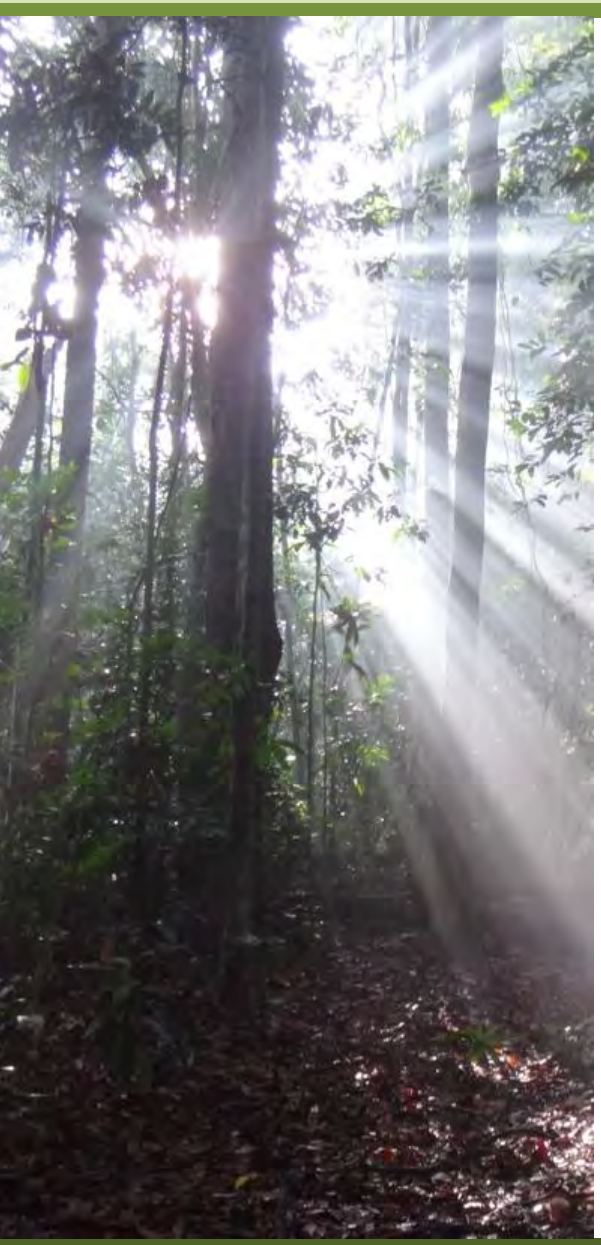

UNFCCC COP25 ITTO/FFPRI Side Event
"Forest-based solutions in the tropics for combating climate change and achieving the SDGs"

Adaptation and mitigation practices in the forest sector: beyond REDD+

December 11, 2019

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Mitigation and Adaptation

Mitigation	Adaptation
Reducing GHG emissions, enhancing GHG sink strength	Reducing vulnerability, enhancing adaptive capacity
Long-term focus on avoiding future impact	Start with focus on current variability
Global-scale cross-sectoral effort needed for effectiveness	Local-scale cross-sectoral effort needed for effectiveness
Local/ (sub) national nesting and collaboration needed	(Sub) national /global collaboration needed

REDD+, CDM

Ecosystem-based adaptation, ...

Duguma et al. 2014

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Mitigation Practice in Forest Sector

- Curbing deforestation is a highly cost-effective way of reducing greenhouse gas emissions (IPCC 2007, 2015)

- REDD+ (“Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries”) is a key strategy in mitigating climate change

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Mitigation and Adaptation: Linkage

- “Forest mitigation projects can have positive impacts on local livelihoods and their adaptive capacity.”

- “Adaptation projects can directly affect ecosystems and carbon stocks, thus having an impact on mitigation.”

  Referred from Locatelli 2011

- “Ecosystem-based adaptation (EbA) is the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change.”

  Referred from SCBD 2009

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Ecosystem-based Adaptation

"Ecosystem-based adaptation aims to maintain and increase the resilience and reduce the vulnerability of ecosystems and people in the face of the adverse effects of climate change." (SCBD 2009)

- Maintenance and/or restoration of mangroves and other coastal wetlands
  - ➢ reduce coastal flooding and coastal erosion
- Sustainable management of upland wetlands and floodplains
  - ➢ maintenance of water flow and quality
- Conservation and restoration of forests
  - ➢ stabilize land slopes and regulate water flows

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Adaptation in Forestry Practice

Tropical forestry practices can contribute to maintaining or enhancing the adaptive capacity

Approach	Actions by forest management types	
	Natural forest management based on selective logging	Tree plantations
Facilitating adaptive capacity of tree species	Maximize juvenile and reproductive population size	Implement appropriate species selection
Silvicultural and management approaches	Minimize levels of slash through reduced impact logging	Plant mixtures of species

Guariguta et al. 2008

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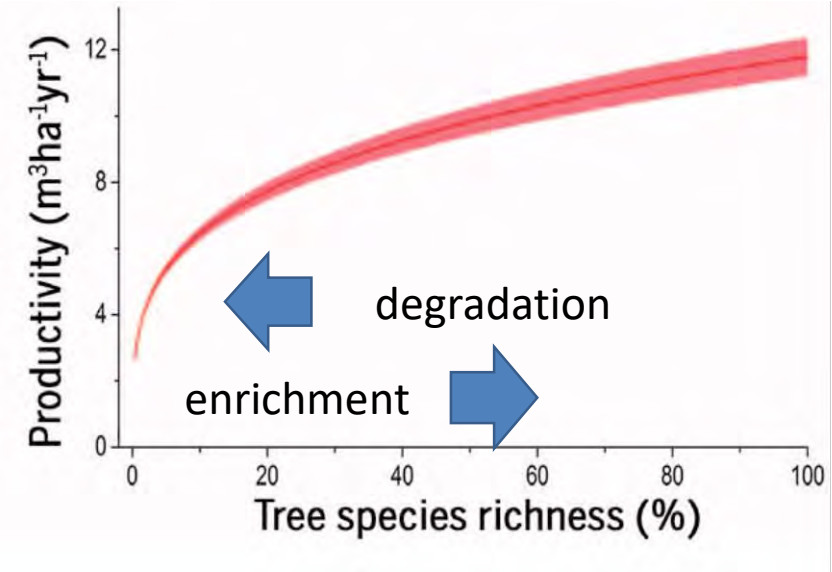
High Productivity - High Diversity

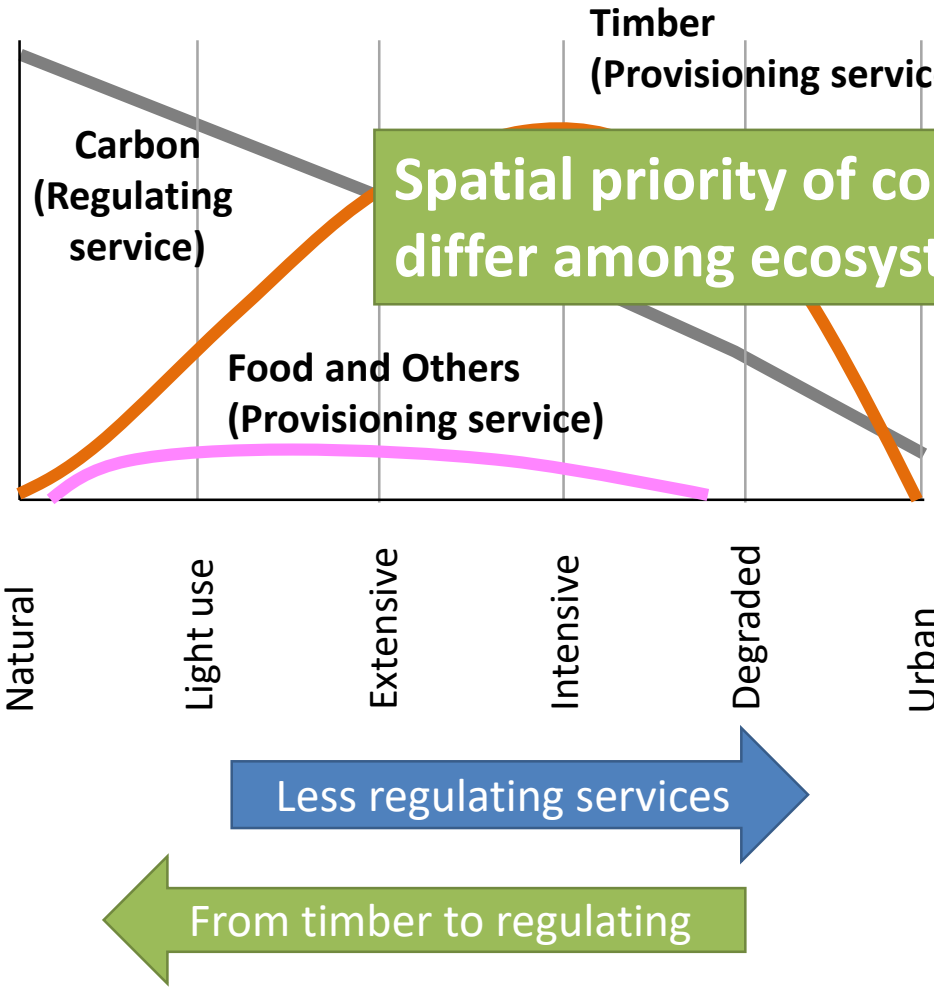


- Positive relationship between productivity and tree species diversity
- Imply negative effect of biodiversity loss on forest productivity
- Potential benefits from transition of monocultures to mixed-species stands in forestry practices

Liang et al. 2016

Trajectory of Ecosystem Service

Extensive use as secondary coppice forest



Intensive use as plantation

Referred from Locatelli et al. (2017). Adjustments to the model by Braad and Ten Brink (2008) and De Groot (2010).

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Conclusions

- Mitigation and adaptation measures in forest sector interact with each other.

- According to the biodiversity-productivity relationships, biodiversity conservation would be important to maintain forest carbon sink.

- Because land use intensity influence the supply of ecosystem services, local and landscape strategy (e.g. land sparing) would be important to ensure reducing negative impacts from climate change.

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