



Co-Benefits of REDD+ and Opportunity Costs of REDD

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What are co-benefits of REDD+

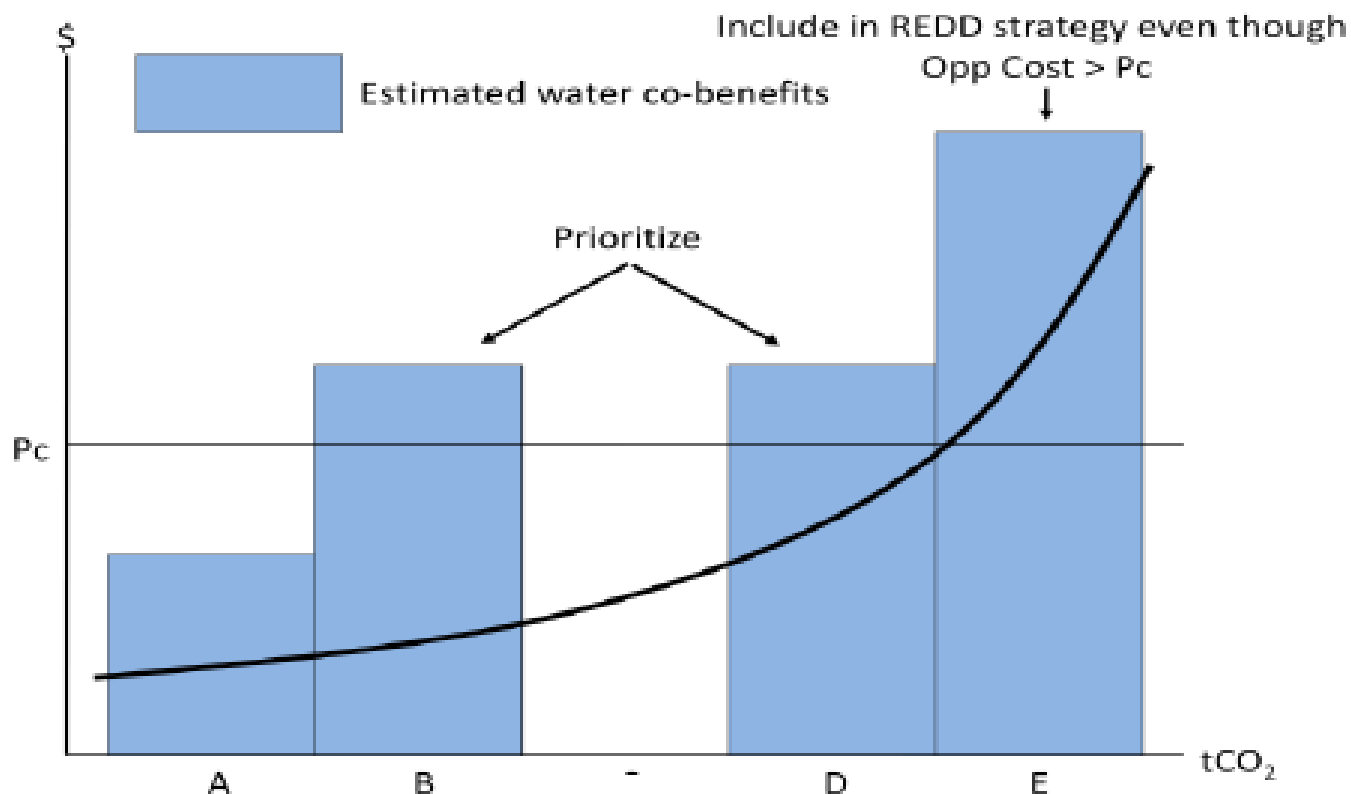
- Non-Carbon Benefits
- **Eco-system services**
 - Water
 - Biodiversity
- Employment
- Livelihood (infrastructure)- Community
- Climate change adaptation
- Cultural services / Values of forests



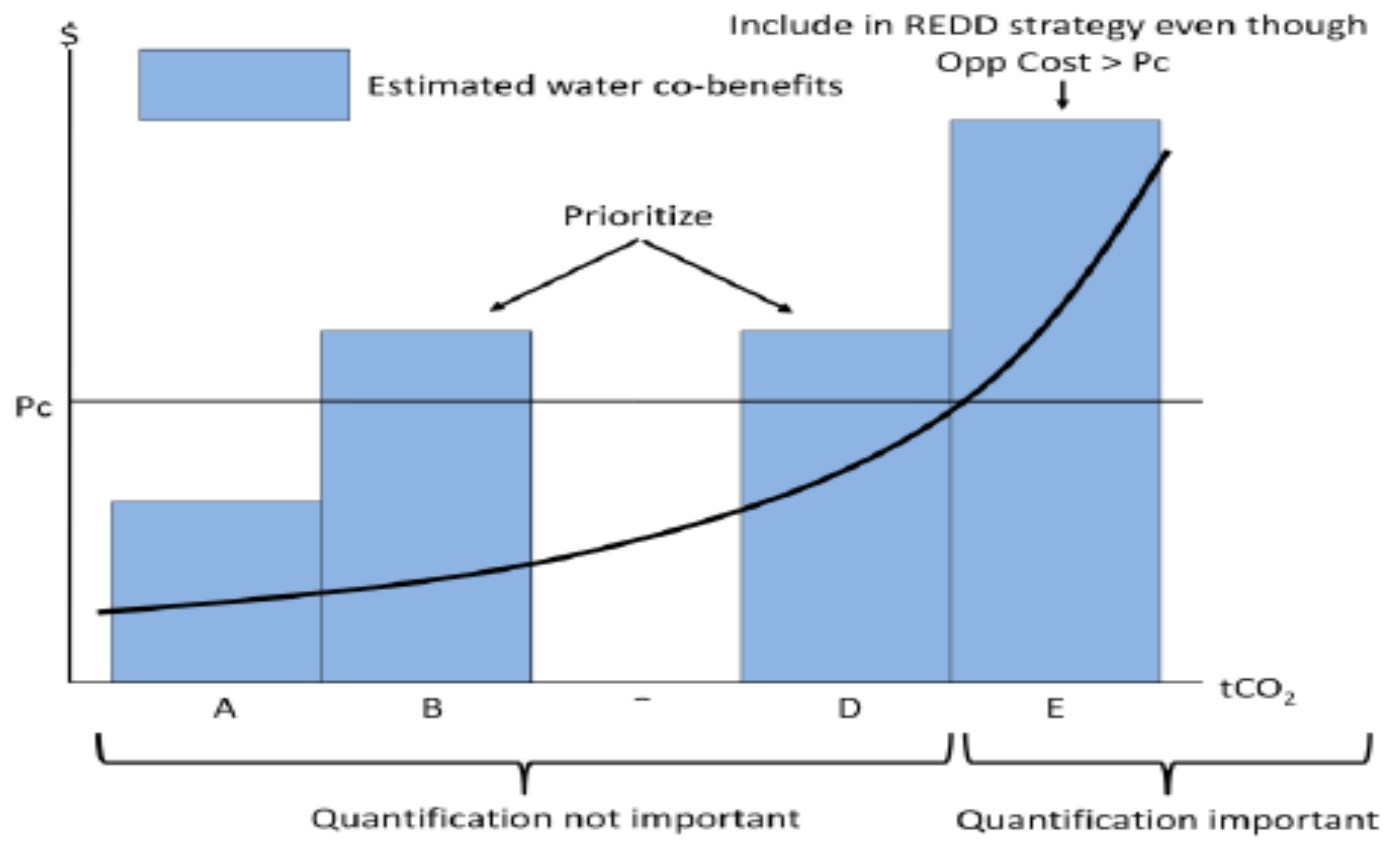
What co-benefit is important?

- Depends on where you are?
- From whose perspective? Depends on who determines what is important?
- Best done in a participatory fashion?
- How much information is available about co-benefit?
- How much should be invested in such information?

Co-Benefits vs Opp Costs (Strategic Level)



- Quantification of benefits is only important for the case where the REDD+ costs exceed the price of carbon. In all other cases, the carbon costs are less than carbon benefits so quantification of co-benefits is not needed.



Qualitative Level (Indicative)

	Employment	Carbon	Biodiversity	Water
Profit	+	-	-	-
Employment		-	-	-
Carbon			+	+
Biodiversity				+



E.G. Meru Forest and Water

- “It is clear to us that the water situation below depends on the state of the Meru Forest is.... The forest is disturbed by illegal logging, grazing and fodder harvesting and that affects the water availability..” *Rampura Turere, Farmer in Tembolo, Arusha*



Quantification (Detailed)

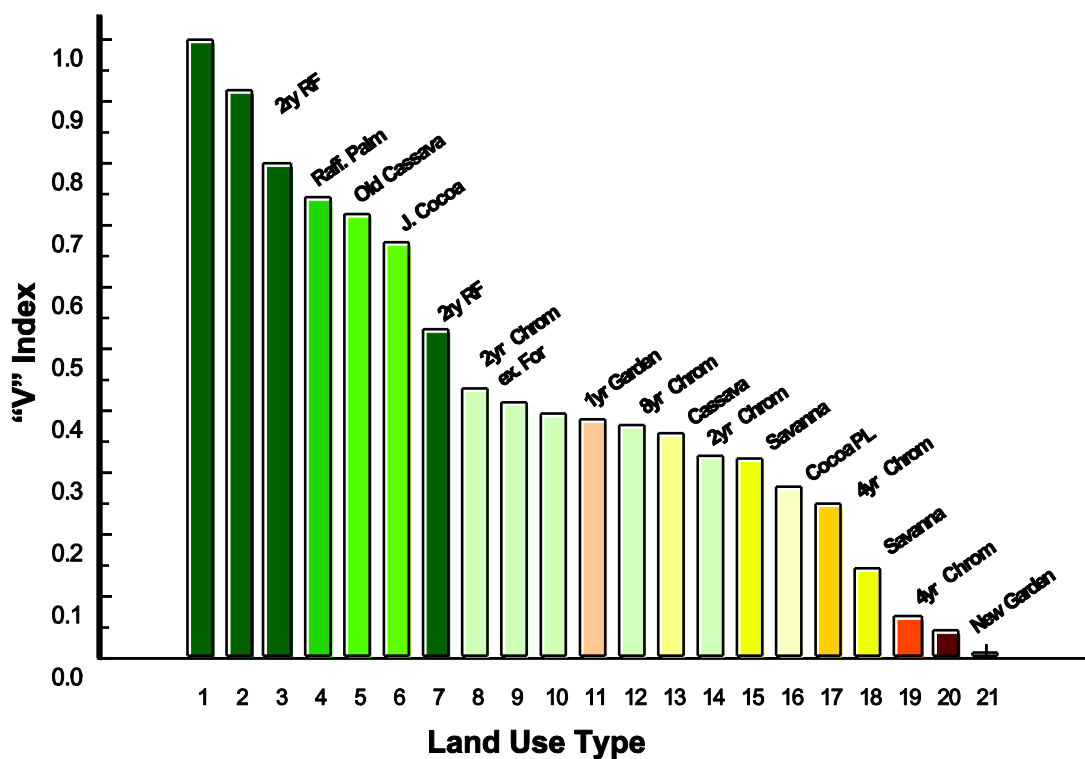
WATER

- Hydrological parameters (flow rates, total water yield, regularity of flow)
- Water quality indicators (colour, sediment / particles, chemical composition)

BIODIVERSITY

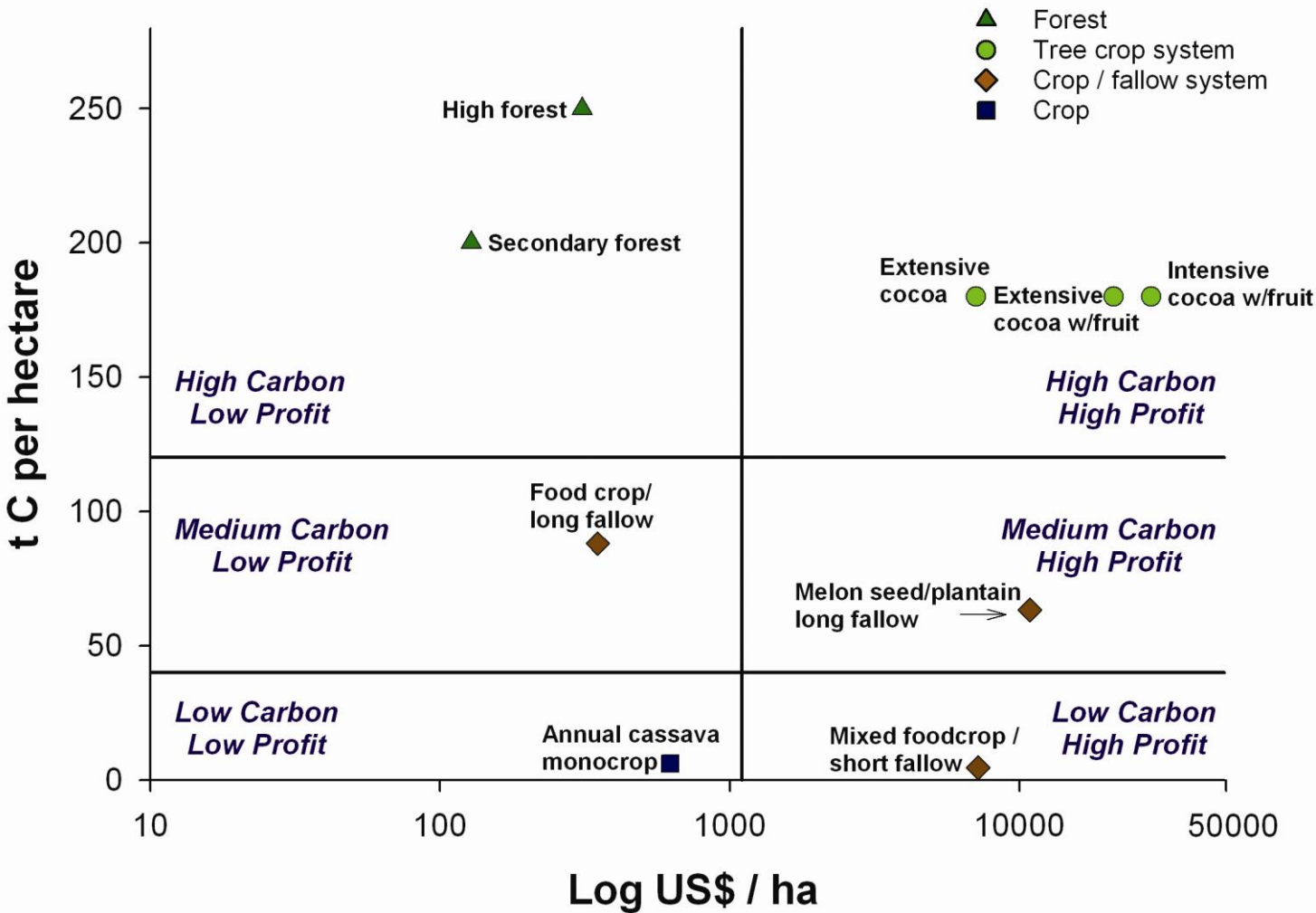
- Biodiversity indices
 - Shannon,
 - V-Index)
- Species curves

E.G of V Index in Cameroon

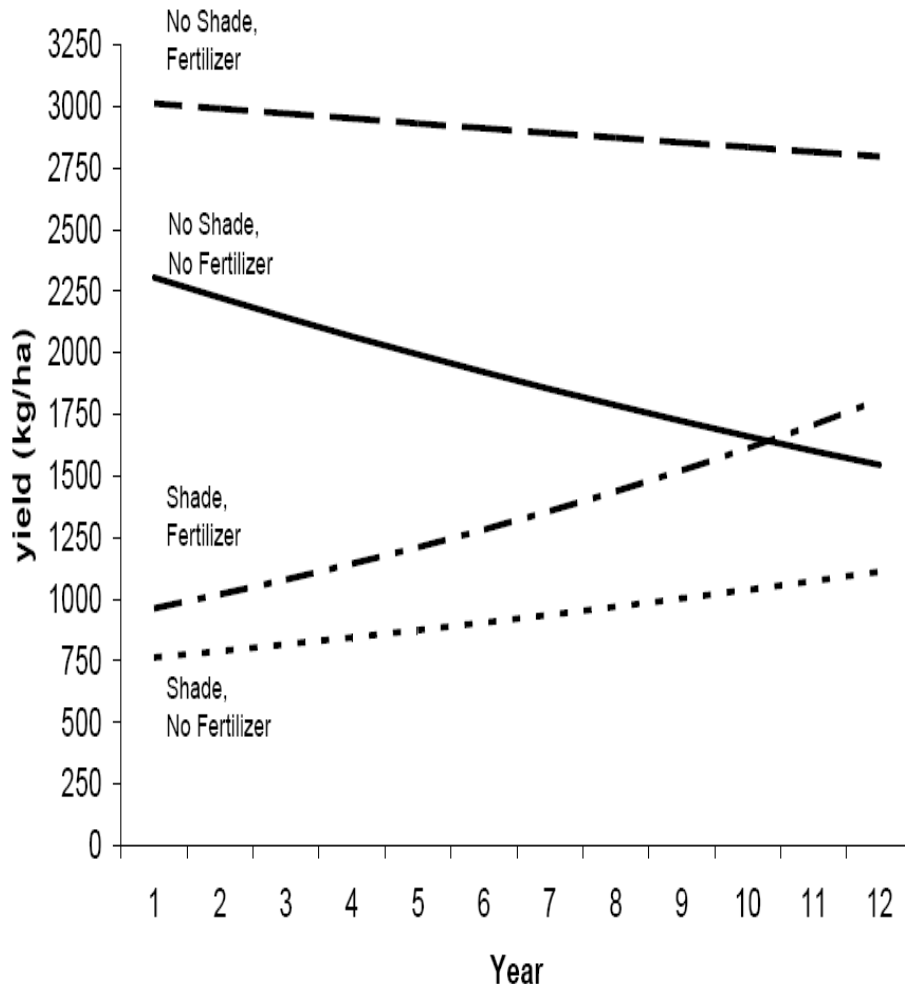


- mean tree canopy height,
- basal area (m² ha⁻¹),
- total number of vascular plant species,
- total number of PFTs or functional modi (plant taxonomic and functional types -PFTs).
- the ratio of plant species richness to PFT richness (species/modi ratio)

TRADEOFFS- (Tactical Level) C and Profitability



CO-BENEFITS: Trade-offs between C, Biodiversity & Productivity (West African Cocoa systems)



- In E. Ghana, shaded cocoa recorded more than 3x avian & mammalian species, 4x butterfly species and 30 times plant species than full sun ((Ofori-Frimpong and Asase, 2005).
- In Cameroon 286 plant species counted (Sonwa et al. 2006)
- Important for biodiversity in buffer zones

Gockowski et al., 2006

A scenic view of a lush green forest with rolling hills in the background under a clear sky. The foreground is filled with dense, vibrant green trees, while the background shows layers of forested hills that fade into a light blue haze. The overall atmosphere is peaceful and natural.

THANK YOU

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