Institutional and methodological challenges for data collection for REDD⁺

ASB, the Partnership for the Tropical Forest Margins.

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outline

ASB experience and present activities in the Region

- REDD+ some rules of the game applied to Council Forest
- Eligible activities
- Data and technical needs
- Costs



ASB: background

 ASB is a consortium of over 90 partners with an ecoregional focus on the FOREST/AGRICULTURE margins in the humid tropics;

 Since 1994 ASB vision has evolved through several Phases going beyond Slash-and-Burn: alternative land uses, drivers, consequences and responses

 Raising productivity and income of rural households in the humid tropics without increasing deforestation or undermining essential environmental services.



ASB: background

- C sequestration and trace gas emission in slash and burn and alternative uses;
- development of Methodology for Carbon measurement and build the link Carbon – Landscape;



ASB: background ASB pan-tropical study on Opportunity Costs Analysis for Avoided Deforestation (COP 13Bali 2007)





 In preparation: How much does selling our carbon cost us?
 Analytical methods to estimate the opportunity costs of REDD. Commissioned by ECDE (MR)

ASB: present activities

REDD-ALERT

Reduced Emission from Deforestation and Degradation through Alternative Land Uses



• REALU

Forest Zoning Plan

Council Forest

Wildlife Sanctu

National Parc

Buffer Zon

Fp Fr Pi Re

Permanent Forest Domain

Forest Management Units

vente coupe

REDD-ALERT study areas

foret communautaire

Reduced Emission from All Land Uses Workshop end of April Serge Nagendakuman (Index of the serve of the serve

> 41 - Closed broadleaved evergreen or semi-dec 30 - Open broadleaved deciduous forest 110 - Mosaic Forest-Shrubland/Grassland 120 - Mosaic Grassland/Forest-Shrubland 130 - Closed to open shrubland

25.50 100 150 200

ASB: Some Results

 Trade-offs analysis (carbon stocks and biodiversity /profitability)



ASB: Some Results

C-stock & NPV_priv of land uses

	Time-averaged			
	C-stock	NPV_priv		
Land Uses:	Mg/ha	\$/ha		
high forest	250	309		
secondary forest	200	128		
extensive cocoa (only Akok)	141	7,096		
extensive cocoa w/fruit (only Awae)	141	21,192		
intensive cocoa w/fruit (only Awae)	141	28,489		
mixed food crop field/short fallow rotation	5	7,203		
melon-seed/plantain/long fallow rotation	63	10,879		



ASB: Conclusion

•The ASB Partnership has produced methods and data sets for understanding the tradeoffs associated with alternative land uses across the humid tropics;

•These data sets and conclusions are still associated with great uncertainties ;

Challenges for Central African Benchmark:

How does one monitor in a smallholder setting? What institutional mechanisms are required to make this work at scale? Necessary that REDD mechanism is linked to intensification of agriculture and functioning markets as part of a rural transformational process.



REDD + /COP 15: defines the rules..and recommends:

- To establish forest monitoring systems using remote sensing and carbon inventories suitable for review.
- To establish forest reference emission levels and forest reference levels transparently taking into account historic data (baseline)
- The effective engagement of indigenous peoples and local communities in monitoring and reporting (MRV)



Eligible activities for REDD⁺

Reduced Deforestation Change of forests to non-forests

.....Degradation

Anthropogenic reduction of forest carbon stocks not qualifying as deforestation (depending on forest definition...)

+ Plus:

Conservation of carbon stocks

Sustainable Management of Forest

Enhancement of carbon stocks, i.e. Aforestation / reforestation



Eligible activities for REDD⁺: land use change matrix and AFOLOU accounting

REDD+									
Land cover	Natural forest	Logged- over I	Logged- over II	Fastwood plantation	Tree crop plantation	Agroforest	Open-field crops	Grassland	Urban + roads
Natural forest									
Logged-over I									
Logged-over II									
Fastwood									
Tree crop plantation	Depending on forest definition								
Agroforest							_		
Open-field crops							-		
Grassland								-	_
	1								

Adapted from Van Nordwjik



REDD+ : data and technical needs

- Establish a baseline to account for additionalities
- Data for carbon on forest and land cover types other than forest (oil palm plantation, shifting cultivations land use units, agro-forests)



REDD+ : data and technical needs

- 1. Identify the C change measurement method (stock difference or gain loss method ?)
- 2. Obtain a time-averaged C stock value for forest and other use systems in a landscape
- on the basis of a sampling strategy for land use systems identified through a hierarchical system for land use classification and land cover analysis in RS.
- design the sampling units (variable size: max 100x20m for big size trees)

Note: the desired level of accuracy will have cost



REDD+ data and technical needs (plot level)

 Obtain a time-averaged C stock value for forest and other use systems in a landscape: Plot level measurement Good rule:

The decision on which C pools should be measured as part of plot and landscape level C accounting scheme is driven by:

- availability of financial resources,

- availability of good quality of existing data (e.g. forest inventory data to be converted into biomass data)

- ease and cost of measurement,
- the magnitude of potential change in C pool.



REDD+ data and technical needs (plot level) Example: measurement in ASB in Cameroon benchmark

Above ground pool

- <2.5 cm (are cut and weighted)
- Diameter > 2.5 cm
- Allometric Curves

Soil pool



REDD+ data and technical needs (landscape level)

RS mapping is used to assess land use change according to land use category (LUC) previously defined. We multiply typical C stock values by each LUC's change (area) identified through a Land Use



REDD+ data and technical needs: costs

- Costs depend on the availability of data and resources to collect additional data.
- Carbon measurement at the plot level (equipment/ time)
- RS and groundtruthing for landscape level change assessment

(software/images/experts/groundtruthing)

- The harmonization of data collection and methodologies at the national level could favor important cost reduction (use of existing data and extrapolation)
- Explore the opportunity for monitoring by local







