



# **Cameroon**

# **MRV Status and Plans**

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# Presentation Outline

- I. Ongoing MRV Developments
  - a) MRV Action plan
  - b) Institutional Arrangements
  - c) Forest definition & Thematic classes
- II. Precursor national initiatives and comparisons with some global datasets
- III. Perspectives
- IV. Conclusions

# MRV Action Plan (1)

- Organizational Structure
  - Definition of functions of the MRV System;
  - Elaboration of the institutional arrangements for MRV;
  - Defining roles and responsibilities and interactions and inter-relationships.

## MRV Action Plan (2)

- National Circumstances.
  - Defining the scope of the MRV (carbon, non-carbon, integrated natural resource monitoring);
  - Elaboration of key definitions: forest, deforestation, forest degradation, sustainable management of forests, conservation of carbon stocks, enhancement of carbon stocks;
  - Assessment of key categories in the different agro-ecological regions;
  - An analysis of significant carbon pools and gases in the different agro-ecological regions;
  - Analysis of existing data and information and their utility for the national MRV system (metadata assessment).

## MRV Action Plan (3)

- Elaboration of a forest carbon monitoring concept.
  - Methods compendium and technical specifications (input data, thematic classes, products, accuracy etc.) for the analysis of remote sensing data to map/measure/quantify AD;
  - Concept for estimating EF (sampling design, pre/post stratification etc.);
  - Techniques for relating AD and EF.

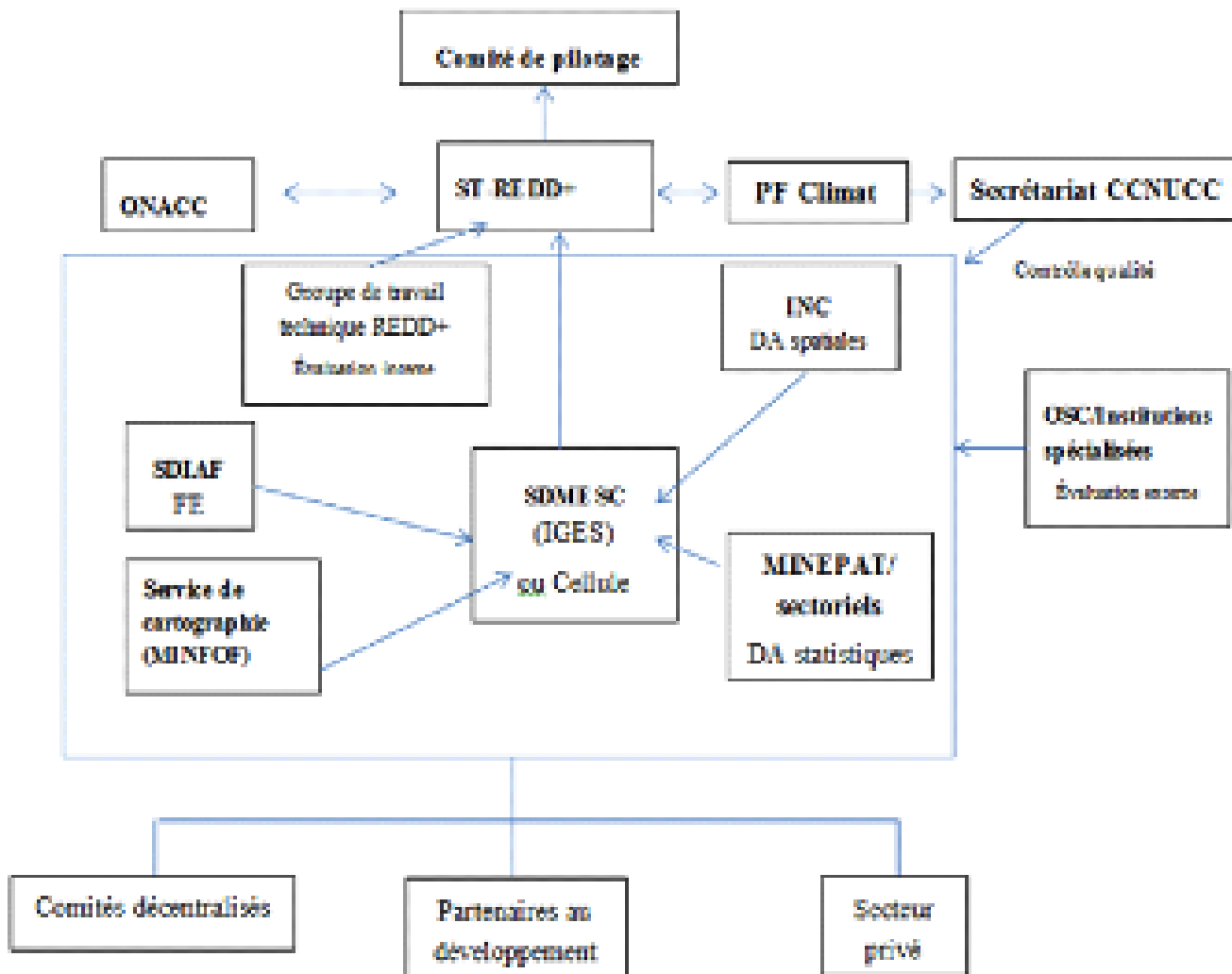
## MRV Action Plan (4)

- Integrated QC/QA Plan
  - Documentation;
  - Data flow;
  - Information storage and backup;
  - Uncertainty assessment for AD, EF and GHG emissions and removals;
  - Uncertainty assessment (historic assessments).

## MRV Action Plan (5)

- Accounting for non-carbon benefits:
  - Defining the scope;
  - Development of integrated methods to quantify non-carbon benefits like biodiversity, ecotourism, payment of environmental services, water catchment etc.;
- Integrate community-based monitoring in the national MRV concept.
- Capacity building (human resources and infrastructure).

# MRV Institutional Arrangements





# Institutions involved in MRV

- Unit of Ecological Monitoring MINEPDED responsible for GHG reporting to the Convention;
- Sub-directorate of forest inventory and management (MINFOF) responsible for forest monitoring and inventory;
- National Cartographic Institute has mandate to monitor and map different natural resources including forest;
- Necessity to formalise the institutional arrangement

# Forest Definition

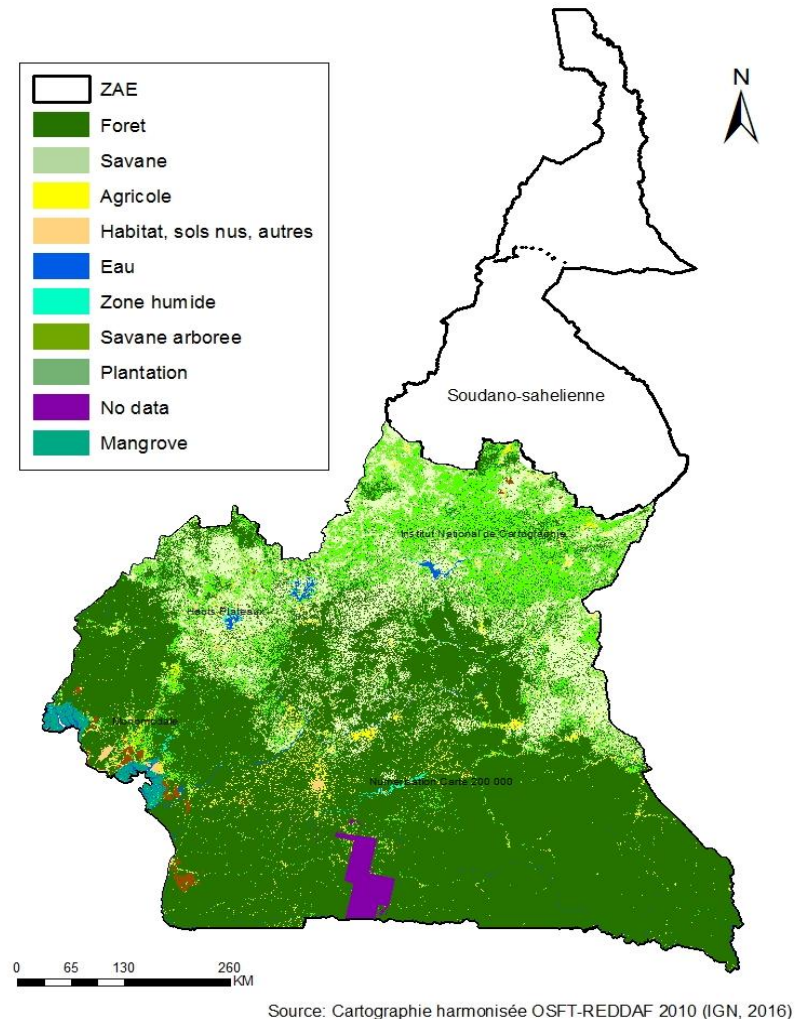
- « Sont considérées comme forêts, les terrains recouverts d'une formation végétale à base d'arbres ou d'arbustes, d'une **superficie minimale de 0,5 ha** comportant une végétation dans laquelle les arbres et arbustes ont un **couvert minimal de 10%**, et peuvent atteindre à maturité une **hauteur minimale de 3 m**. Exception est faite des plantations agroindustrielles mono-spécifiques à vocation purement économique et qui utilisent des techniques de gestion essentiellement agricoles. Sont toujours considérées comme forêts, des zones anciennement forestières et victimes des perturbations naturelles ayant entraîné la réduction de leur couvert en deçà de 10% et qui sont susceptibles de recouvrer leur statut passé (Ex. séismes, éruptions volcaniques, tornades, incendies...) ».

# Thematic classes

Niveau Catégories	Grandes classes du GIEC correspondantes	Niveau I	Niveau II
Végétation	Terres Forestières	Forêts denses humides	Forêt Dense Humide primaire
			Forêt Dense Humide secondaire
		Forêts des zones sèches	Forêt dense sèche
			Forêt claire sèche
	Forêts artificielles	Forêts plantées	
	Prairies	Végétations à strates herbacées dominantes	Savane
	Les terres cultivées	Terres cultivées	Cultures annuelles
Cultures pérennes			
Non Végétation	Terres humides	Terres humides	Eaux continentales
	Etablissements	Etablissements	Etablissements
	Autres terres	Autres terres	Autres terres

# National Assessments of AD

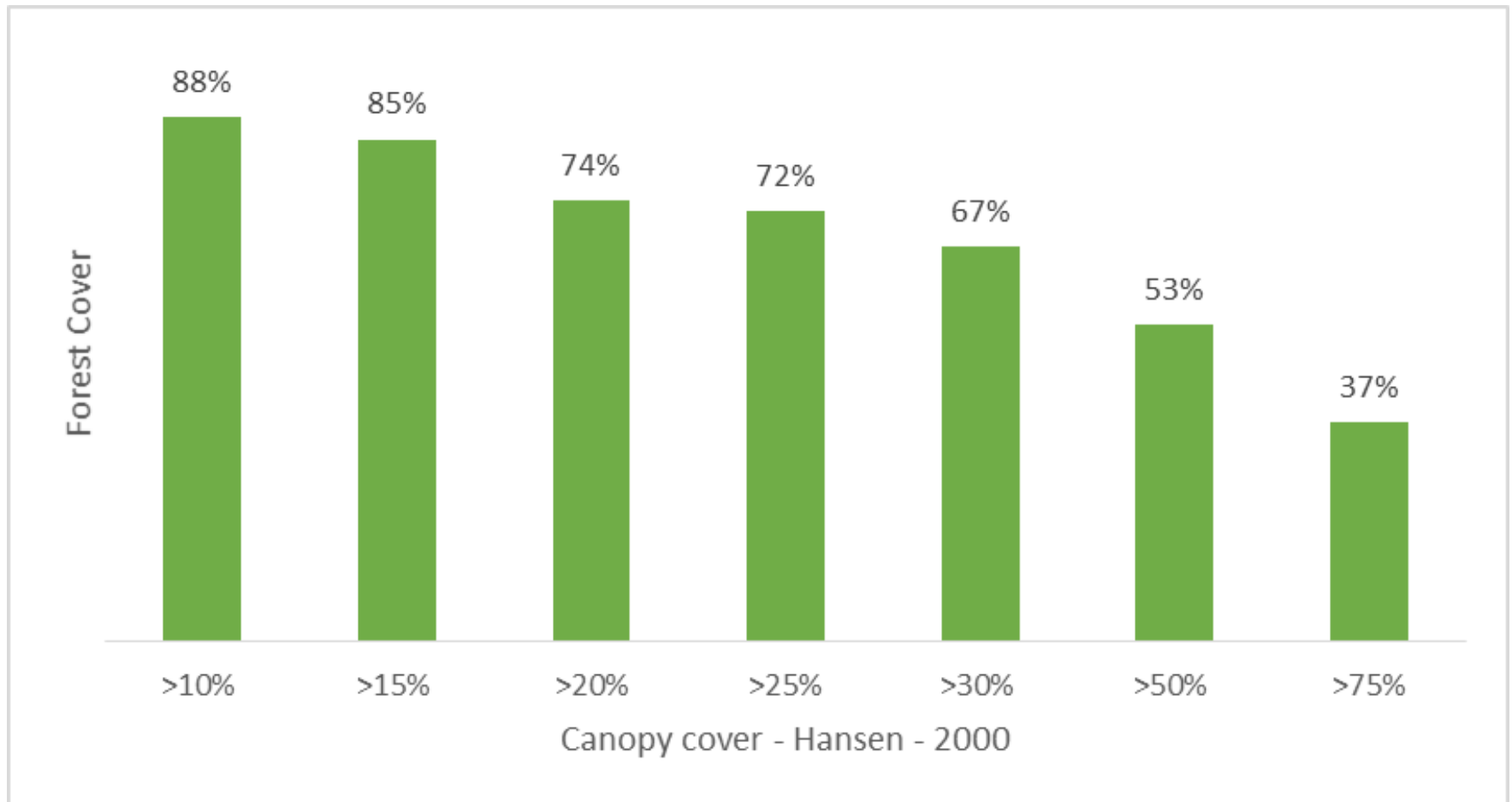
- ESA and KfW supported EO based forest mapping for REDD+ since 2008. The work was undertaken by GAF AG in collaboration with MINEPDED.
- A comprehensive wall-to-wall mapping exercise covering eight administrative regions has been carried out by the OSFT and FP7 REDDAF projects respectively.
- Map product assesses forest cover change for the periods 1990-2000 and 2000-2010



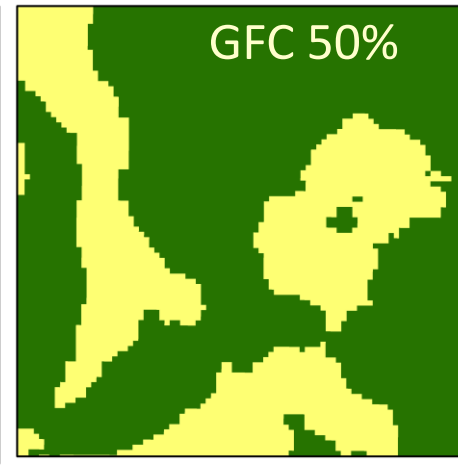
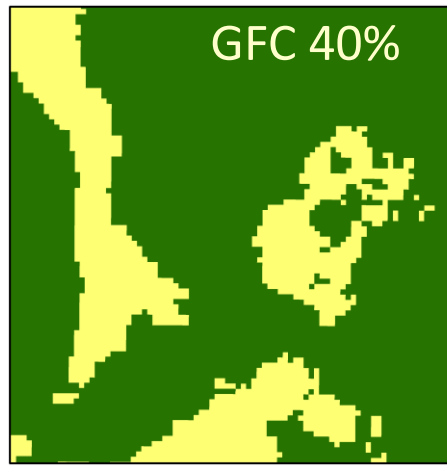
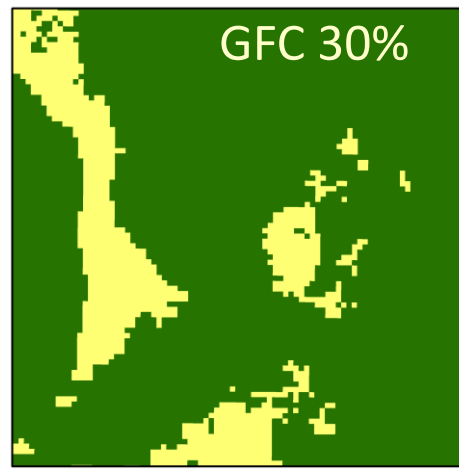
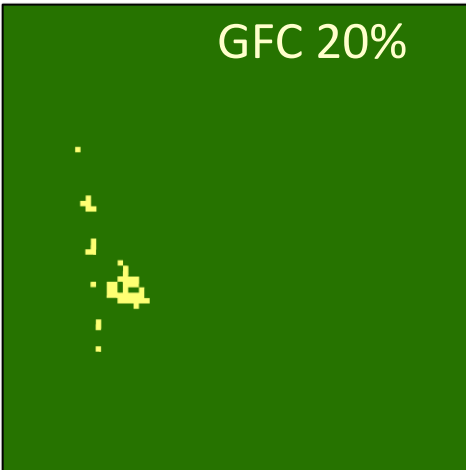
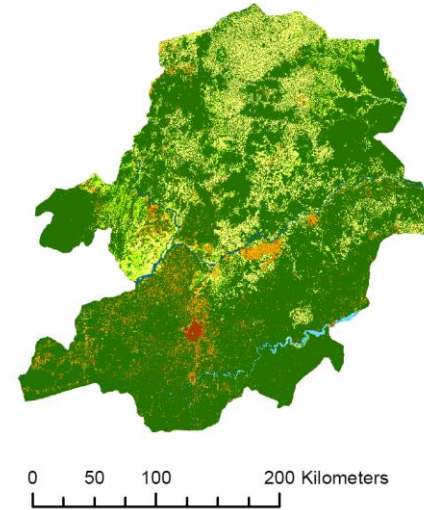
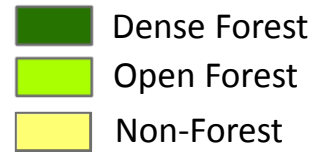
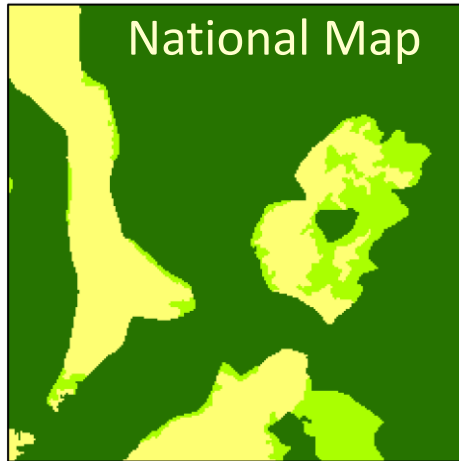
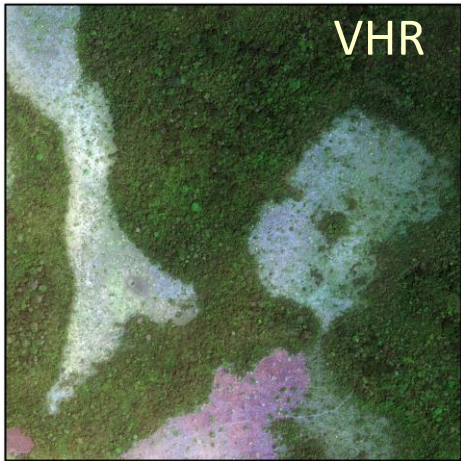
# Forest Cover from National Estimates

Region	Area Region (ha)	Forest Area 2010 (ha)	Forest Cover (%)
Adamaoua	6,393,553	896,353	14%
Ouest	1,402,093	430,395	31%
Sud-Ouest	2,546,350	2,162,203	85%
Nord-Ouest	1,781,830	517,324	29%
Littoral	2,068,623	1,686,016	82%
Sud	4,816,995	4,634,243	96%
Est	11,002,690	8,734,967	79%
Centre	6,889,467	4,258,931	62%
Total	36,901,601	23,320,431	63%
<b>Total (assuming no forest in remaining areas)</b>	<b>47,271,161</b>	<b>23,320,431</b>	<b>49%</b>

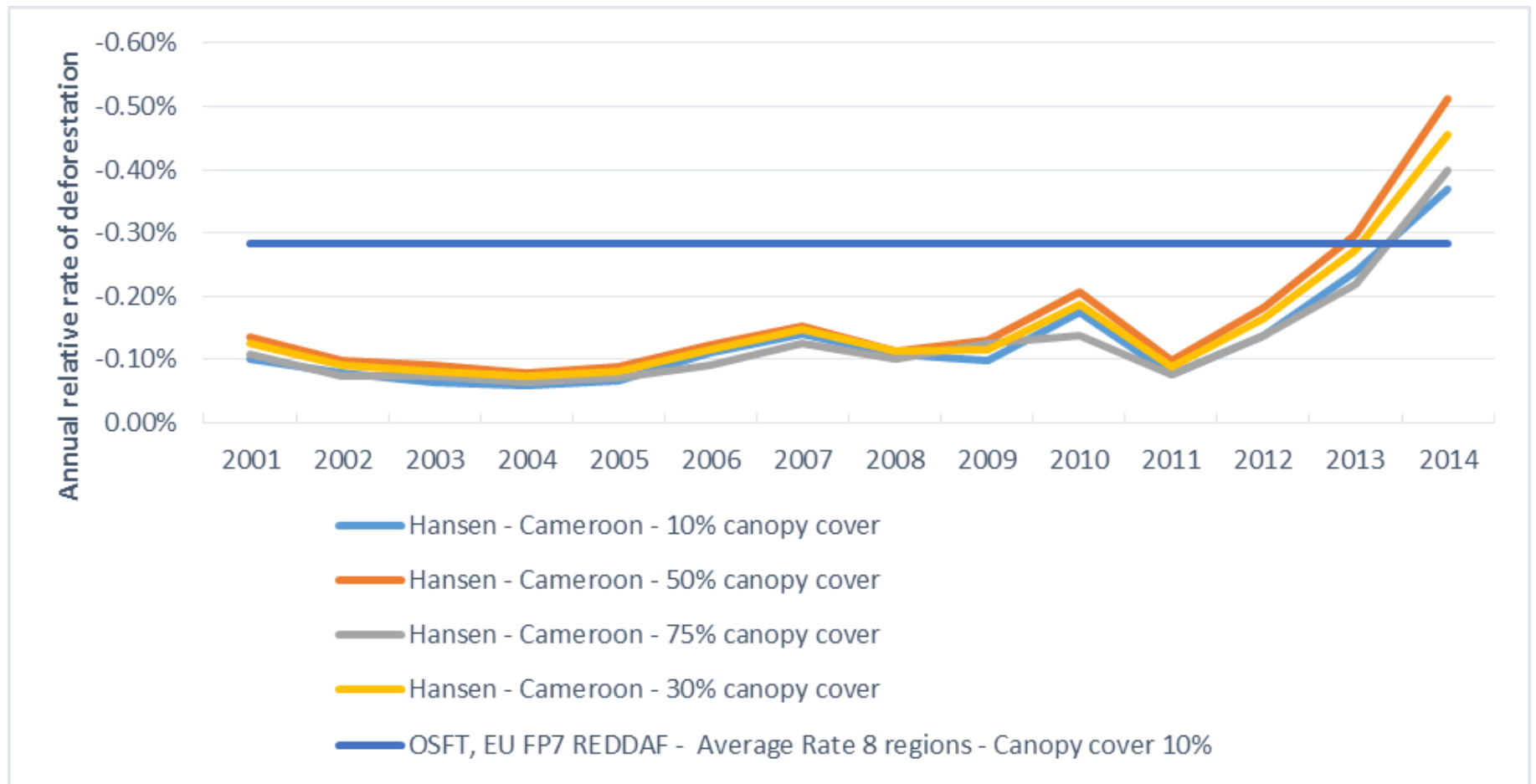
# Forest Cover – Global Estimates



# Impact of canopy cover thresholds

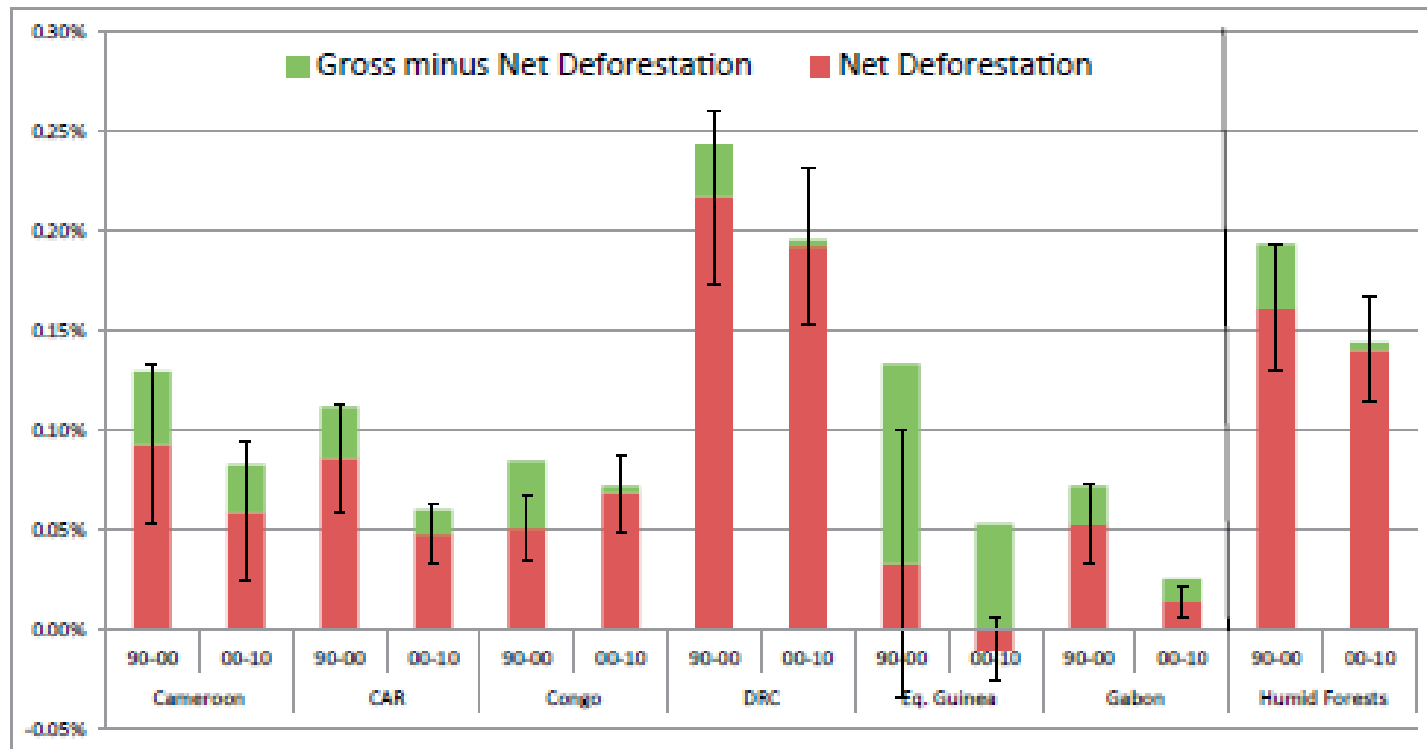


# Deforestation rates (1)





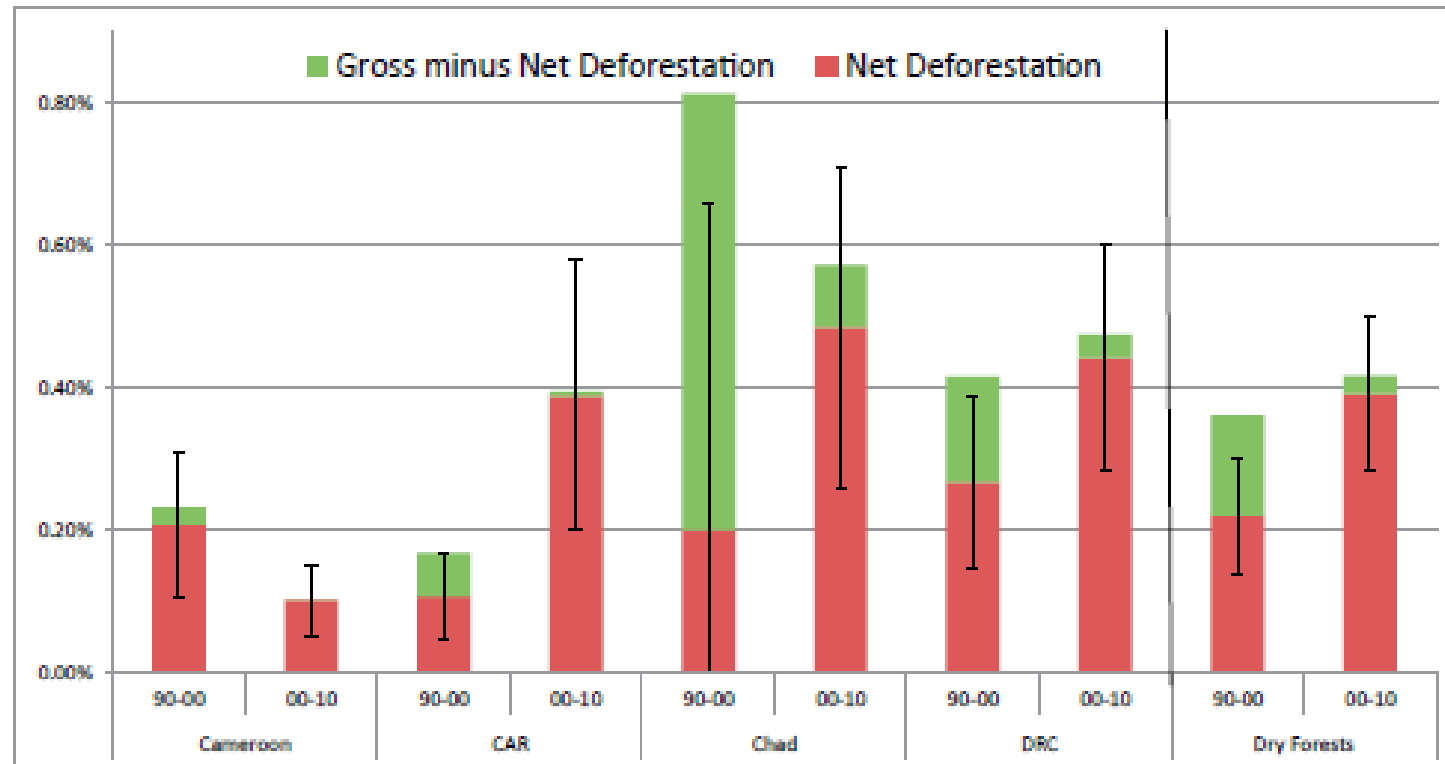
## Deforestation rates (2)



*Figure 1.7: Annual deforestation rates (gross and net) of Central African rainforests between 1990 and 2000, and between 2000 and 2010\* (with standard error bar). The numbers are presented in Annex 1A.*

*Sources: UCL (1990-2000) and JRC (2000-2010) \*Preliminary results*

# Deforestation rates (3)



*Figure 1.8: Annual deforestation rates (gross and net) of Central African dry forests between 1990 and 2000 and between 2000 and 2010\* (with standard error bar). The numbers are presented in Annex 1B.*

*Source: JRC \*Preliminary results*

# EF Comparison of some global datasets

		<i>Saatchi</i>	<i>Baccini</i>	<i>FRA2010</i>	<i>Mermoz</i>	<i>Avitabile</i>
<b>tC/ha</b>	Nyong_et_Mfoumou	328	298	124	284	445
	Nyong_et_So	297	253	120	248	356
	Haut_Nyong	368	363	133	305	533
	Dja_Et_Lobo	367	297	142	287	480
	Mvila	340	269	131	290	436
	Ocean	341	223	117	299	396
	Vallee_du_Ntem	346	254	131	288	453
	<b>ER project area</b>	<b>341</b>	<b>280</b>	<b>128</b>	<b>286</b>	<b>443</b>

# EF National Estimates

- NFI data for 2005
- Biomass estimations based on Brown
- Updated using Chave 2014

# Perspectives

- Consolidation of national MRV guidelines;
- Collaboration with UMD/Silva Carbon to map 2000, 2010, 2015;
- Image interpretation training with GEOFORAFRI;
- Discussions with OSFACO to update existing map historic mapping of remaining two administrative regions and 2015 update;
- Collaboration with USFS/FAO to analyse 2005 NFI data and make a proposal for a new NFI;
- Additional FCPF readiness grant for new NFI?
- Participation in MRV Training the trainers workshop.

# Conclusions

- Numerous datasets with varying specifications and results;
- Support countries in outlining national standards and norms to guide all initiatives;
- Improve coordination between donors and service providers;
- Strengthen national capacity to allow Users to make informed decisions about the utility of the different datasets.



**Merci pour votre attention!**

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