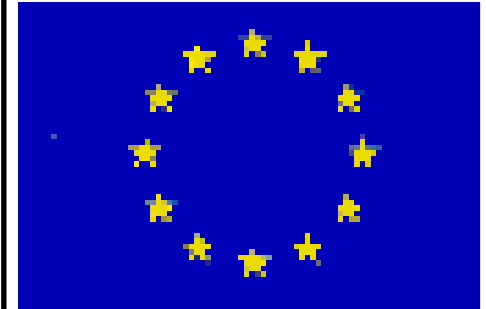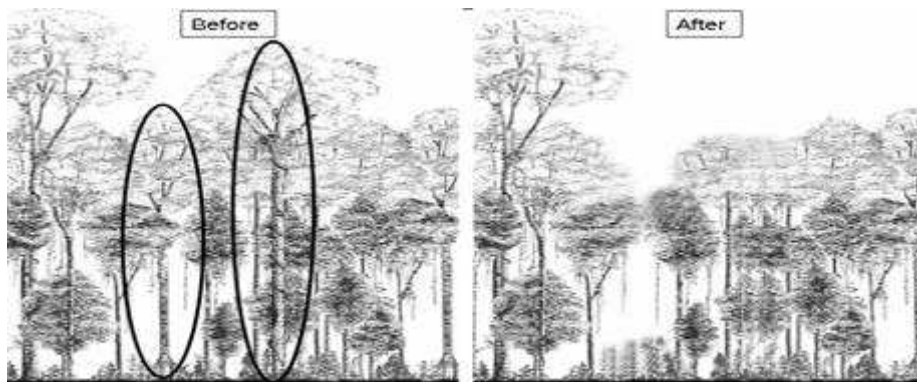# REDD and the EU
Experiences and challenges from demonstration activities

Tokyo UNFCCC workshop on REDD

25-27 June 2008

Denis LOYER. AFD - France - EU

OUTLINE

- Experiences from 4 demonstration activities
- For each project a short summary

in red : lessons to inform discussions on the 7 paras of the annex of SBSTA conclusions item 5 REDD .Bonn, June 2008

Inventories

1. Community based inventories
2. French Guiana

Demonstration activities

3. Congo basin logging concessions
4. BioCarbonFund

Conclusions

2

1.Community based inventories of forest and carbon

- In 25 locations (Africa and Asia), local communities, trained to map the boundaries and strata of their community forest, using GPS :
  - Inventory their forest through sample plots
  - Locally measured carbon assessment with relatively good accuracy is easily matched against remote sensing data,
  - Full cost of such inventories was 5 USD/ha
- **Estimation and monitoring**:
  - Robust ground estimates, transparent and verifiable
- **Reference emissions level** :
  - A base for historical emission level

1. Community based inventories of forest and carbon

- **Sub-national approaches** :
  - If enhanced, these activities could be a base for understanding displacement of emissions and part of a national approach
- **Effectiveness of actions for evaluation of actions**
  - How to expand this experience ? : capacity building, maintenance of the initiative
  - Costs no so high albeit being tested at small scale
- **Capacity building** :
  - Gives "ownership" to local communities and an incentive to reduce degradation and deforestation, as long as they get a meaningful share of the proceeds.
- **Co-benefits** :
  - Locally understanding forest cover is an opportunity to land-use planning at the village level

2. Monitoring deforestation in French Guiana by optical remote sensing

Deforestation drivers
- Slash and burn agriculture (0.3 to 1 ha),
- Extension of modern agriculture,
- Gold mining (legal or illegal),
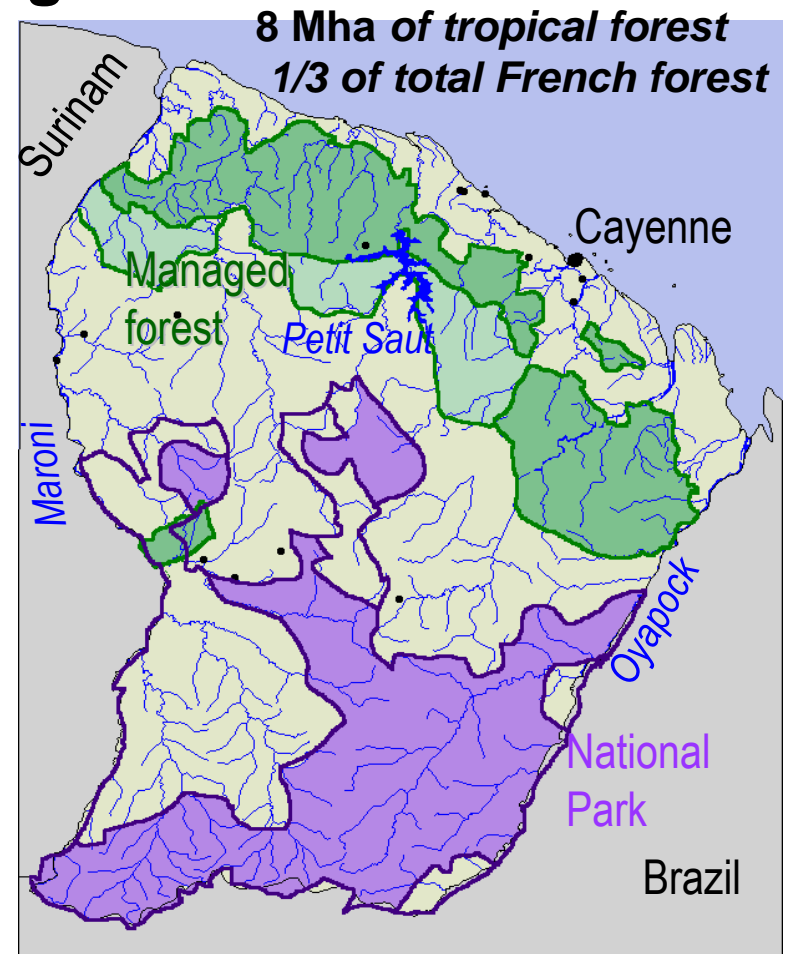- Petit Saut dam (hydroelectricity –30 000 ha)

Reporting
- France is an A1 party,
- Need to report under KP art. 3.3 and 3.4 (FM)

Constraints
- No land use survey (limited to mainland),
- Ground based survey impossible,
- Important cloud cover

Methods
- <u>Statistical inventory :</u> stratified sampling and photo-interpretation of satellite imageries (SPOT and Landsat),
- <u>Emission factors</u> (dendrometric expertise for above&below ground biomass + soil biomass)

8 Mha *of tropical forest*
1/3 of total French forest

Surinam

Cayenne

Managed forest

Petit Saut

Maroni

Oyapock

National Park

Brazil

2. French Guiana

- **Estimation and monitoring** :
    - Kyoto inventory based on satellite data, compliant /2006 IPCC guidelines
    - Reasonability accurate analysis = 4 500 ha deforested/pa (0,05%), standard error 12 %
- **Effectiveness of actions** :
    - Cost-efficiency : 0,08 €/ha (8,5 Mha : 0,48 M€/175 scenes + 0,22 M€/treatment)
    - Possibility to monitor forest degradation : Use of SPOT 5 data (2.5 to 10 m resolution) or Very High Resolution sensors (< 1m). Combination with radar data (sensitivity to biomass) and field data.
- **Key issue = sustainable access to high resolution satellite images around the world** :
    - SPOT Direct receiving stations : current implantations and new projects
    - High resolution optical sensors (DMC constellation, IRS, Future Sentinel II from ESA or Pleiades from CNES)
    - To combine Low and High resolution satellite imagery in a sampling strategy

3. Congo basin : economic development, biodiversity, carbon, wealth of nations

• 200 millions ha, 2nd tropical forest after Amazon.

• 45% of African forests, 20% of dense humid forests of the world. **Part of the regulation of global climate**.

• 350-450 t CO2eq/ha (in above-ground biomass)

• **mega-biodiversity**, 10 000 plants (40 % endemics), 400 mammals (chimps, gorillas, bonobos) and more than 1000 bird species.

• **economic and social wealth** : 6 % of GDP, 10 % of exports of the region. 60 % of GDP (except oil-mining) in Gabon, 50 % of exportations Central Africa Republic…

Sustainable management plans of logging concessions. Congo Basin

- A modern tool to manage forests
  - **The critical step : sampling inventory of forests and its analysis**
  - 3 parts : sustainable logging, biodiversity, social (communities)
  - 3 planning levels : global management up to 30 years, business model on 5 years and annual operational plan
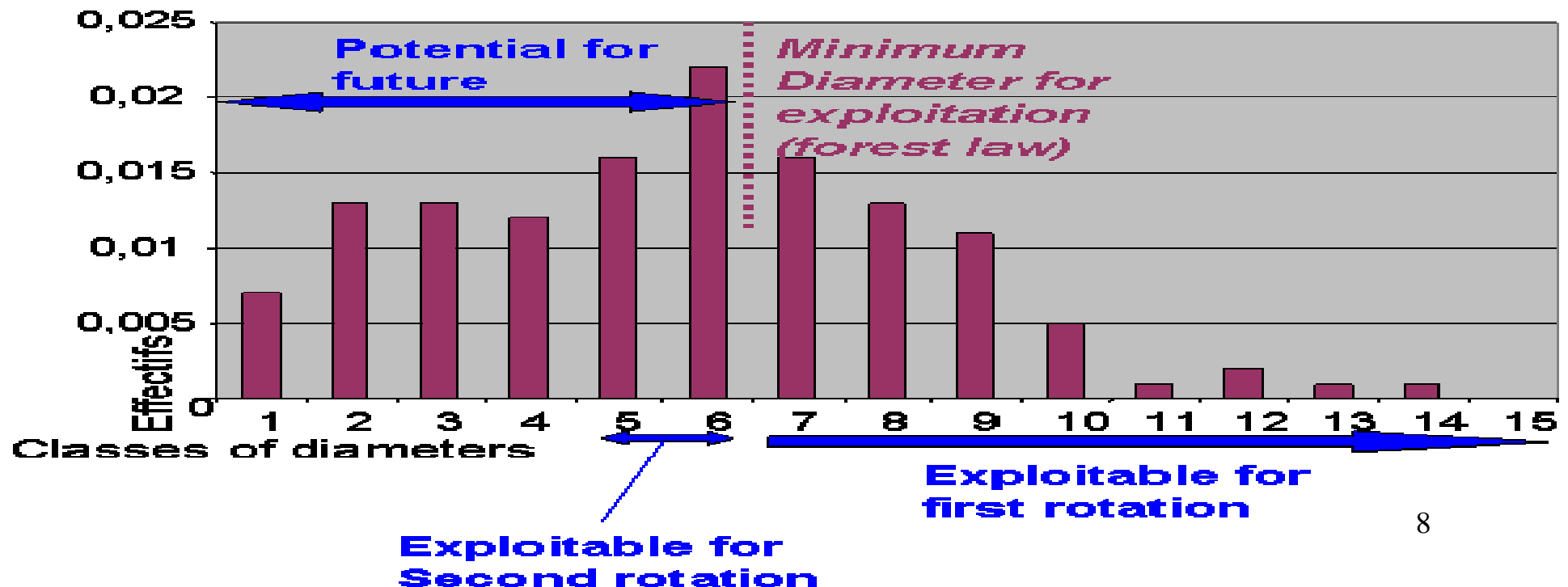
Sampling inventories of forests to design sustainable management plan
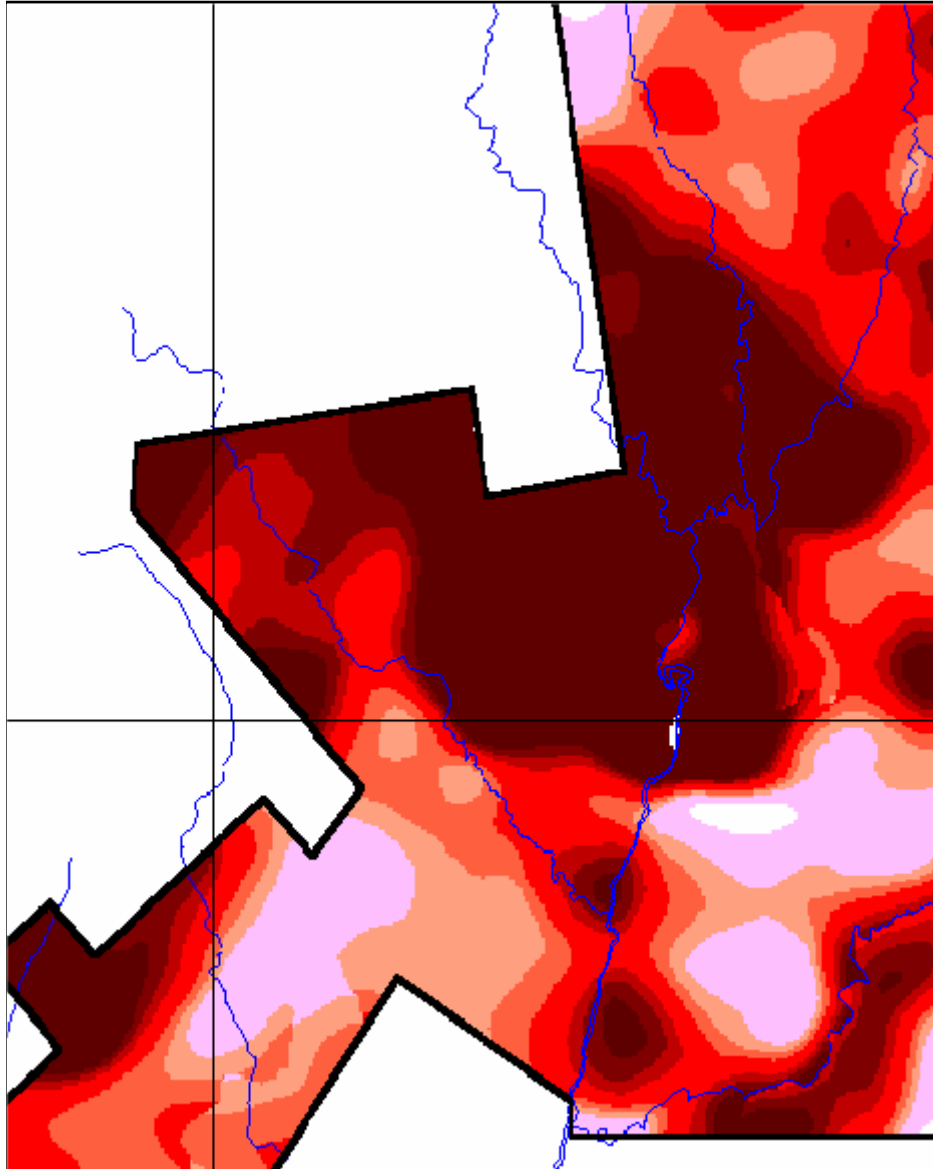
Bush meat issue tackled with NGOs

Low impact logging

FROM FOREST INVENTORY TO ASSESSMENT OF CARBON STOCK. Congo Basin

- Basal area variability
- Heterogeneity of the CO2 stock in forest
- Improvement of assessment accuracy
- Necessity to consider each stratum individually
- Relevance of stratified analysis
- Private and public entities are investing in methodologies for carbon assessment : **TEREA,** FRM, CIRAD, ONFI …

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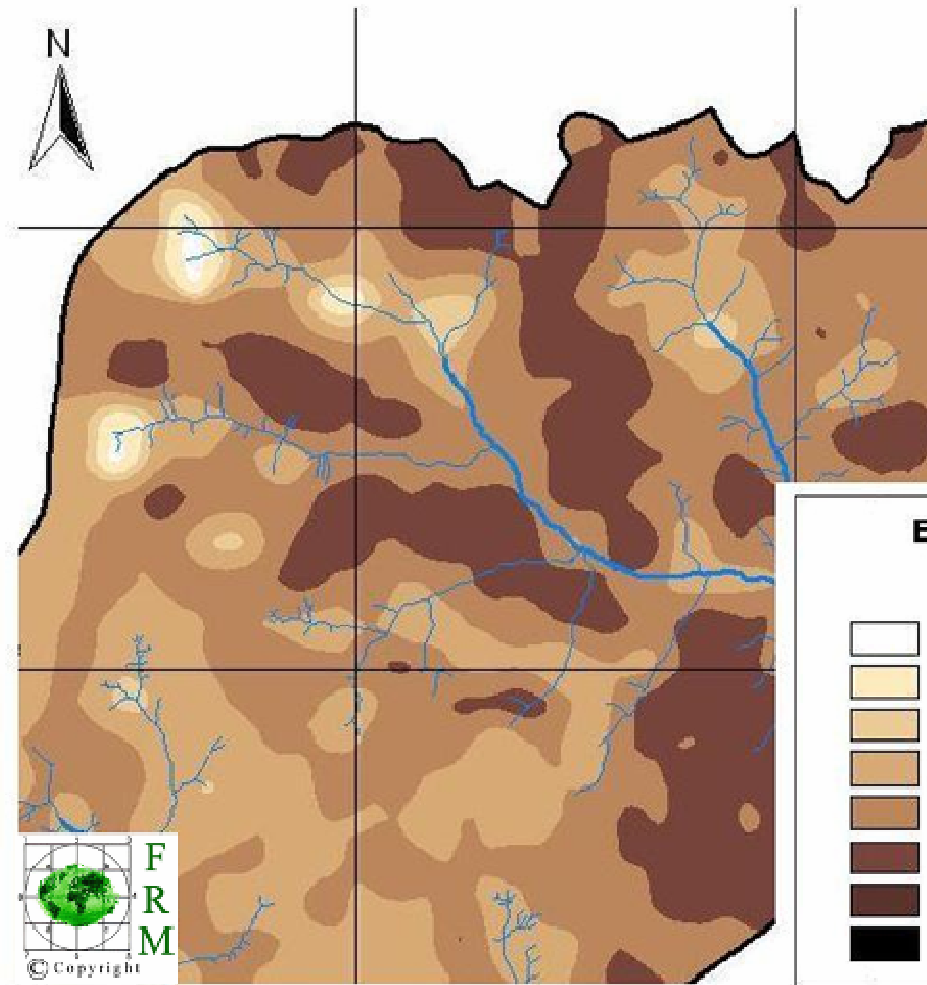
3. Sustainable management plans of logging concessions. Congo Basin

- **Estimation and monitoring** :
  - A very **robust methodology** (21 millions ha) for forest assessment, ground and remote sensing based,
  - Forest to carbon : on going methodology
  - Monitoring of management plans : role of the forest administration,
  - **Independent review of monitoring is useful** :certification (FSC) or independent bodies (IUCN) or expertise (TEREA, FRM, CIRAD, ONFI)
- **National/sub-national** :
  - Implementing national forest laws. A replicable model in other tropical forest areas. **A regional approach with COMIFAC**
  - **A step toward national approach**
- **Displacement of emissions** :
  - **An efficient model for large concessions** but still to be proven for medium scale
  - Protected areas could also have management plans (ECOFAC, WWF).

3. Sustainable management plans of logging concessions. Congo Basin

- **Capacity building** : forest management, carbon inventories, monitoring : training for 7 countries and for logging companies
- **Effectiveness of actions** with a **focus on reducing degradation** : reduced impact logging (RIL) = -30% carbon emissions/conventional. 60% of concessions are in a forest management plan approach : **a long term contract requested by modern forest laws**.

- **Financial implications** : **Costs** : 2 to 5 € / ha (inventory and planning over 30 years) **supported by the concession holder**.

- **Co-benefits** :
  - **The bush meat issue** (empty forest) : **WCS is working hard** with logging companies on this very risky issue, **and having success**.
  - **Insufficient outputs for communities ?** Albeit investments of private companies in hospitals, schooling.
  - **High economic impacts of a long lasting logging activity**. 12

4. BioCF : Madagascar Mantadia corridor

Objectives:

• Reduce carbon emissions, conserve native biodiversity, enhance human welfare and restore degraded land (cf. 2 CP13)

• Conservation, REDD, ecological restoration (reforestation), enhancement of carbon stock
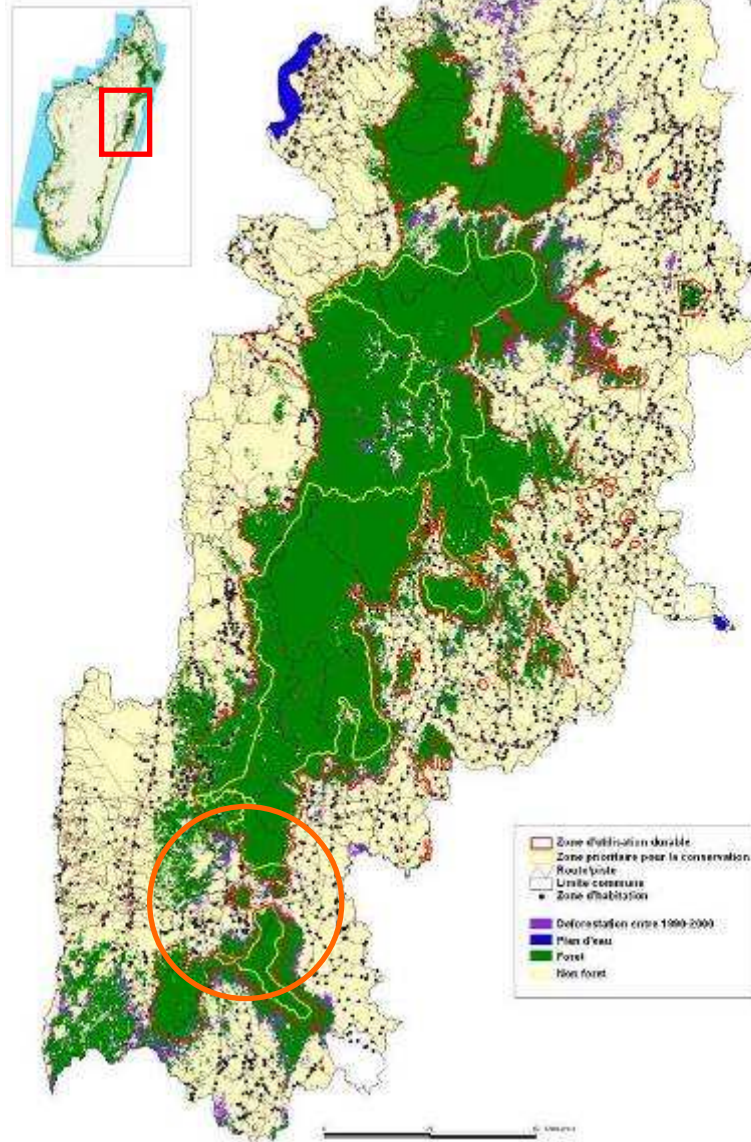
  • **REDD: 425,000 hectares**

  • **Reforestation: 3,020 hectares**

  • **Agroforestry, fuelwood gardens**

• Government led and with a large alliance of partners (CI, AFD, WB, USAID, ANAE)

• Restoration/ reforestation to produce 800,000 tCO2e of ERs

• REDD: projected to produce over 10 million tCO2e over 30 years

4. BioCarbonFund

- **Three main outputs** managed by "carbon unit" team of WB :
  - A **draft methodology** for REDD projects
  - **Testing the methodology on projects** that conciliate AR and REDD (Honduras, Colombia and Madagascar).
  - **Signing ERPAs for VER from REDD**. With financing of U$2.7 million, generating a total ER amount of 1.07 MtCO2e

- **Estimation and monitoring** : **methodology at project level** still under discussion (mosaic/frontier)

- **Reference emissions level** : **historical reference** from remote sensing datas (1,67%➜0,007% over 30 years).

- **A sub-national approach**, but **included in government's National Environmental Action Plan** that successfully reduced deforestation rates: 1990-2000 : 0.83% loss/year, 2000-2005 : 0.53% loss/year)

4. BioCarbonFund

- **Local displacement of emissions** : **can be tackled if local drivers of DD are addressed** (alternatives to slash-and-burn agriculture, land use planning, community development approach)

- **Capacity building** : **high start up costs, long term partnership of NGO Conservation International**

- Effectiveness of actions for evaluation of actions : accurate monitoring by remote sensing datas, convincing for carbon buyers. **20 similar projects**

- Co-benefits : High **"feel good value"** for carbon buyer (VER) = high biodiversity, communities, lemurs…

- Financial : **upfront payment** to match the cost of first years and build confidence

Conclusions 1/2

- **Estimation and monitoring** :
  - Estimation (satellite, or ground) of changes in forest cover (REDD, A/R or SFM) is well managed at local level and improving at national level (cf. Fr Guiana).
  - **Sustainable access to satellite datas** is critical : a Global Public Good ?
- **Reference emissions level** :
  - Madagascar example based on historical high level of deforestation (remote data sensing)
  - In Congo basin, future level of emissions to be considered : recent announcement of large palm-tree concessions on pristine forest, mining, increase of population, post-conflict …
- **Displacement of emissions**
  - Forest policies to address all drivers of changes in forest cover (agriculture, slash and burn, illegal logging, pasture …)

Conclusions 2/2

- **Capacity building** : large need and during several years ➔ **high start up costs,**
- **Effectiveness of actions** : examples of sustainable use of forest with positive impact on carbon sinks :
  - Sustainable management plan of logging and beyond pilot scale.
  - Communities can manage their forest's wealth if trained.
  - Importance to **combine all activities** : REDD, A/R, SFM, conservation, conservation agriculture (alternative to slash and burn), enhancement of carbon stocks …

- **Financial** : upfront payment of carbon (or policies) to match the cost of the first years and build confidence. Diversify the financing sources (national budget, ODA, private or policy loans, CER, VER, market).
- **Co-benefits** are **often the main drivers for the positive changes in forest** policies : economics, PES or high "feel good value" for carbon buyer (VER).

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A MESSAGE TO THANK YOU

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