

# MRV: Forest inventories

*Rosa C. Goodman*

REDD+ Measuring, Reporting and Verification –  
Science solutions to policy challenges

WWF – NL, Zeist, Netherlands

11 June 2013

## **Introduction**

- **Forester by training**
- **Ecology and Global Change group at Univ. Leeds – RAINFOR (Amazon forest inventory network)**
- **PhD – allometric equations and biomass estimates in SW Amazon**
- **2012 - Completed consultancy for WWF “Consultancy to establish the technical guidelines to complete a carbon baseline and design a measurement and monitoring system for carbon stocks in the region of Madre de Dios, Peru”**

## Reflection from Day 1

- Work on improving estimates for forest biomass & carbon
- Not totally attached to idea of very detailed C accounting
- *If* REDD is really about reducing emissions, then very detailed accounting will assist in that goal
- Purpose of scientific work: To monitor what is happening
- Political & social: How to make it happen
- Although extra work, significantly affects the ‘break-even’ point of \$\$/ton CO<sub>2</sub>e (Pelletier et al. 2012, For. Pol. Econ. 24:3-11)

## **REQUIREMENTS for a useful MRV approach?**

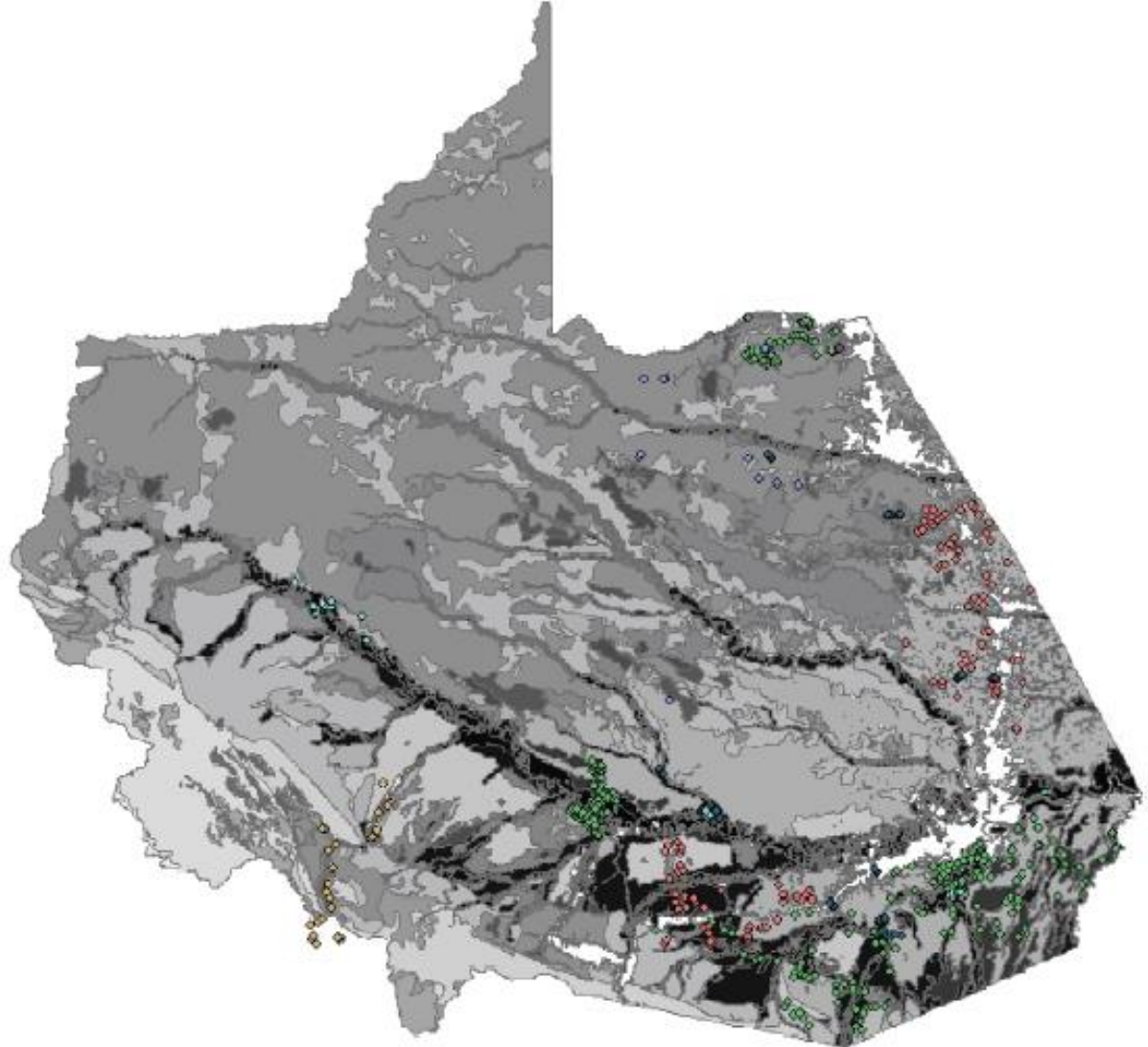
- **Categorize forest type**
- **Represent forest types across the landscape**
- **High quality data and consistency between organizations and inventories – dbh measurements and species ID**
- **Know which forest components to include (bamboo, herbaceous, lianas, small trees, CWD, fine litter, roots, soil)**
- **Balance data quality and plot size vs. quantity of plots and spatial coverage**
- **Document/mark inventories in field for verification**

## **What has been SUCCESSFUL?**

- **Many areas have many plots already**
  - **Many permanent plots are well marked and monitored – RAINFOR, AfriTron/TFORCES (African Tropical Rainforest Observation Network)**
  - **Winrock Calculator for no. plots**
  - **Forest inventory protocols**
  - **Nested plots for different forest components**
- } Still not quite perfect & will vary

## What has NO

- Consistency between
- Forest type classification
- difficult to find
- Representatio
- Rules for which
- Quality and ve



## **Suggest any explanation for success or failure?**

### *Cons:*

- Many different organizations working with different aims (many retrospectively applicable to REDD and C monitoring)
- No clear guidance for REDD

### *Pros:*

- Large organizations taking initiatives to standardize protocols (e.g., Winrock and WWF)
- Local organization (e.g., Mesa REDD in Madre de Dios)
- Enthusiasm from many individuals and institutions

## Gaps

- Detect and quantify C stock changes from degradation – so difficult to sample in ground inventories (needs to be so extensive and intensive)



## **To do now:**

- **Decide which protocols to use. If not happy with a current one – who will make a new one?**
- **Create definitive guidelines for**
  - (a) forest type classification – relevant to C stocks and potential C stock changes**
  - (b) forest inventory protocol (ie, size and shape of each nest)**
  - (c) which components to include**
- **Integrate more with remote sensing**
- **Training: field inventory methods, data processing, and database management**