

Participatory Carbon Monitoring

Providing
full and effective participation
to
indigenous people and local communities



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What is PCM?

- Participatory Carbon Monitoring is an approach to collect large amounts of simple data on forest resources through the involvement of local communities participating in a National REDD+ Program
 - Applies particularly to **enhancement of forest carbon stocks**



Measuring DBH in Tanzania



Why PCM?

- **Changes in carbon stocks** over an accounting period will likely be **too small** to be detected accurately from satellites
- A NFI will collect accurate data, but with insufficient resolution to **capture local changes in biomass**
- Mobilizing communities can be more **cost-effective** compared to the use of professional surveyors
- Understanding of carbon monitoring and self-assessment of performance will work as an **incentive** to promote further improvements in forest management
- Knowledge of performance will increase the likelihood that **carbon benefits** generated at the national level will be **distributed** down to communities at **the local level**



How to implement PCM?

Stage 1

- Preparation
Training PCM facilitators - forming PCM teams

Stage 2

- PCM orientation session
Training in sampling and data recording

Stage 3

- PCM field campaign
Measuring the forest - setting up the sample plot - taking measurements

Stage 4

- Follow-up and synthesis session
- Data management and analysis





Awareness-raising event in Mali



What data to collect?

- Two kinds of data can be collected
- On ***Activity data***
 - Extent of the forest area and delineation between different types of forest
 - Measure initially and thereafter when changes take place
- On ***Emission factors***
 - Tree species and DBH on small plots
 - Litter, dead wood
 - Measure regularly (once a year?)
- If properly planned, measurements can be made when other forest management work is taking place



How much data to collect?

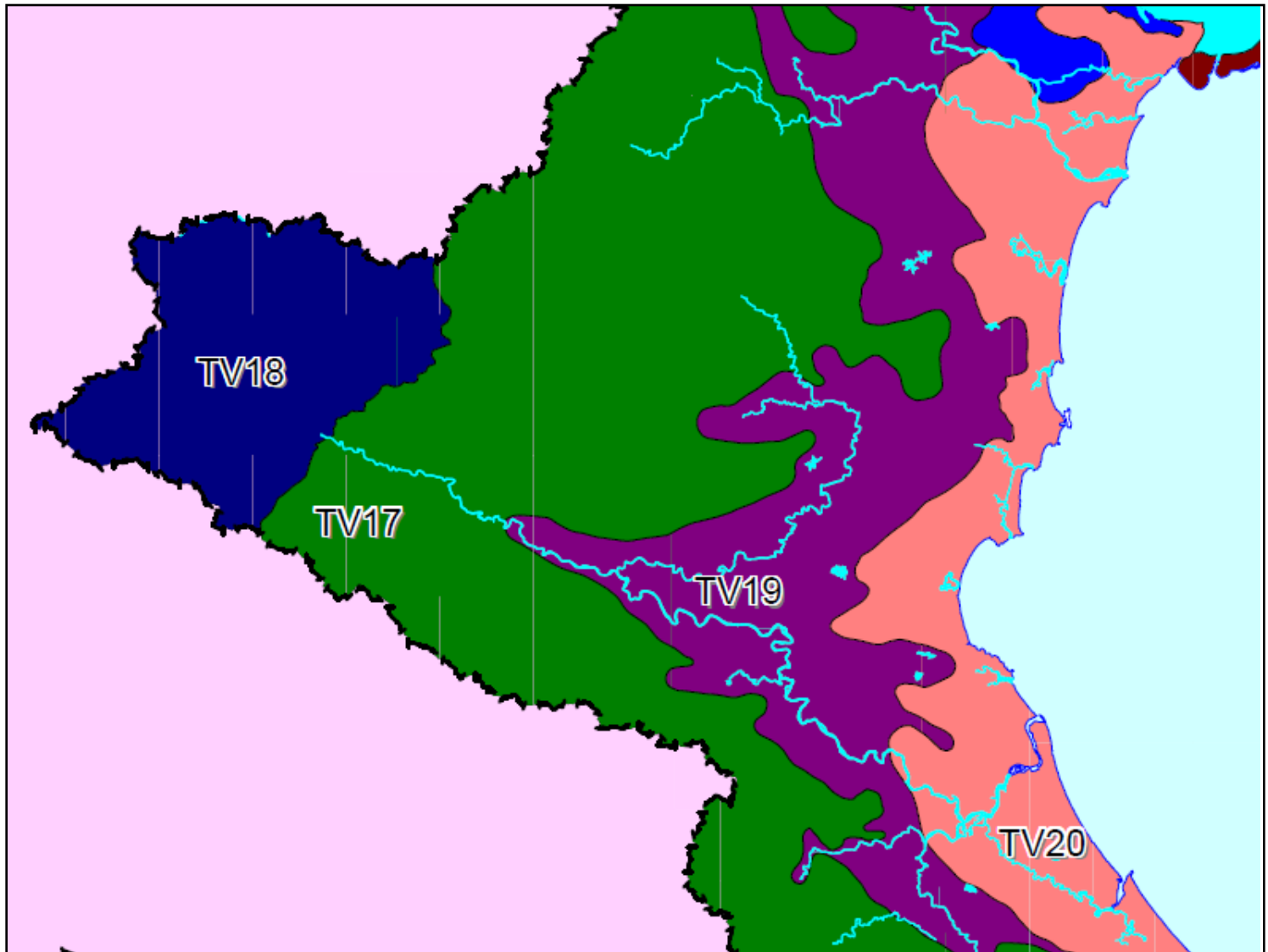
- Objective criteria: follow IPCC guidelines
 - Stratify the forest into homogeneous units
 - Calculate how many samples to collect to arrive at an estimate with a known error
 - Collect that many samples per forest unit
- Practical criteria
 - Each participant (community) should collect some data every year
 - Use rule of thumb: 1 sample every 10 ha?
 - This should still satisfy IPCC requirements
- Objective is not to collect enough data to satisfy the IPCC requirements but to empower the participant and to establish relative performance



Complementing PCM

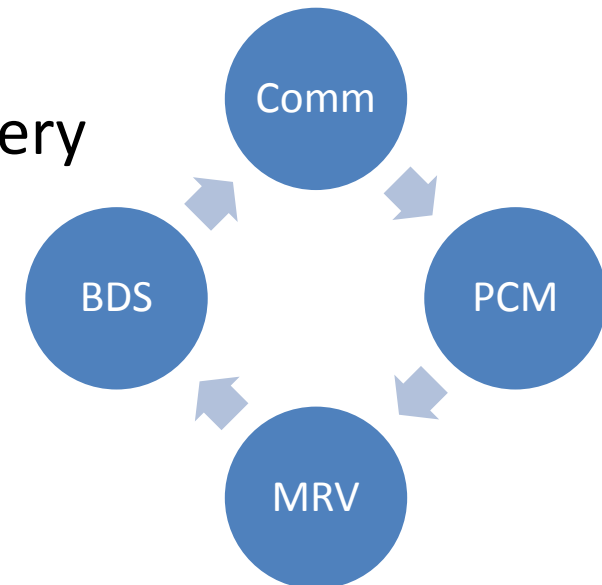
- In PCM very basic data on the forest is collected which alone is not enough to calculate biomass or carbon
- Professional forestry organizations (e.g. NFI) have to provide the expert knowledge to convert to biomass and carbon
 - Conversion factors: biomass expansion factor, root-to-shoot ratio, wood density, etc. (IPCC *stock-difference* or *gain-loss* method)
 - Allometric equations: $ABG = f(DBH, \{H\})$ – best locally developed (*Tier 3*) but can use published (pan-tropical) equations too (*Tier 2?*)
- Always stratify your forest!





Linking PCM with MRV

- The PCM data should form an integral part of the National MRV System
- PCM + NFI = fine-grained assessment of emissions
- PCM requires independent validation
 - Professional forest surveyors
 - High-resolution satellite imagery
- Benefit distribution is likely to be linked to the MRV



P is for Participatory

- PCM is specific to the monitoring of biomass but there are other forms of participation
- PCM should be part of a comprehensive strategy to provide **full and effective participation to indigenous people and local communities**
- Other participatory (monitoring) activities can include
 - Implementing the *eligible activity*
 - Safeguards, in particular *conservation of natural forests and biological diversity, other social and environmental benefits and the risk of reversals*
 - Benefit distribution



Examples of PCM

- PCM was born out of the experience with Community Forest Management
- PCM is as old as REDD+
- PCM has been piloted in many countries: Mexico, Mali, Guinee-Bissau, Tanzania, India, Nepal, PNG
- UN-REDD is piloting a PCM methodology in Vietnam





PCM works!

Laying out a sampling plot in Papua New Guinea



Resources & Acknowledgements

- Resources
 - KTGAL web site at <http://www.communitycarbonforestry.org/>
 - GOFC-GOLD REDD Sourcebook
 - PCM Manual developed for Viet Nam at <http://www.vn-redd.org/>
 - Other online manuals
- Acknowledgements
 - Slide 2: Picture by E. Zahabu
 - Slide 3: adapted from M. Skutsch and M. McCall
 - Slide 7: Eco-region stratification by RCFEE for the UN-REDD Viet Nam Programme

