

Participatory data collection and management

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Community Forest Management

- The management of local forest resources by organized community groups has proven to be very successful
 - Ownership
 - Long-term commitment
 - Social / Cultural pressure to protect the forest
- For REDD+ involvement of CFM groups addresses the UNFCCC *safeguard* of “full and effective participation of relevant stakeholders”



Secondary uses of the forest



- Many communities rely on the forest for sustenance or livelihood
- Such uses may be combined with REDD+
 - They may be complimentary – non-durable goods such as fruits, herbs, leaves
 - They can increase the “productivity” of the forest – higher total income from the forest
 - Together they can be a viable alternative for deforestation or forest degradation
- Such uses must be documented and monitored
 - REDD+ must contribute to sustainable development and poverty reduction
 - Promote sustainable management of forests
 - *Safeguard* on conservation of natural forests and biodiversity



Participatory Carbon Monitoring in the National REDD+ Program

- At the local level REDD+ credits have to be earned
 - Reduction in deforestation and forest degradation
 - Enhancement of carbon stocks, sustainable management of forests
- In order to bring about the required changes in forest management the local people have to be engaged
 - Awareness raising
 - Income generation from REDD+ and sustainable use of forest resources
 - Participation!
- Involvement of local people is required for many other reasons as well
 - It is the ethical thing to do – the forest is their livelihood
 - The UNFCCC requires the “full and effective participation of relevant stakeholders”
 - The United Nations Declaration on the Rights of Indigenous Peoples requires consultation with and involvement of indigenous peoples

Carbon assessment by communities

- With very little training and support, communities can accurately assess basic parameters of the forest
 - Tree count
 - Species identification
 - DBH measurement
- Cost of assessment is between \$1 ~ \$4 per hectare per year
- Potential for collecting large volumes of data



Supplementary data on forest resources

- The data that the communities collect is relatively basic
- Supplementary services and data collection by a professional party can increase accuracy
 - Stratification of the forest, determination of number and location of sampling plots
 - Wood density, free branch height, total tree height
 - Development of allometric equations
- Large-scale data collection opens up opportunities for statistical analysis and filtering of data





Data collection procedures

- Communities do not need much training to collect data
- Plot and data management requires support
 - Support can be provided by NGOs that serve multiple communities
 - Equipment to support data collection is ever more accessible and affordable: GPS, PDA, smart phone
 - NGOs can help share knowledge and equipment between communities
- The national Forest Administration can support this process and provide data management facilities



Data to be collected

- For allometric equations, the typical data are:
 - Diameter at breast height
 - Tree count
- Data should be collected in sampling plots to which the local community already has access
 - Provide labour in return for benefits – money, use of forest resources
 - This depends very much on tenancy rights, economic opportunity, etc
- Data can be collected on a regular basis
 - It is preferable to do so more often than strictly required
 - Create awareness, maintain involvement and experience
 - Extra data can be used for quality control
- Other data could be collected as well
 - Use of the forest resources by the local population
 - Substitution of non-renewable resources by forest products
 - Ownership, use rights, cultural and social importance



Data quality assurance

- Data has to be checked for consistency over time and spatially
 - Remove measurement or reporting errors
 - Check if there are consistent errors from a location
 - Is the stratification wrong?
 - Does the community receive support or training?
- Data are grouped in large homogeneous units for reporting
 - Multiple measurements give indication of variability and accuracy of the measurement
 - If the accuracy is too low:
 - Refine the stratification
 - Add more measurements
 - Improve quality of measurements
- Data quality assurance requires specially trained staff
 - Forest ecologists: stratification, evaluation of measurements
 - Statisticians: error analysis, sampling scheme design, QA indicators



PCM and RS

- The data that are collected by local communities are collated at higher levels in the national hierarchy and ultimately used to compute national emission reductions and enhanced removals
- Validation at the international level may very well require remote sensing
 - Objective methods exist
 - Uniformly applicable
 - Repeatable
 - Potentially lower transaction costs
- National governments also want independent validation mechanism



QuickBird image of oil palm area in West New Britain province, PNG



Access to data

- Even if all the data is uploaded to a national database, access should be given to third parties to support their efforts
 - Provincial Forest Departments
 - Planning
 - Evaluation of performance
 - Distribution of benefits
 - District Forest Department
 - Planning of activities
 - Support for communities
 - Communities
 - Overview of performance
 - Insight in benefits
 - Society at large
 - Overview of achievements
- Access can be provided through a web site or with brochures, newsletters, etc



Conclusion

- Participatory Carbon Monitoring is a cost-effective way to collect large volumes of basic data on forest properties
- The same people that collect the data also implement REDD+ - activities can be combined
- The large volume of data makes it easy to do quality control
- The basic data must be supplemented by professionally collected data to convert to biomass

