

Counting the forests and the trees

Workshop report from ACIAR FST/2004/061 Workshop

“Improving inventory for timber and carbon in Papua New Guinea”

1st – 3rd April, 2009, PNGFRI Meeting Room 2

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Forests in PNG have many different values and uses, for forest landowners and the wider community. Forests provide food, medicines, building materials, clean water and catchment protection, recreation and spiritual values. The right species in the right locations can be managed to provide timber for sale. Maintaining or increasing carbon stocks in forests play a role reducing global greenhouse gas emissions. The impact of timber harvesting on these values and the capacity of community forest owners to manage forests to produce these different values are important questions for the future of forest management in PNG.

How do you measure different values in forests? This was the question posed at a workshop on 1-3 April 2009 organised by PNG Forest Research Institute, The University of Melbourne and the Village Development Trust. The workshop is part of a 3 year project, ‘Assessment, management and marketing of goods and services from cutover forests in PNG’ funded by the Australian Centre for International Agricultural Research. Over 25 people from NGOs, universities, forest industry and government attended, including representatives from the PNG Forest Authority and the newly-formed Office of Climate Change and Environmental Sustainability.

Participants were provided with an update on project activities, developments in the application of remote sensing and new approaches to ground based inventory to more efficiently assess timber and carbon stocks. The project supports re-measurement, data entry and analysis of over 135 permanent sample plots (PSPs) established in forests across PNG over the last 17 years. These plots now provide valuable data to assess the recovery of forest following harvesting and growth in timber and changes in carbon stocks.

The project is undertaking assessment in four case study areas: at Sogi in Madang, Kwan in Chimbu and the Yalu and Gabensis communities in Morobe province. Traditional stripline plots are the dominant method of forest inventory in PNG. However, this approach is time consuming and statistically unreliable. Forests can be sampled more efficiently and reliably using an approach of randomly-distributed, variable-radius plots. By linking satellite and ground plot data, new information can be generated for better community decision making about forest use. Project researcher Dr Julian Fox presented images from remotely sensed data showing the distribution of merchantable timber and carbon stocks across the Sogi area.

Estimation of carbon in forests requires different types of calculations than those used for timber. Carbon constitutes about 50% of the mass of wood, leaves, branches, roots and dead wood. Carbon is also present on the forest floor and in soil organic matter.

Using published values from the literature and statistical calculations from PSP data, project participants learnt how to calculate carbon stock in trees and forests.

Payment for managing forests for carbon offsets requires an appropriate policy framework and Lois Nakmai from the Office of Climate Change and Environmental Sustainability explained developments in government policy and the activities of the Office. The workshop discussed tradeoffs between managing forests for timber or carbon and explored the use of a spreadsheet model that might be used to analyse these trade-offs.

Participants left the workshop much better informed about different approaches to forest inventory, the value of PSP data for providing information on long term trends in forest conditions, methods for estimating forest carbon stocks and the issues and challenges in implementing payments for reduced greenhouse emissions in forests. We thank Ms Janet Sabub for her excellent support in workshop organisation and her ongoing contribution to the project.

More information on the project can be found at this website:

http://www.forestscience.unimelb.edu.au/research_projects/ACIAR%20Projects/PNG%20Project/Index.html



Workshop participants involved in a carbon/timber trade-off group exercise



Participants are introduced to the prism wedge for rapid forest carbon and timber inventory in Lae Botanical Gardens (pictured here; Yati Bun, Goodwill Amos, Francis Inude, and Ben Sone)



Workshop participants at Papua New Guinea Forest Research Institute. Left to right; Julian Fox, Rod Keenan, Thomas Warr, Theresa Phillips, Ben Sone, Francis Inude, Peter Dam, Janet Sabub, Pamela Avusi, Lois Nakmai, Emaus Toubu, Patrick Nimiago, Kunsey Lavong, Yati Bun, Frank Alkam, Ruben Taminza, Mex Peki, Kentis Igai, Raymond Yauieb, Frank Asok, Goodwill Amos, Bruno Kuroh, Francis Hurahura.