Building community resilience to climate change: IGES-FPCD Community-based Forest Monitoring Project

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Basic argument

- Conservation of forests critical to achieving resilient societies
- Exclusion of local communities from forest management is one reason why Governments in many developing countries have been unable to manage forests sustainably
- Papua New Guinea (PNG), where forests are under increasing threat from logging and conversion, is no exception. Communities own almost all the forests in PNG, but there is no effective policy support for community-based forest management
- As part of a model of community-based forest management, forest assessment and monitoring by trained community teams can generate scientifically-valid data for communities to explore alternative forest management options

Why forests are important in PNG to community resilience

- Forests cover about 60% of PNG and about 80% of the population live in rural communities that have close relationships with the land and natural resources
- Rural communities generally depend upon forests for some of their nutrition (especially protein), construction materials, fuel, materials for cultural activities, traditional medicines, and broader environmental services, such as drinking water and soil conservation

Direct causes of forest loss in PNG

- **Conversion for commercial agriculture**: From July 2003 – January 2011 development rights to 5 million ha, or 11% of total land area, issued to developers
- **Unsustainable logging**: Good forestry controls, but weak enforcement
- **Shifting agriculture and small-scale cash cropping**: Increasing pressure on forests due to population growth: 2.37 % per year for 2005-2010 (United Nations Population Division 2010)

Weak governance key underlying driver of forest loss in PNG

- Politicians seeking election promise their constituencies development through logging and commercial agriculture, while controls to ensure sustainability of natural resource exploitation and long-term local benefits are not enforced (Scheyvens 2012).
- The government has sought to promote development by increasing its control of land and natural resources. (97% of the land is held under systems of customary tenure, involving clans or kinship groups)
- The dominant development discourse is one in which development is seen as something brought to rural areas from the outside, rather than something that rural communities, enabled by government, achieve through their own endeavours.

IGES-FPCD Community-based Forest Monitoring Project

- About the organisations
  - The Institute for Global Environmental Strategies is a Japan-based institute that conducts strategic policy research on key environmental issues affecting the region, including climate change and forest management
  - The Foundation for People and Community Development is a national NGO with core expertise in forestry that provides capacity building and other support services to communities interested in managing their forests themselves

http://www.iges.or.jp/en/index.html

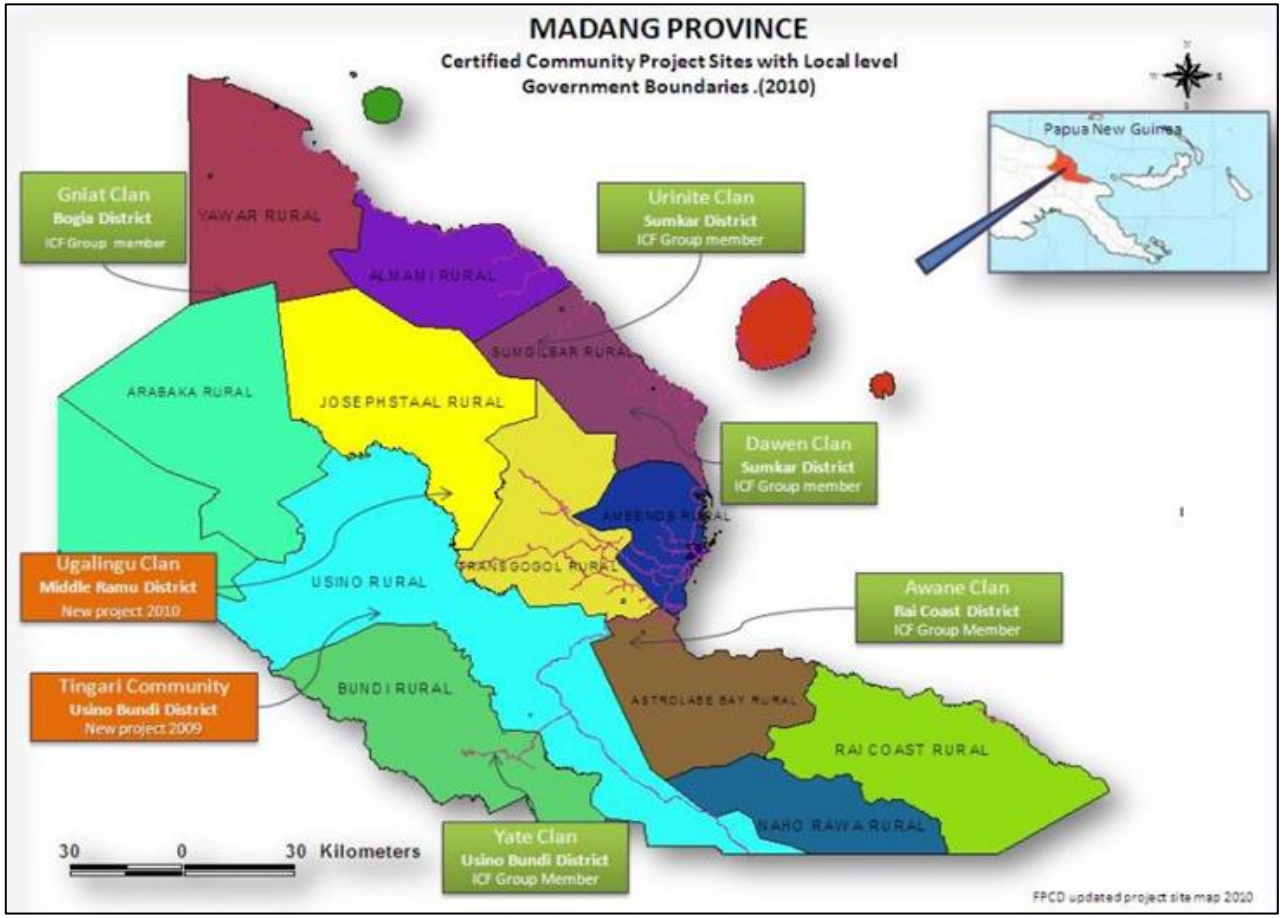
Celebrating 20 years of Community Development Service in Papua New Guinea - 1993-2013

http://www.fpcd.org.pg/

Background and objectives of CFMP

- FPCD has been supporting clans in Madang province to manage and sustainably harvest trees in their forests using portable sawmills and in line with Forest Stewardship Council principles
- IGES and FPCD are developing a monitoring system for these communities to:
  - ensure their timber harvesting is sustainable
  - assess the feasibility of communities implementing REDD+ in their forests

Project sites



Total area: 9,117.84 ha, consisting of 5 separate forest areas owned and managed by communities

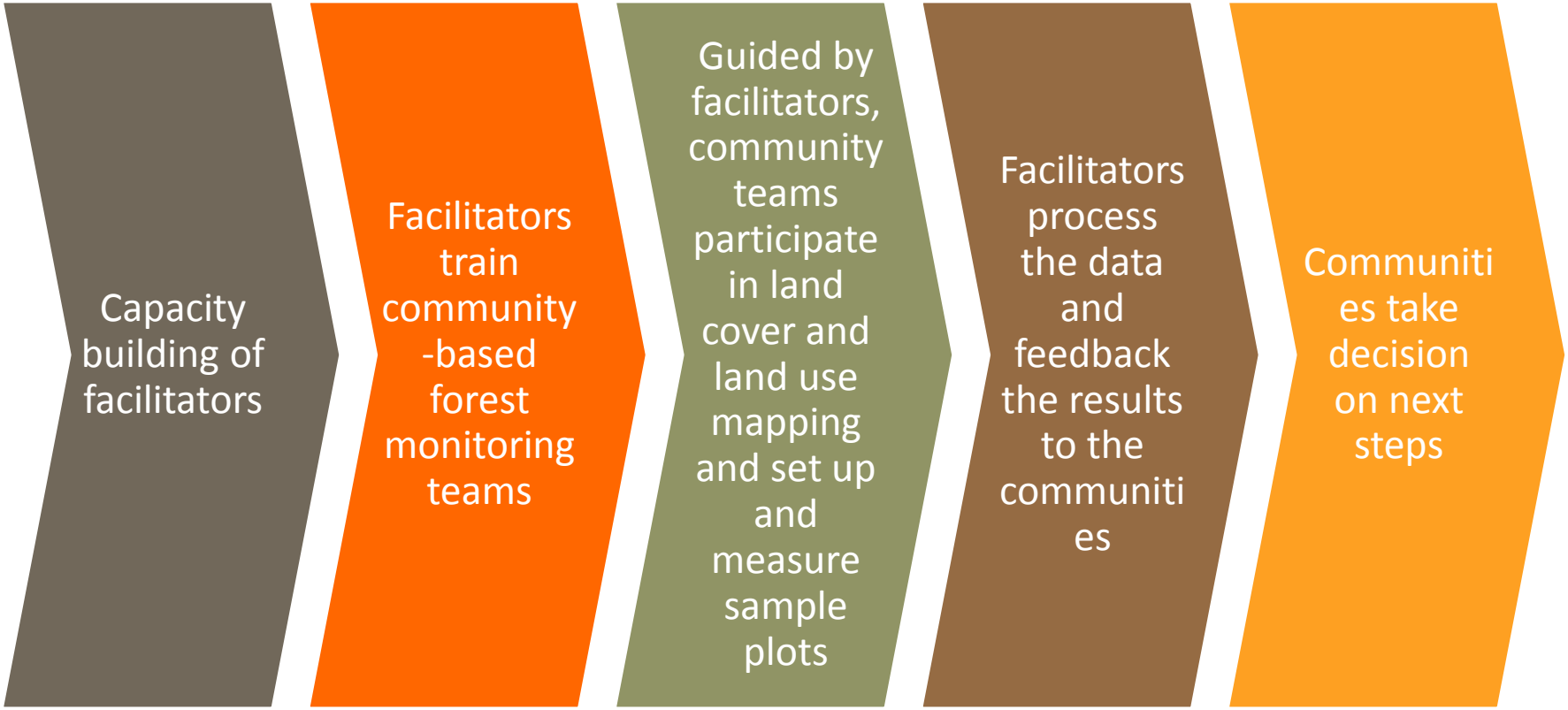
A quick backgrounder on REDD+

- Parties to the UNFCCC are designing a global system known as REDD+ to provide financial incentives to developing countries to reduce CO2 emissions from deforestation and forest degradation, as well increase carbon stocks in existing forests.
- Why? Cannot keep climate change below dangerous levels without tackling deforestation (Eliasch 2008)
- The UNFCCC Parties have agreed on a set of safeguards for REDD+, including the full and effective participation of local communities and indigenous peoples in REDD+ actions
- The CFMP provides estimates of forest carbon stocks, which can then be used to assess whether REDD+ is feasible at the project sites

What is monitored under the CFMP and how

- Scope of monitoring
  - Forest timber stocks
  - Forest carbon stocks
- Monitoring method
  - Land cover and forest strata are mapped using remote sensing and ground surveys
  - Representative sample plots are established and trees in the plots are measured
  - Tree measurements and mapping provide estimates of timber stocks; some additional measurements are required to estimate carbon stocks

Process of building capacity of communities on forest monitoring

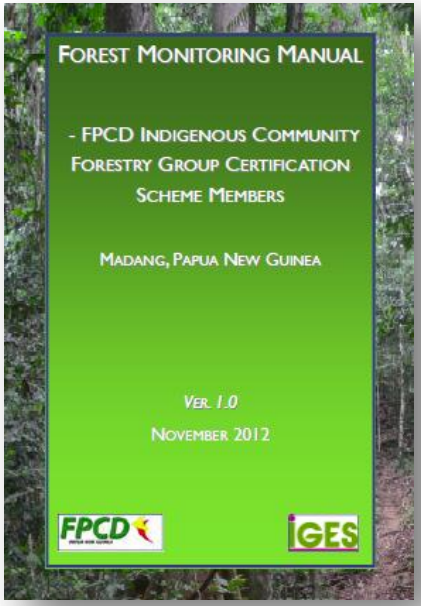


Roles of facilitators and communities in each step of the monitoring

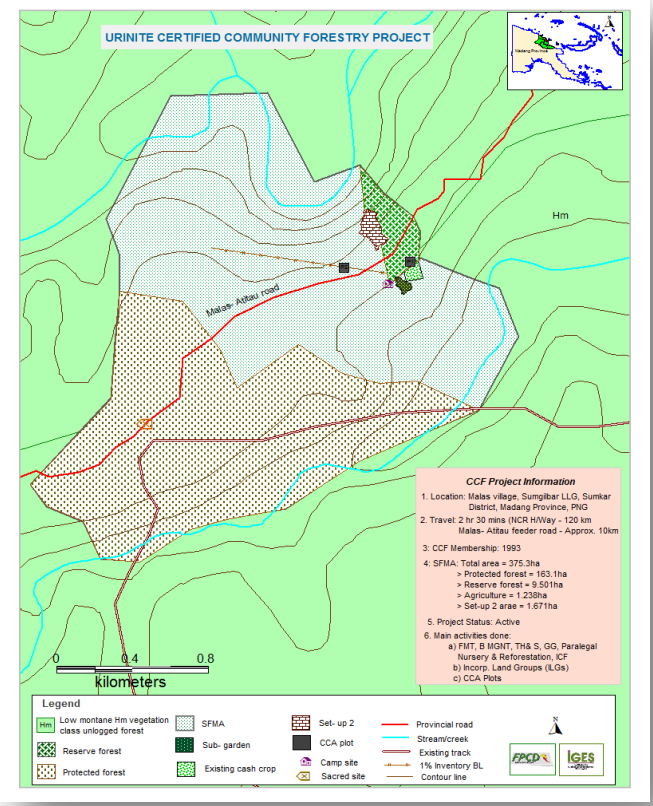
Steps	Facilitators	Community
Land cover / land use mapping	Remote sensing and GIS; Train communities on map reading, GPS use, etc.	Provide sketches of land use; Assist with interpreting features in satellite images
	Boundary demarcation; Ground truthing	
Forest measurement and data recording	Create field manual; Design the field sampling; Train communities and provide guidance during field measurement	Set up sample plots, measure trees, record the data
Data processing and next steps	Data processing; Feed back results; Advise on management options	Decide next steps

Training the community forest monitoring teams

- Training conducted on concepts in the “classroom” and on use of equipment through practical exercises
- Simple field manual to guide the community-based forest monitoring



Land cover / land use mapping



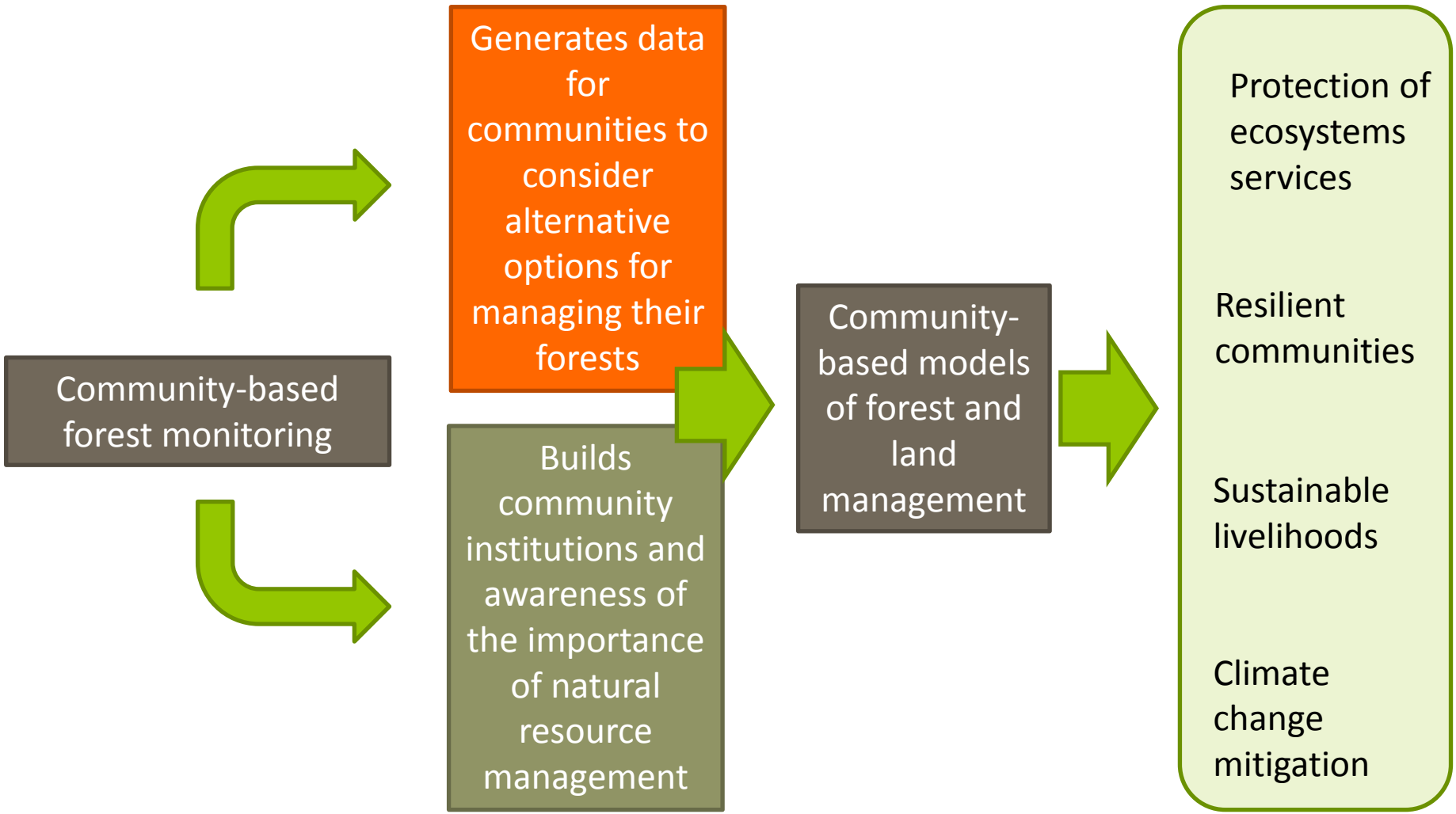
Plot set up and measurement

Results

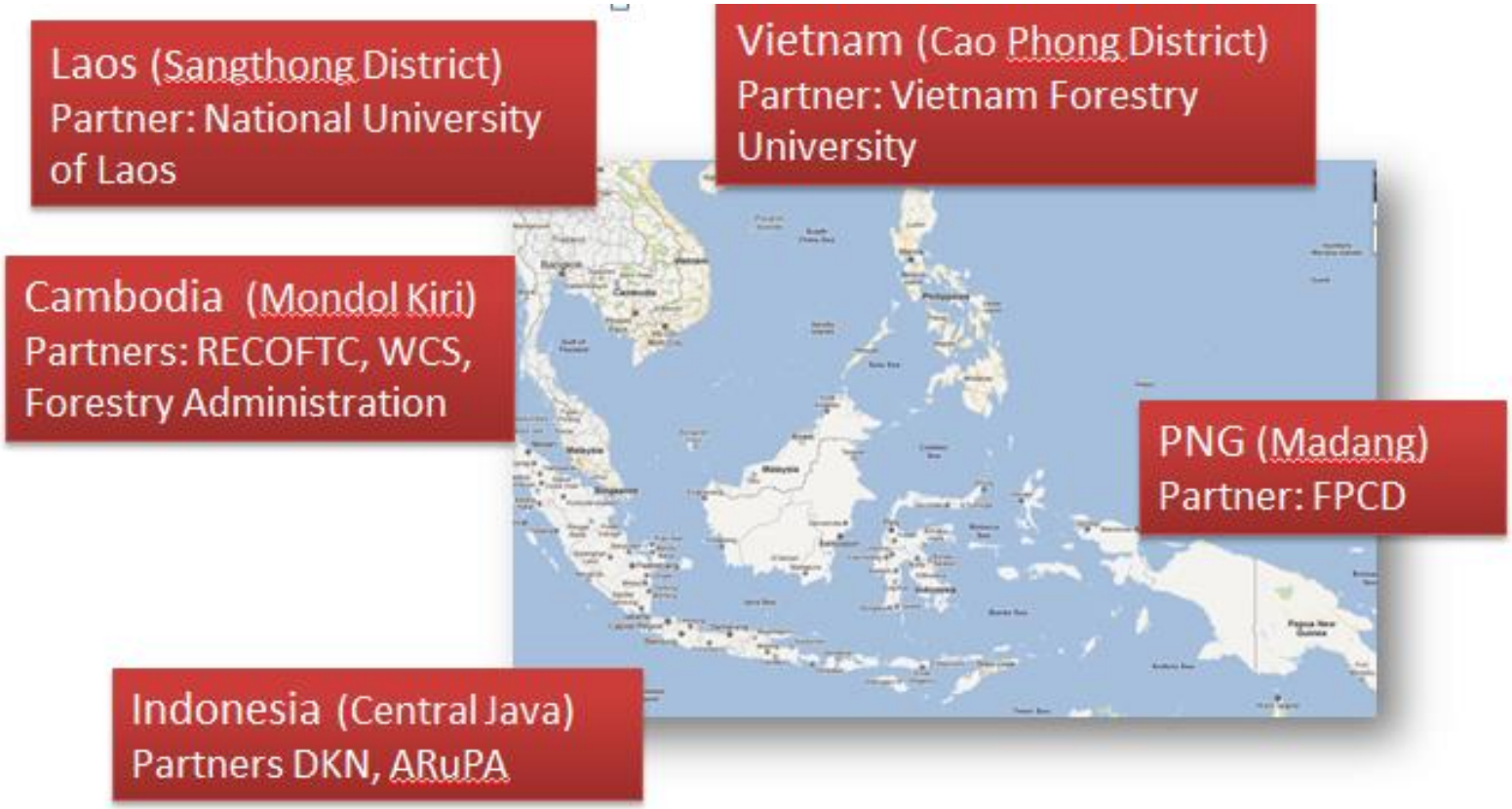
Project sites	Forest type	Estimation from community measurements	Estimates from professional surveys
Madang Province, PNG	Lowland and montane primary moist tropical forest	127.7±40 (SD) tC/ha	106.3±22.7 (SD) tC/ha (Fox et al., 2010)

Community forest monitoring teams can take reliable measurements

The rationale for community-based forest monitoring



CFMP is part of a regional research project on community-based forest monitoring



For more information: http://www.iges.or.jp/en/natural-resource/forest/activity_cca.html

Thank you

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