

JICA-PNGFA PROJECT

Capacity Development on Forest Resource Monitoring for Addressing Climate Change



Outline of the Project



Situation of Papua New Guinea

Papua New Guinea has the largest area of tropical rainforest in the Pacific region. The tropical rainforest plays important roles in many aspects, such as contribution to: the national economy through timber exports, rich biodiversity and mitigation of climate change. However, due to several underlying causes the forest area coverage decreased from 82% (in 1972) to 71% (in 2002)*. Ongoing deforestation and forest degradation are serious problems. On the other hand, there still remain a lot of challenges ahead. For example, establishment of a robust and reliable national forest resource monitoring system is fundamental, but not yet completed.

The JICA-PNGFA project

National forest monitoring system that contributes to developing carbon accounting as well as to sustainable forest management is essential for Papua New Guinea. The project aims to assist in establishing the nationwide forest resource monitoring by utilizing satellite images and GIS, as well as capacity development of the staff. The project commenced in March 2011, and will terminate in March 2014. Japan International Cooperation Agency (JICA) has been assisting PNG Forest Authority (PNGFA) to implement the Project.

* Source: Phil Sharman et al. "The state of the forests of Papua New Guinea: Mapping the extent and condition of forest cover and measuring the drivers of forest change in the period 1972-2002." Port Moresby, University of Papua New Guinea (2008)





Output1 Forest Base Map Development by using Satellite Imagery

Before the project

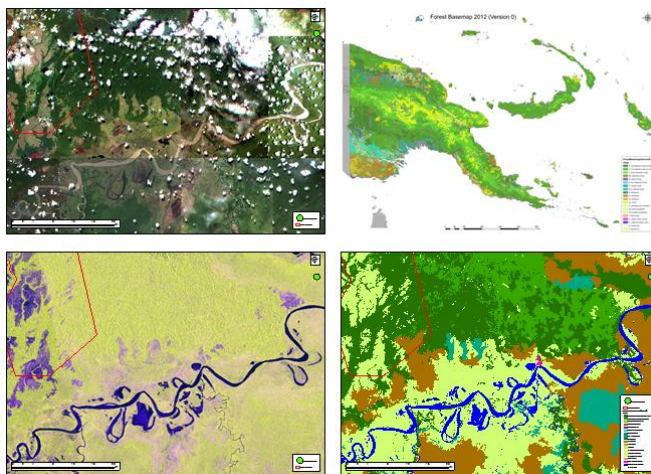
National level Forest Base Map was created as at 1975 and had not been updated since minor update at 1996.

Challenges

Rugged terrain and vast forest area. Very poor road connection and landowner issue (97% of the land in PNG is customary owned by clans).

Achievement

- Draft Forest Base Map 2012 was developed using optical satellite imagery (RapidEye), Rader satellite data (ALOS-PALSAR) and existing data.
- Significant improvements such as up-to-date information, segmentation size, forest/non-forest including water area etc. are seen in newly developed Forest Base Map 2012.



Output2 Forest Management Database System Development

Before the project

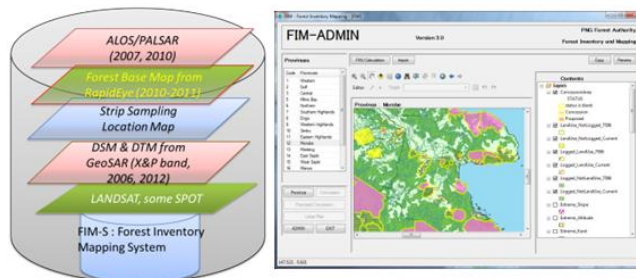
GIS/Database system for forest management had not been updated since 1996.

Challenges

Existing spatial data were not integrated into the system.

Achievement

- Forest management database system was completely updated to ArcGIS based new system. Database server with huge dataset including satellite imagery etc. was newly introduced and deployed.



Output3 Forest Monitoring System Development including Carbon Aspect

Before the project

Existing forest resource related data and system was not sufficient for carbon estimation and forest monitoring.

Challenges

Limited field data due to accessibility constraints to the forest. Limited experience to conduct biomass survey relevant to 5 carbon pools.

Achievement and Current Work

- Capacity development of biomass field survey was conducted. Especially biomass survey for below ground and dead wood is new for PNG officers.
- To enhance monitoring capacity of local-area/field officers, training on GPS and GIS has been conducted.
- Analysis of airborne dataset and field data is ongoing for forest carbon estimation.

