

Estimating forest carbon stock at project-level REDD activity: a case study in the Paung Laung Reserve Forest, Myanmar

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Abstract

REDD+ (“Reducing Emissions from Deforestation and Forest Degradation and the Role of Conservation, Sustainable Management of Forests and Enhancement of Forest Carbon Stocks in Developing Countries”) is of central importance in mitigating climate change. Since 2015, FD/FRI (Myanmar) and FFPRI (Japan) have conducted a collaborative research project in Myanmar entitled “Nesting a REDD+ project carbon accounting and monitoring system under the (sub-) national system”. Carbon accounting of a REDD+ project should be properly nested under the (sub-) national carbon accounting system so that the project activities are consistent with the national policy and the project performance is legally registered in the national account. This study aims the following outputs;

- i. Developing potential methods of refining activity data, emission factors and/or reference levels of the (sub-) national level for a REDD+ project in the study site
- ii. Proposing a set of the project-level carbon accounting and monitoring systems composed by the developed methods

We selected Paung Laung Reserved Forest (ca. 160,500 ha) in Shan State as the project area. We have conducted ground-based inventory of emission factors in the project area, and been conducting an econometrics analysis in order to identify major causes and processes of deforestation in Myanmar. Our results imply that carbon stock estimation of bamboo would be important to evaluate emission factors in semi-evergreen forest type. We are developing an efficient method to measure forest biomass including bamboo to reduce the effort and labor in the field. We also plan to examine species composition changes relating to disturbance intensities. Data of species composition changes will be useful information on assessment for biodiversity and forest degradation.

To demonstrate development of FREL in the project area, we will estimate historical carbon stocks by our developing method. Our socio-economic studies (e.g. the approach of panel data analysis adopted by using statistical data such as population, GDP, etc.) will contribute to the adjustment for FREL levels under national circumstances.