Research project of counterparts funded at IPB

Name	Counterpart	Title
I Nengah Surati Jaya, Tatang Tiryana	**B05**	Spatial patterns of forest and land-cover change in Jambi province (Sumatra, Indonesia) from 1990 to 2011

We analysed the spatial pattern and driving factors of land use and land cover change (LULC) from land/forest cover to cultivation of palm oil, rubber, timber and smallholder rubber agroforestry in the EFForTS core plots of the Harapan and Bukit Duabelas landscapes. The objectives of the study were to (1) identify the changes of LULC in the Jambi Province, to (2) determine changes of the spatial pattern of secondary forest, jungle rubber, oil palm and rubber plantation from 1990 to 2013, and (3) to specify the driving factors of deforestation.

Four different LULC maps produced for the years 1990, 2000, 2011 and 2013 were used for the study. Visual interpretation techniques using Landsat imageries (Landsat TM, ETM+ and ORI/TIRS) were done at the Forest Resources Inventory Remote Sensing Laboratory at the Forestry Faculty, Bogor Agricultural University (IPB) to map the LULC. Furthermore, additional data such as ground truth, Rapid Eye images from 2013, and the land cover classification system as commonly used by the Ministry of Forestry of Indonesia (MoF, 2008) have been used as guidance.

The study found that there was significant land use and land cover changes from 1990 to 2013. The secondary forest has declined significantly during this period and was largely transformed into oil palm and rubber plantations. In-depth interviews revealed that the driving forces of land use changes were mainly related to the development of estate crop by both local community and big estate companies.
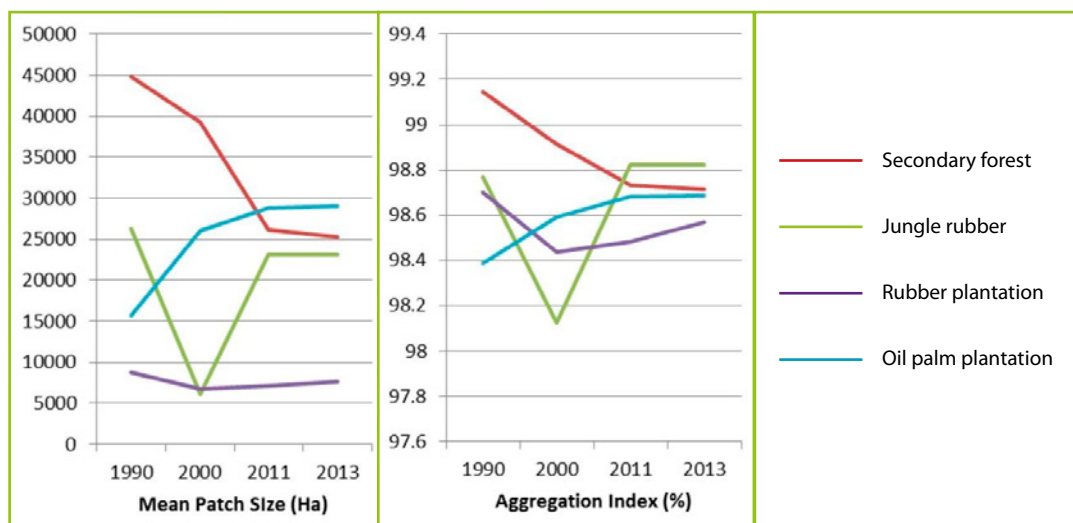

Figure 1. The Mean Patch Size (MPS) and Aggregation Index (%)