

Nowadays, a mechanical exploitation of the low land tropical rain forests has increased more and more and become a controversion between the government and forest concession holders on the one hand and scientists/environmental organizations on the other. A conservative way to protect this forests is to avoid human interference as much as possible and to use forests only as nature reserves and as buffer zones or environmental protection. Some of these forests have unique floras and faunas should, indeed, be treated in this way. But, most forests, however, also have potential to produce timber and non-wood products.

A TPTI (Tebang Pilih Tanam Indonesia) or Indonesian Selective Logging and Replanting is a silvicultural system which is practiced with the aim in managing the forests for sustained commercial timbers production. The system consists of four main phases or activities, i.e: inventory (before and after logging), controlled harvesting, maintaining the logged-over areas and enrichment planting (when are needed).

The research was carried out in Central Pulau Laut region, Province of South Kalimantan. Commercial logging operations have been done in the low land tropical rain forest of Pulau Laut area of  $\pm 100.000$  ha since 1968. The forest is under management of PT Inhutani II, the forest concession holder.

Field experiences have proved that uncontrolled logging damaged to the residual trees caused by felling and skidding practices. Felling and skidding impacts to the residual trees stand were determined by calculating the affected forest area. The damage was assessed by the total damage percentage of residual trees per hectare.

The research found that approximately 30,38% of residual trees are to be damaged and left 46,9 trees which have dbh 20 centimeters up for harvesting in the next rotation. Factors which influence the vegetation damaged are the number and total volume of felled trees, the number of trees in the felling area, the existance of lianas, condition of felling land area and the felling operators skill. The damaged number of the residual trees should be reduced and the one of the way is to pay attention on the controlling of harvesting operational and practicing the system totally.

According to the result, a silvicultural system of TPTI aiming at combining logging efficiency, damage prevention and maintaining the logged-over area. Timber harvesting is based on planning and pre-harvesting preparations, work organization and adapted logging techniques and have to be implemented wisely in a sustainable basis.

Let there be forests !