

Silvicultural prescriptions for second growth forests: a case study in Tekam F.R..

ABSTRACT

Introduction of mechanized harvesting to inland dipterocarp forest can alter the size, structure, species composition, spatial distribution, stocking level of the pristine rainforest towards a more heterogeneous residual stands. The assessment of second growth forest at landscape level using satellite imagery allows us to examine the variation of stand condition over a large area, and development of a strategic planning to support sustainable management. In developing the silvicultural prescriptions, we looked into three key components of forest stand and used them as the basis to decide on the appropriate silvicultural option. Our assessment approach began with classifying the forest stands into eight commercial species groups. Using a stand projection model we simulated the stand stocking, structure and composition up to 120 years. More than thirty (30) cutting options with minimum dbh limit of 45 cm and 50 cm for non-dipterocarp and dipterocarps, respectively were applied on the simulated stand at each 5 years time step. A growing stock assessment was carried out using minimum stocking standards such as residual stand density, net commercial volume, and proportion of dipterocarps. The silvicultural decision made is not only taking into account the current status of the growing stock but also the projected future stand condition. The paper presents the outcome of the growing stock assessment and recommends silvicultural options to enhance the growing stock of second growth production forest.

Keyword: Second growth forest; Harvesting; Silviculture; Projection