

Timber yield from second entry logging in the lowland mixed dipterocarp forest of Deramakot, Sabah

Abstract

Whilst timber production from first entry logging in dipterocarp forests is well reported, there is relatively little published information on timber yields from second entry logging. Such information is useful in providing an indication of the long-term sustainability of timber output from repeated logging. We studied timber yield from second entry logging in the lowland mixed dipterocarp forest of the Deramakot Forest Reserve, Sabah, about 30 years after the first logging. Logging operations in Deramakot follow the standards prescribed in the Reduced Impact Logging (RIL) Guidelines for Sabah. Up to end of 2006, RIL had been carried out in 19 compartments in Deramakot, ranging in size from 315-770 ha. The net logged area, or net area affected by logging operations, averaged 27.8 % of the compartment size. Logging intensity averaged 8.6 trees ha⁻¹, or roughly, 55 m³ ha⁻¹, and salvaged logging residue was 5.2 m³ ha⁻¹; hence, the total net volume extracted was 60.2 m³ ha⁻¹. The dipterocarps accounted for the largest proportion (90%) of merchantable timber yield from Deramakot. The species were mainly Keruing {Dipterocarpus spp.: 28.7%}, Red seraya (Shorea spp.: 23.2%), and White seraya (Parashorea spp.: 12.7%). Timber output from second entry logging in Deramakot was much lower than those figures reported from logging operations using similar harvesting guidelines in the primary forests of Sabah. This could mean that after 30 years since the first logging, the forest has not attained its original mature phase structure, and is therefore still in a growing phase. However, the relatively low proportion of net logged area raises concern as to whether the harvesting was properly planned to optimize extraction rates. The results also do not support the suggestion that repeated logging may shift the composition of timber stands from one that was formerly dominated by dipterocarps to one dominated by non-dipterocarps, at least not for the second round of logging. Realistically, it would take several cutting

cycles to draw any conclusions on the long-term sustainability of timber yield from Deramakot.