

Assessment of floristic composition in a rehabilitated forest, Sarawak, Malaysia

ABSTRACT

Assessment of the floristic composition provides information on forest succession stage which is important but only relatively few information are available on the rehabilitated tropical forest. The information can provide an indication of the recovery status of the forest. The objective of this study was to assess the floristic composition of selected age stands at a rehabilitated forest situated in Universiti Putra Malaysia Bintulu Sarawak Campus, Sarawak, Malaysia. A 20 x 20 m plot (0.04 ha) was established each in stands planted in 1991, 1999, 2008 and an adjacent natural regenerating secondary forest (\pm 23-year-old). All stands were tagged, identified and analyzed for species composition, Importance Value (IV), species diversity and similarity. Floristic analysis showed that in the rehabilitated forest, over 50% of the total family was dominated by the Dipterocarpaceae family but only 14% in natural regenerating secondary forest. Based on the IV Index, stand year 1991 was dominated by *Shorea dasyphylla* (IV=155.8) while stand year 1999, 2008 and natural regenerating secondary forest were *Dryobalanops beccarii* (IV=156.2), *Sandoricum borneense* (IV=144.4) *Teijsmanniodendron holophyllum* (IV=115.3), respectively. The Simpson's diversity index at the rehabilitated forest ranged from 0.82 to 0.87 compared to 0.98 at the natural regenerating secondary forest whereas the Shannon-Wiener diversity index ranged from 2.04 to 2.29 compared to 4.23, respectively. Jaccard's Coefficient of Similarity (Cj) between all combinations of the study plots was generally low (2.2-19.4%). Rehabilitated forest exhibited climax species community despite having lower species diversity. This can promote the conservation of these climax species.

Keyword: Floristic composition; Forest rehabilitation; Natural regeneration; Secondary forest