

Floristic Composition and Stand Characteristics of Logged-over Forest in Sungai Asap, Belaga

Doulos Nalau Bujang

Master of Environmental Science
Faculty of Science and Technology
Universiti Malaysia Sarawak

ABSTRACT

The Malaysian Palm Oil Board (MPOB) Research Station at Sungai Asap, Belaga, Sarawak is located approximately 100 km from Bintulu town. The 120 hectares of logged-over forest is administered by MPOB as a conservation area and designated as a model for oil palm plantation. It involves the integration of oil palm plantation and forested area. The logged-over forest had been selectively logged by logging company between 10 to 15 years before MPOB came in 2009. A study was conducted to determine the floristic and stand structure of logged-over forest in Sungai Asap for conservation purpose. Specifically the objectives of this study were to determine the tree species composition, diversity and forest stand structure of logged-over forest in Sg. Asap. A total of 22 sampling plots of 20 x 20 m were established within two biodiversity strips which have been established by MPOB. The plots were enumerated for tree species composition, stand density, diameter size distribution and vertical vegetation layers. A total of 1075 trees above 5 cm diameter at breast height (dbh) were enumerated which consisted of 45 families and 187 species. The most dominant species as indicated by their important value index (IVI) was *Macaranga triloba* (6.92%). The other two dominant species were *Shorea parvifolia* (3.97%) and *Shorea* sp. (3.94%). The number of tree per ha or tree density was 1222 and total tree height had an average of 10.97 m. The mean diameter at breast height and basal area were 13.85 cm and 29.39 m²ha⁻¹, respectively. Emergent tree was represented by a single species, *Shorea parvifolia* which recorded at 38 m. Dipterocarpaceae family dominated all canopy layers. The stand structure characteristics of logged-over forest showed good regeneration indicated by high population of medium-sized individuals in term of tree height.

Key words : Logged-over forest, species composition, stand density, tree density, basal area.

ABSTRAK

Lembaga Sawit Malaysia (MPOB) mempunyai sebuah stesen penyelidikan di Sungai Asap, Belaga, Sarawak yang terletak 100 km dari bandar Bintulu yang mempunyai keluasan 120 hektar. Kawasan ini ditadbir untuk dijadikan sebagai model ladang kelapa sawit. Kawasan ini pernah dibalok secara selektif oleh syarikat pembalakan dalam lingkungan 10 hingga 15 tahun sebelum diambil alih oleh MPOB. Satu kajian telah dijalankan untuk mengenal pasti komposisi tumbuhan di dalam kawasan hutan tersebut untuk tujuan pemuliharaan. Objektif kajian ini ialah untuk mengenal pasti komposisi spesies, kepelbagaian tumbuhan, spesies tumbuhan dan struktur hutan di kawasan ini. Sebanyak 22 plot kajian berukuran 20 x 20 m telah didirikan di dalam dua transek biodiversiti yang telah ditentukan oleh MPOB. Sebanyak 1075 pokok lebih dari 5 sm paras dada diukur dan direkodkan. Ianya terdiri daripada 45 famili dan 187 spesies. Spesies yang mendominasi kawasan tersebut ialah *Macaranga triloba* (6.92%). Spesies yang lain ialah *Shorea parvifolia* (3.97%) dan *Shorea* sp. (3.94%). Jumlah pokok per hektar ialah 1222 pokok dan purata jumlah ketinggian pokok ialah 10.97 m. Purata diameter paras dada dan luas pangkal pokok ialah 13.85 sm dan 29.39 m² per hektar. Pokok yang paling tinggi dicatatkan ialah *Shorea parvifolia* dengan ketinggian 38 m. Famili Dipterocarpaceae mendominasi kesemua kelas ketinggian di kawasan tersebut. Ciri struktur kawasan hutan ini menunjukkan pertumbuhan semula yang ditunjukkan oleh populasi tinggi pokok-pokok bersaiz sederhana dari segi ketinggian.