**Distribtional pattern, growth rate and light intensity in dry dipterocarp forest at Sakaerat.**

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## ABSTRACT

The study on the distributional pattern, growth rate and light intensity in Dry Dipterocarp Forest at Sakaerat Environmental Research Station were investigated in 4 subtypes namely, *Shorea floribunda* - Quercus kerrii community, *Shorea botusa* - *Shorea siamensis* community, *Shorea obtusa* – *Pterocarpus macrocarpus* community and *Shorea floribunda* – *Shorea siamensis* community. One sample plot of 100 X 100 $m^2$ was laid out in each subtype and subdivided into subplot (10 X 10 $m^2$). Stem position of tree with 4.5 cm in DBH and over existing in each subplot were mapped, botanical name was run for classifying into canopy, sub canopy and gap maker. Moreover based on their DBH all trees were classified into 4 groups, A (DBH < 10 cm), B (10 $\leq$ DBH < 20 cm), C (20 $\leq$ DBH < 30) and D (DBH $\geq$ 30 cm). Two instruments (Minolta illuminance corders) were used to measure the illuminance on the ground level, one metre above the ground level and in the gap. Data for DBH measurements in 1982 were used for absolute growth rate and relative growth rate and relative growth rate between 1982 and 1984.

The results can be concluded that total individuals, subcanopy and gap maker in all subtype showed random pattern, while canopy showed contagious pattern. Random and contagious were found among the 4 groups, however random seem to be slightly lower in occurrence than contagious pattern. Absolute growth rate of the larger trees tended to be faster than the yonger ones, while the opposite trend of the relative growth rate was observed for the smaller ones.

The frequency distribution of relative light intensity at the ground level and 1 metre above the ground in the 4 subtypes of Dry Dipterocarpus Forest were closely approximated by the log normal distribution, proving that geometric mean was more reasonable than the arithmetic mean as the representative value of relative light intensity

under the leaf canopy. The vertical change of illuminance in gaps calculated from the model greed with the change observed in the field. The illuminance in a given sized gap in the forest could be estimated from the model of diffused light.