Distribution patterns and dynamics of seedlings
in the dry dipterocarp forest
at Sakaerat.

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ABSTRACT

Distribution Patterns and Dynamics of Seedlings in the Dry Dipterocarp Forest at Sakaerat, Pak Thong Chai, Nakhon Ratchasima were investigated during November, 1986 to October, 1987 by using the four permanent plots of 100 x 100 m.^{2} (1 hectare) established in 4 different subcommunity type of the Dry Dipterocarp Forest namely *Shorea floribunda-Quercus kerrii* sub-community type (plot 1), *Shorea obtusa-Shorea siamensis* sub-community type (plot 2), *Shorea obtusa - Pterocarpus macrocarpus* sub-community type (plots 3) *Shorea floribunda - Shorea siamensis* sub-community type (plots 4). The whole 4 sub-community type subdivided into 20 sample 400 subplots (10 x 10 m^2) and were further subdivided into 20 sample plots (5 x 5 m^2) and laid out in the sub-plots 1, 10, 55, 91, 100 (10 x 10 m^2). All saplings with DBH less than 4.5 cm. and stem height more than or equal to 1.30 m. and all seedlings with height less than 1.30 m. in height in the sample plot were mapped, species recorded, the diameter of seedling and sapling at the ground level (Do) and height of the biggest individual in each clump and the single individual sapling and seedling were tagged and their position mapped in the late rainy season of the first year (November, 1986) and all these parameters were recorded and measured again in the early rainy second year (April, 1987) except the mapping of the position of sapling and seedling. In the second period, (April, 1987) recording of the new comer, tagging of the individual and counting of the dead individuals were carried out. All these parameters were recorded and measured again including the position mapping in the late rainy season of the second year, (September, 1987) in order to calculate the seasonal dynamics of these ecological parameters quantitatively and observing the growth parameters of the sapling and seedling in each sample plot. The distribution patterns dynamic of saplings and seedlings were studied from the twice mapping and the comparison of the distribution patterns with the upper tree-layers.

The results of the study showed that the quantitative characteristic dynamics of saplings and seedlings increased after the late rainy season and decreased after the early rainy season and the

birth rate and mortality rate also fallowed the same trend and ecological characteristics of the 4 subcommunity types showed the similar dominant species and the results of these studies (3 periods) showed that the dominant species in the first period were similar to the third period but different from the second period. In the sub-community type 1, the dominant species for the three periods of study were *Cratoxylum maingayi-Pterocarpus macrocarpus, Dalbergia* sp. - *Pterocarpus macrocarpus Cratoxylum formosum - Pterocarpus macrocarpus* respectively, the sub-community type 2 were *Shorea obtusa -Cratoxylum formosum*, *Shorea obtusa - Xylia xylocarpa*, *Shorea obtusa - Cratoxylum formosum* respectively, the sub-community type 3 were *Shorea obtusa- Pterocarpus macrocarpus Shorea obtusa - Albizia odoratissima*, *Shorea obtusa - Pterocarpus macrocarpus* respectively and sub - community type 4 were *Cratoxylum formosum - Shorea siamensis* respectively. The distribution pattern of the saplings were uniform while of the seedling were contagious distribution which were quite different from the upper trees which showing the random distribution Saplings and seedlings showed similar distribution pattern for the two period of study.