

Structural characteristic and change of undergrowth of

dry dipterocarp forest at Sakaerat.

PISAN CHANTANEE.

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ABSTRACT

The structural characteristics and change in undergrowth of Dry Evergreen forest at Sakaerat Environmental Research Station, Nakhon Ratchasima, were studied in December 1986, April 1987, and November 1987.

There were 28, 27 and 30 species of saplings (DBH < 4.5 cm, height > 1.30 m) at a density of 20,699, 19,839 and 22,043 trees/ha and with a Shannon-Weiner index of diversity of 3, 2.9, 3.2 for the first, second and third periods of study, respectively. The average height of the saplings was 2.3, 2.3 and 2.3 meters, and percent of basal area was 0.0253%, 0.024% respectively. There were 11 species of woody climbers, whose density including saplings was 25,430, 24,355 and 26,935 plants/ha respectively.

There were 30, 28 and 31 species of trees seedlings (height < 1.30 m) with densities of 34, 27 and 52 trees/sq.m, a Shannon-Weiner Index of Diversity of 2.365, 2.4667 and 1.6395, and average height of 0.26, 0.34 and 0.21 m in the first, second and third period of study respectively. There are also 13 species of climber seedlings with a density, including tree seedlings, of 38.4, 29.2 and 57.6 plants/sq.m. and 7, 4 and 7 species of herbs in the first, second and third period respectively.

Canopy gaps were classified into 5 categories at about 30 sq.m. intervals down from 159.00 sq.m., the largest gap found. In the 127.00-159.00 sq.m. canopy gap size-class there was the highest density of sapling but the lowest Shannon-Weiner index of diversity percent of basal area and average height. The species with the highest Importance Value Index was *Hopea ferrea*.

There were also the lowest number of species and lowest density of seedlings. *Memecylon geddesianum* had highest IVI.

In the 31-63 sq.m. canopy gap size class there was the highest number of species of saplings, Shannon-Weiner index of diversity and percent basal area. *Walsura trichostemon* had the highest average height of seedlings. *Hopea ferrea* had the highest IVI in area of under canopy.

Total individuals of tree sapling and importance species were contagious distribution, but in the 127-159 sq.m. canopy gap size class were random distribution. Total individuals of tree seedlings in each classes of canopy gap size-class were almost contagious distribution with small clomp. Each species of tree seedling were several patterns of distribution.

Number of species, density, and percent of basal area of seedling and saplings were decrease in summer but increasing after rainy season because of natality and growth. Average height and Shannon-Weiner index of diversity increased in summer. Change of species, which had the highest IVI, was 2 species. The patterns of distribution were change in some species and some canopy gap size-class.