

Anucha Tara 2009: Plant Community Classification for Restoration of Degraded Forest Land after Logging Concession at Khao Kalong – Khao Khad, Trat Province. Master of Science (Forestry), Major Field: Silviculture, Department of Silviculture. Thesis Advisor: Assistant Professor Sakhan Teejuntuk, Ph.D. 100 pages.

The study has objective was to assess the successional structural changes in a plant community of the Dry Evergreen Forest in Khao Kalong – Khao Khad that had been logged over 20 years. The information collected can used for rehabilitation in this area.

Twelve  $40 \times 40$  plots were used to sample the study area. Cluster analysis was used to classify groups of plant communities. The, number of dominant species, IVI, biomass and trends of natural regeneration were used to describe each group of plant community group.

The study found that the degraded Dry Evergreen Forest of Khao Kalong – Khao Khad can be classified into four groups: 1.) *Mallotus paniculatus* – *Nephelium* plant community group, which consisted of 128 plant species, with a density of 969 trees/ha and a basal area of  $16.06 \text{ m}^2/\text{ha}$  and 13 dominant species. The above - ground biomass was about 107.75 ton/ha, with a negative exponential curve for the DBH distribution. 2.) *Macaranga siamensis* - *Tetrameles nudiflora* plant community group, which consisted of 57 plant species, with a density of 800 trees/ha and a basal area of  $14 \text{ m}^2/\text{ha}$  and 8 dominant species. The above - ground biomass was about 107 ton/ha, with a negative power curve for the DBH distribution. 3.) *Nephelium melliferum* - *Parinari anamense* plant community group, which consisted of 69 plant species, with a density of 588 trees/ha and a basal area of  $13.81 \text{ m}^2/\text{ha}$  and 10 dominant species. The above - ground biomass was about 86.68 ton/ha, with a negative power curve for the DBH distribution. 4.) *Irvingia malayana* - *Bombax anceps* var. *anceps* plant community group, which consisted of 11 plant species, with a density of 69 trees/ha and a basal area of  $3.13 \text{ m}^2/\text{ha}$  and 5 dominant species. The above - ground biomass was about 29.20 ton/ha, with a negative exponential curve for the DBH distribution.

It was concluded that the dominant species in each group should be further studied based on their silvicultural aspects. Then information gathered would be usefully applied in a forest rehabilitation trial, as well as in an assisted natural regeneration project.

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