

THE ECOLOGY OF *Dipterocarpus zeylanicus* PLANTATION AT INGIRIYA, SRI LANKA

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The plantation forestry in Sri Lanka began in the late 19th century. The forest cover prevailed at that time did not warrant a rapid expansion of plantations. Later, the depletion of the forest resources compelled the Forest Department to embark on establishing plantations. A rapid increase in plantation development was noted during the 2nd half of the 20th century. The species selected for plantation establishment were mostly exotics with few indigenous tree species.

Holmes as a silviculturist in the Forest Department initiated the studies on the growth performance of indigenous tree species. The present *Dipterocarpus zeylanicus* plantation at Ingiriya was one such location established by him in 1940. At present there are other indigenous tree species also growing in association with *D. zeylanicus*.

A systematic sampling design was adopted for the study. The total sample area was 1.9375 ha. The diameter at breast height and height of all the trees above 10 cm were recorded in 25m x 25m plots numbering thirty-one. Seedlings and saplings in 2m x 2m and 5m x 5m plots were also recorded. The number of plots in each case was 124. Important value indices for species, genera and families were calculated. Rank abundance curves were plotted. Endemic species in this plantation were recorded. Mean dbh, mean height, mean basal area, and mean top height for *D. zeylanicus* were calculated. The diameter class distribution of *D. zeylanicus* was plotted. Regression analysis was performed to observe whether any correlation exists between the dbh of *D. zeylanicus* against basal area of the same and other species.

The plantation recorded 82 species, 70 genera and 37 families. Among the 916 individual stems recorded 52% was *D. zeylanicus*. There were 248 individuals of *D. zeylanicus* per ha.

The paper highlights the floristic, status of principal species, stand parameters and suggest interventions for plantation management.