

CONVERSION OF THE *Pinus caribaea* PLANTATIONS IN UPCOUNTRY INTERMEDIATE ZONE WITH OTHER POSSIBLE TREE SPECIES

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Pine plantations in the upcountry are now in their rotation end. These plantations has been planted in comparatively degraded patana lands. At present, as a policy it was decided not to reforest the second rotation lands again with pines. Therefore the conversion of pine plantations with other suitable tree species has become priority area for study in the Forest Department.

A research project was initiated in 1994 to investigate the possibility of converting the available pine plantations to other broad leaved species. As the first phase, nine timber species, nitrogen fixing soft wood species, woody herbal species and non-woody herbal species were tested under different thinning levels (Basal area $10 \text{ m}^2 \text{ ha}^{-1}$, $15 \text{ m}^2 \text{ ha}^{-1}$, $20 \text{ m}^2 \text{ ha}^{-1}$ and control). As the second phase the selected timber species from phase one (*Michelia champaca*, *Swietenia macrophylla*) and some other possible tree species (*Artocarpus fraxinifollus*, *Ecucalyptus grandis*, *Eucalyptus microcorys*, *Acacia melanoxylon* and *Kyaya senegalensis*) were established under different levels of gap openings (4 m, 6 m and 20 m).

The initial tree growth assessment of the second phase experiment was done after 15 months of planting. The fast growing exotic species *E. grandis*, *E. microcorys* and *A. melanoxylon* showed the highest height growth 3.0 m, 2.8 m and 1.2 m respectively under the heavy thinning level (20 m gap). Other than *S. macrophylla* and *K. senegalensis* all other tree showed a significantly higher tree height growth under the heavy canopy opening conditions.