

FACTORS AFFECTING GROWTH AND SURVIVAL OF TREE SAPPLINGS PLANTED ALONG A SUCCESSIONAL CHRONO-SEQUENCE IN *ENDANE* BIODIVERSITY CORRIDOR IN SOUTHWESTERN, SRI LANKA

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The growth of sapling is influenced by species, succession, and habitat characteristics that strongly shade and elevation. Site-species matching is a prerequisite for successful reforestation projects. The climatic factors affecting survival and growth of tree saplings planted along a successional chronosequence in *Endane* Biodiversity Corridor in Southwestern Sri Lanka was examined. The growth parameters in 13 threatened tree species interplanted within four successional ages (marginal tea, scrub, woodland 1, and woodland 2) with contrasting elevation and canopy closure were measured after one year of planting. Among them, mean annual height growth significantly increased along with the successional age indicating the highest mean value in woodland 1, while the lowest value was found in marginal tea ($p < 0.001$). The mean annual diameter growth did also differ among the successional ages, however, did not correspond with the same pattern as of height growth due to the differences in canopy closure ($p < 0.001$). Consequently, mean annual diameter values showed a weak negative correlation with specific leaf area ($p = 0.435$). A year after planting the height growth values showed a strong positive correlation with diameter growth ($r = 0.71$, $p < 0.001$) suggesting that the former could be inferred from the later. There was a high survival of many species studied due to the management practices such as weeding. These results provide valuable insights into long-term monitoring of restoration success in *Endane* Biodiversity Corridor in Southwestern Sri Lanka.

Keywords: Climax species, Mean annual height growth, Species selection, Specific leaf area