



Community-Based Mangrove Restoration in Karainagar of Jaffna

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The importance of mangrove ecosystems is reflected in their ecological and socioeconomic functions, such as shoreline stabilization, carbon storage, and coastal livelihood support. However, these ecosystems have experienced considerable degradation from human activities and environmental impacts. The study assesses whether effective community-based mangrove restoration can achieve seedling survival without a detailed technical pre-assessment. The study was conducted within a coastal lagoon ecosystem in Karainagar, which relies heavily on fisheries livelihoods. The process of mangrove restoration through a community-based strategy was employed, focusing on the participation of the community in the activity, rather than relying on technical information. Three mangrove species, *Rhizophora mucronata* (n=70), *Avicennia marina* (n=15), and *Ceriops tagal* (n=15), were used, and 100 seedlings were planted, selected based on locally existing species and practical feasibility for community-based planting. The survival rate was recorded monthly for nine months. Two focus group discussions were carried out on pre-restoration and post-restoration to determine the change in community awareness. Data analysis was carried out using a descriptive comparison of species and temporal survival changes. Species adaptability had evident differences, with *A. marina* (53%) having a higher rate of survival compared to *R. mucronata* (42%), but *C. tagal* had complete mortality. An increase in mortality rate was witnessed after extreme weather conditions, demonstrating that the restoration project was vulnerable to extreme weather conditions. However, 36% of the survival of the seedlings shows that there is active participation of the communities to protect and monitor them. The discussions conducted within the community showed considerable progress in terms of awareness about the ecological role of the mangroves, where the willingness to form nurseries among the members increased. The restoration project shows that a community-based restoration project can be moderately successful without performing any detailed scientific assessment before initiating a project. However, the integration of both approaches would be useful in increasing effectiveness in restoration projects.

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