

## Early Indications of the Success of Rehabilitating Degraded Lands through the Green Legacy Project Implemented in Ethiopia

**Authors :** Tamirat Solomon, Aberash Yohannis, Efrem Gulfo

**Abstract :** The plantation of trees, which harmonizes the agroecology of the environment, has been implemented in Ethiopia with great concern for a noticeably degraded environment. This study was designed to evaluate the effectiveness of green legacy, species selection and, the rate of survival, and the management status in the study areas. A systematic sampling method was employed to collect the required data from 144 quadrants measuring a 15m radius with an interval of 40m apart. Additionally, 244 sample households were selected for the socioeconomic study in addition to secondary data collected from office recordings. The data collected was analyzed using multivariate analysis, considering exposure and outcome variables. The findings of this study indicated that four exotic tree species, namely; *A. saligna*, *C. fistula*, *A. indica*, and *G. robusta*, were commonly selected tree species for degraded land restoration in the study areas. Among the seedlings planted at the four study sites, a total of 79.9% survived, and *A. saligna* was the dominant and best performed species, *A. indica* was the least survived species in the entire study area. The age of the seedling before planting significantly ( $p = 0.05$ ) affected the survival potential of most seedlings of species, and the majority (82%) of local communities expressed their positive attitudes and willingness to manage the restoration works in the study areas. It was recommended to consider the inclusion of native species in the restoration effort and evaluate the co-existence of native flora with exotic and its competition for nutrients, water, and light in addition to the invading potentials in the ecosystem. In general, before embarking on degraded land restoration, species selection, adequate preparation of seedlings, and species diversity composition that exactly fit the socioeconomic and ecological demands of the areas must get the attention for the success of the restoration.

**Keywords :** plantation forest, degraded land, forest restoration, plantation survival, species selection

**Conference Title :** ICUFTP 2024 : International Conference on Urban Forestry and Tree Planting

**Conference Location :** Toronto, Canada

**Conference Dates :** July 18-19, 2024