

Eco-Rejuvenation Technology



Eco-Rejuvenation Technology (ERT) developed by CSIR-NEERI is an eco-friendly and cost-effective technology for the development of sustainable bamboo biodiversity in degraded or contaminated areas. This technique employs different strategies based on the type of degradation problem. Important components of ERT include:

- Selection of degraded area with source of contaminants,
- Screening and selection of tolerant plant species,
- Application of desired microbial inoculants,
- Amendment with organic substances, and
- Application of desired fungal inoculants.

All these components interact synergistically to enhance the amelioration process of heavy metal polluted soils and degraded lands. Recently, ERT gained significant attention in the research community due to its greener nature. Degraded land covering with vegetation is a striking approach which helpful in maintaining the surrounding environments hospitable for living well-being. Covering degraded/contaminated land via plantation can effectively immobilize the contaminants/pollutants, uphold moisture, protect wildlife, and simultaneously restore and remediate the affected land. The depletion of land resources, soil erosion, livestock, and

biodiversity may arise naturally as well as anthropogenic if the vegetation cover is under threat. Also, a contaminated or deteriorated landscape is more prone to destroy its microhabitats and becomes inhospitable to existing macro and micro-communities. The restored and rejuvenated habitats allow both indigenous and exogenous flora and fauna to propagate. Therefore, the implementation of ERT is the best possible and greener approach to restoring degraded/contaminated lands and landscapes.

Based on the preliminary site investigations, an Eco-Rejuvenation Technology (ERT) developed by CSIR-NEERI, was implemented for development of green belt on the identified fly ash disposal areas. Under this technology, more than eighty thousand saplings of selected bamboo species were planted and maintained on identified fly ash disposal areas. The green belt developed under ERT technique has helped to stabilize fly ash dumps, mitigate dust emissions, conserve biodiversity and provide sink for CO₂ which is a greenhouse gas.