

Highlights

- Approximately 2 billion hectares (5 billion acres) of tropical lands are in various stages of degradation and have, in theory, potential for reforestation.
- Most manmade reforestation is done with imported species. Many native trees, more familiar to local people, have untapped potential for reforestation.
- Tree plantations using only one species are widespread, Little effort is being made to develop technologies for multiple-species reforestation,
- Selection and breeding of superior trees in temperate zones have gradually produced varieties adapted to specific site conditions that give as much as 50 per cent yield gains. However, such work is just beginning in the tropics.
- New cloning techniques can produce millions of “supertrees,” but they increase the risk of failure because of reduced genetic diversity.
- Organized programs of seed collection, processing, certification, storage, and distribution are needed to develop the seed quality and quantity necessary for large-scale reforestation,
- Bacterial and fungal inoculants can increase tree survival and growth, especially on degraded lands. Many of the needed inoculants are not yet commercially produced,
- Reforestation is most likely to be successful when programs are designed to provide what local people want. In many cases, this means the creation of various kinds of incentives for local participation.
- New technologies have the potential to reduce the costs of reforesting degraded lands; however, better methods are needed to measure important but indirect benefits in order to justify the reforestation investment.