

Rejuvenating Degraded Agricultural Land through Soil Regeneration and Native Species

For India, we have identified 11 MHa of degraded agricultural land with potential for restoration. The types of degradation most prevalent in croplands is soil erosion.



Soil erosion



Deteriorates soil quality



Lowers agricultural yields



Lowers incomes of agrarian households

It has emerged as one of the major threats to food security and nutrition.

Available Interventions for Degraded Agricultural Land

By assisting farmers with the right kind of service providers and assessing her needs and challenges, the following interventions may help in both soil nutrient and soil organic carbon management by preventing runoff and erosion.



Agroforestry



Low or no till agriculture



Introducing cover crops



Mixed cropping



Crop diversification



Planning for natural fallow

Application of eco-niche modelling for identifying medicinal herb species

- The AREST team has identified distribution of **242 high volume traded indigenous medicinal plant species of peninsular India (annual consumption ranging from 100MT to 10,000MT)**, including the geographical distribution across the 258 districts of peninsular India.
- We have identified **climate resilient and economically feasible indigenous species of bamboo and millets suitable for degraded agricultural lands with multiple co-benefits**. For example, the shrubs of *Crotalaria juncea* are not merely a source of green manure and cover crop, but also a potential biofuel.

To improve soil nutrient content and address exclusive water erosion, species of millets such as foxtail, pearl and finger millets are selected as suitable for dryland agriculture, thereby improving soil productivity & carbon sequestration potential.

nutrients
from
plants

removes
CO₂ from
air

agroforestry,
cover cropping,
soil restoration,
soil conservation

improve
soil quality

65MT to 105 MT of additional CO₂ sequestration potential from agroforestry projects. We recommend low to medium density (33% of the land area for tree planting) with agroforestry systems based on demand-side assessment at the restoration sites.

Why restore degraded agricultural land?

At least 89% of India's landholdings are less than 2 hectares and the latest NSSO survey indicates average annual net receipt from crop production to be **USD 610** for an agricultural household. Any strategy aimed at doubling farmer's income, must look at addressing the issue of degraded agricultural lands. Not only does agriculture support more than **60% of India's rural workforce**, with women contributing to more than **70% of farm-based activities**, this will directly impact their livelihood security.

Way forward

In the last 5 years, the Government of India spent over \$400 million, on sustainable agriculture related schemes, and further allocated \$200 million in 2021. Future food security & climate targets can be met by repackaging such schemes towards restoration of degraded agricultural land.