ScienceDirect

Forest Resources Resilience and Conflicts

2021, Pages 277-287

Chapter 21 - Agroforestry and soil health: a mitigation process using AM fungal culture in West Bengal

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https://doi.org/10.1016/B978-0-12-822931-6.00021-6

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Abstract

Agriculture and forestry are very far and diverse but allied disciplines, though nowadays both the branches joined together and forming a common kind to energize people toward cultivation in remote areas of the country. Farmers cultivate cash crops in their own field but all the people have no proper land, so they use forest and or degraded land, or plantation stand for cultivation. The herbaceous species and underground biomass producing species are therefore grown by people under the two-storied forest canopies. They can utilize the land on the basis of their management practice and at the same time forest department is able to earn their valued timber products in time without any disturbance. Due to water scarcity in lateritic southwest Bengal, people are unable to grow all crops during post monsoon to winter even in summer. Therefore people use local seeds and propagules in their field to grow crops with the help of chemical fertilizers and pesticides; however, chemical fertilizers and chemical pesticides are not eco-friendly. Due to high cost of fertilizers and pesticides they are unable to get cost-effective benefits by using these things in the field of agriculture. Arbuscular mycorrhizal fungi (AMF) and organic manure may be used here to induce the plant growth as biofertilizers to live in harsh dry condition and helps to avoid pathogenic attack. So, rapid

application of AMF on forest seedlings and agricultural stocks is essential, which may be fruitful in near future to develop cost-effective yield.

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