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Holistic Development of Agroforestry in India and the Key Factors for Success

Agroforestry plantations currently meet nearly 90% of industrial round wood requirements of major wood based industries such as plywood and panel products and pulp and paper. Moreover agroforestry contributes immensely to dense forest and tree cover of India, carbon sequestration and climate change mitigation, increase in employment opportunities and government revenues and indirect conservation of natural forests. This paper discusses key factors that contribute to the success of major agroforestry projects, issues, constraints, opportunities and policy reforms required for holistic development of agroforestry in India and makes specific suggestions for consideration of government and the stake holders.

Key words: Agroforestry projects, Clonal plantations, Key factors for success, Poplar, Eucalyptus, Productivity.

Key factors for the success of commercial clonal plantations under agroforestry system and specific recommendations for the consideration of government and stake holders for holistic development of agroforestry in India.

Introduction

The recorded forest area of India is 76.46 million ha and the forest cover is 70.83 million ha that equals to 21.54% of the geographical area. Nearly 30 million ha out of that comprise of open degraded forest with crown cover density less than 40%. Trees outside forests (TOF), mostly comprising agroforestry plantations, contribute 17.40 million ha to the total forest cover in blocks exceeding 1 ha in area spread over the entire country. TOF that comprise of the scattered individual trees, in linear formations or in blocks with less than 1 ha patch size, contribute additional tree cover of 9.26 million ha if all such trees are hypothetically arranged together to form 70% crown cover density (Anon, 2017).

Forest cover with canopy cover density exceeding 40% is only 406,476 km^2 or 12.36% of the geographical area of India. This is far short of the average 33.3% of land envisaged under good forest cover as per the national forest policy. Growing stock of forests is 4218 million m^3, and the value of genetic biodiversity of our forests is beyond any price. The productivity of forests remains very low, with the production of 3.175 million m^3 wood annually from such a huge resource. This means a woefully low annual harvest of 0.042 m^3/ha/year compared to the world average productivity of 2.1 m^3/ha/year. Growing stock of TOF is 1604 million m^3. Potential production of wood from trees outside forests from a much smaller area is estimated at 74.51 million m^3 (Anon, 2017). This confirms beyond any doubt that plantations outside the recorded forest areas are well stocked and have very high annual increments. Farmers produce timber at an average rate of 25-30 m^3/ ha /year from clonal plantations of eucalyptus even under rain-fed conditions.

India is a highly wood deficient country and our forests continue to be under tremendous biotic pressure. India imported 6.7 million m^3 of wood and 0.4 million tonnes of wood based products valued at ₹133.7 billion during 2014-15 (Anon, 2015). The value of wood and wood based products imported into India was 169 billion rupees during 2010-11 and

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