

## **VII.B.5. Institutions for Environmental Governance : Issues of Community Participation and Monitoring**

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This paper focuses how afforestation programmes help in sequestering carbon in growing trees. It examines the evidence from the tree plantations which resulted from the management activities of Tree Growers Co-operative Societies (TGCS). These wood plantations mitigate CO<sub>2</sub> emissions by removing carbon from the atmosphere and sequestering it. The net flux of carbon in the atmosphere can be reduced if (i) wood is substituted for fossil fuel burning and the trees are replanted to recycle the carbon back into the atmosphere and/or (ii) wood is used for nonfuel purposes that do not lead to carbon emissions. The data, obtained from six TGCS in India, was analysed to calculate the amount of carbon sequestered for two land management scenarios, viz., one time cutting and sustainable harvest. The analysis also helps to appreciate the economic trade-offs involved in the operation of plantation activities that lead to these environmental benefits. The amount of carbon sequestered range from 120 to 300 tonnes per hectare over various fuel cycles (10, 20 and 60 years). The results show that the type of species planted and the fuel cycle play an important role in achieving carbon balance.