



Carbon Sequestration and Tree Diversity of Thimmalapura Reserve Forest, Tumakuru, Karnataka

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Abstract: Present study was conducted to determine the carbon sequestration capacity of Thimmalapura Reserve Forest, one of the dry forests of Karnataka. Average carbon sink of the study area is around 3015g of carbon per tree with a total carbon assimilation of 1658550g. *Chloroxylon swietenia* has the highest amount of carbon assimilation (88420 g/sp) as compared to other species. *Careya arborea* with lone individual in the sampled area has carbon stock of 12701g/tree/sp. Above ground biomass constitutes major part of the biomass. Average aerial biomass of the sampled area is 4645 g/sp and the total aerial biomass of 25550 g/sp. Pearson's correlation studies on total number of individuals and carbon stock in each species shows a positive correlation. Diversity study shows that the vegetation has a very high index value indicating the richness of species. Conservation and afforestation measures would enhance the capacity of the Thimmalapura forest to sink more carbon.

Keywords: Carbon sequestration, Thimmalapura forest, Afforestation, Diversity index, Total biomass
