

Summary of completed projects –

Protection, maintenance and successional study in terms of growth, biomass and carbon sequestration in preservation plots laid in different forest types of Madhya Pradesh.

Carbon pool was estimated through carbon content in different components. The maximum carbon (64.98 Mg ha^{-1}) was sequestered by Dry Peninsular Sal forests (5B/ C1C) with values ranging from 16.60 Mg ha^{-1} to $152.32 \text{ Mg ha}^{-1}$ in five preservation plots of this forest type while it was sequestered the minimum (3.01 Mg ha^{-1}) in Northern tropical ravine thorn forest (6B/ C2). The wide variation in range of carbon stock with average value of Dry Peninsular Sal forest is due to variation in age, density, average girth and average height of trees recorded in the forest type.

The maximum carbon flux by trees ($3.34 \text{ Mg ha}^{-1} \text{ yr}^{-1}$) was recorded in Southern Moist Mixed Deciduous forest (3B/C2) with values ranging from $1.54 \text{ Mg ha}^{-1} \text{ yr}^{-1}$ to $5.89 \text{ Mg ha}^{-1} \text{ yr}^{-1}$ in five preservation plot of this forest type. The wide variation in range of carbon flux with average value of this forest type is due to variation in age, density, average girth and average height of trees recorded in the forest type. The minimum carbon flux by trees ($0.36 \text{ Mg ha}^{-1} \text{ yr}^{-1}$) was recorded in dry deciduous scrub forest (5/DS1). Similarly, soil organic carbon (SOC) and carbon pool was also estimated in different forest types. The maximum soil organic carbon (185.6 Mg ha^{-1}) was recorded in Southern Moist Mixed Deciduous forest (3B/C2) and the minimum value (26 Mg ha^{-1}) was recorded in Dry teak forest (5A/C1B). The maximum carbon pool ($246.87 \text{ Mg ha}^{-1}$) was recorded in Southern Moist Mixed Deciduous forest (3B/C2) while the minimum value (70.19 Mg ha^{-1}) for carbon pool was recorded in Dry teak forest (5A/C1B). Average carbon stock was recorded as 29.31 Mg ha^{-1} and carbon pool was recorded as $178.12 \text{ Mg ha}^{-1}$ in the Madhya Pradesh forest. Similarly, Carbon flux by trees was also estimated as $1.72 \text{ Mg ha}^{-1} \text{ yr}^{-1}$ on average basis in forest area of Madhya Pradesh

Carbon sequestration, SOC and carbon pool is also compared with data of FSI, 2017 and is found to be slightly higher than present study.

The project has provided information on carbon sequestration, soil organic carbon and carbon flux of different species in different forest types of Madhya Pradesh and will be helpful to carbon management in different forest types.

Photograph



View of Barbed wire fencing completed in Preservation plot Shahdol (Lamer) forest division



view of Boards erected in Preservation plot West Chhindwara (Delakhari) forest division



View of numbering of trees in Narsinghpur (Gaderwara) forest division preservation plot



View of measuring weight of broken tree.



Measurement of biomass of regenerated crop