

ASSESSMENT OF CARBON STOCK AND FUTURE POTENTIAL OF CARBON SEQUESTRATION OF SOOR SAROVAR BIRD SANCTUARY, KEETHM-UP

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Abstract: Soor Sarovar Bird Sanctuary is a small human-made forest with a lake on the outskirts of Agra, India. The study estimates terrestrial and aquatic carbon. The total carbon stocks estimated at 1.31 million tons bears a social cost of carbon value of ₹21 million. The aquatic carbon stock density was found to be significantly higher than the terrestrial stocks. The study outcomes are usable for maximising ecosystem services in the broader context of sustainability. The research method estimating carbon stocks is relevant to national policies and applicable to similar forests. An optimistic scenario suggests that the sanctuary area by 2030 can sequester per unit area carbon which is 12 times the target of achieving our ambitious target. An established theoretical and empirical correlation of increased carbon stocks with biodiversity and other ecosystem services are suggestive of such small urban peripheral sanctuaries playing a critical role in mitigating the climate change.

Keywords: Soor Sarovar Bird Sanctuary, Aquatic carbon, Terrestrial carbon, Carbon stocks, Anthropogenic

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