

Abstract

Mahatma Gandhi Rural Employment Guarantee Scheme a large social security programme being implemented in India, with an average annual investment of US\$ 7 billion. The bulk of the activities under this programme are focused on natural resources such as land, water and trees, which provide adaptation benefits. In this study an attempt is made to estimate the carbon sequestration achieved and future potential, as a co-benefit, from MGNREGS. The total mean carbon sequestered at the national level, considering the cumulative number of natural resource based activities, for the year 2017–18 was estimated to be 102 MtCO₂. The annual mean carbon sequestration is projected to increase to about 132 MtCO₂ by 2020 and 249 MtCO₂ by 2030. Drought proofing is one of the activities implemented under MGNREGS and it includes tree planting, relevant to achieving the NDC carbon sink target. The cumulative carbon sink created by drought proofing activities is projected to be 56 MtCO₂ in 2020, 281 MtCO₂ in 2025 and 561 MtCO₂ in 2030. This study demonstrates the significant carbon sink potential of MGNREGS and highlights the importance of estimation and reporting climate mitigation co-benefits of adaptation actions such as MGNREGS under the Paris Agreement.