

More Than Just Carbon: The Socioeconomic Impact of Large-Scale Tree Planting

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Abstract

One potential nature-based solution to jointly address poverty and environmental concerns is large-scale tree planting. This study examines the National Greening Program (NGP) in the Philippines, a major tree planting initiative involving 82,916 localized projects that directly or indirectly generated hundreds of thousands of jobs. Utilizing a dynamic difference-in-differences approach that leverages the staggered implementation of the NGP, we find a significant and sizable reduction in poverty, measured via traditional and remotely sensed indicators. The NGP also spurred structural shifts, notably decreasing agricultural employment while boosting unskilled labor and service sector jobs. Our analysis estimates that the NGP sequestered 72.7 to 308 MtCO₂ over a decade, achieving a cost efficiency of \$2.3 to \$10 per averted tCO₂. These findings underscore the potential of tree planting as a dual-purpose strategy for climate mitigation and poverty alleviation.

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