Title: Measuring planted mangrove effect on Gujarat fishery sector

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Abstract

The state of Gujarat has planted thousands of hectares of mangroves over the coastal mudflats and, today, the state’s mangrove cover is nearly twice of that existed in 1930s. However, these mangroves have limiting features, for example, these are mostly single species, Avicenna Marina, and are sparse, and lack fresh water supply. Mangroves provide multiple ecosystem services including nursery and habitat services for fish fry that enhances fish growth. This study evaluates the regenerated forests' contribution to the fishery sector of Gujarat, both inshore, and offshore, using difference-in-differences technique and panel regression estimates. Commercial catch data from secondary sources and primary survey data on daily catch of artisanal fishermen are used in the analysis. The results show that the planted mangroves have significantly increased the catch of mangroves dependant fish in both sectors, and that young planted mangroves contribute nearly one-forth of the contribution of natural strands. Despite the limiting features, the contribution of the planted mangroves' nursery ground and habitat service to the fishery sector of Gujarat is valued at INR36.04 billion (USD0.57 billion) annually.