

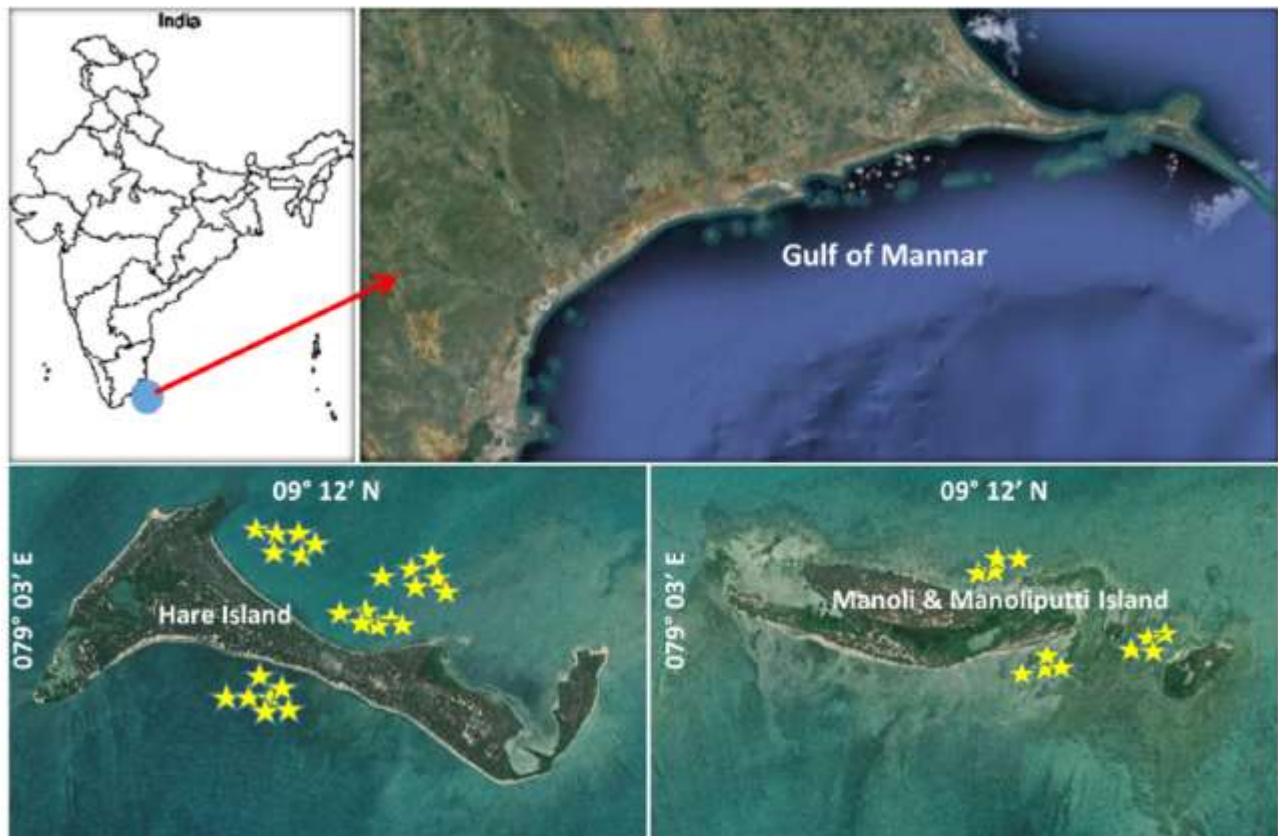
Rebuilding of dead and receding coral reefs to provide livelihoods to fishermen

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Scientists from the National Centre for Coastal Research (NCCR), Ministry of Earth Sciences, have claimed that restoration of coral reefs can not only protect the coastal areas but also generate employment opportunities for local fishermen. This was established through a study of local transplantation of indigenous corals in the Islands of Gulf of Mannar Marine Biosphere Reserve and the southeast coast of Tamil Nadu. The coral reefs of Gulf of Mannar experienced severe degradation during 1980s and 90s primarily due to rampant mining and destructive fishing. The coast is densely populated and the reef status is also affected by sewage discharge.

Remarkable growths of transplanted corals at both the Hare Island and Manoli & Manoli Pitti Island is observed. This study also reiterates the importance of incorporating environmental and biological stress factors while carrying out the restoration efforts. Underwater experiments revealed profuse growths of transplanted corals which varies based on the coral species and the study sites. A significant differences in seasonal growth rate was observed at northern side of Hare Island where the maximum mean *Acropora coral* growth rate was around 11.75 cm during summer from their initial mean growth of 7.65 cm. Significant variation in growth rate was observed during monsoon between naturally recruited and transplanted corals. The naturally recruited coral colonies displayed a maximum mean growth rate of 11.5 cm while growth rate of transplanted coral colonies was 7.5 cm respectively in two months. *Acropora* corals have showed faster growth rates and also resistance to environmental influences such as algal invasion, sedimentation, turbidity, and bleaching events.

It has been noticed that coral fragments on the cement slab developed faster due to higher amounts of calcium carbonate on the slab. Cement slabs have promoted coral growth from 6 cm to 8 cm per month during the monsoon and summer seasons.



In the current scenario of climate change and its negative impact on coral reefs worldwide, reef restoration promises to recover dead and receding coral reefs. These coral species can be used for extensive reef restoration activities in other parts of the country.