LIVING SHORELINE

The Sundarbans region is witnessing sea-level rise at a rate higher than the global average. Home to 4.5 million people and over 100 tigers, the largest contiguous mangrove forest in the world is shrinking by about 550 hectares and subsiding by approximately 3–4 mm every year. Human-inhabited islands are protected by embankments stretching nearly 1,800 km in total, which frequently breach due to high-intensity storms and hydro-morphological processes, disrupting lives and livelihoods.

Nature-based Solutions (NbS) for elevation recovery and erosion control, using terracotta rings as sediment traps, have been implemented at seven locations. Results demonstrate that net annual sedimentation within the terracotta rings exceeds the current effective rate of sea-level rise.

Adopted by the Irrigation and Waterways Department, Government of West Bengal as an NbS approach for protecting banks and embankments

6.92 mm of sediment captured annually, outpacing the effective annual sea level rise in the Sundarbans

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