

Coastal Protection measures in Kerala through Construction of Groynes



The South West corner of India along the Kerala coastline is unique in its behaviour and environment when compared to the coastal belt of other maritime states of India. The various developmental activities taking place along the coast of Kerala has resulted in significant coastline changes and has affected its stability. As per the Directorate of Central Water Commission and Coastal Erosion Studies, Kerala State has about 478 kms of coastline vulnerable to the erosion out of the total 560 km. The project aims to safeguard lives and livelihood and foster climate proofing of the dynamic coastline of Kerala. The project is implemented by the Irrigation department Government of Kerala under the NABARD's Rural Infrastructure Development Fund (RIDF) mechanism of funding.

PROJECT RATIONALE

The population of coastal districts in the Kerala is assessed to be 93.97 lakh with a high population density of 2,022 persons per sq.m. The area proposed is vulnerable to coastal erosion and the people nearby face lot of hardship during the monsoon season. The given project is intended to trap the oceanic sediment and stabilize the coast thereby reducing the vulnerability of coastline, associated structures, and its configuration. The coastal erosion and coastal accretion poses a hazard to the human activities which requires development of temporary or permanent holdback structures along the coastline.

PROJECT FACTS

RIDF Support	USD 3.67 Million (INR 220.1 Million)
No. of Participants/ Beneficiaries	22,600
Project Duration	March 2015- March 2017

Project Approach

The project involves improving the coastal stability and protection through raising Groyne (Hydraulic Structures) along the Kerala coastline to interrupt water flows from the ocean/sea and limit the movement of sediments. The Groynes are erected under the funding from NABARD's Rural Infrastructure Development Fund. It usually run perpendicular to the shore, extending from the upper foreshore or beach into the water. A Groynes length and elevation, and the spacing between successive Groynes is determined according to local wave energy and beach slope.

The scheme is implemented in Alappuzha & Kollam districts of Kerala state by the Irrigation department Government of Kerala. The total financial outlay of 15 such projects is INR 818.3 million (USD 13.64 million) with an RIDF loan of INR 777.4 million (USD 12.95 million)

Impact of the Project

- Groynes prevent coastal erosion which in turn aids navigation
- It protects land from the effect of flood and protects coconut plantation, various garden crops, cattle, and assets used for fish catching.
- The Groynes structures safeguards and improves the agricultural produce, generate employment opportunities and thereby improve the level of income and standard of living of the farmers.
- A Groyne creates and maintains a wide area of beach or sediment on its up drift side, which reduces erosion on the other side.
- It acts as a physical barrier to stop sediment transport in the direction of longshore drift called as longshore transport.



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