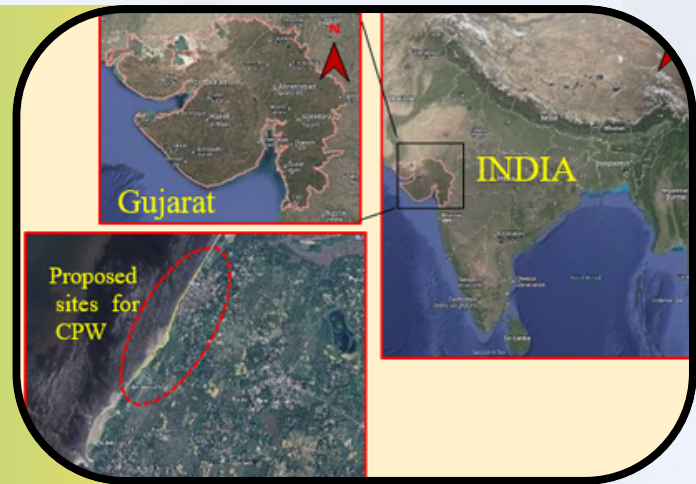




## DESK STUDIES FOR THE DESIGN OF COASTAL PROTECTION WORKS AT MAROLI, KALGAM AND FANSA VILLAGE, UMARGAM TALUKA, VALSAD DISTRICT, GUJARAT.



## STUDY OVERVIEW

The project involves coastal protection works at villages Maroli, Kalgam and Fansa (Machhivad to Kamarvad), Umargam Taluka, Valsad District, Gujarat for a length of 800 m, 1500 m and 1000 m respectively. To protect the eroding coastline and farms, desk studies to design the coastal protection works at 3 sites i.e. Maroli, Kalgam and Fansa (Machhivad to Kamarvad) villages are carried out.

## APPROACH

- Desk studies to design the cross sections for the coastal protection works in the form of seawall using the empirical methods based on the data such as beach profiles, tides, waves and existing site conditions.
- The Design Water Level (DWL) of +6.0 m including storm surge of 0.60 m above the Mean High Water Spring (MHWS) of +5.40 m is considered for the design of coastal protection works
- The maximum breaking wave height of 1.95 m at DWL is considered for design purpose.
- The average depth of water in front of the seawall is considered as 2.50 m

## KEY FINDINGS

1. The cross sections of coastal protection measures are evolved with 1.0 t to 1.5 t stones in the armour layer.
2. The rubble mound structures are flexible structures and it is essential to monitor and maintain them regularly. Therefore, periodic monitoring and maintenance of the seawall, as and when any damage occurs may be undertaken
3. A proper provision of toe-berm avoids scour at the toe. Furthermore, dissipation of the wave energy on the sloping/permeable face of the seawall helps in reducing the probable scour at the seabed.

## SIGNIFICANCE

The project aims to protect the eroding coastline and farms in the form of coastal protection works at villages Maroli, Kalgam and Fansa (Machhivad to Kamarvad), Umargam Taluka, Valsad District, Gujarat.

