

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 762
TO BE ANSWERED ON THURSDAY, APRIL 30, 2015**

RAPID EROSION IN VISAKHAPATNAM

762. SMT. RENUKA CHOWDHARY:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) Whether Government is aware that many of India's beaches and its shoreline are witnessing rapid erosion especially in Vishakhapatnam. If so the details there of**
- (b) The immediate steps as well as long term measures taken by Govt to prevent coastal erosion and also strength the boundary across the country**

ANSWER

**MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND
MINISTRY OF EARTH SCIENCES
(SHRI Y.S.CHOWDARY)**

- (a) Yes, Sir. Shoreline changes i.e. Erosion or accretion is a natural phenomenon, occurs throughout the coast with varying magnitude due to natural processes and man-made interventions. The seasonally changing winds during the southwest monsoon (June – September) and northeast monsoon (December – February), generate wind-waves from different directions towards the beaches. Along the east coast of India, littoral drift occurs in the northerly direction for 8-9 months in a year, with the wave approaching the coast from the southwest. There is a southerly littoral drift for 3 to 4 months due to north-east monsoon waves. This variation in the littoral drift results in instability of beach where man-made structures disrupt the free-sand movement. As the net littoral drift is towards the north along the coast, any man-made structure would lead to accretion of sand on the south of the structure and erosion on its northern side. However, there is no general, large-scale beach erosion in India, except where the sediment/sand transport has been disturbed by human activities viz., construction of breakwaters, groins, bulkheads etc. which cause erosion on the down-drift side and accretion on the up-drift side. On an average, about 40% of Indian coastline is facing varying degree of erosion. From last 25 years data (1990-2014), it observed that about 25- 33% of Andhra Pradesh Shoreline is experiencing erosion of various magnitudes. The Vishakhapatnam coast is also facing erosion since beginning specially Ramakrishna Beach and submarine Museum region due to lack of sand supply from southern side. About 50-55 m beach has been lost near**

submarine Museum region during 1990- 2014. The intensity of erosion has increased rapidly in recent past and about 20 m beach has lost in last 2 years. The Visakhapatnam Port Trust (VPT) has been trying to control the erosion by regularly nourishing the Rama Krishna Beach with the sand available in the sand trap at the outer harbour. In 2013 and 2014, the cyclones 'Phailin' and 'Hudhud' further hastened erosion of the Rama Krishna Beach, severely damaging the adjacent protection wall and road.

- (b) Towards possible development of long-term solution solution, data collection and documentation of shore erosion has been carried out at different stretches in the states of Tamilndau (Poovar to Thuthukudi, Poompuhar, Kadalur Periyakuppam, Ennore), Kerala (around Vizhinjam and Varkala), AP (Visakhapatnam), Goa (Kerem). On a pilot scale, the nourishment of beach has been demonstrated at Puducherry. A shoreline change maps in 1:25000 scale for the east coast of India using remote sensing data has been prepared. A Technical Criteria Atlas has been brought out a wave atlas of Indian coast to enable better assessment of beach processes and modeling efforts including settingup of a network of 19 tide gauges to understand the coastal processes and the effects of storm surges. Based on preliminary experiments on numerical model simulation studies at the recent erosion at Visakhapatnam, it is suggested that a combination of beach nourishment and an offshore submerged dyke to reduce the wave energy incident on the beach so that the natural beach front grows and the nourished sand is prevented from being washed away at the time of rough weather or cyclone passage. The Shoreline Management plans for 14 locations along Karnataka, Kerala, Tamilnadu, AP and Odisha coast have been prepared by studying the site specific erosion problems, including the prevailing coastal processes. These plans offer suitable management solutions to concerned state Government departments for implementation. The Government of Andhra Pradesh constituted a Committee vide G.O.Rt.No.17, I&I (P.II) Department, dated 02.02.2015 to conduct a detailed study the reasons for the beach erosion and to take up short term and long term measures to ensure that there is a sustainable solution for the beach erosion at Visakhapatnam.
