

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION No. 1170  
TO BE ANSWERED ON 9<sup>th</sup> FEBRUARY 2022**

**ERODING COASTLINES**

**1170. SHRI NALIN KUMAR KATEEL**

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether the Government is aware that coastlines of the country have suffered severely due to natural causes and human activities;
- (b) if so, the details thereof;
- (c) whether the Government proposes to undertake any survey and mapping using scientific methodology to identify coastline stretches prone to suffer due to natural causes and human activities;
- (d) if so, the details thereof;
- (e) whether the Government has identified such stretches for restoration; and
- (f) if so, the details along with the action plan for restoration of heavily eroded coastline?

**ANSWER**

**THE MINISTER OF STATE (INDEPENDENT CHARGE) OF  
MINISTRY OF SCIENCE AND TECHNOLOGY AND  
EARTH SCIENCES  
(DR. JITENDRA SINGH)**

- (a) & (b) Yes, Sir. National Centre for Coastal Research, (NCCR), Chennai, an attached office of Ministry of Earth Sciences (MoES) has studied the shoreline changes along Indian coast using 28 years (1990-2018) satellite and field surveyed data and mapped the 6,632 km long shoreline covering entire Indian mainland coast. The study counts more than a dozen reasons for the shoreline change, categorizing them as natural and anthropogenic causes. It is identified that, actions due to sea storm surges to sea level rise as natural causes and construction of structures at the coast like harbours, beach mining and building of dams on rivers as the main anthropogenic causes for shoreline changes.
- (c) & (d) Yes, Sir. NCCR is monitoring the shoreline changes for entire Indian coastline using Multi-spectral satellite images along with field-surveyed data for the period of 28 years (1990-2018). It was reported that 34% of the Indian coastline was vulnerable to erosion, 27% was accretion (growing) and 39% was in stable state. Data findings of shoreline changes for 1990-2018 for Indian coast and results are given in the Annex 1. The National Centre for Sustainable Coastal Management (NCSCM), Chennai of Ministry of Environment Forest and Climate Change (MoEF&CC) has also conducted Shoreline changes studies along the coastal areas and identified the villages/ areas/ hotspots, which have seen significant Net Shoreline Movement and are severely affected by erosion.

(e) & (f) Yes, Sir. The following specific *proposals/* projects, among others, covering the coastal areas are under the consideration of the Government, under the ENCORE (Enhancing Coastal and Ocean Resource Efficiency) project of Ministry of Environment Forest and Climate Change (MoEF&CC) to be funded by the World Bank.

- i. Integrated Coastal Zone Management Plans for all coastal States/UTs, including preparation of Shoreline Management plans.
- ii. River Bank protection plans for River Haldi, PurbaMednipur District and DakshinHazipur, West Bengal.
- iii. Coastal Protection Measures near Ramayapatna and Mangala River in Puri district, Odisha.
- iv. Close monitoring of the inlet of Chilika lagoon, Odisha, to assess its stability in the face of climate change.
- v. Casuarina Plantation to prevent the coastal villages in Odisha from severe Cyclone/ Storm surge and saline ingress.
- vi. Coastal process study to design coastal protection structures in inhabited and uninhabited islands of Lakshadweep Islands

SI No	State	Coast Length (in km)	Coast length (in Km)						
			Erosion		Stable		Accretion		
			Km	%	Km	%	Km	%	
1	West Coast	Gujarat	1945.6	537.5	27.6	1030.9	53	377.2	19.4
2		Daman & Diu	31.83	11.02	34.6	17.09	53.7	3.72	11.7
3		Maharashtra	739.57	188.26	25.5	477.69	64.6	73.62	10
4		Goa	139.64	26.82	19.2	93.72	67.1	19.1	13.7
5		Karnataka	313.02	74.34	23.7	156.78	50.1	81.9	26.2
6		Kerala	592.96	275.33	46.4	182.64	30.8	134.99	22.8
7	East Coast	Tamil Nadu	991.47	422.94	42.7	332.69	33.6	235.85	23.8
8		Puducherry	41.66	23.42	56.2	13.82	33.2	4.42	10.6
9		Andhra Pradesh	1027.58	294.89	28.7	223.36	21.7	509.33	49.6
10		Odisha	549.5	140.72	25.6	128.77	23.4	280.02	51
11		West Bengal	534.35	323.07	60.5	76.4	14.3	134.88	25.2
Total		6907.18	2318.31		2733.86		1855.03		
			33.6		39.6		26.9		