

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION NO. 4735  
TO BE ANSWERED ON WEDNESDAY, 29<sup>th</sup> MARCH, 2023**

**STUDY ON CLIMATE VULNERABILITY**

**4735. SHRIMATI APARAJITA SARANGI:**

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government has done any comprehensive climate vulnerability study on coastal communities, towns and ecosystems which will be affected by coastal erosion in Odisha;
- (b) if so, the details of the areas under coastal erosion in Odisha and the steps taken/likely to be taken by the Government to mitigate coastal erosion in Odisha;
- (c) the details of habitat loss, coastal degradation and coastal erosion due to climate change in the last five years; and
- (d) whether the Government has created any fund to compensate the victims of habitat loss due to coastal erosion in Odisha and if so, the details thereof?

**ANSWER**

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

- (a) Yes Sir. The National Centre for Coastal Research (NCCR), an attached office of Ministry of Earth Sciences, has carried out a National shoreline change assessment mapping for Indian coast (including Odisha) using 28 years of satellite data from 1990 to 2018 to provide information for coastal management strategy. In addition, Indian National Centre for Ocean Information Services (INCOIS), MoES has prepared the Coastal Vulnerability Index (CVI) maps for the entire coastline of India by using 7 parameters such as shoreline change rate, sea-level change rate, coastal elevation, coastal slope, coastal geomorphology, significant wave height and tidal range. Further studies have been done on Multi-Hazard Vulnerability Mapping to identify potential areas of coastal inundation for the mainland of India using data on extreme water levels, coastal erosion, sea-level change and high-resolution topography.
- (b) The district-wise statistics of coastal erosion in Odisha is as follows:

Coastal District	Coastal length (km)	Erosion	Stable	Accretion	Erosion	Stable	Accretion
		(In km)			(In %)		
Ganjam	62.9	15.48	18.32	29.1	24.6	29.1	46.3
Puri	140.04	15.78	14.12	110.14	11.3	10.1	78.6
Jagatsinghpur	58.72	32.58	6.32	19.82	55.5	10.8	33.8

Kendrapara	135.78	50	52.12	33.66	36.8	38.4	24.8
Bhadrak	59.88	11.1	10.4	38.38	18.5	17.4	64.1
Baleshwar	92.18	15.79	27.49	48.9	17.1	29.8	53.0
Total	549.5	140.73	128.77	280	25.6	23.4	51.0

A report on "National Assessment of Shoreline Changes along Indian Coast" was shared with various Central and State Government agencies and stakeholders for implementing shoreline protection measures.

- (c) The details of habitat loss, coastal degradation and coastal erosion in Odisha are:
- (i) Loss of habitat and shifting of sites of turtle nesting from Bhitarkanika to Gahirmatha in Kendrapara district.
  - (ii) Loss of vegetation and sand dunes in Pentha and Satabhaya coast.
  - (iii) Loss of Casuarina vegetation in Siali and adjoining areas of Jagatsinghpur district
  - (iv) Degradation of fishing hamlets in Ramachandi, and tourist beach in Puri town of Puri district.
  - (v) Damage to fishing hamlets in Podampeta, Ramiyapatnam and Gopalpur of Ganjam district.
- (d) Ministry of Earth Sciences through National Centre for Coastal Research and National Institute of Ocean Technology provides technical solutions to Government of Odisha in mitigation of coastal erosion and they are being implemented by Government of Odisha with their own funds.

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