

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 4308
TO BE ANSWERED ON 27.03.2023

Comprehensive Climate Vulnerability

4308. SHRIMATI APARAJITA SARANGI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) whether the Government had done any comprehensive climate vulnerability assessment of coastal communities, town and ecosystem which would be affected by coastal erosion;
- (b) the details of area under coastal erosion in the State of Odisha the steps taken by the Government to mitigate coastal erosion problem;
- (c) the details of habitat loss and coastal degradation and coastal erosion due to climate change during the last five years;
- (d) whether Government has created any fund to compensate the victims of habitat loss due to coastal erosion; and
- (e) the details of steps taken by the Government to mitigate the coastal erosion?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (c) Some stretches of India's shoreline are subject to varying degree of erosion due to natural causes or anthropogenic activities. The coastal erosion does impact coastal communities residing in the erosion prone areas including fishermen communities. National Centre for Coastal Research, (NCCR), an attached office of the Ministry of Earth Sciences, Government of India has monitored the shoreline changes for entire Indian coastline using multi-spectral satellite images along with field-surveyed data for the period 1990-2018. It is observed that 33.6% of the Indian coastline was vulnerable to erosion, 26.9% was under accretion (growing) and 39.6% was in stable state. This long-term shoreline analysis indicates that out of 550 km of coast in Odisha, 28% of the coast is eroding, 21% is stable and 51% is accreting. Erosion-stable-accretion status of Odisha coastal districts are as under:

Sl. No.	District	Coast Length (in km)	Coast Length (in km)						
			High Erosion	Moderate Erosion	Low Erosion	Stable	Low accretion	Moderate Accretion	High Accretion
1.	Ganjam	62.90	3.84	1.92	8.30	18.46	22.10	1.84	6.44
2.	Puri	140.04	6.68	4.34	10.38	9.18	73.72	23.66	12.08
3.	Jagatsinghpur	58.72	14.58	7.76	11.88	9.24	5.18	0.88	9.20

4.	Kendrapara	135.82	31.02	8.72	9.22	54.26	11.26	5.02	16.32
5.	Bhadrak	59.88	6.64	3.44	3.48	4.14	4.58	6.66	30.94
6.	Baleshwar	92.14	5.50	4.32	11.78	18.24	22.10	7.54	22.66
	Total	549.50	68.26	30.50	55.04	113.52	138.94	45.60	97.64

A report of NCCR on "National Assessment of Shoreline Changes along Indian Coast" revealed that the shoreline changes are combined effect of natural and human activities and the receding coastline will cause loss of land/habitat and the livelihood of fishermen in terms of losing the space for parking boats, mending nets and fishing operations. The report has been shared with various Central and State Government agencies and stakeholders for implementing shoreline protection measures.

To protect the coastal areas from erosion, initiatives such as mangrove plantation, shelterbelt plantation and installation of Geo-Tubes in 500 m (Pentha Village Odisha) have been carried out. Central Water Commission has also published guidelines for "Protection and Control of Coastal Erosion in India" in 2020 to provide the preliminary design parameters for suitable coastal protection works for different stretches of coastline including Odisha.

Indian National Centre for Ocean Information Services (INCOIS) has estimated Coastal Vulnerability Index (CVI) for the Indian coastline, which is a cumulative impact of seven coastal parameters i.e., shoreline change rate, sea-level change rate, coastal elevation, coastal slope, coastal geomorphology, significant wave height and tidal range.

(d) Under 15th Finance Commission, recovery and reconstruction window of National Disaster Response Fund (NDRF) for Rs. 1000 crore is earmarked for resettlement of displaced people affected by erosion. In addition, Rs. 1500 crore is earmarked for mitigation measures to prevent river and coastal erosion.

(e) The Government of India is committed for taking proactive steps in combating sea erosion and protection of India's coastal areas and the coastal communities. Some of the important measures taken are as follows:

- i. Ministry of Environment, Forest & Climate Change (MoEFCC) has delineated the hazard line for the entire coast of the country. The hazard line is indicative of the shoreline changes, including sea level rise due to climate change. This line is to be used by agencies in Coastal States as a tool for Disaster Management including planning of adaptive and mitigation measures. The hazard line features in the new Coastal Zone Management Plans of the coastal States/Union territories approved by the MoEFCC.
- ii. MoEFCC has notified Coastal Regulation Zone Notification, 2019 with a view to conserve and protect coastal stretches, marine areas and to ensure livelihood security to the fisher and other local communities. The coastal regulations, however, permit setting up of erosion control measures in the coast. The notification also provides for No Development Zones (NDZ) along various categories of coastal areas to protect India's coastline from encroachment and erosion.
- iii. MoEFCC has framed a national strategy for coastal protection along with guidelines for all Coastal States and Union Territories.

- iv. The Flood Management Scheme of Ministry of Jal Shakti, including anti-sea erosion schemes, are planned and executed by the State Governments with their own resources as per priorities of States. Union Government renders assistance to states which is technical, advisory, catalytic and promotional in nature.
- v. Considering the importance of collection of data on coastal processes towards coastal protection measures, a new component "Coastal Management Information System (CMIS)" was initiated under the Central Sector Plan Scheme "Development of Water Resources Information System". CMIS is a data collection activity carried out to collect near shore coastal data which can be used in planning, design, construction and maintenance of site specific coastal protection structures at vulnerable Coastal stretches. Establishment of three sites each in the State of Kerala, Tamil Nadu and UT of Puducherry has been completed.
- vi. NCCR has successfully demonstrated the innovative coastal erosion mitigation measures at Puducherry and Chellanam in Kerala, which helped in restoration and protection of coastal areas lost at Puducherry and flooding at Chellanam Fishing Village. Technical support has been extended to the coastal States in the design of coastal protection measures at vulnerable stretches and preparation of Shoreline Management Plans.
- vii. Union Government is implementing several schemes for increasing forest and tree cover in the country, including mangroves in coastal areas, to prevent erosion. The scheme for 'Conservation and Management of Mangroves and Coral Reefs' is being implemented on a 60:40 fund sharing basis between the Center and the States. There are other schemes/programmes such as Compensatory Afforestation Fund Management and Planning Authority (CAMPA), National Afforestation Programme etc., which support afforestation activities across the country, including districts in Odisha. Besides, States/UTs have their own conservation and afforestation programmes, including for mangroves.
