GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 523
TO BE ANSWERED ON 07.12.2023

Coastal erosion in West Bengal

523. SMT. MAUSAM NOOR:

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

(a) whether there has been an increase in funding from the Central Government to address coastal erosion in the States, particularly in West Bengal, which is reported to be the worst hit:
(b) if so, the details thereof;
(c) whether the Ministry has conducted assessments to determine the impact of climate change on coastal erosion, and if so, the key findings thereof;
(d) whether there are any comprehensive studies or reports conducted by Government or independent agencies that assess the effectiveness of current policies in combating coastal erosion; and
(e) if so, the details thereof?

ANSWER

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

(a) to (e) The 15th Finance Commission has recommended Rs. 1000 crore for resettlement of displaced people affected by erosion for 2021- 26 under National Disaster Response Fund (NDRF). In addition, Rs. 1500 crore is earmarked for mitigation measures to prevent river and coastal erosion for the same period under National Disaster Mitigation Fund (NDMF). For both funds (NDRF and NDMF), State Governments will have to avail resources on a cost-sharing basis.

NCRMP Phase-II is being implemented in 6 Coastal States (Goa, Gujarat, Karnataka, Kerala, Maharashtra and West Bengal) with an overall budget/outlay of Rs. 1864.38 Cr (GoI share Rs.1465.16 Cr, State Share Rs. 399.22 Cr), since July 2015 to March 2023.

The Ministry of Earth Sciences (MoES) published an assessment report on the climate change impact on the Indian region, which includes impact of climate change on oceans. Based on scientific studies and the recent climate assessment report of the Ministry of Earth Sciences, the tropical Indian Ocean is warming over the recent decades. The average basin-wide sea surface temperature (SST) is warming at a rate of 0.15 °C /decade during 1951-2015. During the same period, globally averaged SST warmed at a rate of ~0.11 °C. Owing to this rapid warming, the sea level in the Indian Ocean was observed to be rising at

a rate of 1.06-1.75 mm/year during the last century (1874–2004) and ~3.3 mm/year in the recent decades (1993-2015), which is in a similar range of the global mean sea level rise.

National Centre for Coastal Research (NCCR), an attached office of MoES, has carried out a National shoreline change assessment mapping for Indian coast using 28 years of satellite data from 1990 to 2018 to provide information for coastal management strategy. 526 maps were prepared for the entire Indian mainland coast for identifying areas vulnerable to coastal erosion on 1:25000 scale, along with 69 district maps, and 9 States and 2 Union Territory (UT) maps. 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. The study report is also shared with Central and State Government agencies for implementing shoreline protection measures.

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.

The study by NCCR reveals 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, fishing operations.

The Government of India is committed to taking proactive steps in combating sea erosion and protection of India's coastal areas and the coastal communities. Some of the important measures being undertaken in this regard are as follows:

i. Ministry of Environment, Forest & Climate Change (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 permit setting up of erosion control measures in the coast. The notification provides for No Development Zones (NDZ) along various categories of coastal areas to protect India's coastline from encroachment and erosion.
ii. 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 is incorporated in the Coastal Zone Management Plans of the coastal States/Union territories.
iii. In compliance of Hon'ble NGT order dated 11/04/2022 in O.A. No. 04 of 2013 and Appeal No. 18 of 2017, Chief Secretaries of all the Coastal States / UTs have been requested to finalize the Coastal Zone Management Plan (CZMP) as per CRZ Notification 2019. CZMP shall have mapping of erosion prone areas and preparation of Shore Line Management Plan for such identified eroding stretches.
iv. MoEFCC has framed a national strategy for coastal protection along with guidelines for all Coastal States and Union Territories.
v. 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 promotional in nature.

vi. "Coastal Management Information System (CMIS)" under Central Sector Scheme namely "Development of Water Resources Information System" of Ministry of Jal Shakti has been developed considering the importance of data on coastal processes towards coastal protection measures, 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.

vii. Coastal erosion mitigation measures have been taken up 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.

viii. National Centre for Coastal Research (NCCR), an attached office of the Ministry of Earth Science (MoES) has been monitoring the shoreline changes for entire coastline using multi-spectral satellite along with field-surveyed data for the period of 28 years (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.

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