

GOVERNMENT OF INDIA  
MINISTRY OF ENVIRONMENT, FOREST, AND CLIMATE CHANGE

**LOK SABHA**  
**UNSTARRED QUESTION NO. 1716**  
TO BE ANSWERED ON: 31.07.2023

**Rising of Sea Level**

1716. SHRI MADDILA GURUMOORTHY:  
SHRI RAJMOHAN UNNITHAN:  
SHRI MARGANI BHARAT:

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

- (a) whether the Government is aware that India is one of the few countries at the greatest risk of experiencing rising sea levels worldwide and subsequently an increased risk of flooding, if so, the steps taken by the Government to mitigate such effects;
- (b) whether the Government plans to commission a study to assess the extent of effects of climate change and rising sea levels on the Andhra Pradesh coastline, if so, the details thereof and if not, the reasons therefor;
- (c) the steps taken/proposed to be taken by the Government to enhance resilience against climate change for extra vulnerable States like Andhra Pradesh;
- (d) whether the Government plans to invest in national projects like application of Space Technology, as recommended by Niti Aayog to obtain real-time information, if so, the details thereof;
- (e) whether there is Central scheme to support sea erosion areas and to save house and property of people from the sea erosion; and
- (f) whether the Government consider for a special package for the Kasargod in Kerala and if so, the details thereof?

**ANSWER**

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

(SHRI ASHWINI KUMAR CHOUBEY)

(a) to (f) Sea level rise is a slow phenomenon and varies globally depending on local site factors. As per the Intergovernmental Panel on Climate Change (IPCC) Working Group I report released in August 2021, global mean sea level increased by 0.20 (0.15-0.25) m between 1901 and 2018. The average rate of sea level rise was 1.3 (0.6-2.1) mm/year between 1901-1971, increasing to 1.9 (0.8-2.9) mm/year between 1971 and 2006, and further increasing to 3.7 (3.2 to 4.2) mm/year between 2016 and 2018.

In line with this global trend and based on the study by the Indian National Centre for Ocean Information Services (INCOIS) as well as the studies published in scientific literature, on an average, at present, the sea level along the Indian coast is estimated to be rising at about 1.7 mm/year. It was observed that the sea levels are changing at different rates along the Indian coast. The rate of sea level rise may also include manifestations in sea level change due to the subsidence or uplift of land at those locations. Since no long-term data on land subsidence or

upliftment is available for these locations, the rate of increase of sea level due to the changes in climate could not be separated.

Ministry of Environment, Forest and Climate Change (MoEFCC) has commissioned a study to assess the extent of effects of climate change and rising sea levels on the Andhra Pradesh coastline. Under the project titled "Enhancing Climate Resilience of India's Coastal Communities", supported by the Green Climate Fund, an integrated coastal climate vulnerability assessment framework has been developed, including gender aspects, for use in adaptation planning at village and landscape levels, which includes assessment of physical, ecological and socio-economic vulnerabilities of the Indian coastal landscape.

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. The MoEFCC has notified the Coastal Regulation Zone (CRZ) Notification, 2019 with a view to conserving and protecting coastal stretches, marine areas and to ensure livelihood security for fishermen and other local communities. The CRZ Notification permits establishment of erosion control measures (preferably soft solutions) along the coast.

To protect the coastal areas from erosion, initiatives such as mangrove plantations and shelterbelt plantations have been carried out for the entire coastline of India. A new scheme 'Mangrove Initiative for Shoreline Habitats & Tangible Incomes' (MISHTI) envisage to comprehensively explore the possible area for development of Mangroves covering approximately 540 Sq. Kms. spreading across 11 States and 2 Union Territories during five years commencing FY 2023-24 onwards.

Schemes / programmes such as the Compensatory Afforestation Fund Management and Planning Authority (CAMPA), National Afforestation Programme etc. support afforestation activities across the country, including in coastal districts of Andhra Pradesh. Besides, the State has its own conservation and afforestation programmes, including for mangroves. Further, the Central Water Commission has 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. MoEFCC has also 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 used by agencies in Coastal States as a tool for disaster management including planning of adaptive and mitigation measures.

National Information system for Climate and Environment (NICES) at National Remote Sensing Centre (NRSC), Indian Space Research Organisation (ISRO) is providing information on geophysical variables, relevant to climate and environmental variables, derived from space and ground-based observations. These include ocean, atmosphere, terrestrial and cryospheric products, which are being made accessible through NICES/Bhuvan geoportal.

No proposal on special package for Kasargod in Kerala for addressing the sea erosion and impact of climate change, is under consideration with this Ministry.

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