

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

LOK SABHA
UNSTARRED QUESTION NO. 2570
TO BE ANSWERED ON 17.03.2025

Climate Change Impact on Lakshadweep

2570. SHRI MUHAMMED HAMDULLAH SAYEED:

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

- (a) whether the Government is working on long-term strategies to address future risks of sea-level rise and climate-induced heat stress in the Union Territory of Lakshadweep, particularly with respect to coastal erosion and habitat loss, if so, the details thereof; and
- (b) whether the Government plans to collaborate with marine research institutions to develop resilience-building measures for the Lakshadweep archipelago in response to accelerated warming in the Indian Ocean, if so, the details thereof?

ANSWER

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

(SHRI KIRTI VARDHAN SINGH)

(a) and (b) Small islands are amongst the most vulnerable to sea level rise and other climate change related impacts. The National Centre for Sustainable Coastal Management (NCSCM), an organization under the Ministry of Environment, Forest and Climate Change (MoEFCC), has undertaken physical vulnerability studies for four islands of Lakshadweep (Kavaratti, Kadmat, Minicoy, and Suheli) using various climate change-related scenarios of extreme events such as storm surges and tsunamis, etc., to identify vulnerable areas along the island coast. As per the studies conducted by the Indian Council of Agriculture Research – Central Marine Fisheries Research Institute, a considerable percentage of the hard coral species from various Lakshadweep Islands have undergone severe bleaching, primarily due to a prolonged period of marine heatwaves affecting the region since late October 2023.

The Government of India is committed to taking proactive steps to address future risks of sea level rise and climate-induced heat stress and in combating sea erosion and protection of India's coastal areas. Some of the important measures taken are as follows:

- i. MoEFCC has framed a national strategy for coastal protection along with guidelines for all Coastal States and Union Territories.
- ii. MoEFCC has notified the Coastal Regulation Zone Notification, 2019 with a view to conserve and protect coastal stretches, marine areas and to ensure livelihood security to the coastal communities. 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 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.
- iv. 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 vide letter dated 08/09/2022 to finalize the Coastal Zone Management Plan (CZMP) as per CRZ Notification 2019 which also includes mapping of erosion prone areas and preparation of Shore Line Management Plan for such identified eroding stretches shown in the CZMP.
- v. The National Adaptation Fund for Climate Change (NAFCC) is aimed at climate adaptation, including in vulnerable coastal areas. NAFCC finances the measures to protect vulnerable coastal communities and improve their resilience to sea level rise.

Further, the Lakshadweep Administration has taken up shore protection measures for nearly 57.4% of the eroding coast using hard structures such as tetrapod, retaining walls, dumping of rocks, sandbags, etc. Implementation of green coastal infrastructure (which includes plantation of mangroves, salt marsh, coastal dune vegetation etc.) is recommended, wherever possible, as a long-term strategy for shore protection along the eroding coasts and to act as bio-shields against coastal hazards. Promotion of hybrid structures (combination of vegetation and eco-friendly materials), submerged reefs, artificial reefs, and oyster reefs are encouraged as the potential shoreline protection measures. Transplantation of coral and seagrasses, and coral gardening as mitigation measures in identified hotspots are also recommended for these Islands.
