

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 1020
TO BE ANSWERED ON WEDNESDAY, 8TH FEBRUARY 2023**

Effects of climate change on Sundarbans

1020. SHRI JAGANNATH SARKAR:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) whether the Government has conducted or proposes to conduct any study highlighting the effect of climate change on Sundarbans, if so, the details thereof and if not, the reasons therefor;
- (b) whether the Government is aware that Sundarbans has recorded an annual sea level rise of 8mm which is more than the double of the average, if so, the details thereof; and;
- (c) the steps taken by the Government to conserve the mangroves biodiversity across the coastlines of the country which face the impact of rising sea level due to climate change?

ANSWER

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

- (a) Ministry of Earth Sciences through Indian Institute of tropical Meteorology (IITM), Pune, is working on the high-resolution regional climate change projections until 2100 at 50 km spatial resolution for overall South Asian region by using global and regional climate models. In general, some scientific studies reported that endemic species of the region are impacted by climate change due to inadequate supply of fresh water leading to intrusion of salinity and thereby disturbing the forest vegetation. The recent Intergovernmental Panel on Climate Change (IPCC) report of 2022 shows that hyper salinity, storm effects on sediment deposition, fishery development and land erosion are responsible for most of the Sundarbans mangrove degradations leading to loss of livelihood.
- (b) The World Bank Strategy Report 2014 'Building Resilience for Sustainable Development of the Sundarbans' states that "the sea is estimated to be rising at a rate of 3–8 mm per year in the Sundarbans; parts of the coast due south are, in fact, rising because of uplift, which illustrates that impacts are not necessarily homogenous and differ according to varying geological processes". Ministry of Earth Sciences through Indian National Centre for Ocean Information Services (INCOIS), also carried out the rate of sea level change measurement in that region using sea level gauges installed at the Diamond harbour and Haldia locations in Hooghly Estuary of West Bengal. The rate of sea level change estimated at Diamond harbour is 5.16 mm/yr (during 1948-2005) and 2.89 mm/yr (during 1972-2005) at Haldia.
- (c) Ministry of Environment, Forest and Climate Change provides grants-in-aid to all coastal States/UTs for conservation and management of 38 identified mangroves sites under Central Sector Scheme. Management Action Plan are formulated and implemented by coastal States/UTs with financial assistance from Central Government and States/UTs in share ratio of 60:40.
