

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
LOK SABHA  
UNSTARRED QUESTION No. 2526  
TO BE ANSWERED ON WEDNESDAY, DECEMBER 26, 2018  
IMPACT OF CLIMATE CHANGE ON WEATHER CONDITION**

**2526. SHRI K.C. VENUGOPAL:**

**Will the Minister of EARTH SCIENCES be pleased to state:**

- (a) whether the country is witnessing the evidence of significant changes in extreme weather events and the extreme rainfall due to climate change and if so, the long-term measures taken by Government in this regard;**
- (b) whether the Government has conducted or reviewed any studies on the possible impact of climate change on the weather conditions in the country;**
- (c) if so, the details thereof;**
- (d) whether the Government is ready to use Continuous Plankton Recorders (CPRs) in the Arabian Sea to understand the migration of fishes because of the rise in seawater temperatures, which can also affect the livelihood of people in years to come and if so, the details thereof; and**
- (e) whether the Government has implemented or proposes to implement any permanent mechanism to study the rise of water level in rivers and reservoirs because of heavy rainfall in States like Kerala and if so, the details thereof?**

**ANSWER**

**MINISTER OF MINISTRY OF SCIENCE AND TECHNOLOGY AND  
MINISTRY OF EARTH SCIENCES  
(DR. HARSH VARDHAN)**

- (a) Monsoon rainfall varies on different spatial and temporal scales. Extreme rainfall events that occur at some isolated places (viz. heavy rainfall over Mumbai or in other parts) are highly localized and are largely part of the natural variability of the Indian monsoon system itself. Some recent studies suggest an increasing frequency and intensity of extremes in rainfall during the past 40-50 years. Moreover, the report of the Inter- governmental Panel on Climate Change (IPCC) and our country's own assessment using regional climate models indicate that the extreme rainfall events are likely to be more frequent in India in future.**

- (b)-(c) Yes Madam. Ministry of Environment, Forests and Climate Change (MoEF&CC), Govt. of India had undertaken the Indian second National Communication to UNFCCC during 2009-2011(NATCOM-II). The communication had been a national effort which involved many multi-disciplinary scientific groups. Ministry of Earth Sciences and its institutions carry out scientific studies on climate change and variability under Global and Regional Climate Change (GRCC) programme. The Ministry of Earth Sciences, Ministry has established a dedicated Centre for Climate Change Research (CCCR) under the Indian Institute of Tropical Meteorology (IITM), Pune.**
- (d) At present CPR is not being used to understand the migration of fishes.The Centre for Marine Living Resources and Ecology (CMLRE), is undertaking studies on the Marine Ecosystem Dynamics of the Eastern Arabian Sea (MEDAS) addressing the regional biogeochemical impact in response to the seasonal physical forcing. The plankton dynamics is taken care of in the study, and this will be ultimately correlated to the fishery.**
- (e) Mechanism of water level and reservoir storage changes across 146 river sub-basins of India exists as a shared mandate between Flood Meteorological Offices (FMO) of IMD and Central Water Commission (CWC).Similar support system for small river basins of Kerala can be built with consultation of the state government.**

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