

**GOVERNMENT OF INDIA  
MINISTRY OF EARTH SCIENCES  
RAJYA SABHA  
STARRED QUESTION No. \* 139  
TO BE ANSWERED ON MONDAY, JANUARY 01, 2018**

**FORECAST OF CYCLONES**

**\*139. SHRI C.P. NARAYANAN:**

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

- (a) whether, in recent past, there was any cyclone other than Ockhi which originated from vicinity of Sri Lanka and moved towards the coast or to north through sea;**
- (b) whether India Meteorological Department (IMD) was able to predict cyclones, one or two days before it hit coast;**
- (c) whether origination of cyclones so close to main India is a phenomenon of climate change; and**
- (d) what steps the Ministry has adopted to predict such cyclones early and warn all concerned?**

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

**(a) to (d): A Statement is laid on the Table of the House.**

**STATEMENT LAID ON THE TABLE OF THE RAJYA SABHA IN REPLY (a) to (d) TO STARRED QUESTION NO. \*139 REGARDING “FORECAST OF CYCLONES” TO BE ANSWERED ON MONDAY, JANUARY 01, 2018**

- (a) No sir. In the recent past, there was no cyclone other than OCKHI which originated from vicinity of Sri Lanka and moved towards the Indian coasts.**
- (b) Yes Sir. Tropical Cyclone Genesis outlook was issued on 28<sup>th</sup> November, 2017 and details about the Depression along with its intensification were issued from 29<sup>th</sup> November, 2017 (1150 hrs IST).**
- (c) The formation of cyclone OCKHI close to the coast cannot be considered as a direct manifestation of climate change. However, the possible impacts of climate change can lead to increased intensity and frequency of cyclones over the global oceans including the Arabian Sea.**

**Under the National Action Plan on Climate Change (NAPCC), major mission mode initiatives have been launched by Govt of India to take all possible strategies for impact minimization, adaptation and mitigation to build resilience. Activities related to science of climate change and the development of Earth System Model have been launched by Ministry of Earth Sciences during the last five years. Several initiatives under the missions on Strategic Knowledge for Climate Change and Sustaining Himalayan Ecosystem are being implemented by Department of Science and Technology (DST). All the eight missions are coordinated by MoEF&CC which is also serving as the secretariat to PM council on climate change.**

- (d) The improvement of the monitoring and forecasting of tropical cyclones is a continuous process. There are two Area Cyclone Warning Centres (ACWC) at Mumbai and Chennai and three Cyclone Warning Centres (CWCs) at Ahmedabad, Vishakhapatnam and Bhubaneswar. The observing system infrastructure for 24X7 monitoring and detection of Tropical Cyclones all along the Indian coastlines has been commissioned with 7 Doppler Weather Radars (DWR) on the east coast, 5 DWR on the west coast, 20 High Speed Wind Recorders (HWSR) and about 70 Automatic Weather Stations. In addition to these, we also make use the data from the Indian satellites (INSAT-3D, INSAT-3DR, Megha-Tropiques and SCATSAT). Ministry also has a High Performance Computing System (HPC) of 1.12 PetaFlops to run an advanced suite of weather prediction models. The HPC system is being further upgraded to 6.8 PetaFlops by January 2018.**

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