GOVERNMENT OF INDIA EARTH SCIENCES LOK SABHA

STARRED QUESTION NO:371 ANSWERED ON:19.12.2012 NOWCASTING OF WEATHER Semmalai Shri S. ;Yadav Shri Ranjan Prasad

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Indian Meteorological Department (IMD) has operationalised its location specific nowcasting weather services across the country;

(b) if so, the details thereof and if not, the reasons therefor;

(c) the progress made by IMD in upgrading its monitoring infrastructure and computing systems in this regard;

(d) whether the Government has commissioned Doppler Weather Radar (DWRs) all over the country and if so, the details thereof, location-wise and if not, the reasons therefor; and

(e) the time by which DWRs would be commissioned all over the country?

Answer

MINISTER FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES (SHRI S. JAIPAL REDDY)

(a) - (e) A Statement is laid on the Table of the House.

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY (a) to (e) OF STARRED QUESTION No. 371 REGARDING "NOWCASTING OF WEATHER" TO BE ANSWERED ON WEDNESDAY, DECEMBER 19, 2012

(a) Yes Madam.

(b) Government of India through Earth System Science Organization (ESSO)-IMD has operationalised its location specific nowcasting weather service across the country including the web based inputs. Under this service activity, that covers 117 urban centres currently on experimental basis, nowcast of severe weather (Thunderstorms; heavy rainfall from lows/depressions over the land) in 3-6h range is issued. Origin, development/movement of severe weather phenomena are regularly monitored through all available observing systems (Automatic Weather Stations-AWSs; Automatic Rain Gauges-ARGs; Doppler Weather Radars-DWRs; Automatic Weather Observing Systems-AWOS; satellite derived wind vectors, temperature, moisture fields etc.) are assimilated to generate predictions (prepared both in text as well as in graphical form) on 3h time range. Web GIS rendering of the nowcast products is implemented for enhanced spatial representation of the severe weather intensities associated with warnings.

(c) With the commissioning of the state-of-the-art observing (675 Nos. of AWSs; 955 Nos. of ARGs; 15-DWRs), monitoring/early warning and data visualization/information processing and communication technologies under the Phase-I of the modernization of IMD, several manual operations have been fully automated. All the manpower that was engaged earlier for such manual operations have been provided due orientation, training and skill development opportunities not only to attain appropriate operating skills of advanced technological platforms but also contribute efficiently to the quality enhancement through customization of sector specific warning and forecasting services.

Commissioning of the High Performance Computing (HPC) system at the ESSO-National Centre for Medium Range Weather Forecasting (NCMRWF) and ESSO-IMD has provided opportunity to assimilate satellite radiance data in to the global/regional forecast systems and to enhance the spatial resolution of the global forecast systems from about 50km grid scale to about 22km grid scale. The performance evaluation of the new global forecast system has demonstrated enhanced forecast skill quantitatively.

(d) In order to capture the characteristics of the severe weather in real time, state-of-the-art 24X7 monitoring system comprising 14-DWRs, located at Agartala, Chennai, Delhi-Airport, Delhi-Lodi Road, Hyderabad, Jaipur, Kolkata, Machilipatnam, Nagpur, Patna, Visakhapatnam, Lucknow, Patiala and Mohanbari is made functional. DWRs at Mumbai and Bhuj are undergoing site acceptance tests while it is under commissioning at Bhopal. DWRs commissioning is put on hold at Goa, Paradip and Karaikal for the want of clearances from the Ministry of Defence that is under the consideration of Committee of Secretaries (COS).

(e) Commissioning of DWR network covering the whole country would have to happen in a phased manner in view of the various factors such as site selection; site survey for height of line of sight of locating the antenna; available/emerging technology variants for their suitability as per terrain variability based frequency of operation over hill states and NE States etc. Despite the above, the Government is committed to set up and enhance gradually its observational network of DWRs, AWSs, ARGs, etc. for monitoring

abnormal weather patterns and upgrading its forecasting capabilities, so that advance warning can be provided to National Disaster Management Authority (NDMA), Ministry of Home Affairs, and Ministry of Agriculture to tackle the impacts of the adverse and extreme weather phenomena.