GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
STARRED QUESTION No. *208
TO BE ANSWERED ON WEDNESDAY, DECEMBER 26, 2018

MODERNISATION OF IMD

***208 SHRI JUGAL KISHORE:**
SHRIMATI RITI PATHAK:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) **whether the weather forecast system has not been accurate in the country and if so, the details thereof along with the reaction of the Government thereto;**

(b) **whether there is shortage of requisite equipments and trained employees in the India Meteorological Department (IMD) and if so, the details thereof along with the reasons therefor;**

(c) **the status of modernisation programme of IMD;**

(d) **whether the Government proposes to modernize and upgrade all the weather forecast centres in the country and if so, the details thereof; and**

(e) **whether the targets related to automation of weather observation system across the country has been achieved and if so, the details thereof?**

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

(a) to (e) **A statement is laid on the Table of the House.**

STATEMENT LAID ON THE TABLE OF THE LOK SABHA IN REPLY TO PARTS (A) TO (E) OF THE LOK SABHA STARRED QUESTION NO. *208 REGARDING 'MODERNISATION OF IMD FOR ANSWER ON WEDNESDAY 26TH DECEMBER, 2018.

(a) **No Madam.**

Seasonal Rainfall forecast for the southwest monsoon season the average absolute error (difference between forecast and actual rainfall) during the last 12 years (2007 -2018) since 2007 was 5.95% of LPA compared to the average absolute error of 7.94% of LPA during the 12 years (1995 -2006) just prior to that period. This clearly indicates improvement made in the operational forecast system in the recent 12 year period compared to earlier 12 years period. For preparing the long range forecast, currently, latest state of the art statistical model and Monsoon Mission Climate Forecast System (MMCFS) dynamical models are used. In addition, the operational forecast for the monsoon onset over Kerala has been correct (within the forecast limits) during 13 of the 14 years (2005-2018) since issuing of operational forecast for the event started in 2005.

Extended range prediction (for next 20 days), medium range prediction (for next 7-days) and Short range prediction (for next 3 days) have considerably improved so that service level capability of above/below normal rainfall probabilities during the monsoon season is built now. Central to this capacity enhancement is the introduction of two ensemble forecasting systems, viz., Global Ensemble Forecasting System (GEFS) and Unified Model Ensemble Prediction System (UMEPS), both with resolution of 12 km from 1st June, 2018 and products are used for subdivision-wise forecast up to 7 days and district level rainfall forecast up to 5 days for monsoon season 2018.

(b) **No Madam.**

(c-d) **The modernization and enhancement of observatory network is an ongoing process. However, the following are the list of advancements brought in at service level following the modernization of IMD:**

i) **Augmentation of Doppler Weather Radar (DWR) network by 6 Nos. so as to increase the severe weather 24X7 surveillance simultaneously with satellite monitoring**
ii) **Introduction of advanced prediction models, decision support tools for agriculture, flood meteorological support, power-grid load dispatch management by Power System Organization Corporation (POSOCO)**
iii) **Launching the establishment of DAMUs for expanding outreach of crop specific agro-meteorological advisories so as to plan farm level advisories appropriately**
iv) **Integrating state level Automatic weather station (AWS) networks of Andhra Pradesh, Telangana, Karnataka with the IMDs network of manual and AWS network of IMD in regular weather monitoring activity so far**

(e) **The network of manual and AWSs required for IMDs monitoring activity is always made functional and replacement from time to time is taken up as well. The AWS networks are established by the various state governments now across the country for agricultural insurance purposes with technical partnership of IMD. The state level AWS networks provide additional densification of weather stations so as to capture local scale weather changes.**

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