

**GOVERNMENT OF INDIA  
EARTH SCIENCES  
LOK SABHA**

UNSTARRED QUESTION NO:18  
ANSWERED ON:05.12.2013  
FUNCTIONING OF IMD  
Jardosh Smt. Darshana Vikram

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

- (a) whether the Government has taken steps to enhance efficiency of functioning of India Meteorological Department (IMD);
- (b) if so, the details thereof; and
- (c) the action taken by the Government for better coordination with State Governments in this regard?

**Answer**

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

(a) Yes Madam.

(b) Improvement of weather forecasting services is a continuous process. As part of its XI five year plan, Government has initiated a comprehensive modernization programme for Earth System Science Organization-India Meteorological Department (ESSO-IMD) covering upgradation of (i) observation systems (ii) advanced data assimilation tools (iii) advanced communication and IT infrastructure (iv) high performance computing systems and (v) intensive/sophisticated training of IMD personnel to facilitate the implementation of advanced global/regional/meso-scale prediction models for improving the accuracy of weather forecasts in all temporal and spatial scales and for quick dissemination of weather forecast assessments/warnings to the users.

Operational implementation of improved forecast suite of models after the commissioning of the High Performance Computing (HPC) systems have enhanced the weather forecasting capacities through assimilating all available global satellite radiance data for the production of forecast products at 22Km grid globally and 9Kms/3Kms grid over India/regional/mega city domains.

The performance evaluation of the updated global/meso-scale forecast systems for the past 5-7 years have demonstrated enhanced forecast skill by about 18% quantitatively as far as the track and landfall forecasts of the tropical cyclones are concerned.

ESSO-IMD has operationalized its location specific nowcasting weather service across the country. This service activity currently covers 117 urban centres on experimental basis under which 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 DWRs and with all available other observing systems (AWSs; ARGs; Automatic Weather Observing Systems-AWOS; satellite derived wind vectors, temperature, moisture fields etc.)

During the XII Plan, under the National Monsoon Mission initiative, other institutions of ESSO, the Indian Institute of Tropical Meteorology (ESSO-IITM), Pune, Indian National Centre for Ocean Information Services (ESSO-INCOIS), Hyderabad and National Centre for Medium Range Weather Forecasting (ESSO-NCMRWF), NOIDA have embarked upon to build a state-of-the-art coupled ocean-atmospheric climate model for a) improved prediction of monsoon rainfall on extended range to seasonal time scale (16 days to one season) and b) improved prediction of temperature, rainfall and extreme weather events on short to medium range time scale (up to 15 days) so that forecast skill gets quantitatively improved further for operational services of ESSO-IMD.

(c) Integrated Agro-meteorological Advisory Service (AAS) is rendered now on twice-weekly basis in collaboration with State Agricultural Universities (SAUs), institutions of Indian Council of Agricultural Research (ICAR) etc. Realized weather of the previous week and quantitative district level weather forecast for next 5-days in respect of rainfall, maximum temperature, minimum temperature, wind speed, wind direction, relative humidity and clouds as well as weekly cumulative rainfall forecast are provided. Further, crop specific advisories, generated in partnership with SAUs and ICAR, to help the farmers are issued and widely disseminated. The AAS of ESSO-IMD has been successful in providing the crop specific advisories to the farmers at the district/agro-climatic zone level twice weekly through different print/visual/Radio/ IT based wider dissemination media including short message service (SMS) and Interactive Voice Response Service (IVRS) facilitating for appropriate field level actions.

Under IAAS programme, district and agro-climatic zone scale advisories have already been disseminated successfully to the farming community through various national and regional level communication mechanisms, viz. print, TV and All India Radio, web media channels, SMS and IVRS in collaboration with different public and private organizations, namely IFFCO Kisan Sanchar (IKSL) Ltd., Reuters Market Light (RML), Nokia Tools, Department of Agriculture, Government of Maharashtra, etc. At present, 18 states namely Delhi, Uttar Pradesh, Uttarakhand, Punjab, Haryana, Rajasthan, Madhya Pradesh, Chhattisgarh, Orissa, West Bengal, Gujarat,

Karnataka, Kerala, Tamil Nadu, Andhra Pradesh, Bihar, Jharkhand, Maharashtra and Himachal Pradesh have been covered under such services. Presently 3.4 million farmers in the country have been subscribed to SMS services. ESSO-IMD, in coordination with State Governments, is already generating forecasts for major pilgrimages such as Amarnath Yatra, Manasarovar Yatra, Chardham Yatra, Kumbhmela etc. and also various mountaineering expeditions launched by Armed Forces for Mount Everest and several other Himalayan mountain ranges.