GOVERNMENT OF INDIA
EARTH SCIENCES
LOK SABHA

UNSTARRED QUESTION NO:3759
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WEATHER FORECASTING
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Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the weather forecasting in the country is not as accurate as should have been;

(b) if so, whether our country is still lagging far behind from other countries in making accurate weather forecast; and

(c) if so, the efforts being made by the Government for making accurate and rational weather forecasting in the country?

Answer

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

(a) No Madam. There is no reason to carry such impression about the performance of the Earth System Science Organization-India Meteorological Department (ESSO-IMD) that operates a dedicated weather and climate monitoring, detection and warning services useful for various sectors of economy. During the past few years, the ESSO-IMD has been continuously improving weather prediction services in terms of accuracy, lead time and associated impact. Manifestation of such quantitative improvement may be seen with accurate prediction of Very Severe Cyclonic Storm 'Phailin' and the heavy rainfall events during monsoon season 2013.

(b) No Madam. The weather forecasting systems in the country are comparable to most of the countries in the world with respect to rainfall forecasting. Efforts are being made to optimize the level of efficiency of the forecasting systems.

(c) 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 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 ESSO- 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.