RAINFALL CALIBRATION

1501. SHRI PARVESH SAHIB SINGH:

Will the Minister of EARTH SCIENCES be pleased to state:

(a)   the current methods of rainfall forecast being followed by the Indian Meteorological Department;

(b)   whether there are any defects that affect the current methods and if so, the details thereof;

(c)   whether the said defects have caused inaccuracies in this year's rain forecast for areas that were affected by excessive rainfall and were not prepared for it and if so, the details thereof; and

(d)   whether the Government is looking at alternative methods for rainfall calibration and if so, the details thereof and if not, the measures taken for accurate rain forecast?

ANSWER
MINISTER OF STATE FOR MINISTRY OF SCIENCE AND TECHNOLOGY AND MINISTRY OF EARTH SCIENCES
(SHRI Y. S. CHOWDARY)

(a)   India Meteorological Department (IMD) issues three types of forecasts during the monsoon season i.e., seasonal forecast (for the whole season), extended range forecast (10- 30 days), short-medium range forecast (0-10 days). These forecasts are issued based on dynamical and statistical models.

(b)   No Madam.

(c)   Does not arise.

(d)   IMD has established a large number of observatories which have been recording the daily rainfall for more than 100 years now. IMD has 706 Automatic Weather Stations (AWS) and 1350 Automatic Rain Gauge (ARG) where the rainfall is being measured every hour. In addition, -IMD receives data from about 3748 number of rain gauges operated all over the country in collaboration with other stakeholders (state governments, Central Water Commission-CWC etc.). Based on these data sets, the daily assessment of monsoon season rainfall for the country is carried out and rainfall statistics at district-wise/statewise/meteorological-subdivision-wise/region-wise and for the Country as a whole are prepared.

The existing rainfall measurement network is sufficient for climatological purposes (for accounting seasonal scale rainfall statistics). The rainfall data from the said countrywide network of rain gauges is also supplemented from rainfall estimated from Doppler Weather RADARs and weather satellites to make the rainfall assessment system more representative. However, continuous efforts are made by the Government to increase the density of rainfall measurement network with the modern observation technologies involving Automatic Weather Stations (AWS) and Automatic Rain Gauges (ARG).

Under the 'National Monsoon Mission' (NMM) a state-of-the-art dynamical prediction 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) has been developed and is being used operationally by IMD. An improved suite of prediction models has been implemented operationally at India Meteorological Department (IMD) for enhanced short range weather forecasting capability through assimilation of all available conventional and satellite data.

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