GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 5190
TO BE ANSWERED ON WEDNESDAY, 2ND APRIL, 2025

INSTALLATION OF NEW RADAR SYSTEM

5190. SHRI JASHUBHAI BHILUBHAI RATHVA:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the details of proposed locations for installation of new radar system in the country;
(b) the manner in which their placement be prioritised based on geographical vulnerability to extreme weather events;
(c) whether the Government has outlined the expected percentage increase in forecast accuracy particularly for extreme weather conditions such as cyclones and thunderstorms, if so, the details thereof; and
(d) the timeline for full deployment and operationalisation of these advanced data collection systems?

ANSWER
THE MINISTER OF STATE (INDEPENDENT CHARGE) FOR
MINISTRY OF SCIENCE AND TECHNOLOGY
AND EARTH SCIENCES
(DR. JITENDRA SINGH)

(a) The India Meteorological Department (IMD) has planned new radars across the country. Tentative sites where the radars are planned to be installed are given below:

- 12 no. of C-Band Doppler Weather Radars (DWRs) tentatively at Raipur, Mangalore, Ranchi, Lakshadweep, Malda, Aurangabad, Balasore, Sambalpur, Ahmedabad, Bengaluru, Rupsi, & Port Blair.

- 12 no. of X-Band DWRs tentatively at Pune, Kolkata, Purnea, Varanasi, Wayanad, Bhubaneswar, Dharwad, Lahaul &Spiti, Aligarh (GoUP), Azamgarh (GoUP), Jhansi (GoUP), Lucknow (GoUP).

- 10 no. of X-Band DWRs for North East tentatively at Jorhat, Tezpur, Aizawl, Namsai, Silchar, Imphal, Dimapur, Mandala Top, Central Arunachal Pradesh, & Guwahati.

- In addition, 53 radars (8 S-Band, 20 C-Band, and 25 X-Band) are also planned to be installed across the country under the Mission Mausam so that the entire country is brought under radar coverage.

(b) The locations of the DWRs have been arrived upon considering the gap areas in the coverage of the existing DWR network.

(c) In addition to the proposed improvement in the radar coverage mentioned above, other observation systems like wind profilers, radio sonde/radio wind, microwave radiometers, etc., are also planned under the Mission Mausam. Along with the improvement in the observational network, deployment of high-performance computing infrastructure, advanced Earth system models, integration of artificial intelligence (AI) and machine learning (ML) technologies, etc, under the Mission Masuam will help improve in forecasts on various timescales, especially in location-specific nowcast (forecast up to a few hours) to short-range forecast up to 3 days. The implementation of the Mausam Mission is likely to help (i) in capturing and monitoring all the weather events happening in the country so that no weather system will go undetected (ii) improve the frequency of nowcasting extreme weather such as thunderstorms, lightening, strong winds, etc. from 3 hrs. to 1 hr. (iii) improve the short and medium range weather forecast accuracy by about 5-10% and (iv) improve air quality forecasts by about 5-10% in the major metro cities.

(d) The entire country will be under radar coverage within the next 2-3 years.

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