GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 2571
TO BE ANSWERED ON WEDNESDAY, 11TH DECEMBER, 2024

EXPANSION OF WEATHER RADARS NETWORK UNDER MISSION MAUSAM

†2571. SHRI PRADEEP KUMAR SINGH:
SHRI RAMVIR SINGH BIDHURI:
SHRI KOTA SRINIVASA POOJARY:
SHRI K C VENUGOPAL:
SHRI MITESH PATEL BAKABHAI:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) the details of the existing network of Doppler Weather Radars in the country and their geographical coverage;
(b) whether the Government is considering for expanding the radar network to enhance weather monitoring capabilities and cover underserved areas;
(c) whether the Government has taken measures to increase the weather radars in the country for increasing the accuracy of forecasting system under Mission Mausam, if so, the details thereof;
(d) the number of radars installed under the said mission as on 30 September, 2024, State-wise;
(e) whether the Government is taking any steps to explore the integration of Doppler radar data into weather forecasting models for accurate and localized weather predictions; and
(f) if so, the details thereof?

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

(a) Currently, 39 Doppler Weather Radars (DWRs) are installed at various locations across the country.The S-band radar provides a radial coverage of 400 km, whereas C-band and X-band provide 250 km and 100 km, respectively. The State and location-wise details are given in Annexure-1.

(b) Yes.

(c)-(d) Yes.The newly launched Mission Mausam is intended to augment the DWRs network across the country for complete radar coverage and to enhance the accuracy of the weather forecasting system. Mission Mausam was launched in September 2024 and planned to install 87 more DWRs by 2026.

(e) Yes. DWR data are being ingested into numerical weather prediction (NWP) models through sophisticated data assimilation techniques for improving weather forecasts.

(f) In recent years, with the availability of computing resources within the Ministry of Earth Sciences, NWP modeling systems have been capable of utilizing multiple radar observations with higher spatial and temporal resolution to achieve the target of producing quality localized forecasts. There are techniques and advanced decision support systems to generate location-specific forecasts for all kinds of weather with the utilization of different inputs,including all the radar observations.

Annexure-1

Doppler Weather Radars (DWRs)Network:			
S. No.	**State**	**Name of Station**	**DWR type**
1.	West Bengal	Kolkata	S-Band
2.	Andhra Pradesh	Machilipatnam	S-Band
3.		Visakhapatnam	S-Band
4.		Sriharikota (ISRO)	S-Band
5.	Telangana	Hyderabad	S-Band
6.	Delhi	Palam	S-Band
7.		HQ New Delhi	C-Band (Polarimetric)
8.		Aya Nagar	X-Band
9.	Maharashtra	Nagpur	S-Band
10.		Mumbai	S-Band
11.		Mumbai Veravali	C-Band
12.		Solapur	C-Band
13.	Tripura	Agartala	S-Band
14.	Bihar	Patna	S-Band
15.	Uttar Pradesh	Lucknow	S-Band
16.	Punjab	Patiala	S-Band
17.	Assam	Mohanbari	S-Band
18.	Madhya Pradesh	Bhopal	S-Band
19.	Odisha	Paradip	S-Band
20.		Gopalpur	S-Band
21.	Tamil Nadu	Karaikal	S-Band
22.		Chennai (NIOT)	X-Band
23.		Chennai	S-Band
24.	Goa	Goa	S-Band
25.	Gujarat	Bhuj	S-Band
26.	Rajasthan	Jaipur	C-Band (Polarimetric)
27.	Jammu & Kashmir	Srinagar	X-Band
28.		Jammu	X-Band
29.		Banihal Top	X-Band
30.	Kerala	Kochi	S-Band
31.		VSSC (ISRO) Thiruvananthpuram	C-Band
32.	Uttarakhand	Mukteshwar	X-Band
33.		Surkanda Devi	X-Band
34.		Lansdowne	X- Band
35.	Ladakh	Leh	Transportable X-Band
36.	Himachal Pradesh	Kufri	X-Band
37.		Jot	X-Band
38.		Murari Devi	X-Band
39.	Meghalaya	Cherapunji (ISRO)	S-Band

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