

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 1689
TO BE ANSWERED ON WEDNESDAY, 13TH DECEMBER, 2023**

DOPPLER WEATHER RADAR NETWORK

1689. SHRI MOHANBHAI KALYANJI KUNDARIYA:
SHRI SUDARSHAN BHAGAT:
SHRI DIPSINH SHANKARSINH RATHOD:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of the deployment and progress of the Doppler Weather Radar Network across the country;
- (b) the advantages that the new Doppler Weather Radar Network offer when compared to the previous weather prediction system; and
- (c) the details regarding assessment of this network is able to along with the expectations from it to enhance weather prediction accuracy;

**ANSWER
THE MINISTER OF EARTH SCIENCES
(SHRI KIREN RIJU)**

- (a) Currently, there are 39 Doppler Weather Radars (DWRs) well distributed across the country to monitor severe weather events and are listed in Annexure-I.
- (b-c) With this current deployment of DWR network, India Meteorological Department (IMD) has made an immense improvement in forecasting weather events. Some important achievements are given below;
 - The nowcast accuracy, i.e. Probability of Detection (PoD) has increased from 61% in 2014 to 91% in 2023
 - No cyclone has gone undetected due to the coastal Radars
 - The heavy rainfall events in plains and hilly areas are also better detected and predicted.
 - Moreover, the data from these DWRs are assimilated in various state-of-the-art regional and global dynamical models for generating the forecasts at various temporal and spatial scales. Radar observations are helping in further tuning the model forecasts and warning at local scale in terms of severity and detection of cyclones, rains, thunderstorms. The nowcast model, viz. High-Resolution Rapid Refresh Modelling System (IMD-HRRR) and Electric Weather Research and Forecasting (EWRF) model use Radar data for prediction of rainfall and thunderstorm in 6 to 12 hours advance.

Annexure-1

DWR network over India with location names and name of states

S. No.	States	Name of Station	DWR type
1.	West Bengal	Kolkata	S-Band
2.	Andhra Pradesh	Machilipatnam	S-Band
3.		Visakhapatnam	S-Band
4.		Hyderabad	S-Band
5.		Sriharikota (ISRO),	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.	Uttarkhand	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
