

GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
RAJYA SABHA
UNSTARRED QUESTION NO. 1311
ANSWERED ON 14/12/2023

DEPLOYMENT OF DOPPLER WEATHER RADAR NETWORK

1311. SHRI IRANNA KADADI:
SHRI JAGGESH:

Will the Minister of **Earth Sciences** be pleased to state:

- (a) whether it is a fact that Government is focusing on the progress and deployment of the Doppler Weather Radar Network across the country;
- (b) whether an assessment of this network has been made and expectations from it to enhance weather prediction accuracy;
- (c) whether the new Doppler Weather Radar Network offers more advantages as compared to the previous weather prediction system; and
- (d) if so, the details thereof?

ANSWER
THE MINISTER OF EARTH SCIENCES
(SHRI KIREN RIJU)

- (a) Yes Sir.
- (b) Yes Sir. Currently, there are 39 Doppler Weather Radars (DWRs) installed at various locations across the country. The locations of these Radars have been distributed in the best possible way to monitor severe weather conditions across multiple States of the Indian region. 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 presence of coastal Radars
 - The heavy rainfall events in plains and hilly areas are also better detected and predicted
- (c)-(d) Yes Sir. The weather predictions are made using data from multiple observational systems which include surface observations, upper air observations, Doppler Weather Radar (DWR) observations, and national and international satellite-based observations. The data from these observational systems are assimilated to various state-of-the-art regional and global dynamical models to generate real time weather forecasts at various spatial and temporal scales.

The addition of DWRs observation network has helped in further improving and tuning the model forecasts and warnings at local scale in terms of severity and detection of cyclones, heavy rains and thunderstorms.
