GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 4255
TO BE ANSWERED ON WEDNESDAY, 26TH MARCH, 2025

INSTALLATION OF DOPPLER WEATHER RADAR

4255. SHRI TANGELLA UDAY SRINIVAS:

Will the Minister of EARTH SCIENCES be pleased to state:

(a) whether the Government has launched Mission Mausam to augment the Doppler Weather Radar (DWR) network across the country for comprehensive radar coverage and improved weather forecasting accuracy;
(b) if so, the details of the proposed installation of 87 additional DWRs by 2026, along with their locations, State-wise;
(c) whether the Government plans to install a Doppler Weather Radar in Kakinada under this initiative considering its vulnerability to cyclones and extreme weather events;
(d) if so, the details thereof along with the timeline and budget allocated for the installation of a DWR in Kakinada; and
(e) the overall impact expected from this initiative in enhancing disaster preparedness and early warning systems in Andhra Pradesh and other coastal regions?

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

(a) Yes. The Government is planning to augment the Doppler Weather Radar (DWR) network across the country to improve the weather forecast under the Mission Mausam.

(b) Under Mission Mausam, 53 DWRs (8 S-Band, 20 C-Band, and 25 X-Band) are planned to be installed across the country. Procurement and installation of another 34 DWRs are under ongoing India Meteorological Department (IMD) projects are under process. The exact locations for the DWRs are not yet finalised.

(c)&(d) The sites for the DWR installation under the Mission Mausam will be determined so that Kakinada comes under the Radar coverage. An amount of Rs. 2000 Crores has been earmarked under this Mission for the deployment of DWRs along with other state-of-the-art meteorological instruments and tools for further improvement in the monitoring and forecasting of extreme weather events across the country. The installation of the DWRs is expected to be completed in 2 years from the date of issue of the work order.

(e) The Mission Mausam is designed to enhance weather and climate monitoring and forecasting capabilities across the country, including Andhra Pradesh and other coastal regions. The Mission is expected to provide accurate forecasts across various timescales, from short-term weather predictions (hours to days) to medium-term forecasts (weeks) and long-term (seasonal) predictions. This will be achieved through the deployment of next-generation observation systems, high-performance computing infrastructure, and advanced Earth system models. The integration of artificial intelligence (AI) and machine learning (ML) technologies will further improve the precision of predictions by enhancing model accuracy and prediction resolution. The Mission Mausam will utilize an integrated approach that includes:

- Short-term forecasts (up to 72 hours): These will be based on high-resolution models by assimilating atmospheric data from next-generation radars, satellites, wind profilers, etc.
- Medium-term forecasts (3 to 15 days): The system will use advanced modeling techniques and high-performance computing resources to predict weather patterns with higher accuracy.
- Long-term forecasts (seasonal to annual): The Mission will integrate data-driven methods and Earth system models, incorporating AI and ML to predict large-scale weather and climate patterns, providing forecasts for months or seasons in advance.

These improvements are expected to offer better precision in forecasting weather and climate events, helping various sectors such as agriculture, disaster risk reduction, water, energy, health, and transportation.

****