

**GOVERNMENT OF INDIA
MINISTRY OF EARTH SCIENCES
LOK SABHA
UNSTARRED QUESTION NO. 571
TO BE ANSWERED ON WEDNESDAY, 22ND JULY, 2026**

WEATHER FORECASTING SYSTEM IN TELANGANA

571. SHRI ARVIND DHARMAPURI:

Will the Minister of EARTH SCIENCES be pleased to state:

- (a) the details of Automatic Weather Stations, rain gauges, Doppler weather radar coverage and agro-meteorological advisory services available in Telangana, district-wise;
- (b) whether Nizamabad and Jagtial districts being important turmeric, paddy and maize growing regions are covered by localised weather and crop advisories and if so, the details thereof;
- (c) the details of mechanism put in place through which farmers receive timely alerts on heavy rain, heatwaves, hailstorms, lightning and likely crop damage; and
- (d) whether the Government proposes to strengthen Panchayat-level or block-level weather forecasting and farmer advisory dissemination in Telangana and 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) The India Meteorological Department (IMD) operates one S-Band Doppler Weather Radar (DWR) at the Meteorological Centre in Hyderabad. This radar provides observational coverage for all districts of Telangana, featuring an effective range of 250 km and a maximum range of 500 km. Additional radar coverage for the state is provided by DWRs located in neighboring states at Vishakhapatnam, Machilipatnam, Solapur, and Nagpur. IMD operates 3 manned surface observatories at Hyderabad, Nizamabad, and Ramagundam. Additionally, 2 upper-air Radio Sonde Observatories are operational at Hyderabad and Ramagundam to represent the state. For real-time data acquisition and weather monitoring, there are 31 Automatic Weather Stations (AWSs) and 52 Automatic Rain Gauges (ARGs) active across the state. Furthermore, under the district-wise and block-wise rainfall monitoring networks, a total of 369 rain gauges are functional, providing representation for all districts of Telangana. Agro-meteorological advisory services are fully functional across the State's districts. Supported by the Central and State agriculture departments as well as agricultural universities, these services issue bi-weekly crop and weather advisories every Tuesday and Friday to guide regional farming operations.
- (b) Yes. MD regularly issues localized weather and crop advisories covering key agricultural regions, including the districts of Nizamabad and Jagtial in Telangana. These advisories specifically cater to major local crops such as Paddy, Turmeric, and Maize. The details of the mechanisms and upcoming infrastructure for providing these advisories are as follows:

- Regular district-wise weather forecasts are issued, which include medium-range forecasts valid for seven days (updated thrice daily) and location-specific, 3-hourly Nowcasts provided on a 24/7 basis. Additionally, extreme weather bulletins incorporating impact-based forecasts are issued 24 to 48 hours in advance.
 - Agromet Advisory Bulletins featuring weather-aligned crop warnings are issued twice a week (every Tuesday and Friday). Timely alerts and customized guidance are provided well in advance for crucial crop cycles of turmeric, paddy, and maize to mitigate agricultural risks.
- (c) The India Meteorological Department, in coordination with relevant agencies, has established a comprehensive multi-hazard early warning platform to ensure that farmers receive timely alerts regarding extreme weather events and potential crop damage. To ensure regional accessibility, these advisories are disseminated in Telugu, Hindi, English, and other regional languages. The major dissemination mechanisms put in place include:
- Digital and Mobile Alerts: Timely and location-specific emergency alerts are broadcast directly to mobile phones through the Common Alerting Protocol (CAP) / SACHET Application, Short Message Service (SMS), and electronic mail (e-mail).
 - Specialized Mobile Applications: The IMD's dedicated mobile application 'Mausam' provides general weather alerts and forecasts to the public. For severe convective weather, the 'Damini' mobile application delivers real-time, location-based lightning alerts.
 - Mass Media and Social Media Dissemination: Weather warnings and agromet advisories are widely broadcasted through All India Radio (AIR) and Doordarshan. In addition, Social Media platforms (including WhatsApp, Facebook, X, and Instagram) are extensively utilized to ensure last-mile reach.
 - Institutional Coordination: A direct, real-time coordination mechanism is maintained with District Collectors, State Disaster Management Authorities (SDMAs), the Department of Agriculture, and other local stakeholders to ensure rapid ground-level dissemination and administrative preparedness.
- (d) Yes. Under the Mission Mausam, the India Meteorological Department is expanding meteorological capabilities to enhance localized weather forecasting and advisory services for farmers across the country, including the State of Telangana. The details of the institutional mechanisms, digital platforms, and infrastructure upgrades being implemented to strengthen block and Panchayat-level dissemination are as follows:
- Localized Forecasting Framework: The India Meteorological Department (IMD) regularly generates and issues customized block-level weather forecasts and agromet advisories across the State of Telangana.

- Panchayat Mausam Seva Portal: In collaboration with the Ministry of Panchayati Raj, the IMD has developed the Panchayat Mausam Seva Portal. This initiative integrates Panchayat-level weather forecasts directly into rural governance digital platforms, including e-GramSwaraj, Meri Panchayat App, e-Manchitra, and Mausamgram.
- Last-Mile WhatsApp Dissemination: To ensure rapid transmission to the grassroots, the mobile numbers of Panchayat Members, Ward Members, and Panchayat Secretaries have been integrated into the portal. This enables the direct automated delivery of weather forecasts and agrometeorological advisories via WhatsApp for local dissemination at the Gram Panchayat level.
- Leveraging Rural Networks: IMD utilizes the extensive Krishi Sakhis and Pashu Sakhis networks under the Ministry of Rural Development to facilitate the last-mile delivery of crucial weather updates and livestock/crop advisories to remote farming communities.
- Farmers' Awareness Programs (FAPs): To promote climate-resilient agriculture, the IMD has organized over 7,300 Farmers' Awareness Programs across 373 districts (including 83 Aspirational Districts), training approximately 3.67 lakh farmers on the effective utilization of weather-based advisory services.
- Advanced Analytics Systems under 'Mission Mausam': Under the aegis of 'Mission Mausam', the IMD has developed:
- KALP (Krishi Advisory based on Location-specific Weather Prediction): A system dedicated to generating highly localized advisories tailored to specific crop varieties and their exact growth stages.
- Mausam SANKALP (Systematic Agrometeorological aNalytics, Knowledge and Advisory enabLing Platform): A platform designed to strengthen comprehensive weather data analytics, institutional advisory generation, and climate-resilient agricultural planning.
