GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 3960
TO BE ANSWERED ON THE 17th MARCH, 2026

AI–BASED MONSOON FORECASTING PROGRAMME

3960. SHRI AMAR SHARADRAO KALE:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री

be pleased to state:

(a)   the details of the AI-based Monsoon Forecasting Programme implemented by the Government and the number of farmers covered there;
(b)   the details of the specific AI models used in this programme, the collaborations undertaken and the parameters on the basis of which their accuracy and performance have been assessed
(c)   whether the programme has been assessed on the basis of its impact on crop planning and risk management for farmers in Kharif-dominated regions and if so, the findings thereof; and
(d)   the details of the steps being taken by the Government to expand this initiative to more States and to integrate AI-based forecasting with existing agricultural advisory platforms such as mKisan portal?

ANSWER
MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि एवं किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

(a)   to (d): In the Department of Agriculture and Farmers Welfare, an   AI-based pilot was conducted in collaboration with the Development Innovation Lab-India on agriculturally relevant local monsoon onset forecasts across parts of 13 states in India for Kharif 2025. An open-source blended model was used, including NeuralGCM, the European Centre for Medium-Range Weather Forecasts' (ECMWF) Artificial Intelligence Forecasting System (AIFS), and historical rainfall data from 125 years from the India Meteorological Department (IMD).

The probabilistic forecasts predicted only the local onset of the monsoon, which is essential for deciding on the date of sowing crops. Local monsoon onset forecasts were sent via SMS through the M-Kisan portal to 3,88,45,214 farmers in 13 states in five regional languages- Hindi, Odia, Marathi, Bangla, and Punjabi.

Telephonic farmer feedback surveys were conducted in Madhya Pradesh and Bihar through Kisan Call Centers after the forecasts were sent. The survey revealed that 31% to 52% farmers adjusted their planting decisions, primarily through changes in land preparation and sowing timing, which included crop and input choice.

Further, the Government has decided to implement this capability into the national system based on an equivalent in-house technological solution, leveraging collaboration among the Indian Institute of Tropical Meteorology (IITM), India Meteorological Department (IMD), and Indian Space Research Organisation (ISRO). As the dynamical models from IITM have demonstrated better skills in simulating the local onset, they are being integrated into the AI framework for 2026.

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