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

RAJYA SABHA
STARRED QUESTION NO. 67
TO BE ANSWERED ON THE 05/12/2025

AI-BASED WEATHER FORECASTING INITIATIVE FOR FARMERS

* 67. DR. PARMAR JASHVANTSINH SALAMSINH:

Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

(a) the details of the AI-based monsoon forecasting programme implemented by Government and the number of farmers covered under it;
(b) the specific AI models and collaborations utilized and the metrics by which their accuracy and performance were evaluated;
(c) whether the programme has been evaluated for its impact on crop planning and risk management among farmers in Kharif-dominant regions, and if so the findings thereof; and
(d) the steps being taken by Government to expand this initiative to cover more States and integrate AI-based forecasting with existing agricultural advisory platforms such as m-Kisan?

ANSWER

MINISTER OF AGRICULTURE AND FARMERS WELFARE
(SHRI SHIVRAJ SINGH CHOUHAN)

(a) to (d): A statement is laid on the Table of House.

STATEMENT MADE IN REPLY TO PART (a) to (d) OF RAJYA SABHA STARRED QUESTION NO. 67 REGARDING AI-BASED WEATHER FORECASTING INITIATIVE FOR FARMERS RAISED BY DR. PARMAR JASHVANTSINH SALAMSINH, MP DUE FOR REPLY ON 05/12/2025.

(a) to (d): An AI-based pilot was conducted on agriculturally relevant local monsoon onset forecasts across parts of 13 states in India for Kharif 2025. 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 advisory 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 messages were sent. The survey revealed that 31–52% farmers adjusted their planting decisions, primarily through changes in land preparation and sowing timing, which included crop and input choice.

An open-source (freely available) AI model was used for developing Artificial Intelligence Forecasting System (AIFS) based on historical rainfall data of 125 years from the India Meteorological Department (IMD). The pilot was conducted in collaboration with Indian Meteorological Department (IMD) and Development Innovation Lab-India on pro-bono basis.

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