

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

**LOK SABHA**  
**STARRED QUESTION NO. 112**  
TO BE ANSWERED ON THE 11<sup>TH</sup> FEBRUARY, 2025

**USE OF SMART TECHNOLOGY IN AGRICULTURAL SECTOR**

\*112. SHRI P P CHAUDHARY:

Will the Minister of AGRICULTURE AND FARMERS WELFARE कृषि एवं किसान कल्याण मंत्री be pleased to state:

- (a) whether innovative outreach methods like mobile apps and village-level digital kiosks are being used to help farmers understand and enroll in Pradhan Mantri Fasal Bima Yojana, if so, the details thereof and the extent of success achieved therein;
- (b) whether artificial intelligence is being used to predict crop risks and prevent farmer losses, particularly in regions like Rajasthan which are facing climate challenges and if so, the details thereof; and
- (c) whether any success has been achieved from the pilot projects using smart technology for crop monitoring, if so, the details thereof along with the benefits delivered to the farmers?

**ANSWER**

THE MINISTER FOR AGRICULTURE AND FARMERS WELFARE  
कृषि एवं किसान कल्याण मंत्री (SHRI SHIVRAJ SINGH CHOUHAN)

(a) to (c) : A statement is laid on the table of the House.

**STATEMENT REFERRED TO PART (a) TO (c) OF LOK SABHA STARRED QUESTION NO. 112 FOR 11<sup>TH</sup> FEBRUARY, 2025 REGARDING USE OF SMART TECHNOLOGY IN AGRICULTURAL SECTOR**

(a) to (c): Pradhan Mantri Fasal Bima Yojana (PMFBY) envisages use of improved technology. Accordingly, National Crop Insurance Portal (NCIP) and Application for Intermediary Enrolment (AIDE) app have been developed to disseminate information about the scheme to the farmers. Farmers, can insure themselves through the portal and apps and check the status of their application, claims etc. Further, Village Level Entrepreneurs (VLEs) under Common Service Centres (CSCs) have also been engaged to enroll farmers and disseminate information regarding coverage, claims etc. under the scheme. So far 33.22 lakh farmer applications have been enrolled through AIDE app and directly on NCIP.

Government has taken various steps to strengthen implementation of the scheme, leveraging technology in implementation of the scheme, capturing of yield data/Crop Cutting Experiments (CCEs) data through CCE-Agri App for directly uploading it on the NCIP, allowing insurance companies to witness the conduct of CCEs, integration of State land records with National Crop Insurance Portal (NCIP), roll out of app for farmers where they can check the status of their applications, enrollment of farmers through CSCs etc.

An AI based chatbot namely "PMFBY WhatsApp Chatbot" to assist the Farmers regarding PMFBY scheme has been initiated.

In addition to above, the Government has employed Artificial Intelligence (AI) methods to address various challenges in the agriculture sector to aid farmers. Some of the initiatives are given below:

- i. 'Kisan e-Mitra', an AI-powered chatbot, has been developed to assist farmers with responses to the queries about the PM Kisan Samman Nidhi Scheme. This solution supports multiple languages and is evolving to assist with other government programs.
- ii. National Pest Surveillance System, for tackling the loss of produce due to climate change, utilizes AI and Machine Learning to detect pest infestation in crop issues, enabling timely intervention for healthier crops.
- iii. AI based analytics using field photographs for crop health assessment and crop health monitoring using Satellite, weather & soil moisture datasets for Rice and Wheat crop.

Department of Agriculture and Farmers Welfare has carried out pilot studies for timely and transparent yield estimation under PMFBY using technology by engaging various Government and private agencies through Mahalanobis National Crop Forecast Centre (MNCFC). Based on the findings of these pilots and after discussions with stakeholders & technical consultations, **YES-TECH (Yield Estimation System Based on Technology)** has been introduced for paddy and wheat crops from Kharif 2023 and for Soyabean crop from Kharif 2024. Government has implemented technology based yield estimation in combination with conventional Crop Cutting Experiments (CCEs) based yield estimation for improving crop loss assessment and achieving timely insurance claims payout for farmers. Under this initiative, 30% weightage to yield estimation has mandatorily been assigned to YES-TECH derived yield.

In Kharif 2023, all the YESTECH implementing States (Haryana, Madhya Pradesh, Uttar Pradesh, Assam, Odisha, Andhra Pradesh and Maharashtra) have successfully completed claim calculation and payout using YESTECH and no dispute has been reported from any of the stakeholders, thereby, increasing transparency and efficiency in the system. Madhya Pradesh State Government is implementing YESTECH for 100% yield estimation.

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