

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE & FARMERS' WELFARE
DEPARTMENT OF AGRICULTURE & FARMERS' WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 667
TO BE ANSWERED ON THE 03RD FEBRUARY, 2026

DEVELOPMENT OF CLIMATE-RESILIENT AGRICULTURAL TECHNOLOGIES

667. Smt. Poonamben Hematbhai Maadam:

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

- (a) whether the Government has taken steps to transform Indian agriculture into a climate-resilient system to ensure long-term sustainability and food security, if so, the details thereof;
- (b) whether Government has taken any steps to develop climate-resilient agricultural technologies in light of increasing climate variability and extreme weather events; and
- (c) if so, the details thereof?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि एवं किसान कल्याण राज्य मंत्री (SHRI RAMNATH THAKUR)

(a) to (c): Government has been implementing various Schemes/Programs under National Mission for Sustainable Agriculture to transform Indian agriculture into a climate-resilient system to ensure long-term sustainability and food security. Per Drop More Crop scheme increases water use efficiency at farm level through promotion of micro irrigation technologies i.e. drip and sprinkler irrigation systems. Rainfed Area Development Program focuses on promotion of Integrated Farming System to enhance productivity and minimize risks associated with climatic variability. Soil Health & Fertility scheme promotes integrated nutrient management through judicious use of chemical fertilizers. Mission for Integrated Development of Horticulture, Agroforestry & National Bamboo Mission also promote climate resilience in agriculture. Pradhan Mantri Fasal Bima Yojana along with weather index based Restructured Weather Based Crop Insurance Scheme provide a comprehensive insurance cover against crop failure by providing financial support to farmers suffering crop loss/damage arising out of unforeseen natural calamities.

Indian Council of Agricultural Research (ICAR) has been implementing a project-National Innovations in Climate Resilient Agriculture (NICRA) since 2011. The project studies the impact of erratic monsoons, extreme weather events and climate change on agriculture. District level risk and vulnerability assessment of agriculture to future climate change and integrated simulation modelling studies for estimating the future projections of climate change are undertaken. Risk and vulnerability assessment of agriculture to climate change has been carried out for 651 predominantly agricultural districts as per Intergovernmental Panel on Climate Change (IPCC) protocols. 310 districts were identified as vulnerable out of which 109 districts have been categorized as 'very high' and 201 districts as 'highly' vulnerable. To address the impact of climate change, ICAR has released 2900 varieties during last 10 years (2014-2024). Out of these 2661 varieties are tolerant to one or more biotic and/or abiotic stresses.

To mitigate the impacts of adverse weather on agriculture, under the Gramin Krishi Mausam Sewa scheme, medium-range weather forecasts for the next 5 days at the district and block levels are generated by Indian Meteorological Department (IMD). Based on rainfall and other weather parameters along with weather forecasts issued by IMD, 130 Agromet Field Units prepare Agromet Advisories in English as well as in the regional language for dissemination through multiple channels. Also, farmers access weather information including alerts and related agromet advisories specific to their districts through the mobile App viz., 'Meghdoot' launched by the Ministry of Earth Sciences which is available in English and 13 regional languages. These weather details are also accessible to farmers through 'Mausam' App of IMD. The Panchayat-level weather forecast information is accessible through multiple digital platforms, including: eGramSwaraj (<https://egramswaraj.gov.in/>), 'Gram Manchitra' Application of Ministry of Panchayati Raj (<https://grammanchitra.gov.in/gm4MVC>), 'Meri Panchayat' Mobile App and Mausamgram web portal of IMD (<https://mausamgram.imd.gov.in/>).
