

GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURAL RESEARCH & EDUCATION

LOK SABHA
UNSTARRED QUESTION NO. 5032
TO BE ANSWERED ON 1ST APRIL, 2025

IMPACT OF CLIMATE CHANGE ON AGRICULTURAL YIELD

5032. SHRI DAROGA PRASAD SAROJ:

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

- (a) whether the Government is aware of the impacts of climate change and irregular pattern of rain on agriculture and other sectors in Uttar Pradesh;
- (b) whether a decrease in yield of farmers and increase in agricultural cost of farmers has been registered due to the above climate change, if so, the details thereof;
- (c) the measures taken to support the farmers affected by climate change issues and agricultural activities;
- (d) whether any action plan is under consideration of the Government for addressing the issue in Collaboration with any research institutes or any international organisations; and
- (e) if so, the details thereof?

ANSWER

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

(a) & (b): The Government is aware of the impacts of climate change and irregular pattern of rain on agriculture in India including Uttar Pradesh. Indian Council of Agricultural Research (ICAR) has conducted simulation modelling studies to assess the impact of climate change on crop yield using projected rainfall. In the absence of adaptation measures, climate change is likely to reduce rainfed rice yields by 20% in 2050 and 10-47% in 2080. Irrigated rice yields projected to reduce by 3.5% in 2050 and 5% in 2080. Wheat yield will also likely to get reduced by 19.3% in 2050 and 40% in 2080. Kharif maize yields is likely to get reduced by 10-19% in 2050 and >20% in 2080 in country including Uttar Pradesh. The change in agricultural cost depends on climate change impact and the adaptation measures undertaken in the climatically vulnerable regions of the country including Uttar Pradesh.

(c): To support farmers affected by climate change and agricultural activities the Government has taken several steps in the country including Uttar Pradesh. The National Action Plan on Climate Change (NAPCC) provides an overarching policy framework to enable the country to adapt to climate change and enhance ecological sustainability. One of the National Missions under NAPCC is the National Mission for Sustainable Agriculture (NMSA), which implements strategies to make agriculture more resilient to the changing climate. Per Drop More Crop (PDMC) scheme increases water use efficiency at the farm level through micro-irrigation technologies. Rainfed Area Development programme under NMSA focuses on Integrated Farming System for enhancing productivity and minimizing risks associated with climatic variability. The Soil Health Management scheme assists states in promoting integrated nutrient management through judicious use of chemical fertilizers including secondary and micronutrients in conjunction with organic manures and bio-fertilizers for improving soil health and its productivity. Mission for Integrated Development of Horticulture, Sub Mission on Agroforestry and National Bamboo Mission also promote climate resilience in agriculture. Further, Pradhan Mantri Fasal Bima Yojana along with weather index based Restructured 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. Further, India Meteorological Department (IMD) provides weather forecast-based operational Agrometeorological Advisory Services on bi-weekly basis under Gramin Krishi Mausam Sewa to help the farmers to take informed decision. Under National Innovations in Climate Resilient Agriculture (NICRA) project climate resilient technologies were demonstrated to create awareness and capacity development of different stakeholders in 448 villages of 151 vulnerable districts of country. In Uttar Pradesh these technologies were demonstrated in 50 villages of 17 vulnerable districts.

(d) & (e): ICAR is already working in collaboration with various research institutes and international organisations viz. International Livestock Research Institute, International Centre for Agricultural Research in the Dry Areas, International Crop Research Institute for Semi-Arid Tropics, Western Sydney University, International Rice Research Institute, Japan International Research Center for Agricultural Sciences, *Centre Franco-Indien pour la Promotion de la Recherche Avancée (CEFIPRA)*, International Council for Research in Agroforestry, International Water Management Institute, Borlaug Institute for South Asia, International Maize and Wheat Improvement Center, Netherlands Organisation for Scientific Research, Japan International Cooperation Agency, Australian Centre for International Agricultural Research, United States Agency For International Development, Bill & Melinda Gates Foundation etc. Further, ICAR under the aegis of NICRA works with partner national institutes. Further ICAR has shared the national experience on climate change research in international fora such as CoP, G20, SAARC, BIMSTEC.
