

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

**LOK SABHA**  
**UNSTARRED QUESTION NO. 3758**  
TO BE ANSWERED ON 21<sup>ST</sup> DECEMBER, 2021

**IMPACT OF GLOBAL WARMING**

3758. DR. UMESH G. JADHAV:  
SHRI PRATHAP SIMHA:  
SHRI SANGANNA AMARAPPA:

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

- (a) whether the Government has recently released any report on the adverse impact of global warming on the agricultural production in the country;
- (b) if so, the details thereof;
- (c) whether the Indian Council of Agricultural Research (ICAR) has also assessed the impact of global warming on the agriculture sector of the country;
- (d) if so, the details thereof; and
- (e) the remedial measures taken by the Government in this regard?

**ANSWER**

THE MINISTER OF AGRICULTURE AND FARMERS WELFARE  
कृषि और किसान कल्याण मंत्री (SHRI NARENDRA SINGH TOMAR)

**(a) to (d):** Risk and vulnerability assessment of Indian Agriculture due to climate change was undertaken by Indian Council of Agricultural Research (ICAR) taking into consideration the emerging conceptual and analytical methods along with relevant climatic and non-climatic information. It contains information on relative position of districts of the country in relation to climate change risk and various determinants viz., exposure, vulnerability and hazard, which is useful to the policy makers and research managers for prioritization of resources related to climate change action plans. The document titled "Risk and Vulnerability Assessment of Indian Agriculture to Climate Change" was released in 2019 and the details are available at website: <http://www.icar-crida.res.in>

The impact of global warming on agriculture was also assessed under ICAR-NICRA (National Innovations in Climate Resilient Agriculture) project using integrated

simulation modelling framework. The results indicate that in the absence of adoption of adaptation measures, climate change projections are likely to reduce rainfed rice yields by 20% in 2050 and 47% in 2080 scenarios while, irrigated rice yields by 3.5% in 2050 and 5% in 2080 scenarios, wheat yield by 19.3% in 2050 and 40% in 2080 scenarios and kharif maize yields by 18 to 23% in 2050 and 2080 scenarios. Kharif groundnut yields are projected to be increased by 7% in 2050 scenario where as in 2080 scenario the yield is likely to decline by 5%. Future climates are likely to benefit chickpea with increase in productivity.

**(e)** National Mission for Sustainable Agriculture (NMSA), one of the ten Missions under National Action plan for Climate Change (NAPCC), aims to evolve and implement strategies to make Indian agriculture more resilient to the changing climate. NMSA includes programmatic interventions like Soil Health Card (SHC), Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), Rainfed Area Development (RAD), National Bamboo Mission (NBM), Sub-mission on Agro Forestry (SMAF) and Prime Minister Krishi Sinchayee Yojana (PMKSY-PMDC).

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