

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

LOK SABHA
UNSTARRED QUESTION NO. 3267
TO BE ANSWERED ON 21st MARCH, 2023

IMPACT OF CLIMATE CHANGE ON AGRICULTURE

3267. **SHRIMATI SARMISTHA SETHI:**
SHRI G.M. SIDDESHWAR:

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 impact of climate change on agriculture and farmers' lives;
- (b) if so, the details thereof and if not, the reasons therefor;
- (c) whether any action plan has been formulated or is under consideration so that farmers can be insulated from such impacts and if so, the details thereof;
- (d) whether the Government has taken any initiative to conduct research to enhance resilience of Indian agriculture to climate change; and
- (e) if so, the details thereof and if not, the reasons therefor?

ANSWER

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

(a) and (b): Yes, sir. Government of India is aware about the impact of climate change on agriculture and farmers' lives. Extensive field and simulation studies were carried out in agriculture by the network centres located in different parts of the country. The climate change impact assessment was carried out using the crop simulation models by incorporating the projected climates of 2050 & 2080. In absence of adoption of adaptation measures, rainfed rice yields in India are projected to reduce by 20% in 2050 and 47% in 2080 scenarios while, irrigated rice yields are projected to reduce by 3.5% in 2050 and 5% in 2080 scenarios. Climate change is projected to reduce wheat yield by 19.3% in 2050 and 40% in 2080 scenarios towards the end of the century with significant spatial and temporal variations. Climate change is projected to reduce the *kharif* maize yields by 18 and 23% in 2050 and 2080 scenarios, respectively. Climate change reduces crop yields and lower nutrition quality of produce. Extreme events like droughts affect the food and nutrient consumption, and its impact on farmers.

(c): Yes, sir. Government of India has formulated schemes/plans to make agriculture more resilient to climate change. The National Mission for Sustainable Agriculture (NMSA) is one of the Missions within the National Action Plan on Climate Change (NAPCC). The mission aims at evolving and implementing strategies to make Indian agriculture more resilient to the changing climate.

(d) and (e): Yes, sir. To meet the challenges of sustaining domestic food production in the face of changing climate, the Indian Council of Agricultural Research (ICAR), Ministry of Agriculture and Farmers Welfare, Government of India launched a flagship network research project 'National Innovations in Climate Resilient Agriculture' (NICRA) in 2011. The project aims to develop and promote climate resilient technologies in agriculture, which addresses vulnerable areas of the country and the outputs of the project help the districts and regions prone to extreme weather conditions like droughts, floods, frost, heat waves, etc. to cope with such extreme events. Short term and long-term research programs with a national perspective have been taken up involving adaptation and mitigation covering crops, horticulture, livestock, fisheries and poultry. The main thrust areas covered are

(i) identifying most vulnerable districts/regions,

(ii) evolving crop varieties and management practices for adaptation and mitigation,

(iii) assessing climate change impacts on livestock, fisheries and poultry and identifying adaptation strategies. Since 2014, 1888 climate resilient varieties have been developed besides 68 location specific climate resilient technologies have been developed and demonstrated for wider adoption among farming communities.
