

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

RAJYA SABHA
UNSTARRED QUESTION NO-516
ANSWERED ON- 26/07/2024

IMPACT OF CLIMATE CHANGE ON AGRICULTURE

516. SHRI JOSE K. MANI:

Will the Minister of AGRICULTURE AND FARMERS WELFARE be pleased to state:

- (a) whether Government conducts any assessments to evaluate the impact of climate change on agriculture;
- (b) if so, the details thereof and key findings;
- (c) the measures that are being taken to mitigate the impact of climate change on agriculture; and
- (d) the manner in which Government is supporting farmers in adopting climate-resilient agriculture practices?

ANSWER

THE MINISTER OF AGRICULTURE & FARMERS WELFARE
(SHRI SHIVRAJ SINGH CHOUHAN)

(a)&(b): Yes, National Innovations on Climate Resilient Agriculture (NICRA), a network project of the Indian Council of Agricultural Research (ICAR) conducted an assessment to evaluate the impact of climate change on agriculture. ICAR assessed risk and vulnerability of 573 out of 651 predominantly agricultural districts as per Intergovernmental Panel on Climate Change (IPCC) protocols. A total of 109 districts are categorized as 'very highly' and 201 districts as 'highly' vulnerable.

Integrated computer simulation modelling studies revealed 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, kharif maize yields by 18 to 23% in 2050 and 2080 scenarios, respectively. Soybean yields are projected to increase by 3-10% in 2030 and 14% in 2080 scenarios.

(c): Adaptation measures have been taken to mitigate the impact of climate change on agriculture in 448 villages in 151 climatically vulnerable districts, where demonstration of climate resilient technologies viz. climate resilient varieties; direct seeded rice (DSR); efficient irrigation systems; nitrogen application as per soil health card and leaf colour charts; avoiding crop residue burning, crop residue recycling into soil; replacing fossil fuels with biogas and vermicomposting; reducing methane emissions from livestock through improved fodder management systems and community fodder bank; agroforestry systems as carbon sinks and zero till drill wheat to escape terminal heat stress were conducted. Prepared and implemented the District Agricultural Contingency Plan (DACP) in 651 agriculturally important Districts of the country.

(d): To support the farmers in adopting climate resilient agriculture practices Government is implementing National Mission for Sustainable Agriculture (NMSA) to deal with the impact of climate change on agriculture. NMSA has three major components i.e. Rainfed Area Development (RAD); On Farm Water Management (OFWM); and Soil Health Management (SHM). Subsequently, new programmes namely Soil Health Card (SHC), Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development in North Eastern Region (MOVCDNER), Per Drop More Crop, National Bamboo Mission (NBM) etc. are also included. The Mission aims at evolving and implementing adaptation and mitigation practices across the country to make the agriculture climate resilient to the changing climate.
