

GOVERNMENT OF INDIA
MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE

RAJYA SABHA
UNSTARRED QUESTION NO. 3742
TO BE ANSWERED ON 03.04.2025

Effects of climate change on agriculture

3742. SHRI JOSE K. MANI:

Will the Minister of ENVIRONMENT, FOREST AND CLIMATE CHANGE be pleased to state:

- (a) the measures taken by Government to mitigate the effects of climate change on agriculture in the country;
- (b) whether Government has identified specific regions where agricultural productivity is most vulnerable to climate change; and
- (c) whether there are any plans to promote climate-resilient crop varieties and sustainable farming practices among small and marginal farmers?

ANSWER

MINISTER OF STATE IN THE MINISTRY OF ENVIRONMENT, FOREST AND CLIMATE CHANGE
(SHRI KIRTI VARDHAN SINGH)

(a) to (c) The Government has launched the National Action Plan on Climate Change (NAPCC), which is the overarching policy framework and comprises of nine national missions in specific areas of solar energy, enhanced energy efficiency, water, agriculture, Himalayan eco-system, sustainable habitat, health, green India and strategic knowledge on climate change. Consistent with the objectives of NAPCC, 34 States/Union Territories have prepared State Action Plans on Climate Change (SAPCCs).

One of the National Missions under NAPCC is the National Mission for Sustainable Agriculture (NMSA), which covers strategies to make agriculture more resilient to the changing climate. Several schemes have been initiated under NMSA to deal with the adverse climate situations, like Per Drop More Crop (PDMC) scheme; Rainfed Area Development; Soil Health & Fertility scheme; Mission for Integrated Development of Horticulture; Agroforestry & National Bamboo Mission; *Pradhan Mantri Fasal Bima Yojana* along with weather index based Restructured Weather Based Crop Insurance Scheme, etc.

Further, under the National Innovations in Climate Change Agriculture (NICRA) implemented by the Indian Council of Agricultural Research, a district-level risk and vulnerability assessment of agriculture to climate change for 651 predominantly agricultural districts was conducted. A total of 109 districts are categorized as 'very high' and 201 districts as 'highly' vulnerable. Adaptation efforts have been underway in 151 districts through *Krishi Vigyan Kendras* (KVKs). District Agricultural Contingency Plans (DACPs) also developed for 651 districts to tackle aberrant weather situation.

Under NICRA, development and promotion of climate resilient agricultural technologies *viz.*, climate resilient varieties, intercropping systems, conservation agriculture, crop diversification, agroforestry systems, zero-till sowing, green manuring, integrated farming systems, integrated nutrient and pest management, organic farming, site specific nutrient management, *in-situ* moisture conservation, protective irrigation, micro irrigation methods etc. have been developed and demonstrated to a large number of farmers through farmers' participatory approach. Further, seed varieties/hybrids of rice, mungbean, maize, tomato and lentils tolerant to pests, diseases and extreme weather conditions were developed and released under NICRA.

Under the National Adaptation Fund for Climate Change, a project titled "Gene pool Conservation of Indigenous Rice Varieties under Traditional Integrated Rotational Farming System (Jhum optimisation) for Promoting Livelihood and Food Security as Climate Change Adaptation Strategy in Nagaland" has been approved to the State of Nagaland.
