GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE & FARMERS' WELFARE
DEPARTMENT OF AGRICULTURE & FARMERS' WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 244
TO BE ANSWERED ON THE 02ND DECEMBER, 2025

IMPACT OF CLIMATE CHANGE ON AGRICULTURAL PRODUCTIVITY

244. DR. PRABHA MALLIKARJUN:

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

(a) whether the Government has conducted any recent assessment of the impact of climate change, including erratic rainfall, heatwaves, and droughts, on agricultural productivity across various agro-climatic zones in the country;
(b) the details of districts identified as climate-vulnerable under the National Innovations in Climate Resilient Agriculture (NICRA) programme, along with the interventions implemented therein,
(c) whether the Government proposes to expand financial and technical assistance to small and marginal farmers to promote the adoption of climate-resilient crops, micro-irrigation, and drought-mitigation technologies; and
(d) if so, the details of budgetary allocations and measurable outcomes achieved under such initiatives during the last three financial years?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि एवं किसान कल्याण राज्य मंत्री (SHRI RAM NATH THAKUR)

(a) & (b): Indian Council of Agricultural Research (ICAR) is implementing a project-National Innovations in Climate Resilient Agriculture (NICRA), that studies the impact of climate change on agriculture, conducts district level risk and vulnerability assessment of agriculture to future climate change and integrated simulation modelling studies for estimating the future projections of climate change. Under the project, risk and vulnerability assessment of agriculture to climate change has been carried out at district-level for 651 predominantly agricultural districts as per Intergovernmental Panel on Climate Change (IPCC) protocols. 310 districts were identified as vulnerable out of which 109 districts have been categorized as 'very high' and 201 districts as 'highly' vulnerable. For enhancing the resilience and adaptive capacity of farmers to climate variability, location-specific climate resilient technologies such as system of rice intensification, aerobic rice, direct seeding of rice, zero till wheat sowing, cultivation of climate resilient varieties tolerant to extreme weather conditions such as drought and heat; in-situ incorporation of rice residues etc. have been demonstrated under the project through KVKs in 448 Climate Resilient Villages of 151 climatically vulnerable districts covering 28 states / UTs for adoption by farmers. Capacity building for establishing village level seed banks and community nurseries is being undertaken under the project to ensure availability of seeds in the adopted villages.

Further, to address the impact of climate change, ICAR has released 2900 varieties during last 10 years (2014-2024). Out of these 2661 varieties are tolerant to one or more

biotic and/or abiotic stresses. Drought and flood tolerant climate-resilient varieties of rice, wheat, soybean, mustard, chickpea, sorghum, gram, and foxtail millet have been demonstrated in several NICRA villages

The details of districts identified as climate-vulnerable (very high) under NICRA programme, are at Annexure.

(c) & (d): Under NICRA, technical assistance for small and marginal farmers is proposed to extend to additional vulnerable districts beyond the 151 currently covered, to promote adoption of climate-resilient practices. Village level institutions through farmers' participatory approach, such as Village Climate Risk Management Committees (VCRMCs), seed and fodder banks have been established for smooth functioning and need based technology penetration. Custom hiring centres (CHCs) established under KVKs in these villages help to take up timely farm operations and provide access to improved machinery for small and marginal farm holders. Capacity building for establishing village level seed banks and community nurseries is being undertaken under NICRA project that enable availability of seeds in the adopted villages. The project is contributing to farmers' capacity building and improved crop yields, thereby leading to the socio-economic development of the farming community. Capacity building for establishing village level seed banks and community nurseries is being undertaken under NICRA project that enable availability of seeds in the adopted villages.

Budgetary allocation for technology demonstrations in these 151 risk-prone districts during the last three financial years is as follows:

Year	**Amount (Rs. In Lakhs)**
2022-23	1600.30
2023-24	1862.00
2024-25	2550.31

Annexure

List of districts with 'very high' and 'high' climate change risk to agriculture

State	District	Risk	Hazard
Andhra Pradesh	Anantapur	Very High	Drought
Arunachal Pradesh	Upper Siang	Very High	Drought
Assam	Nalbari	Very High	-
Assam	Darrang	Very High	Drought
Bihar	Sitamarhi	Very High	Flood
Bihar	Madhubani	Very High	Flood
Bihar	Supaul	Very High	Flood
Bihar	Kishanganj	Very High	Flood
Bihar	Katihar	Very High	Flood
Bihar	Saharsa	Very High	Flood
Bihar	Darbhanga	Very High	Flood
Bihar	Lakhisarai	Very High	Flood
Bihar	Sheikhpura	Very High	Drought
Bihar	Nalanda	Very High	Flood
Gujarat	Panchmahal	Very High	Drought
Gujarat	Dahod	Very High	Drought
Haryana	Fatehabad	Very High	Drought
Haryana	Bhiwani	Very High	Drought
Haryana	Mahendragarh	Very High	Drought
Himachal Pradesh	Chamba	Very High	Drought
Himachal Pradesh	Mandi	Very High	-
Jammu & Kashmir	Leh(Ladakh)	Very High	Drought
Jammu & Kashmir	Poonch	Very High	Drought
Jammu & Kashmir	Kathua	Very High	Drought
Karnataka	Gadag	Very High	Drought
Karnataka	Haveri	Very High	Drought
Karnataka	Chitradurga	Very High	Drought
Kerala	Kasaragod	Very High	Cyclone
Kerala	Kozhikode	Very High	Cyclone
Kerala	Ernakulam	Very High	Cyclone
Kerala	Kottayam	Very High	Drought
Kerala	Alappuzha	Very High	Flood
Kerala	Pathanamthitta	Very High	Flood
Kerala	Kollam	Very High	Cyclone
Kerala	Thiruvanathapuram	Very High	Drought
Madhya Pradesh	Bhind	Very High	Drought
Madhya Pradesh	Jhabua	Very High	Drought
Maharashtra	Nanded	Very High	-
Maharashtra	Beed	Very High	Drought
Meghalaya	West Garo Hills	Very High	Drought
Meghalaya	East Garo Hills	Very High	Drought

Meghalaya	South Garo Hills	Very High	Drought
Meghalaya	West Khasi Hills	Very High	Drought
Meghalaya	East Khasi Hills	Very High	Drought
Meghalaya	Jaintia Hills	Very High	Drought
Mizoram	Lawngtlai	Very High	Drought
Mizoram	Saiha	Very High	Drought
Nagaland	Tuensang	Very High	Drought
Orissa	Keonjhar	Very High	Cyclone
Orissa	Balasore (Baleshwar)	Very High	Cyclone
Orissa	Kendrapara	Very High	Cyclone
Orissa	Jagatsingpur	Very High	Flood
Orissa	Jajpur	Very High	Cyclone
Orissa	Puri	Very High	Flood
Punjab	Gurdaspur	Very High	Drought
Punjab	Jalandhar	Very High	Drought
Punjab	Moga	Very High	Drought
Punjab	Faridkot	Very High	Drought
Punjab	Bathinda	Very High	Drought
Rajasthan	Ganganagar	Very High	Drought
Rajasthan	Hanumangarh	Very High	Drought
Rajasthan	Churu	Very High	Drought
Rajasthan	Jhunjhunu	Very High	Drought
Rajasthan	Alwar	Very High	Drought
Rajasthan	Karauli	Very High	Drought
Rajasthan	Dausa	Very High	Drought
Rajasthan	Sikar	Very High	Drought
Rajasthan	Nagaur	Very High	Drought
Rajasthan	Jodhpur	Very High	Drought
Rajasthan	Jaisalmer	Very High	Drought
Rajasthan	Barmer	Very High	Drought
Rajasthan	Jalore	Very High	Drought
Rajasthan	Pali	Very High	Drought
Rajasthan	Bhilwara	Very High	Drought
Rajasthan	Dungarpur	Very High	Drought
Rajasthan	Banswara	Very High	Drought
Sikkim	South	Very High	-
Uttar Pradesh	Bagpat	Very High	Drought
Uttar Pradesh	Unnao	Very High	Drought
Uttar Pradesh	Kannauj	Very High	Drought
Uttar Pradesh	Etawah	Very High	Drought
Uttar Pradesh	Auraiya	Very High	Drought
Uttar Pradesh	Kanpur (Dehat)	Very High	Drought
Uttar Pradesh	Jalaun	Very High	Drought
Uttar Pradesh	Jhansi	Very High	-
Uttar Pradesh	Hamirpur	Very High	Drought
Uttar Pradesh	Mahoba	Very High	Drought

Uttar Pradesh	Banda	Very High	Drought
Uttar Pradesh	Chitrakut	Very High	-
Uttar Pradesh	Fatehpur	Very High	Drought
Uttar Pradesh	Kaushambi	Very High	Drought
Uttar Pradesh	Allahabad	Very High	Drought
Uttar Pradesh	Bahraich	Very High	Flood
Uttar Pradesh	Shravasti	Very High	-
Uttar Pradesh	Balrampur	Very High	Flood
Uttar Pradesh	Gonda	Very High	Flood
Uttar Pradesh	Basti	Very High	Drought
Uttar Pradesh	Jaunpur	Very High	Flood
Uttar Pradesh	Sant Ravidas Nagar	Very High	Flood
Uttarakhand	Uttarkashi	Very High	-
Uttarakhand	Rudraprayag	Very High	-
Uttarakhand	Tehri Garwal	Very High	-
Uttarakhand	Pithoragarh	Very High	Drought
Uttarakhand	Bageshwar	Very High	Drought
Uttarakhand	Almora	Very High	Drought
Uttarakhand	Champawat	Very High	Drought
West Bengal	Malda	Very High	Flood
West Bengal	24-Paraganas (North)	Very High	Cyclone
West Bengal	24-Paraganas (South)	Very High	Cyclone

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