

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

LOK SABHA
UNSTARRED QUESTION NO. 4038
TO BE ANSWERED ON 17TH MARCH, 2026

NATIONAL INNOVATIONS ON CLIMATE RESILIENT AGRICULTURE

4038. SHRI TANUJ PUNIA:

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

- (a) the details of most vulnerable districts/regions identified under National Innovations on Climate Resilient Agriculture (NICRA) in the country, State/UT-wise particularly from Uttar Pradesh; and
- (b) the details of the crop varieties and management practices identified and developed for adaptation and mitigation of climate resilient agriculture?

ANSWER

THE MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE
कृषि और किसान कल्याण राज्य मंत्री (SHRI BHAGIRATH CHOUDHARY)

(a): Under NICRA, risk and vulnerability assessment was carried out for 573 predominantly agriculture districts of country using Intergovernmental Panel on Climate Change (IPCC) protocol. A total of 109 districts were categorized as 'very high' and 201 districts as 'highly' vulnerable (**Annexure**). In Uttar Pradesh, 22 districts are categorised under 'very high' and 26 districts as 'highly' vulnerable.

(b): National Agricultural Research System under the aegis of Indian Council of Agricultural Research are regularly developing and notifying region specific, high yielding, climate resilient varieties. In this process, during the last eleven years (2014-2025) a total of 3236 field crop varieties have been released, out of which 1576 are of Cereals, 444 are of Oilseeds, 473 are of Pulses, 205 are of Forages, 408 are of Fibre Crops, 96 are of Sugarcane and 34 of Others Crops.

Out of these 3236 field crop varieties developed and released, 2996 varieties are Climate Resilient Field Crop Varieties (1453 are of Cereals, 397 are of Oilseeds, 446 are of Pulses, 185 are of Forage crops, 392 are of Fibres crops, 27 are of other crops and 96 of Sugarcane). Further, among the 3236 field crop varieties developed, a total of 1098 varieties are suitable for rainfed areas.

Moreover, among the 3236, a total of 587 varieties are Extreme Climate Tolerant Varieties, of which 341 are Drought tolerant varieties; 89 are Flood tolerant varieties; 80 are Salinity tolerant varieties, 59 are Heat stress tolerant varieties and 18 are Cold tolerant varieties.

Location specific promising climate resilient technologies identified, developed and demonstrated to farmers to address the important climatic vulnerabilities experienced such as droughts, floods, cyclone, heat wave, cold wave, hailstorms and frost. Location specific soil and moisture conservation practices, green manuring, zero tillage, efficient irrigation methods are developed and demonstrated to alleviate moisture stress during the crop growth period, minimize the impact of mid-season drought, enhance cropping intensity, crop yields and returns. Demonstration on agronomic practices such as timely planting, community nurseries for delayed monsoon, water saving paddy cultivation methods such as dry seeded rice and alternate wetting and drying, green manuring, advancement of planting dates of rabi crops in areas with terminal heat stress, frost management in horticulture, etc. were undertaken to minimize the impact of variable climatic situations. These adaptation efforts have been underway in 151 highly vulnerable districts through NICRA. So far, 25501 capacity building programs were conducted benefitting 7.57 lakh farmers and other stakeholders across the country for adaptation and mitigation of climate resilient agriculture.

[Part (a) of Lok Sabha USQ No. 4038 dated 17th March, 2026]

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

State	District	Risk	Hazard
Andhra Pradesh	Anantapur	Very High	Drought
Andhra Pradesh	Srikakulam	High	Cyclone
Andhra Pradesh	East Godavari	High	Cyclone
Andhra Pradesh	Kurnool	High	Drought
Arunachal Pradesh	Upper Siang	Very High	Drought
Arunachal Pradesh	Tawang	High	-
Arunachal Pradesh	Lower Subansiri	High	-
Arunachal Pradesh	West Siang	High	Drought
Arunachal Pradesh	East Siang	High	-
Arunachal Pradesh	Lohit	High	Drought
Arunachal Pradesh	Dibang valley	High	Drought
Assam	Nalbari	Very High	-
Assam	Darrang	Very High	Drought
Assam	Kokrajhar	High	-
Assam	Dhubri	High	Flood
Assam	Barpeta	High	-
Assam	Morigaon	High	-
Assam	Dhemaji	High	-
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
Bihar	Champanan(West)	High	Flood
Bihar	Champanan(East)	High	Flood
Bihar	Purnea	High	Flood
Bihar	Madhepura	High	Flood
Bihar	Gopalganj	High	-
Bihar	Siwan	High	-

Bihar	Samastipur	High	-
Bihar	Begusarai	High	Flood
Bihar	Khagaria	High	Flood
Bihar	Bhagalpur	High	Flood
Bihar	Patna	High	Flood
Bihar	Bhojpur	High	-
Bihar	Buxar	High	-
Chhattisgarh	Jashpur	High	-
Chhattisgarh	Raigadh	High	-
Chhattisgarh	Korba	High	-
Chhattisgarh	Durg	High	Drought
Chhattisgarh	Mahasamund	High	-
Chhattisgarh	Kanker	High	-
Gujarat	Panchmahal	Very High	Drought
Gujarat	Dahod	Very High	Drought
Gujarat	Banaskantha	High	Drought
Gujarat	Patan	High	Drought
Gujarat	Anand	High	Drought
Gujarat	Kheda	High	Drought
Gujarat	Narmada	High	Drought
Gujarat	Dang	High	Drought
Haryana	Fatehabad	Very High	Drought
Haryana	Bhiwani	Very High	Drought
Haryana	Mahendragarh	Very High	Drought
Haryana	Kaithal	High	Drought
Haryana	Jind	High	Drought
Haryana	Sirsa	High	Drought
Haryana	Hissar	High	Drought
Haryana	Rohtak	High	Drought
Haryana	Jhajjar	High	Drought
Haryana	Rewari	High	Drought
Haryana	Gurgaon	High	Drought
Himachal Pradesh	Chamba	Very High	Drought
Himachal Pradesh	Mandi	Very High	-
Himachal Pradesh	Kangra	High	Drought
Himachal Pradesh	Kullu	High	-
Himachal Pradesh	Hamirpur	High	-
Himachal Pradesh	Bilaspur	High	Drought
Himachal Pradesh	Shimla	High	-
Himachal Pradesh	Kinnaur	High	Drought
Jammu & Kashmir	Leh(Ladakh)	Very High	Drought
Jammu & Kashmir	Poonch	Very High	Drought

Jammu & Kashmir	Kathua	Very High	Drought
Jammu & Kashmir	Baramulla	High	Drought
Jammu & Kashmir	Budgam	High	Drought
Jammu & Kashmir	Anantnag	High	Drought
Jammu & Kashmir	Kargil	High	Drought
Jammu & Kashmir	Doda	High	Drought
Jammu & Kashmir	Udhampur	High	Drought
Jammu & Kashmir	Rajouri	High	Drought
Jharkhand	Garhwa	High	Drought
Jharkhand	Godda	High	-
Jharkhand	Sahibganj	High	-
Jharkhand	Pakur	High	-
Jharkhand	Gumla	High	-
Jharkhand	West Singbhum	High	-
Karnataka	Gadag	Very High	Drought
Karnataka	Haveri	Very High	Drought
Karnataka	Chitradurga	Very High	Drought
Karnataka	Bagalkot	High	Drought
Karnataka	Gulbarga	High	-
Karnataka	Bidar	High	Drought
Karnataka	Koppal	High	Drought
Karnataka	Dharwad	High	Drought
Karnataka	Bellary	High	Drought
Karnataka	Tumkur	High	Drought
Karnataka	Kolar	High	-
Karnataka	Bangalore (Rural)	High	Drought
Karnataka	Hassan	High	-
Karnataka	Mysore	High	Drought
Karnataka	Chamarajanagar	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	Thiruvananthapuram	Very High	Drought
Kerala	Kannur	High	Cyclone
Kerala	Wayanad	High	Drought
Kerala	Malappuram	High	Cyclone
Kerala	Palakkad	High	Drought
Kerala	Thrissur	High	Cyclone

Madhya Pradesh	Bhind	Very High	Drought
Madhya Pradesh	Jhabua	Very High	Drought
Madhya Pradesh	Morena	High	Drought
Madhya Pradesh	Datia	High	Drought
Madhya Pradesh	Tikamgarh	High	Drought
Madhya Pradesh	Chhatarpur	High	-
Madhya Pradesh	Panna	High	-
Madhya Pradesh	Rewa	High	-
Madhya Pradesh	Shahdol	High	-
Madhya Pradesh	Sidhi	High	-
Madhya Pradesh	Mandsaur	High	-
Madhya Pradesh	Ratlam	High	Drought
Madhya Pradesh	Barwani	High	Drought
Madhya Pradesh	Betul	High	-
Madhya Pradesh	Dindori	High	-
Madhya Pradesh	Mandla	High	-
Maharashtra	Nanded	Very High	-
Maharashtra	Beed	Very High	Drought
Maharashtra	Nandurbar	High	Drought
Maharashtra	Akola	High	-
Maharashtra	Washim	High	-
Maharashtra	Wardha	High	-
Maharashtra	Chandrapur	High	-
Maharashtra	Hingoli	High	Drought
Maharashtra	Parbhani	High	-
Maharashtra	Jalna	High	-
Maharashtra	Ahmednagar	High	Drought
Maharashtra	Latur	High	Drought
Maharashtra	Osmanabad	High	Drought
Manipur	Senapati	High	-
Manipur	Churachandpur	High	-
Manipur	Thoubal	High	-
Manipur	Imphal East	High	Flood
Manipur	Ukhrul	High	-
Manipur	Chandel	High	-
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
Meghalaya	Ri-Bhoi	High	-

Mizoram	Lawngtlai	Very High	Drought
Mizoram	Saiha	Very High	Drought
Mizoram	Kolasib	High	-
Mizoram	Aizawl	High	-
Mizoram	Champhai	High	-
Mizoram	Serchhip	High	-
Mizoram	Lunglei	High	Drought
Nagaland	Tuensang	Very High	Drought
Nagaland	Mon	High	-
Nagaland	Mokokchung	High	Drought
Nagaland	Zunheboto	High	-
Nagaland	Wokha	High	-
Nagaland	Phek	High	-
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
Orissa	Baragarh	High	-
Orissa	Mayurbhanj	High	Cyclone
Orissa	Bhadrak	High	Cyclone
Orissa	Dhenkanal	High	Cyclone
Orissa	Nayagarh	High	Cyclone
Orissa	Khurda	High	Cyclone
Orissa	Ganjam	High	Cyclone
Orissa	Gajapati	High	Cyclone
Orissa	Bolangir	High	Drought
Orissa	Nuapada	High	Drought
Orissa	Kalahandi	High	Drought
Orissa	Rayagada	High	-
Orissa	Nabarangpur	High	-
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
Punjab	Firozpur	High	Drought
Punjab	Muktsar	High	Drought
Punjab	Mansa	High	Drought
Punjab	Sangrur	High	Flood
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
Rajasthan	Bikaner	High	Drought
Rajasthan	Bharatpur	High	Drought
Rajasthan	Dholpur	High	Drought
Rajasthan	Jaipur	High	Drought
Rajasthan	Sirohi	High	Drought
Rajasthan	Ajmer	High	Drought
Rajasthan	Tonk	High	Drought
Rajasthan	Bundi	High	Drought
Rajasthan	Rajsamand	High	Drought
Rajasthan	Udaipur	High	-
Sikkim	South	Very High	-
Sikkim	North	High	Drought
Sikkim	West	High	-
Sikkim	East	High	-
Tamil Nadu	Dharmapuri	High	Drought
Tamil Nadu	Villupuram	High	Drought
Tamil Nadu	Coimbatore	High	Drought
Tamil Nadu	Perambalur	High	Drought
Tamil Nadu	Ramanathapuram	High	Drought
Telangana	Adilabad	High	-
Telangana	Mahabubnagar	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
Uttar Pradesh	Saharanpur	High	Drought
Uttar Pradesh	Rampur	High	Drought
Uttar Pradesh	Jyotiba Phulenagar	High	Drought
Uttar Pradesh	Aligarh	High	Drought
Uttar Pradesh	Hathras	High	Drought
Uttar Pradesh	Mathura	High	Flood
Uttar Pradesh	Agra	High	Drought
Uttar Pradesh	Budaun	High	Flood
Uttar Pradesh	Pilibhit	High	Flood
Uttar Pradesh	Shahjahanpur	High	Flood
Uttar Pradesh	Sitapur	High	Flood
Uttar Pradesh	Rae-Bareilly	High	Drought
Uttar Pradesh	Farrukhabad	High	Flood
Uttar Pradesh	Kanpur City	High	Drought
Uttar Pradesh	Lalitpur	High	Drought
Uttar Pradesh	Pratapgarh	High	Drought
Uttar Pradesh	Ambedkar Nagar	High	Drought
Uttar Pradesh	Siddharth Nagar	High	Flood
Uttar Pradesh	Sant Kabir Nagar	High	Flood
Uttar Pradesh	Maharajganj	High	Flood
Uttar Pradesh	Gorakhpur	High	Flood
Uttar Pradesh	Kushi Nagar	High	Flood
Uttar Pradesh	Deoria	High	Flood
Uttar Pradesh	Varanasi	High	Flood
Uttar Pradesh	Mirzapur	High	Flood

Uttar Pradesh	Sonbhadra	High	-
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
Uttarakhand	Chamoli	High	-
Uttarakhand	Pauri Garhwal	High	-
West Bengal	Malda	Very High	Flood
West Bengal	24-Paraganas (North)	Very High	Cyclone
West Bengal	24-Paraganas (South)	Very High	Cyclone
West Bengal	Darjeeling	High	-
West Bengal	Jalpaiguri	High	Drought
West Bengal	Cooch Behar	High	Flood
West Bengal	Dinajpur (Uttar)	High	Flood
West Bengal	Dinajpur (Dakshin)	High	Flood
West Bengal	Murshidabad	High	Flood
West Bengal	Birbhum	High	Flood
West Bengal	Nadia	High	Flood
West Bengal	Purulia	High	-
West Bengal	Howrah	High	Flood
West Bengal	Midnapore	High	Cyclone
