

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

LOK SABHA
UNSTARRED QUESTION NO. 2596

TO BE ANSWERED ON THE 04th August, 2026

IMPACT OF CLIMATE CHANGE ON AGRICULTURE

2596. SHRI SHAFI PARAMBIL:

SHRI RAJMOHAN UNNITHAN:

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

- (a) whether the Government has undertaken any assessment of the impact of climate change, unseasonal rainfall, floods and drought on agricultural production in Keralam and other coastal States during the last five years;
- (b) the details of crop losses and financial assistance provided to farmers in the State during the said period, crop-wise;
- (c) the funds allocated and released to Keralam under various Central schemes for climate resilient agriculture during the last five years;
- (d) the measures taken by the Government to promote climate-resilient farming, crop diversification and sustainable agricultural practices in Keralam;
- (e) the measures taken to strengthen scientific support and climate adaptation for farmers; and
- (f) Whether the Government proposes any special package or targeted intervention to strengthen the resilience and income of farmers in Keralam in view of the State's recurring climate-related challenges?

ANSWER

MINISTER OF STATE OF AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण राज्य मंत्री (SHRI RAMNATH THAKUR)

- (a) to (c): The Government, through the Indian Council of Agricultural Research (ICAR), is implementing the National Innovations in Climate Resilient Agriculture (NICRA) project to assess the impact of climate change and weather aberrations, including unseasonal rainfall, floods and drought, on agricultural production in the country, including the State of Keralam and other coastal States.

As reported by the Government of Keralam, crop losses are assessed based on applications under the State Contingency for Natural Calamity Scheme and the State Crop Insurance Scheme. From 01.04.2021 to 31.03.2026, 31,281.878 hectares of crop area was affected due to natural calamities. 257,214.73 hectares was covered under the State Crop Insurance Scheme, for which compensation of ₹122.32 crore was disbursed. In addition, Government of India released ₹164.43 crore under the Restructured Weather Based Crop Insurance Scheme (RWBCIS) during 2023-2025. The crop-wise details are given at Annexure.

The Government is implementing various schemes to promote climate-resilient agriculture. During the last five years (2021–22 to 2025–26), under the Per Drop More Crop (PDMC) scheme, a total amount of ₹97.83 crore was allocated to the State of Kerala, against which ₹26.03 crore was released. During the same period, under the Rainfed Area Development (RAD) scheme, a total allocation of ₹17.54 crore was made, against which ₹6.89 crore was released. Under the Soil Health Card (SHC) Scheme, a total of ₹22.65 crore was allocated and ₹6.96 crore was released. Under the Paramparagat Krishi Vikas Yojana (PKVY), a total allocation of ₹59.50 crore was made, against which ₹33.65 crore was released. Further, under the National Mission on Natural Farming (NMNF), a total of ₹5.58 crore was allocated and the entire allocated amount was released during the said period.

(d) to (e): Indian Council of Agricultural Research (ICAR) is implementing a project-National Innovations in Climate Resilient Agriculture (NICRA) in 651 districts that studies the impact of climate change on agriculture. It conducts district level risk & vulnerability assessment due to climate change including the State of Keralam. Out of the 310 districts identified as vulnerable to climate change, 201 districts are categorized as 'High' climate-vulnerable and 109 districts as 'Very High' climate-vulnerable. Of the 109 'Very High' climate-vulnerable districts, 8 districts (Kasaragod, Kozhikode, Ernakulam, Kottayam, Alappuzha, Pathanamthitta, Kollam and Thiruvananthapuram) are in Keralam. Of the 201 'High' climate-vulnerable districts, 5 districts (Kannur, Wayanad, Malappuram, Palakkad and Thrissur) are in Keralam. District Agriculture Contingency Plans (DACPs) for these 651 districts have been prepared to address weather aberrations. Under NICRA location-specific climate resilient technologies such as system of rice intensification, aerobic rice, direct seeding of rice, in-situ incorporation of rice residues etc. have been demonstrated through KVKs in 448 model Climate Resilient Villages. 9 villages are in the State of Keralam.

The Government is taking various measures to promote sustainable agricultural practices. Per Drop More Crop scheme is implemented to promote water use efficiency at the farm level through Micro Irrigation technologies. Rainfed Area Development scheme is implemented to promote Integrated Farming System for enhancing productivity and minimizing risks associated with climatic variability. The Soil Health and Fertility scheme assists states in promoting Integrated Nutrient Management through judicious use of fertilizers. The Government is also promoting organic farming through Paramparagat Krishi Vikas Yojana and natural farming through National Mission on Natural Farming scheme. “Mission for Aatmanirbharta in Pulses”, National Mission on Edible Oils – Oilseeds, and National Food Security & Nutrition Mission promotes crop diversification. Mission for Integrated Development of Horticulture, Agroforestry & National Bamboo Mission also promote climate resilience in agriculture.

To strengthen scientific support and climate adaptation, the Government is leveraging emerging technologies such as Artificial Intelligence (AI), Internet of Things (IoT), and digital platforms to enhance crop productivity and sustainability, including in the State of Kerala. The “Kisan e-Mitra” voice-based AI chatbot, supporting 11 regional languages, assists farmers with queries related to PM-KISAN and other Government programmes. It handles over 20,000 queries daily and has responded to more than 95 lakh queries to date. Further, the Ministry of Agriculture and Farmers Welfare has launched “Bharat VISTAAR”, an AI-powered multilingual digital platform that provides farmers with real-time advisories, access to Government schemes, and weather updates through a single interface. The National Pest Surveillance System (NPSS) uses AI and Machine Learning technologies for early detection of pest infestations, thereby helping farmers reduce climate-induced crop losses. The system is currently utilized by over 10,000 extension workers and supports surveillance of 61 crops and more than 400 pests. AI-based analytics using field photographs and satellite imagery are also being deployed for crop-weather matching and monitoring of sowing patterns.

Annexure

		Natural Calamity			State Crop Insurance	
Sl. No.	Crop	Crop Area Affected (Ha)	State Fund (Rs in lakhs)	SDRF Fund (Rs in lakhs)	Crop Area Affected (Ha)	Compensation Disbursed (in Rs.)
1	Amaranthus	42.25	0	5.71	5.38	32,800
2	Amorphophallus	46.43	0	5.90	7.14	50,260
3	Arecanut	104.69	49.15	14.45	8.57	6,70,540
4	Ash Gourd	20.26	0	2.42	13.69	85,400
5	Banana	3821.52	2297.19	383.70	3,076.45	86,28,075,25
6	Beans	97.14	0	13.05	0.58	7,300
7	Beetroot	0.56	0	0.08	0	0
8	Betelvine	51.91	13.33	8.63	10.14	18,24,800
9	Bhindi	45.45	0	5.56	11.24	1,03,000
10	Bitter Gourd	109.39	0	13.81	29.65	5,25,280
11	Black Gram	20.49	0	1.40	13.92	36,880
12	Bottle Gourd	9.20	0	0.92	13.72	1,09,120
13	Brinjal	9.21	0	1.20	0.78	4,300
14	Cabbage	17.09	11.48	2.30	0	0
15	Cardamom	4868.67	0	242.66	6.78	2,78,400
16	Carrot	30.16	0	4.08	0	0
17	Cashew	41.46	0.31	6.99	1.74	81,550
18	Clove	2.16	0.34	0.46	0	0
19	Cluster Bean	0.12	0	0.02	0	0
20	Coccinea	20.27	0	2.64	1.08	28,800
21	Cocoa	11.00	5.57	3.29	0.11	3,300
22	Coconut	212.71	41.39	32.96	17.12	19,68,600
23	Coffee	6.14	8.97	4.77	0.01	2,100
24	Coleus	0.81	0	0.14	0	0
25	Colocasia	22.61	0	3.21	0	0
26	Cool Season Vegetables	1.86	0	0.25	0	0

27	Cowpea	58.28	0	3.79	14.44	21,640
28	Cucumber	78.20	0	9.31	39.38	2,07,000
29	Curry Leaf Tree	0.09	0	0.02	0	0
30	Dragon Fruit	0.05	0	0	0	0
31	Drumstick	0.26	0	0.04	0	0
32	Fodder Crops	1.79	0	0.21	0	0
33	Garlic	45.14	0	6.11	0	0
34	Ginger	31.80	0	4.32	1.03	45,120
35	Green Chilli	9.99	0	1.34	3.01	20,900
36	Green Gram	5.41	0	0.37	0	0
37	Groundnut	0.82	0	0.11	0	0
38	Mango	3.53	0	0.34	0.47	11,600
39	Nutmeg	271.60	39.54	37.40	3.92	9,36,000
40	Paddy	18771.88	0	2469.50	253387.32	34,66,07,366
41	Paddy Upland	28.92	0	3.90	0	0
42	Pepper	177.89	23.22	22.45	4.42	6,12,400
43	Pineapple	15.35	0.08	2.68	1.44	71,400
44	Potato	52.80	0	7.15	0	0
45	Pulses	18.08	0	1.23	0	0
46	Pumpkin	20.50	0	2.40	23.24	1,09,400
47	Rubber	248.85	114.14	48.72	12.70	35,02,400
48	Sesamum	208.71	0	27.72	141.38	3,69,340
49	Snake Gourd	112.43	0	13.87	30.80	3,64,080
50	Sorghum	0.04	0	0	0	0
51	Sugarcane	12.53	0	0.80	0.29	14,400
52	Sweet Potato	2.95	0	0.35	1.49	300
53	Tapioca	983.26	0	117.48	274.40	7,77,012
54	Tea	0.16	0	0.04	0	0
55	Tobacco	0.21	0.06	0.01	0	0
56	Tomato	10.52	0	1.23	0.88	11,000
57	Tuber Crops	47.15	0	6.35	0	0
58	Turmeric	13.48	0	1.88		17,520
59	Vegetable Cowpea	198.07	0	26.14	45.59	7,91,840
60	Vegetables	221.81	0	29.86	0	0
61	WaterMelon	6.53	0	0.01	9.55	7,50,00
62	Yams	9.26	0	1.29	0	0
	Total	31281.90	2604.77	3609.02	257214.73	122,31,85,673
