GOVERNMENT OF INDIA
MINISTRY OF AGRICULTURE AND FARMERS WELFARE
DEPARTMENT OF AGRICULTURE AND FARMERS WELFARE

LOK SABHA
UNSTARRED QUESTION NO. 4251
TO BE ANSWERED ON THE 19TH AUGUST, 2025

FLOOD RESILIENT AGRICULTURAL PRACTICES

4251. SMT. RACHNA BANERJEE:

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

(a) whether the Government provide details of the crop losses reported from various States due to the flood-like situation in the current monsoon season;

(b) if so, the State and crop-wise assessment of the damage;

(c) the steps is the Government taking to improve early warning systems and flood resilient agricultural practices to mitigate losses due to extreme weather events;

(d) whether the Government is considering any special crop insurance or loan waiver scheme for the farmers affected by floods in this monsoon; and

(e) if so, the details thereof and if not, the reasons therefor?

ANSWER

MINISTER OF STATE FOR AGRICULTURE AND FARMERS WELFARE

कृषि एवं किसान कल्याण राज्य मंत्री (SHRI RAMNATH THAKUR)

(a) & (b): As per the National Disaster Management Plan (NDMP), the primary responsibility of disaster management including damage assessment and providing relief measures on ground level, rests with the State Governments concerned. The Central Government provides requisite logistics and financial support to the efforts of the State Governments. The State Governments provide financial relief to the affected people in the event of 12 notified natural disasters, from the State Disaster Response Fund (SDRF), already placed at its disposal, in accordance with approved items and norms of Government of India (GOI). However, in the event of disaster of a 'severe nature', additional financial assistance is extended from the National Disaster Response Fund (NDRF), as per laid down procedure, which includes an assessment based on the visit of an Inter-Ministerial Central Team (IMCT). The financial assistance provided under SDRF and NDRF is by way of relief and not for compensation of losses suffered/ claimed.

The details of the fund allocated and released under SDRF/NDRF to the States are available on Disaster Management, MHA's website i.e. ndmindia.mha.gov.in.

The Details of States affected by Floods/ Heavy rainfall is at **Annexure I**.

(c): A Crop Weather Watch Group for Drought Management (CWWGDM) is in place in Department of Agriculture and Farmers Welfare to review the rainfall situation, progress of sowing of Kharif crops, reservoir levels and other parameters to determine/assess drought situation and to get first-hand information about the States' preparedness in the event of any drought like development through weekly video conference with the State Governments/ other stakeholders during South-West Monsoon season (June to September).

The Crisis Management Group on Drought is in place, which reviews the drought situation with the representatives of the line Departments, States and other stakeholders, as and when required.

The Crisis Management Plan (CMP) for Drought is in place. It focuses on drought management interventions required during the time of crisis. It delineates the roles and responsibilities of various stakeholders, including Central and State Governments and their agencies in managing the calamity. The CMP provides a crisis management framework to identify phases of the crisis and the strategic response corresponding to each such phase. The plan also provides for a Strategic Activity Planner, which acts as a ready reckoner for critical steps that need to be taken in different times of the year with respect to drought preparedness, drought reporting and drought response and the agencies responsible for the identified activities.

Measures for climate resilient agricultural practices under Department of Agriculture and Farmers Welfare are at **Annexure II**. The Ministry of Earth Sciences (MoES) has developed advanced early warning system for severe weather events such as cyclones, heavy rainfall and other extreme conditions, which may please be seen at **Annexure III.**

(d) & (e): To provide financial support to farmers at the time of losses due to natural calamities, a yield index-based Pradhan Mantri Fasal Bima Yojana (PMFBY) and weather index based Restructured Weather Based Crop Insurance Scheme (RWBCIS) have been introduced in the country from Kharif 2016 season. It is a demand driven scheme and financial liability on premium subsidy to farmers is shared by the Central and State Government on 50: 50 basis and 90: 10 in North Eastern States & other Hilly states, with effect from Kharif 2020 season. The scheme is voluntary for the States since inception and for all farmers w.e.f. Kharif 2020.

PMFBY provides for comprehensive risk insurance against crop damage from pre-sowing to post-harvest for crops and area notified by the concerned State Government. The scheme not only safeguards against wide spread yield loss due to non-preventable natural risks/ & extreme climate calamities viz. flood, inundation, landslide, drought, heat waves, hailstorm, cyclone, pests/diseases, natural fire and lightening, storm, typhoon, tempest, hurricane, tornado etc. but also against farm level yield loss due to localized risks (hailstorm, landslide, inundation, cloud burst and natural fire) and post harvest losses due to cyclone, cyclonic/unseasonal rain and hailstorm and prevented sowing.

There is no proposal for loan waiver by the Government of India.

Annexure I

The Details of States affected by Floods/ Heavy rainfall and affected crop area during current Monsoon Season 2025 (till 13.08.2025)

S.No.	Name of States/UTs	Affected Crop Area (in hectare)
1.	Arunachal Pradesh	1714
2.	Assam	33966
3.	Jharkhand	171
4.	Karnataka	25824
5.	Maharashtra	91429
6.	Manipur	1440
7.	Meghalaya	6372
8.	Nagaland	556
9.	Odisha	10115
10.	Punjab	7893
11.	Sikkim	8
12.	Uttar Pradesh	68234
13.	Jammu & Kashmir	1239
14.	Dadra & Nagar Haveli and Daman & Diu	Nil
15.	Uttarakhand	115
16.	Punjab	7892
Total		249076

Source: As received from MHA.

Annexure II

Measures for climate resilient agricultural practices under Department of Agriculture and Farmers Welfare

Department of Agriculture & Farmers Welfare implemented the Centrally Sponsored Scheme of Sub-Mission on Agroforestry (SMAF) from 2016-17 to encourage tree plantation on farmland along with crops/ cropping systems to help the farmers get additional income. Sub-Mission on Agroforestry (SMAF) was implemented from 2016-17 to 2021-22 in 21 States and 2 UTs. The SMAF scheme from 2023-24 has been restructured as an Agroforestry Component under Rashtriya Krishi Vikas Yojana (RKVY) that focuses on production of Quality Planting Material. Agroforestry helps combat climate change by sequestering carbon in trees and soil, reducing atmospheric CO_2 levels. It enhances land resilience by preventing soil erosion, improving water retention, and moderating local temperatures. Additionally, Agroforestry protects ecosystems from extreme weather events like droughts and storms, making it an effective strategy for both climate change mitigation and adaptation.

Department of Agriculture & Farmers Welfare (DA&FW) is implementing Centrally sponsored scheme of Rainfed Area Development (RAD) across the country from 2014-15. RAD focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variability. From the Year 2014-15 to 2021-2022, the RAD was implemented as a component of National Mission for Sustainable Agriculture (NMSA). During the (FY: 2022-23), RAD became a component of RKVY Scheme. Under RAD, crops/cropping system is integrated with activities like horticulture, livestock, fishery, agro-forestry, apiculture etc. to enable farmers not only in maximizing farm returns for sustaining livelihood, but also to mitigate the impacts of drought, flood or other extreme weather events. Financial assistance of Rs. 30,000/- is provided to each farming family under RAD component irrespective of the size of their land holding.

Indian Council of Agricultural Research (ICAR) is implementing a flagship network project National Innovations in Climate Resilient Agriculture (NICRA) to strengthen climate resilience in agriculture and to promote climate-resilient agricultural practices across the country. The measures being implemented by NICRA are:

District level risk and vulnerability assessment of 573 predominantly agriculture districts was carried out as per Intergovernmental Panel on Climate Change (IPCC) protocol and location specific climate resilient technologies have been demonstrated in one village cluster from each of the 151 climatically vulnerable districts to the farmers through farmer participatory approach. At district level, KVKs facilitate in convergence with various schemes of line departments for upscaling the promising climate resilient practices. At village level, village climate risk management committees (VCRMCs), custom hiring centres (CHCs), seed banks and fodder banks help in spread of resilient technologies.

Climate resilient technologies include climate resilient varieties, resilient intercropping systems, conservation agriculture, crop diversification from paddy to other alternate crops like pulses, oilseeds, agroforestry systems, zero till sowing, alternate methods of rice cultivation, green manuring, integrated farming systems, integrated nutrient

and pest management, organic farming, in-situ moisture conservation, protective irrigation, micro irrigation etc. have been developed and demonstrated to large number of farmers.

The studies indicate that change in sowing time, growing short duration, heat, drought and flood tolerant varieties with improved nutrient and water management strategies enhances the productivity of major crops. Developed District Agriculture Contingency Plans (DACPs) for 651 districts in India covering weather aberrations and recommended location specific climate resilient crops and varieties and management practices for use by the State departments (Available at https://agriwelfare.gov.in/en/DocAgriContPlan). Capacity building programs are also conducted to farmers and other stakeholders related to impact of climate change and their adaptation and mitigation measures.

Annexure III

The Ministry of Earth Sciences (MoES) has developed advanced early warning systems for severe weather events such as cyclones, heavy rainfall, and other extreme conditions. Early warning for severe weather events is supported by a state-of-the-art observation network that includes surface, upper air, remote sensing observations, seamless forecasting systems based on high-resolution dynamical models, and GIS-based tools for generating alerts and warnings. The entire system is integrated with modern telecommunication technologies to ensure the timely and effective dissemination of information.

The National Centre for Seismology (NCS) under the MoES monitors the earthquakes occurring in and around the country through its seismological network and provides information about the earthquake occurrence with an intensity map.

The India Meteorological Department (IMD) has developed an end-to-end GIS-based Decision Support System (DSS), which works as the front end of the early warning systems for the timely detection and monitoring of all- weather hazards across the country, including the States regularly affected by cyclones and other natural disasters. The system utilizes historical data, including extreme events, as well as real-time surface and upper-air meteorological observations available for the Indian region and its neighbouring areas. It also includes RADAR observations, available every 10 minutes, and satellite products every 15 minutes. It also uses numerical weather prediction products from a suite of models run in the MoES institutions.

A Central Sector Scheme, "Mission Mausam", is launched by the MoES to make Bharat a "Weather-ready and climate-smart" nation.

Various steps have been taken to ensure effective dissemination of warnings to vulnerable populations. IMD's weather information, including alerts and warnings to the public, is provided through various platforms:

- Mass Media: Radio/TV, Newspaper network (AM, FM, Community Radio, Private TV), Prasar Bharati, and private broadcasters.
- Weekly & Daily Weather Video.
- Internet (email), FTP
- Public Website (mausam.imd.gov.in)
- IMD Apps: Mausam/Meghdoot/DAMINI/RAIN ALARM
- Social Media: Facebook, X, Instagram, BLOG

1. X: https://twitter.com/Indiametdept
2. Facebook: https://www.facebook.com/India.Meteorological.Department/
3. Blog: https://imdweather1875.wordpress.com/
4. Instagram: https://www.instagram.com/mausam_nwfc
5. YouTube: https://www.youtube.com/channel/UC_qxTReoq07UVARm87CuyQw

IMD has also brought out a web-based online "Climate Hazard & Vulnerability Atlas of India" prepared for the thirteen most hazardous meteorological events, which cause extensive damage and economic, human, and animal losses.

IMD has launched seven of its services (Current Weather, Nowcast, City Forecast, Rainfall Information, Tourism Forecast, Warnings, and Cyclone) with the 'UMANG' Mobile

App for use by the public. IMD developed a mobile App, 'MAUSAM' for weather forecasting, 'Meghdoot' for Agromet advisory dissemination, and 'Damini' for lightning alerts. The Common Alert Protocol (CAP), developed by the NDMA, is also implemented to disseminate warnings by the IMD.

The Central Water Commission (CWC) issues short-range flood forecasts with a lead time of up to 24 hours to concerned State Governments at identified locations. Timely flood forecasts are issued when a certain threshold limit is reached.

To disseminate information related to the flood situation in the country and flood forecasts up to 7 days on a real-time basis to the public through mobile phones, version 2.0 of the 'FloodWatch India' mobile application has been developed by the CWC, which provides current information on flood conditions across the country. Further, it also provides additional information regarding the storage positions of 150 major reservoirs in the country, which helps in a better understanding of the possible flood situation in their downstream areas. The 'FloodWatch India' app is available for download.

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