

Climate-resilient agriculture technologies

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The Government has under taken several steps to develop and out-scaling climate-resilient agricultural technologies through Indian Council of Agricultural Research (ICAR) and Department of Agriculture & Farmers' Welfare (DA&FW). ICAR through network project on National Innovations in Climate Resilient Agriculture (NICRA) has developed and promoted climate resilient agriculture to address vulnerable areas of the country to cope up with extreme weather conditions like droughts, floods, frost, heat waves, etc. It has three components viz. strategic research, technology demonstration and capacity building.

ICAR also works on development of climate resilient crop varieties suitable for extreme weather situations, identification of the most vulnerable districts/regions, management practices for adaptation & mitigation and development of climate resilient livestock, fisheries and poultry rearing practices. DA&FW implements National Mission for Sustainable Agriculture (NMSA) to make agriculture more resilient to the changing climate through its schemes viz. Per Drop More Crop, Rainfed Area Development and Soil Health & Management.

ICAR implements All India Coordinated Research Programme on Integrated Farming Systems (AICRP-IFS) in 25 States/UTs through which alternate efficient cropping systems for crop diversification are developed and promoted.

DA&FW Crop Diversification Programme under Pradhan Mantri- Rashtriya Krishi Vikas Yojana in states viz; Punjab and western Uttar Pradesh to divert the area of water guzzling paddy crop to alternative crops like pulses, oilseeds, coarse cereals, nutri-cereals, cotton and Agroforestry. The programme has been extended to tobacco growing states of Andhra Pradesh, Bihar, Gujarat, Karnataka, Maharashtra, Odisha, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal to encourage tobacco growing farmers to shift to alternate crops/cropping system.

DA&FW also implemented another Pilot Project through AICRP-IFS programme of ICAR for Crop Diversification under Krishi Unnati Yojana from 2023-24 in the 75 identified districts in 17 States to diversify the existing crops with less water intensive crops such as pulses, oilseeds and millets. A total of 19 State Agricultural Universities and 5 ICAR Institutes are involved in implementation of the project.

Under NICRA project also crop diversification of paddy and wheat with groundnut and mustard in low rainfall areas; maize with medium duration black gram; high value vegetables for flood prone areas; mulberry-sericulture for risk minimization in drought prone regions; respectively; and short duration foxtail millet varieties as an alternative crop to pigeon pea, cotton, sunflower and sorghum are promoted.

The Government implements Centrally Sponsored Scheme Namely Per Drop More Crop (PDMC) in the Country from 2015-16. The PDMC focuses on enhancing water use efficiency at farm level through Micro Irrigation namely Drip and Sprinkler Irrigation Systems covering various crops including staple

crops. Financial Assistance @ 55% for Small & Marginal farmers and @ 45% for other farmers is provided by the Government for installation of Micro Irrigation under the Scheme. ICAR – Indian Institute of Water Management through 26 network centres has developed drip irrigation and fertigation schedules which are disseminating to the farmers.

In all the 731 Krishi Vigyan Kendras (KVKs) several activities are undertaken to meet the climate resilience challenges by conducting location specific resilient technologies demonstration on farmers' fields through Front line demonstration scheme throughout the country. The efforts are more intensified in the 151 KVKs of risk prone districts spreaded across 28 states and 5 Union Territories through NICRA.

KVKs also have village level institutions such as Village Climate Risk Management Committees, seed and fodder banks and Custom hiring centres to help farmers in taking up timely farm operations. KVKs are also involved in issuing agro-advisories to farmers to tackle aberrant weather situations. Further, ICAR Institutes and Agricultural Universities provide technological backstopping to the Subject Matter Specialists of KVKs to upgrade the knowledge on climate resilience agriculture for further dissemination to the farmers.

This information was given by the Minister of State for Agriculture & Farmers' Welfare Shri Bhagirath Choudhary in a written reply in Lok Sabha today.

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