

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

LOK SABHA
UNSTARRED QUESTION NO. 2575
TO BE ANSWERED ON THE 4TH AUGUST 2026

PROMOTION OF MODERNISATION IN AGRICULTURE

2575. MS. S JOTHIMANI:

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

- (a) the details of the initiatives taken to promote modernisation in agriculture, including mechanization, precision farming and the use of AI;
- (b) the details of the financial and technical support provided to farmers for adopting modern agricultural practices;
- (c) the steps taken to improve access to timely credit, efficient irrigation, and climate-resilient technologies; and
- (d) whether the Government has collaborated with private sectors or research institutions to enhance agricultural productivity and if so, the details thereof?

ANSWER

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

(a) & (b): Agriculture is a State subject and Government of India supports the efforts of States for modernization in agriculture through appropriate policy measures and budgetary allocation under various schemes/ programmes.

Sub-Mission on Agricultural Mechanization (SMAM) provides financial assistance to farmers for purchasing modern agricultural machinery and equipment. This centrally sponsored scheme provides financial assistance @ 40-50% of the cost of machines to farmers for purchase of agricultural machinery and equipment. It also supports the establishment of Custom Hiring Centres (CHCs) with financial assistance @ 40% of the project cost for the projects costing up to Rs. 250 lakhs. Establishment of Farm Machinery Banks (FMBs) are supported with financial assistance @ 80% of the project cost for the projects costing up to Rs. 30 lakhs. The financial assistance towards FMBs for the North Eastern States is @ 95% of the project cost. Adoption of modern farm machinery, including precision agriculture tools, drones and other advanced mechanization technologies and women-friendly farm implements are encouraged under SMAM.

Crop Residue Management (CRM) Scheme is implemented in the State of Punjab, Haryana, Uttar Pradesh, Madhya Pradesh and NCT of Delhi to promote sustainable crop residue management through the provision of subsidized agricultural machinery, establishment of Custom Hiring Centres (CHCs), and other measures

aimed at reducing stubble burning. Financial assistance @ 50% of the cost of machinery is provided to the farmers for purchase of CRM machinery and financial assistance @ 80% of the project cost is provided for establishment of CHCs of crop residue management machinery. Financial assistance @ 65% on the capital cost of machinery costing up to Rs. 1.50 crores is also provided for establishing a robust supply chain of paddy straw for various end user industries in biomass power generation and biofuel sectors.

Digital Agriculture Mission (DAM) promotes precision farming, satellite-based crop monitoring, and AI-driven advisories for improving productivity and resource efficiency. The Mission focuses on building a strong Digital Public Infrastructure (DPI) for agriculture, including AgriStack, the Krishi Decision Support System and comprehensive soil profile mapping. AgriStack comprises foundational databases such as Farmers' Registry, Geo-referenced Village Maps and Crop Sown Registry, enabling timely and reliable crop-related information for farmers. The Mahalanobis National Crop Forecast Centre (MNCFC) supports the Mission through satellite-based crop forecasting under the FASAL project, drought monitoring, and technological support to Pradhan Mantri Fasal Bima Yojana (PMFBY) through YES-TECH and digital crop-cutting experiments. The Government is also promoting AI and IoT-based solutions for personalized advisories and improved farm management. Key initiatives include the AI-powered Kisan e-Mitra chatbot for farmer queries and the National Pest Surveillance System, which uses AI/ML tools to detect pest infestations and reduce crop losses.

The Government is implementing various technology-oriented programmes for capacity building and skill development of farmers through Farm Machinery Training & Testing Institutes (FMTTIs), State Agricultural Universities (SAUs), Krishi Vigyan Kendras (KVKs) and other extension institutions for improving productivity and income of farmers. As an integral part of various schemes, the training programmes include short-term and medium-term practical training courses covering scientific and modern technology-based agricultural practices.

(c): Yes, the Government has taken various initiatives to improve access to timely credit, efficient irrigation and climate-resilient technologies. The Kisan Credit Card (KCC) Scheme provide timely and affordable institutional credit to farmers for crop cultivation, post-harvest expenses and allied activities such as dairy, fisheries, and animal husbandry. The scheme enables farmers to access flexible, revolving credit through a simplified process, reducing dependence on informal sources of finance. The Government is also implementing Central Sector Scheme 'Modified Interest Subvention Scheme (MISS)' across various States and UTs, which provide concessional interest rates on short-term agricultural loans obtained by farmers through Kisan Credit Cards (KCC) for their working capital requirements. Under this scheme, farmers receive KCC loans at a subsidized interest rate of 7%. To facilitate this, an upfront interest subvention of 1.5% is provided to financial institutions. Additionally, farmers who repay their loans promptly receive a 3% Prompt Repayment Incentive (PRI), effectively reducing the interest rate to 4% per annum.

The Agriculture Infrastructure Fund (AIF) provides medium-long term debt financing facility for investment in viable projects for post-harvest management infrastructure and viable farming assets through interest subvention and credit guarantee support. The Scheme provides 3% interest subvention and credit guarantee

support on loans up to ₹2 crore for eligible borrowers, subject to a maximum lending rate of 9% per annum.

Per Drop More Crop (PDMC) scheme promote initiatives towards enhancing water use efficiency at farm level through Micro Irrigation and increasing productivity of crops and income of farmers through precision water management. Financial assistance is provided to farmers @ 55% of the benchmark cost for Small and Marginal Farmers and 45% of the benchmark cost for other Farmers, for installation of micro-irrigation systems. The scheme also supports activities such as micro-irrigation demonstrations, capacity building, training, and awareness programmes to facilitate adoption of efficient irrigation technologies.

The National Mission for Sustainable Agriculture (NMSA) implement strategies to make Indian agriculture more resilient to the changing climate. Various schemes have been integrated under NMSA to deal with the adverse climate situations in the agriculture sector. PDMC scheme increases water use efficiency at the farm level through micro irrigation technologies i.e. drip and sprinkler irrigation systems. Rainfed Area Development (RAD) scheme focuses on Integrated Farming System (IFS) for enhancing productivity and minimizing risks associated with climatic variability. The Soil Health & Fertility scheme assists states in promoting Integrated Nutrient Management through judicious use of chemical fertilizers including secondary and micronutrients in conjunction with organic manures & bio-fertilizers for improving soil health and its productivity. Mission for Integrated Development of Horticulture, Agroforestry & National Bamboo Mission also promote climate resilience in agriculture. Further, Pradhan Mantri Fasal Bima Yojana along with weather index based Restructured Weather Based Crop Insurance Scheme provide a comprehensive insurance cover against failure of the crop by providing financial support to farmers suffering crop loss/damage arising out of unforeseen natural calamities and adverse weather incidence.

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 including crops, livestock, horticulture and fisheries. It also develops and promotes climate resilient technologies to help the regions prone to extreme weather conditions. NICRA project creates awareness about impact of climate change among farmers. Capacity building programmes are conducted to educate the farmers for wider adoption of climate resilient technologies. Large scale demonstrations of climate resilient varieties are undertaken in farmers' fields through Krishi Vigyan Kendras (KVKs) under NICRA. Farmers are also provided with weather advisories as ICAR in collaboration with India Meteorological Department issues Agromet advisories to farmers through Gramin Krishi Mausam Seva program.

(d): The Government has undertaken various collaborative initiatives with private-sector organizations, startups, industry bodies, national and international research institutions to enhance agricultural productivity, promote technology adoption and improve farmers' income. Public-Private Partnerships (PPPs) have been promoted in quality seed production, farm mechanization, precision agriculture, irrigation and post-harvest management. Through ICAR, collaborations with State Agricultural Universities (SAUs), private seed companies, agri-input industries and Farmer Producer Organizations (FPOs) support the development and dissemination of high-yielding, climate-resilient crop varieties and sustainable

farming technologies. Under the Digital Agriculture Mission, partnerships with agri-tech startups, technology companies and research institutions facilitate the deployment of Artificial Intelligence (AI), drones, Internet of Things (IoT), remote sensing and digital advisory services. The Government also supports agri-tech startups, promotes farm mechanization through partnerships with machinery manufacturers, collaborates with international research organizations for climate-resilient technologies and disseminates innovations through KVKs via demonstrations, on-farm trials, training, and extension programmes. The National Mission on Edible Oil – Oilseeds (NMEO-OS) and Mission for Aatmanirbharta in Pulses promotes technological interventions and innovation by supporting the development and dissemination of improved seed varieties, climate-resilient technologies, mechanization, digital tools and extension activities. It also encourages collaboration with Farmer Producer Organizations (FPOs), cooperatives, private seed corporations and other stakeholders for seed production, technology dissemination and value chain development, thereby leveraging public-private partnerships to enhance technology adoption and productivity.
