



Protecting Farmers, Securing the Future

Securing the future of Indian agriculture begins with empowering its farmers. The convergence of policy reforms, digital innovation, climate-resilient practices, research, and market reforms is strengthening farmer welfare and transforming the agricultural landscape. Enhancing resilience, productivity and income security through sustainable and technology-enabled interventions will be critical to building an inclusive agricultural sector and realising the vision of *Viksit Bharat@2047*.

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Agriculture has been the foundation of India's economy, culture, and civilisation for centuries. Even today, it supports the livelihoods of nearly half of the country's workforce, contributes significantly to food security and sustains rural communities. Indian farmers are not merely food producers; they are custodians of natural resources, biodiversity and traditional knowledge systems. As India advances towards becoming a developed nation under

the vision of *Viksit Bharat@2047*, protecting farmers and securing the future of agriculture has become a national priority.

Over the past decade, India's agricultural sector has recorded sustained annual growth of approximately 4–4.5 per cent, comparing favourably with most major economies. This growth has contributed to higher agricultural production, improved food security, and greater diversification. However, the benefits have not translated uniformly into higher farm

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incomes. Addressing this gap remains a key policy priority, as agriculture continues to be the primary source of livelihood for a large proportion of India's population. Consequently, recent policy initiatives have increasingly emphasised the complementary roles of policy, technology, and institutional support in translating agricultural growth into improved farmer incomes.

Small and marginal farmers constitute approximately 86.1 per cent of all operational landholdings in India. Marginal farmers (owning less than one hectare) account for 68.5 per cent, while small farmers (owning 1–2 hectares) account for 17.6 per cent. Together, they cultivate nearly 47–48 per cent of the country's operated agricultural area despite representing more than four-fifths of all farm holdings.

Although they cultivate less than half of India's agricultural land, these farmers remain central to the country's food security and rural economy. Agriculture and allied sectors continue to provide livelihoods to nearly 46 per cent of the workforce while contributing around 18 per cent to India's Gross Value Added (GVA). These figures highlight the need for sustained investment in farmer welfare, agricultural research, digital agriculture, and market reforms to enhance productivity, improve farm incomes, and promote sustainable agricultural development.

In 2026, farmer welfare is no longer viewed solely in terms of increasing agricultural production. The policy

focus has gradually shifted towards enhancing farmers' incomes, resilience, sustainability, and overall quality of life through a combination of financial support, technological innovation, market reforms, and climate-resilient agricultural practices.

The Ministry of Agriculture and Farmers Welfare (MoA&FW) has adopted a comprehensive farmer-centric approach that combines direct income support, affordable institutional credit, crop insurance, digital platforms, Farmer Producer Organisations (FPOs), infrastructure development and climate-resilient agriculture. Reflecting this commitment, the budgetary allocation for the Department of Agriculture and Farmers Welfare increased from ₹27,663 crore in 2013–14 to ₹1,40,528.78 crore in 2026–27.

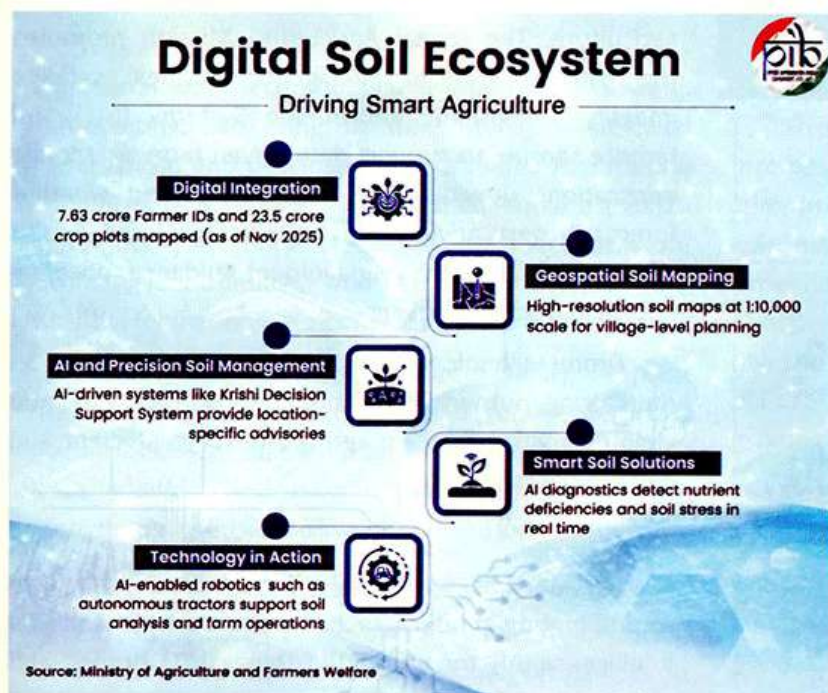
Government Initiatives Supporting Farmers

Over the past decade, flagship initiatives such as PM-KISAN, Pradhan Mantri Fasal Bima Yojana (PMFBY), the Kisan Credit Card (KCC) Scheme, the Agriculture Infrastructure Fund (AIF), and the National Agriculture Market (e-NAM) have substantially expanded their outreach. These programmes have strengthened income support, crop insurance coverage, institutional credit, agricultural infrastructure, and market access, benefiting millions of farmers across the country.

Foodgrain production has increased from 265.05 million tonnes in 2013–14 to a record 357.73 million tonnes in 2024–25, while horticulture production reached 369.05 million tonnes during 2024–25, reflecting the sector's continued growth.

Institutional credit to agriculture has increased significantly over the past decade, accompanied by the expansion of micro-irrigation under the Per Drop More Crop initiative and the rapid growth of Farmer Producer Organisations (FPOs), which are improving farmers' access to finance, technology, and markets.

The Government has also approved the Clean Plant Programme to ensure the availability of certified, disease-free planting material for major fruit crops. A seven-year National Mission on Edible Oils–Oilseeds has been launched to boost domestic oilseed production and strengthen India's journey towards self-reliance (*Atmanirbhar Bharat*).



The Cabinet approved Pradhan Mantri Annadata Aay Sanrakshan Abhiyan, an integrated scheme comprising the Price Support scheme, Price Deficit Payment Scheme and Market Intervention Scheme and Price Stabilisation Fund to serve farmers and consumers more efficiently. The Digital Agriculture Mission has accelerated the creation of Farmer IDs and digital crop surveys. Meanwhile, the “White Revolution 2.0” initiative is designed to empower women, generate employment opportunities and expand cooperative coverage, thereby significantly enhancing the livelihoods of rural producers.

Despite these advances, significant challenges remain. Climate change, erratic monsoons, fragmented landholdings, rising input costs, groundwater depletion, and price volatility continue to affect farm incomes. The 2026 kharif season, for example, has witnessed concerns over uneven monsoon rainfall, requiring contingency planning and climate-resilient farming strategies.

Climate Change: The Greatest Emerging Challenge

Climate change has emerged as one of the most serious threats facing Indian agriculture. Rising temperatures, erratic monsoons, prolonged droughts, floods, cyclones, heatwaves, and increasing incidences of pests and diseases are affecting crop yields and farm incomes.

Protecting farmers today requires building climate resilience. This involves promoting climate-smart

agriculture through improved irrigation, drought-resistant crop varieties, efficient water management, integrated farming systems, weather-based advisory services, and conservation agriculture.

The adoption of micro-irrigation systems such as drip and sprinkler irrigation under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has significantly improved water-use efficiency while conserving precious groundwater resources.

Digital Agriculture: Transforming Indian Farming

Digital Agriculture Mission and AgriStack

To accelerate data-driven agricultural innovation, the Government of India approved the Digital Agriculture Mission. The mission aims to establish a robust digital public infrastructure (DPI) for agriculture through three key components: AgriStack, the Krishi Decision Support System (KDSS) and Soil Profile Mapping.

AgriStack seeks to create a comprehensive digital ecosystem by integrating farmer registries, land records, crop information and agricultural databases, thereby enabling the delivery of personalised services to farmers. The KDSS uses geospatial and real-time data to support evidence-based planning, while Soil Profile Mapping enables precise nutrient and land management recommendations. These initiatives foster agritech innovation in precision farming, digital advisory, fintech, supply-chain management, remote sensing, and AI-enabled solutions.

Digital technologies are transforming Indian agriculture. The Digital Agriculture Mission promotes the use of artificial intelligence, drones, satellite imagery, Geographic Information Systems (GIS) and remote sensing to support data-driven farming. Mobile applications provide farmers with localised weather forecasts, pest advisories, market prices, soil health information, and crop management guidance, enabling informed decision-making.

Drone technology is increasingly being used for crop monitoring, nutrient application, pesticide spraying, and yield estimation, making agriculture more efficient and environmentally sustainable.

Agri-Startups

Agri-startups are transforming Indian agriculture by integrating modern technologies such as Artificial Intelligence (AI), the Internet of Things (IoT), drones, and



precision farming tools. These enterprises enhance farm productivity, improve resource efficiency, strengthen market linkages, and facilitate access to quality inputs, thereby increasing farmers' incomes. The rapid growth of the agri-startup ecosystem has been driven by the Startup India programme launched by the Department for Promotion of Industry and Internal Trade (DPIIT) in 2016, which provides regulatory support, financial assistance, and incubation facilities.

Between FY 2019–20 and 2025–26, 2,096 agri-startups received technical and financial assistance, with grants-in-aid amounting to ₹168.14 crore.

Market Reforms and Better Value Realisation

Farmers' prosperity depends not only on higher production but also on securing remunerative prices for their produce.

The National Agriculture Market (e-NAM) has expanded digital marketing opportunities by integrating agricultural markets across states, improving price discovery, transparency, and competition. Likewise, Farmer Producer Organisations (FPOs) have emerged as key institutions that strengthen farmers' bargaining power, reduce input costs, facilitate aggregation, improve access to technology, and enhance market linkages.

Investments in storage infrastructure, cold chains, food processing, and logistics are equally important for reducing post-harvest losses, promoting value addition, and increasing farmers' incomes.

Women Farmers: Strengthening Rural Prosperity

Women constitute a significant share of India's agricultural workforce and play a vital role in sowing, transplanting, harvesting, livestock management, seed preservation, and post-harvest operations. Recognising women as farmers and ensuring their equal access to land rights, institutional credit, training, mechanisation, technology, insurance, and extension services are essential for inclusive agricultural development.

Women-led Self-Help Groups (SHGs), Farmer Producer Organisations (FPOs), and rural enterprises are increasingly contributing to income generation, value addition, and rural entrepreneurship, thereby strengthening household livelihoods and local economies.

Diversification and Allied Activities

Protecting farmers also requires reducing dependence on crop cultivation alone. Diversification

into horticulture, dairy, fisheries, poultry, beekeeping, mushroom cultivation, sericulture, agroforestry and food processing provides multiple income sources while reducing production risks.

India's livestock sector continues to offer stable income opportunities, particularly during periods of crop failure. Integrated farming systems further improve resource-use efficiency while enhancing the nutritional and economic security of farming households.

Youth and Agriculture

The future of Indian agriculture depends upon attracting educated youth into farming and agri-entrepreneurship. Startups working in precision agriculture, farm mechanization, agri-fintech, biotechnology, digital advisory services, and food processing are creating new opportunities across the agricultural value chain.

Strengthening Agricultural Research and Innovation

Institutions under the Indian Council of Agricultural Research (ICAR) continue to develop high-yielding, climate-resilient, pest-resistant, and nutritionally enriched crop varieties. Research is also advancing sustainable farming practices, precision agriculture, integrated pest management, biofertilisers, natural farming, and efficient resource management.

Extension services play an equally important role by transferring scientific knowledge from laboratories to farmers' fields. Strengthening linkages among researchers, extension workers, startups, and farmers will accelerate agricultural transformation and promote evidence-based policymaking.

Strengthening agricultural productivity and farmers' incomes requires renewed attention to the scale and composition of public investment in agricultural research, risk management, and incentive structures. Public expenditure on agricultural research in India remains at approximately 0.5 per cent of agricultural GDP, about half the global average and substantially below the 2–5 per cent observed in developed economies, despite high estimated returns to research investment.

The Road Ahead

Future priorities include:

- Climate-resilient agriculture.
- Universal digital access for farmers.
- Expansion of irrigation infrastructure.



- Greater investment in agricultural research.
- Promotion of precision farming.
- Stronger Farmer Producer Organisations.
- Improved rural infrastructure.
- Increased value addition and food processing.
- Sustainable management of soil and water resources.
- Enhanced financial inclusion and risk management.

Public-private partnerships, innovation, research institutions, civil society, and farming communities must work together to achieve these objectives.

Conclusion

Protecting farmers is not merely an agricultural objective—it is a national commitment to securing India's future. The prosperity of farmers determines the nation's food security, economic resilience, environmental sustainability and social stability. As agriculture confronts unprecedented challenges from climate change, resource constraints and evolving market conditions, the need for integrated, technology-driven and farmer-centric solutions has never been greater.

The Government of India's emphasis on income support, crop insurance, digital agriculture, scientific research, climate resilience, market reforms, and sustainable farming reflects a comprehensive approach to farmer welfare. However, the continued success of Indian agriculture will depend on sustained investments in enhancing income, ensuring risk protection, promoting sustainable and climate-resilient agriculture, strengthening market linkages, expanding digital services, and improving the overall well-being of farming households. The long-term objective is to make Indian agriculture more productive, profitable, and resilient while ensuring inclusive rural development.

By protecting farmers today, India preserves not only its agricultural heritage but also the livelihoods of millions, the health of its natural resources, and the food security of future generations. A resilient, inclusive and sustainable agricultural sector will remain central to the nation's journey towards *Viksit Bharat@2047*, ensuring that every farmer becomes a partner in India's growth story rather than merely a beneficiary of development. □



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