

Chapter-12

Vision 2030: Transforming Indian Agriculture for Farmer Prosperity

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Abstract

Doubling farmers' income by 2030 is a major policy goal of the Government of India aimed at improving rural livelihoods, ensuring economic sustainability, and enhancing agricultural productivity. Achieving this ambitious target requires addressing structural, technological, and socio-economic challenges in Indian agriculture, including low productivity, fragmented landholdings, dependence on monsoons, postharvest losses, inadequate market access, and rising input costs. Strategies to enhance farmers' income include improving productivity through high-yielding varieties, mechanization, precision farming, and integrated nutrient and pest management; promoting crop diversification and high-value horticulture; enhancing market linkages, price realization, and value addition; leveraging allied sectors such as livestock, fisheries, and agroforestry; and adopting digital agriculture and risk management tools like crop insurance. Policy interventions, capacity building, financial support, and farmer-centric extension services are also crucial. This chapter provides a comprehensive overview of the challenges and strategies for doubling farmers' income in India, emphasizing sustainable agricultural growth, adoption of modern technologies, and strengthening rural economies.

Keywords: Agriculture, Doubling Farmers' Income, Crop Diversification, Market Access, Sustainable Agriculture

Introduction

Agriculture remains the backbone of India's economy, providing livelihoods for nearly 58% of the rural population. Despite contributing around 17–18% of India's GDP, farmers often face low profitability due to small landholdings, dependence on rainfall, low productivity, and price fluctuations. Doubling farmers' income by 2030 has therefore emerged as a national priority to reduce poverty, ensure food security, and enhance rural welfare. The Government of India launched various programs, including PM-Kisan, Soil Health Cards, Pradhan Mantri Krishi Sinchai Yojana (PMKSY), and crop insurance schemes, to strengthen the financial and technological capacity of farmers. Achieving this goal requires addressing challenges across production, postharvest management, marketing, and allied sectors, and integrating technology-driven solutions to increase efficiency and profitability.

Challenges in Indian Agriculture

1. Low Productivity and Land Fragmentation: Many crops in India exhibit lower productivity compared to global standards due to traditional farming methods, degraded soils, and inadequate irrigation. Additionally, fragmented landholdings reduce the feasibility of mechanization and efficient resource management, limiting large-scale productivity gains.

2. Dependence on Monsoon and Climate Risks: Over 50% of India's cultivated land is rainfed, making farmers vulnerable to erratic rainfall, droughts, and floods. Climate variability leads to yield fluctuations, crop failures, and increased economic risk for farmers.

3. High Input Costs and Low Returns: Rising costs of fertilizers, seeds, labor, and machinery increase the cost of cultivation, often surpassing returns from low-value crops like cereals. Small and marginal farmers are disproportionately affected due to limited access to credit and subsidies.

4. Postharvest Losses and Inadequate Storage: Poor storage, transportation, and cold chain infrastructure contribute to postharvest losses of 20–30% in fruits, vegetables, and perishable commodities. These losses directly reduce farmers' income and limit access to profitable markets.

5. Limited Market Access and Price Volatility: Many farmers are forced to sell their produce to local intermediaries at low prices due to weak market linkages, lack of aggregation, and inadequate awareness of price trends. Price volatility, especially for perishable and horticultural crops, exacerbates income instability.

6. Socio-Economic and Policy Constraints: Limited education, technological awareness, and access to extension services hinder adoption of modern practices. Policies often focus on production rather than market-led income enhancement, leaving gaps in implementation and outreach.

Strategies for Doubling Farmers' Income

1. Enhancing Crop Productivity: Use of high-yielding and stress-tolerant crop varieties, improved irrigation methods such as drip and sprinkler systems, mechanization, integrated nutrient management, and precision farming can significantly increase per-hectare productivity. Conservation agriculture and soil health improvement further enhance yield potential sustainably.

2. Crop Diversification and High-Value Agriculture: Shifting from low-value cereal crops to high-value crops like fruits, vegetables, spices, medicinal plants, and floriculture can improve profitability. Diversifying cropping systems also reduces risk from market or climatic fluctuations.

3. Postharvest Management and Value Addition: Investment in storage facilities, cold chains, processing units, and packaging technology reduces postharvest losses and enhances quality. Value addition through processing, grading, and branding enables farmers to capture higher market prices.

4. Strengthening Market Linkages: Promoting direct market access through e-NAM, farmer-producer organizations (FPOs), cooperatives, and contract farming ensures better

price realization. Real-time market intelligence and digital platforms help farmers make informed decisions.

5. Promotion of Allied Sectors: Integration of livestock, poultry, fisheries, agroforestry, and beekeeping provides additional income streams, reduces dependency on crops, and ensures year-round revenue generation.

6. Adoption of Technology and Digital Agriculture: Use of drones, precision farming, IoT-enabled sensors, satellite-based crop monitoring, and AI-driven decision tools can optimize resource use, enhance yield, and minimize losses. Mobile-based advisories and financial tools improve risk management and income stability.

7. Risk Management and Insurance: Crop insurance schemes, price stabilization mechanisms, and weather-indexed insurance reduce income volatility due to climate or market fluctuations. This enables farmers to invest confidently in modern practices.

8. Capacity Building and Extension Services: Farmer training, awareness programs, demonstration plots, and regular advisory support ensure adoption of improved practices, modern technologies, and market-oriented farming.

Role of Policy Interventions

Government schemes like PM-Kisan, Soil Health Cards, PMKSY, e-NAM, and subsidies for micro-irrigation and renewable energy play a crucial role in reducing input costs, improving access to finance, and promoting modern technologies. Policy support for cooperatives, farmer producer organizations, and contract farming facilitates aggregation and market integration. Research and development initiatives, extension networks, and public-private partnerships further enhance farmers' capacity to increase income sustainably.

Challenges in Implementation

Despite strategies and policy support, adoption remains uneven due to socio-economic inequalities, lack of awareness, traditional mindset, and weak institutional linkages. Marginal farmers often face difficulties in accessing finance, inputs, and modern technology. Climate change, water scarcity, and soil degradation continue to pose threats to achieving the target of doubling income.

Future Prospects

Achieving the goal of doubling farmers' income by 2030 requires a holistic, integrated approach combining productivity enhancement, value addition, market access, allied enterprises, risk management, and technology adoption. Strengthening farmer organizations, promoting agro-processing clusters, leveraging digital tools, and ensuring climate-resilient practices will be key to sustainable income growth. Collaborative efforts between government agencies, research institutions, private sector, and farmer groups will accelerate progress towards this goal.

Conclusion

Doubling farmers' income by 2030 is ambitious yet achievable through a combination of technology-driven interventions, policy support, market reforms, and farmer capacity building. Enhancing crop productivity, diversifying farming systems, integrating allied sectors, reducing postharvest losses, and improving market access are critical strategies. Adoption of modern technologies, eco-friendly practices, and

institutional support will not only increase farm income but also ensure sustainable agriculture, improved rural livelihoods, and overall socio-economic development in India.

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