Available online at
http://currentagriculturetrends.vitalbiotech.org/

ISSN (E): 2583 – 1933

Curr. Agri.Tren.:e- Newsletter, (2025) *4*(12), 4-7

Current Agriculture Trends: e-Newsletter

Article ID: 502

Agricultural Extension Strategies to Improve Farm-to-Market Linkages

Sweta Kumari[1]*, Swati Kumari[2], Sayak Saha[3], Indrajit Mandal[4]

[1]Ph.D. Research Scholar, Department of Agricultural Extension Education, Sardar Vallabhbhai Patel University of Agriculture & Technology, Modipuram, Meerut, U.P.
[2]Ph.D. Research Scholar, Department of Agricultural Extension Education, Post Graduate College of Agriculture, Dr Rajendra Prasad Central Agricultural University, Pusa, Samastipur, Bihar – 848125
[3]Ph.D. Research Scholar, Department of Agricultural Economics, Post Graduate College of Agriculture, Dr Rajendra Prasad Central Agricultural University, Pusa, Samastipur, Bihar – 848125
[4]M.Sc. Research Scholar, Department of Agricultural Extension Education, Post Graduate College of Agriculture, Dr Rajendra Prasad Central Agricultural University, Pusa, Samastipur, Bihar – 848125

*Corresponding Author
Sweta Kumari*

Article History
Received: 23. 11.2025
Revised: 28. 11.2025
Accepted: 3. 12.2025

INTRODUCTION

Agricultural development has historically focused on increasing production and productivity; however, with the commercialization and globalization of agricultural markets, the role of extension systems has significantly expanded. Modern extension activities must now address areas such as post-harvest management, value addition, market intelligence, and the facilitation of market linkages. Farm-to-market connectivity refers to the efficient movement of agricultural produce from production sites to end markets through well-functioning logistics, reliable information systems, and effective institutional support structures. Strengthening these linkages is essential for minimizing marketing costs, reducing post-harvest losses, ensuring fair price realization, and integrating farmers into competitive markets. The present paper analyzes the challenges that restrict farm-to-market connectivity and outlines the major extension strategies required to strengthen market-oriented agricultural systems in rural areas.

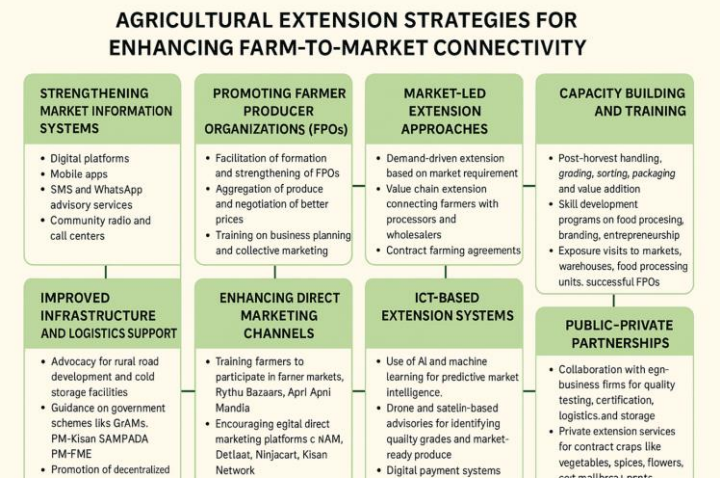

Figure-1: Agricultural Extension Strategies to Improve Farm-to-Market Linkages

2. Challenges in Farm-to-Market Connectivity

2.1 Information Gaps

Most farmers in many rural areas still face severe information gaps, as they usually have a lack of real-time information about market prices, fluctuating demands, consumer preferences, and quality standards. In the absence of such information, poor decisions are made on the timing of harvests, choice of crops, storage, and marketing.

2.2 Insufficient Infrastructure

Insufficient rural infrastructure such as poorly maintained roads, lack of cold storage units, limited warehousing capacity, and absence of grading and packing facilities creates logistical delays and contributes to high post-harvest losses. The lack of standard storage infrastructure compels farmers to sell produce immediately, often at low prices.

2.3 Small and Fragmented Landholdings

Small and fragmented landholdings restrict the economies of scale in production, aggregation, and transport. With limited volumes of produce, individual farmers find it difficult to access wholesale markets and negotiate better prices to reduce transportation costs.

2.4 Dominance of Intermediaries

In the absence of direct market access, farmers often rely on intermediaries that have full control over market information and price determination. Such a lead ultimately keeps the farmer with low price realization and diminishes the transparency in market transactions.

2.5 Weak Institutional Support

Inadequate institutional support in the form of weak extension manpower, insufficient familiarity with digital tools among farmers, and lack of training facilities adversely hamper the flow of knowledge in market-oriented principles. Consequently, farmers fail to adopt improved marketing practices or link up with emerging value chain opportunities.

3. Extension Strategies to Improve Farm-to-Market Connectivity

3.1 Strengthening Market Information Systems

Extension services play an important role in the dissemination of timely and accurate market information to farmers. mKisan, Agmarknet, Kisan Suvidha, and other ICT platforms, along with mobile-based advisory systems, make available to farmers' real-time updates on market prices and arrivals, weather information, and government notifications. WhatsApp groups, community radio, and Kisan Call Centres are being increasingly used by the extension personnel for swift and mass communication. Village-level digital dashboard displays and electronic noticeboards, for bringing transparency in price information, are helping the farmers take informed decisions on marketing.

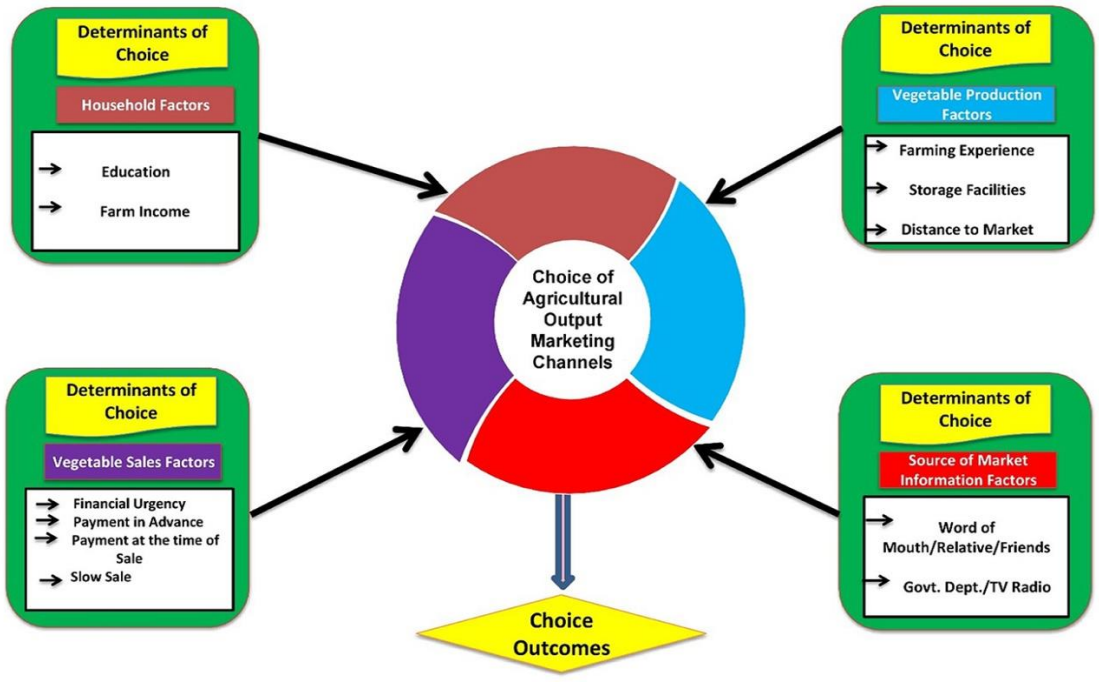

Figure-2: Choice of Agricultural output marketing channels **(Source: Thakur *et al.*, 2023)**

3.2 Promotion of Farmer Producer Organizations (FPOs)

The FPOs act as collective platforms for farmers, fostering bargaining power and efficient marketing. The extension agencies support the FPOs in guiding the farmers in mobilization, group formation, leadership development, and the adoption of transparent governance mechanisms. They also provide training on aspects of business planning, record keeping, financial management, and coordination along value chains. Such extension support further strengthens the collective procurement and marketing efforts by linking FPOs with wholesalers, processors, exporters, and organized retail chains. Through aggregation of produce, FPOs lower transaction costs, improve price realization, and access larger and more profitable markets.

3.3 Market-Led Extension Approaches

Market-led extension ensures advisory services are designed in line with current and emerging market trends. This enables demand-driven cultivation, whereby farmers are encouraged to grow crops that boast high commercial potential along with stable market demand. Value chain extension models are those that link farmers to supply chains, particularly traders, processors, and exporters. The agencies also facilitate contract farming arrangements whereby farmers are enabled to meet quality standards, adopt GAP, and secure assured markets through pre-season agreements.

3.4 Capacity Building and Skill Development

Capacity building is an essential extension function in order to improve farmers' marketing capabilities. Training programmes focus on post-harvest management practices related to scientific grading, sorting, packing, and storage. Farmers are also trained in value addition, processing technologies, branding, labelling, and basic marketing skills to enhance the competitiveness of their produce. Exposure visits to successful producer organizations, model markets, and food processing units strengthen farmers' understanding of market dynamics and stimulate the adoption of best practices.

3.5 Facilitating Access to Infrastructure

Extension professionals facilitate farmers' access to different government schemes for developing market infrastructure. Farmers are informed about schemes like GrAMs, PM-FME, PM-SAMPADA, and e-NAM. The extension effort also promotes the establishment and proper utilization of community-level storage, cold chain units, and primary processing centers. Infrastructure creation as such is not one of the direct extension functions, but facilitation in terms of awareness and linkages lead to full utilization of whatever infrastructures are made available to farmers.

3.6 Enhancing Direct Marketing Channels

Direct marketing channels are critical to improving farmers' share in consumer prices. Extension agencies promote farmers' participation in Apni Mandis, Rythu Bazaars, Farmer Markets, and local rural haats, where farmers can sell directly to consumers without intermediaries. This direct marketing has been further strengthened by the ever-improving supply chain transparency propelled by growing digital marketing platforms as represented by e-NAM, Ninjacart, DeHaat, and a host of other agritech solutions. The CSA models linking farmers directly with groups of consumers through subscription-based systems are also being promoted by the extension personnel.

3.7 ICT and Digital Innovation in Extension

Digital innovations have now revolutionized the mode of delivery of market information and services. AI-enabled tools support the forecasting of market prices and demand trends analysis. Satellite imaging and drones assess conditions of crops to help farmers plan harvests and align supply with market requirements. Online procurement systems enhance transparency in transactions, while digital payment platforms allow for safe and timely payments. In the process, these technologies bridge the traditional information gap and improve marketing efficiency.

3.8 Public–Private Partnerships (PPP)

Public–Private Partnerships enhance market-led extension by bringing together the knowledge base of government institutions with private agribusiness firms. Various collaborative initiatives support farmers with training in quality assurance, certification standards, packaging, and logistics. Private extension services have proved very effective for high-value horticultural crops, which require highly specialized knowledge. The partnerships promote demand-driven extension models that can help align production with market needs.

3.9 Institutional Linkages and Coordination

Delivery of integrated and efficient extension services calls for strong institutional linkages. It would involve coordination among agricultural

universities, Krishi Vigyan Kendras, APMCs, marketing boards, and financial institutions to create an integrated support system for farmers. Linkages with agri-startups, technology innovators, and development organizations can help in introducing advanced tools and market solutions. Multi-stakeholder platforms allow for better value chain coordination, accelerating adoption of market-oriented practices.

4. Impact of Improved Farm-to-Market

Connectivity Improved farm-to-market connectivity greatly enhances the economic stability of farmers by way of better price realization and reducing marketing expenses. Efficient logistics, coupled with timely market access, assist in minimizing post-harvest loss, particularly for perishable commodities. Greater connectivity also enhances agricultural value chains, allowing farmers to gain access to high-value urban and export markets. Ultimately, improved connectivity contributes to higher income, livelihood security, and rural economic development.

CONCLUSION

Agricultural extension systems need to be transformed from conventional production-centric approaches to integrated value chain-based models. Enhanced farm-to-market connectivity necessitates the integration of digital innovations, improvement in institutional coordination, and active participation of farmers through FPOs and cooperatives. In this context, market-led extension approaches have grown as potential tools to empower farmers with better market access, competitiveness, and decision-making capability. A coordinated multi-stakeholder approach can only ensure the creation of equitable, efficient, and sustainable linkages from farm to market in developing agricultural economies.

REFERENCES

Birthal, P. S., Jha, A. K., Tiongco, M. M., & Narrod, C. (2008). *Improving farm-to-market linkages through contract farming: A case study of smallholder dairying in India*. Intl Food Policy Res Inst.

Maurya, T. S., & Gupta, N. Facilitatng Agribusiness Linkages through Integrated Extension Systems.

Omamo, S. W. (1998). Farm-to-market transaction costs and specialisation in small-scale agriculture: Explorations with a non-separable household model. *The Journal of Development Studies*, *35*(2), 152-163.

Thakur, P., Mehta, P., Devi, C., Sharma, P., Singh, K. K., Yadav, S., ... & Mishra, P. (2023). Marketing performance and factors influencing farmers choice for agricultural output marketing channels: the case of garden pea (*Pisum sativum*) in India. *Frontiers in Sustainable Food Systems*, *7*, 1270121.

Tripathy, P. P. (2025). Enhancing Farmer-Market Linkages through Strategic Outreach. *New Frontiers in Agricultural Extension Strategies*, 79.