

Private Sector Engagement in Providing Extension Services in India: Scope and Challenges

Darshan Dutta¹, Soham Pramanik² and Souvik Ghosh³

1. PG Scholar, Department of Agricultural Extension, palli-siksha Bhavana. Institute of Agriculture, Visva-Bharati, Sriniketan, Birbhum, West Bengal, India. Email: darshandutta2021@gmail.com
2. UG Student, palli-siksha Bhavana. Institute of Agriculture, Visva-Bharati, Sriniketan, Birbhum, West Bengal, India. Email: sohampramanik6@gmail.com
3. Professor, Department of Agricultural Extension, palli-siksha Bhavana, Institute of Agriculture, Visva-Bharati, Sriniketan, Birbhum, West Bengal, India. Email: souvik.ghosh@visva-bharati.ac.in

ABSTRACT

The involvement of private sector is important and developing role of private sector is changing the face of agricultural extension system in India. Agriculture employs 41.5 per cent of the staff and accounts for 15 per cent of GDP, yet the situation of the private sector (companies, NGOs, farmer groups) has come into important fillers in supplying good quality inputs, training to the farmers, precision technology adoption and market contact. Even with these accomplishments, the private sector still has several challenges, controlling difficulty, limitations of assets inflow, infrastructural problems, and a shortage of trained manpower. In fact, examples like E-Choupal of ITC and Digital Green have a huge potential but also show possible blockages for the private extension service. The cost-recovery framework in the United Kingdom, voucher-centric services initiated in the Republic of Chile, and efforts towards privatization in the Netherlands have jointly helped to provide understandings on a worldwide scale that India could learn from and adapt. This article thus underlines the improving role of Public-private partnerships (PPPs), designative policy changes, and development of adaptive institutions that would allow linking private and public extension services. Proposals are in place making extension services more commercially sustainable, making land leasing policies transparent, and setting up advance R&D centres. By talking these challenges, private organizations can contribute significantly to the promotion of sustainable agriculture, livelihoods for farmers, and eventually hardening the Indian agriculture landscape.

Keywords: Commercialization of extension services, Public-private partnership, Private sector engagement, Farmers' cooperative, Rural infrastructure development.

INTRODUCTION

India's agriculture sector, which employed around 41.5 per cent of the workforce and contributed 15 per cent of GDP in 2022–2023, that is down from 35 per cent in 1990–91 (Economic Survey 2022–23), is an essential part of the country's economy (World Bank, 2022). This change reflects the expansion of the industrial and service sectors, underscoring the necessity of agricultural innovation to maintain its relevance. In order to provide inputs, training, and access to technology, private organisations such as businesses, non-governmental organisations, and farmer cooperatives have become necessary components of agricultural extension services. Since just 42 per cent of farmers receive institutional advising help, their

position is crucial (ICAR, 2021). Private extension services have raised agricultural production by 20–25 per cent and raised smallholders' income levels by 15–30 per cent, according to studies (Singh et al., 2010). Private agencies still have difficulties despite their influence, including budget constraints, legislative barriers, lacking infrastructure and a paucity of competent labour). Just 8 per cent of farmers, for example, have access to contemporary technology, and deficiencies in rural infrastructure continue to impede the provision of services (World Bank, 2020). Additionally, although PPP-IAD and ATMA are policies designed to encourage private sector participation, their effectiveness is hindered by implementation and coordination flaws (NITI Aayog, 2021). India may

increase private sector involvement, raise farmer incomes, and accomplish agricultural sustainability by tackling these issues.

Importance

Private agencies still have difficulties despite their influence, including budget constraints, legislative walls, In India, private organizations have come major players in the agrarian extension scene. Several shoes might be used to comprehend their significance.

Adding the variety of services

The breadth of services handed to growers has expanded thanks to private organizations. Among the numerous services they offer connections, training, consulting services, and input force. By meeting the numerous demands of growers, this diversification has increased growers' profitability and productivity (Birthal *et al.*, 2005; Singh *et al.*, 2010).

Technology transfer and innovation

Agricultural invention is constantly led by private organizations. They're essential in helping growers borrow new technology, similar as enhanced seed kinds and sophisticated agrarian styles. The productivity and sustainability of husbandry might be greatly increased by these advancements and private sector shows more

growth than public sector in leading the technology transfer. (Birthal *et al.*, 2005; Dwivedi *et al.*, 2023).

Ending the disfigurement

Public extension services in several locales have not been suitable for the benefit of all farmers, especially small and marginal farmers. To close this gap and provide their services to these marginalized groups, private organizations have taken over. This has made it easier to guarantee that all farmers, irrespective of their location or size, have access to necessary extension services (ICAR, 2021).

Strengthening the competition

Private organisations' participation in agricultural extension has increased competition in the service delivery market. Farmers have benefited because of the competition's advances in service quality (World Bank, 2020).

Making market connections

Connecting farmers with markets is a critical function of private organizations. By assisting farmers in selling their goods at competitive rates, they increase their profits. To improve their market connections, several private organizations also help farmers establish farmer producer organizations (FPOs) or cooperatives (Birthal *et al.*, 2005; NITI Aayog, 2021).

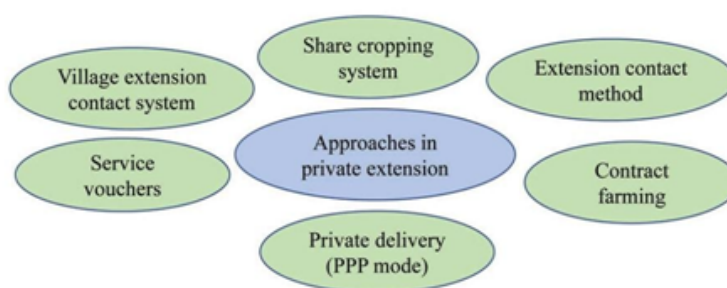


Fig. 1. Approaches in Agriculture extension services (Source: Shekhar 2001, Padaria *et al.*, 2022)

Approaches

In India, the ratio of extension workers to farmers, which was formerly 1:1000 (Roy *et al.*, 2013), has increased even more, underscoring the necessity of private sector participation in agricultural extension to increase accessibility and relevance. By

improving decision-making, resource allocation, and farm operations efficiency, this partnership fortifies the service delivery system. In order to empower farmers commercial or private extension systems are coming up with innovative solutions and approaches mentioned in fig.1 to the problems brought on by globalisation and market

liberalisation. The success of private extension services is influenced by elements such as improvements in ICT, cropping system etc. (Padaria *et al.*, 2022)

Global Context of Private Extension Services

More and more agricultural technology is turning into "private goods" globally, and a growing proportion of farmers are turning into commercialised producers. Some European countries, as well as Australia and New Zealand, have essentially privatised or phased out their public extension systems. Other countries in the Caribbean, Latin America, Asia, Africa, and Europe are using various extension models and/or strategies, with varying degrees of success. Private input supply businesses and farmer cooperatives currently handle most technology transfer efforts in North America.

1. The Cost Recovery Method in Mexico and Britain: In England and Wales, the Agricultural Development and Advisory Services (ADAS) are somewhat "commercialised" and run on a cost-recovery basis. ADAS clients pay a fee for guidance that was previously provided without charge. The goal of the 1987 cost recovery procedure was to ensure that by 1993–94, the agency would receive 50% of its revenue from commercial fees (Bunney and Bawcutt, 1991; Harter, 1992). Large-scale farmers in the northwest of Mexico have adopted a fee-based system (Wilson, 1991).

2. Chilean and Columbian Voucher Systems: Chile has substituted government-issued vouchers for public extension delivery systems, which farmers can use to hire private extension consultants. coupons linked to bank loans for agriculture, making a shift and in Colombia, a specific portion of the loan for extension services has been utilised.

3. Dutch Privatisation: In 1990, the Netherlands transferred field extension staff to farmers' groups with initial government funding, privatising almost half of its public extension service. Governments and farmers' organisations have equal representation on the board that oversees the privatised extension service (Proost and Röling, 1991).

4. France Extension services are offered by private sector businesses and Chambers of Agriculture in France. Although the chambers of agriculture are seen as private organisations that charge farmers for membership and services, the French government provides a substantial portion of the funds for their operations and programs.

5. New Zealand Advisory on agriculture from the Ministry of Agriculture and Fisheries (MAF): The service is now based on user-pay, commercial standards (Hercus, 1991). For many years, the dairy industry-funded Dairy Board consulting service has provided extension services to the dairy sector.

6. Japan "Agricultural consultants" are the term used to describe private extension services in Japan. The rise of large-scale farming and the decline of public extension and farm advisory services have resulted in a growing demand for agricultural consultants. Advice on crop production, marketing, and sales is given by private agricultural consultants.

7. Germany has a variety of schemes in various states, including fully privatised, semi-privateized, subsidised farmer associations, and voucher systems.

8. Denmark Extension services form farmers' group.

9. Costa Rica small farmers can use a voucher scheme to hire private extension (Anshuman *et al.*, 2024; Mondal & Baruah, 2024)

Focus on Sustainable Agriculture

Extension services are placing a greater emphasis on promoting methods like climate-smart agriculture, conservation agriculture, and organic farming. Sustainable agricultural methods are being aggressively promoted in India by both public and commercial entities. For example, through organic farming certification and training programs, the Government of India's National Mission on Sustainable Agriculture (NMSA) seeks to increase crop productivity while maintaining environmental sustainability, reaching over 10 million farmers (Ministry of Agriculture, 2022). However, there are obstacles to the adoption of these techniques. Despite the growing demand for organic goods, research conducted by the Indian Council of Agricultural Research (ICAR, 2021), found that just 3

per cent of India's total agricultural acreage is used for organic farming. Likewise, climate-smart farming, emphasising adaptable methods to reduce climate risks, has not been widely adopted because of the high upfront costs and farmers' ignorance (FAO, 2020, Ministry of Agriculture).

The Parity between Private and Public Extension System in India

Services for agricultural extension are essential for information exchange, better farming, and increased output. Over 10 million farmers in India receive subsidised assistance such as training and soil health cards through programs like KVK, which focusses on subsistence farming and rural outreach (ICAR, 2021). But they have to deal with issues like delays and a lack of resources (World Bank, 2020). Privatisation is the process of giving the private sector ownership or control of governmental services, including law enforcement and revenue collection. Privatisation in agriculture refers to consulting services provided by private organisations, sometimes with a cost-sharing requirement for farmers (Bloome 1993; Van den Ban & Hawkins, 1996 ; Van den Ban 1996). Public extension can be supplemented or replaced by privatisation (Prabhakar *et al.*, 2019), according to Saravanan and Gowda (1999), with private employees offering services in agriculture and related fields for free or at a cost. Private services that concentrate on innovation and market access, like ITC's E-Choupal, help commercial farmers and boost their incomes by 30 per cent (Singh *et al.*, 2010). Despite their effectiveness, small holders' access to these services is restricted by their high cost.

Impact of Private Agencies on Agriculture Extension

Driven by elements including market pressures, innovative consulting tactics, and government budget limits, private agencies have significantly changed agricultural extension in India. These organisations have aided in the transition of farming from subsistence to more commercialised methods.

Supply of inputs (pesticides, fertilisers, seeds): For agricultural development and farming efficiency, private organisations provide vital inputs including seeds, fertiliser, pesticides, and equipment. Companies such as ITC, Bayer, and Syngenta, for example, have enhanced the quality of their seeds, which has led to higher yields; (Chandra *et al.*, 2022)

Higher yield and income: Private sector extension services have been directly linked to higher crop yields and higher farmer earnings. For instance, compared to farmers, who relied on government assistance, those who employed commercial extension services showed a 30 per cent boost in revenue (Chandra *et al.*, 2022)

Contract farming and market connections: Through programs like E-Choupal and contract farming, private organisations have assisted farmers in reaching wider markets, guaranteeing them buyers and lowering marketing costs and Risks (ITC, 2022).

Adoption of Technology: In order to assist farmers to utilise inputs and boost production, private extension services frequently implement high-tech solutions including precision farming, GPS-based instruments, and digital platforms (such as Digital Green and AgriBazaar) (ICAR, 2021).

Table 1
Important areas where Private extension agencies are giving emphasis

Impact on the factors	Area	sources
Market Access	4 million farmers connected through E-Choupal with assured market linkages	ITC Report (2022)
Fertilizer Usage	Increase in fertilizer efficiency through advisory services	World Bank (2020)
Technology Adoption	Increase in adoption rate of new agricultural technologies in areas with strong private service presence	ICAR (2021)
Contract Farming	Increase in the number of contract farming agreements in areas with active private agencies	Ministry of Agriculture (2022)

Strategies

Commercialisation of extension services: By customising agricultural extension services to meet the unique requirements of various farmer groups, commercialisation can improve market responsiveness. This strategy encourages farmers to embrace new technology linked to market incentives by emphasising sustainability and profitability (World Bank, 2017). Specialised services like seed treatment and pest control are frequently offered by private organisations, increasing farmer output (Nabahungu *et al.*, 2019; Musana *et al.*, 2024). Strategic use of "fee-for-service" approaches would ensure improved service quality and accountability by having farmers pay according to results (Kaur & Kaur, 2018).

Contract extension system: Effective service delivery is ensured by hiring private organisations to provide extension services. This structure encourages performance and improves responsibility, much like contract farming. Plan of action includes the establishment of performance metrics and benchmarks (such as increased crop output and adoption of sustainable practices). The model of Tamil Nadu private contractors delivering government-supported services has shown positive outcomes (NABARD, 2019).

Partnership rights and responsibilities: PPPs can be strengthened to improve the delivery of extension services. Innovation and efficiency can be increased by granting private organisations additional authority and duties, such as managing certain expansion initiatives. For instance, PPP models were effectively employed by the National Dairy Development Board (NDDB) to increase dairy productivity (Kaur & Kaur, 2018). PPPs enhance extension services by fusing the efficiency of the private sector with the reach of the public sector. Productivity has increased in several places because of the Indian government's partnership with seed firms (World Bank, 2017). In the PPP frameworks, government guarantees accessibility and welfare while private businesses contribute innovation and technology. (Pujari & Lovely, 2024)

Transparent land leasing regulations: By guaranteeing landowner security, transparent land

leasing regulations promote private sector investment in agriculture. Increased private investment has been connected to transparent land tenure regulations, which improve farming methods and boost output (FAO, 2020). Legislative frameworks safeguard land leasing contracts and encourage private sector participation in agriculture.

Building new institutions for R&D: To leverage the R&D skills of the private sector, which can result in cutting-edge agricultural innovations, new institutions are required. It warrants creation of tech parks or innovation centres to facilitate cooperation between private businesses, academic institutions, and extension organisations, promoting the creation and sharing of cutting-edge agricultural innovations (IFPRI, 2020).

Convergence with Public Extension Services

Economic development and agricultural expansion depend on the integration of governmental and private extension networks. Public extension initiatives in India that are supported by the government and target food security provide smallholder farmers with free or heavily discounted services (ICAR, 2021). Effective extension depends mainly on extent of information dissemination and its effect on improving the agricultural value chain. About 86.08 per cent land holdings are held by small and marginal farmers (cultivating an area of 2 ha or less)¹, who have less resources at their disposal to communicate and ascertain information through ICT. Hence there is an increasing need for stronger intermediaries that can facilitate information access for diverse smallholder farmers (Padaria *et al.*, 2022). Figure 3 presents the existing information dissemination through various intermediaries. These systems, however, frequently lack the resources necessary to adopt cutting-edge technology. On the other hand, private extension services prioritise efficiency driven by the market and provide paying clients specialised, high-value services, as demonstrated by models such as ITC's E-Choupal (Singh *et al.*, 2010).

The benefits of each system may be optimised by combining them. While commercial systems provide specialised solutions and state-of-the-art

technologies, enabling the wider adoption of modern farming methods, public extension services provide fair access to fundamental services. In India, PPPs (public-private partnerships), including those with seed firms, have raised output and innovation

(World Bank, 2020). Additionally, by combining private sector innovation with public research, this partnership accelerates R&D, promoting increased resilience and food security (Davis *et al.*, 2022).

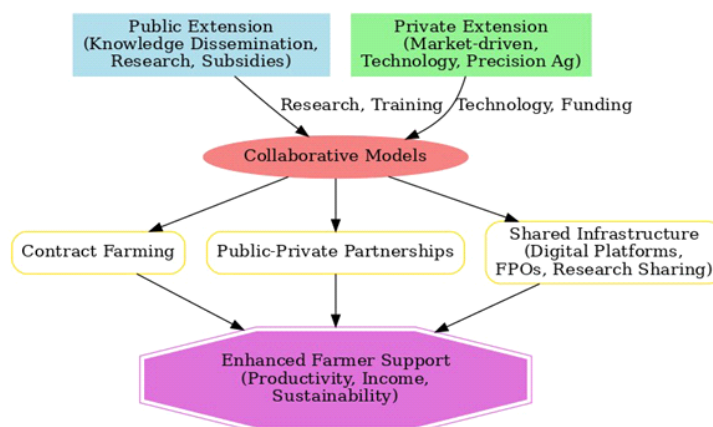


Fig. 2. Convergence of public and private extension services.

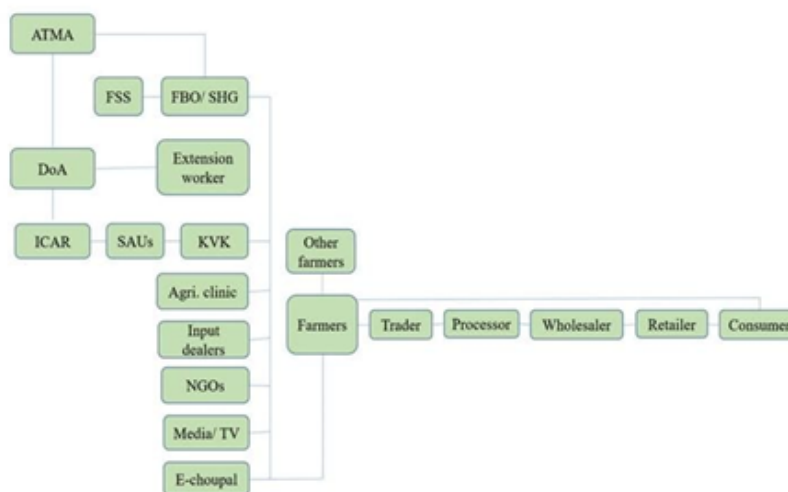


Fig. 3. The information flowing process to stakeholders through several agents (Source: Padaria *et al.*, 2022)

SWOT Analysis

SWOT analysis of private sector engagement in providing extension services in India is presented below

Strengths

1. Wide service, variety Technology transfer, training, market connections.
2. Focus on high-value crops and digital platforms.

3. Proven success globally in agriculture improvements.

Weaknesses

1. Premium costs exclude from small farmers.
2. Limited rural reach due to connectivity issues.
3. Dependency on profitable enterprises risks discrimination.

Opportunities

1. Public-private partnerships for scalability.
2. Use of digital platforms for wider reach.
3. Policy incentives attracting private investments.

Threats

1. Competition from subsidized public services.
2. Farmer resistance to high fees.
3. Climate challenges limit effectiveness.

Challenges faced by private system of extension services

Providing agricultural extension services presents a number of difficulties for private organisations. These include issues with infrastructure, human resources, finance, and regulations.

Regulatory Challenges

Restrictive policies: Government regulations may limit the types of services private agencies can offer, the areas they can operate in, and the fees they can charge. These restrictions hinder private agencies from effectively reaching farmers

Complex licensing procedures: The complex and time-consuming process of acquiring necessary licenses increases operational costs and delays service delivery, reducing the efficiency of private agencies (World Bank, 2020).

Inconsistent enforcement of regulations: Varying enforcement of regulations across different regions creates uncertainty and operational challenges for private agencies

Financial Challenges

Limited access to capital: Private agencies constantly struggle to raise capital, which is critical for earning inputs, investing in new technologies, and expanding services. While larger enterprises can secure funding further easily, lower agencies depend on loans with high interest rates (FAO, 2020).

High functional costs: Private agencies must bear significant costs related to inputs, delivering services to remote farmers, and training extension. These high costs put a strain on their financial resources

Financial risks: Agricultural extension involves various risks analogous to crop failure, pest attacks, and input price oscillations, which can negatively impact the profitability and sustainability of private agencies

Human Resource Challenges

Limited access to skilled personnel: Private agencies frequently find it difficult to retain professional staff due to the agrarian sector's perception as less attractive and the lower payment incentives compared to other sectors

High development rates: High development in agrarian extension services, particularly in pastoral areas, impacts the thickness and quality of services provided

Structure Challenges

Physical structure issues: Poor road connectivity and storage installations in pastoral areas hamper private agencies' capability to deliver services and inputs effectively to growers (ICAR, 2021).

Digital structure limitations: Shy internet connectivity in pastoral areas limits the reach of digital extension services, precluding effective information dispersion and advisory services (FAO, 2020; ICAR, 2021).

Wayforward

Enhancing agricultural extension services presents a number of problems for private organisations, but these obstacles can be lessened with the support of strategic initiatives. Key tactics for conquering these obstacles are listed below:

Efficient markets: Farmers and agencies can receive better price signals and be encouraged to participate if agricultural market infrastructure is improved, transaction costs are decreased, and transparency is increased. According to the World Bank (2017), efficient markets are essential for raising farmers' incomes and encouraging private sector participation.

Management and augmentation of irrigation: Increasing agricultural output requires irrigation. By encouraging water-saving technology and enhancing irrigation management, private

organisations may encourage sustainable water usage. Effective irrigation techniques can cut down on water waste and increase output (FAO, 2020).

Crop insurance and agri-credit: Having access to these resources lowers financial risks and promotes the use of contemporary farming methods and in order to encourage risk management and investment in new technologies, private organisations can assist farmers in obtaining reasonably priced loans and insurance by collaborating with financial institutions

Adoption of new technologies: New agricultural technologies are heavily promoted by private organisations. Farmers' adoption rates may be raised by demonstrations, instruction, and technical assistance, which will boost output. Adoption of technology has been shown to dramatically increase yields (Singh et al., 2010).

Improving the quality of the soil: Sustainable agriculture depends on healthy soil. Through the promotion of sustainable practices, soil conservation techniques, and soil testing, private organisations may assist farmers in enhancing the quality of their soil. According to the World Bank (2017), such initiatives are crucial for sustained agricultural output.

Strengthening the seed industry and knowledge sharing: Increasing the quality of seeds and spreading knowledge system is essential. Crop production may be raised by bolstering the seed industry and giving farmers access to the newest farming techniques (NABARD, 2019).

Agricultural diversity and value chains: Farmers' income may be raised by promoting agricultural diversity, particularly with regard to high-value crops, and creating value chains that link producers and consumers. By increasing farmers' access to markets, this tactic fosters resilience (IFPRI, 2020).

A pluralistic extension system: It is necessary for effective outreach due to the diversity and

complexity of Indian agriculture, which includes a large number of small, subsistence, and distant farmers. Increased subsidies and more expansive eligibility requirements can be used to improve the assistance provided to agripreneurs through public-private partnerships, such as the ACABC program. In order to establish complementary alliances, local flexibility is crucial. However, infrastructural issues and a lack of a collaborative culture impede advancement. ICT strategies can increase connection, but they are unable to solve the extension system's fundamental institutional flaws. (Upadhyay et al., 2013)

CONCLUSION

Future studies should concentrate on compiling thorough information about the operations of private organisations, their scope, and how they affect output. Analysing effective global models may yield best practices that may be modified to fit India's particular agricultural situation. Investigating the possibilities of new technology in extension services can also assist private organisations in more efficiently interacting with farmers and enhancing output. By addressing these regulatory issues and research deficiencies, private organisations would be able to contribute more to agricultural extension, which will eventually help India's agriculture industry and it should focus on gathering comprehensive data about the breadth, activities, and effects of private groups on output. Best practices that may be adapted to India's unique agricultural circumstances may be found by analysing successful international models. Private companies may improve production and engage with farmers more effectively by looking into the potential of new technologies in extension services. India's agriculture sector would eventually benefit from private groups' increased ability to contribute to agricultural extension by resolving these regulatory concerns and research gaps.

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