



CONNECTING AGRICULTURE, TECHNOLOGY AND FARMERS: AN INSIGHT INTO THE ROLE OF AGRICULTURAL INPUT DEALERS

Janaki Rani A^{1*}, Kavitha B², Murugan P P³, Manimekalai R⁴, Abirami S⁵, Narmadha N⁶

¹Professor, ²Research Assistant, ⁵Research Scholar, ⁶PG Scholar

Department of Agricultural Extension & Rural Sociology, Tamil Nadu Agricultural University, Coimbatore, India.

³Director of Extension Education, Tamil Nadu Agricultural University, Coimbatore, India.

⁴Professor, Controllerate of Examinations, Tamil Nadu Agricultural University, Coimbatore, India

*Corresponding Author Mail ID: janakirani.a@tnau.ac.in

Introduction

In Tamil Nadu, over 60 per cent of the population makes their living from agriculture and related industries, which remain the most significant sector in determining the economy of the state. It is crucial to prioritize agriculture because developments in this area are projected to have a significant impact on Tamil Nadu's economic growth. Farmers are recommended with new crop varieties and enhanced technologies that are appropriate for diverse agroclimatic zones, soil types, and rainfall patterns. With farmers in Tamil Nadu being comparatively more adaptable and open to shifting market dynamics and technological advancements, the state has consistently demonstrated commendable success in agricultural production. Furthermore, by integrating agriculture-based activities like as animal husbandry, fish culture, beekeeping, sericulture, and agroforestry, several programs are being put into place to enhance the standard of living and revenue for farmers. Hence, the dissemination of the information on agriculture to the farmers is the major obstacle for the stakeholders involved (Elakkiya and Asokhan, 2021). In the current setting of Tamil Nadu, agricultural extension systems are widely based (pluralism).

However, the goal of extension systems should go beyond simply imparting knowledge to farmers; rather, it should take into account each farmer's unique local knowledge and ideas (Saravanan and Vincent, 2020).

Approximately 2.82 lakh agri-input dealers operate in India; they are the main provider of farm information to the farming community and play a crucial role in providing valuable insights and guidance. Agricultural input dealers have the largest reach among farmers among the various entities participating in pluralistic extension systems because of their advantageous location, capacity to establish rapport, and ease of accessible. Studies reveal that farmers consulted agri-input vendors more often than they did other sources (Subodh et al., 2020).

Research studies shows that one of the input dealers' greatest assets was their prompt delivery of supplies, which was ranked above their technical expertise in farming. One of the main weaknesses among agri input dealer entrepreneurs was shown to be a lack of infrastructure amenities. A key factor in the development of the agri input services industry is the collaborative manner of service with affiliated departments. The task of marketing

agricultural input prior to its expiration was discovered to be difficult.



Services rendered by Agri - input dealers

Agri - input dealers are crucial in guaranteeing that farmers have essential agricultural inputs needed to enhance agricultural output on their individual farms. An input dealer acts as a bridge between farmers and agricultural development agencies. Farmers often see them as a "friend, philosopher, and guide (Patel et al. 2020). It is expected of input merchants to act as a basic extension service provider, offering farmers a priceless resource of information and counsel.

Supply of inputs and credit

High-quality seeds, fertilizers, agrochemicals, other miscellaneous input, are critically necessary at the village level to increase production and farmers' revenue. Agro-input dealers sell seeds, fertilizer, crop protection chemicals, farm machinery, veterinary supplies, and animal feeds at reasonable prices and of high quality, at the appropriate times and locations. For improved agricultural services and commercial improvement, input merchants must possess sufficient knowledge.

Technical assistance

The agri-input vendors in the villages' vicinity provide farmers with the majority of

the information. Farmers can obtain information on seed rate and planting technique from agri-input vendors. Regarding plant protection chemicals, they suggest appropriate choice of chemicals, rate of application and methods of application. Pesticides are supplied to the small farmers by agri-input dealers in several countries, who also offer advice on how to apply and handle the chemicals (Staudacher, et al., 2021).



Transfer of Agricultural technology

The stakeholders' most significant problem is getting all current technologies and

related input procedures into the farming community. Agri - input dealers effectively disseminate information about emerging technologies. In addition to providing financing and inputs, their involvement in the transmission of agricultural technology is noteworthy, and farmers praise them for their affability and accessibility (Kiran et al., 2019). The cost of farming will go down if the newest technology information and farming tools are distributed by agri-input merchants. As a result, agri-input merchants are crucial in giving farmers information.

Key factors affecting the quality of Agri-input dealer's services

Educational status, types of agricultural inputs handled, contact with the extension agencies, KVKs, manufacturing companies (Amitava et al., 2022), experts and participation in extension activities such as training, demonstrations, etc, credit orientation, social participation, sharing behavior and their level of self-confidence are the key factors determining their role in providing advisory services related to agriculture to the farmers.

Constraints faced by Agri-input Dealers

When providing services and spreading information, agri-input merchants encounter a variety of obstacles, such as inadequate domestic infrastructure, restricted availability of agricultural loans, a lack of experience, technical aspects of the inputs, farmers' excessive or insufficient use of technology, non-availability of transport, high transportation cost due to impoverished infrastructures, absence of market information, absence of storage facilities, and limited business expertise and knowledge, delay payment and non-repayment of credit by

farmers, low margins, competition from other dealers, market competition, farmers not following recommended input application rates, sale of low quality products by local companies etc.

Need for training

Selling modern agrochemicals is always the most challenging task for an agri-input dealer because it requires extensive technical knowledge of identifying pests and diseases, suggesting the best agrochemicals, their dosages, efficacy, compatibility, mode of action, and application, among other things. The mutual reliance between agricultural input dealers and farmers can also come with challenges, as many input dealers lack formal education in agriculture. As a result, the agroservices provided by these dealers often lack scientific expertise. They will be better able to counsel farmers on new technology and build their trust as a result, which will benefit their business, if they receive training in recently emphasized areas. Owing to their convenient accessibility in rural areas, they establish a strong bond and contribute to the enhancement of agricultural extension system by providing valuable services to the farming community. In order to equip them with the most up-to-date knowledge and skills related to agriculture, training programmes are needed. Governmental organizations need to expose and train agri-input traders because most of them lack the necessary information.

Diploma in Agricultural Extension Services for Input Dealers (DAESI)

The National Institute of Agriculture Extension Management (MANAGE) had developed a course 'Diploma in Agricultural Extension Services for Input Dealers (DAESI)' in 2003 which provides pertinent, site-specific

agricultural education to these agri input dealers, enabling them to become para-extension specialists capable of handling the day-to-day issues that farmers confront on a field level. In India, there are about 78093 agri - input dealers are trained under DAESI covering all the states and number of agri - input dealers trained in Tamil Nadu is 1148 (MANAGE, 2023). The objective of this initiative is to improve input dealers' capacity to advise farmers on appropriate agricultural practices, efficiently distribute information, and offer technical assistance. Many subjects are covered by the DAESI curriculum, such as crop management, soil fertility, managing pests and diseases, choosing seeds, and applying fertilizer. Participants have firsthand experience working directly with farmers, leading demonstrations, and planning farmer training programs through interactive workshops, field trips, and practical training. The program also stresses the significance of resource management, environmental preservation, and sustainable farming methods. By bridging the gap between agricultural research and farm-level implementation, they can enhance agricultural output, act as dependable consultants to farmers, and play a significant role in rural development.

Conclusion

Most of the farmers considered the agri-input dealer as their first point of contact when seeking information on farming activities. Naturally, the farmer seeks to inquire about input usage—both quantity and quality—from the input dealer when buying various inputs needed for farming activities. The majority of these input sellers lack proper agricultural education, though. By offering the necessary information, these input dealers can

become para-extension specialists who can professionalize extension services and help bring about a paradigm shift in Indian agriculture. Institutionalized research, extension, input companies, and input dealers themselves should collaborate to enhance training and access to a range of agricultural knowledge sources in order to better serve input dealers in their expanded duties. There may be fewer financial incentives that compete to sell as many things as possible. If agro-input dealers shifted their business strategy from selling products to providing services. However, training program can be more beneficial if more number of refresher trainings provided to enhance their knowledge further. In order to control the current situation from getting worse, public and private entities should reorganize the importance of the agri-input dealers to ensure that all parties have fair access to the necessary resources.

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