



Challenges Faced by Agri-Input Dealers in Delivering Agro-Advisory Services: Constraints and Suggestions

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

Aims: The aim of this research study is to identify and analyze the various constraints faced by agricultural input dealers in delivering effective agro-advisory services in the districts of Kannauj and Farrukhabad, Uttar Pradesh. Additionally, the study seeks to provide recommendations for enhancing these services through specialized training, improved communication strategies, and increased collaboration among manufacturers, researchers, and farmers.

Study Design: Ex-post facto research design was used for the study.

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Place and Duration of Study: Central Plain Zone of Uttar Pradesh was selected for the study from which Kannauj and Farrukhabad districts were chosen purposively. From each district 5-5 blocks were chosen randomly between 2022-2023.

Methodology: The study employed a multistage stratified random sampling method to ensure a representative sample from each block. From each selected block, 25 input dealers were selected randomly for study, who had minimum 5 year of dealership experience, thus, total 250 input dealers were finalized for the present study, who were involved in providing both agricultural inputs and extension services to farmers.

Results: The study identified key constraints faced by input dealers in providing agro-advisory services, including insufficient field diagnostic abilities, inadequate technical competence, and limited communication with farmers. Socio-economic challenges such as unprofitable diagnostic visits and insufficient dealer networks were prominent. To address these issues, recommendations included specialized training, improved communication strategies, and enhanced collaboration between dealers, manufacturers, and farmers, emphasizing the need for institutional support and regionally tailored advisory services.

Conclusion: The study concludes that addressing diagnostic, communication, and financial challenges through training, collaboration, and institutional support is essential to improve agro-advisory services and enhance agricultural productivity.

Keywords: Agro-advisory services; agricultural input dealers; constraints; suggestions.

1. INTRODUCTION

Agriculture has been the cornerstone of India's economy for centuries, playing a vital role in providing sustenance, employment, and economic stability to millions of people across the country. With a vast and diverse landscape, India boasts a rich agricultural heritage characterized by a wide array of crops, farming practices, and agro-climatic conditions. A total of 58% of Indian population [1] is dependent on agriculture for livelihood. Agro-input dealers are sellers of agricultural inputs that include seeds, fertilizer, crop protection chemicals, farm equipment and machines, veterinary product

and animal feeds. Agro-input dealers play a significant and important role in delivering the agricultural inputs required to improve agricultural productivity in farmers field [2].

Agri-input dealers playing tremendous role in reaching the farmers by performing dual role of providing agri-inputs as well as technological back up to the farmers informally. They are the chief source of farm information to the farming community with utmost credibility [3]. Agricultural input dealers are not only the main suppliers of inputs and credit to the farming community, but also the main source of information for farmers and play a crucial role as intermediaries between farmers and suppliers. These input dealers not only provide agricultural inputs but also offer valuable advice and services to farmers,

contributing to the overall productivity and efficiency of the agricultural system. Agricultural input dealers provide most of the farm information, counselling, new technology, services and input to the farmers. Understanding the roles and challenges faced by agricultural input dealers is essential for devising strategies to overcome constraints and enhance their effectiveness.

By addressing these issues, the study aims to empower proprietors with actionable solutions, ultimately contributing to increased agricultural production and fostering overall agricultural development.

2. METHODOLOGY

Ex-post facto research design was used for the study. The Kannauj and Farrukhabad districts of Uttar Pradesh were selected purposively for this study due to the significant presence of input dealers, who provide essential agricultural inputs such as seeds, fertilizers, plant protection chemicals, and farm machinery. Five blocks from each district of Kannauj and Farrukhabad were randomly chosen. From Kannauj district, the blocks selected were Kannauj, Jalalabad, Chhibramau, Umarda, and Saurikh. From Farrukhabad district, the blocks chosen were Kamalganj, Shamsabad, Muhamdabad, Rajepur, and Kaimganj.

The study employed a multistage stratified random sampling method to ensure a

representative sample from each block. From the each selected block, 25 input dealers were selected randomly for study, thus, total 250 input dealers were finalized for the present study, who were involved in providing both agricultural inputs and extension services to farmers. The data were collected by personal interview method through a structured interview schedule and analysed by employing suitable statistical methods. Constraints were categorised into six main areas and identified by in consultation with scientists and Extension officers of state department of agriculture of Uttar Pradesh and the dealers. Input dealers were asked close questions to mention constraints actually faced by them in providing agro services to the farmers. Constraints were measured on 3 point continuum i.e. 'major problem', 'minor problem' and 'not a problem' by giving scores 3, 2 and 1, respectively. Later on the frequency of each constraint was counted and percentage calculated and ranks were assigned problem area. And for suggestions, dealers were asked open-end questions to enlist their suggestions. Based on the responses frequency, percentage

were worked out and ranks were assigned against each suggestion.

3. RESULTS AND DISCUSSION

From Table 1 it is clear that the most significant personal constraint was "insufficient field diagnostic abilities" (WMS, 2.81) got rank I, suggesting that input dealers struggle to accurately diagnose field problems, which is critical for providing effective agro-advisory services. The second most important constraints was "inadequate technical competence of input dealers in providing agro-advisory services" with (WMS, 2.54) got rank II. The third challenge, "lack of specific knowledge about pest management techniques and pest identification" (WMS, 2.26) ranked III. Lower-ranked issues, such as the lack of necessary field experience (mean score: 1.52, rank IV) and the impersonal nature of agro-advisory services over phone calls (mean score: 1.33, rank V). These findings align with studies that for dealers the major problems faced is the lack of knowledge of Scientific agriculture. Raghav et. Al. [4]. Similar findings was also reported by Shankar et al. [5].

Table 1. Ranking of personal constraints as faced by Agri-input dealers (N=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1	Insufficient field diagnostic abilities.	2.81	I
2	Inadequate technical competence of input dealers in providing agro-advisory services.	2.54	II
3	Lack of specific knowledge about various pest management techniques and identification of pests in various crops in this zone	2.26	III
4	Lack of necessary field experience.	1.52	IV
5	Incomplete agro-advisory services due to farmers impersonal communication (phone calls).	1.33	V

Table 2. Ranking of socio economic constraints faced by agri-input dealers (n=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1	Insufficient input dealer network in providing uniform agro-advisory services.	2.66	I
2	Diagnostic visits are not financially rewarding.	2.52	II
3	Insufficient communication with farmers interest groups and other rural institutions to gain insights into field problems.	2.11	III
4	Farmers have a lack of belief in the agro-advisory services provided by input dealers.	1.46	IV

From Table 2 it is clear that the most important constraints was "insufficient input dealer network in providing uniform agro-advisory services" with (WMS 2.66) got rank I indicating that the limited reach and uneven distribution of dealers negatively impact the accessibility and consistency of services. Second Most important constraints was "diagnostic visits not being financially rewarding" (WMS 2.52) followed by "insufficient communication with farmers' interest groups and other rural institutions" (WMS, 2.11) ranked III and the low-ranking problem was "farmers lack of belief in agro-advisory services" (WMS 1.46, rank IV), respectively. The findings of the study are in conformity with study of Kourav et al. [6].

From Table 3 it is clear that the most important constraints was "difficulty in managing private

company representatives to conduct farmer's field demonstrations" as the most perceived constraints, and it was ranked I with weightage mean score 2.41 followed by 'selling government-subsidized product is difficult due to delays in reimbursing the money' (WMS, 2.32) assigned II rank, 'once farmers get subsidy on some products they start asking for subsidy on every product' (WMS, 2.11) was ranked III. Hence, 'it is difficult to convince farmer that using more fertilizer and pesticide do not always mean higher yield' with (WMS, 2.03) was got ranked IV. Difficulties to understand terminology or techniques given by private companies with WMS 1.42 got ranked V was the least important constraints faced by the input dealers. The findings of the study are in line with the study of Verma et. al. [7].

Table 3. Ranking of delivery of extension service related constraints faced by agri-inputs dealers (n=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1	Difficulty in managing private company representatives to conduct farmer's field demonstration.	2.41	I
2	Selling government-subsidized product is difficult due to delays in reimbursing the money.	2.32	II
3	Once farmers get subsidy on some products they start asking for subsidy on every product.	2.11	III
4	Difficult to convince farmer that using more fertilizer and pesticide does not always mean higher yield.	2.03	IV
5	Difficulties to understand terminology or techniques given by private companies.	1.42	VI

Table 4. Ranking of supply, communication and marketing related constraints faced by agri-inputs dealers (n=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1	Farmers have low demand for paid agro-advisory services.	2.61	I
2	Lack of access to timely information material related to agro-advisory services from the agricultural department or manufacturers.	2.53	II
3	Additional risk factors involved in delivering agro-advisory services.	2.49	III
4	Lack of multiple communication channels to effectively share information with farmers.	2.36	IV
5	Communication gap between input dealers and farmers while delivering agro-advisory services.	2.22	V
6	Poor feedback from farmers regarding the effectiveness of agro-advisory services.	2.08	VI
7	Weak relationship between private research, input dealers, and farmers in terms of agro-advisory services.	1.92	VII
8	lack of market intelligence at various levels in giving market information to farmers.	1.82	VIII
9	Insufficient documentation regarding agro-advisory services.	1.51	IX

From Table 4 analysis of the constraints faced by input dealers in delivering agro-advisory services reveals several key challenges, the highest-ranked constraint (mean score 2.61) is the 'Farmers have low demand for paid agro-advisory services from farmers', indicating a need to either improve service value or shift focus to alternative business models. Followed by 'lack of access to timely information from agricultural departments or manufacturers' ranked II (mean score 2.53). The third-ranked constraint (mean score 2.49) involves 'additional risk factors associated with delivering these services'. Other notable constraints include the 'lack of multiple communication channels' (mean score 2.36), and a 'communication gap between input dealers and farmers' (mean score 2.22), suggesting that improvements in both communication technology and strategy are essential. Lower-ranked issues such as 'Insufficient documentation regarding agro-

advisory services' (mean score 1.51) and 'Weak relationship between private research, input dealers, and farmers in terms of agro-advisory services' (mean score 1.92) also point to systemic gaps that need to be addressed for more effective advisory services. 'lack of market intelligence at various levels in giving market information to farmers', and 'Insufficient documentation regarding agro-advisory services' were ranked last VIII and IX, respectively.

The findings of the study are in line with the Verma et al. [7] who reported that lack of well-developed storage facilities, lack of well-developed processing facilities, lack of awareness about grading and packaging, high cost of labor, and price fluctuation in every year were the major constraints faced by the member as well as non-member farmers of farmer producer companies.

Table 5. Ranking of situational constraints faced by agri-inputs dealers (n=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1.	Offering agro-advisory services is a task that varies with the seasons.	2.52	I
2.	Lack of dedicated and consistent attention from manufacturing companies and the government in promoting agro advisory services through input dealers.	2.38	II
3.	Lack of knowledge on climate change and variability before advising farmers on agro-advisory services in this zone.	2.31	III
4.	Distance in fields from the dealer's shop.	2.12	IV
5.	Need for better mechanisms to inform farmers about agro-advisory services provided by input dealers.	1.51	V
6.	Insufficient time to conduct field inspections as requested by farmers	1.50	VI

Table 6. Ranking of managing the farmer's problem related constraints faced by agri-input dealers (n=250)

Sr. No.	Statements	Weightage Mean Score	Rank
1.	Farmers often do not follow the recommended advice.	2.64	I
2.	The farmers don't meet with the agri-input dealer at the right time for the right advice.	2.46	II
3.	Farmers do not purchase branded agricultural products.	2.28	III
4.	Farmers tend to trust advice from neighbors more than that from Agri-input dealers.	1.86	IV
5.	Difficulty to manage the problem because most of the farmers have low literacy levels.	1.36	V

Table 7. Ranking of suggestions to overcome the challenges and constraints by agri-input dealers (n=250)

Sr. No	Suggestions	Respondents		Rank
		f	%	
I. Suggestions to Government/SAU's				
1.	The government should consider offering incentives to input dealers to encourage them to improve their agro-advisory services.	220	88.0	I
2.	It would be beneficial to organise specialised training programmes focused on enhancing diagnostic skills, effective communication skills, understanding climate change, and improving computer knowledge.	209	83.6	II
3.	The Department of Agriculture and SAU's should ensure that input dealers in agro-advisory services have access to timely and comprehensive information on new farm practices to keep their knowledge up to date.	196	78.4	III
4.	The Department of Agriculture should organise exposure visits and encourage input dealers to participate in the activities of rural institutions and FIGs.	189	75.6	IV
5.	It is important for research scientists to create a package of agro-advisory services that are tailored to the specific regions of the central plain zone.	182	72.8	V
6.	Government and manufacturing companies to prioritise the promotion of agro-advisory services in along with input supply.	155	62.0	VI
7.	Graduation in agriculture and technical qualification in agro-advisory services should be required before issuing licences to operate farm input outlets for effective agro-advisory services.	155	62.0	VII
II. Suggestions suggested to manufacturers/researchers/farmers				
1.	Manufacturer/company should offer transportation for input dealers to conduct agro-advisory services through field visits.	215	86.0	I
2.	Farmers should share their feedback with input dealers regarding the effectiveness of agro-advisory services in the field.	206	82.4	II
3.	Demonstration units need to be maintained properly by agents of manufacturing company to get the confidence of farmers about new farm agro-advisory services.	191	76.4	III
4.	Manufacturing companies should focus on enhancing the connection between private research-input dealers and farmers to offer better agro-advisory services and boost product sales.	177	70.8	IV
5.	It is important for manufacturing companies to regularly hold meetings and group discussions to engage with input dealers and farmers, this will help in providing effective agro-advisory services.	171	68.4	V
6.	Research efforts for feasible agro-advisory services which are easily adoptable by the farmers	143	57.2	VI

Table 5 show the situational constraints faced by input dealers in delivering agro-advisory services. The highest-ranked constraint (mean score 2.52) is the 'offering agro-advisory services is a task that varies with the seasons got I rank followed by 'lack of dedicated and consistent attention from manufacturing companies and the government in promoting agro advisory services through input dealers' (mean score 2.38) ranked

II, indicating that more collaboration is needed to promote and integrate these services into the agricultural system. The third-ranked issue is the 'lack of knowledge on climate change and variability before advising farmers on agro-advisory services in this zone' (mean score 2.31). 'Distance of fields from the dealer's shop' (mean score 2.12) was got IV rank. Lower-ranked constraints include the 'need for better

mechanisms to inform farmers about available advisory services provided by input dealers, (mean score 1.51) and 'insufficient time to conduct field inspections' (mean score 1.50) was ranked V and VI, respectively. Somewhat similar findings in different context reported by Verma et. al. [8] which faced by field veterinarians for providing animal health services in Haryana and Punjab states.

Table 6 show the Managing the farmer's problem constraints faced by input dealers in delivering agro-advisory services. The highest-ranked constraint (mean score 2.64) is the 'Farmers often do not follow the recommended advice' got I rank followed by 'farmers don't meet with the agri-input dealer at the right time for the right advice' (mean score 2.46) ranked II. The third-ranked issue is the 'Farmers do not purchase branded agricultural products' (mean score 2.28). Farmers tend to trust advice from neighbours more than that from Agri-input dealers (mean score 1.86) was got IV rank, fifth-ranked constraints include 'Difficulty to manage the problem because most of the farmers have low literacy levels' (mean score 1.36), respectively. These findings align with previous studies that highlight the complex role input dealers play in managing the farmer's problem [9].

From Table 7 we can conclude that the analysis of suggestions provided by agricultural input dealers to the government and State Agricultural Universities (SAUs) for improving agro-advisory services reveals several key priorities. The most recommended suggestion, supported by 88.0% of respondents, is for the government to offer incentives to input dealers to enhance their advisory services, highlighting the importance of financial support. The second-highest suggestion (83.6%) advocates for specialized training programs to improve diagnostic, communication, and computer skills while addressing climate change. Ensuring that input dealers have access to updated information on farming practices ranked third (78.4%), emphasizing the need for continuous knowledge dissemination. These findings align with previous studies of Khatri *et.al* [10]. The Department of Agriculture should organise exposure visits and encourage input dealers to participate in the activities of rural institutions and FIGs., was also seen as vital for improving practical engagement was ranked IV (75.6 %). Tailoring agro-advisory services to specific regions (72.8%) and promoting these services alongside input supplies (71.2%) further reflect the need for region-specific strategies and

better integration of services. Lastly, 62.0% of respondents suggested that formal agricultural education and technical qualifications should be required for licensing input dealers, underscoring the need for qualified professionals in providing effective agro-advisory services. These findings underscore the importance of institutional support, continuous training, and regionally relevant advisory services to overcome challenges in the sector.

The suggestions provided by agricultural input dealers to manufacturers, researchers, and farmers highlight the key strategies to improve agro-advisory services. The top suggestion, supported by 86.0% of respondents, emphasizes the need for manufacturers to provide transportation for input dealers to conduct field visits, as this would facilitate more direct engagement with farmers. The second-ranked suggestion, with 82.4% support, stresses the importance of farmers sharing feedback with input dealers to enhance the effectiveness of advisory services. Proper maintenance of demonstration units by company agents was recommended by 76.4% of respondents, indicating the need for tangible demonstrations to build farmers' confidence in new technologies. Strengthening the connection between private research, input dealers, and farmers to boost both advisory services and product sales was ranked fourth (70.8%), followed by a recommendation for regular meetings and group discussions (68.4%) to ensure continuous communication and improvement [11]. Lastly, 57.2% of respondents called for research into feasible agro-advisory services that are easily adoptable by farmers, highlighting the necessity of practical, farmer-friendly solutions. These suggestions underscore the importance of collaboration, communication, and logistical support in enhancing the effectiveness and adoption of agro-advisory services.

4. CONCLUSION

This study identifies key personal, socio-economic, delivery, supply, and situational constraints faced by agricultural input dealers in providing agro-advisory services. Major challenges include limited diagnostic abilities, insufficient communication with farmers, difficulty managing company representatives, and financial unviability of field visits. Additionally, a low demand for paid advisory services and weak relationships between stakeholders highlight the need for improved support systems.

The findings emphasize the necessity for specialized training programs, better communication strategies, and stronger institutional support to enhance the effectiveness of agro-advisory services. Tailored regional approaches, government incentives, and collaboration between manufacturers, dealers, and farmers are vital for overcoming these constraints. Addressing these challenges will enable input dealers to play a more effective role in supporting farmers, ultimately improving agricultural productivity and sustainability.

DISCLAIMER (ARTIFICIAL INTELLIGENCE)

We hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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