P-ISSN: 2618-0723
E-ISSN: 2618-0731

NAAS Rating: 5.04
www.extensionjournal.com

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 8; August 2024; Page No. 346-349

Received: 02-07-2024
Accepted: 08-08-2024

Indexed Journal
Peer Reviewed Journal

Constraints and suggestions of agro input dealers in providing agro advisory services in Gaya district of Bihar: Garret ranking approach

[1]Ravi Shankar, [2]Dr. Dipak Kumar Bose, [3]Dr. Jahanara and [4]Dr. Syed H Mazhar

[1]Ph.D. Scholar, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, Uttar Pradesh, India

[2]Associate Dean (NAI) & Professor, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, Uttar Pradesh, India

[3]Professor & Head, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, Uttar Pradesh, India

[4]Associate Professor, Department of Agricultural Extension and Communication, SHUATS, Prayagraj, Uttar Pradesh, India

DOI: https://doi.org/10.33545/26180723.2024.v7.i8e.940

Corresponding Author: Ravi Shankar

Abstract

Agri input dealers have played a key stakeholder role in agricultural development due to the resource intensive nature and demand of agricultural production. The present study was conducted in Gaya district of Bihar, India which aimed to identify key constraints faced by agri input dealers and their suggestions in providing agro advisory services. The blocks selected purposively for the study were Gaya, Manpur and Tekari due to large number of dealers present in area due to agricultural land. Data were collected from 320 respondents using pre-tested schedule and analyzed using appropriate statistical tests followed by Garrett ranking. The study inferred that major constraints notified among personal problems were inadequate technical qualification of input dealers in agro-advisory services (GMS-52.07), among socio economic problems lack of belief in agro-advisory services given by input dealers among farmers was ranked highest (GMS-55.26), among technical constraints lack of feasibility and simple recommended technologies was observed highest (GMS-52.10),among Supply, Communication and marketing problems lack of market intelligence at various levels in providing market information to the farmers was noted (GMS-53.54), among situational constraints lack of information on climate change /variability before advising farmers was observed (GMS-54.58), considering infrastructural constraints transportation problem (cost and vehicle availability) while giving field visit to the farmers field was highest (GMS-51.59). Identifying major constraints directs focus areas for training need assessment. The prime suggestion by the respondents was incorporation of need based training.

Keywords: Constraints, agri-input dealers, Garrett mean score (GMS), Gaya

Introduction

Agri input dealers in India play a crucial role in the agricultural ecosystem, acting as vital intermediaries between manufacturers of agricultural inputs (such as seeds, fertilizers, pesticides, and machinery) and the farmers who use them. These dealers not only supply essential products but also provide critical agro advisory services, leveraging their extensive knowledge of local agricultural practices, crop requirements, and pest management. Their advisory services help farmers make informed decisions, leading to better crop yields and sustainable farming practices. This role is particularly important in India, where smallholder farmers often lack direct access to modern agricultural knowledge and technologies. By offering guidance on optimal input usage, soil health, weather patterns, and disease control, agri input dealers contribute significantly to enhancing agricultural productivity and farmers' livelihoods. Progressive farmers are the most trusted source of farm information followed by agri input dealers in rural areas. (Adhiguru *et al.*, 2009) [7]. Their importance is underscored by their ability to bridge the gap between traditional farming methods and modern agricultural advancements, thereby driving rural development and food security in the country.

The objectives of this study was to identify the major constraints prevalent in providing agro advisory services and suggestions by the agri input dealers. By examining these aspects, this research aims to provide valuable insights into the core areas of concern and its implications for providing effective delivery service for agricultural development. The findings of this study are expected to contribute to the existing literature on agro advisory services in agriculture and inform policy interventions aimed at promoting sustainable agricultural practices. By highlighting the constraints and suggestions faced by input dealers in providing agro advisory services key areas for suitable intervention are identified and suitable strategies can be devised to mitigate them.

Research methodology

The research was carried out in Gaya district of Bihar state, India. Gaya, Manpur and Tekari blocks were selected purposively for the study. The proportionate random sampling method was used and a sample size of 320 respondents were selected for the study. Garrett ranking

method was used for analysis. The study had the respondents rank different constraints and outcome based on their impact thereby converting into score value and rank with the help of the following formula:

Percent position = $100(R_{ij}-0.5)/N_j$

Where R_{ij} = Rank given for the i^{th} variable by j^{th} respondents

N_j = Number of variable ranked by j^{th} respondents

With the help of Garrett's Table, the percent position estimated is converted into scores by referring to the table given by Garret and Woodworth (1969) [3]. Then for each factor, the scores of each individual are added and then total value of scores and mean values of score is calculated. The factors having highest mean value is considered to be the most important factor. Interview schedules were developed with the guidance of field experts, incorporating standard indices and scales. The collected data were organized, summarized, and analysed using appropriate statistical methods.

Results and Discussion

This section presents the results of the study undertaken and the relevant interpretation and discussion in the light of the objectives of the study.

Table 1: Constraints expressed by agricultural input dealers while providing agro advisory services

S. No.	Constraints	Garrett mean score	Garretts ranking
I	**Personal constraints**		
1.	Lack of field diagnostic skills.	50.5	III
2.	Lack of sufficient field experience	50.48	IV
3.	Inadequate technical qualification of input dealers in agro-advisory services.	52.07	I
4.	Incomplete agro-advisory services because impersonal contact by farmers (phone calls).	51.98	II
5.	Lack of knowledge specifically on different methods of pest control and identification of pests in different crops.	46.96	V
II	**Socio –economic problems**		
1.	Lack of networking in input dealers in providing uniform agro-advisory services.	52.86	II
2.	Lack of contact with farmers interest groups and other rural institutions to know about field problems.	50.57	III
3.	Lack of belief in agro-advisory services given by input dealers among farmers.	55.26	I
4.	Diagnostic visits are not remunerative.	43.32	IV
III	**Technological problem**		
1.	Lack of feasibility and simple recommended technologies.	52.1	I
2.	Lack of standardized, recommended and low cost technologies for providing agro-advisory services.	48.9	II
IV	**Supply, Communication and marketing problems**		
1.	Non-availability of timely information material related to agro-advisory services from agricultural department or manufacturers.	51.4	IV
2.	Lack of documentation about agro-advisory services.	50.2	VI
3.	Communication gap between input dealers and farmers while providing agro-advisory services	49.8	VII
4.	Lack of availability of various forms/channels of communication to disseminate the information to the farmers	51.76	III
5.	Insufficient feedback from farmers about performance of agro-advisory services.	53.13	II
6.	Weak private research- input dealer- farmers linkage regarding agro-advisory services.	50.59	V
7.	Lack of market intelligence at various levels in providing market information to the farmers.	53.54	I
8.	Low demand for agro-advisory services from farmers on payment basis.	49.22	VIII
9.	More risk factor in providing agro-advisory services.	45.48	IX
V	**Situational problems**		
1.	Distance factor as field situated away from dealers shop.	52.23	II
2.	Lack of serious and continuous focus by the manufacturing companies and by government in promotion of agro-advisory services by input dealers.	49.95	III
3.	Providing agro-advisory services is a seasonal activity.	48.93	IV
4.	Lack of mechanisms for making aware farmers on agro-advisory services by input dealer.	48.78	V
5.	Lack of information on climate change /variability before advising farmers on agro-advisory services	54.58	I
6.	Lack of time to go for field visits on farmer request.	47.53	VI
VI	**Infrastructural problems**		
1.	Transportation problem (cost and vehicle availability) while giving field visit to the farmers field.	51.59	I
2.	Lack demonstration units and its maintenance.	51.14	II

The table 1 presents a comprehensive overview of the challenges faced in providing agro-advisory services, categorized into six main areas: Personal problems, Socio-economic problems, Technological problems, Supply, Communication, and Marketing problems, Situational problems, and Infrastructural problems. The problems expressed by agricultural input dealers while providing agro-advisory services shed light on key areas where improvements are needed to enhance the effectiveness and impact of agricultural support systems.

Personal constraints

Inadequate Technical Qualification of Input Dealers in Agro-Advisory Services (Garrett mean score: 52.07, Garrett's ranking: 1) was ranked the prime constraint. Technical qualifications are essential for input dealers to stay updated of advancements in agricultural science and technology. Incomplete Agro-Advisory Services Due to Impersonal Contact by Farmers (Phone Calls) (Garrett mean score: 51.98, Garrett's ranking: 2). Effective communication is crucial for successful agro-advisory services. However, impersonal contact, such as phone calls, may hinder the establishment of rapport and trust between input dealers and farmers. Without face-to-face interaction, dealers may find it challenging to fully understand farmers' needs and tailor their advice accordingly, leading to incomplete or suboptimal solutions.

Socio-economic constraints

Lack of belief in agro-advisory services given by input dealers among farmers (Garrett mean score: 55.26, Garrett's ranking: 1). Without trust being established it becomes difficult to consider the recommendations. Lack of networking in input dealers in providing uniform agro-advisory services (Garrett mean score: 52.86, Garrett's ranking: 2). Without effective networking channels, dealers may operate in isolation, leading to disparities in the quality and scope of advice provided to farmers. Lack of contact with farmers interest groups and other rural institutions to know about field problems (Garrett mean score: 50.57, Garrett's ranking: 3). This disconnect can lead to a gap between the services offered and the actual needs of farmers, reducing the effectiveness of advisory interventions.

Technological constraints

Lack of feasibility and simple recommended technologies (Garrett mean score: 52.1, Garrett's ranking: 1). The feasibility and simplicity of recommended technologies are crucial for adoption by farmers. Complex or impractical solutions may be difficult for farmers to implement or sustain, limiting their effectiveness in addressing agricultural challenges. Lack of standardized, recommended, and low-cost technologies for providing agro-advisory services (Garrett mean score: 48.9, Garrett's ranking: 2).Standardization ensures consistency and comparability across different interventions, facilitating the evaluation of their effectiveness and impact. Moreover, low-cost technologies are more accessible to resource-constrained farmers, enabling broader adoption and equitable access to advisory services.

Supply, communication, and marketing constraints

Lack of market intelligence at various levels in providing market information to the farmers (Garrett mean score: 53.54, Garrett's ranking: 1). Access to market intelligence is essential for farmers to make informed decisions about crop selection, production practices, and marketing strategies. Without timely and accurate market information, farmers may face challenges in optimizing their production and maximizing returns. Insufficient feedback from farmers about performance of agro-advisory services (Garrett mean score: 53.13, Garrett's ranking: 2). Feedback mechanisms are essential for evaluating the effectiveness and impact of agro-advisory services and for continuous improvement. Establishing structured feedback mechanisms enables input dealers and service providers to identify strengths, address weaknesses, and better align services with farmers' needs and priorities.

Situational constraints

Lack of information on climate change/variability before advising farmers on agro-advisory services (Garrett mean score: 54.58, Garrett's ranking: 1). Climate change and variability pose significant challenges for agriculture. Integrating climate-smart approaches into agro-advisory services is crucial for enhancing the resilience and sustainability of agricultural systems in the face of changing climatic conditions. Distance factor as the fields situated away from the dealer's shop (Garrett mean score: 52.23, Garrett's ranking: 2). The geographical distance between farmers' fields and input dealers' shops can pose logistical challenges in providing timely and personalized agro-advisory services**.**

Infrastructural constraints

Transportation problem (cost and vehicle availability) while giving field visits to the farmer's field (Garrett mean score: 51.59, Garrett's ranking: 1). Transportation constraints, including high costs and limited vehicle availability, can impede input dealers' ability to conduct field visits to farmers' fields. Without reliable transportation, dealers may struggle to reach remote or inaccessible areas, hindering their capacity to provide on-site advice and support. Addressing transportation challenges is essential for ensuring equitable access to agro-advisory services, particularly for farmers in rural or marginalized communities.Lack of demonstration units and its maintenance (Garrett mean score: 51.14, Garrett's ranking: 2). Demonstration units serve as valuable platforms for showcasing best practices, innovative technologies, and agronomic techniques to farmers. However, the absence of demonstration units, or their inadequate maintenance, can limit opportunities for hands-on learning and skill development among farmers. Investing in the establishment and upkeep of demonstration units is essential for promoting technology adoption, building farmers' capacities, and disseminating knowledge effectively. The results are in line with the findings of Sharma *et al.* (2017) [7], Patel *et al.* (2019) [5] and Srisailam *et al.* (2021) [2].

Table 2: Suggestions provided by agri input dealers for improving agro advisory services

S. No.	Suggestions	Garrett score	Garretts ranking
I	**Suggestions to Government/SAU's**		
1.	Department of agriculture and SAU's should provide adequate timely information material about new farm practices for updating the knowledge of input dealers in agro-advisory services.	54.39	IV
2.	Department of agriculture should conduct exposure visits and encourage input dealers in activities of FIG's and rural institutions.	55.13	III
3.	Specific need basedtraining programmes should be conducted regarding diagnostic skills, communication skills, climate change, computer knowledge etc.	57.62	I
4.	Government should provide some incentives to input dealers for providing better agro-advisory services.	52.24	V
5.	Government and manufacturing companies should take measures for promotion of agro-advisory services besides input supply	55.40	II
6.	Graduation in agriculture and technical qualification in agro-advisory services should be made compulsory for giving the licenses to open farm input outlets for effective agro-advisory services.	50.07	VI
7.	Research scientists should develop package of agro-advisory services suitable to specific regions	49.23	VII
II	**Suggestions suggested to the manufacturers/researchers/farmers**		
1.	Manufacturing companies should strengthen private research-input dealers-farmers linkage in providing agro-advisory services besides improving sales of their products.	56.50	I
2.	Manufacturing companies should conduct frequent meetings and group discussions for input dealers and farmers and facilitate the provision of effective agro-advisory services	52.46	IV
3.	Research efforts for feasible agro-advisory services which are easily adoptable by the farmers	53.40	III
4.	Farmers should provide feedback to the input dealers about the performance of agro-advisory services in the field	54.19	II
5.	Demonstration units need to be maintained properly by agents of manufacturing company to get the confidence of farmers about new farm agro-advisory services.	49.11	V
6.	Manufacturer/company should provide transport facility to input dealers to provide agro-advisory services through field visits	47.16	VI

Observations from the table 2 highlight the suggestions suggested by agri input dealers in improving agro advisory services. Need for specific training programmes was rated the most (Garrett mean score: 57.62, Garrett's ranking: 1) followed by measures for promotion (Govt. and private sector) of agro advisory besides input supply (Garrett mean score: 55.40, Garrett's ranking: 2). For farmers/researchers/manufacturers the prime suggestion noted was Manufacturing companies should strengthen private research-input dealers-farmers linkage in providing agro-advisory services (Garrett mean score: 56.50, Garrett's ranking: 1) followed by Farmers should provide feedback to the input dealers about the performance of agro-advisory services in the field (Garrett mean score: 54.19, Garrett's ranking: 2). The results are in line with the findings of Patel *et al.* (2019) [5].

Conclusion

It was concluded that major constraint identified was inadequate technical knowledge about agro advisory services, lack of self belief which hampers credibility, followed by lack of feasibility and simple recommended technologies, Lack of market intelligence at various levels in providing market information to the farmers, Lack of information on climate change /variability before advising farmers on agro-advisory services ,Transportation problem (cost and vehicle availability) while giving field visit to the farmers field. The suggestions include Specific training programmes and Manufacturing companies should strengthen private research-input dealers-farmers linkage in providing agro-advisory services besides improving sales of their products.

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