

International Journal of Agriculture Extension and Social Development

Volume 7; Issue 11; November 2024; Page No. 271-276

Received: 10-09-2024
Accepted: 14-10-2024

Indexed Journal
Peer Reviewed Journal

Farmers' perceived constraints to Extension & Advisory Services (EAS): A garret ranking analysis

SK Mosaraf Hossain^{1*} and SD Mukhopadhyay²

¹ Ph.D. Research Scholar, Department of Agricultural Extension, Palli Siksha Bhavana, Visva-Bharati, India

² Professor, Department of Agricultural Extension, Palli Siksha Bhavana, Visva-Bharati, India

DOI: <https://doi.org/10.33545/26180723.2024.v7.i11d.1324>

Corresponding Author: SK Mosaraf Hossain

Abstract

Extension & Advisory Service (EAS) is crucial for upliftment of farming community. But farmers face several constraints while availing the Extension service. Constraints are mainly economic, technological and socio psychological. The farmers' perception about these constraints are analyzed in this study. 240 respondents from three districts namely, Birbhum, Jalpaiguri and Nadia are considered for the study. Five statements under Economic Constraints, eleven statements under Technological Constraints and seven statements under Socio-psychological Constraints have been ranked by all the farmers based on their perceptions. Then the rankings are converted into garret score to rank them on an overall basis. Result shows that Lack of Market Information, High cost of input and Non-availability of crop insurance are top three economic constraints. Whereas Complexity of govt. schemes, No timely information and Complex advisory services are the top three technological constraints. Finally, the top three socio-psychological constraints were Political hindrance, Favoritism in service delivery and Lack of understanding about seeking help from Agri-service providers. This study also suggests how to deal with these constraints.

Keywords: Extension & Advisory Services (EAS), constraint analysis, garret ranking

Introduction

In India, Extension and Advisory Services (EAS) are essential for improving agricultural sustainability and productivity (Sahu *et al.* 2024) [2]. These services enhance farming methods by facilitating technology and knowledge flow from research institutions to farmers. Farmers now have unparallel access to information and professional assistance owing to the integration of information and communication technology (ICT) (Bhat *et al.* 2024) [3]. EAS has been instrumental in empowering smallholder farmers, particularly women and youth, by enhancing their skills and knowledge (Anil *et al.* 2024) [3]. Farmers in India face several constraints when accessing agricultural extension services, significantly impacting their productivity and economic stability. These challenges stem from socio-economic disparities, inadequate information dissemination, and systemic inefficiencies in extension services. Farmers often experience delays or shortages in essential agricultural inputs, which hampers timely agricultural practices (Pant & Singh, 2014) [4]. Extension personnel frequently lack sufficient training and resources, which affects their ability to deliver effective services (Baig & Aldosari, 2013) [5]. Farmers face constraints such as inadequate funding, lack of administrative flexibility, insufficient human resources, and ineffective coordination among stakeholders in accessing extension services in India (Meena *et al.* 2013) [6]. Significant constraints include inadequate training materials, poor management of rewards, limited human resources, inconsistent government programme, and ineffective

evaluation of extension services; impacting farmers' access to support (Azani & Onwubuya, 2013) [7].

Methodology

Three Districts of West Bengal were selected purposely based on Cropping Intensity. For Higher Cropping Intensity, Nadia (>Mean+ SD) district; Medium Level of Cropping Intensity, Birbhum (Mean+ SD to Mean -SD); and low Cropping Intensity, Jalpaiguri (<Mean-SD) were selected. From each district, Four EAS Providers namely, Agriculture Technology Management Agency (ATMA), Krishi Vigyan Kendra (KVK), a Farmer Producer Company (FPC), and an Input Dealer were selected. From each EAS Provider, 20 beneficiary farmers were selected, totalling 80 farmers from each district and 240 total farmers. Three different types of constraints: Economic Constraint, Technological Constraint, and Socio-Psychological Constraints were considered in this study. Under the Economic Constraint, five statements; Technological Constraints, eleven statements; and Socio-Psychological Constraints, seven statements were considered after the literature review.

As per this method, respondents were asked about their opinions to assign the rank for all factors, and the outcomes of such ranking were converted into score value with the help of the following formula:

$$\text{Per cent position} = 100(R_{ij} - 0.5) / N_j$$

Where R_{ij} = Rank has been given for the i th statement by

the j th respondent.

N_j = Number of i th statements ranked by the j th respondent

The per cent position is converted into scores by referring to the table given by Garrett and Woodworth (1969) [8]. Then, for each constraints, the scores for all the respondents were added, and then the total and mean values of the scores were calculated. These mean scores for all the constraints were arranged in descending order, and the most influencing factors were identified by assigning ranks. The factors with the highest mean value were considered the most important.

Results and Discussion

Economic Constraints

While availing of Extension Advisory services, the respondents faced different constraints. Five different Economic Constraints are labeled in Table 1.

Table 1: Labelling of Economic Constraints

Label	Economic Constraints
EC 1	High cost of inputs restricting usage of Agri Service Provider's recommendation
EC 2	Lack of proper marketing information
EC 3	Non-availability of crop insurance
EC 4	Low profit from the sale of Agricultural produce
EC 5	Inadequate financial support under govt schemes

Table 4: Normalization of Constraints by Garret Score

Rank	EC 1		EC 2		EC 3		EC 4		EC 5	
	Freq	Mean Garret Score	Freq	Mean Garret Score	Freq	Mean Garret Score	Freq	Mean Garret Score	Freq	Mean Garret Score
1	43	13.44	81	25.31	63	19.69	23	7.19	30	9.38
2	57	14.25	71	17.75	32	8.00	47	11.75	33	8.25
3	63	13.13	23	4.79	46	9.58	64	13.33	44	9.17
4	55	9.17	34	5.67	48	8.00	52	8.67	51	8.50
5	22	2.20	31	3.10	51	5.10	54	5.40	82	8.20
Total	240	52.18	240	56.62	240	50.37	240	46.34	240	43.49

Table 5: Overall Ranking of Economic Constraints based on Garret Score

Overall Rank	Garret Score	Label	Constraints
1	56.62	EC 2	Lack of proper marketing information
2	52.18	EC 1	High cost of inputs restricting usage of Agri Service Provider's recommendation
3	50.37	EC 3	Non-availability of crop insurance
4	46.33	EC 4	Low profit from the sale of Agricultural produce
5	43.49	EC 5	Inadequate financial support under govt schemes

Finally Table 5 shows, based on the total garret score, 'Lack of proper marketing information' ranked first with a total mean garret score of 56.62. 'High cost of inputs restricting usage of Agri Service Provider's recommendation' ranked 2nd with a 52.18 score. 'Non-availability of crop insurance' ranked 3rd with a 50.37 score. Whereas 'Low profit from the sale of Agricultural produce' (46.33) and 'Inadequate financial support under govt. schemes' ranked 4th and 5th, respectively. The perceived Economic Constraints are shown in Figure 1.

Table 2 shows different ranks as perceived by the respondents against each constraint and Table 3 shows the percent position of each rank and their respective garret score.

Table 2: Frequency of Ranks under Each Economic Constraints

Rank	EC 1	EC 2	EC 3	EC 4	EC 5	Total
1	43	81	63	23	30	240
2	57	71	32	47	33	240
3	63	23	46	64	44	240
4	55	34	48	52	51	240
5	22	31	51	54	82	240
	240	240	240	240	240	

Table 3: Percent Position and Garret Score of each rank

Rank	Percent Position	Garret Score
1 st Rank	10	75
2 nd Rank	30	60
3 rd Rank	50	50
4 th Rank	70	40
5 th Rank	90	24

In Table 4, each rank is given its mean Garret score, and thus total mean Garret score for each constraint achieved.

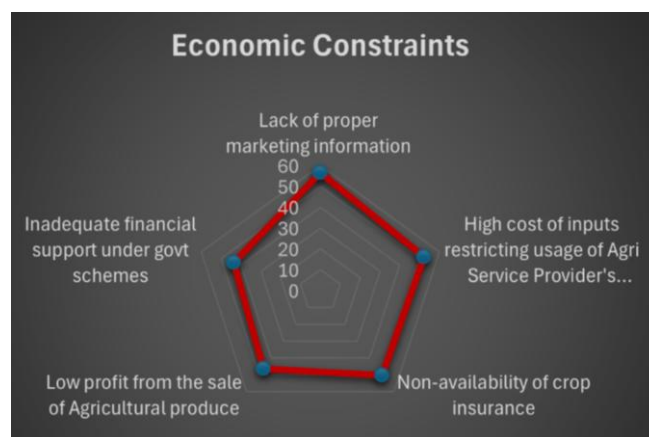


Fig 1: Economic Constraints

Technological Constraints

6

11 different Technological Constraints are labeled in Table

Table 6: Labelling of Technological Constraints

Label	Technological Constraints
TC 1	Complex technology advocated by personnel
TC 2	Poor knowledge of personnel
TC 3	Complex pattern of govt schemes leads to confusion.
TC 4	Lack of technical guidance
TC 5	Non-availability of appropriate technology
TC 6	No training programs on ICT.
TC 7	Minimal provision for hands-on training
TC 8	Inadequate demonstration of new technologies.
TC 9	Recommended technology is not location-specific.
TC 10	Information provided is not in the required time.
TC 11	No Regular visits by personnel

Table 7 shows different ranks as perceived by the respondents against each constraint. And Table 8 shows the percent position of each rank and their respective garret score

Table 7: Frequency of Ranks under Each Technological Constraint

Rank	TC 1	TC 2	TC 3	TC 4	TC 5	TC 6	TC 7	TC 8	TC 9	TC 10	TC 11	Total
1	33	10	45	9	18	7	14	16	20	54	14	240
2	43	23	66	8	15	14	13	19	7	18	14	240
3	42	34	28	18	17	10	25	16	21	22	7	240
4	17	13	24	25	37	26	12	15	14	37	20	240
5	12	18	12	45	33	22	17	18	22	31	10	240
6	5	27	13	22	22	33	42	23	26	9	18	240
7	16	22	17	17	19	43	24	27	32	11	12	240
8	12	27	12	28	21	27	28	22	22	21	20	240
9	22	22	11	22	19	22	12	21	26	23	40	240
10	18	19	7	18	18	16	21	32	32	7	52	240
11	20	25	5	28	21	20	32	31	18	7	33	240
	240	240	240	240	240	240	240	240	240	240	240	Total

Table 8: Per cent Position and Garret Score of each rank

Rank	Percent Position	Garret Score
1 st Rank	4.545455	83
2 nd Rank	13.63636	72
3 rd Rank	22.72727	65
4 th Rank	31.81818	59
5 th Rank	40.90909	55
6 th Rank	50	50
7 th Rank	59.09091	45
8 th Rank	68.18182	41
9 th Rank	77.27273	35
10 th Rank	86.36364	28
11 th Rank	95.45455	17

In Table 9, each rank is given its mean garret score, and total mean garret score for each constraint achieved.

Table 9: Normalization of Technological Constraints by Garret score

Rank	TC 1		TC 2		TC 3		TC 4		TC 5		TC 6		TC 7		TC 8		TC 9		TC 10		TC 11	
	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score	Fr eq	Mean Garret Score
1	33	11.41	10	3.46	45	15.56	9	3.11	18	6.23	7	2.42	14	4.84	16	5.53	20	6.92	54	18.68	14	4.84
2	43	12.90	23	6.90	66	19.80	8	2.40	15	4.50	14	4.20	13	3.90	19	5.70	7	2.10	18	5.40	14	4.20
3	42	11.38	34	9.21	28	7.58	18	4.88	17	4.60	10	2.71	25	6.77	16	4.33	21	5.69	22	5.96	7	1.90
4	17	4.18	13	3.20	24	5.90	25	6.15	37	9.10	26	6.39	12	2.95	15	3.69	14	3.44	37	9.10	20	4.92
5	12	2.75	18	4.13	12	2.75	45	10.31	33	7.56	22	5.04	17	3.90	18	4.13	22	5.04	31	7.10	10	2.29
6	5	1.04	27	5.63	13	2.71	22	4.58	22	4.58	33	6.88	42	8.75	23	4.79	26	5.42	9	1.88	18	3.75
7	16	3.00	22	4.13	17	3.19	17	3.19	19	3.56	43	8.06	24	4.50	27	5.06	32	6.00	11	2.06	12	2.25
8	12	2.05	27	4.61	12	2.05	28	4.78	21	3.59	27	4.61	28	4.78	22	3.76	22	3.76	21	3.59	20	3.42

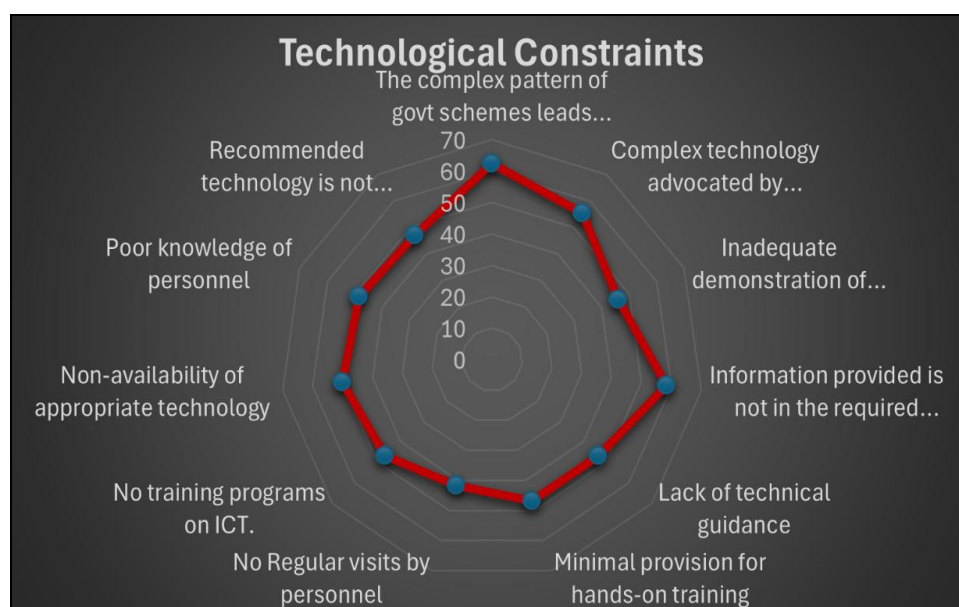
9	22	3.21	22	3.21	11	1.60	22	3.21	19	2.77	22	3.21	12	1.75	21	3.06	26	3.79	23	3.35	40	5.83
10	18	2.10	19	2.22	7	0.82	18	2.10	18	2.10	16	1.87	21	2.45	32	3.73	32	3.73	7	0.82	52	6.07
11	20	1.42	25	1.77	5	0.35	28	1.98	21	1.49	20	1.42	32	2.27	31	2.20	18	1.28	7	0.50	33	2.34
Total	240	55.43	240	48.45	240	62.32	240	46.69	240	50.08	240	46.80	240	46.86	240	45.98	240	47.16	240	58.43	240	41.80

Table 10: Overall Ranking of Technological Constraints based on Garret Score

Overall Rank	Garret Score	Label	Constraints
1	62.32	TC 3	The complex pattern of govt schemes leads to confusion
2	58.43	TC 10	Information provided is not in the required time.
3	55.43	TC 1	Complex technology advocated by personnel
4	50.08	TC 5	Non-availability of appropriate technology
5	48.45	TC 2	Poor knowledge of personnel
6	47.16	TC 9	Recommended technology is not location-specific.
7	46.86	TC 7	Minimal provision for hands-on training
8	46.80	TC 6	No training programs on ICT.
9	46.69	TC 4	Lack of technical guidance
10	45.98	TC 8	Inadequate demonstration of new technologies.
11	41.80	TC 11	No Regular visits by personnel

Finally Table 10 shows, based on the total garret score, 'Complex pattern of govt schemes leads to confusion' ranked top with a garret score of 62.32. 'Information provided not in the required time.' Ranked 2nd with 58.43,

and 'Complex technology advocated by personnel' ranked 3rd with 55.43 score. All Technological Constraints, as perceived by the respondents, are shown in Figure 2.

**Fig 2:** Technological Constraints

Socio-Psychological Constraints

Seven different Socio-Psychological Constraints are labeled in Table 11

Table 11: Labelling of Socio-Psychological Constraints

Label	Socio-Psychological Constraints
SPC 1	Lack of understanding of the benefit of seeking help from Agri Service Provider
SPC 2	Poor level of education lead to little or no understanding.
SPC 3	Poor level of skill restricts to adopt new technologies.
SPC 4	Prefer to continue with traditional practices.
SPC 5	Poor Level of connectivity lead to less interaction with officials
SPC 6	Political hindrances in getting scheme benefit
SPC 7	Favoritism in service delivery.

Table 12 shows different ranks as perceived by the respondents against each constraint. And Table 13 shows the percent position of each rank and their respective garret score.

Table 12: Frequency of Ranks under Each Socio-Psychological Constraints

Rank	SPC 1	SPC 2	SPC 3	SPC 4	SPC 5	SPC 6	SPC 7	Total
1	28	23	25	22	19	65	58	240
2	29	33	31	22	26	43	56	240
3	34	45	29	32	21	40	39	240
4	56	22	45	13	18	45	41	240
5	43	38	33	45	21	32	28	240
6	37	23	42	32	78	12	16	240
7	13	56	35	74	57	3	2	240
	240	240	240	240	240	240	240	

Table 13: Per cent Position and Garret Score of each rank

Rank	Percent Position	Garret Score
1 st Rank	7.142857	78
2 nd Rank	21.42857	66
3 rd Rank	35.71429	57
4 th Rank	50	50
5 th Rank	64.28571	43
6 th Rank	78.57143	34
7 th Rank	92.85714	22

In Table 14, each rank is given its mean garret score and total mean Garret score for each constraint achieved.

Table 14: Normalization of Technological Constraints by Garret score

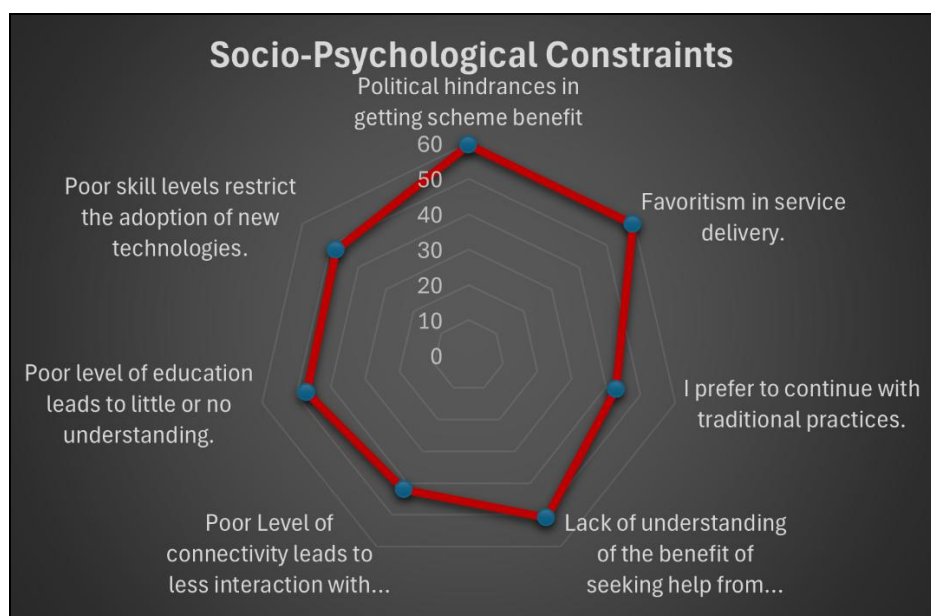
Rank	SPC 1		SPC 2		SPC 3		SPC 4		SPC 5		SPC 6		SPC 7	
	Frequency	Mean Garret Score	Frequency	Mean Garret Score	Frequency	Mean Garret Score	Frequency	Mean Garret Score	Frequency	Mean Garret Score	Frequency	Mean Garret Score	Frequency	Mean Garret Score
1	28	9.10	23	7.48	25	8.13	22	7.15	19	6.18	65	21.13	58	18.85
2	29	7.98	33	9.08	31	8.53	22	6.05	26	7.15	43	11.83	56	15.40
3	34	8.08	45	10.69	29	6.89	32	7.60	21	4.99	40	9.50	39	9.26
4	56	11.67	22	4.58	45	9.38	13	2.71	18	3.75	45	9.38	41	8.54
5	43	7.70	38	6.81	33	5.91	45	8.06	21	3.76	32	5.73	28	5.02
6	37	5.24	23	3.26	42	5.95	32	4.53	78	11.05	12	1.70	16	2.27
7	13	1.19	56	5.13	35	3.21	74	6.78	57	5.23	3	0.28	2	0.18
Total	240	50.95	240	47.02	240	47.98	240	42.89	240	42.10	240	59.53	240	59.52

Table 15: Overall Ranking of Socio-Psychological Constraints based on Garret Score

Overall Rank	Garret Score	Label	Constraints
1	59.53	SPC 6	Political hindrances in getting scheme benefit
2	59.52	SPC 7	Favoritism in service delivery.
3	50.95	SPC 1	Lack of understanding of the benefit of seeking help from Agri Service Provider
4	47.98	SPC 3	Poor skill levels restrict the adoption of new technologies.
5	47.02	SPC 2	Poor level of education leads to little or no understanding.
6	42.88	SPC 4	I prefer to continue with traditional practices.
7	42.10	SPC 5	Poor Level of connectivity leads to less interaction with officials

Finally, Table 15 shows, based on the total garret score, 'Political hindrances in getting scheme benefit' ranked top with a garret score of 59.53. 'Favoritism in service delivery.' Ranked 2nd with 59.52, and 'Lack of

understanding of the benefit of seeking help from Agri Service Provider' ranked 3rd with a 50.95 score. The Socio-Psychological Constraints, as perceived by the respondents, are shown in Figure 3.

**Fig 3:** Socio-Psychological Constraints

Conclusion

From the above study it is evident that farmers face lot of difficulties while availing Extension Advisory Services. Lack of Marketing Information is one of the main concerns, Market-led Extension is the need of the hour. While the high cost of inputs is restricting farmers from adopting recommendations, private extension by input dealers can play a crucial role. Line departments must play an uplifting role in providing services like crop insurance. Training of extension professionals for updating knowledge must be carried out by Institutes like SAMETI and MANAGE. However, complexity in terms of advisory and government schemes leads to inefficiency, future course of action should be breaking the complex idea into a digestible format. Moreover, these constraints need to be addressed by pluralistic extension advisory providers to ensure no stones get unturned.

References

1. Rai AK, Singh BV, Bharti SD, Saikanth DR. Agricultural Extension's Key Role in Modern Farming: A Review. *Asian J Agric Ext Econ Sociol*. 2023 Jul 15;41(9):475-85.
2. Sahu S, Bishnoi S, Sharma PR, Satyapriya, Mahra GS, Burman RR, Barua S. Exploring popular information sources and determinants of farmers' access to agricultural extension services in the Indo-Gangetic plains. *Front Sustain Food Syst*. 2024 Mar 26;8:1339243.
3. Bhat PP, Prasad R, Anil K, Jadhav A, Manohar KN, Rajesh CM. The Role of Information and Communication Technology in Enhancing the Effectiveness of Agricultural Extension Programs Worldwide: A Review. *J Sci Res Rep*. 2024 Jul 11;30(7):963-76.
4. Pant K, Singh U. Need for revamped extension approaches to overcome the constraints in transfer of technologies. *Indian Res J Ext Educ*. 2014;14(1):109-11.
5. Baig MB, Aldosari F. Agricultural extension in Asia: Constraints and options for improvement. *J Anim Plant Sci*. 2013 Jan 1;23(2):619-32.
6. Meena M, Singh KM, Swanson B. Pluralistic agricultural extension system in India: Innovations and constraints. SSRN; c2013. Available from: <https://ssrn.com/abstract=2293788>
7. Ajani EN, Onwubuya EA. Human factors that derail extension services delivery in developing countries: implications for policy. *Int J Agric Res Innov Technol*. 2012 Dec;2(2):54-7.
8. Garrett HE, Woodworth RS. Statistics in psychology and education. Longmans, Green and Company; c1969.