



Respondents' challenges in implementing the Farmer FIRST Programme in Haryana

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Received: 03 October 2024; Accepted: 11 February 2026

Keywords: Agriculture, Challenges, Farmer FIRST programme, Haryana

India, a major agricultural nation, faces challenges in ensuring food security due to population growth, lack of advanced technology, and climate change while also grappling with the challenge of providing enough food amid rapid urbanization (Devlet 2021). India's agrarian economy relies significantly on its farmers for food production and economic expansion, with agriculture accounting for around 20.19% of the country's GDP (DAC&FW 2020-21.) Indian farmers face challenges due to limited access to advanced technology and scientific farming techniques despite the global adoption of advanced practices (Talaviya *et al.* 2020). Small farmers are particularly impacted by limited land and water resources, as well as the growing global population and food demand (Khatri *et al.* 2024).

Antiquated agri-techniques in India lead to crop failures and low productivity, worsened by inadequate irrigation facilities and unpredictable weather patterns, exacerbated by climate change. Indian farmers rely too heavily on uncertain rainfall (Naik *et al.* 2023). Farmers are the first to suffer from the adverse effects of the climate and agricultural production system due to crop failure, which threaten food security (Soubry *et al.* 2020). The increased frequency of droughts, flooding, and erratic monsoons has resulted in massive crop losses. Modern agriculture technologies can boost productivity and welfare for developing countries (Janssen and Swinnen 2019).

Advancements in farming practices are significantly facilitated by increased membership in progressive farmer's groups, agricultural training, seed subsidies, and credit access (Kumar *et al.* 2020). Policymakers must comprehend farmers' behavioural intentions to implement precision agriculture (PA), particularly in developing countries with difficult socioeconomic and technical circumstances

(Mondal and Basu 2009, Panwar *et al.* 2021).

Furthermore, there is a need to bridge the gap between agricultural research findings and their implementation at the farmer field level. Varshney *et al.* (2022) highlighted the importance of regular interventions to enhance agricultural knowledge transfer through outreach and extension services. Also, localised solutions for climate-smart farming practices and technologies require agrarian extension services and development interventions that consider farmers' agencies in policy formation and planning (Autio *et al.* 2021). Within this framework, an investigation has been made to comprehend the obstacles respondents face when executing the Farmer FIRST Programme in selected districts of Haryana.

The present study was carried out during 2019–2020 in Hisar and Karnal districts of Haryana. The National Dairy Research Institute, Karnal, Haryana and Chaudhary Charan Singh Haryana Agricultural University, Hisar, Haryana are the institutions responsible for implementing the 'Farmer FIRST Programme' (FFP) in Haryana. A multi-stage sampling technique was followed, wherein Hisar and Karnal districts were purposively selected. From Hisar, Gurana (adopted) village and from Karnal, Garhi Gujran (adopted) village were chosen. The sampling frame for each village was prepared using local records, and respondents were selected randomly. In total, 120 farmers were surveyed, 60 from each adopted village ensuring balanced representation. The data were collected using a well-structured and pretested interview schedule that contained items for assessing all of the constraints reported by the participants. Constraints were divided into four categories: General, economic, organisational, and communication. Statistical measures such as frequency, percentages, weighted mean score, and rank order were used to analyse the data and draw logical conclusions from the study.

In the data presented in Table 1, the most significant general constraint was lack of awareness of the benefits of projects, with a mean score of 1.79. This was followed by lack of clear understanding of project objectives and local political interference, ranked I, II, and III, with mean

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scores of 1.72 and 1.54, respectively. The average weighted mean of general constraints faced by farmers during the adoption of the program was calculated to be 1.46. Mishra *et al.* (2024) reported technical constraints like lack of awareness, training, and complexity as significant barriers to the adoption of climate-smart agricultural practices.

The non-availability of funds promptly emerged as the foremost constraint, obtaining the highest mean score of 1.62 (Table 1). This is mainly due to the timely non-release of funds from the concerned institution. This was followed by irregular payment of labour/wages and non-availability of funds for emergency purchases, ranked II and III with mean scores of 1.60 and 1.56, respectively. This is mainly due to the project need to provide more cash directly to the respondents to purchase inputs promptly for various activities. The results find supports from findings of Shivakumarappa *et al.* (2021) revealing economic constraints as the most significant factor in the adoption of farm ponds in drought-prone Maharashtra regions and Iqbal *et al.* (2021) also reported 'Lack of funds' as most important constraint. A programme's ability to be implemented depends heavily on financial resources and better resource management.

Data in Table 2 revealed insights into organisational constraints. Insufficient staff to effectively carry out the project emerged as the primary constraint, receiving the highest mean score of 1.48 followed by interruption in the routine functioning of the project due to the transfer of concerned staff and lack of proper monitoring, ranked

II and III with mean scores of 1.45 and 1.40, respectively. These findings align with that of Bhol *et al.* (2020) who reported irregular monitoring, problem diagnosis, conflict resolution, lack of interest, and uncooperative staff. A similar finding was reported by Patel *et al.* (2023) that one of the main obstacles farmers faced was the extension agency's poor follow-up.

An examination of the data (Table 2) revealed that among communication constraints, lack of co-operation from village panchayat in implementing the project was ranked first with a mean score of 1.55, followed by farmers' lack of interest in learning new skills, lack of demonstration/training in the project, no regular meetings, lack of collective action for promoting agriculture, and lack of effective communication between field functionaries and farmers. The above finding aligns with that of Kamara *et al.* (2023), who found that low technical farmer skill levels and a lack of cross-level interaction constrain Sierra Leone's rice intensification system. Moreover, Suji and Kumar (2020) found communication constrained among respondents stemming from a lack of training, attendance, information from change agents, weak extension service, and unclear details.

On the basis of finding of the study it is concluded that lack of awareness about project benefits, non-availability of funds, insufficient staff to carry out the project successfully, and lack of co-operation from village panchayat in implementing the project were the major constraints faced by FFP partner farmers. These findings

Table 1 General and economic constraints faced by respondents in the implementation of the Farmer FIRST Programme

Sr. no.	Particulars	Very serious (3)	Serious (2)	Not so Serious (1)	Weighted frequency score	Weighted mean	Rank order
General constraints							
1.	Low level of awareness regarding the benefits of projects	23 (69)	49 (98)	48 (48)	215	1.79	I
2.	Lack of clear understanding of project objectives	22 (66)	43 (86)	55 (55)	207	1.72	II
3.	Local political interference	17 (51)	31 (62)	72 (72)	185	1.54	III
4.	Lack of co-operation among farmers	15 (45)	29 (58)	76 (76)	179	1.49	IV
5.	Lack of trust in project officials	12 (36)	27 (54)	81 (81)	171	1.42	V
6.	Conflicts between the Farmer FIRST committee and gram panchayat	09 (27)	23 (46)	88 (88)	155	1.29	VI
7.	Lack of dedication of project officials	11 (33)	18 (36)	71 (71)	122	1.01	VII
Economic constraints							
1.	Non-availability of funds at the proper time	17 (51)	41 (82)	62 (62)	195	1.62	I
2.	Irregularity in payment of labour/wages	16 (48)	40 (80)	64 (64)	192	1.60	II
3.	Non-availability of funds to make emergency purchases	19 (57)	26 (52)	75 (75)	184	1.53	III
4.	Conflicts between project staff and people over wages	19 (57)	34 (68)	63 (63)	188	1.56	IV
5.	Lack of proper utilisation of funds	10 (30)	23 (46)	87 (87)	163	1.35	V
6.	Lack of economic motivation	10 (30)	20 (40)	90 (90)	140	1.16	VI

*Figures in parentheses indicate the weighted score.

Table 2 Organisational and communicational constraints faced by respondents in the implementation of the Farmer FIRST Programme

Sr. No	Particulars	Very serious (3)	Serious (2)	Not so serious (1)	Weighted frequency score	Weighted mean	Rank order
Organisational constraints							
1.	Insufficient staff to carry out the project successfully	13 (39)	32 (64)	75 (75)	178	1.48	I
2.	Interruption in the routine functioning of the project due to the transfer of concerned staff	13 (39)	29 (58)	78 (78)	175	1.45	II
3.	Lack of proper monitoring and follow-up of the project	13 (39)	23 (46)	84 (84)	169	1.40	III
4.	Some decisions were made at higher levels without consulting farmers	7 (21)	27 (54)	86 (86)	161	1.34	IV
5.	Lack of co-operation from higher officials	9 (27)	19 (38)	92 (92)	157	1.30	V
6.	Lack of encouragement for good work	8 (24)	19 (38)	93 (93)	155	1.29	VI
Communicational constraints							
1.	Lack of co-operation from village panchayat in implementing the project	27 (81)	42 (42)	51 (51)	186	1.55	I
2.	Lack of interest in learning new skills by farmers	16 (48)	28 (56)	76 (76)	180	1.50	II
3.	Lack of demonstration/training in the project	13 (39)	27 (54)	80 (80)	173	1.44	III
4.	No regular meetings	15 (45)	22 (44)	83 (83)	172	1.43	IV
5.	Lack of collective action for promoting agriculture	13 (39)	20 (40)	87 (87)	166	1.38	V
6.	Lack of effective communication between field functionaries and farmers	10 (30)	19 (38)	91 (91)	159	1.32	VI

Figures in parentheses indicate the weighted score.

underscore the need for targeted interventions to enhance FFP effectiveness. Policymakers and stakeholders can utilise these insights to develop more efficient strategies. Future research could explore innovative solutions to mitigate constraints and enhance agricultural development programs' success, fostering sustainable practices and improving rural livelihoods.

SUMMARY

ICAR has launched the Farmer FIRST Programme to identify research issues, prioritise them, conduct tests, and manage them in farmer-friendly settings, focusing on Farmers' Farms, Innovations, Resources, Science, and Technology. The present study aimed to evaluate and delve into the multifaceted challenges respondents face participating in the FFP, focusing on the constraints individuals perceive within FFP-adopted villages. The study, conducted during 2019–2020 in Hisar and Karnal districts, is based on a sample of 120 farmers, 60 farmers from each district, beneficiary categories of the FFP. The constraints encountered by respondents in the successful execution of the FFP were categorised into four overarching domains: general constraints, economic constraints, organisational constraints, and communication constraints. Our analysis revealed that respondents reported varying degrees of difficulty in these domains, with mean scores of 1.79, 1.62, 1.48, and 1.55, respectively, indicating the level of constraint severity. This research provides a comprehensive insight into the challenges faced by participants in the

FFP in Haryana, shedding light on specific areas where interventions and improvements are needed. The findings of this study have practical implications for policymakers, program implementers, and stakeholders, guiding them toward more effective strategies for addressing the identified constraints and optimising the impact of the FFP.

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