



International Journal of Agriculture Extension and Social Development

ISSN Print: 2618-0723
ISSN Online: 2618-0731
NAAS Rating (2026): 5.04
IJAESD 2026; 9(9): 829-832
www.extensionjournal.com
Received: 03-07-2026
Accepted: 17-08-2026
Published: 23-09-2026

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Utilization of Krishi Vigyan Kendra services by farmers: Constraints, determinants and strategies for improvement

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DOI: <https://www.doi.org/10.33545/26180723.2026.v9.i9k.4276>

ABSTRACT

Krishi Vigyan Kendras (KVKs) play an important role in providing need-based agricultural extension services, technology dissemination, capacity building, and technical guidance to farmers. However, the effective utilization of KVK services is often influenced by socioeconomic, infrastructural, institutional, and participation-related constraints. The present study was undertaken to identify the major constraints faced by farmers in utilizing KVK services and to document the strategies preferred by farmers for improving their accessibility, participation, and effectiveness. The findings revealed that small landholdings constituted the most prominent constraint, reported by 86.25 per cent of respondents, followed by inadequate transportation facilities (81.25%) and limited financial resources (78.13%). Institutional and extension-related constraints were also evident, particularly insufficient follow-up activities by KVK staff (59.37%) and inadequate assessment of farmers' needs (45.00%). Furthermore, lack of sincerity among farmers (40.62%), difficulties faced by women in attending on-campus training programmes (30.62%), inadequate publicity of KVK activities (28.75%), and improper functioning of Self-Help Groups (SHGs) and women's clubs (24.37%) restricted the reach and effectiveness of KVK interventions. To overcome these constraints, farmers most strongly preferred the promotion of collective farming, group farming, and Farmer Producer Organizations (FPOs) (49.44%). This was followed by improved transportation support through mobile extension vans and cluster-based field visits (45.00%) and facilitation of access to credit and government subsidy schemes (42.77%). Strengthening follow-up mechanisms through field-level coordinators (41.11%), conducting need-based assessments (40.00%), motivating farmers through awareness campaigns and incentives (37.77%), and organizing village-level training programmes with greater involvement of women (37.22%) were also highly preferred. Improved communication through digital and traditional media (35.55%) and strengthening SHGs through capacity building and institutional linkages (31.66%) were additional strategies. The findings suggest that a farmer-centred, decentralized, collective, gender-responsive, and digitally supported extension approach can substantially enhance the utilization and effectiveness of KVK services.

Keywords: Krishi Vigyan Kendra (KVK), Extension Service Utilization, Farmers, Constraints, Strategies for Improvement

Introduction

Agriculture remains a major source of livelihood and economic activity in India, particularly for rural households, where farm-based production is closely linked with employment, food security, and household income. However, increasing production costs, climate variability, technological changes, market uncertainties, and limited access to reliable technical information create continuing challenges for farmers. Agricultural extension therefore plays an important role in connecting farmers with scientific knowledge, improved technologies, management practices, and institutional support. Effective extension is not limited to the dissemination of information; it also involves developing farmers' skills, facilitating technology adoption, and strengthening their capacity to make appropriate farm-level decisions.

Within the Indian agricultural extension system, Krishi Vigyan Kendras (KVKs) function as important district-level institutions for technology assessment, demonstration, training, and knowledge dissemination. KVKs were established under the Indian Council of Agricultural Research (ICAR) to provide location-specific agricultural knowledge and practical training to farmers and rural youth. Their activities include on-farm testing, frontline demonstrations, vocational training, farmer training programmes, diagnostic services, and dissemination of improved agricultural technologies. Through these activities, KVKs serve as an important interface between agricultural research institutions and farming communities.

The effectiveness of KVK services, however, depends not only on the availability of technologies and extension programmes but also on the extent to which farmers can access and utilize these services. Previous stud-

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ies indicate that farmers experience several barriers in accessing extension services. Chaturvedani *et al.* (2018) [1] reported constraints related to the accessibility and utilization of extension service delivery among KVK beneficiary farmers in Chhattisgarh. Similarly, Kumari *et al.* (2025) [2] found that inadequate marketing and storage facilities, high costs of agricultural inputs and technologies, low risk-bearing capacity, inadequate infrastructure, and limited exposure opportunities constrained farmers' effective utilization of KVK services. These findings suggest that institutional availability does not automatically translate into effective utilization at the farm level.

At the same time, empirical evidence demonstrates the potential contribution of KVKs to farmers' welfare. Kumar *et al.* (2024) [3], using nationally representative agricultural household data, reported that access to KVK services had a positive and statistically significant effect on the economic welfare of farm households. The authors also estimated a benefit–cost ratio of approximately 8–12 for investments in the KVK network, highlighting the economic importance of strengthening these institutions. Further, Kumar *et al.* (2024) [4] reported that farm and home visits, farm clinics, and adaptive trials were perceived as effective extension methods by KVK beneficiaries.

Despite these contributions, variations in farmers' access to KVK services, socio-economic conditions, infrastructure, institutional linkages, and participation may influence the actual utilization of services. Recent evidence also indicates that strengthening extension outreach requires approaches that respond to farmers' diverse socio-economic conditions and local needs (Chaturvedani *et al.*, 2025) [5]. Therefore, systematic assessment of the constraints experienced by farmers and identification of practical strategies for improving service utilization are essential for making KVK programmes more accessible, need-based, and farmer-oriented. Against this background, the present study focuses on the utilization of KVK services by farmers, the constraints affecting their utilization, and strategies for improving the reach and effectiveness of KVK extension services.

Research methodology

The study is conducted in Varanasi district of Uttar Pradesh, which is purposively selected considering the researcher's familiarity with the local area, language, culture, and farming community. Such familiarity facilitates rapport with respondents and supports effective collection of primary information. Varanasi district comprises eight development blocks, namely Arajilina, Baragaon, Chiraigaon, Chhapra, Harahua, Kashi Vidyapeeth, Pindra, and Sevapuri. The study follows a multistage sampling procedure for selection of villages and respondents. Three villages are selected randomly from each of the eight development blocks, resulting in 24 selected villages. Subsequently, 10 respondents are selected randomly from each village, constituting a total sample of 120 respondents. Primary data are collected through

personal interviews using a structured interview schedule, which permits direct interaction with respondents and clarification of questions during the data-collection process.

The variables included in the investigation are selected through a review of relevant literature and consultation with experts and are classified into independent and dependent variables. The independent variables comprise age, caste, religion, education, family size, family type, occupation, landholding, marital status, annual income, information-seeking behaviour, risk orientation, scientific orientation, and extension contact. Age is measured in completed years, while socio-economic characteristics are measured using suitable established scales. The Pareek *et al.* (1964) [6] scale, with suitable modifications, is used for selected socio-economic characteristics, whereas occupation and annual income are measured using the scale developed by Pandya *et al.* (2008) [7]. Information-seeking behaviour is measured using the scale developed by Bhairamkar (2009) [8], while risk orientation and scientific orientation are measured using the scale developed by Supe (1969) [9], with suitable modifications. The dependent variables include farmers' perception and attitude towards KVK extension services. Perception is assessed in relation to major KVK activities, including training programmes, frontline demonstrations, on-farm trials, and advisory and diagnostic services. A structured interview schedule with a three-point continuum consisting of "agree," "undecided," and "disagree" is used for measuring perception, while attitude is assessed using a modified scale ranging from less favourable to more favourable responses. The collected data are coded, tabulated, and analyzed according to the objectives of the study. Frequency and percentage are used to describe the distribution of respondents, while arithmetic mean and standard deviation are employed to summarize quantitative variables. The coefficient of correlation is used to examine the relationship between selected independent and dependent variables, and the significance of the correlation coefficient is tested using the *t*-test at $(n - 2)$ degrees of freedom.

Result and discussion

The findings presented in Table 4.6 indicate that small-sized landholdings constitute the most prominent constraint faced by farmers in utilizing KVK services, recording the highest MPS of 88.15 and ranking first. Lack of finances ranks second (75.13), followed by lack of transport (69.21), lack of follow-up activities by KVK staff (56.17), and non-assessment of farmers' needs (55.00). Other constraints include lack of sincerity among farmers (40.62), inability of womenfolk to attend on-campus training (32.62), lack of proper publicity (26.75), and improper functioning of SHGs and women's clubs (24.87).

Constraints faced by the farmers in utilizing KVK services (Multiple responses) ($n = 120$)

Table 1.

Rank	Constraint	MPS (%)	Interpretation	Overall Rank
I	Small-sized land holdings	88.15	The most critical issue; limited land size restricts productivity and adoption of new practices.	I
II	Lack of finances	75.13	Financial limitations reduce investment in improved technologies and inputs.	II
III	Lack of transport	69.21	Transportation challenges hinder access to markets, training centres, and extension services.	III
IV	Lack of follow-up activities by KVK staff	56.17	Weak extension support after initial training leads to poor continuity.	IV
V	Non-assessment of needs	55.00	Training and interventions may not align with farmers' actual requirements.	V
VI	Lack of sincerity among farmers	40.62	Indicates motivational or behavioural barriers in adopting recommended practices.	VI
VII	Inability of womenfolk to attend on-campus training	32.62	Gender-related constraints limit women's participation in capacity-building programmes.	VII

(continued on next page)

Rank	Constraint	MPS (%)	Interpretation	Overall Rank
VIII	Lack of proper publicity	26.75	Poor awareness campaigns reduce participation and impact of KVK activities.	VIII
IX	Improper working of SHGs and women's clubs	24.87	Weak collective action and organizational issues reduce the effectiveness of farmer groups.	IX

The findings reveal that farmers face a combination of economic, infrastructural, institutional, and social constraints while utilizing KVK services. The predominance of small-sized landholdings (MPS 88.15) suggests that limited operational holdings may restrict farmers' ability to experiment with and adopt improved agricultural technologies. Smallholders generally have fewer resources and less flexibility to allocate land for demonstrations, diversification, or new practices. Similar accessibility and utilization constraints among KVK beneficiary farmers have been reported by Chaturvedani *et al.* (2018) [1], indicating that structural and access-related factors influence farmers' effective use of extension services.

Lack of finances emerged as the second most important constraint (MPS 75.13), indicating that farmers may be interested in improved technologies but face difficulty in purchasing quality inputs, machinery, and other production resources. Lack of transport (MPS 69.21) ranked third, suggesting that physical accessibility remains an important barrier to participation in KVK training, demonstrations, and advisory activities. Kumari *et al.* (2025) [2] similarly reported financial, infrastructural, and technology-related constraints affecting farmers' utilization of KVK extension services.

The relatively high scores for lack of follow-up activities by KVK staff (56.17) and non-assessment of farmers' needs (55.00) point towards gaps in the continuity and responsiveness of extension services. Farmers require regular technical guidance after training to successfully implement recommended practices. Kumar *et al.* (2024) [4] reported that farm and home visits, farm clinics, and adaptive trials were perceived as effective extension methods among KVK beneficiaries, supporting the importance of continued field-level interaction.

Suggestions perceived by farmers for improving the utilization of KVK services (Multiple responses) (n = 120), Table 2

Sl. No.	Suggestions	MPS (%)	Rank
1	Promote collective farming, group farming, and encourage formation of Farmer Producer Organizations (FPOs)	49.44	I
2	Arrange mobile extension vans, cluster-based field visits, and collaborate with local transport agencies for farmer travel support during training and demonstrations	45.00	II
3	Facilitate linkage with banks and government subsidy schemes; conduct awareness programmes on credit availability and low-interest loans, such as Kisan Credit Card	42.77	III
4	Implement a monitoring and feedback mechanism; appoint field-level coordinators for regular follow-up and farmer visits	41.11	IV
5	Conduct baseline surveys, focus group discussions, and need-assessment camps before planning programmes to ensure relevance and farmer participation	40.00	V
6	Increase awareness and motivation through success stories, motivational campaigns, and incentives for active participation and adoption of practices	37.77	VI

Sl. No.	Suggestions	MPS (%)	Rank
7	Organize village-level or home-based training programmes at convenient times; encourage women SHGs and female trainers to ensure inclusivity	37.22	VII
8	Improve communication through mobile messages, WhatsApp groups, wall posters, local radio, and Panchayat announcements to reach farmers effectively	35.55	VIII
9	Provide capacity-building training for SHG leaders, monitor their functioning regularly, and link them with NGOs or financial institutions for support and empowerment	31.66	IX

The findings in Table 2 show that promotion of collective farming, group farming, and formation of FPOs was the most preferred suggestion, with an MPS of 49.44, securing first rank. Mobile extension vans and cluster-based field visits ranked second (45.00), followed by linkages with banks and government subsidy schemes (42.77). Monitoring and feedback mechanisms with field-level coordinators ranked fourth (41.11), while need assessment before programme planning ranked fifth (40.00). Awareness and motivational campaigns (37.77), village-level and home-based training with women's participation (37.22), improved communication channels (35.55), and capacity building of SHG leaders (31.66) occupied ranks VI to IX, respectively.

The suggestions indicate that farmers prefer solutions that improve collective action, physical accessibility, financial support, institutional follow-up, and inclusiveness in KVK service delivery. The highest-ranked suggestion, promotion of collective and group farming along with FPO formation (MPS 49.44), suggests that collective approaches can help overcome limitations associated with small holdings and improve access to inputs, technologies, markets, and extension services. The second-ranked suggestion, involving mobile extension vans and cluster-based field visits (45.00), directly addresses transportation and accessibility constraints identified by farmers.

The preference for bank linkages and government subsidy schemes (42.77) highlights the importance of integrating KVK advisory services with institutional credit and public support programmes. Regular monitoring, feedback, and field-level follow-up (41.11) are also important for converting training into sustained farm-level adoption. The emphasis on baseline surveys and need assessment (40.00) indicates that farmers expect extension programmes to be more demand-driven and locally relevant. Village-level training, women's participation, improved digital and traditional communication, and strengthening of SHGs further demonstrate the need for an inclusive, participatory, and decentralized KVK extension system. These measures can improve both farmers' access to KVK services and the practical effectiveness of extension interventions.

Conclusion

The study concludes that farmers face a combination of economic, infrastructural, institutional, and social constraints in utilizing KVK services. Small-sized landholdings, inadequate finances, and lack of transport emerge as the major barriers, while inadequate follow-up and limited assessment of farmers' needs further reduce the effectiveness of extension interventions. Farmers primarily suggest collective and group farming, promotion of FPOs, mobile extension services, improved financial linkages, regular field-level follow-up, and need-

based programme planning. The findings indicate that KVKs need to adopt a more decentralized, demand-driven, participatory, and inclusive approach to extension delivery. Strengthening village-level outreach, women's participation, communication systems, farmer organizations, and institutional linkages can enhance accessibility, participation, adoption, and overall utilization of KVK services.

References

1. Chaturvedani AK, Chander M, Pratap J, Goyal J. Constraints in utilization and accessibility of extension service delivery perceived by KVK beneficiary farmers of Chhattisgarh. *Indian Journal of Extension Education*. 2018;54(1):139–142.
2. Kumari A, Sharma K, Chauhan M, Singh R, Alam MS, Devi T. Constraints faced by farmers in utilization of extension services provided by KVK in Kangra District of Himachal Pradesh. *International Journal of Agriculture Extension and Social Development*. 2025;8(7):168–171.
3. Kumar A, Mishra AK, Singh AK, Saroj S, Madhavan MM, Joshi PK. Impact of India's farm science centers (Krishi Vigyan Kendras) on farm households' economic welfare: An evidence from a national farmers' survey. *The Indian Journal of Agricultural Sciences*. 2024;94(3-1):63–71.
4. Kumar P, Singh YK, Ojha PK. Effectiveness of different extension methods used by KVKs beneficiaries. *Asian Journal of Agricultural Extension, Economics & Sociology*. 2024;42(10):281–290.
5. Chaturvedani AK, Chander M. Extension services utilization pattern among KVK and ATMA beneficiary farmers in Chhattisgarh state of India. *International Journal of Agriculture Extension and Social Development*. 2025;8(7):395–400.
6. Pareek U, Trivedi G. Manual of the socio-economic status scale (rural and urban). Manasayan; 1964.
7. Pandya CD, Pandya RD. Development and standardization of a scale to measure the socio-economic status of farmers. *Gujarat Journal of Extension Education*. 2008;17:7–14.
8. Bhairamkar MS. Scale for measuring information-seeking behaviour of farmers. 2009.
9. Supe SV. Factors related to different degrees of rationality in decision-making among farmers. *Indian Agricultural Research Institute*; 1969.
10. Kumari A, Sharma K, Chauhan M, Singh R, Alam MS, Devi T. Constraints faced by farmers in utilization of extension services provided by KVK in Kangra District of Himachal Pradesh. *International Journal of Agriculture Extension and Social Development*. 2025;8(7):168–171.

How to cite this article: Patel N, Mishra R, Prajapati C, Patel VK, Verma S, Patel R, et al. Utilization of Krishi Vigyan Kendra services by farmers: Constraints, determinants and strategies for improvement. *International Journal of Agriculture Extension and Social Development*. 2026;9(9):829-832. doi: <https://www.doi.org/10.33545/26180723.2026.v9.i9k.4276>

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