



Attitude of Paddy Farmers towards KVK Training Programmes: A Study of Trainees and Non-Trainees in Ariyalur District, Tamil Nadu

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HIGHLIGHTS

- This study compares the attitude of trainee and non-trainee farmers towards KVK training programmes; focusing on young farmers can increase participation and effectiveness.
- Trainees showed a more positive attitude towards KVK training programmes than non-trainees.
- The outcomes of this study can provide guidance to make KVK training more effective and encourage farmers' participation.

ARTICLE INFO

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ABSTRACT

The study was conducted in Ariyalur district to assess, compare and identify the factors influencing the attitude of trainee and non-trainee farmers towards KVK training programme among paddy farmers. Krishi Vigyan Kendra (KVK), a district-level innovation hubs demonstrate practical agricultural research through on-farm trials, front-line demonstrations, and training programs. Farmers' attitude towards these trainings are key determinants of technology adoption and productivity. Positive attitudes are essential for the effectiveness and success of KVK training initiatives. The study followed an ex-post facto research design, includes 120 respondents (60 trainees and 60 non-trainees). Data were gathered in the year 2025-2026 using structured and pretested interview schedule. Analysed using frequency, percentage, Kendall's Tau correlation and stepwise regression. 55 percent of trainees had a highly favourable attitude, while 50% non-trainees exhibited a low attitude towards KVK training. Attitude was positively associated with education, scientific orientation information-seeking behaviour, and economic motivation and negatively with age, in both groups. Regression analysis identified information-seeking behaviour and training methods as key predictors for trainees, and education for non-trainees. The study concludes that training exposure significantly improves farmers' attitude, emphasizing the need for inclusive, need based strategies to enhance participation and adoption of improved agricultural practices.

INTRODUCTION

Krishi Vigyan Kendras (KVKs) are farm science centre introduced as a novel capacity building approach by ICAR, to enhance skills and knowledge in agriculture and allied disciplines among farmers, school dropouts, and grassroot extension personnel

throughout India (Aparna, 2021; Ebrahim & Girija, 2020) and to quickly share new farming technologies with farmers (Samantaray et al., 2020). The first KVK was established on pilot basis at Pondicherry during 1974. KVK plays an important role in spreading agricultural technologies throughout India (Kumbhare & Khonde, 2009; Bharath et al., 2024) and are fully funded by the Indian

government and linked with Agricultural Universities and ICAR institutes (Choudhary et al., 2025). KVK operates as decentralized, district-level agricultural innovation systems that facilitate the translational deployment of proven technologies through systematic on-farm assessment, adaptive refinement, and field-scale demonstration across heterogeneous micro-farming agro-ecological contexts (Ebrahim & Girija, 2020; Gayathri & Bonny, 2020). It demonstrates the practical use of scientific and technological innovations in agriculture by linking research with education at the grassroots, and serves as a 'lighthouse for farmers' across India. KVK functions as a knowledge dissemination and resource support centre for the farming community (Dey et al., 2023) and demonstrate new farming methods, train farmers and extension workers, and provide vocational training to rural youth (Mahato et al., 2020), helping to bridge the gap between technology development and its use by farming communities (Karak & Mukhopadhyay, 2020). KVKs play strong emphasis on the principle of learning through practical experience (Bar et al., 2015). The role of scientific staff in KVK is very crucial, vital and multifarious to address and support farmers in their decision process enabling them to achieve their goals of higher farm income (Sinha et al., 2021). KVK conducts vocational training programme in accordance with its mandated objectives (Singh et al., 2022) and organize numerous training programme, aiming to equip the beneficiaries with the skills and knowledge required to effectively carry out farming activities. These capacity-building interventions implemented significantly contribute to rural socioeconomic transformation by strengthening farm productivity, income diversification, and employment generation among farming community. To comprehensively assess the impact of KVK training programme, it is essential to examine trainees' orientation towards the training interventions, the extent of utilization of training inputs, and their preferences regarding various components and modalities of the training (Karak & Mukhopadhyay, 2020). Farmers' attitude towards agricultural training programs plays a crucial role in determining their level of participation, learning and adoption behaviour and are critical determinants of technology adoption and productivity enhancement. Research examining attitudes of trainees and non-trainees in KVK training activities which highlights the significant role of socioeconomic profiles in shaping attitudes and training outcomes (Swetank & Bose, 2024). Although KVKs have been studied for training effectiveness, several gaps remain. Most research focuses only on trained farmers or specific groups, with limited comparison to untrained farmers. There is insufficient investigation between trainees and non-trainees orientation toward training. Accordingly the study was carried out to Assess and compare the attitude of trainees & non-trainees towards KVK training programme, variables significantly influencing the attitude towards KVK training.

METHODOLOGY

The present study was conducted during the year 2025-2026 in Sembiyakudi, Karaippakam villages located in Thirumanur block and Venmankondan village, located in T. Palur block of Ariyalur district in Tamilnadu Sembiyakudi, Karaippakam and Venmankondan villages were selected because more number of trainings were given to paddy farmers. Farmers in this area had

greater exposure to KVK initiatives, making it suitable for studying the impact of training. The selection ensured reliable data on both trainee and non-trainee farmers. An ex-post facto design were used and as the variables of training exposure had already occurred. The study included 120 participants, comprising 60 trainees and 60 non-trainees. The trainees were selected through purposive sampling and non-trainees through random sampling method. With the help of the KVK officials, trainees' lists were prepared and data were collected from both trainees and non-trainees farmers in the same villages to ensure unbiased comparison. Primary data were collected from the structured interview schedule and secondary data from the KVK (Trainees list). Data were collected through the personal interview. The independent variables included Age, Educational status, Occupation, Farm sizes, scientific orientation, Risk orientation, Economic motivation, information seeking behaviour, experience, KVK training, KVK venue, training methods and season. Attitude towards KVK training programme served as the dependent variable and was measured using the scale developed by Medhi (2017) with suitable modification. Attitude scale consists of 20 statements and was measured using a three-point response pattern such as 3-point scale ("Agree" = 3, "Undecided" = 2, "Disagree" = 1) was applied for positive statements, and reversed for negative statements; respondents were then grouped into Low attitude (≤ 20), Medium (21- 40), and High (>40) levels of attitude. Data were gathered using a well-structured and pre-test interview schedule. The collected information was tabulated, coded and analysed using R Studio version (ggplot2 package). Frequency and percentage were used to describe the Socio-economic characteristic, Relationships between variables were analyzed using Kendall's Tau correlation, and while stepwise multiple regression determined the most influential variables affecting farmers' attitudes toward KVK training. The data were verified for completeness and accuracy before analysis. The findings were in a clear manner to withstand conclusion and it also provide suggestions that improve KVK training programme which leads to improve farmers livelihood and rural development.

RESULTS

The attitude of farmers towards KVK training was evaluated for the both trainee and non-trainee using frequency and percentage analysis in the Figure 1. It represents the frequency and percentage in both trainee and non-trainee. Among the trainees, thirty three respondents which is 55% exhibited a high level of attitude. This indicated majority of the farmers developed a strong positive attitude, mainly due to the direct exposure to KVK training activities, demonstration and information seeking behaviour. In addition, eighteen respondents (30%) of the trainees exhibited a medium level, moderate interest in KVK training programme. Only a small portion of trainees had low level of attitude, nine respondents (15%) which is individual differences such as limited participation and had less interest. Trainees had positive attitude towards KVK training programme. Among non-trainee, about half of the respondents which thirty (50%) showed a low level of attitude. It clearly shows that many of them were either unaware or not fully convinced about the benefits of KVK training programme. Around twenty two respondents which is 36.7%

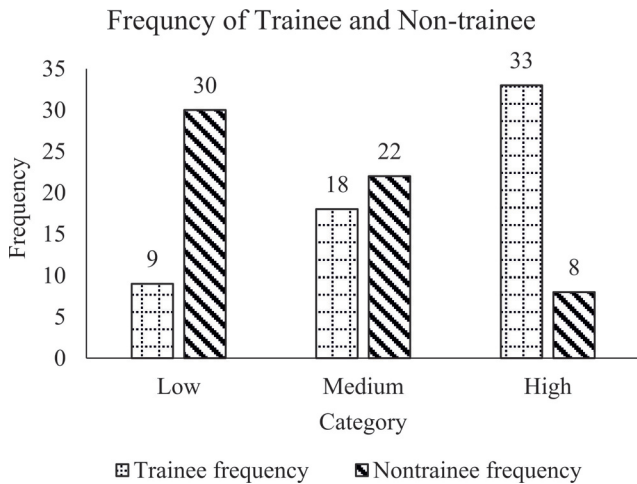


Figure 1. Level of attitude towards KVK training

grouped into medium category, they had minimum level of awareness. Only a small portion, eight respondents 13.3% shows a high level of attitude. The non-trainees had low level attitude towards KVK training programme. Overall it clearly shows that the trainees had inclined towards higher level of positive attitude, whereas non-trainees are more concentrated in the lower category. Training programmes play an important role not only in improving farmers’ knowledge but also increase confident and motivation. While farmers had positive attitude towards KVK training, they will adopt an improved technology in paddy cultivation which leads to increased productivity and better farm income. This emphasizes the importance of continuous training and engagement to encourage positive perceptions and participation among farmers.

Relationship between Socioeconomic characteristic and attitude towards KVK training

Kendall’s coefficient of correlation was applied for both trainees and non-trainees to assess the relationship between socioeconomic characteristics and attitude (Figure 2 and 3)

In Figure 2, for trainees, correlation analysis revealed that education, risk orientation, economic motivation, and information-seeking behaviour were positively related to attitude at a highly significant level (1% probability). Training venue, training methods, and season also showed a significant positive association with attitude, while Farm size showed a positive relationship with attitude, significant at the 5% level. Age demonstrated a significant negative relationship, whereas occupational status showed no significant association with attitude. Improving education, risk taking ability, strengthening economic motivation and promoting information seeking behaviour enhance farmers’ positive attitude towards KVK training. Proper planning of training venue, methods and season also positively influences attitude.

In the Figure 3, among untrained farmers, Kendall’s correlation analysis showed that educational status, scientific orientation, risk orientation, economic motivation, information-seeking behavior, farming experience, and season of training were positively and significantly associated with attitude toward KVK training at the 1% probability level. In contrast, age demonstrated a significant negative relationship with attitude, while occupational status and farm size were not significantly related. In both the groups result shows that education, risk orientation, economic motivation and information seeking behaviour are positively related to attitude towards KVK training programs, Season of training is also positively associated both the trainees and non-trainees. Age consistently had

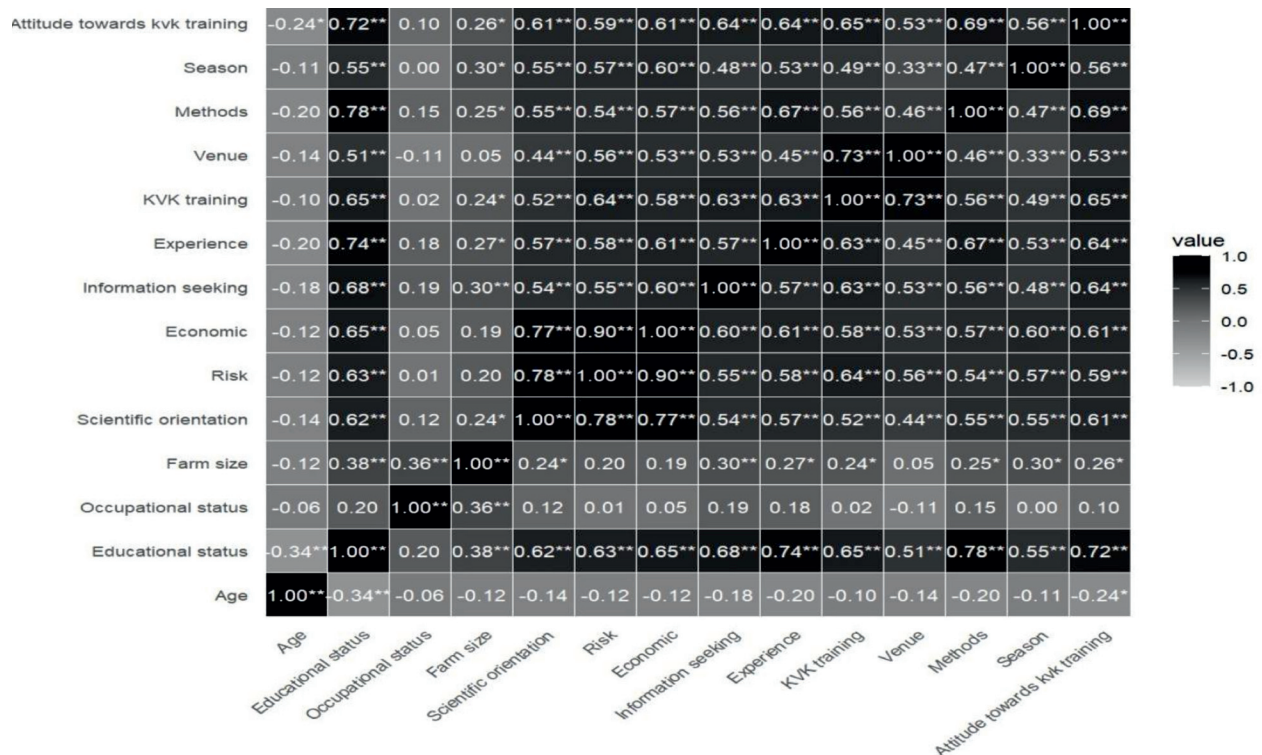


Figure 2. Relationship between Socioeconomic characteristic and attitude of Trainees’ towards KVK training

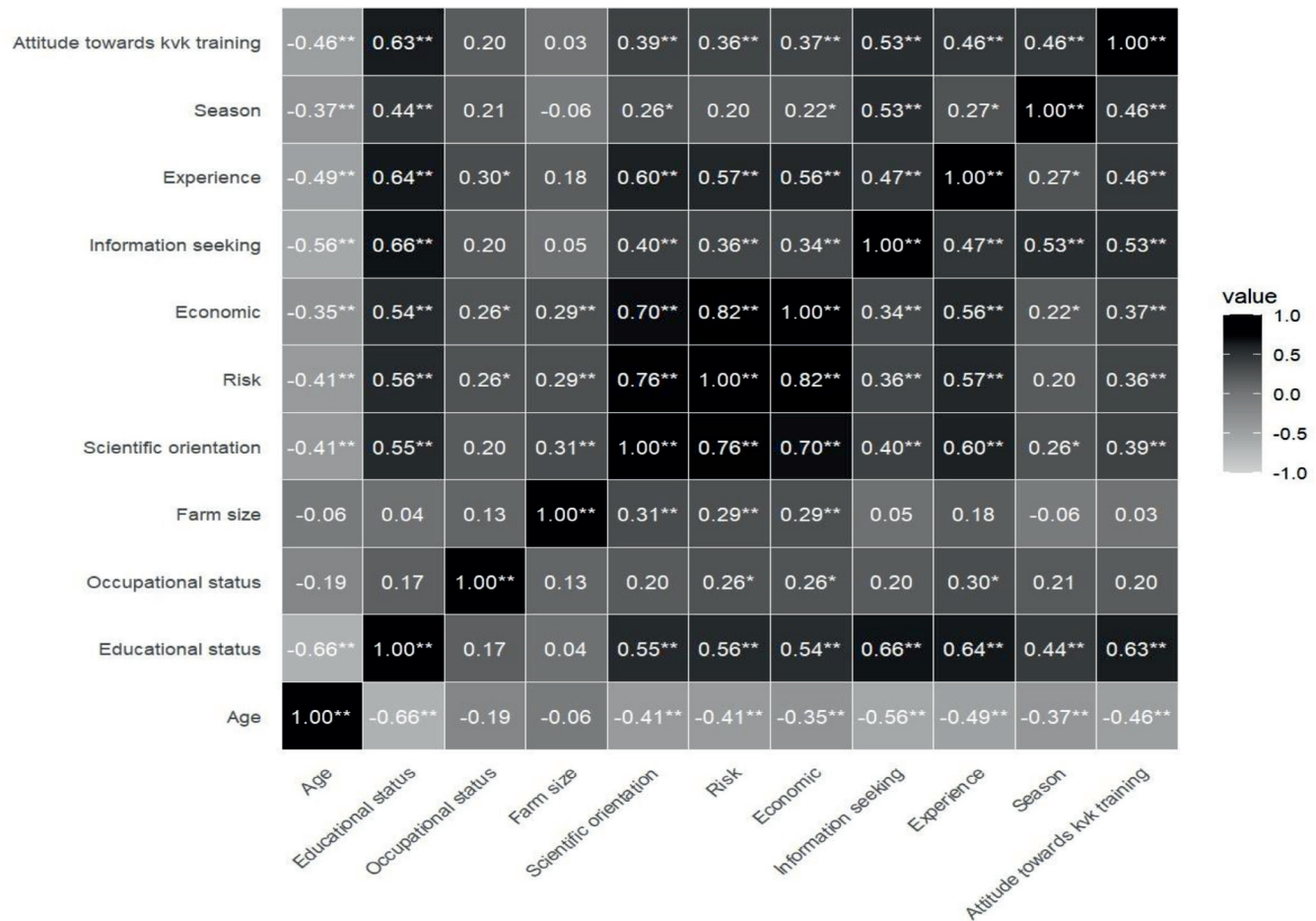


Figure 3. Relationship between Socioeconomic characteristic and attitude of Non-trainees towards KVK training

a negative influence, indicating that older farmers may require additional encouragement or support. Occupational status showed no significant impact in either group, emphasizing that other personal and training-related factors are more important in determining attitudes.

Key factors influencing farmers’ attitude towards KVK training

Stepwise regression analysis

In table 1, the stepwise regression model accounted for a substantial portion of the variation in attitude, with an R² of 0.823 and an adjusted R² of 0.817, indicating that approximately 82% of the differences in attitude were determined by the variables in the model. Information seeking behaviour (X₈) and KVK methods (X₁₂) were found to have a strong positive predictors that influences the attitude towards KVK training programme. Farmers who actively

gather information sources, followed the KVK recommendations and participated in the training sessions exhibited positive attitude towards KVK training. In addition, economic motivation and risk orientation also showed an influence and was relatively lower compared to information seeking behaviour and training methods. For non-trainees, the regression analysis found that moderate level of explanatory power, with an R² value of 0.615 and an adjusted R² of 0.645. The regression equation $Y = 23.315 + 3.194 X_2$ indicated that education as a key influencing factor which is 61% of variation in farmers’ attitude. This finding highlights the importance of education as the key factors influencing farmers’ attitude. Farmers with higher education more likely to collect the information and adopt the newly improved practices. Thus, to develop a more positive attitude towards KVK training, the overall result clearly show that both training related factors and individual characteristic play role in determining farmers’ attitude. Active participation in training, along with the strong tendency to seek information enhances the effectiveness of training programme by building confidence and interest among farmers. At the same time education acts as a crucial factor in shaping positive attitude towards training among non-trainee farmers. These finding revealed that the improving access to information, strengthening training methods in trainees and education in non-trainees collectively increase farmers’ positive attitude.

Table 1. Regression equation

	Regression Equation	R Square	Adj R Square
Trainee	$Y = -3.19 + 0.167 X_8 + 2.25 X_{12}$	0.823	0.817
Non-trainee	$Y = 23.315 + 3.194 X_2$	0.615	0.645

{X₈-information seeking behaviour, X₁₂ - KVK methods, X₂Educational status, Y-Attitude towards KVK training}

DISCUSSION

The finding showed a difference in attitude between trainee and non-trainee farmers towards KVK training programme. Frequency and percentage analysis indicated that more than half of the trained farmers had positive attitude. In contrast, large proportion of non-trainees farmers showed a lower level attitude. Overall, a large proportion of trained farmers had a positive attitude compared to non-trained farmers towards KVK training programme. Similar of the findings reported by (Nain & Chandel, 2010; Swetank & Bose, 2024). This difference was mainly due to their exposure to training programme, demonstrations and interaction with KVK scientists. Similar finding reported by (Singh et al., 2023). Such exposure helped farmers understand the benefits of improved agricultural technologies and the practical usefulness of training in solving farm problems. Positive attitude helps to increase in adoption of newly improved technology which leads to higher yields and increased income and improves farmers' livelihood. Kendall's Tau Correlation revealed that education, scientific orientation, economic drive and information-gathering behaviour were positively and showed a significantly related to farmers' attitudes toward KVK training programs. This is consistent with the findings of (Geethu & Bindu, 2019; Nath et al., 2025). In addition planning of training aspects like training venue, methods and season further enhance farmers' attitude towards KVK training programme. Farmers with higher education understood the importance of modern farming practices and training programme better. The similar type of findings also found in (Nain & Trikha, 2009; Mishra & Mazhar, 2024). Similarly, farmers who actively searched for agricultural information and had strong economic motivation showed more interest in training activities that could improve their productivity and income. Age showed a negative relationship with farmers' attitude in non-trainee and trainee. Thus the old age farmers had high number of participation. Involving the young farmers by giving awareness and motivation to participate in KVK training programme. Younger farmers were more willing to learn new methods, while older farmers depended more on their traditional farming practices. But while participating in KVK training programme, older farmer gathered information and adopted a newly improved agriculture practices. Increasing youth participation will further enhance outcomes. The regression analysis showed that information-seeking behaviour and training methods were the main factor influencing the attitude of trained farmers. Which gives an 82% contribution to increasing in attitude towards KVK training programme. This indicated that farmers who regularly accessed agricultural information and attended well-organized training programme developed a more favourable attitude towards KVK activities. Also economic motivation and risk orientation can enhance the attitude at the minimum level and also other variables gives 100% contribution. Among non-trained farmers, education was found to be the most important factor influencing their attitude towards KVK training programme which is 61% of the variation and targeting non-trainee farmers with lower educational levels to enhance overall participation and attitude. Education farmers can access, understand and apply newly improved practices. Non-trainee faced barriers to participation such as lack of awareness, limited access to training programs, economical constraints and time constraints. In contrast, Training programme

gives a greater confidence, risk taking ability, economical motivation, gathering information and experimenting with the new innovation techniques. Moreover, learned skills allowing farmers to resolve problems and making confident decision in agriculture practices. Well planned training sessions, considering appropriate venues, duration and seasonal timing encourage active participation and positive learning environment. These findings suggest that combining effective training methods and information access strengthens the impact of KVK training methods, making farmers more in adopting new innovation practices.

CONCLUSION

The study shows that trained farmers' have a more positive attitude towards Krishi Vigyan Kendra training programme than non-trained farmers. Training programme should be made need based, more practical oriented, modern teaching methods and interactive learning approaches, can further improves farmers' understanding and interest. Overall improving accessibility, relevance and engagement in Krishi Vigyan Kendra training programme will be crucial for developing positive attitude among farmers' and enhance their active participation in an agriculture development initiative. Strengthening these initiative can help farmers adopt recommended practices more confidently, thereby improving productivity, sustainability and overall agriculture development in rural communities.

DECLARATIONS

Ethics approval and informed consent: Informed consent was sought from the respondents and their organisations regarding the study during the course of the data collection.

Conflict of interest: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest. The author declares that they have thoroughly reviewed, revised, and edited the content as needed. The authors take full responsibility for the final content of this publication.

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