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Determinants of Rural Youth Perception towards Agricultural Participation: Evidence from Kannur District, Keralam

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HIGHLIGHTS

- Youth engagement in agriculture was mostly motivated by education and agricultural information.
- Mass media and extension contact strongly improved favourable perceptions towards agriculture.
- Economic motivation led youths to consider agriculture as a viable means of earning a living.

ARTICLE INFO

Keywords: Youth employment, Career aspiration, Path analysis, Rural livelihood, Institutional support, Extension contact, Economic motivation.

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ABSTRACT

The study was conducted during the years 2025-2026 in Payyannur Block of Kannur district, Keralam to understand the perceptions of the youths about their participation in agriculture. A total of 120 youths from rural areas were selected randomly following a multi-stage random sampling procedure. The primary data were collected by using a pre-tested structured interview schedule. Path analysis was used to estimate the direct effects of socio-personal, socio-economic, communication and psychological variables on the participation of the youths in agriculture. It was found that the model developed accounted for 83.90 per cent of variation in participation. Out of the selected variables, education, occupation, land holding, mass media exposure, economic motivation, extension contact and religion had significant positive direct effects on the participation. Education was found as the most important variable influencing participation. However, the variables like caste, marital status, family size, family type, annual income, social participation, risk orientation did not have any significant direct effects. From these results, it can inferred that enhancing access to education, the spread of agricultural information, extension services, and economic incentives can lead to positive attitudes and higher involvement of young people in rural agriculture.

INTRODUCTION

Agriculture remains one of the key industries that contribute to food security, jobs, livelihood in India. In spite of technological progress, and the introduction of various policies, the sector is still experiencing a decline in youth participation. Rapid urbanization, education levels, migration, job diversification, availability of comparatively safe non-agricultural jobs have considerably changed career priorities of rural youth making agriculture unpopular profession among them (Geza et al., 2021). It raises serious problems related to sustainability of agriculture, availability of future professional farming generation. Young people are endowed

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with such qualities as energy, creativity, adaptability to new technologies and entrepreneurial spirit which would allow them to change agriculture and make more effective, competitive industry. They are necessary for development of climate-smart agriculture, technological innovations, value creation and agribusiness (Dutta et al., 2022). Taking into account this potential, various government and development organizations have developed special programs aimed at encouraging young people to become involved in agriculture through promotion of entrepreneurship, skill acquisition and other forms of support. Yet, efficiency of such programs is highly dependent on the perception of agriculture by rural youth (Kote et al., 2024).

Perception is one of the key determinants of occupational choice and intention. Several socio-personal, socio-economic, communication, institutional factors affect perception of rural youth towards their involvement in agriculture. These factors include education, farm experience, occupation of the family members, ownership of land, extension service access, and exposure to successful agricultural enterprises. Good perceptions of profitability, innovation, entrepreneurship, social status lead to agricultural participation; on other hand, labour-intensive nature, risk and lower economic returns make agriculture unattractive to rural youth as a career (Henning et al., 2022). According to most recent findings, youth have greater inclination towards income stability, career opportunities and innovation than traditional activity of agriculture. In south part of India, many farmers usually encourage young generation to get involved in other occupations other than farming due to production risk, weather changes, labour shortage, instability of income earned by farming (Nandi et al., 2022). Research indicates that better extension services, entrepreneurial skills and market access boost the confidence and participation in agriculture (Singh et al., 2014; Singh et al., 2016; Sreelakshmi et al., 2024). Further, positive attitude towards farming, extension linkage, achievement motivation, and agricultural skills positively influence youth participation, whereas migration intentions and preference for non-farm activities discourage participation in agriculture (Maurya et al., 2021). Besides, agricultural policies targeted youth, agriprenurship programs, technological innovations play roles in making agriculture more attractive occupation (Nain et al., 2019; Rana et al., 2024).

Keralam is unique in terms of agriculture with its ageing farmers, diminishing cultivation areas, scarcity of labour, occupational diversification. Changing dynamics are visible in Kannur district, where rural youth tend to choose occupations other than agriculture, despite having immense opportunities for agriprenurship, sustainability in agriculture sector. While there have been several studies on youth participation in agriculture, there is lack of empirical literature regarding perceptions of rural youth in Keralam. This study attempts to investigate role of socio-personal, socio-economic, communication, psychological determinants of rural youth perception towards agricultural participation.

METHODOLOGY

The research study was carried out in 2025–2026 in Payyannur Block, which is part of Kannur district in the state of Keralam, India. Exploratory research design was employed, as the research study dealt with the factors affecting perception of the youths towards agriculture without manipulating the independent variables. Payyannur Block was chosen purposefully due to its high population of rural youth and predominance of agricultural activities. The population of the study consisted of rural youths aged between 18 and 35 years residing in the selected villages in Payyannur Block. Multistage sampling technique was used in selection of the samples. Payyannur Block was chosen purposively in the first stage. In the second stage, villages with a high number of youths and agricultural activities were selected. A sample size of 120 rural youths was selected randomly in the third stage. Primary data were collected through an interview schedule which was well-prepared and tested before being applied in relation to the objectives of the study. The interview schedule comprised of statements and questions on social/personality, socio-economic, communication, and psychological attributes of the respondents as well as items that pertained to their involvement in agriculture. The perception statements were measured using a five -point Likert scale, while the categorical and quantitative variables were measured using the appropriate scales. A structured interview schedule was developed for the study with the consultation of subject matter specialist through judges' opinion. Primary data obtained were edited, coded, categorized, and arranged in tables for analysis. Path analysis was applied to measure the impact of the selected independent variables on youth involvement in agricultural production as well as the extent to which each independent variable influences the dependent variable. The relationship among variables was segmented into direct impacts through the use of standardized path coefficients, hence measuring the impact of each explanatory variable. Coefficient of determination (R^2) was utilized in determining the percentage of variability in the youth involvement influenced by path model while the residual effect represented the impact of other variables which were not considered in the analysis. Statistical significance of the measured path coefficients was tested at the 5 per cent and 1 per cent probability levels. Analysis was conducted using IBM SPSS Statistics. Multidimensional Scaling (MDS) was employed to examine perceptual relationships among the statements measuring rural youth's perception towards participation in agriculture.

RESULTS

Results from the path analysis are presented in Table 1. Path analysis was conducted to establish the direct influences of the selected socio-personal, socio-economic, communication, and psychological variables on youth involvement in agriculture. The path model fit accounted for 83.90 per cent of the total variability in youth involvement in agriculture ($R^2 = 0.839$), implying that the selected independent variables were able to explain the variability in the dependent variable satisfactorily. The residual 16.10 per cent of the variability in the dependent variable could be explained by other factors that were not included in the current study. The high value of R^2 showed that the model had satisfactory explanatory power. Of the fourteen explanatory variables considered for the model, seven variables showed statistically significant positive direct effect, while the remaining seven variables were insignificant. Education had the greatest standardized direct effect ($\beta = 0.279$)

Table 1. Estimated path coefficients of determinants of rural youth perception towards agricultural participation

Variable	Estimate	Std.Err	z-value	P(>|z|)	Std.lv	Std.all
Religion (X1)	1.475	0.727	2.029	0.042	1.475	0.078*
Caste (X2)	-0.575	0.376	-1.527	0.127	-0.575	-0.059
Education (X3)	1.312	0.254	5.169	0.000	1.312	0.279**
Marital status (X4)	0.541	0.370	0.712	0.200	0.200	0.014
Family size (X5)	0.787	0.552	1.426	0.154	0.787	0.055
Family type (X6)	0.768	0.611	1.257	0.209	0.768	0.049
Occupation (X7)	0.724	0.162	4.461	0.000	0.724	0.201**
Land holding (X8)	0.658	0.230	2.864	0.004	0.658	0.138*
Annual income (X9)	0.112	0.289	0.388	0.698	0.112	0.015
Mass media exposure (X10)	0.380	0.088	4.310	0.000	0.380	0.224**
Economic motivation (X11)	0.201	0.056	3.584	0.000	0.201	0.165**
Social participation (X12)	-0.057	0.058	-0.975	0.330	-0.057	-0.038
Risk orientation (X13)	0.042	0.040	1.037	0.300	0.042	0.040
Extension contact (X14)	0.252	0.073	3.464	0.001	0.252	0.193*

*Significant at the 5% level ($p < 0.05$); **Significant at the 1% level ($p < 0.01$)

Estimate = Regression coefficient; Std. Err = Standard error; z-value = Wald test statistic; P(>|z|) = Probability value (p-value); Std.lv = Standardized latent variable estimate; Std. all = Completely standardized estimate.

and was highly statistically significant at one per cent level of probability ($p < 0.01$), thus making it the best predictor of youth involvement in agriculture. This was followed by mass media exposure ($\beta = 0.224$), occupation ($\beta = 0.201$), extension services ($\beta = 0.193$), economic motivation ($\beta = 0.165$) and land holdings ($\beta = 0.138$), which were statistically significant at one percent level. Religion showed a relatively smaller standardized path coefficient ($\beta = 0.078$) but was still statistically significant at five percent level ($p < 0.05$). The positive path coefficients revealed that increase in these variables would result in increased involvement of youth in agriculture. From among all the important factors, it was revealed that education proved to be the most dominant factor, followed by mass media exposure, occupation, and extension contact. The results suggested that educational qualifications, availability of agricultural information, and frequent interactions with extension services played an important role in the improvement of youth involvement in agricultural practices. An effective agricultural extension and advisory services significantly enhances farmers awareness and perception towards agriculture (Krithika & Karthikeyan, 2023). A similar trend was also witnessed in the study conducted by Henning et al. (2022), who found out that positive perceptions, availability of information, and institutional support had increased youth interest in their involvement in agricultural activities. Similarly, Haldar et al. (2022) found out that rural youths had been actively involved in agriculture when they had good access to agricultural resources and information.

The analysis also pointed out that caste ($\beta = -0.059$), marital status ($\beta = 0.014$), family size ($\beta = 0.055$), family type ($\beta = 0.049$), annual income ($\beta = 0.015$), social participation ($\beta = -0.038$) and risk orientation ($\beta = 0.040$) did not have any statistically significant or showed any direct effect on the participation of youth in agriculture because the p-value of these independent variables was greater than the five percent level of significance. The effects of caste and social participation were negative as shown by the standardized path coefficient, but they were statistically non-significant. In the same way, the effects of marital status, family size, family type, annual income and risk orientation were positive but statistically insignificant. Generally, the path analysis showed that 50.00 per cent of the variables used to explain the youth participation in agriculture had significant impact on the youth participation in agriculture while the other 50.00 per cent had no statistically significant direct impact on youth participation in agriculture. Education, mass media exposure, occupation, extension services, economic incentives, land ownership and religion were the main factors affecting youth participation in agriculture. The coefficient of determination also revealed that the selected variables accounted for a reasonable amount of variance observed in youth participation in agriculture. The path model, therefore, was able to properly show the direct impacts of the selected explanatory variables.

The path diagram revealed that Education (X3) exerted the highest positive direct effect (0.30) on rural youths' perceptions towards participating in agriculture, indicating that educational attainment was the most influential factor shaping favourable perceptions towards agricultural participation. This was followed by Mass Media Exposure (X10) (0.24), Extension Contact (X14) (0.19), Occupation (X7) (0.18), Economic Motivation (X11) (0.16)

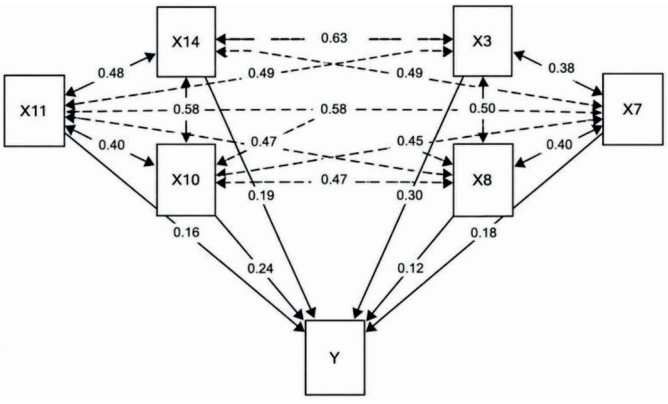

Figure 1. Path Analytical Model of Significant Determinants of Youths' Perceptions towards Participating in Agriculture.

and Land Holding (X8) (0.12). The positive path coefficients indicated that an increase in these variables would result in a corresponding improvement in the perception of rural youth towards participating in agriculture. The findings suggest that better educational opportunities, wider exposure to agricultural information, regular interaction with extension agencies, greater involvement in farming-related occupations, stronger economic aspirations and improved access to land collectively contribute to developing a more favourable perception of agriculture among rural youth.

The diagram further illustrated the interrelationships among the significant explanatory variables. Among them, Extension Contact (X14) and Education (X3) exhibited the strongest positive association (0.63), suggesting that rural youth maintaining frequent contact with extension personnel were more likely to possess better educational awareness and understanding of agricultural technologies and opportunities. A similarly strong association was observed between Extension Contact (X14) and Mass Media Exposure (X10) (0.58), indicating that extension services and communication media complemented each other in enhancing agricultural awareness among rural youth. Moderate positive associations were also observed between Extension Contact and Land Holding (0.49), Education and Land Holding (0.50), Education and Occupation (0.38), Mass Media Exposure and Land Holding (0.47), Education and Mass Media Exposure (0.47), and Occupation and Land Holding (0.40). These positive interrelationships indicate that improvements in one factor are accompanied by improvements in other related factors, ultimately contributing to favourable perceptions towards participating in agriculture. Overall, the path diagram demonstrates that rural youths' perceptions are influenced not only by the direct effects of individual variables but also by the combined interaction of educational, communication, institutional and socio-economic factors.

The Multidimensional Scaling technique (MDS) was used to identify the perceptual relationships between the statements. In Dim1, 52.17 per cent of the variance was explained, whereas 8.27 per cent of the variance was explained in Dim2, which together explains 60.44 per cent of the variance. The dominance of dimension 1 indicates that it is the most important dimension for differentiating respondents' perception of the statements. From the MDS plot, distinct clustering of the statements could be seen. All positive statements were found to form clusters, signifying a high level of similarity in the respondents' perceptions. S1, S2, S4, S17, and S18 formed a cluster that showed similar perceptions on the part of respondents. There was another positive cluster of S3, S5, S6, and S10. However, the negative statements showed higher dispersion in perceptual space. Statements S7, S9, and S14 constituted a separate cluster located in the lower-right part of the map; this was due to their high similarity. Similarly, S8 and S19 formed a group located in the upper-right quadrant; this showed that respondents viewed the statements as similar concepts. Statement S11 was quite isolated among all other statements; it demonstrated unique perceptions as opposed to other negative statements. Generally, the MDS map shows clear distinction between positive and negative statements, which proves that respondents could clearly distinguish favourable and unfavourable perceptions. The grouping proves high similarity within the group and high dissimilarity between groups, which means the validity of the conceptual structure of statements used in the research. Moreover, the findings indicate that the youth in rural areas have clear perceptions about their involvement in agriculture, and favourable perceptions are more reliable than unfavourable perceptions. Such perceptions show that although youths are aware of the chances and gains of agriculture, their worries about the constraints of agriculture differ widely from one individual to another. Thus, improvement in extension education, availability of agricultural information, and role models in agriculture can help build up favourable perceptions and motivate youth in agriculture.

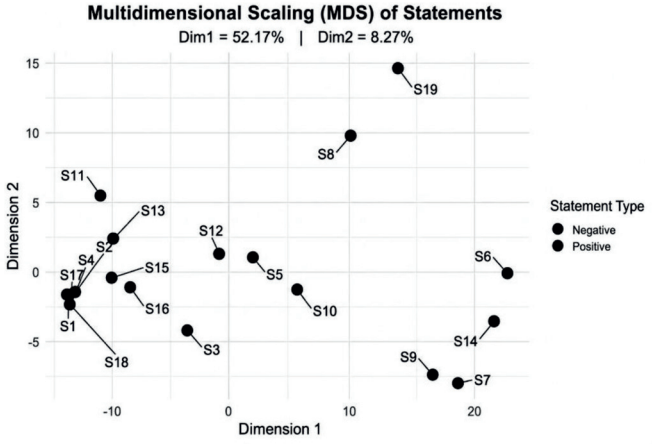

Figure 2. MDS map showing perceptual relationships between positive and negative statements

DISCUSSION

As per the current study, youth involvement in agriculture is considerably affected by education, occupation, land ownership, exposure to mass media, economic incentives, extension contacts, and religion, while caste, marital status, family size, family type, annual income, social participation, and risk taking attitude have no significant influence at all. This implies that rural youth participation is gradually becoming affected by factors like education, information, and institutions rather than any traditional socio-demographic variables. This signifies that gradually agriculture is getting recognized by the youth as a knowledge-intensive as well as economically viable profession. Education proves to be the most important factor influencing youth participation in agriculture. Youth with better education levels tend to be able to understand new techniques in agriculture, gather information scientifically, and recognize entrepreneurial opportunities in the field of agriculture, similar findings were reported by Modak et al. (2018) while reporting entrepreneurial competencies of post graduate students. Education also increases their decision-making ability and makes them regard agriculture as a profession rather than a mere family profession. A similar finding is made by Owolabi et al. (2026) where it is observed that youth studying agriculture at the undergraduate level showed favourable perceptions and participated actively in agricultural practices.

Exposure to mass media plays a significant positive role in youth participation as well. Availability of information through TV, mobile and social media increases the awareness about new

technological inputs in farming, government schemes and marketing facilities available. Information through media makes the rural youth more aware about modern methods in agriculture. The results of the study have been found in consonance with the findings of Geethalakshmi et al. (2024) in which it was found that digital and online media play an important role in the dissemination of agricultural information and behavioural change among rural communities. Occupational status and land holdings also positively contribute to youth participation. If the youth are already involved in agriculture or are from an agricultural family, they definitely get more opportunities for participating in agriculture and land holding provides them with the basic means for cultivation. However, their contribution is relatively less than that of education and mass media exposure, showing that just physical inputs alone are not enough for ensuring youth participation in agriculture.

Contact with extension services is yet another important variable affecting participation. Regular contacts with extension staff will result in better availability of scientific inputs, technical help, and institutional support, and consequently will increase confidence of rural youth towards taking up agricultural activities. Owolabi et al. (2026), where it has been stated that consistent practical involvement and institutional guidance greatly contribute to increasing the participation of students in agriculture activities. Even though in their research, authors took up university students, nevertheless, the significance of technical help stated by them supports the current findings. Economic motivation is also an important variable for participation. Youth having a perception about profitability of agricultural activities and expecting better economic gains through agriculture are more likely to take up agricultural pursuits. This reflects increasing transition of agriculture from being a traditional occupation to being an entrepreneurship. Singh et al. (2026) have also reported the same findings stating that the entrepreneurship behaviour among rural youth is significantly related with economic motivation, innovation and business orientation.

However, religion exerts considerable, yet relatively weak, and positive influence on youth participation, which indicates that socio-cultural values continue to influence career choice. Roy et al. (2024) emphasized necessity of creating an adequate method of analysis to improve the quality and scientific relevance of extension research in agriculture. However, some factors such as caste, marital status, family size, family structure, income level, socio-cultural involvement and risk orientation do not play any role whatsoever. It means that socio-demographic characteristics mentioned above are not enough to encourage youth participation provided that education, communication and motivation are taken into consideration. These findings shows light on previous studies done by Jatav (2024) which explains, agriculture as career choice is becoming more and more economic rather than socio-economic status. Generally, findings shows youth participation in agriculture becomes increasingly knowledge-based, information-based and economically motivated. Consequently, implementation of high-quality agricultural education, increase in application of mass media and extension services and encouragement of entrepreneurship program will have a positive impact on youth participation in agriculture.

CONCLUSION

Youth involvement in agriculture depends on their education, mass media exposure, occupation, extension activities, economics, landownership, and religion, thereby indicating that socio-personal, socio-economic, communication, and psychological variables play an important role in influencing youth involvement. Knowledge, information, institutions, and economic incentives have more weightage than demographic characteristics. It can therefore be inferred that by improving education, extension activities and access to reliable agricultural information, as well as promotion of entrepreneurship and communication, youth involvement can be increased in Keralam state. However, the study was limited to Payyannur Block of Kannur District, Keralam therefore, the findings may not be generalized to other regions. Further studies covering different geographical regions and larger samples are recommended to better understand rural youths' perceptions towards agriculture.

DECLARATIONS

Ethics approval and informed consent: The study was approved by the Departmental Advisory Board of Department of Agricultural Extension, SRM College of Agricultural Sciences, SRM Institute of Science and Technology, Baburayanpettai, Chengalpattu-603201, Tamil Nadu, India as the part of research programme of first author and was duly cleared for the principals explained in Helsinki 1964 declaration and its modifications. The study was undertaken with due considerations All participants provided informed consent before participating in the study.

Data availability statement: The datasets generated and analyzed during the current study are available from the corresponding author upon reasonable request.

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 authors declare that during the preparation of this work, they 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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