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Relationship between selected profile characteristics of Rural Youth and their Participation in Agriculture in Telangana

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Abstract

Rural youth play a crucial role in ensuring agricultural sustainability and rural development; however, their level of participation in agriculture is influenced by several socio-economic, psychological, and communication-related factors. The present study was conducted in Telangana state to ascertain the relationship between selected profile characteristics of rural youth and their participation in agriculture. An ex-post facto research design was adopted, and a total of 120 rural youth respondents were selected for the study. The extent of participation in agriculture was measured using a standardized Participation Scale consisting of 33 statements under three dimensions, namely participation in benefits, participation in implementation, and participation in decision making. Correlation analysis revealed that marital status ($r = 0.561^{**}$), family type ($r = 0.457^{**}$), education ($r = 0.274^{**}$), land holding ($r = 0.490^{**}$), annual income ($r = 0.436^{**}$), mass media exposure ($r = 0.313^{**}$), economic motivation ($r = 0.231^{*}$), scientific orientation ($r = 0.276^{**}$), innovativeness ($r = 0.509^{**}$), and achievement motivation ($r = 0.347^{**}$) had a positive and significant relationship with participation in agriculture, whereas gender ($r = -0.222^{*}$) showed a significant negative relationship. Variables such as age, family size, occupation, personal localities, personal cosmopolitanism, social participation, and risk orientation were found to be non-significant. Multiple linear regression analysis revealed that the selected independent variables explained 60.8 per cent of the variation in participation ($R^2 = 0.608$). The findings indicate that educational advancement, resource ownership, communication exposure, and motivational factors significantly influence youth participation in agriculture. Strengthening extension services, improving access to institutional support, and promoting youth-centred agricultural policies are essential for enhancing meaningful participation of rural youth in agriculture.

Keywords: Rural youth, participation in agriculture, correlation analysis, multiple regression, agricultural extension, Telangana.

Introduction

In the developing countries, agriculture still remains the main source of rural livelihoods and one of the most significant areas in terms of creating employment, food security and economic sustainability. In India, agriculture is almost 16 per cent of Gross Domestic Product (GDP) and it absorbs approximately 43.5 per cent of the total labour force, which indicates that rural families still rely on agriculture and other related industries. Agriculture has also been a sector of special interest to rural youths who constitute a significant demographic power that can spearhead innovation, productivity and sustainability in the agricultural systems.

The Food and Agriculture Organization (FAO, 2025) ^[6] estimates that the world has almost 1.3 billion youthful individuals, with some 44 per cent of those engaged in employment relying on agrifood systems than 38 per cent of working adults. The young people of the rural areas are regarded as the major drivers of agricultural transformation owing to their physical strength, flexibility to new technologies and entrepreneurial abilities. Nevertheless, the youth involvement in agriculture is decreasing owing to various factors that include a lack of land, poor profitability, unpredictable agricultural earnings, insufficient support of institutions, and migration to non-agricultural jobs.

According to Wachenheim and Rathge (2000) ^[21], the socio-economic factors have a big effect on the participation of rural youth in agriculture. Duncan (2004) ^[4] had determined that young people with increased access to agricultural education, training and extension services were more involved in farming activities. According to Oyediran *et al.* (2016) ^[13], the key factors that affected youth participation in farming systems included access to land, profitability, policy incentives, institutional support, and social recognition.

Farming remains one of the main sources of livelihood among rural families in Telangana, though, the involvement of younger generation in farming activities is slowly decreasing. To implement the right youth-based agricultural interventions, it is important to understand the profile characteristics that affect youth participation. Therefore, the current research was conducted to determine the correlation between the chosen profile attributes of the rural young people and their involvement in agriculture.

Methodology

The study was conducted in Telangana state using an ex-post facto research design, as the phenomenon under investigation had already occurred and there was no scope for manipulation of independent variables. A total of 120 rural youth respondents were selected using appropriate sampling procedures from the study area.

The dependent variable of the study was the extent of participation of rural youth in agriculture, which was measured using a standardized Participation Scale developed specifically for the study. The scale consisted of 33 statements categorized under three dimensions: participation in benefits, participation in implementation, and participation in decision making. Responses were recorded using a three-point continuum of Agree, Undecided, and Disagree with scores of 3, 2, and 1, respectively. Reverse scoring was followed for negative statements.

The independent variables selected for the study included age, gender, marital status, family type, family size, education, occupation, land holding, annual income, personal localities, personal cosmopolitaness, social participation, mass media exposure, economic motivation, scientific orientation, innovativeness, achievement motivation, and risk orientation.

Correlation analysis was performed using Pearson's Product Moment Correlation Coefficient to determine the relationship between selected profile characteristics and participation in agriculture. Multiple linear regression analysis was also carried out to assess the combined contribution of independent variables toward explaining the variation in participation.

Pearson's Correlation Coefficient

This test was used to study the relationship between the scores of selected profile characteristics and the scores of participations of rural youth in agriculture. It measures the degree of relationship between the two sets of variables.

$$r = \frac{\Sigma xy - \frac{\Sigma x \Sigma y}{n}}{\sqrt{\left[\Sigma x^2 - \frac{(\Sigma x)^2}{n} \right] \left[\Sigma y^2 - \frac{(\Sigma y)^2}{n} \right]}}$$

r = Correlation coefficient

x = Sum of scores of selected profile characteristics

y = Sum of scores of participations of rural youth towards

agriculture as occupation

x^2 = sum of the squares of scores of a selected profile characteristic

y^2 = Sum of the squares of scores of participations of rural youth towards agriculture

xy = the sum of productivity of x and y

n = size of the sample

Multiple Linear Regression (MLR)

Multiple linear regression analysis was used to study the effect of independent variables on dependent variables. The following multiple linear regression equation was fitted to the data having 5 parameters.

$$y = a + b_1X_1 + b_2X_2 + b_3X_3 + \dots + b_5X_5$$

Where 'a' was the intercept or constant and b_i are partial regression coefficient

$$b_i = b_1, b_2, b_3, \dots, b_5$$

Coefficient of multiple determination (R^2) was given by

$$R^2 = \frac{\text{Regression sum of squares (RSS)}}{\text{Total sum of squares (TSS)}}$$

Where,

$$RSS = b_1 \Sigma x_1 y_1 + b_2 \Sigma x_2 y_2 + b_5 \Sigma x_5 y_5$$

$$TSS = \Sigma y^2$$

Results and Discussion

The relationship between selected profile characteristics of rural youth and their participation in agriculture was examined using correlation analysis. The results are presented in Table 1. The findings revealed that marital status, family type, education, land holding, annual income, mass media exposure, economic motivation, scientific orientation, innovativeness, and achievement motivation showed a positive and significant relationship with participation in agriculture. Gender showed a significant negative relationship, whereas age, family size, occupation, personal localiteness, personal cosmopolitaness, social participation, and risk orientation were found to be non-significant.

Marital status showed the highest positive significant relationship ($r = 0.561^{**}$), indicating that married rural youth were more involved in agriculture due to greater responsibility toward family livelihood and economic security. Family type also showed a significant positive relationship ($r = 0.457^{**}$), suggesting that youth from joint families had better support systems and resource sharing for agricultural participation.

Education showed a positive and significant relationship ($r = 0.274^{**}$), indicating that educated youth possessed better access to agricultural information, improved decision-making ability, and greater confidence in adopting scientific farming practices. Land holding ($r = 0.490^{**}$) and annual income ($r = 0.436^{**}$) significantly influenced participation because ownership of productive resources and better financial capacity encouraged active engagement in agriculture.

Mass media exposure, innovativeness, achievement motivation, scientific orientation, and economic motivation also contributed positively, indicating that communication exposure and psychological readiness play an important role in enhancing youth participation. The significant negative relationship of

gender (-0.222*) indicates gender-based differences in agricultural involvement, where male youth were generally found to participate more actively than female youth due to socio-cultural and occupational constraints.

These findings are in conformity with the studies of Duncan

(2004) ^[4], Oyediran *et al.* (2016) ^[13], and Kote *et al.* (2024) ^[8], who also reported that education, land access, institutional support, and motivational factors significantly influence youth participation in agriculture.

Table 1: Correlation Analysis Between Profile Characteristics and Participation in Agriculture (n=120)

Sl. No.	Variables	Correlation - coefficient (r values)
1	Age	0.022NS
2	Gender	-0.222*
3	Marital Status	0.561**
4	Family Type	0.457**
5	Family Size	0.051NS
6	Education	0.274**
7	Land Holding	0.490**
8	Occupation	-0.001NS
9	Annual Income	0.436**
10	Personal Localiteness	0.036NS
11	Personal Cosmopoliteness	0.117NS
12	Mass Media Exposure	0.313**
13	Social Participation	0.169NS
14	Economic Motivation	0.231*
15	Risk Orientation	0.081NS
16	Scientific Orientation	0.276**
17	Innovativeness	0.509**
18	Achievement Motivation	0.347**

NS = Non-significant

** Significant at 0.01 level of probability

* Significant at 0.05 level of probability

Multiple Linear Regression Analysis

Multiple linear regression analysis was carried out to determine the combined influence of selected independent variables on participation in agriculture. The regression analysis revealed that the selected profile characteristics together explained 60.8 per cent of the variation in participation of rural youth in agriculture. This indicates that the independent variables included in the study had substantial explanatory power in predicting participation behaviour.

An R^2 value of 0.608 is considered strong in agricultural extension and social science research, indicating that the model was statistically meaningful and reliable. The remaining unexplained variation may be due to external factors such as policy environment, market uncertainty, climatic risks, peer influence, and social perceptions toward farming.

The findings clearly demonstrate that socio-economic, communication, and psychological variables play a major role in shaping the extent of youth participation in agriculture.

Table 2: Multiple Regression between profile characteristics of rural youth with their participation in agriculture (n=120)

S. No.	Profile characteristics	Standard error	Beta Coefficient	't' Value	Sig.
	(Constant)	17.92	13.116	0.73	0.466
1	Age	0.13	-0.004	-0.05	0.955
2	Gender	1.25	-0.206	-3.12	0.002
3	Marital Status	1.28	0.285	3.35	0.001
4	Family Type	1.19	0.164	2.21	0.029
5	Family Size	0.78	0.116	1.71	0.090
6	Education	0.44	0.020	0.29	0.772
7	Land Holding	0.58	0.328	2.28	0.025
8	Occupation	0.34	0.059	0.89	0.372
9	Annual Income	0.00	-0.048	-0.32	0.742
10	Personal Localiteness	0.24	-0.084	-1.23	0.220
11	Personal Cosmopolites	0.21	0.012	0.17	0.861
12	Mass Media Exposure	0.24	0.130	1.79	0.076
13	Social Participation	0.24	-0.051	-0.72	0.473
14	Economic Motivation	0.38	0.064	0.94	0.346
15	Risk Orientation	0.24	-0.006	-0.09	0.927
16	Scientific Orientation	0.49	0.031	0.43	0.664
17	Innovativeness	0.46	0.187	2.19	0.030
18	Achievement Motivation	0.82	0.079	1.00	0.317

R=0.779, R square=0.608, F value= 8.688**

Conclusion

The study concludes that the participation of rural youth in agriculture is significantly influenced by multiple socio-

economic, psychological, and communication-related factors. Variables such as marital status, family type, education, land holding, annual income, mass media exposure, innovativeness,

scientific orientation, economic motivation, and achievement motivation positively influenced agricultural participation, while gender showed a significant negative relationship.

The majority of rural youth were found to participate more actively in implementation-related farm operations rather than in independent decision-making and agricultural entrepreneurship. The regression results further confirmed that selected profile characteristics explained 60.8 per cent of the variation in participation, indicating strong predictive relevance of the model.

These findings highlight the need for targeted youth-centered agricultural policies focusing on access to land, institutional credit, extension support, skill development, agri-startups, digital agriculture, and entrepreneurship development. Strengthening these areas can improve the active involvement of rural youth and ensure long-term sustainability of agriculture and rural livelihoods.

References

- Agarwal A, Kumar R. Determinants of youth participation in agriculture and allied sectors in rural India. *Indian Journal of Extension Education*. 2022;58(3):45-52.
- Barman B, Roy P. Youth engagement in agricultural extension. In: *Recent trends in agricultural extension education*. New Delhi: ICAR-Indian Agricultural Research Institute; 2024.
- Chikkalaki AS, Ghanghas BS, Chahal PK. Youth engagement in agriculture: role of agricultural extension. *Farm Chronicle – An Agriculture Newsletter*. 2024;3(5):23-27.
- Duncan J. Youth involvement in agriculture: the role of agricultural education, training, and extension services. *Journal of Agricultural Education and Extension*. 2004;10(2):79-88.
- Edwards AL. *Techniques of attitude scale construction*. New Delhi: Vakils, Feffer and Simons Pvt. Ltd.; 1969.
- Food and Agriculture Organization. *The status of youth in agrifood systems*. Rome: FAO; 2025.
- Ghosh S, Sahoo M, Mohanty PR. Empowered by enterprise: evaluating livelihood status improvement through attracting and retaining youth in agriculture (ARYA). *Indian Journal of Extension Education*. 2025;61(2):11-18.
- Kote P, Yallappa M, Jabeen A, Srinatha TN. A scoping review on youth participation in agriculture: sustainable development, food security, and economic growth. *Journal of Scientific Research and Reports*. 2024;30(5):947-958.
- Likert R. A technique for the measurement of attitudes. *Archives of Psychology*. 1932;140:1-55.
- Ministry of Agriculture and Farmers Welfare. *Agricultural statistics at a glance 2025*. New Delhi: Government of India; 2025.
- National Sample Survey Office. *Situation assessment of agricultural households and land holdings in India*. New Delhi: Ministry of Statistics and Programme Implementation, Government of India; 2024.
- Organisation for Economic Co-operation and Development. *Agricultural policy monitoring and evaluation 2025: India's agricultural sector and workforce participation*. Paris: OECD Publishing; 2025.
- Oyediran WO, Omoare AM, Oyesola OB. Factors affecting youth participation in agricultural production in rural areas of Nigeria. *Journal of Agricultural Extension*. 2016;20(2):14-26.
- Rani A, Roy P. Youth in agriculture: role of government initiatives. *Journal of Agricultural Extension Management*. 2017;18(1):45-52.
- Rathod MK, Rakesh G, Prasad S. Participation of rural youth in agriculture. *Journal of Agricultural Extension Management*. 2018;18(1):69-76.
- Samanta RK. *Extension research in agriculture*. New Delhi: B. R. Publishing Corporation; 1991.
- Sharma P, Singh V. Influence of socio-economic and psychological factors on youth participation in farming. *International Journal of Agricultural Extension*. 2021;9(2):101-110.
- Singh AK, Narain S. Participation of rural youth in farm and allied activities: an empirical study. *Indian Research Journal of Extension Education*. 2019;19(2-3):58-63.
- Tsitsi ADB, Ombati JM, Maina SW. Influence of selected factors on participation of rural youth in agriculture in Balaka District, Malawi. *Journal of Agricultural Extension Management*. 2020;20(2):112-121.
- United Nations. *World youth report 2024: youth social entrepreneurship and the 2030 agenda*. New York: United Nations Publications; 2024.
- Wachenheim CJ, Rathge RW. Socioeconomic factors affecting rural youth participation in agriculture. *Rural Sociology*. 2000;65(3):423-438.
- Yadav K, Sharma R. Rural youth participation in agriculture and allied sectors: opportunities and constraints. *International Journal of Agricultural Extension*. 2023;11(2):145-152.