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A study on the socio-economic profile and participation level of rural youth in agricultural activities

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Abstract

The present study was conducted in Chapra district (Saran), Bihar, selected purposively based on the researcher's convenience. Chapra, located in north-western Bihar, is a fertile region enclosed by the Ganga, Gandak, and Ghaghara rivers, with a rich historical and cultural legacy, including being the birthplace of Dr. Rajendra Prasad, India's first President. The district's economy is predominantly agrarian, with major crops including paddy, wheat, maize, pulses, and sugarcane, supplemented by vegetable cultivation, dairy farming, and small-scale industries. For the study, Chapra block was purposively selected from the 20 blocks in the district. Out of 109 village panchayats, five villages were randomly chosen, and a total of 120 respondents (24 from each village) were selected using a random sampling technique. The study focused on assessing the variables related to rural farmers, categorizing them into independent and dependent variables, and measuring them according to the objectives of the research. The study assessed the socio-economic profile and participation level of 120 beneficiary farmers in Chapra district, Bihar. Among respondents, 39.16% were middle-aged, 31.70% had high school education, 74.16% were married, 41.67% belonged to OBC, 32.5% had medium landholding, 71.66% had nuclear families, 44.16% had small family size, 47.5% had high annual income, 45% lived in pakka houses, and 38.33% were primarily engaged in agriculture. Regarding participation in agricultural activities, 50% showed partial involvement in crop production (Mean Score 1.93, Rank VII), 65.83% had no participation in fruit production (Mean 2.48, Rank I), 40% participated partially in vegetable cultivation (Mean 2.06, Rank VI), and 48.33% partially engaged in animal husbandry (Mean 1.8, Rank X). Moderate to low participation was observed in goat keeping, poultry, fish farming, SHGs/cooperatives, business, small-scale industry, and agriculture service centers, with Mean Scores ranging from 1.8 to 2.21, indicating variable engagement across sectors.

Keywords: Chapra, variables, participation, correlation analysis, rural youth

Introduction

India's youth constitute a substantial portion of the population, with the 2011 Census reporting approximately 460 million individuals aged 15–35 years, representing around 40% of the total population. Of these, nearly 70% reside in rural areas, emphasizing their vital role in agriculture and rural development (Census of India, 2011). Rural youth are considered the future nation-builders, but their potential can be realized only when opportunities are aligned with their needs, aspirations, and socio-economic realities. Agriculture continues to be the primary livelihood for many, yet their engagement in modern agricultural practices depends on factors such as education, family background, landholding, and access to resources.

Understanding the socio-economic profiles of rural youth is crucial for designing effective development programs and policies. Various agencies and extension services aim to empower rural youth, but success relies on identifying the factors that motivate or limit their participation in agricultural activities. This study, therefore, focuses on assessing both the socio-economic characteristics and participation levels of rural youth in agriculture. The findings are expected to provide valuable insights for policymakers, extension workers, and development planners to enhance rural youth involvement and promote sustainable agricultural development.

At present, the youth are having different needs, aspiration levels, attitudes, habits and values of life. The development of personal, social, economic and spiritual aspects of rural youth are possible, only when their needs, aspiration levels, attitudes, habits and values of life are recognized early and guided properly. Therefore, in this study some of these aspects were considered and which would be useful to the agencies involved in the development of rural youth.

The significance of rural youth is evident, as they constitute a substantial portion of a nation's human resources. India,

often referred to as a land of youth, had a total youth population of 347 million, accounting for 35.2% of the total population according to the 2001 Census. This number increased to 460 million by the 2011 Census, representing 40% of the total population. Among them, approximately 70% were rural youth, while the remaining 30% resided in urban areas. Given that the majority of youth live in rural regions, they are often viewed as the future nation-builders. However, this crucial segment can contribute effectively to national development only if provided with meaningful opportunities for growth and empowerment

Materials and Methods

The present study was conducted in India, officially the Republic of India, a South Asian country that is the seventh-largest by area, the second most populous, and the most populous democracy in the world. About two-thirds of the Indian population is engaged in agriculture. For the study, Chapra district, officially known as Saran district, in Bihar state, was selected purposively based on the researcher's convenience. Chapra, the district headquarters, is located in the north-western part of Bihar, bounded by the Ganga River to the south, the Gandak River to the east, and the Ghaghara River to the west. This riverine environment makes the district highly fertile, supporting diverse agricultural activities, though it is prone to periodic floods. Saran district covers an area of approximately 2,641 square kilometers. The climate is subtropical, characterized by hot summers, heavy monsoons, and cool winters. According to the 2011 Census of India, the district has a population of over 3.9 million, with a literacy rate of 65%. Bhojpuri and Hindi are the main languages spoken, with Urdu spoken in some areas.

Selection of District and Block

Chapra district was purposively selected for the study. Out of the total 20 blocks in the district, Chapra block was purposively chosen for data collection.

Selection of Village Panchayats and Respondents

Chapra block comprises 109 village panchayats. Out of these, five village panchayats were randomly selected for the study. A list of farmers from the selected village panchayats was prepared, and a total of 120 respondents were selected using a random sampling technique, with 24 respondents chosen from each village panchayat.

The Variables and Their Measurement

This section describes the procedure employed for measuring the various independent and dependent variables of the study, which were selected based on the research objectives. The variables were categorized into independent and dependent variables. The independent variables were identified after reviewing past studies and relevant literature, and included age, education level, marital status, caste, size of landholding, type of family, family size, annual income, house type, and occupation. These variables were operationalized and measured using specific criteria, which are presented in the subsequent tabular form.

Statistical Framework Used for Analysis of the Data

The collected data were classified, tabulated, and analyzed to enable meaningful interpretation and drawing of inferences. Frequency analysis was used wherever necessary, while mean scores and standard deviations were calculated to summarize the data. Percentage was used to represent proportions, and ranks were assigned based on descending order of frequency or mean values. Karl Pearson's coefficient of correlation was applied to measure the strength and direction of the relationship between independent and dependent variables. These statistical tools provided a comprehensive framework for analyzing the socio-economic profile and participation levels of the respondents.

Results and Discussion

The results of the present study titled "Participation of Rural Youth in Agricultural Development Programmes and the Influence of Socio-Economic Factors" are presented in this chapter in accordance with the specific objectives framed for the research. Data were collected from the selected rural youth using a well-structured interview schedule to ensure accuracy and reliability of responses. The information obtained was systematically organized, classified, and analyzed using appropriate statistical tools to derive meaningful interpretations. This chapter provides a comprehensive account of the extent of rural youth participation in agricultural development programmes and examines how socio-economic variables such as age, gender, marital status, family size, education, occupation, type of house, annual income, landholding, and extension contacts influence their level of involvement.

Formulation of Hypotheses

Based on the objectives of the study, the following null hypotheses were formulated to examine the relationship between various socio-economic characteristics and the participation level of rural youth in different agricultural activities. It was hypothesized that there is no relationship between age, education, marital status, caste, size of landholding, type of family, family size, annual income, type of house, and occupation, and the participation level of rural youth in agricultural activities. These hypotheses were tested statistically to determine the influence of each independent variable on participation.

Profile of the Respondents

The distribution of respondents according to age revealed that the majority belonged to the middle age group (39.16%), followed by the old age group (34.16%) and the young age group (26.66%). This indicates that middle-aged individuals are the most active participants in agricultural and related activities in the study area.

Regarding educational status, most respondents had completed high school (31.70%), followed by those with middle school education (29.15%). Illiterate respondents constituted 12.50%, while 15% had obtained undergraduate education. This reflects a moderate level of literacy among the rural youth, suggesting potential for knowledge adoption and skill development.

Analysis of marital status showed that a majority of respondents were married (74.16%), whereas 25.83% were unmarried or in other categories. The predominance of married respondents indicates a population with established

family responsibilities.

Caste-wise distribution showed that most respondents belonged to the OBC category (41.67%), followed by General (27.50%), Schedule Tribe (15.83%), and Schedule Caste (15%). This demonstrates that OBCs are the dominant social group in the surveyed area.

Landholding patterns indicated that large landholders comprised 35.83% of respondents, followed by medium (32.50%), small (18.33%), and marginal (13.33%) landholders. This shows that a significant proportion of respondents have substantial land resources, which may influence their agricultural practices.

Family type analysis revealed that nuclear families were more prevalent (71.66%) compared to joint families (28.33%), highlighting a trend toward smaller, independent family units in the region. Correspondingly, family size data indicated that small families (up to 4 members) accounted for 44.16%, medium families (5–7 members) 32.50%, and large families (8 or more members) 23.33%, confirming the predominance of smaller households.

Annual family income data showed that nearly half of the respondents (47.50%) belonged to high-income families (above 2,000,000), while 30.83% were in the medium-income group and 21.66% in the low-income category. This suggests a relatively higher economic status among the majority of respondents.

Housing patterns revealed that 45% of respondents lived in pakka houses, 29.16% in kaccha houses, and 25.83% in mixed kaccha-pakka houses, indicating moderate housing conditions in the study area.

Finally, the occupation of families showed that agriculture alone was the primary occupation for 38.33% of respondents, while 27.50% were engaged in agriculture combined with business, 18.34% with service, and 15.83% with wages. This highlights agriculture as the dominant livelihood, often supplemented by additional income sources.

Table 1: Socio-Economic and Demographic Profile of the Respondents (n = 120)

S. No.	Variable	Categories	Frequency	Percentage
1	Age	Young	32	26.66
		Middle	47	39.16
		Old	41	34.16
2	Education	Illiterate	15	12.50
		Up to primary	14	11.65
		Up to middle	35	29.15
		High school	38	31.70
		UG	18	15.00
3	Marital Status	Married	89	74.16
		Other	31	25.83
4	Caste	Schedule Tribe	19	15.83
		Schedule Caste	18	15.00
		OBC	50	41.67
		General	33	27.50
5	Land Holding	Marginal	16	13.33
		Small	22	18.33
		Medium	39	32.50
		Large	43	35.83
6	Family Type	Nuclear	86	71.66
		Joint	34	28.33
7	Family Size	Small	53	44.16
		Medium	39	32.50
		Large	28	23.33
8	Annual Family Income	Low (Up to 1,000,000)	26	21.66
		Medium (1,000,000 – 2,000,000)	37	30.83
		High (Above 2,000,000)	57	47.50
9	House Type	Kaccha	35	29.16
		Pakka	54	45.00
		Kaccha-Pakka	31	25.83
10	Occupation of Family	Agriculture	46	38.33
		Ag + Wages	19	15.83
		Ag + Business	33	27.50
		Ag + Service	22	18.34

Participation Level of Rural Youth in Different Agriculture Activities

The study revealed that the participation level of rural youth in various agricultural activities varied considerably. In crop production, 50% of respondents had partial participation, 28.33% had complete participation, and 21.67% had no participation (Mean Score 1.93, Rank VII). In fruit production, the majority (65.83%) did not participate, while 17.50% participated fully and 16.67% partially (Mean Score 2.48, Rank I). For vegetable production, 40% had partial participation, 33.33% had no participation, and 26.67% had complete participation (Mean Score 2.06, Rank VI). In animal husbandry, 48.33% participated partially, 35.83% fully, and 15.84% did not participate (Mean Score 1.8, Rank X), while goat keeping recorded 65% partial participation and 26.67% complete participation (Mean Score 1.81, Rank

VIII). Participation in poultry and fish farming showed mixed patterns, with 40% and 55% non-participation respectively, and mean scores of 2.12 (Rank IV) and 2.10 (Rank V).

In SHGs and co-operatives, 40% had no participation, 33.33% complete, and 26.67% partial participation (Mean Score 2.06, Rank VI). Business activities recorded 53.33% partial participation, 34.17% no participation, and 12.50% complete participation (Mean Score 2.21, Rank II). In small-scale industries, 45% did not participate, 30% partially, and 25% completely (Mean Score 2.20, Rank III). Lastly, in agriculture service centers, 50% had complete participation, 32.50% none, and 17.50% partial (Mean Score 1.82, Rank IX). Overall, partial participation was the most common pattern, with the highest engagement observed in fruit production and business activities, while animal husbandry, goat keeping, and agriculture service centers showed comparatively lower involvement.

Table 2: Distribution of Respondents According to Their Participation Level in Various Agricultural Activities (n = 120)

S. No	statement	Complete participation level		Partial participation level		No participation level		Mean Score	Rank
		F	%	F	%	F	%		
1	Crop production	34	28.33	60	50.0	26	21.67	1.93	VII
2	Fruit production	21	17.50	20	16.67	79	65.83	2.48	I
3	Vegetable production	32	26.67	48	40.00	40	33.33	2.06	VI
4	Animal husbandry (Milk production)	43	35.83	58	48.33	19	15.84	1.8	X
5	Goat keeping	32	26.67	78	65.00	10	08.33	1.81	VIII
6	Poultry	33	27.50	39	32.50	48	40.00	2.12	IV
7	Fish farming	40	33.33	14	11.67	66	55.00	2.1	V
8	Shgs and Co- operative	40	33.33	32	26.67	48	40.00	2.06	VI
9	Business as per cost	15	12.50	64	53.33	41	34.17	2.21	II
10	Small scale industry	30	25.00	36	30.00	54	45.00	2.2	III
11	Agriculture service center	60	50.00	21	17.50	39	32.50	1.82	IX

Correlation between socio-economic variables and awareness about cultural advisory services

The analysis of socio-economic factors influencing rural youth participation in agricultural development programmes revealed varying degrees of association. Age (r = 0.214*), annual income (r = 0.276*), landholding size (r = 0.256*), and extension contact (r = 0.472**) exhibited positive and significant correlations, indicating that older youth, those with higher income and larger landholdings, and those frequently interacting with extension personnel were more likely to participate actively. Education showed a strong positive and highly significant relationship (r = 0.438**), highlighting the critical role of educational attainment in enhancing understanding and engagement. In contrast, gender (r = 0.086), marital status (r = 0.124), family size (r = -0.072), occupation (r = 0.164), and type of house (r = 0.098) displayed positive or negative but non-significant correlations, suggesting that these factors have minimal influence on participation levels. Overall, the findings underscore that access to resources, knowledge, and extension support are key drivers of rural youth involvement in agricultural development programmes (Table 2).

Table 2: Hypothesis Testing for Socio-economic Variables and Participation of Rural Youth in Agricultural Development Programmes

S. No.	Independent Variable	Correlation Coefficient (r)	Association	Result
1	Age	0.214*	Positive, significant	Rejected
2	Gender	0.086	Positive, non-significant	Accepted
3	Marital status	0.124	Positive, non-significant	Accepted
4	Family size	-0.072	Negative, non-significant	Accepted
5	Education level	0.438**	Positive, highly significant	Rejected
6	Occupation	0.164	Positive, non-significant	Accepted
7	Type of House	0.098	Positive, non-significant	Accepted
8	Annual income	0.276*	Positive, significant	Rejected
9	Landholding size	0.256*	Positive, significant	Rejected
10	Frequency of extension contact	0.472**	Positive, highly significant	Rejected

Conclusion

The socio-economic profile of beneficiary farmers in Chapra district showed that 39.16% were middle-aged, 31.70% had high school education, 74.16% were married, and 41.67% belonged to the OBC category. Most respondents had medium landholdings (32.5%), nuclear families (71.66%), and 47.5% reported high annual income. Agriculture was the primary occupation for 38.33% of respondents. Participation in agricultural activities varied: 50% had partial involvement in crop production (Mean Score 1.93, Rank VII), 65.83% had no participation in fruit production (Mean 2.48, Rank I), 48.33% partially engaged in animal husbandry (Mean 1.8, Rank X), and other sectors such as poultry, fish farming, SHGs/cooperatives, and small-scale business showed moderate to low participation. These findings highlight the need to enhance engagement across diverse agricultural and allied activities to improve productivity and socio-economic development.

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