



Original Research Article

Factors influencing involvement in agricultural livelihood activities among rural youth in Jabalpur district of Madhya Pradesh, India

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Many rural youth are faced with difficulty of maintaining livelihoods and consequently, poverty remains pervasive among them. The importance of income generating activities to rural livelihood cannot be over-emphasized. The paper examined the factors influencing involvement in agricultural livelihood activities among rural youth in Jabalpur district of Madhya, India. Multi stage random sampling was used to collect data from 247 respondents. Majority of respondents had high and medium mass media exposure and innovativeness respectively. There was significant relationship between involvement in agricultural income generating activities and socio-economic, psychological and communicational characteristics ($R^2=0.582$). Marital status ($t=6.066$), respondents' education ($t=-3.554$), family size ($t=-3.489$) employment status ($t=3.283$), innovativeness ($t=7.333$), conservatism-liberalism ($t=-4.107$), fatalism-scientificism ($t=-4.828$), mass media exposure ($t=10.605$), extension contact ($t=4.230$), socio-political participation (-3.839) and reasons for educational and vocational training (7.785) were predictors of agricultural income generating activities engaged by rural youth at 1 percent significant level while more than 1/3 of the total accountable variation was explained by mass media exposure. Governmental and non governmental organizations should take into consideration all agricultural income generating activities engaged in by rural youth as well as the above factors influencing their involvement when initiating and embarking on programmes targeted at improving their livelihoods.

Key words: rural youth, livelihoods, agriculture, income generating activities

INTRODUCTION

Rural areas are the economic backbone of most developing countries and contribute to their overall economic growth through creation of jobs and supply of food and raw materials to other growing sectors of the economy. Notwithstanding, rural areas are the most marginalized and characterized by poverty (Alemu, 2012). Hence poverty remains predominantly a rural phenomenon despite rapid urbanization observed in most developing and transition countries (IFAD, 2001).

There are over one billion youth (aged 15-24) in the world, 85 percent of these youth live in the developing

countries and about 50 percent of youth populations in developing countries live in rural areas (United Nations, 2007). They constitute reasonable force propelling rural economy, nonetheless, poverty is still pervasive among rural youth who face numerous challenges in order to achieve and maintain their livelihoods. ILO (2004), reported that youth globally have difficulties in accessing livelihood opportunities. In societies governed by principles of age and where control of resources is in the hands of older people, young people have little opportunities to express their interests and needs. This

explains why youth issues have not received much needed attention in development policies. Despite the fact that globally, the burning problems on the present day relates to rural youth, not much have been done to collect information about them in many countries and knowledge about their livelihoods remained fragmented among service providers (Waldie, 2004).

The demand for youth labour would not rise without a dynamic rural economy in agricultural and non-agricultural sectors. The role of agriculture in economic development cannot be over emphasized. In developing countries, agriculture provides the basis for a major share of employment and constitutes the main source of livelihoods for a large portion of the population (Vargas-lundius and Lanly, 2007). Similarly, according to Bhadari (2013), about three-quarters of poor people in developing countries directly or indirectly depend on subsistence agriculture for their livelihoods. Small-scale farmers, women, youth and vulnerable groups who have little access to formal occupational employment depend on agriculture for employment, food security and social stability. It is therefore crystal clear that promotion of agriculture in agriculture-based countries is imperative for achieving the Millennium Development Goal (MDG) through reduction of poverty and hunger (World Bank, 2008).

Significant proportions of Indian population depend on agriculture for their livelihoods. Recent developments, however, reveals that several parts of India experienced a decline in the absolute number of people farming during the year 1999 – 2000 for the first time (Economist, 2001). There are widespread speculations on the reasons behind the accelerated withdrawal. While growth in the economy has a contribution in creating a 'pull' from outside, of greater significance appears to be the growing disenchantment with the profession. Sharma (2007) opined that agriculture seems to have lost its sheen completely if the rising incidence of farmer suicides and the growing debt burden on farmers are indicators to be considered. Rather, it has become legacies, which most want to get rid of. In a National Sample Survey Organization (NSSO) survey (2005), more than 40 percent of farmers expressed their bitterness with the occupation saying that if given a chance they would like to quit farming.

CTA (2010), found that the low level of production and entrepreneurship as well as decreasing involvement of youth in agriculture to be resulted from low level of agricultural skills and limited access to financial resources. In addition, for any given youth, the low incomes, high risk and insufficient gains compared to the effort required make agriculture a very poor proposition. In the coming years, one of the biggest challenges for Indian agriculture would be retaining its youth in agriculture. Unless farming becomes both intellectually stimulating and economically rewarding, it will be difficult to attract or retain rural youth in farming (Swaminathan 2001).

Therefore the study aims at identifying the agricultural

livelihood activities engaged by rural youth as well as to determine factors influencing their involvement in these livelihoods. This would possibly enhance an understanding that helps to create opportunities that stimulate their interests as well as entrepreneurial skills in a way that fosters innovation, productivity and environmental sustainability of rural activities and by extension assist in developing policies and services aimed at reducing rural poverty.

METHODOLOGY

Description of the study area

Jabalpur is located on 23°10' N latitude and 79°57' N E longitude. According to the 2011 census, Jabalpur district has a population of 2,460,714 people. The area of the district is 10,160 Km² while the administrative headquarters is located at Jabalpur city (Wikipedia, 2013).

Sampling procedure and sample size

Multi-stage and simple random sampling were used to compose the sample. In the first stage, two (Panagar and Patan) out of the six blocks in the district were randomly selected. The second stage involved delineation of the rural villages in the two blocks selected. Five rural villages were randomly selected from each of the two blocks (Panagar and Patan) making the total rural villages selected to be ten. Twenty percent of total households in the ten rural villages were selected and one youth from each household was interviewed bringing the sample size to two hundred and forty seven (247), Table 1.

Method of data collection

Deriving accurate information is highly dependent upon the survey method (Ahmed et al., 2011). According to Ogunlade and Adebayo (2009), the most commonly used approach is the direct face-to-face interview. In this study, interview schedule was used to collect data on socio-economic, psychological and communicational characteristics as well as income generating activities.

Measurement of variables

According to Sheheli (2012), when different dimensions of the livelihood issue are considered, the incidence of income is the most important. Living standard of the rural poor would only be uplifted when they receive income from the economic activities (Ahmed et al., 2007; Al-amin, 2008; Ahmed, 2009). Income generating activities change the livelihood of the poor in terms of living condition, housing, nutrition, savings, dress, medical treatment, health, sanitation, liberalization and education (Ullah and Routray,

Table 1. Villages and rural youth sampled in the study area

S.No.	Villages	Total households	20% of total households	No. of youth selected
1.	Belkhadu	13	3	3
2.	Padariya	381	76	76
3.	Pipariya	87	17	17
4.	Pondi	67	13	13
5.	Umaliya	115	23	23
6.	Benikheda	223	45	45
7.	Doni	60	12	12
8.	Luhari	89	18	18
9.	Nimi	44	9	9
10.	Timri	157	31	31
	Total	1236	247	247

2007). The dependent variable for the study is involvement in income generating activities and was measured using a 3 point likert scale of fully involved, partially involved and not involved (2, 1, 0). The cumulative scores obtained for other variables were categorized as low, medium and high using the formulae:

Low < $(X - 0.425SD)$

Medium $(X \pm 0.425 SD)$

High > $(X + 0.425 SD)$

Multiple regressions were used to analyze factors influencing agricultural livelihood activities (Involvement in agricultural income generating activities) among rural youth). The model is expressed as:

$$Y = a + b_1X_1 + \dots + b_nX_n + e$$

Where Y= Extent of involvement in agricultural income generating activities

a = constant term

b_1, b_2, b_n = Regression coefficients

e = error

X_1, X_2, \dots, X_n = Regression parameters, which are:

X_1 = Marital status

X_2 = Respondents' education (number of year spent in formal school)

X_3 = Employment status

X_4 = Fatalism-scienticism

X_5 = Mass media exposure

X_6 = Extension contact

X_7 = Innovativeness

X_8 = Family size

X_9 = Conservatism-liberation

X_{10} = Socio-political participation

X_{11} = Reasons for educational and vocational training

RESULTS AND DISCUSSION

Majority of respondents were married, educated up to high school (42.50%) and currently employed (59.50%). The result also reveals that majorities of respondents were fatalistic, had high mass media exposure and low extension contact. The innovativeness of majority of the respondents

was categorized to be medium (42.11%). This is consistent with findings of Palaniswamy (1984) who reported that majority of farm youth had medium innovativeness. It can be observed that majorities of the respondents were conservatives, from medium family size and had medium socio-political participation (Table 2).

To update skills (ranked first), explore an area of interest (ranked second) and for future employment opportunity (third) were the most important reasons for educational and vocational training (Table 3). While to earn degree, certificate and license was ranked least implying that educational and vocational training was sought by rural youth for personal development and gainful employment. This calls for relevance of educational and vocational training.

Cereal production, pulse production and vegetable production ranked first, second and third respectively (Table 4). These findings are in conformity with that of Oladeji (2007); Nandini and Kiresur (2013) who reported crop production as the most participated agricultural income generating activities among rural dwellers

To identify the occurrence of multicollinearity, the correlation matrix of the explanatory variables is studied. The results of this multiple regression analysis show the best in the sense of involving no multicollinearity, that is ensuring no two independent variables has a correlation in excess of 0.80. Through backward elimination and forward selection, eleven explanatory variables were selected and their effect on agricultural income generating activities determined. The value of R-square was 0.591 which indicates that 59.1 percent of the variation in involvement in agricultural income generating activities could be accounted for by the combined effect of these eleven variables and the other 40.9 percent remained unexplained. The adjusted R-square for the model was 0.572, which indicates only a slight overestimation. The regression model was well fitted since F-ratio (30.915) at 1 percent significant level was found to be highly statistically significant (Table 5).

The significant variables influencing involvement in Agricultural income generating among rural youth as

Table 2. Frequency distribution and categorization of respondents' socio economic, psychological and communicational characteristics

+	Frequencies	Percentages
Marital Status (Mean =2.44, SD =0.899)		
Unmarried	69	27.90
Married	178	72.10
Total	247	100.00
Respondents' educational attainment (Mean =10.33, SD =4.128)		
Illiterate	-	-
Functionally literate	12	4.90
Primary school	28	11.30
Middle school	44	17.80
High school	105	42.50
Graduated and above	58	23.50
Total	247	100.00
Employment status (Mean =3.19, SD =1.165)		
Schooling	48	19.40
Receiving training/Apprentice	4	1.60
Looking for employment	48	19.40
Currently employed	147	59.50
Total	247	100.00
Fatalism-scientificism (Mean =14.28, SD =4.189)		
Fatalism (Above mean score)	139	56.28
Scientificism (Below mean score)	108	43.72
Total	247	100.00
Mass media exposure (Mean =11.62, SD =2.982)		
Low < (X - 0.425SD)	68	27.53
Medium (X ± 0.425SD)	76	30.77
High > (X + 0.425SD)	103	41.70
Total	247	100.00
Extension contact (Mean =3.23, SD =3.144)		
Low < (X - 0.425SD)	96	38.87
Medium (X ± 0.425SD)	72	29.15
High > (X + 0.425SD)	79	31.98
Total	247	100.00
Innovativeness (Mean= 8.63, SD = 1.692)		
Low < (X - 0.425SD)	57	23.08
Medium (X ± 0.425SD)	104	42.11
High > (X + 0.425SD)	86	34.81
Total	247	100.00
Family size (Mean = 6.99, SD = 3.800)		
Small family (1 - 3 members)	20	8.10
Medium family (4 - 6 members)	125	50.60
Large family (7 members and above)	102	41.30
Total	247	100.00
Conservatism-liberalism (Mean = 19.62, SD = 4.142)		
Conservatism (Above mean score)	146	59.11
Liberalism (Below mean score)	101	40.89
Total	247	100.00
Socio-political participation (Mean = 7.92, SD = 3.811)		
Low < (X - 0.425SD)	88	35.63
Medium (X ± 0.425SD)	102	41.29
High > (X + 0.425SD)	57	23.08
Total	247	100.00

shown in Table 5 are discussed below:

Marital status

There is a significant positive effect of marital status on

rural youth involvement in agricultural income generating activities. This implies that married rural youth were more involved in agricultural income generating activities than unmarried rural youth. A change from unmarried to married resulted in 5947.2 hours increased involvement in

Table 3. Ranking by mean of reasons for educational and vocational training among respondents

Reasons	Mean	Rank
To make a career change	1.85	5 th
To move into higher salaried job (carrier)	1.87	4 th
To earn degree, certificate and license	1.47	6 th
To explore an area of interest	1.98	2 nd
For future employment opportunity	1.94	3 rd
To update skills	2.02	1 st

Table 4. Ranking by mean of respondents according to extent of involvement in agricultural income generating activities

S.No.	Agricultural related income generating activities	Mean	Rank
1.	Cereal production	1.35	1 st
2.	Pulse production	0.84	2 nd
3.	Oil seed production	0.47	4 th
4.	Fruit production	0.29	6 th
5.	Goat rearing	0.18	9 th
6.	Poultry farming	0.10	15 th
7.	Milk production	0.43	5 th
8.	Fish farming	0.19	8 th
9.	Vegetable production	0.54	3 rd
10.	Raising seedlings for vegetable production	0.16	12 th
11.	Raising plants for fruit production	0.17	10 th
12.	Floriculture (Gardening & flower production)	0.14	14 th
13.	Cash crops production	0.29	6 th
14.	Root crops production	0.05	16 th
15.	Fishing	0.15	13 th
16.	Bee keeping	0.03	17 th
17.	Mushroom cultivation	0.16	11 th

agricultural income generating activities. Greater responsibilities associated with marriage could be the possible explanation for the finding.

Respondents' education

There is a significant negative influence of respondents' education on rural youth involvement in agricultural income generating activities indicating that the higher the rural youth's education, the lower the influence on their involvement in agricultural income generating activities. An increase in education of rural youth by one year resulted in decreased involvement in agricultural income generating activities by 828 hours. This finding supports the views of Stiglbauer and Weiss (2000), who opined that increase in education increases skill and opportunity for employment outside agriculture. In a similar report, Bhandari, (2013), declares that educated individuals are more likely expected to leave farming as the wages and returns from agriculture are rather seasonal and relatively less rewarding than off-farm jobs. It is believed that a job in off-farm sector is expected to have relatively higher return than farming and educated individuals wanted to take up a job in off-farm

sector rather than taking up agriculture as a profession (Watts, 2009).

Family size

The regression result reveals that the larger the size of rural youth family, the lesser they were involved in agricultural income generating activities. An increase by one person in the family resulted in 817.2 hours decreased involvement in agricultural income generating activities. This finding is almost similar with that of Mukherjee (2002) who reported that intensive farming with increased mechanization of agriculture has led to a fall in farm employment in India. Diversification into non-agricultural income generating activities became the possible alternatives.

Employment status

There is a significant positive effect of employment status of rural youth on their involvement in agricultural income generating activities. A shift from being unemployed to being employed resulted in 3024 hours involvement in

Table 5. Regression coefficients of involvement in agricultural income generating activities with selected variables of rural youth

Variables	Estimated coefficients(B)	t-statistics	Significant level
Intercept	-72349.2	-6.472	0.000
Marital status	5947.2	6.066	0.000
Respondents' education	-828	-3.554	0.000
Family size	-817.2	-3.489	0.001
Employment status	3024	3.283	0.001
Innovativeness	5032.8	7.333	0.000
Conservatism -liberalism	-1303.2	-4.107	0.000
Fatalism-scienticism	-1216.8	-4.828	0.000
Mass media exposure	3740.4	10.605	0.000
Extension contact	1378.8	4.230	0.000
Socio-political participation	-1083.6	-3.839	0.000
Reasons for education and vocational training	1839.6	7.785	0.000

R²= 0.591, Adjusted R²= 0.572, F-ratio = 30.915

F-probability = 0.000

Note: Statistically significant at the 1% level

Table 6. Stepwise multiple regression analysis showing contribution of eleven variables to involvement in agricultural income generating activities

Model	Dimension entered	Multiple R	Change in R ²	Variation expressed (%)	Significant level
1.	Mass media exposure	0.457	0.209	20.9	0.000
2.	Innovativeness	0.587	0.136	13.6	0.000
3.	Reasons for educational & vocational training	0.630	0.053	5.3	0.000
4.	Employment status	0.686	0.073	7.3	0.000
5.	Marital status	0.703	0.024	2.4	0.001
6.	Extension contact	0.718	0.021	2.1	0.001
7.	Socio-political participation	0.725	0.011	1.1	0.020
8.	Respondents' education	0.732	0.010	1.0	0.023
9.	Fatalism-scienticism	0.743	0.015	1.5	0.005
10.	Conservatism-liberalism	0.755	0.018	1.8	0.002
11.	Family size	0.769	0.021	2.1	0.001

agricultural income generating activities among the rural youth. The implication of these findings is that, there is greater likelihood for a currently employed rural youth to be involved in agricultural income generating activities.

Innovativeness

There is a significant positive effect of innovativeness on involvement in agricultural income generating activities (B₅=5032.8hrs). As innovativeness of rural youth improved, their involvement in agricultural income generating activities increased. To be able to revolutionize agricultural production for better and sustainable growth, innovativeness undoubtedly becomes a *sine qua non* as it gives room for creativity and improvement.

Conservatism-liberalism

There is a negative significant influence of conservatism-liberalism on rural youth involvement in agricultural

income generating activities (B₆=-1303.2hrs). As conservatism increased, there were decreased involvements of rural youth in agricultural income generating activities as against increased involvement among liberal rural youth. According to Marshall (2007), conservatives tend to be risk-averse and poorly endowed with creative ability while liberals tend to have strong appetites for risk and are more creative.

Fatalism-scienticism

There is a significant negative influence of fatalism-scienticism on involvement in agricultural income generating activities (B₇=-1216.8hrs). Increased fatalism of the respondents led to rural youth decreased involvement in agricultural income generating activities while increased scienticism resulted in their increased involvement in agricultural income generating activities. This is because fatalistic rural youth believed that everything that happened to them was an act of god and there was nothing

they could do to change it. They therefore resigned to fate and could not push further to change their lives. As a result, they were less involved in agricultural income generating activities contrary to those with attitude of scienticism.

Mass media exposure

As mass media exposure of rural youth increased there was a significant positive influence on their involvement in agricultural and income generating activities ($B_8=3740.4$ hrs). This could be as a result of improved access to information on production methods of different agricultural income generating opportunities.

Extension contact

The result of regression analysis shows that extension contact is positively related to involvement of rural youth in agricultural income generating activities ($B_9=1378.8$ hrs). Youth farmers who hitherto were not skilled in a particular area of agricultural production acquired skills in that area and consequently became involved.

Socio-political participation

regression result shows that socio-political participation is negatively related to involvement in agricultural income generating activities ($B_{10}=-1083.6$ hrs). Increased socio-political participation among rural youth resulted in their decreased involvement in agricultural income generating activities. This is not unconnected with increasing demand for time, energy and attention associated with socio-political participation. Another reason that can be adduced is the possibility of higher socio-political participation among rural youth with lower involvement in agricultural income generating activities probably as a result of specialized and higher mechanized agricultural production activities.

Reasons for educational and vocational training

Rural youth who had more important reasons for educational and vocational training were more involved in agricultural income generating activities than those who had fewer reasons ($B_{11}=1839.6$ hrs). To update skills and explore an area of interest were the most important reasons for educational and vocational training. Poole *et al.* (2011) admonished that developing and emerging economies and regions should prioritize effective and efficient rural education which incorporates practical and technical skills appropriate to the rural context in order to include young people in the agricultural development and agribusiness of rural areas.

Among the eleven selected variables, mass media exposure (20.9%) contributed most, while respondents' Education (1.0%) contributed least in explaining the

variation in rural youth's involvement in agricultural income generating activities (Table 6). Mass media exposure and innovativeness accounted for more than 60% of the total contribution of the selected eleven variables.

CONCLUSION AND RECOMMENDATION

It is evident from the study that rural youth in Jabalpur district of Madhya Pradesh, India were involved in a number of agricultural income generating activities. The study established linearism between involvement in agricultural income generating activities and socio-economic, psychological and communicational characteristics of respondents. Factors such as marital status, respondents' education, family size, employment status, innovativeness, conservatism-liberalism, fatalism-scienticism, mass media exposure extension contact, socio-political participation and reasons for educational and vocational training influenced involvement of rural youth in agricultural income generating activities. Therefore, development agencies, in both the public and private sectors, who are working on issues concerning rural youth in the study area, should give proper emphasis to the selected variables of the present study before launching any new program relating to their improvement through agricultural income activities. Skilled development of rural youth through intensive training and utilization of this skilled manpower in different agricultural income generating activities is also advocated.

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