



Original Research Article

Comparing factors influencing involvement in agricultural and non-agricultural livelihood activities: Evidence from rural youth in Jabalpur district of Madhya Pradesh, India

Accepted 2nd October, 2014

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Many rural youth are faced with difficulty of maintaining livelihood and consequently, poverty remains pervasive among them. Therefore improved livelihood is directly related to poverty reduction. The paper compared factors influencing involvement in agricultural and non-agricultural livelihood activities among rural youth in Jabalpur district of Madhya Pradesh, India. Multi stage random sampling was used to collect data from 247 respondents. Majority of respondents were married, from farming households, educated up to high school, employed, from medium size families, had medium rural life preference, economic motivation, innovativeness and socio-political participation. Majority were fatalistic, conservative, had low achievement motivation and extension contact as well as high mass media exposure. Marital status, respondents' education, employment status, fatalism-scientificism, mass media exposure and extension contact were predictors of involvement in both agricultural and non-agricultural livelihood activities. Factors like innovativeness, family size, conservatism-liberalism, socio-political participation and reasons for educational and vocational training influenced only involvement in agricultural livelihood activities while determinants of involvement in non-agricultural livelihood activities included family occupation, rural life preference, achievement motivation and economic motivation. Governmental and non-governmental organizations should take into consideration livelihood activities engaged by rural youth and their determinants when initiating and embarking on programmes aimed at addressing their needs.

Key words: determinants, income generating activities, livelihoods, rural youths, India.

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. According to World Bank (2008) the promotion of agriculture in agriculture-based countries is imperative for achieving the Millennium Development Goal (MDG) through reduction of poverty and hunger.

Rural households worldwide engage in a variety of non-farm activities to generate income (Meludu et al, 1999; Lanjouw and Lanjouw, 2001 and World Bank, 2003). The contribution of non-farm income to rural income shares cannot be underestimated. For Latin America and Caribbean, estimates of rural non-farm income shares for rural households were 22% in Honduras, 59% in Costa Rica and 68% in Haiti (Reardon, 1997). Data for Eastern Europe indicated 31% in Armenia and 68% in Bulgaria (Davis, 2004). Mukherjee (2002) found that intensive farming with increased mechanization of agriculture has led to a fall in farm employment in India. In another report by Hiremath (2007) land based livelihoods of small and marginal farmers are increasingly becoming unsustainable in India, since their land has not been able to support their family's food requirement and fodder for their cattle. 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. Consequently, rural households are forced to look at alternative non-agricultural income generating activities for their survival. Micevska and Rahut (2008), reported that the rural poor engage in non-farm activities, both as a compliment to their farm activities and as a substitute for

their farm incomes. Concomitantly, there has been increasing involvement of youth in rural non-farm income generating activities like craft work, trade and employment in both unorganized and organized non-agricultural private sectors (Reardon et al., 1998).

Traditionally, a large proportion of rural youth obtain their livelihoods either through supporting their family enterprises or working on their own account in agriculture, trade-related enterprises and craft industries, and in many cases contribute to family income or support themselves entirely while still in full-time education (Porter et al., 2007). Rural youth are engaged in a diverse range of productive activities both agricultural and non-agricultural which make up their livelihood strategies (Bennell, 2010) and their extent of involvement in these activities describes their livelihood patterns. These productive activities bring streams of income to rural youth who engage in it and thus constitute their income generating activities. Ahmed et al. (2007); Al-amin, (2008) and Ahmed (2009) stated that living standard of rural poor will only be uplifted when they receive income from economic activities. Undoubtedly, the plight of rural youth would be alleviated through their involvement in income generating activities. Carlotte et al., (2007) admonishes that a full range of rural income generating activities (RIGA), both in agricultural and non-agricultural carried out by rural households should be considered when thinking about rural development. According to them, this can allow understanding of the relationship between the various economic activities that take place in the rural space and of their implications for economic growth and poverty reduction. From history of economic development, it is pertinent to note that, development of the non-farm sector is related to improvement on farm production. Increased productivity in agriculture raises farm income and hence the demand for goods and services produced outside agriculture.

This study is a continuation of an already published work on the factors influencing involvement in agricultural livelihood activities among rural youth in Jabalpur district of Madhya Pradesh and therefore aims at comparing these factors with the determinants of non-agricultural livelihood activities among rural youth. This would possibly give more insight on the common factors as well as divergent and specific factors influencing agricultural and non-agricultural livelihood activities with the view of understanding the interplay among these factors in determining livelihood activities. It will undoubtedly 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' NE

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

Source: Umunnakwe et al. (2014)

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 that are predominantly rural 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 (Table 1). 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).

Method of data collection

Deriving accurate information is highly dependent upon the survey method (Ahmed et al., 2011). Ogunlade and Adebayo (2009) opined that the most commonly used approach is the direct face-to-face interview. Interview schedule was used in this study 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, 2007). The dependent variable for the study is involvement in income generating activities (agricultural and non-agricultural 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 ± 0.425 SD)

High > (X + 0.425 SD)

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

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

Where Y= livelihood activities

a = constant term

b₁, b₂, b_n= Regression coefficients

e = error

X₁, X₂,... X_n = Regression parameters.

RESULTS AND DISCUSSION

Majority (72.10%) of the rural youth were married and from farming households (59.50%). Similar findings was reported by NSSO (2011) that highest proportion of rural youth in India were married and belonged to households that were self employed in agriculture. In addition, majority of respondents were educated up to high school (42.50%), currently employed (59.50%), had medium (48.98%) rural life preference and low (35.63) achievement motivation. The economic motivation of majority of the respondents was categorized to be medium (49.80%). This finding agrees with that of Shivalingaiah (1995) who reported that majority of small and big farm rural youth had medium economic motivation. The findings revealed that majority of

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

Variables	Frequencies	Percentages
Marital Status (Mean =2.44, SD =0.899)		
Unmarried	69	27.90
Married	178	72.10
Total	247	100.00
Family occupation (Mean =1.78, SD =1.087)		
Farming	147	59.50
Trading	40	16.20
Civil service	28	11.30
Wage labour	32	13.00
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
Rural life preference (Mean =5.904, SD =2.356)		
Low (1 – 3.5)	36	14.58
Medium (4 – 6.5)	121	48.98
High (7 and above)	90	36.44
Total	247	100.00
Achievement motivation (Mean =12.60, SD =2.424)		
Low < (X – 0.425SD)	88	35.63
Medium (X ± 0.425SD)	74	29.96
High > (X + 0.425SD)	85	34.41
Total	247	100.00
Economic motivation (Mean =30.43, SD =5.939)		
Low < (X – 0.425SD)	52	21.05
Medium (X ± 0.425SD)	123	49.80
High > (X + 0.425SD)	72	29.15
Total	247	100.00
Fatalism-scienticism (Mean =14.28, SD =4.189)		
Fatalism (Above mean score)	139	56.28
Scienticism (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

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. Higher proportions of the respondents were conservatives and were from medium family size (Table 2).

Table 2. Cont.

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

Some portion of this table was extracted from Umunnakwe et al. (2014)

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

Source: Umunnakwe et al. (2014)

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) who reported crop production as the most participated agricultural income generating activities among rural dwellers. The most practiced non-agricultural income generating activities were petty trading (ranked first), hired labour (ranked second) while construction work ranked third (Table 5) . These findings support the views of Okoye (1995); CPD (2004); Oladeji (2007); Sheheli (2012) and Ovwigho (2014) that even though farming is the predominant activity in most rural areas, rural dwellers usually engage in non-agricultural income generating activities.

To identify the occurrence of multicollinearity, the correlation matrix of the explanatory variables was studied. The results of this multiple regression analysis showed the best in the sense of involving no multicollinearity, that is ensuring no two independent variables had 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 indicated 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 indicated 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. Also, through backward elimination and forward selection, ten explanatory variables were selected and their effect on non-agricultural income generating activities determined. The value of R-square was 0.582 which indicated that 58.2 percent of the variation in

Table 4. Ranking of involvement of rural youth 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

Source: Umunnakwe et al. (2014)

Table 5. Ranking of involvement of rural youth in non- agricultural income generating activities

S.No.	Non-agricultural income generating activities	Mean	Rank
1.	Petty trading	0.78	1 st
2.	Blacksmith	0.16	9 th
3.	Craft work	0.06	15 th
4.	Carpentry	0.11	11 th
5.	Pottery	0.00	17 th
6.	Shoe repair/Shoe shining	0.03	16 th
7.	Barbing	0.11	11 th
8.	Motorcycle/bicycle repair	0.06	15 th
9.	Tailoring	0.18	8 th
10.	Selling traditional medicine	0.15	10 th
11.	Teaching/Civil service	0.40	4 th
12.	Health work	0.11	13 th
13.	Local party agent/Council member	0.19	7 th
14.	Rental services	0.32	6 th
15.	Hired labour	0.55	2 nd
16.	Transportation	0.36	5 th
17.	Construction work	0.53	3 rd

involvement in non-agricultural income generating activities could be accounted for by the combined effect of these ten variables and the other 41.8 percent remained unexplained. The adjusted R-square for the model was 0.565, which indicated only a slight overestimation. The regression model was well fitted since F-ratio (32.892) at 1 percent significant level was found to be highly statistically significant (Table 6 and 7).

Similarities

Similar factors influencing involvement in agricultural and non-agricultural income generating activities as extracted from Table 6 and 7 are discussed below:

Marital status

There was a significant positive effect of marital status on rural youth involvement in agricultural and non-agricultural income generating activities. This implied that married rural youth were more involved in both agricultural and non-agricultural income generating activities than unmarried rural youth. However, while a change from unmarried to married resulted in 5947.2 hours increased involvement in agricultural income generating activities, it resulted in 2721.6 hours increased involvement in non-agricultural income generating activities. Greater responsibilities associated with marriage could be the possible explanation for the findings.

Table 6. 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

Source: Umunnakwe et al. (2014)

Table 7. Regression coefficients of involvement in non-agricultural income generating activities with selected variables of rural youth

Variables	Estimated coefficients (B)	t- statistics	Significant level
Intercept	-27439.2	-3.969	0.000
Marital status	2721.6	4.284	0.000
Family occupation	1947.6	3.668	0.000
Respondents' education	-720	-4.705	0.000
Employment status	2196	3.607	0.000
Rural life preference	813.6	3.102	0.002
Achievement motivation	1548	5.853	0.000
Economic motivation	626.4	5.358	0.000
Fatalism – scienticism	-846	-5.197	0.000
Mass media exposure	1468.8	6.998	0.000
Extension contact	-1047.6	-4.698	0.000

R²= 0.582, Adjusted R²= 0.565, F-ratio = 32.892, F-probability = 0.000

Respondents' education

There was a significant negative influence of respondents' education on rural youth involvement in both agricultural and non-agricultural income generating activities indicating that the higher the rural youth's education, the lower the influence on their involvement in both agricultural and non-agricultural income generating activities. An increase in education of rural youth by one class resulted in decreased involvement in agricultural and non-agricultural income generating activities by 828 hours and 720 hours respectively. This is possibly because, higher education leads to specialization.

Employment status

There was a significant positive effect of employment status of rural youth on their involvement in both agricultural and non-agricultural income generating activities implying that the more they were involved in both agricultural and non-

agricultural income generating activities, the more they became employed.

Fatalism-scienticism

There was a significant negative influence of fatalism-scienticism on involvement in both agricultural and non-agricultural income generating activities. Increased fatalism of the respondents led to rural youth decreased involvement in both agricultural and non-agricultural income generating activities while increased scienticism resulted in their increased involvement in both agricultural and non-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 both agricultural and non-agricultural income generating activities when compared with 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 both agricultural and non-agricultural income generating activities. This could be as a result of improved access to information on available income generating opportunities. Young job seekers usually get information on available job vacancies through advertisement on mass media.

Extension contact

The result of regression analysis showed that extension contact was positively related to involvement of rural youth in agricultural income generating activities ($B=1378.8$ hrs) while it was negatively related to involvement in non-agricultural income generating activities ($B=-1047.6$ hrs). This could be linked to extension training in different areas of agricultural production. Farmers who hitherto were not skilled in a particular area of agricultural production acquired skills in that area and consequently became involved. On other hands, increased extension contact resulted in decreased involvement in non-agricultural income generating activities. The probable reason could be that skills and knowledge imparted by extension agents were irrelevant to non-agricultural income generating activities.

In summary, a cursory look at Table 6 and 7 showed that the values of estimated coefficients (B) of each similar explanatory variable (regressors) for involvement in agricultural income generating activities (regressed) were higher than that of involvement in non-agricultural income generating activities. The implication of this is that similar factors influenced rural youth involvement in agricultural income generating activities more than their involvement in non-agricultural income generating activities.

Differences

Factors influencing only agricultural income generating activities as evident in Table 6 are discussed below:

Innovativeness

There was a significant positive effect of innovativeness on involvement in agricultural income generating activities. 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 to creativity and improvement.

Family size

The regression result revealed 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.

Conservatism-liberalism

There was a negative significant influence of conservatism-liberalism on rural youth involvement in agricultural income generating activities ($B_6=-1303.2$ hrs). 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.

Socio-political participation

Regression result showed that socio-political participation was 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 highly 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.

Factors influencing only non-agricultural income generating activities as shown in Table 7 are discussed below:

Family's occupation

There was a positive and significant influence of family occupation on non-agricultural income generating activities (B=1947.6 hrs). As the family occupation moved out of farming, there was increased involvement of rural youth in non-agricultural income generating activities like trade, civil service and wage labour. In their study of India, Lanjouw and Shariff (2002) found that the importance of rural non farm activities by income level varies by state and for those states with a high share of income from rural non farm activities, the shares are greater for better-off households; for those states with a lower share of income from rural non farm activities, the opposite is true. The share of income from casual wage employment is highest among the poor, while the share from regular wage employment is highest among the rich (Carletto *et al.*, 2007).

Rural preference

Rural preference had a significant positive effect on involvement in non-agricultural income generating activities. This implies that rural youth who had higher rural preference also were increasingly involved in non-agricultural income generating activities. Due to improved social amenities in the rural areas as well as improved linkages to urban centres, rural youth who desire to work in non-agricultural sectors would prefer to live in rural areas all things being equal. According to Winters *et al.* (2009), greater access to infrastructures is hypothesized to be positively linked to non-agricultural activities and negatively related to participation in agricultural activities. De Janvry *et al.* (2005), find that proximity to county capital influences participation in rural non-agricultural activities in China.

Achievement motivation

Rural youth's achievement motivation had significant and positive influence on their involvement in non-agricultural income generating activities (B=1548 hrs). The greater the rural youth desire for excellence and accomplishment, the higher was their involvement in non-agricultural income generating activities.

Economic motivation

It was observed that economic motivation of rural youth was significantly and positively related to their involvement in non-agricultural income generating activities (B=626.4). The import of this finding is that rural youth who placed more importance on the achievement of economic ends were more involved in non-agricultural income generating activities. This result indirectly suggests that rural youth who are involved in non-agricultural

income generating activities could be successful in maximizing profits and income.

Conclusion

It is evident from the study that rural youth in Jabalpur district of Madhya Pradesh, India were involved in a number of agricultural and non-agricultural income generating activities. The study established linearism between involvement in income generating activities and socio-economic, psychological and communicational characteristics of respondents. Factors such as marital status, respondents' education, employment status, fatalism-scientism, mass media exposure and extension contact influence involvement of rural youth in both agricultural and non-agricultural income generating activities. While involvement in agricultural income generating is influenced by innovativeness, family size, conservatism-liberalism, socio-political participation and reasons for educational and vocational training, however, family occupation, rural life preference, achievement motivation and economic motivation influence respondents' involvement in non-agricultural income generating activities. The implication of these findings is that though common factors could influence involvement of rural youth in both agricultural and non-agricultural income generating, the intensity and direction of their influence on agricultural income generating activities may differ from non-agricultural income generating activities. Also there are factors that influence only agricultural income generating activities which do not influence non-agricultural income generating activities and vice versa.

Therefore, development agencies, in both the public and private sectors, who are working on issues concerning rural youth's livelihoods 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 income activities. Development of Skilled rural youth through intensive training and utilization of this skilled manpower in different income generating activities is also advocated.

ACKNOWLEDGEMENT

The principal author is grateful to Jawaharlal Nehru University of Agriculture Jabalpur for providing the platform for the conduct of this research.

REFERENCES

- Ahmed F, Siwa C, Idris NA (2011), Contribution of Rural Women to Family Income Through Participation in Micro Credit: An Empirical Analysis, *Ame. J. Appl. Sci.* 8(3):

- 238 – 245.
- Ahmed N (2009), The Sustainable Livelihoods Approach to the Development of Fish Farming in Rural Bangladesh. *J. Int. Farm Manag.*, 4(4): 1-18.
- Ahmed N, Wahab MA Thilsted SH (2007), Integrated Aquaculture-Agriculture Systems in Bangladesh: Potential for Sustainable Livelihoods and Nutritional Security of the Rural Poor, *Aquaculture Asia* 12(1): 14-22.
- Al-amin S (2008), Role of Women in Maintaining Sustainable Livelihoods of Char Landers in Selected Areas of Jamalpur District. PhD Thesis. Department of Agricultural Extension Education Bangladesh Agricultural University, Mymensingh.
- Alemu ZG (2012), Livelihood Strategies in Rural South Africa: Implications for Poverty Reduction. Selected Paper Prepared for Presentation at the International Association of Agricultural Economists (IAAE), Triennial Conference, Foz do Iguacu, Brazil.
- Bennell P (2010), Investing in the Future, Creating Opportunities for Young Rural People, Rome, IFAD.
- Bhandari PB (2013), Rural Livelihood Change? Household Capital, Community resources and Livelihood Transition, *J. Rural studies (ELSEVIER)* 32: 126-136.
- Carletto G, Covarrubias K, Davis B, Krausova M, Stamoulis K, Winters P, Zezza A (2007), Rural Income Generating Activities in Developing Countries. *J. Agric. Dev. Econ.*, 4(1):146-193.
- CPD (2004). Nature and Impact of Women's Participation in Economic Activities in Rural Bangladesh. In Centre for Policy Dialogue (CPD) and International Rice Research Institute (IRRI) Policy Brief 7. Available at http://www.cpdbangladesh.org/publications/cpdir/cpdir_7
- CTA (2010) .A Reader: Briefing no 19-Youth and Rural Development in ACP Countries. Brussels.
- Davis J (2004). The Rural Non-Farm Economy, Livelihoods and their Diversification: Issues and Options Chatham, UK: Natural Resource Institute.
- De Janvry A, Sadoulet E, Zhu N (2005), The role of non-farm Incomes in Reducing Poverty and Inequality in China, CUDARE Working papers 1001. Berkely. University of California.
- Hiremath BN (2007), The Changing Faces of Rural Livelihood in India, In National Civil Society Conference: what it takes to eradicate poverty, held at institute of Rural Management Anand 4-6 December.
- IFAD (2001). Rural Poverty Report 2001: The Challenge of Ending Rural Poverty. Oxford: Oxford University Press for International Fund for Agricultural Development.
- ILO (2004), Global Employment for Youth, Geneva.
- Lanjouw JO, Lanjouw P (2001), The Rural Non-Farm Sector: Issues and Evidence from Developing Countries. *Agric. Econ.*, 26(1): 1-23.
- Lanjouw JO, Sheriff A (2002). Rural Non-Farm Employment in India: Access and Poverty Impact. Working Paper Series No. 81. Retrieved from <http://www.ncaer.org/rvp81.pdf>.
- Marshall AJ (2007). Vilfredo Pareto's Sociology: A Framework for Political Psychology (Rethinking Classical Sociology). Ashgate Publishing Limited Hampshire England.
- Meludu NT, Ifie I, Akinbile LA, Adekoya EA (1999), The Role of Women in Sustainable Food Security in Nigeria: A Case of Udu local Government Area of Delta State. *J. Sustain. Agric.*, 15(1): 87-97.
- Micevska M, Rahut DB (2008). Rural Nonfarm Employment and Incomes in the Himilayas. Working Paper No. 205. New Dehli: Indian Council for Research on International Development.
- Mukherjee AN (2002), Farm Productivity and Nonfarm Employment for Rural Development in India, PhD Thesis in Economics University of Tsukuba.
- NSSO (2011). Key Indicators of Employment and Unemployment in India, NSS 66th Round July 2009 – June 2010, National Sample Survey Office, Ministry of Statistics and Programme Implementation, Government of India
- Ogunlade I Adebayo SA (2009). Socio-economic Status of Women in Rural Poultry Production in Selected Areas of Kwara State Nigeria. *Int. J. Poultry Sci.*, 8: 55-59
- Okoye CU (1995). The Rural Economy and Community Banking in Nigeria. In E C Eboh, C U Okoye & D Ayichi (Eds.), *Rural Development in Nigeria: Company: 200-215*.
- Oladeji JO (2007). Effect of Land Degradation on Income Generating Activities of Farmers in Imo State, Nigeria, *Journal of Economics and Rural Development*, 16(1): 93-106.
- Ovwigho BO (2014), Factors Influencing Involvement in Nonfarm Income Generating Activities among Local Farmers: The Case of Ughelli South Local Government Area of Delta State, Nigeria, *Sustain. Agric. Res.*, 3(1): 76-84.
- Palaniswamy A (1984), A study on modernization characteristics and training needs of sugarcane growers, Ph. D. Thesis, University of Agricultural Sciences, Bangalore.
- Poole N, Alvarez F, Penagos N, Vazquez R (2011), Education for all and for what? Life-Skills and Livelihood in Rural Communities. *Journal of Agribusiness in Developing and Emerging Economics*, 3(1): 64 - 78
- Porter G, Blaufuss K, Owusu AF (2007). Youth, Mobility and rural livelihood in Sub-Saharan Africa: Perspectives from Ghana and Nigeria. *Africa insight*, 37(3): 420– 431.
- Reardon T (1997), Using Evidence of Household Income Diversification to Inform Study of the Rural Nonfarm Labor Market in Africa. *World Development*, 25(5): 735-748.
- Reardon T, Stamoulis K, Cruz ME, Balisacan A, Berdeque J, Banks B (1998). Rural Non-Farm Income in Developing Countries; In FAO: *The State of Food and Agriculture (FAO Agriculture Series No:31)* Rome.
- Sheheli S (2012). Improving Livelihood of Rural Women through Income Generating Activities in Bangladesh: PhD

- Dissertation, Humboldt University, Berlin Germany
- Shivalingaiah YN (1995), Participation of Rural Youth in Farm Activities, Ph.D thesis, University of Agirc. Science Banglore India
- Ullar AKMA, Routray JK (2007), Rural Poverty Alleviation Through NGO Interventions in Bangladesh: How far is the Achievement? *Int. J. Soc. Econ.* 34(4): 237–248.
- Umunnakwe VC, Pyasi VK, Pande AK (2014), Factors Influencing Involvement in Agricultural Livelihood Activities among Rural Youth in Jabalpur District of Madhya Pradesh, India. *Int. J. Agric. Pol. Res.*, 2(8): 288-295.
- United Nations (2007). *World Youth Report. 2007.* New York: United Nations
- Vergas-Lundius R, Lanly G (2007). Migration and Rural Employment. Paper prepared for the Round Table
- Organised by the Policy Division during the Thirtieth Session of the Governing Council of IFAD: 12 – 24
- Waldie K (2004), Youth and Rural Livelihoods Retrieved from file: [file:///c:/Documents% 20 and % 20 settings/library/Desktop/youth-an...](file:///c:/Documents%20and%20settings/library/Desktop/youth-an...) on 21st March 2011
- Wikipedia (2013), Jabalpur. Retrieved from http://en.wikipedia.org/wiki/jabalpur_district
- Winters P, Davis B, Carletto G (2009). Assets, Activities and Rural income Generation : Evidence from Multicountry Analysis. *World Development* 37(9):1435 – 145.
- World Bank (2003). *Reaching the Rural Poor: A Renewed Strategy for Rural Development.* Washington, DC: The World Bank.
- World Bank (2008). *World Development Report 2008. Agriculture for Development.* World Bank Publications.