IOSR Journal Of Humanities And Social Science (IOSR-JHSS)
Volume 20, Issue 10, Ver. I (Oct. 2015) PP 01-12
e-ISSN: 2279-0837, p-ISSN: 2279-0845.
www.iosrjournals.org

Contribution of Rural Non-farm Activities in Household Income Generation: A Study on Khulna Region

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Abstract: *The study aims to determine the contribution of rural non-farm activities in household income generation. The study is based on primary data and a total of 110 samples have been selected from two villages of Batiaghata upazila. The data have been collected through questionnaire method. In this study, Ordinary Least Squares and hypothesis testing are used to trace the contribution of rural non-farm and farm activities in household income generation. The result shows that there is significant mean difference between the monthly household income generations by rural non-farm activities and farm activities which is statistically significant at 1% level. The household income generation from non-farm activities is higher than income generating from farm activities by BDT 5200. After that, regression model is used to show the influence of different factors that affect both farm and non-farm activities. From the result, it is seen that household size, occupation type, working experience and working hour are showing statistically significant relationship with non-farm and farm activities.*

Key words: *Non-farm activities, Farm activities, Income generation*

I. Introduction

The economy of rural areas of Bangladesh is primarily based on agriculture and other activities related to agricultural sector. Because of economic pressure, rural households search for alternative means to generate income such as non-farm activities, to adjust with the problem of income variability. Among rural households non-farm activities have become an essential component of livelihood strategies. Diversifying sources of income is a major challenge in our country [1]. In comparison to agricultural sector, employment opportunities from non-farm activities have been increasing quickly since nineties. It has pointed out that healthy and growing non-farm activities can enhance economic growth as it creates income opportunity than subsistence agriculture [2]. To cope with poverty and unemployment in the study area non-farm activities can be a better option for rural household. In this study author tries to trace out the influencing factor that affect both farm and non-farm household income generation. Therefore, the focus of this paper is to examine the contribution of non-farm and farm activities in household income generation. The role of non-farm activities in promoting economic growth and reducing poverty is well documented [3]. Cultivable land is shrinking day by day. Due to fragmentation, subdivision of land holding and population pressure agricultural land is decreasing in our country. At the same time, rural people face money shortage to invest in farm. Therefore, they are involving in different non-farm activities with less investment.

This study incorporates rural household income generation activities by non-farm and farm participants. It also shows income pattern of rural people, their living standard and most socio-economic factor that influence respondents' household income generation. The authors have tried to find out the role of rural non-farm and farm activities in household income generation in Batiaghata upazila. The findings of this paper may help researchers for further in depth study. This study may also help local policy maker to make policy at Batiaghata Upazila. The study is mainly based on primary data collected from study area. Sometimes the respondents have failed to provide the accurate data. This study does not cover all the households located in Batiaghata Upazila because it is quite difficult to collect data from the respondents. This study has considered only 55 farm and 55 nonfarm workers as sample size which is a very small portion of the total population located in the study area. Some of respondents are reluctant in providing data. It was also found that respondents have the tendency to disclose lower income. The rural non-farm activities comprise all those non-agricultural activities which generate income to rural households, either through wage work or through self-employed. Rural non-farm activities are also important sources of rural economic growth. In rural areas household income generation has been aided by the extension of non-farm activities. The rural farm activities comprise all those agricultural activities which generate income to rural households, either through wage work or through self-employed.

The objective of this study is to trace out the contribution of rural non-farm and farm activities in household income generation and to determine the influencing factors that affect both farm and non-farm participants in household income.

II. Literature Review

Rural non-farm activities have become an essential component of livelihood strategies among rural households [4] [5] . The reasons for this observed income diversification include declining farm incomes and desire to insure against agricultural production risk [6]. Household are pulled into the RNF activities when returns from non-farm employment are higher and less risky than in agriculture [7]. The economy of rural areas in developing country is predominantly based on agriculture and other activities related to agriculture sector [8]. Hence, majority of rural population is mainly depending on agriculture sector both for its livelihood and employment. It has been stated that in the rural communities, most households occupied in non-farm activities in order to enhance economic base [9]. There is an increasing trend towards growth of village and rural industries, trade and transportation for providing alternative opportunities of employment as well as for meeting the rising need of the rural people [10]. Non-farm activities are usually divided into two large groups of occupations: high-labour-productivity that leads to high-income activity and low- labour- productivity activities that provide only as residual source of income [11]. Incomes from the non-farm economic activities account for half of the total income in Asia. It also allows more income for rural households [12]. It is universally accepted that when an extreme pressure of population leads to the subsequent addition to labour force, the agricultural sector alone is neither in a position to create additional employment opportunities nor it can provide adequate income to sustain the livelihood of the rural households [13]. Researchers have pointed out two aspects of income diversification as a shift away from agricultural activities and as an increasing mix of income activities [14]. They used Tobit model to evaluate the determinants of non-farm income diversification which shows that, socio-economic status and the access to formal financial markets both have a positive impact on non-farm activities. It has reviewed that land scarcity can be a positive factor cheering rural households' participation in non-farm activities [15] [16]. It is pointed out that the activities cause a set of income portfolios with diverse degrees of risk, expected returns, liquidity and seasonality [17]. Multiple factors can manipulate households to diversify assets, incomes and activities According to [18]. It may be noted that very few people gather all their income from any one source [19]. It is highlighted that the chief non-farm income generating activities which the farmers engaged in included food processing, trading, mat weaving and pottery [20]. The types of non-farm income generating or rural non-farm activities differ across geo-political locations and countries [21]. This has been stated that poverty affects millions of people in Bangladesh at many levels, and poverty mitigation required miscellaneous measures [20]. The most important interventions were those, which provided employment and income creation opportunities to the rural poor, and make them able to raise their living standards. Again rural non-farm activities were frequently countercyclical with agriculture and as such might serve as a consumption smoothing or risk insurance method, particularly when the returns to these activities were not highly-correlated with agricultural returns and might also absorb surplus labour during agricultural off-peak periods [23]. It has tried to point out the recent situation of RNF activities in Bangladesh and other countries, generating employment opportunity and its problem and prospects [24]. It has acknowledged that the non-farm activities can create employment opportunity to a large and increasing percentage of labor force of the country [25].

Suggest that income from the non-farm contributes between 25-35 percent of the total income of rural households, in contrast with its 20-25 per cent share of employment [26]. It is found that the number of workers who recorded non-farm employment as their principal employment grew at 5 per cent per annum between 1977 and 1987, while the share of non-farm jobs rose from 17.9 to 23.4 per cent in rural employment [27].

It has found that 40 per cent of all new non-farm employment was created in rural areas [28]. It is argued that the beginning of a structural change in employment away from agriculture towards the non-farm sector is evident, both at all-India and rural- India levels [29]. Again, in between 1977-78 and 1990-91, the share of the primary sector in GDP (mostly agriculture) and its share in total recorded employment fell, whilst those of the secondary and tertiary sectors have increased [30]. However, the growth of rural non-farm employment during this period is largely attributed to an increase in the proportion of casual workers in the unorganized sector, rather than full time employment or increases the number of rural non-farm producers [31] [32]. Now, the non-farm activities are greatly helping to increase the household income of the rural people but the surveyed literatures do not describe how non-farm activities are generating household income in rural areas and not comparing the contribution of farm and non-farm activities in income generation. Therefore, the study has tried to compare the contribution of rural non-farm and farm activities in household income generation and influencing factor that affect income of non-farm and farm respondent.

III. Methodology

3.1 Study Area and Data Design

The study area is Batiaghata upazila of Khulna district. Many people are engaged in both farm and non-farm activities since long days. Therefore, this place is very convenient to collect data. For this reason, this area is selected for the study. The study is explanatory in nature which comprises of both quantitative and descriptive type of research. Again it is analytical research as hypothesis testing and Ordinary Least Square is used to find out the factors responsible for household income generation in rural areas. Two villages have been selected purposively and from each of the villages 55 respondents are taken and it results 110 samples. The sampling is done on basis of homogeneous groups of occupation in both farm and non-farm activities. In case of farm activities fishing, farming and poultry are chosen. In the study area there are different kinds of non-farm activities. Among these the author has chosen tailor, business man, shop keeper and tea seller as non-farm respondent. The study has followed primary survey based on purposive and multistage sampling technique. At the final stage, 55 households from every village are taken purposively. Among them 23 respondents of Khalshibunia village are involved in non-farm activities and others are involved in farm activities. Again, 22 respondents of Debitala village are involved in non-farm activities and others are involved in farm activities.

Respondents selected by author are only earning member and they are either involved in non-farm or farm activities. That is one respondent is taking part in both activities are excluded purposively and homogeneous income group respondents are chosen in this study. The entire respondents are self-employed and they are not job provider for others. This study is mainly based on primary data but secondary data is also used to prepare the research. Primary data have been collected from the participants engaged in rural farm and non-farm activities through questioning the respondent with a relevant questionnaire. To collect secondary data, this study viewed journal papers, articles, working papers etc. The data collection procedure completed in specific two months of 2015 and the name of the months are March and June.

3.2 Tools of Analysis

For analysis, the study used the tools comprises with hypothesis testing to compare the mean difference between household income generation of farm and non-farm activities and after that regression models are used to find out the factors affecting the income generation by both activities.

3.2.1 Hypothesis Testing

H_0 = There is statistically no significant mean difference between the income of households engaging in non-farm activities and income of households engaging in farm activities.

H_A = There is statistically significant mean difference between the income of households engaging in non-farm activities and income of households engaging in farm activities.

3.2.2 Regression Model

Econometric model that will be used to measure household income of the respondent involved in non-farm and farm activities is given bellow.

$$Y_i = \beta_o + \beta_i \sum_{i=1}^{8} x_i + u_i \text{---------- (1)}$$

3.2.3 Variable Identification

Here, Dependent variable Y_i = Household income farm/non-farm (BDT/month)

β_i = Coefficients; β_0 = Constant Term

u_i = Error term

Total population of the area is 128184 and the male-female ratio is 51:49. Main occupations of the people are agricultural farming, fishing, agricultural laborer, wage labor, commerce, transport, construction, service and others [33].

IV. Analysis And Discussion

4.1 Socio-demographic Scenario of the Respondents

It is needed to have a clear concept of socio-demographic scenario of the respondents to understand their actual condition and to analysis data. This part considers the socio-demographic status of both farm and non-farm participants.

4.1.2 Age-sex Distribution of Respondents

Age is an important influential factor for both farm and non-farm participant. On the other side male worker are capable of doing complicated work than their counter part. For this reason age and sex structure of

respondent is essential for study. From survey it is revealed that the age of the respondents varied from 20 years to 70 years.

Table 4.1: Age-sex Distribution of the Respondents

Sex / Age (Years)	Frequency				Percentage (%)	
	Non-farm		Farm		Non-farm	Farm
	Male	Female	Male	Female		
21-30	24	2	2	0	23.64	1.82
31-40	18	3	8	0	19.09	7.27
41-50	7	1	16	0	7.27	14.55
51-60	0	0	19	0	0	17.27
61-70	0	0	10	0	0	9.09
Total						**100**

Source: Author's compilation based on field survey, 2015

From Table 4.1, it is found that the age of the majority of non-farm participants are between 21 to 30 years but the age of the majority of farm participant are between 51 to 60 years. This shows that participant of younger age are mostly involved in non-farm activity. The next highest number of non farm and farm respondent belonged to the age group of 31 to 40 and 41 to 50 respectively. It is found that the greater the age, higher the participation in farm activities. Only 6 females are participating in non-farm activities. In case of farm respondents, the entire respondents are male.

4.1.3 Educational Status of Respondents

Educational rate in the rural areas is not so high though the trend has increased than before. In the study area, educational status of the respondents is not so standard.

Table 4.2: Years of Schooling of the Respondents

Schooling (Year)	Frequency		Percent (%)	
	Non-farm	**Farm**	**Non-farm**	**Farm**
No Schooling	4	15	3.64	13.63
1-5	10	25	9.09	22.73
6-8	16	14	14.54	12.73
9-10	16	1	14.54	0.91
11-12	9	0	8.18	0
Total	**55**	**55**		**100**
Mean	7.49	3.82		
Maximum	12	10		
Minimum	0	0		
Standard deviation	3.26	2.82		

Source: Author's compilation based on field survey, 2015

Table 4.2 shows that 35 respondents have only one to five years of schooling which covers around 32 percent of the total respondents. No schooling experience is for 19 respondents which is 17.27 percent of the total. This statistics indicates that most of the respondents are not highly educated. From the Table 4.2, it is also clear that non-farm participants are more educated than farm respondent.

4.1.4 Household Size

There is a relationship between family size and occupation type. The household size of the respondent is given in Table 4.3.

Table 4.3: Household Size of Respondents

Household size (No.)	Frequency		Percent (%)	
	Non-farm	Farm	Non-farm	Farm
1-3	7	0	6.36	0
4-6	42	35	38.18	31.82
7-9	6	20	5.46	18.18
Total	**55**	**55**		**100**
Mean	4	6		
Maximum	8	9		
Minimum	3	4		

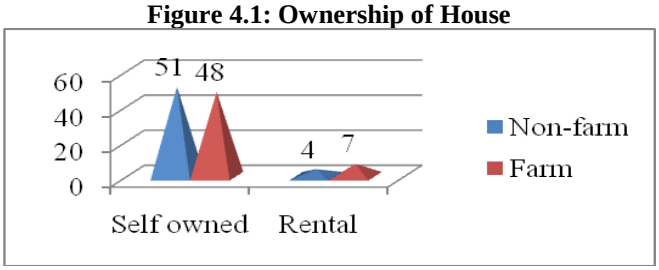
Source: Author's compilation based on field survey, 2015

The study has found that most of families consist of four to six members. Only 6.36% of non-farm participants have one to three members. Majority of respondents in both farm and non-farm (around 70%) family members have 4 to 6 members. It means that family size in this study area is concentrated within 4 to 6 members.

4.1.5 Ownership of House

In the rural areas maximum respondents have their own house. Only few respondents are living in rental house. From the Figure 4.1, it is seen that 90% of total households have their self owned house. 51 non-farm and 48 farm respondents have their own house. Only 10% of total households do not have their self owned house.

Figure 4.1: Ownership of House

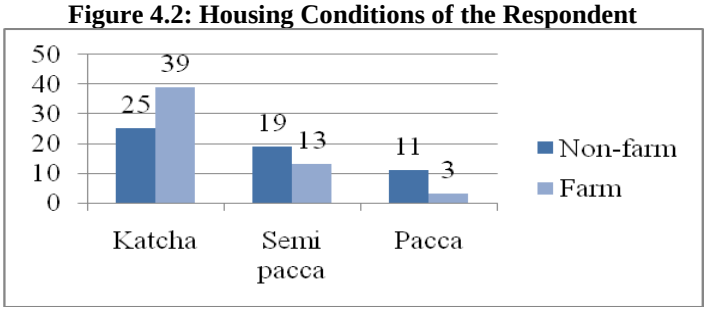


Source: Author's compilation based on field survey, 2015

4.1.6 Housing Condition of the Respondents

In the rural areas maximum houses are katcha and semi paka. Mainly low and middle income people are chosen for the study. Consequently, most of the houses of the respondents are katcha.

Figure 4.2: Housing Conditions of the Respondent



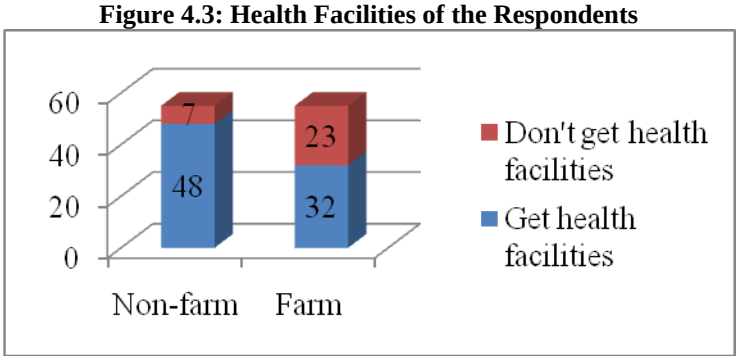
Source: Author's compilation based on field survey, 2015

Figure 4.2 shows the housing condition of the respondents. In the study area, around 58% house is katcha, around 29% house is semi pacca and around 12% house is pacca. Maximum houses of farm houses (39 respondents) and non-farm houses (25 respondents) of the study area are katcha because economic condition of the respondents is not moderate.

4.1.7 Health Facilities

Getting health facilities is one of the basic needs of human. All the people of this area are not getting these facilities. The Figure 4.3 shows condition of getting health facilities by respondents.

Figure 4.3: Health Facilities of the Respondents



Source: Author's compilation based on field survey, 2015

From graph it is seen that around 27% of the respondents of the study area are not getting health facilities. On the other side, rests 73% are getting health facilities. The most important thing here could be that the respondents who are getting health facilities have sound economic condition to meet up their illness cost. Most non-farm respondents (48 respondents) and farm respondents (32 respondents) are enjoying health facilities.

4.1.8 Occupation Category-wise Distribution

There are many kinds of farm and non-farm activities in Bangladesh. Among them 3 categories of farm and 4 categories of non-farm activities are chosen in this study. A total number of 110 activities from 2 villages of Batiaghata Upazila are considered in the study. The samples are purposively selected from different categories. Table 5.4 shows this sample distribution for every category.

Table 4.4: Sample Size of Rural Farm and Non-farm Activities

Types of Activities	Observations	
	Number	Percentage
Farmer	28	25.45
Fishery	21	19.09
Poultry	6	5.46
Total Farm Employment	**55**	
Tailor	9	8.18
Business man	27	24.54
Tea seller	8	7.27
Shop keeper	11	10
Total Non-farm Employment	**55**	**100**

Source: Author's Compilation Based on Field Survey, 2015

From above non-farm activities, highest numbers of samples have been taken from business man. Among 110 samples 27 respondents have been taken from tempo driver that is 24.54% of the total number. The lowest number of samples is 8 which are taken from tea seller that is 7.27% of the total. Tailoring is also an important non-farm activity in this area. Tailoring consists of 8.18% of non-farm activity from total samples is taken in the study.

4.2 Socio-economic Scenario of the Respondents

It is needed to have a clear concept of Socio-economic scenario of the respondents to understand their actual condition and to analysis data. This part considers the socio-economic status of both farm and non-farm participants.

4.2.1 Income Distribution of Respondents

The mean monthly household income of non-farm and farm respondent is BDT 8727.27, in which the maximum income is BDT 16000 and the minimum income is BDT 4000 only. Here the distribution of income has varied of 2935.577 on an average from the mean value.

Table 4.5: Income Distribution of the Respondents

Ranges of income (BDT)	Frequency		Total
	Non-farm	Farm	
2000-4000	0	1	1
4001-6000	0	29	29
6001-8000	0	25	25
8001-10000	15	0	15
10001-12000	27	0	27
12001-14000	8	0	8
14001-16000	5		5
Total	**55**	**55**	**110**
Mean	11327.27	6127.27	8727.27
Maximum	16000	8000	16000
Minimum	9000	4000	4000
Standard deviation	1743.289	765.084	2935.575

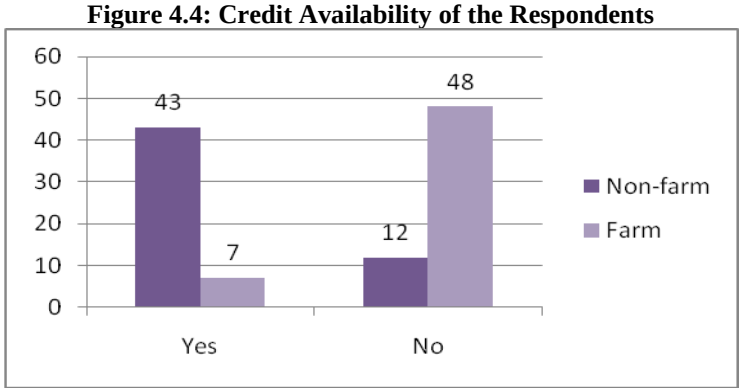
Source: Author's compilation based on field survey, 2015

No non-farm respondent is falling in the income ranges between BDT 2000-4000 where the farm respondents are only 1.82%. No non-farm respondent has an income range which is equal to or greater than BDT 4000 but less than BDT 6001. In this category, the percentage of farm respondents is 52.73. Most of the non-farm respondents are belongs to the category where income ranges are BDT 10001 to 12000. On the other hand most of the farm respondents are falling in the category of BDT 4001 to 6000. The average income of non-farm respondents is BDT 11327.27 and BDT 6127.27 for farm respondents. The maximum income of non-farm respondents is BDT 16000 and minimum income is BDT 4000. Whereas, the maximum income of farm respondents is BDT 8000 and minimum income is BDT 4000. The value of Standard deviation of non-farm respondents is BDT 1743.29, which mean the income of non-farm respondents has deviation of around BDT 1743.29 on an average from the mean value and the income of farm respondents has deviation of around BDT 765.08 on an average from the mean value.

4.2.2 Credit Availability of Respondents

Credit plays a vital role for increasing involvement in non-farm activities. Most of the non-farm participants get credit facilities from different sources.

Figure 4.4: Credit Availability of the Respondents



Source: Author's compilation based on field survey, 2015

Figure 4.4 shows that 43 non-farm respondents get credit facilities which cover around 78% of total non-farm respondents. On the other hand only 7 farm respondents get credit facilities which cover around 13% of total farm respondents. Again, 12 non-farm respondents do not get credit facilities which cover 22% of total non-farm respondents only. 48 farm respondents do not get credit facilities which cover around 87% of total farm respondents. Since, it is clear that respondents who are getting more credit facilities are involving in different non-farm activities.

4.2.3 Working Experience of Respondents

Working experience of respondents depend on the years of business that is how many years the respondents are engaged in the respective farm or non-farm activities. Working experience is an indicator of efficiency and expertise.

Table 4.6: Working Experience of the Respondents

Experience (Year)	**Frequency**		**Percent (%)**	
	Non-farm	Farm	Non-farm	Farm
1 to 5 years	36	3	65.45	5.45
6 to 10 years	17	10	30.91	18.18
11 to 15 years	2	17	3.64	30.91
16 to 20 years	0	12	0	21.82
> 20 years	0	13	0	23.64
Total	**55**	**55**	**100**	**100**

Source: Author's compilation based on field survey, 2015

From Table 4.6 it is seen that 65.45% of non-farm and 5.45% of farm respondents have working experience of 1 to 5 years. 30.91% of non-farm and 18.18% of farm respondents have working experience of 6 to 10 years. Only 3.64% of non-farm and 30.91% of farm respondents have working experience of 11 to 15 years. 0% of non-farm and 21.82% of farm respondents have working experience of 16 to 20 years. Again, 0% of non-farm and around 24% of farm respondents have working experience of 16 to 20 years. This may be because young people are involving in non-farm activities thus their working experience is not high.

4.2.4 Distribution of Land Holding

Land holding is a significant factor for analyzing socio-economic condition of respondents. Total respondent chosen by the researcher are either land less or has small land holding.

Table 4.7: Distribution of Land Holding

Measures	Non-farm (In bigha)	Farm (In bigha)
Mean	0.036	0.373
Maximum	0.378	1.512
Minimum	0	0
Standard deviation	0.086	0.37

Source: Author's compilation based on field survey, 2015

Table 4.7 shows that the average land holding for non-farm respondent is 0.036 bigha, with maximum and minimum bigha of land holding is 0.378 and 0 bigha respectively. On the other hand, farm respondents possess 0.373 bigha of land on an average, with maximum and minimum bigha of land is 1.512 and 0 respectively. The standard deviation for the farm respondent is 0.37 bigha larger than the non-farm 0.086 bigha. Therefore, the distribution of land holding for farm respondent is deviating from the mean value of 0.37 and the non-farm respondent is deviating from the mean value of 0.086.

4.4.5 Working Hour of Respondents

For farm and non-farm workers working hour is very important. Working hour for farm and non-farm workers are given in Table 4.8. The average working hour for non-farm respondent is 9.78 where the maximum working hour is 13 and the minimum is 7. On the other side, the average working hour for farm respondent is 7.69 where the maximum working hour is 10 and the minimum is 6. The standard deviation of non-farm respondents is 1.685 which indicates the distribution of working hour of non-farm respondents has deviation of 1.136 on an average from the mean hour and the distribution of working hour of farm respondents has deviation of 1.136 on an average from the mean hour.

Table 4.8: Working Hour of Respondents

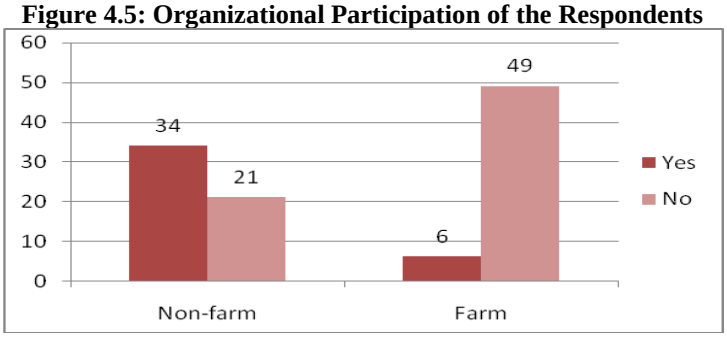
Measures	Non-farm (hour/day)	Farm (hour/day)
Mean	9.78	7.69
Maximum	13	10
Minimum	7	6
Standard deviation	1.685	1.136

Source: Author's compilation based on field survey, 2015

4.2.6 Organizational Participation of the Respondents

Organizational participation indicates that an individual who has organizational participation he has higher probability of involving in non-farm work rather than farm work.

Figure 4.5: Organizational Participation of the Respondents



Source: Author's compilation based on field survey, 2015

The Figure 4.5 shows that 34 non-farm respondents had organizational participation which covers around 62% of total non-farm respondents. On the other hand only 6 farm respondents get credit facilities which cover around 11% of total farm respondents. Again, 21 non-farm respondents had no organizational participation which covers around 38% of total non-farm respondents. 49 farm respondents had no organizational participation which covers around 89% of total farm respondents. Therefore, it is clear that respondents who are having organizational participation are involving more in different non-farm activities.

4.3 Result and Discussion

Non-farm sources of income are very much significant for the rural underprivileged. The direct agricultural income obtained by the poor is not enough to sustain their livelihoods, either because of landlessness or because the land they own or lease is unsatisfactory. Wage employment in farming is highly seasonal; as a result, many rural people cannot cross the minimum poverty level. Rural non-farm activities are especially suitable for poor households because they require little capital and generate more employment per unit of capital than do farm activities. This chapter tries to find out the contribution of farm and non-farm in household income generation.

4.3.1 Hypothesis Testing

Table 4.9 shows the calculated t test result of monthly household income of farm and non-farm respondents. Mean monthly household income of farm household is around BDT 6127 and non-farm is around BDT 11327.

Table 4.9: Mean Difference t Test of Income

Variable	Obs.	Mean	Std. Err.	Std. Dev.	95% conf. Interval	
Farm Income	55	6127.3	103.1639	765.084	5920.442	6334.104
Non-farm Income	55	11327.3	235.0651	1743.289	10856	11798.55
Combined	110	8727.27	279.9	2935.575	8127.528	9282.018
Difference		-5200	256.7068		-5708.84	-4691.163

(Std. Err. = Standard Error, Std. Dev. = Standard Deviation, conf. = confidence)

Here, t = - 20.2566

H_o: difference = 0		Degrees of freedom = 108
H_A: difference < 0	H_A: difference! = 0	H_A: difference > 0
Pr (T < t) = 0.0000	Pr (| T | > | t |) = 0.0000	Pr (T > t) = 1.0000

Source: Author's compilation based on field survey, 2015

Mean income difference between farm and non-farm is around BDT 5200. The Calculated t value is -20.2566, which is statistically significant at 1% level; therefore, null hypothesis is rejected which implies that there is statistically significant mean difference between the monthly income of farm households and non-farm households. The hypothesis testing reveals the favor on non-farm monthly household income than farm monthly household income.

4.3.2 Model Discussion

To discuss the model the study first tries to find out the value of dependent variable 'Y' (income of respondents). This study compares the difference between farm and non-farm respondents household monthly income (in BDT).

Table 4.10: Regression Results

Variables	Ordinary Least Squares
Household size	-156.1*
	(92.50)
Land holding (bigha)	-605.3
	(446.2)
Education (schooling year)	35.52
	(39.11)
Occupation type	3,861***
	(509.8)
Credit availability	335.8
	(305.7)
Organizational participation	249.9
	(281.0)
Working hour/day	417.4***
	(86.51)
Working Experience (years)	39.24*
	(22.49)
Constant	3,267***
	(905.4)
Observations	110
R-squared	0.857

Standard errors in parentheses, *** p<0.01, ** p<0.05, *p<0.1

Source: Author's compilation based on field survey, 2015

Table 4.10 shows that the value of R^2 from OLS is around 0.86 which indicates that about 86% of the variation in income by both farm and non-farm household is explained by the independent variables. Household size is negatively related with income i.e. if household size increases by 1 member, it may decrease monthly household income by around BDT 156, Ovwigho, 2014, has found the same relation in his research. Co-efficient of household size is statistically significant at 10% level. The co-efficient of land holding is negatively related with income, it is not statistically significant, Ibekwe et al., 2010 also support this result. Probably this is because when a person has more land may feel reluctant to involve in other economic activities and generally it is well known that land holding may less contribution in their household income generation. According to Rahman, 2011 individuals who had more years of schooling had a higher probability of participating in economic activities. In the study area, author found positive relationship between years of schooling and monthly household income from farm and non-farm activities, yet it is not statistically significant. Probable reason of positive relation might be that with higher education people become more conscious about getting higher income, being more skilled and use their expertise in their particular occupation. Here, occupation type (non-farm =1, farm = 0) is statistically significant at 1% level. It implies that if a respondent involves in non-farm activities then respondent's monthly household income will be increased by around BDT 3861. In this study area, non-farm activities are more income generating than farm activities because farm activities are dependent on climatic condition. Non-farm activity is less dependent on this type of incidence. Therefore, their monthly household income is higher than farm respondents where as non-farm respondents have scope to switch from one occupation to another. Credit availability is positively related with income for respondents. If respondents credit availability increases, it increases monthly household income by around BDT 336, which is not statistically significant. According to Madaki and Adefila, 2014 credit availability increases household income. One possible reason may be credit is used in productive purpose by respondents. The positive coefficient of organizational participation indicates that individuals who had organizational participation is earning around BDT 250 more per month than who had no organizational participation. This might be because when they had organizational participation, they get new idea from organization. This may lead to increase in their household income. The co-efficient of working hour is positively related with income for respondents. It implies that, 1 hour increase in working hour would result in increase in monthly household income of respondent by around BDT 417 and it is statistically significant at 1% level, Wanyama et al., (2010) also support this finding. Probably this is because of working an extra hour income leads to increase income by the households. The co-efficient of working experience is positively related with income for respondents. It implies that, 1 year increase in working experience would result in increase in monthly household income of respondents by around BDT 39. It is statistically significant at 10% level. This might be because with increasing experience respondent acquire more knowledge and skills about their activities, which may lead to increase in their income, Ibeakwe et al., 2010 also supports this result. From the discussion, it can be concluded that some variables are significant but others are not. For farm and non-farm respondents household size, working hour, working experience and occupation type has significant impact on monthly household income of respondents. Thus, from the light of above discussion it can be concluded that the rural non-farm activities has significant contribution on household income generation.

V. Concluding Remarks

5.1 Findings

Most of the non-farm participants are within 21 to 30 years old. In non-farm activities only 6 participants are female. The entire respondents of farm participants are male. Respondents of this study area are not highly educated. Maximum houses are either katcha or semi paka. 73% of total respondents are getting health facilities. Analyzing the hypothesis this research reveals that, non-farm household income in this study area is higher than farm household income. The Calculated t value is -20.2566, which is statistically significant at 1% level; therefore, null hypothesis is rejected, which implies that there is statistically significant mean difference between the monthly household income of farm and non-farm household income. In this study area household size is negatively related with household income, it is statistically significant at 10% level. In this study area land holding is negatively related with farm and non-farm income. Credit availability is positively related with income of the respondents. If credit availability increases, it will lead to increase monthly household income. From the analysis it is found that organizational participation is positively related with income, but it is not statistically significant. Both farm and non-farm respondent can gain more money by increasing working hour, 1 hour increase in working hour would result in increase in monthly household income by around BDT 417 per month and it is statistically significant at 1% level. Working experience can increase respondents' monthly income. In case of non-farm participants, household income increases by around BDT 3861, this is statically significant at 1% level. Moreover, the study area is mostly salinity area and thus farm activities may be hampered and probably it may reduce their productivity. If the participant is a non-farm

worker, he needs not to depend on climatic condition and have options to switch from one work to another to earn more.

5.2 Conclusion

The findings of the study reveals that non-farm respondents' average monthly income received is higher than farm respondent. It is also seen that in rural areas non-farm activities are gaining more popularity than farm activities. Rural non-farm activities are playing great role to create employment opportunity consequently to reduce poverty in rural areas. From all the empirical experiment of the study, this paper concludes that household income level of the workers has increased as some of them are participating in farm activities and others are participating in non-farm activities which help to increase their income. Moreover, this study finds out the contribution of rural non-farm and farm activities in household income generation and determine the influencing factors like education, land holding, working hour, working experience etc. that have impact on both farm and non-farm income. Non-farm activities can remove over dependency on agriculture. Therefore, non-farm activities should be accorded recognition and encouraged to flourish.

This paper is limited with small number of sample which is not enough for finding out a dependable conclusion. If it is possible to take a good number of samples it could be a good research. Therefore, this could be a research gap for the future researchers who have interest in this regard. But in conclusion it can be said that this paper can perform as literature of rural economic activity and thus, it will help to the policy makers also.

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