Journal of Economics and Sustainable Development
ISSN 2222-1700 (Paper) ISSN 2222-2855 (Online)
Vol.8, No.12, 2017

An Analysis of Socioeconomic Indicators of Rural Non-agricultural Households in Bangladesh: A Case of Handloom Weaving

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This research is financed by "German Academic Exchange Service (DAAD)" for pursuing the Ph.D. degree under the scholarship program "Agricultural Economics, Bioeconomy and Rural Development".

Abstract
This paper attempts to examine the livelihood condition of one of the leading non-agricultural rural households called handloom weavers in Bangladesh. Therefore, a multistage sampling technique was employed to collect the primary data from 311 handloom weavers under Sirajganj District of Bangladesh during 2015. A descriptive analysis technique is used to analyze the basic socioeconomic variables such as age, education, family size, farm size, occupational status, income, investment, consumption and savings pattern, financing sources and the accesses to basic infrastructural facilities. The study reveals that the weaver households in Bangladesh lead a better standard of living with regard to most of the socioeconomic indicators except the education level, the amount of finance received, and the support services from the government. Therefore, this study recommends for the ways to improve those situations so that the weavers are able to utilize their full potential in improving their social and economic conditions within the context of Bangladesh.
Keywords: socioeconomic indicators, non-agricultural households, handloom weaving, Bangladesh

1. Introduction

Bangladesh, having a population of 156.80 million (BBS, 2015) is recognized as one of the most populated countries in the world. Almost 80% of the population in this country lives in rural areas whose livelihood is mainly dependent on agricultural occupation (Banarjee, Muzib, and Sharmin, 2014). However, agricultural cannot always offer the poor households a sustainable livelihood as the production of agricultural products is always subject to seasonal risk and uncertainties. Therefore, the scholars (e.g. Pitt, 1999; Kevin and Weiss, 2005; Kaija, 2007) have described the potential of rural non-farm sectors in improving the socioeconomic status of the poor households in rural areas. This is because non-farm activities provide more income as compared to agriculture and help to avoid the shocks associated with agricultural production. In fact, the expansion of rural non-farm sector is one of the priority poverty reduction plans of the Government of Bangladesh (GoB) as it contributes 36% share in the GDP as reported by BER (2012). Its importance is reflected by the incorporation in the poverty reduction strategy paper called National Strategy for Accelerated Poverty Reduction 11, shortly NSAPR II in Bangladesh (IMF, 2012).

In this respect, handloom weaving sector could be one of the best policy options for the GoB as a mean of reducing poverty. It is the largest traditional cottage industry whose history dates back to more than 300 years. It is defined as the manual process of producing the woven fabric through the help of a machine that is made of wood and iron and which does not require any electrical power to be operated. Due to its labor-intensive nature, it solves the unemployment problems of this manpower based country which is further reflected by the direct and indirect involvement of more than 1.5 million labor force in this occupation. In addition to that, it contributes to 28.1% of total domestic cloth production (BBS, 2003) and thus it meets the demand for one of the non-consumable basic needs of life that is cloth for the vast number of population (Islam and Hossain, 2012; Rahman, 2013; Rahman, Mukul and Anny, 2014). Each year the handloom sector adds a value of nearly 10 billion in the country's export earning (Liton, Islam, and Saha, 2016). Due to these potentials, the handloom sector is regarded as the most important rural economy next to agriculture.

Apart from all those prospects, this sector is confronted with several challenges. For example, the introduction of cost-intensive power loom has increased the competition for the handloom weavers. It is further combined with the higher price of raw materials and lower price of final products. Lack of capital also restricts the technology adoption. Besides these problems, the lack of product diversification also loses the market for the handloom products which is further associated with the poor infrastructural facilities for marketing. Problems are also caused by the lack of extension facilities and inadequate government support for the handloom sector

development etc. (Ghosh and Akter, 2005; Narzary, 2012; Rahman, 2013; Kumudha and Rizwana, 2013; Rahman, Mukul and Anny, 2014; Kasisomayajula, 2012; Liton, Islam and Saha, 2016). As a result, a large number of small-scale weavers are either leaving their parental occupation or migrating to the cities and in countries like India which is leaving a negative impact on the country's economic condition (Banarjee, Muzib & Sharmin, 2014). In India itself, many of the weavers have committed suicide due to their bad economic condition in present days (Kasisomayajula, 2012).

Apart from those literatures that studied the prospects and challenges taking a holistic view of the overall handloom sector, this study justifies the need for examining the socioeconomic factors of the handloom weavers that might be linked with the bad economic situation of the handloom industry. Although there are some studies on the selected topic, they specifically highlight the Indian context (e.g. Kasisomayajula, 2012; Venkateswaran, 2014; Raju and Rao, 2014; Lakshmy Devi, 2014; Prathap & Naidu, 2015; Dodmani, 2015; Sreenivas & Suman, 2016). However, in Bangladesh, research on this topic is not found. Rather, the national literatures focused on the analysis of the present scenario (Islam and Hossain, 2012; Rahman, Mukul and Anny, 2014; Liton, Islam and Saha, 2016), cost-benefit analysis (Islam, Hossain and Ghosh, 2013), efficiency (Jaforullah, 1999) and inefficiency measurement (Islam and Hossain, 2015) of the handloom sectors and so on.

However, most of the socioeconomic and other handloom related literatures are criticized by this study on the following issues:

- The unclear problem statement;
- The contradiction about the methods of data collection, the insufficiency in data description and interpretation of the analyzed findings;
- The smaller sample sizes that usually raise the concern of representativeness;
- The tendency of using secondary sources of data, instead of primary.

On this regards, the present study is expected to be one of the comprehensive studies which have tried to deal with the preceding issues. It is further justified by this study that, understanding the socioeconomic characteristics of the weavers is the primary attempt of all the researchers planning for a specific research in a specific study area. Therefore, this study will provide such information to the researchers and thus, it will save their time from re-conducting the same kind of research. It will also guide the researchers and policy makers to focus on the factors that require special attention in improving the social and economic condition of rural households. Additionally, it is hypothesized that the socioeconomic status of the households differs from one area to another. Therefore, this study will help the researchers to understand and compare such differences according to the diversity of the study coverage.

2. Methodology of the study

2.1 Selection of the study area and sampling technique

According to the research interest, a cross-sectional sample survey was conducted during July 2015 to December 2015 under Sirajganj district of Bangladesh. In that case, a single weaver household served as the sampling unit. A total of 311 households were directly interviewed using a structured questionnaire where the information was provided by the household head. A multistage sampling technique was employed. The details of the sampling technique are discussed as follows:

In the first stage, Sirajganj District was chosen purposively as this district is ranked 1st among the 10 handloom concentrated Districts in Bangladesh. This district also holds a highest number of handloom establishment as well as the highest number of operational production unit as per the "Bangladesh Handloom Census 2003" (BBS, 2003). According to Rahman, Mukul and Anny (2014), this district holds nearly 0.2 million weaving units of which 0.14 million is handlooms units and account for 31% of total handloom production within the country. As a result, it seems that the collection of data from this district is more appropriated in representing the handloom sector throughout the Bangladesh.

In the second stage, the study selected 4 Upazilas under Sirajganj District in consultation with the head office of "Bangladesh Handloom Board (BHB)" which is responsible for the overall development, promotion and expansion of handloom sector in the country. These areas had the comparative advantage in terms of the availability of a significant number of small-scale weavers and easy accessibility. These Upazilas are named as Shahjadpur, Ullapara, Raiganj and Belkuchi.

In the third stage and final stage, a total of 22 villages and 311 weavers were randomly selected from the list of villages and households living under these 4 studied Upazilas. In fact, this information was also provided by BHB. Finally, data on the household's socioeconomic status such as age, education family size, farm size, experience, the endowment of resources, income, expenditure, savings, access to various credit sources and social structures such as schools, hospitals, markets, good roads etc. were collected for the present study. The numbers of respondents interviewed were not equal for all the study areas due to the research limitation.

2.2 Analytical procedure

A descriptive analytical approach has been used to obtain the findings of the study. A statistical software package called the Statistical Package for the Social Sciences (SPSS) has been used to calculate the frequency, mean, standard deviation and percentage. Some statistical tests were also conducted to check the differences in the estimated mean values in different study areas. Besides these estimates, some of the variables have been graphically analyzed. Finally, the comparative interpretation was done both between and within the study areas to generalize the research findings. The methodology of the study is shortly summarized and presented in diagram 1.

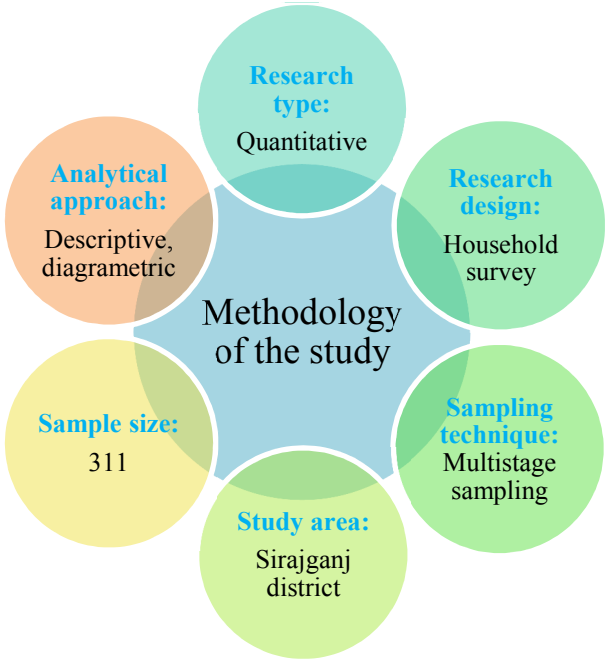

Figure 1. Methodology of the study
Source: Own construction

3. Results of the study

The objective of this study is to assess the socioeconomic conditions of non-agricultural rural households in Bangladesh where handloom weavers and Sirajganj district serve as a case. This section presents the analyzed descriptive findings of the study. For the convenience of the interpretation, the estimated values of some of the variables such as age, family size, income etc. have been considered as an integer number. They are discussed in detail in the following sub-sections:

3.1 Age distribution

The variable age is generally seen as the ability and responsibility of a person to manage the weaving business properly. It is generally accepted that the younger people are more productive, efficient and dynamic to undertake the business risk as well as they are more interested in technology adoption than someone old. With this conception, this study has estimated that the average age of the studied households were 44 years (Table 1) during 2015 which falls within the working age group of 15-64 years classified by BBS (2010) in the "Household Income and Expenditure Survey 2010". Population below or over this age range is considered as the dependents in Bangladesh. Therefore, it can be concluded that most of the respondents in the study areas were productive. However, there was no significant difference between the mean ages of the sampled households in different study areas as the calculated F-value and Kruskal-Wallis Chi-Square Test statistic (note 1) is insignificant.

Table 1. Age distribution (in years) of the sampled weavers in different study areas

Statistical indicator	Name of the study areas				Total sample (N=311)
	Shahjadpur (N=118)	Ullapara (N=110)	Raiganj (N=40)	Belkuchi (N=43)	
Mean	46	43	41	44	**44**
Std.	13	12	11	14	**13**
F-value	1.72				
Kruskal-Wallis Chi-Square Test	5.74				

Source: Field survey, 2015

3.2 Educational status

The literacy level is considered as the key to developing the human capital of a nation. The skills and knowledge acquired through education determine the ability of a person to execute the profitability from their business. This study has classified the studied households under 5 different educational statuses as shown in Table 2. The levels ranged between the state of being able to sign to the graduation or more. However, a frustrating scenario is observed from the estimated result as it shows that the majority of the households (nearly 41%) were having just a primary level of education during 2015. This rate is lower than the national average of 57.91% according to "Household Income and Expenditure Survey 2010" (BBS, 2010). The mean literacy level of the studied households was 4.63 years. This scenario was almost similar in all the study areas as proved by the insignificance level of both F-test and Kruskal-Wallis Chi-Square Test. Moreover, Belkuchi Upazila was comparatively better in this indicator while the households in Raiganj region had the lowest level of knowledge and skill.

Table 2. Proportion of households with different levels of education in the study areas

Literacy level (years of schooling)	Name of the study areas				
	Shahjadpur (N=118)	Ullapara (N=110)	Raiganj (N=40)	Belkuchi (N=43)	**Total sample (N=311)**
Can sign Only	22.03	20.91	20.00	13.95	**20.26**
Illiterate	8.47	13.64	10.00	13.95	**11.25**
Primary	43.22	36.36	40.00	44.19	**40.51**
Secondary	15.25	21.82	22.50	16.28	**18.65**
Higher secondary	8.47	6.36	7.50	11.63	**8.04**
Graduate and above	2.54	0.91	-	-	**1.29**
Mean level of education (years)	4.87	4.82	3.88	4.94	**4.63**
F-statistic	0.84				
Kruskal-Wallis Chi-Square Test	0.40				

Source: Field survey, 2015

3.3 Household size

The family size is an important measure of the amount of money to be incurred on food and non-food items. A small family size can help to save the consumption expenditure of the household that can be used to deal with the risk of economic insolvency during some unexpected shock. In contrast to that idea, a large family size is regarded as an advantage over the number of hired labor required for production in weaving business. The descriptive analysis of this variable is presented in Table 3. A sizable small family havingaverage members of 5 is estimated for the studied respondents which are lower than the national average of 5.63 according to the "Household Income and Expenditure Survey 2010" conducted by BBS (2010). Relatively, the households had more male members as the male-female ratio is estimated at 1.66. The dependency ratio of 1.15 indicates that in the study areas each of the active family members had to support more than 1 inactive member within the family. However, both the test statistics confirms that household size varied in the study area as it is statistically significant at 10% level.

Table 3. Distribution of family size (in number) of the sampled households in different study areas

Family size indicator	**Name of the study areas**									
	Shahjadpur (N=118)		Ullapara (N=110)		Raiganj (N=40)		Belkuchi (N=43)		Total sample (N=311)	
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.
Mean family size	5.58	2.25	5.26	1.96	4.70	1.42	5.63	2.18	**5.36**	**2.06**
Male: female	1.57	1.19	1.72	1.10	1.50	1.06	1.88	1.26	**1.66**	**1.15**
Dependency ration	1.22	1.11	1.08	0.93	1.21	1.13	1.11	1.31	**1.15**	**1.08**
F-value	2.15*									
Kruskal-Wallis Chi-Square Test	6.79*									

Source: Field survey, 2015
*** Significant at 10% level

3.4 Working experience

The number of years spent on a particular occupation is termed as the experience of work in general. It is expected that an experienced person is better able to make a rational decision regarding their business than an inexperienced person. The survey result presented in Table 4 reveals that the mean level of experience of the studied households was nearly 22 years which is extensively higher to proof the skills and abilities of the weavers in this handloom occupation. Among the four study areas, weavers in the Shahjadpur area were comparatively more experienced than others. However, area-wise no evidence of the difference is observed in the mean level of this variable as the test statistics are insignificant.

Table 4. Level of experience (in years) of the sampled households in different study areas

Statistical indicator	**Name of the study areas**				**Total sample (N=311)**
	Shahjadpur (N=118)	Ullapara (N=110)	Raiganj (N=40)	Belkuchi (N=43)	
Mean	23	22	20	20	**22**
Std. Deviation	13	13	13	14	**13**
F-value	1.36				
Kruskal-Wallis Chi-Square Test	4.49				

Source: Field survey, 2015

3.5 Occupational diversity

The general nature of rural households in Bangladesh is that they try to find their employment in a mixed economy composed of the farm, non-farm, and off-farm income sources. Handloom weavers were also not apart from that system. In fact, their motive was to avoid the risk of business through the engagement by some of the members of the family in those occupations. With this regard, a variety of occupational statuses proxied by income sources was recorded during the survey in 2015 which is presented in a diagrammatic form in figure 2. It is obvious that all the studied households undertook handloom weaving as their primary occupation in the study areas. However, 49.02% of them undertook it as their single most income source while 43.08% and 7.70% respectively were involved in different sources of farm and off-farm occupations besides their primary occupation. Among the population with their engagement if farm activities, 28.62% of them undertook only crop production, 10.29% of them undertook livestock production and 4.17% of them undertook fisheries production activities as their subsidiary occupation. On the other hand, the major off-farm income sources included the agricultural and non-agricultural wage labor, services, small business such as shopkeeping and finally transportation and construction work. As the proportion of the households under different off-farm activities is estimated as very small, they are not subdivided for the convenience of the analysis.

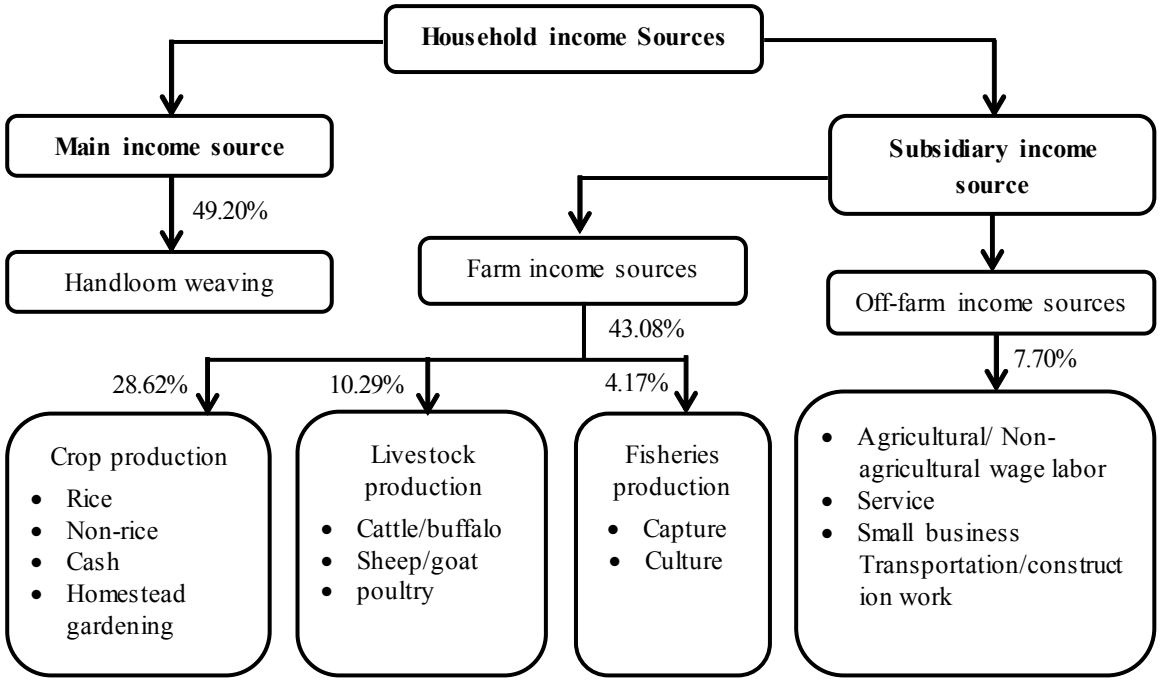

Figure 2. Diversity in the occupational pattern of the studied households in the study areas
Source: Own construction

3.6 Farm size

Farm size, the amount of land occupied by a household, is used as a measure of wealth position in the society. Even though the weavers are the non-agricultural households, yet, some of them undertook agriculture as the secondary source of income as noted from the figure 2. Therefore, this study has calculated the level of farming as proxied by farm size. The survey result presented in Table 5 indicates that the average land owned by the studied weavers was just 1.38 acre indicating the small farmer's category (0.50-2.49 acre) in Bangladesh according to the classification system of BBS (2011). The major portion of this land was used for homestead purpose and the sheds for keeping the handloom machines while the rest was used for the production of the farming items shown in figure 2. However, a significant difference is observed in the mean farm sizes in different study areas as evidenced by the Kruskal-Wallis chi-square test statistic assuming a non-normal distribution of the data.

Table 5. Land acquisition (acre) of the sampled households in different study areas

Categories of farm size	**Name of the study areas**				
	Shahjadpur (N=118)	Ullapara (N=110)	Raiganj (N=40)	Belkuchi (N=43)	**Total sample (N=311)**
Mean farm size	1.41	1.35	1.28	1.49	**1.38**
Std.	0.56	0.53	0.45	0.59	**0.54**
F-value	1.24				
Kruskal-Wallis Chi-squared Test	24.15***				

Source: Field survey, 2015
*** Significant at 1% level

3.7 Labor distribution

As mentioned earlier, the abundance of household members plays a crucial role in the number and cost of hired labor for the weaving occupation. As it has been observed in the study areas, each of the handloom machines requires at least 1 labor to accomplish per-day production activities. Therefore, they are regarded as fixed over the year. Along with those labors, it requires few male and female laborers to perform the pre and post-production activities such as winding, warping, drying of yarn and cloth after dyeing, bleaching, printing etc. Therefore, the labor requirement depends on the existing number of handloom units per household. Moreover, the comparative analysis of the labor used in the areas under study is presented in Table 6. The findings imply that on an average the weavers were the owner of 8 handloom machines which required having 10 labors as fixed over the year to operate those units. Out of the total labor use, 6 of them was the hired labor. Furthermore,

the male and female labor ratio was 7:3. However, the statistical difference is only observed for the female labor use through the non-parametric test. Among the four study areas, the share of labor resource endowment is higher in Raiganj region compared to other areas.

Table 6. Number of labor used for handloom weaving in different study areas

Name of the study areas	**Statistical indicator**	**No. of weaving unit**	**Total labor used**	**Division of labor**			
				Hired labor	**Family labor**	**Male labor**	**Female labor**
Shahjadpur (N=118)	Mean	7.83	9.65	6.02	3.63	6.64	3.01
	Std.	4.52	4.72	4.37	1.61	3.76	1.45
Ullapara (N=110)	Mean	8.12	9.16	5.46	3.7	6.25	2.91
	Std.	5.18	4.96	4	2.01	3.76	1.87
Raiganj (N=40)	Mean	7.98	11.03	7.43	3.6	7.48	3.55
	Std.	4.33	5.62	5.09	1.95	4.34	1.87
Belkuchi (N=43)	Mean	8.19	10.23	6.63	3.6	7.21	3.02
	Std.	5.37	5.9	5.36	1.68	4.31	2.05
Total sample (N=311)	**Mean**	**8**	**9.74**	**6.09**	**3.65**	**6.69**	**3.05**
	Std.	**4.84**	**5.11**	**4.52**	**1.81**	**3.92**	**1.75**
F-statistic		0.09	1.32	1.98	0.05	1.25	1.33
Kruskal Wallis Test		0.16	3.46	4.82	0.26	3.14	8.24*

Source: Field survey, 2015
*Significant at 10% level of significance

3.8 Economic performance

The economic performance valued in Bangladeshi Taka (BDT) (note 2) has been measured in terms of the level of households' asset, income, investment, consumption expenditure and savings status of the studied households in different study areas during 2015. These variables also act as an indicator of household's wealth position within the society and generally have a perfect correlation with the higher standard of living. The descriptive analysis of these economic variables is presented in Table 7.

This study has classified the asset position of the respondents into three categories as farm assets, family assets and non-farm that is weaving assets (see appendix Table 1). Farm assets included the land, tractor, power tiller, farm equipment etc. while household assets included the house building, furniture, radio, television, motorcycle etc. The third category included mainly the handloom assets such as weaving shade, weaving units, equipment like the jacquard, mill, raddles, spindles etc. The table represents that the market value of the households' existing assets stood at 2,352,791 BDT during 2015. The comparative assessment confirms that the respondents were wealthier in Shahjadpur region than any other areas.

As presented in diagram 2, the households' income has been subdivided into handloom income, farm income, and off-farm income (see appendix Table 1). The estimated result presented in Table 7 implies that the average total income (TI) of the studied households for the years 2015 was 1,125,567 BDT which generated an average net profit (NP) of 247,687 BDT after meetings the investment expenditures of 878,040 BDT for their diversified production activities. However, they required a budget of 175,025 BDT (appendix Table 1) for meeting their consumption expenditure on food and non-food items. These non-food cost items included the clothing, medicine, educational fees, fuel, electricity etc. The food items required the major portion of the budget than the non-food items which ultimately reduced their profit margin. Finally, the households were able to save 72,662 BDT during 2015. Through the comparative analysis, it can be concluded that the households in the Raiganj region were living a better standard of living than their counterparts as proved by the higher values of the estimated economic variables except the asset value.

A significant different in the mean level of these variables are observed by the estimated values of F and Kruskal-Wallis Chi-Square Test statistics with varying significance level. These variations have resulted in larger standard deviations (see appendix Table 1) for some of the estimated values of these variables. The difference is identified to be more prominent with the level of savings than other indicators.

Table 7. Economic performance (in BDT) of the studied households in different study areas during 2015

Name of study areas	**Statistical indicator**	**Economic indicators**					
		Value of household assets	TI from all household activities	TC of all household activities	NP from all household activities	Consumption expenditure	Savings
Shahjadpur (N=110)	Mean	2,616,113	1,127,299	886,582	240,717	175,625	65,092
	Std.	1,918,657	765,320	703,971	23,515	60,231	141,789
Ullapara (N=118)	Mean	2,316,399	991,404	770,542	221,317	173,270	48,047
	Std.	1,703,062	784,057	696748	18,910	66,232	125,489
Rajganj (N=40)	Mean	1,743,158	1,370,693	1,037,674	333,019	155,616	177,402
	Std.	603,342	1,095,830	820,410	38,438	51,482	370,694
Belkuchi (N=43)	Mean	2,290,390	1,235,998	981,101	254,897	195,926	58,970
	Std.	527,496	918,131	850,293	7,724	62,596	108,884
Total sample (N=311)	**Mean**	**2,352,791**	**1,125,567**	**878,040**	**247,687**	**175,026**	**72,662**
	Std.	**1,588,618**	**856,100**	**749,536**	**23,139**	**62,341**	**183,340**
F-statistic		6.98***	2.52*	2.82**	3.27**	2.99**	5.10***
Kruskal-Wallis Chi-squared Test		10.59**	8.13*	16.13***	2.26	11.23***	8.27**

Source: Field survey, 2015
*** Significant at 1% level
** Significant at 5% level
*Significant at 10% level

3.9 Sources of finance

Credit plays a vital role in encouraging self-employment and facilitating income generating activities in rural areas of Bangladesh. For the weavers, availability of credit is a great deal for the on-time production decision. Therefore, an increasing tendency is observed among the weavers to obtain credit from multiple sources. These sources included the formal, semi-formal and informal sources. With regard to the fact that formal sources (note 3) generally provide credit beyond the expectation of the weavers, the other two credit sources played a dominant role to serve this purpose. Particularly the informal sources such as friends, relatives, local money lenders, Mahajan (note 4) etc. was more popular due to the advantage of accessing them within the shortest possible time. On the other hand, most of the semi-formal credit sources in Bangladesh such as Grameen Bank (GB), Bangladesh Rural Advancement Committee (BRAC), Association for Social Advancement (ASA) etc. usually did not require any collateral. Therefore, their success in meeting the clients' expectation can be easily visible as estimated in Table 8. The table shows that on an average the weavers received 109093 BDT as a credit during 2015 of which around 68% was received from semi-formal sources followed by informal (21%) and formal sources (11%) sources. However, as was informed by the respondents, this amount was not enough to increase their business scale. This is because the savings amount of 72,662 estimated in Table 7 is not able to repay back the entire loan from all these sources. This means that even with the credit access, business expansion is not occurring in the weaver's society as the majority of the weavers are already under the debt burden. The same scenario is observed in all the different study areas.

Table 8. Amount of credit received from different sources by the sampled households in different study areas

Sources of credit	**Name of the study areas**				
	Shahjadpur (N=110)	**Ullapara (N=118)**	**Raiganj (N=40)**	**Belkuchi (N=43)**	**Total sample (N=311)**
Total credit received (BDT)	127,347	07,618	102,960	62,875	**109,093**
Formal sources (%)	13.07	9.87	9.24	11.13	**11.36**
Semi-formal sources (%)	62.59	66.94	89.73	75.55	**67.94**
Informal sources (%)	24.34	23.19	1.03	13.32	**20.70**

Source: Field survey, 2015

3.10 Basic infrastructure facilities of the respondents

Basic infrastructural facilities mean those social arrangements which facilitate the easier livelihood within the society. This study has examined these services in terms of access to educational institutions, market, health facilities such as hospitals, a good communication system such as roads and finally extension services. The estimated results presented in Table 9 highlights that the study areas were endowed with good infrastructural facilities on all the indicators except the government support service. The figure indicates that 90% of the respondents reported about the lack of government support such as subsidies on raw material import or technology adoption, lack of market promotion system such as Mela, exhibition, inadequate measures to control the illegal business with India etc. The absence of these support services affected the sales volume both within and outside the country. It was justified by majority of the respondents that without such supporting services, the preservation of the historical heritage of Bangladesh would be at risk. The comparative assessment implies that Shahjadpur and Ullapara regions were much better on these indicators among all the studied locations.

Table 9. Proportion of sampled households with access to different basic infrastructures in different study areas

Types of social infrastructures	**Name of study areas**				**Total sample (N=311)**
	Shahjadpur (N=118)	**Ullapara (N=110)**	**Raiganj (N=40)**	**Belkuchi (N=43)**	
Educational institutions					
No	6.78	-	12.5	7.5	**5.14**
Yes	93.22	100	87.5	93.02	**94.86**
Market					
No	2.54	1.82	25	32.56	**9.97**
Yes	97.47	98.18	75	67.44	**90.03**
Hospitals					
No	0.91	2.54	50	6.98	**8.68**
Yes	99.09	97.46	50	93.02	**91.32**
Communication system					
No	-	-	11.63	18.6	**4.18**
Yes	100	100	87.5	81.4	**95.82**
Government support					
No	92.73	85.59	95	93.02	**90.35**
Yes	7.27	14.41	5	6.98	**9.65**

Source: Field survey, 2015

4. Discussion

Over the fact that there are limited numbers of socioeconomic research on non-agricultural weaver households in Bangladesh, this study justifies the importance of this study. Additionally, the available socioeconomic literatures are criticized in terms of inadequate consistency between the methods of data collection, data description and representativeness in sample size. Aiming at filling these gaps in the literatures, this study has been conducted. In doing so, Sirajganj district has been considered as a case.

In order to realize the objective, the analysis process focused on the variables such age, education family size, farm size, experience, endowment of resources, income, expenditure, savings, sources of capital and finally access to different social structure such as educational institutions, hospitals, markets, good roads, government support etc.

The study findings reveal that majority of the studied households are productive and efficient in managing their business as their mean age reflect the working age level. Even though almost all the studied households have access to education, their level of education is still very dissatisfactory and is lower than the country average. However, this situation is supplemented by the long period of working experience. The smaller family size of less than the national average resulted in a benefit of incurring less consumption cost. However, it also has a comparative disadvantage with regard to the number of hired labor required for the weaving business.

An acceptable wealth position of the households is judged from the estimated endowment of resources and their present market value. With diversified income sources, households are able to generate sufficient income and profit which is able to meet their food and non-food items. This further implies the better-off position of the studied households within the society. However, they possess a small amount of land that is mostly used for their homestead purpose.

Owing to the fact that households in the study areas have access to multiple sources of credit, it does not find any consistency with the literatures that talked about the constrained credit situation of the handloom weavers. However, the amount received is insufficient to expand the business scale. Therefore, the financing institutions should increase the credit volume with favorable terms and conditions so that the borrowers do not

need to acquire credit from informal sources that are most often not user-friendly for them in terms of higher interest rate.

In addition to the credit facilities, social structures in the study areas are observed as good indicating the favorable business environment for handloom weaving. Therefore, it also criticizes those literatures that talks about the poor infrastructural facilities for handloom weaving in Bangladesh. However, the lack of government support such as subsidies on raw material import or technology adoption is insufficient in handloom weaving sector. The probable effect of such missing supportive measures poses the risk of preventing the traditional heritage of the country.

Overall, this study concludes that households in the study areas are socioeconomically living a better life. However, the focus should be given on improving the educational status, increasing the credit volume and enhancing the government support services in the study areas.

5. Conclusion and recommendation

Being the largest and significant non-agricultural employment sector, the contribution of handloom industry in solving the unemployment problem and developing the social and economic conditions of the rural households cannot be denied in Bangladesh. However, this sector is also confronted with several challenges. Some of those challenges are associated with market failure while others include the failure to meet capital cost of production, lack of product diversification and so on. Fortunately, the findings of this socioeconomic study reveal that apart from those problems, only a few socioeconomic variables such as lower level of education and credit volume and the lack of government support can speed up the process. However, the lower literate rate was not due to the lack of educational facilities as proved by the access to the majority of the households in the educational institutions. Rather, it might have been due to the lack of awareness about the benefits of education for the weaving occupation. Therefore, this study recommends for increasing the awareness among the weavers about the benefits of higher education. This can be done through introducing and strengthening the extension facilities in the study areas. Through this service, the weavers would also be the better informed about the new product and service of the handloom sector such as technology adoption, fluctuations in the domestic and international prices of raw materials and final products etc. In addition to that, the financing policy requires some steps to increase the credit volume or the support from the government such as cash donation or credit at a subsidized rate etc. Otherwise, the weavers will earn income, but it won't help them to expand their business. Rather, there remains a possibility to be under the persistent debt burden. Other than the financial option, the need for government support is critically highlighted in promoting the sales both nationally and internationally. Therefore, Mela or exhibition is suggested to be commenced. Finally, it can be concluded that the handloom sector existed over the centuries in this continent and is subjected to exist over the years. Otherwise, it will create a huge unemployment problem in the economy of Bangladesh. Lack of skill of the manpower other than weaving due to the long involvement is this occupation may pose the challenge for the weavers in finding alternative subsistence base. In the case of their migration to the city, it will further create burden for the city life. Considering all those perspectives, this sector should be improved for sustaining the livelihood of large numbers of weavers' it rural areas and should be managed to protect the gorgeous heritage and culture of Bangladesh.

6. Scope of further research

The study leaves the room open for research on 9 other handloom concentrated Districts such as Tangail, Pabna, Narsingdhi, Kushtia, Narayanganj, Dhaka, Brahmanbaria, Bogra and finally Comilla to check whether the research findings varies according to the diversity of the study areas.

Acknowledgement

The author is very grateful to the German Academic Exchange Service (DAAD) for providing the scholarship to complete this study as a part of the Ph.D. research. The author also wants to specially thank the Bangladesh Handloom Board (BHB) who provided the information for sample selection as well as the respondents who participated in the survey.

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Notes

Note 1. Kurskal-Wallis χ^2Test is a non-parametric test which is applied when the values of a variable is not

normally distributed. Furthermore, it is used to test whether there is any statistically significant difference in the mean level of the estimated variables when there are more than two groups to compare.

Note 2. 1 US dollar = 80 BDT on an average.

Note 3. This study identified the existence of one specialized government-owned credit source among others which provides credit for only handloom weaving and is commonly known as the "Bangladesh Handloom Board (BHB)'s Microcredit Program".

Note 4. The local term 'Mohajan' indicates one of the prominent informal credit sources

Appendix

Table 1. Economic performance of the studied households based on the household assets, income, investment, profitability, consumption expenditure and savings pattern in different study areas during 2015

Economic indicators	Name of study areas										F-statistic	Kruskal-Wallis Chi Square Test
	Shahjadpur (N=110)		Ullapara (N=118)		Rajganj (N=40)		Belkuchi (N=43)		Total sample (N=311)			
	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.	Mean	Std.		
PV of household assets												
Farm aseest	2,253,447	5,600,325	1,918,533	4,851,436	1,370,300	1,634,153	1,883,388	1,410,462	1,970,235	4,560,418	0.39	7.16*
Family assets	20,588	22,053	21,960	22,750	40,395	52,555	20,621	25,277	23,625	29,011	5.39***	3.51
Handloom assests	160,745	133,592	176,973	234,999	146,034	123,317	182,880	146,748	167,653	176,425	0.47	2.09
PV of all household assets	2,616,113	1,918,657	2,316,399	1,703,062	1,743,158	603,342	2,290,390	527,496	2,352,791	1,588,618	6.98***	10.59**
TI from different household activities												
Handloom weaving	1,093,538	693,974	976,128	751,797	1,288,656	963,015	1,223,499	895,827	1,095,075	786,155	2.05	6.82*
Farming	13,049	41,961	6,981	22,541	44,624	92,246	9,340	18,670	14,451	45,854	7.39**	11.98***
Off -farm activities	20,712	88,157	8,295	29,157	37,413	121,707	3,159	10,902	16,041	72,272	2.23	1.54
TI from all activities	1,127,299	765,320	991,404	784,057	1,370,693	1,095,830	1,235,998	918,131	1,125,567	856,100	2.52*	8.13*
TC of different household activities												
Handloom weaving	869,053	655,668	766,211	681,798	999,740	748,825	974,271	833,089	864,034	705,509	1.56	6.35*
Farming	7,783	27,373	3,058	11,089	32,935	61,044	6,830	17,203	9,215	30,373	10.74***	28.81***
Off -farm activities	9,746	62,791	1,273	11,582	5,000	31,623	-	-	4,791	40,963	1.04	1.17
TC incurred on all activities	886,582	703,971	770,542	696748	1,037,674	820,410	981,101	850,293	878,040	749,536	2.82**	16.13***
NP from different household activities												
Handloom weaving	224,485	135,817	210,372	152,108	288,917	333,426	249,228	121,860	231,201	178,161	2.13*	5.53
Farming	5,266	23,515	3,923	18,910	11,689	38,438	2,510	7,724	5,236	23,139	1.36	0.12
Off -farm activities	10,966	37,916	7,022	24,794	32,413	115,520	3,159	10,902	11,250	50,269	3.06*	1.55
NP from all activities	240,717	23,515	221,317	18,910	333,019	38,438	254,897	7,724	247,687	23,139	3.27**	2.26
Consumption expenditure pattern												
Food cost	115,624	38,121	112,004	40,593	102,072	28,915	122,743	37,129	113,585	38,092	2.25*	8.56**
Non-food cost	60,001	31,997	61,266	33,980	53,544	29,444	73,183	36,555	61,440	33,324	2.64**	9.39**
All consumption cost	175,625	60,231	173,270	66,232	155,616	51,482	195,926	62,596	175,026	62,341	2.99**	11.23***
Savings	65,092	141,789	48,047	125,489	177,402	370,694	58,970	108,884	72,662	183,340	5.10***	8.27**

Source: Field survey, 2015

*** Significant at 1% level

** Significant at 5% level

*Significant at 10% level