Socio-economic Condition and Poverty Situation in Rural Southern Part of Bangladesh: A Household Level Study

*M. Z. Hossain**

*Erik H.J. Keus***

Introduction

Bangladesh occupied the 145th position among 173 countries of the world in the context of human development according to the jurisdiction of United Nations. Though Bangladesh achieves some satisfactory target in the health and sanitation sector, however, in respect to halve the population suffering from hunger is disappointing (United Nations Development Programme, 2002). The incidence of poverty is high in Bangladesh as compared to other developing countries which may be due to the high population growth and low level of economic activities particularly in rural areas. The mechanism of rural poverty is complex and it is not possible to understand the rural poverty by a single factor. Though some visible factors like impoverishment, illiteracy, unemployment and underemployment may be considered as causative factors on poverty, but it's main causes are deep-rooted in a complex net of demographic, economic, social, political and natural factors.

In Bangladesh, studies related to poverty and economic development receives increasing attention in recent past due to its importance in policy implications. Several studies have been done to study the rural poverty and inequality measurements. Among others, some important studies on measurement issues was done by Khan (1977; 1990), Rahman (1994), Alamgir (1978), Osmani (1982; 1990), Siddiqui (1982), Ahmed and

* Department of Statistics, Shahjalal University of Science & Technology, Sylhet-3114, Bangladesh. E-mail: mzhossain_bds@yahoo.com

** Patuakhali Barguna Aquaculture Extension Project, College Road, Patuakhali, Bangladesh. E-mail: hjkeus@citechco.net

Hossain (1984), Hossain (1988), Rahman and Haque (1988), Ravallion (1990), Sen *et al*. (1990). The Bangladesh Bureau of Statistics (BBS) has analysed the poverty situation for the year 1973-74, 1981-82, 1983-84, 1985-86, 1988-89 by using the data of Household Expenditure Survey (HES).

Recently, Rahman (1994) worked on the poverty related issues and estimated the monthly poverty line income for each household based on minimum balanced food requirement and also identified the group of population who were more exposed to poverty in rural Bangladesh by using the data of HES 1985-86 of BBS. Khan (1977) estimated the proportion of households and individuals who were in absolute and extreme poverty in rural Bangladesh for 1963-64, 1968-69 and 1975 and showed a sharp increase in incidence of rural poverty between 1963-64 and 1968-69, from 51.7% to 84.1%. In 1990, Khan made an indirect estimate of threshold income on the basis of 2,112 K. Calories and 58 gram of protein per day per person and using the data of HES of BBS, he found that 56% rural population in 1973-74, 70% in 1981-82, 39% in 1983-84 and 35% in 1985-86 were moderately poor. It is striking that the incidence of poverty increased sharply from 1973-74 to 1981-82 and then declined dramatically in 1983-84. Alamgir (1978) studied the income inequality and poverty indices for 1963-64, 1966-67, 1968-69 and 1973-74 using the data of BBS and BIDS and proposed a new index of poverty as the average of Gini index and composite poverty index as developed by Sen (1976). Osmani (1982) criticised the Alamgir's index and developed more scientific methods to examine the economic inequality and construct poverty line for Bangladesh on the basis of an interpersonal distribution of expenditure, the nutrition coefficient matrix, information on the physical amounts of different food items consumed at various levels of expenditure and the minimum nutritional requirement vector. He studied the rural poverty for the period 1963-64 and 1973-74 and found almost similar results in respect of poverty that obtained by Khan (1990) though they used different methods. In a study, Ahmed and Hossain (1984) suggested some policies for alleviation of rural poverty and estimated poverty line incomes for some selected years. Hossain (1988) made an attempt to examine the impact of credit for alleviation of

rural poverty by evaluating *Grameen Bank Prokalpa*. During 1980s, a dramatic decline in poverty in Bangladesh is shown by Ravallion (1990) by investigating the robustness of some estimates. Sen *et al*. (1990) investigated the rural poverty by using three independent indicators, viz., (i) per capita income (ii) household's self evaluation about its deficit status and (iii) housing condition. The study also estimated the poverty line income on the basis of 2,112 K. calories and showed that 25% of the total cost of food items is required to meet the non-food expenditure.

Most of the studies mentioned above used the HES data collected by BBS and has given a little attention to the related household characteristics. Some studies show some dissimilar results may be due to methodological differences. Further, the existing studies have given a very little attention on micro-level situation though appropriate rural development policy can be formulated by analysing the micro-level situation. It is important to relate the household characteristics with poverty situation to know the differentiating factors of poverty. The study aims to assess the socio-economic condition of the rural population and to measure the extent of poverty. Household's characteristics including income and expenditure pattern have been analysed first to get an overview of the socio-economic condition of the household. The socio-economic condition has been determined using important household amenities and compared with that of ranked by household head. The poverty situation has been analysed by using credit, labour selling, social position *etc* and the extent of poverty has been studied by deriving a poverty line using cost of basic needs.

Data and Methods

The data for this study has been collected by PBAEP under 'Integrated Baseline Survey' in three villages of Amtoli Thana under Barguna district. The data were collected between June-July 2000. The selected villages were about 8 kms away from Amtoli thana headquarters, which is located beside the Kuakata – Patuakhali highway. All the households in the selected three villages were covered for this study. A total of 997 households were interviewed in the study villages. A structured

questionnaire was designed for the baseline study, which included questions on household identity and family details, household assets, production and income, consumption and expenditure, poverty and wealth status, water and sanitation, and roads and communication. The detail about the survey procedures can be seen in Hossain *et al.(*2002).

The standard of living index has been computed by providing appropriate scores to the factors: landholding size, income, highest educational level of the households, main occupation of the household, ownership & use of toilet, main house and household assets. The estimated index is then compared with the self-ranking socio-economic condition.

The study adopted cost-of-basic needs (CBN) method to estimate the poverty line, and extent of poverty has been examined at household level using the estimated poverty line. The CBN method is more or less equivalent to income method. According calorie intake method, a household is considered as 'hardcore poor' with per capita calorie intake of less than 1,805 kcal per day, and 'absolute poor' with less than 2,122 kcal per day. By CBN method, a household is poor if it's per capita expenditure lies below a given poverty line. In this method, poverty lines are used to find a poor household which represent the level of per capita expenditure at which the members of households can buy an exogenously set low-cost adequate diet plus other chief basic requirements. The method has been briefly discussed in respective section of the paper.

Findings

The findings of the study have categorically discussed on main features of households, housing and major household assets, income from various sources, consumption and household expenditure, and poverty and wealth status.

1. Main Features of Households

The characteristics of the households have been analyzed in terms of landholding, pond ownership, occupation, household composition, and settlement pattern of the household in the villages.

1.1 Population, Religion and Landholding

The 997 study households in the three villages had a total population of 5058. Of them 51.2% were male and 48.8% were female (see Table 1). The sex ratio was found 105 male per 100 female, which is close to the national figure (106 M/F) as reported by the BBS (1999). A total of 850 households (85%) were from the Muslim community and the rest 15% were from the Hindu community. Most of the Hindu families lived in West Patakata with a few in the other two villages. The proportion of Hindu households (15%) was found slightly higher in the study villages as compared to other parts of the country. In rural Bangladesh, the Hindu population accounts for only about 11% of the total population (BBS, 1999).

Table 1: Households by population and religion*

Village	No. of HHs	Population		Religion	
		Male	Female	Muslims	Hindu
West Patakata	453	1184 (51.39)	1120 (48.61)	319 (70.4)	134 (29.6)
East Patakata	410	1050 (50.85)	1015 (49.15)	402 (98.0)	8 (2.0)
Middle Chandra	134	357 (51.81)	332 (48.19)	129 (96.3)	5 (3.7)
Total	997	2591 (51.2)	2467 (48.8)	850 (85.0)	147 (15.0)

* Figures within the parenthesis show the percentage.

Landholding of a household plays an important role in determining its socio-economic conditions as the rural households depend on land for their livelihoods. The landholding of a household has been estimated by taking into account all types of land (homestead, agricultural and fallow) and pond that a household own. Households with less than 2000 m^2 of land (<50 decimal) are commonly considered as 'Functionally

Landless Households'; households with 2000 m^2 up to 8000 m^2 (50 - 200 decimal) are considered as 'Marginal Households'; and households with 8000 m^2 up to 30,000 m^2 are considered as 'Medium Households'. Of the surveyed households, about 41% were landless (<50 decimal), about 33% held land between 50 and 200 decimal, and about 26% were of medium category (>200 decimal) (see Table 2). The proportion of landless households were found lower in the study villages as compared to national figure, about 53% landless households was reported by the Household Expenditure Survey 1988-89 (BBS, 1991). Further, about 41% households reported that they owned a pond.

1.2 Occupation of the Household Heads

The occupation of a household concerned the main sources of income of a household. In rural Bangladesh, income sources of the household heads are usually regarded as the main occupation due to their major contributions to household budget. The survey identified 30 main occupations, which have been grouped into seven categories. The majority of the households (52%) were involved in farm-related activities (farming or farm labour) (see Table 2). Only 2% of the households were engaged in fishing and about 7% households were engaged in some sort of office-based job/services. Further, about 17% households were engaged as wage labourer and about 12% were in trading. The pattern demonstrates a similarity with the occupations in other parts of Bangladesh. For example, using the data of 10 rural villages of Comilla district, Hossain (2000) reported that 58.8% household were engaged in agriculture, 17.6% engaged in non-agriculture labourer and 11.6% engaged in business.

Table 2: Household's main occupation by village and landholding size*

	Agriculture (owner)	Agri-labourer	Non-agri labourer	Fishing	Job/ Service	Trade	Others	Total
Villages								
West Patakata	174 (38.4)	79 (17.4)	66 (14.6)	9 (2.0)	30 (6.6)	54 (11.9)	41 (9.1)	453
East Patakata	149 (36.3)	45 (11.0)	84 (20.5)	8 (2.0)	24 (5.9)	52 (12.7)	48 (11.7)	410
Middle Chandra	62 (46.3)	10 (7.5)	20 (14.9)	3 (2.2)	15 (11.2)	11 (8.2)	13 (9.7)	134

Table 2: (continued)

	Agriculture (owner)	Agri-labourer	Non-agri labourer	Fishing	Job/ Service	Trade	Others	Total
Landholding Size								
Landless	73 (17.0)	95 (23.2)	114 (27.0)	14 (3.4)	21 (5.1)	55 (13.4)	38 (9.3)	410 (41.1)
Marginal	149 (44.7)	38 (11.4)	44 (13.2)	5 (1.5)	22 (6.6)	40 (12.0)	35 (10.5)	333 (33.4)
Medium	163 (64.2)	1 (0.4)	12 (4.7)	1 (0.4)	26 (10.2)	22 (8.7)	29 (11.4)	254 (25.5)
Total	385 (38.6)	134 (13.4)	170 (17.1)	20 (2.0)	69 (6.9)	117 (11.7)	102 (10.2)	997 (100.0)

* Figures within parenthesis indicate the percentage.

West Patakata had the highest proportion of households who were making their living from on-farm activities. In contrast, in East Patakata, a notable size of the households relied on off-farm activities due to high incidence of landlessness in the village. The main occupation of 117 trading households, which were generally running small shops, were not very different from non-agricultural labourers in terms of return. If they got any opportunity of higher income, they would switch to the new occupation.

Land was found to have strong influence on the occupation pattern. The survey reveals that about 64% of the medium landholding households were engaged in farming compared only 17% of the landless households. For wage labourers, it was just opposite: about 50% of landless households were primarily dependent on wage labour, compared to 24.6% marginal households, and only about 5% medium households. Households depending on trading were found decreasing with the increasing of landholding size.

The results suggest that many households are no longer involved in agriculture in Patuakhali and Barguna districts. Therefore, PBAEP training material on Integrated Pond Farming should specifically adapt its messages so that people without a farming background are not discouraged and sufficiently supported.

1.3 Female Headed Households and Household Composition

Only 5% of the households were found to have headed by women (see Table 3). The percentage of 'female headed households' was found to be lower in the study villages compared with the national figure, which is 8.4% in the rural communities (Mitra *et. al.* 2001). Migration and family breakdown force women to shoulder responsibilities of the family (Hossain, 2000). Such events, presumably, are low in the study villages, which are reflected in low number of female-headed households. Women headed households have always been facing problems in terms of labour allocation, because family size of such households is smaller. Usually, large households have the advantage as they can allocate more labour for agriculture as well as aquaculture.

Regarding the distribution of family members of the households, it is found that most of the households (60%) consisting of 4-6 members. The average family size was 5.07 (standard deviation 2.08), which didn't vary much across the villages. The average family size is slightly lower than the average family size for Barguna district as a whole (5.3) as reported by the BBS (1999).

Table 3: Household composition (number of persons per household)

	West Patakata		East Patakata		Middle Chandra		Total	
	No. of HHs	%	No. of HHs	%	No. of HHs	%	No. of HHs	%
Distribution of Household Head by Sex								
Male	430	94.92	386	94.15	130	97.01	946	94.88
Female	23	5.08	24	5.85	4	2.99	51	5.12
Number of Usual Family Size								
1	3	0.66	4	0.98	2	1.49	9	0.90
2	30	6.62	24	5.85	9	6.72	63	6.32
3	52	11.48	58	14.15	19	14.18	129	12.94
4	107	23.62	100	24.39	23	17.16	230	23.07
5	115	25.39	81	19.76	35	26.12	231	23.17
6	60	13.25	65	15.85	18	13.43	143	14.34
7	33	7.28	36	8.78	11	8.21	80	8.02
8	24	5.30	15	3.66	7	5.22	46	4.61
9 & above	29	6.40	27	6.59	10	7.46	66	6.62
Total	453	100.0	410	100.0	134	100.0	997	100.0
Average Family Size	5.09±2.06		5.04±2.04		5.14±2.26		5.07±2.08	

1.4 Settlement Pattern of Households

About 93% of the households were staying in the study villages for at least two generations. The survey has identified them as 'permanent households'. The remainder migrated to these villages in different period of time. However, these migrated households were also staying in these villages as permanent households. There are no cultural differences in terms of custom and behaviour of these two groups. About 90% of the migrated households moved to the villages from different parts of the country over last two decades. The average duration of settlement was found 8.42 years for migrated households.

2. Housing and Major Household Assets

2.1 Housing and Cattle Sheds

Housing materials are good indicators to reflect a household's economic ability. Table 4 shows housing and cattle shed conditions. The most common housing materials were tin and about 58% households were made by tin (one storey & two storey) and the rest were either of thatch or bamboo. The roof materials of the study areas were found to be of inferior quality than the other rural areas of Bangladesh. In a nationwide survey, it is reported that tin and bamboo/thatch were the common roofing materials in Bangladesh, accounting for 70% and 24% households respectively (Mitra *et al*., 2001). The study reported that about 97% households had no *Katchari* (separate house for guests). A considerable proportion of the households were deprived of some basic provisions required to maintain a healthy and hygienic life. Over one-quarter of the households lacked of a separate room for kitchen, and only 7.3% households owned tube wells.

Of the surveyed households, 46% reported that they had cattle sheds and about 68% had chicken/duck sheds. About 30% households owned some types of slub/pucca latrine, however the proportion of households who used such latrines may be more. Because in the rural areas, peoples usually use common latrine or of some other relatives latrine. The use as well as ownership of slub/pucca latrine was found low in the study villages as compared to the national figure which is 43.4% as reported by Ministry of Women and Child Affairs (Government of Bangladesh, 2000). According to

the Multiple Indicator Cluster Survey 1999, the use of slub/pucca latrine was found very low in the rural areas of Patuakhali district (25.8%) as compared to the entire Barishal division (42.2%) (*Pragathir Pathey*, 1999).

Table 4: Housing characteristics

Characteristics	Number of Household	% HH	Characteristics	Number of Household	% HH
Main House			**Tube-well**		
Straw	416	41.7	Yes	73	7.3
One Floor (Tin)	236	23.7	No	924	92.7
Two Floor (Tin)	341	34.2	**Cattle Shed**		
Pucca/ Semi Pucca	4	0.4	Yes	454	45.5
Katchari			No	543	54.3
Yes	32	3.2	**Chicken/Duck shed**		
No	965	96.8	Yes	679	68.1
Separate Kitchen			No	318	31.9
Yes	720	72.2	**Slub/Pucca Latrine**		
No	277	27.8	Yes	298	29.9
			No	699	70.1

2.2 Major Household Assets

The quality of life, to some extent, can be assessed from the ownership of major household assets. The possession of durable goods is another indicator of a household's socio-economic level, although these goods may have other benefits. For example, having access to a radio or television may expose household members to innovate ideas or important information about health, education and family planning.

Data on assets collected in this survey have been grouped into three broad items: luxury items, work-related-items and domestic livestock items. The luxury items consisted of radio, television set, bicycle, motorbike and sewing machine; work-related items consisted of power tiller, engine boat, paddle-boat, fishing net and rickshaw; and livestock items consisted of cattle and poultry birds.

Durable assets are costly and therefore are not affordable to too many rural families. Table 5 shows the distribution of households and average current value of major assets owned. Very few households owned luxury items: 21% of households owned radio, 5% owned bicycle and 2.6% owned sewing machine. The proportion of households owning any durable goods was found fewer in the study areas as compared to other parts of the country. According to BDHS report, 32% of households owned radio, 20% owned bicycle, 18% owned television and 6% owned sewing machine (Mitra *et al*. 2001).

For the work-related items, about 42% of households owned fishing net, 8.5% owned rickshaw/van, 5.1% owned paddle-boat, and 1.9% owned power tiller. In the study areas, animals and poultry birds were found very common items in most of the households as household assets. About 49% of households owned cows, 76.6% of households owned chickens and 62.2% households owned ducks (Table 5). The average current value of household assets will help to assess the economic condition of a household.

The housing conditions and possession of durable goods of the surveyed households suggests that the economic condition in the study areas is worse than in other parts of Bangladesh.

Table 5: Major household assets

Assets	No. of Household	% HH	Average Current Value (Tk.)
Luxury items			
Radio	209	21.0	857.50
Television	17	1.7	5835.29
Bicycle	50	5.0	1445.00
Motor Cycle	1	0.1	800.00
Sewing Machine	26	2.6	4878.85
Work related items			
Power Tiller	19	1.9	21394.74
Engine Boat	5	0.5	9080.00
Paddle Boat	51	5.1	775.92
Fishing Net	418	41.9	457.70
Rickshaw/Van	85	8.5	4926.20

Table 5: (continued)

Assets	No. of Household	% HH	Average Current Value (Tk.)
Animals and birds			
Buffelow	70	7.0	7271.15
Cow	485	48.6	3627.34
Goat	97	9.7	556.67
Chicken	764	76.6	51.00
Duck	620	62.2	51.18
Gees	85	8.5	143.83
Pegion	51	5.1	530.78
Other	57	5.7	185.42

3. Income from various Sources

In Bangladesh, the rural economy is mainly agro-based and more than 85% of the population is directly dependent on agriculture, which contributes about 46% of GDP (Rahman, 1994). The economic activities, particularly, production in agricultural sector is directly related to the rural income. The high population growth and low level of economic activities may be considered as important causative factors for high incidence of rural poverty.

Table 6 shows incomes from different sources of the area under study. The number of household participated in cultivation/production, number of household sold and average income against each sources has been given in the table. Average income from paddy, cash crops, vegetables, fruits and fishing has been computed as the ratio of the total income (total production multiplied by market price) to the number of households participating in production. However, the average income for pond fish farming and poultry & livestock was estimated using the total income from sold quantity rather than production, because the production was under process at the survey point. The average income from job/trade/business has been computed using the households engaged in such works.

The findings shows that about 89% of the households participated in some sort of job/trade/business and average income per household was estimated as Tk27,112.77 in a year. About 68% households produced paddy and average income was found Tk17,368.46 per household. About 60% participated in production of cash crops and average income was found Tk6,526.06 per household.

Though about 29% households reported to be participated in fish farming in pond, only 7% households sold their harvests. The average income from fish pond farming was estimated as Tk13,813.97 per household. About 62% households reported that they sold any kind of poultry & livestock and average income was found as Tk4,633.75 per household.

Among the professional fisherman, the data revealed that about 26% households have participated in part-time fishing and about 11% reported to sold fish. Only 2% engaged in full-time fishing. The average income was estimated as Tk1,154.71 and Tk21,069.05 for part-time and full-time fishing respectively.

The study indicated that highest sources of income was job/trade/business, followed by fishing, paddy, pond fish farming, cash crops, poultry & livestock in the study area. The overall average annual income was estimated as Tk48,871.36 per household. As mentioned earlier, the average household size was 5.07 persons, which gives a per capita income of Tk9,639.32.

The average annual household income was reported as Tk45,332.4 in April 1998 by Rural Poverty Monitoring Survey 1998 of BBS (2000). However, the average annual household income was estimated as Tk57,792.00 for rural areas for the year 2000 as reported by Household Income and Expenditure Survey 2000 (HIES 2000) and Tk41,676.00 for the year 1996 as reported by HES 1995-1996 (BBS, 2001). The average income estimated by this survey seems to be consistent with some other national surveys of Bangladesh, though it is far below as compared to HIES 2000.

Table 6: Income from various sources

Sources of Income	No of HH engaged in production	No of HH sold	Total Income (in taka)	Average Income (in taka)
Paddy	687	429	11932134.21	17368.46
Cash crops	601	408	3896057.41	6526.06
Important vegetables	750	240	539312.10	719.08
Fruits/Timbers/Nursery	858	480	3409653.00	4030.32
Pond fish farming	286	71	980792.04	13813.97
Poultry & Livestock	-	614	2845125.00	4633.75
Job/Trade/Labour/Rent	899	-	24374380.00	27112.77
Part time fishing	264	107	304843.13	1154.71
Full time fishing	21	19	442450.00	21069.05
Overall	997	-	48724746.89	48,871.36

4. Consumption and Household Expenditure

Economic development as well as sustainable economic growth requires high level of consumption and savings. According to Engel's first law, expenditure on food increases with income, but at a lesser rate (Cramer, 1971). Like income and the possession of durable goods, the amount of consumption of various items and expenditure of a household will help to assess the socio-economic condition of the household. Therefore, it is necessary to study the consumption and expenditure behaviour along with income pattern in order to determine the socio-economic condition as well as savings habit of a community. Accordingly, data were collected about the consumption of major food items and expenditure on various items including cloths, education, medical, religious festival, *etc*. of the households of the study area.

The average annual expenditure on various items is given in Table 7. The expenditure on food items was Tk19,852.40, which accounts for 52.38% of the total expenditure. The proportion of food expenditure was found slightly lower than the national figure. The HIES 2000 reported that food expenditure was 54.60% of the total

expenditure (BBS, 2001). For clothing, the average annual expenditure of the study households accounted for 6.94% of the total expenditure, which was almost similar to the expenditure found by HIES 2000 (6.28%). Apart from food and clothing, other expenditures including education and medicare amounted to Tk15,412.30 as average expenditure per annum per household, which made up 40.66% of total expenditure.

The overall annual expenditure of the study villages was estimated as Tk37,897.83 per household. The national surveys of Bangladesh show some dissimilar results regarding annual expenditure: HES 1995-96 reported a household expenditure of Tk41,767; Rural Poverty Monitoring Survey 1998 reported a household expenditure of Tk39,408; HIES 2000 reported a household expenditure of Tk51,084 (BBS, 2000; 2001). The expenditure reported by HIES 2000 is comparatively high than other two surveys.

As compared to other national surveys, the household expenditure of this study seems to be slightly underestimated, which may be due to the under-reporting of some consumed items produced by households themselves.

Table 7: Average annual expenditure on various items

Items	Food	Clothing	Other	Overall
Expenditure (in Taka)	19,852.40	2,633.13	15,412.30	37,897.83

5. Poverty and Wealth Status

Poverty is defined in many ways but more generally, its lack of economic and social ability to satisfy socially determined minimum requirements. The incidence of poverty varies across the periods and regions not due to definitions, but also due to external factors such as social and economic opportunities. The minimum requirements, expressed in so-called poverty line are more commonly measured by income/expenditure or calorie intake. Moreover, in multi-dimensional approach, income

or calorie intake is supplemented by other variables such as, health and sanitation, housing condition, security, public distribution system, participation in development and social welfare activities.

This study attempted to focus on poverty in terms of selected aspects of social and economic life of the population: indebtedness, selling labour, social position of the household, standard of living, and poverty line. The extent of poverty is directly examined by estimating poverty line using cost of basic needs method. The standard of living has also been estimated by using a composite index.

5.1 Indebtedness

Table 8 shows the present loan status of the household according to sources. The overall loan pattern of the household indicated that about 65% households have taken loan from any of the sources mentioned in the table. The highest percentage of households borrowed money from NGO/society (34%), followed by bank (28%), relatives/friends (16%) and money lenders (11%). The average amount of loan was found higher from NGO/society, followed by bank and by money lender.

In Bangladesh, specially, in the rural community, loan from friends or relatives is very common and people don't hesitate to take such kinds of loan in case of farm necessity related to family affairs, especially because this kind of loan rarely ask for any interest. On the other hand, rural people contemplate before borrowing money from bank or NGO or money lender, due to the interest attached with it and the stipulated time within which they must return the loan to the institute. Therefore, rural people generally borrow money from such institute only for harvesting crops or investing it in any productive activities to ensure the return in time with attached interest.

About 52% households have taken loan either from NGO or from bank or from both the sources. Only about 10% of these households took loan from both the sources. Further, about 58% households have taken loan from either bank or NGO or money lender. By combining together the loan amount from all the sources, it was found that an amount of more than Tk5000 has been taken by 46.5% households. This

finding, by and large, indicated that the average loan amount was more than Tk5000 in the study villages among the households who have taken some kind of loan.

Table 8: Present loan status of the household

Sources of Loan	Loan Amount (in Taka)						Total
	None	0-500	501-1000	1001-2000	2001-5000	5000+	
Bank	717 (71.9)	-	4 (0.4)	13 (1.3)	102(10.2)	161 (16.1)	997
NGO/Society	661 (66.3)	2 (0.2)	4 (0.4)	5 (0.5)	69 (6.9)	256 (25.7)	997
Money Lenders	883 (88.6)	7 (0.7)	13 (1.3)	19 (1.9)	32 (3.2)	43 (4.3)	997
Relatives/Friends	837 (84.0)	11 (1.1)	11 (1.1)	17 (1.7)	41 (4.1)	80 (8.0)	997
Others	973 (97.6)	4 (0.4)	5 (0.5)	2 (0.2)	4 (0.4)	9 (0.9)	997
Overall	350 (35.1)	12 (1.2)	16 (1.6)	30 (3.0)	125 (12.5)	464 (46.5)	997

The household's debt condition for two main sources, *viz*., bank and NGO/Society has also been examined according to landholding size (see Table 9). Among landless households only 8% had taken loan from bank and about 34% had taken loan from NGO/Society. Contrastingly, about 33% households had taken loan from bank and about 20% households had taken loan from NGO/society for the households owned land 300 decimals or more. The findings indicated that poor landholding households received more loans from NGO/Society and rich households received more loans from bank.

Table 9: Present loan status by landholding pattern

Loan amount (Tk.)	Landholding category (in decimal)					Total
	<15	15-79	80-149	150-299	300 +	
Loan borrowed from Bank						
None	207	241	95	91	83	717
< =500	0	0	0	0	0	0
501 – 1000	0	2	0	1	1	4
1001-2000	1	4	5	3	0	13
2001-5000	10	23	25	30	14	102
>5000	7	21	26	48	59	161

Table 9: (continued)

Loan amount (Tk.)	Landholding category (in decimal)					Total
	<15	**15-79**	**80-149**	**150-299**	**300 +**	
Loan borrowed from NGO/ Society						
None	149	187	93	121	111	661
< =500	0	2	0	0	0	2
501 – 1000	1	0	1	2	0	4
1001-2000	1	3	0	1	0	5
2001-5000	22	27	12	6	2	69
>5000	52	72	45	43	44	256
Total	225	291	151	173	157	997

5.2 Selling Labour

The labour selling condition has been analysed for the head of the household including other members in agricultural and non-agricultural sectors, either in the locality or outside. About 37% of the household' heads were involved in labour selling along with other 16% of the household members. About 13% of the household members sold labour in local farms with a few others going outside the village for agricultural work. Apparently, the labour market in local agriculture was shrinking as increasing number of households, more than twice than those selling labour in agriculture, sold labour in non-farm activities. The findings shows that 24% households reported to work as non-agricultural labour in the locality and 9.2% found to be engaged as non-agricultural labour outside the locality.

Recruiting farm-labour from outside the village was not found very frequent in the study areas. Out of 997 households, only 81 (8.1%) reported to recruit labourers for agricultural work while a negligible number of households (17) experienced a labour crisis. The results reflected that the labour recruiting households were very low as compared to labour selling households, which suggests that majority of the household in the study area were of poor condition.

The study also included information on the households that encountered any sort of food deficit during the last one year and only 5.6% of households were reported to take limited intake of food during the period. However, the definition of

food deficit was very strict, in which the respondent was asked whether or not he/she had only one meal in a day for more than 10 days continuously. The national figure (17.7%) in terms of food deficit far outnumbers the findings in the study area. However the national figure is based on a different definition and thus can not be compared. Based on income data, it is expected that the food deficit is more frequent in the study area.

Further very few of the household (1.6%) of the study area mentioned that they have at least one member employed abroad. Whereas in a study of 10 rural villages of Comilla district of Bangladesh found that 11.8% of the households have adult members employed abroad (Hossain, 2000) revealing less migration rate in the study area than other parts of the country.

Table 10: Labour selling condition of the household

Household Conditions	No of HHs engaged	% of HHs engaged	Average days per HH in a year
Labour Selling			
Labour selling by head of HH	371	37.2	248.18
Labour selling by HH members	157	15.7	252.45
Labour selling in agriculture (local)	121	12.1	202.15
Labour selling in non-agriculture (local)	241	24.2	196.60
Labour selling in agriculture (outside)	11	1.1	211.82
Labour selling in non-agriculture (outside)	92	9.2	213.50
Labour appointment and food crisis			
Labour appointing for agricultural work	81	8.1	37.03
Labour crisis	17	1.7	-
Food deficit			
Food deficit during last year	56	5.6	-
Member abroad			
Member employed abroad	16	1.6	-

5.3 Social Position of the Household

Social position of the households has been determined by focusing their involvement in social activities. Further, the self-ranking income status and socio-economic condition has also been used for this purpose. Social interaction tended to be reasonable in the study period as over four-fifths of them attended to social parties. In another case, an overwhelming number of men and women also participated in election to exercise their franchise rights. Conflicts resulting in litigations in the formal or courts were noticeable, 89 out of 997, although a number of litigations appeared to be dissolved in the village courts. Participation of women in the Union Parishad election was a new trend although the number of women contestants was only 8 in three villages compared to 10 men. Further, a few households, less than 5%, had an opportunity to receive social or skill-related training. The number was lower for the women reflecting a bias against women during participant's selection.

The study also adopted a complementary self-assessment, under which, the households were asked to rank them among other households in the village, using their judgement. Table 11 shows their perceived position in income ranges. Of them about one-third identified themselves with an income between Tk15,001 and Tk25,000 and over one-fifth traced them somewhere between Tk25,001 and Tk35,000. About 17% of the households wanted to be identified themselves as rich with incomes of Tk55,001 and above.

Self-assessment about the socio-economic conditions closely corresponded with the above pattern (see Table 11). Majority of them, 36% wanted to put themselves in the lower middle class, about one-third saw themselves as poor, and a little over one-fifth traced them in the middle class. If combined, the number of households falling income levels Tk45,001-55,000 and Tk55,001 & above, is more or less same for the households belonging to the middle and the rich together. The figure clearly indicates that more than half of the households belong to middle or lower middle class according to the classified by head of the household.

Table 11: Self-ranking income level and socio-economic condition of the households

Income Level (Tk)	No of HHs	% of HHs	Socio-economic Condition	No of HHs	% of HHs
<5000	13	1.3	Extremely Poor	74	7.4
5001-15000	106	10.6	Poor	334	33.5
15001-25000	319	32.0	Lower Middle Class	358	35.9
25001-35000	212	21.3	Middle Class	208	20.9
35001-45000	108	10.8	Rich	23	2.3
45001-55000	74	7.4			
55001 & above	165	16.5	Total	997	100.0

5.4 Standard of Living

A composite index has been constructed to assess the standard of living of the study population. The standard of living index has been computed by taking into consideration of the factors: landholding size, income, education level, occupation, access to toilet, main house and household assets. A 0-4 scale measures the differences in what the households own: on the basis of the total score, the standard of living index has been defined as extremely low, low, lower-medium, medium and high (see Table 12).

Using the scores of Table 12, the satandard of living index of the households under study have been computed and shown in Table 13. According to the composite index, few households, only 9 of the 997 households, enjoyed 'high' standard of living. Majority of the households endured 'low' (41.6%) or 'extremely low' (13.6%) living standard. A little more two-fifth of the households enjoyed 'lower-medium' or 'medium' standard of living. The standard of living using composite index may be compared with the socio-economic condition assessed by the household themselves, indicates that in the self-assessment, households belonging to the 'poor' or 'extremely poor' slightly overestimates them.

Table 12: Scores of the variables used in the computation of Standard of Living Index

Variables	Scores	Variables	Scores
Landholding Size	>200 dec=4;101-200 dec=3; 50-100 dec=2; 5-49 dec =1; <5 dec =0	Main occupation of the HHs	Job/Sevice=3; Agriculture (owner) + trade =2; Agr labourer/Non-agri labourer/ fishing/Others=1
Income (Household's annual income)	>65000 taka =4; 50000-65000 taka =3; 35000-49999 taka =2; 20000-34999 taka =1; <20000 taka =0	Main house	Pucca/Semi-pucca = 4; Two floow Tin =3; One floor Tin=2; Straw=1; None=0
Types of toilet used and ownership	Septic latrine (single ownership)=4; Slub latrine (single ownership)=3; Septic latrine/ Slub latrine (joint ownership)=2; Ring Latrine (own)=2; hanging/open=1; other (no facility) = 0	Ownership of household goods	TV+radio+(power tiller/engine boat)=4; TV+Bi-cycle/Sewing Mechine+(power tiller/engine boat)=4; Radio+Bi-cycle/ Sewing Mechine+(power tiller/engine boat/Paddle Boat)=3; power tiller/engine boat =2; Radio=1; none = 0
Education (Highest level by any member)	Secondary & above = 3; Secondary =2; Primary = 1; Illiterate =0		
Standard of Living Index (SLI): Total score range 00-26 and the SLI is categorised as Extremely Low with score 0-5; Low with score 6-10; Lower Medium with score 11-15; Medium with score 16-20 and High with score 21-26.			

Table 13: Standard of living Vs Self-ranking Socio-economic Condition

Standard of Living (SLI)	Self-ranking Socio-economic Condition					Total
	Extremely poor	Poor	Lower-Middle Class	Middle Class	Rich	
Extremely Low	50	80	6	-	-	136 (13.6)
Low	23	218	156	18	-	415 (41.6)
Lower-Medium	1	32	155	84	4	276 (27.7)
Medium	-	4	41	102	14	161 (16.1)
High	-	-	-	4	5	9 (0.9)
Total	74 (7.4)	334 (33.5)	358 (35.9)	208 (20.9)	23 (2.3)	997

The standard of living index is a powerful indicator that may be used to assess the changes of household's socio-economic condition over time. The increasing and decreasing value of SLI will indicate the well-off and worse-off economic condition of the households, respectively.

5.5 Estimation of Poverty Line and Extent of Poverty

Generally, two methods are used in estimating poverty. The first one is based on calorie intake and the other one is the cost-of-basic needs (CBN) method, which is, more or less, equivalent to income method. According to calorie intake method, a household is considered as 'hardcore poor' with per capita calorie intake of less than 1,805 kcal per day, and 'absolute poor' with less than 2,122 kcal per day. Measured by the CBN, a household is poor if it's per capita expenditure lies below a given poverty line. In this method, poverty lines are used to find a poor household which represent the level of per capita expenditure at which the members of households can buy an exogenously set low-cost adequate diet plus other chief basic requirements. In this study, CBN method has been used to estimate the poverty line, and extent of poverty has been examined at household level.

There are three steps in estimating the poverty line using CBN method: First, the cost of a bundle of fixed food items is estimated. The food poverty line is computed as $Z_f = \Sigma P_j F_j$, where F_j is the required per capita quantity of the food item j and P_j is the unit price of j-th food item. In second step, two non-food allowances for non-food consumption is computed. The first one, "lower" allowances, obtained by taking the amount spent on non-food items by those households whose total consumption is equal to their food poverty line Z_f. The second one, "upper" allowances, obtained by taking the amount spent on non-food items by those households whose food expenditure was equal to the food poverty line. Algebraically, if the total per capita consumption is denoted by y and food per capita consumption by x, the "lower" and "upper" allowances for non-food consumption were estimated as $ZL_n = E[y_i - x_i \mid y_i = Z_f]$ and $ZU_n = E[y_i - x_i \mid x_i = Z_f]$ respectively. In the third step, estimation of the poverty lines consisted simply in adding to the food poverty line with the "lower" and "upper" non-food allowances to yield the total lower and upper poverty lines. That is, lower poverty line: $Z_L = Z_f + ZL_n$ and upper poverty line: $Z_U = Z_f + ZU_n$. The difference between the two lines is due to the difference in estimation of the allowances for non-food consumption. The lower poverty line incorporates a minimal allowance for non-food goods, while the upper poverty line makes more allowance.

In a developing country like Bangladesh, CBN method seems to be more appropriate than calorie intake method, because the mass poverty results in

hunger, starvation and impoverishment, lack of shelter, clothing, education *etc*. This study adopted the food combination as 448gm of rice, 36.6gm of wheat, 15.5 gm of pulse, 61.2 gm potato, 129.6gm of vegetables, 29.7gm of milk, 8.6gm of oil, 9.6gm of meat, 29.1gm of fish, 3.2gm of egg, 33.9gm of spices, 7gm of sugar, and another 20 gm of fruits; which combines 832gm of food and yielded to 2,122k.calory energy. Using the price of this food combination, the food poverty line has been estimated as Tk4,401.90 per capita per year. The annual per capita "lower" and "upper" allowances have been estimated as Tk904.20 and Tk2,549.91 respectively. The corresponding per capita "lower" and "upper" poverty lines have been estimated as Tk5,306.10 and Tk6,951.81 respectively. The non-food expenditure was found consistent with other studies of Bangladesh. Ravallion and Sen (1996) reported that the non-food expenditure was 15 to 40 percent of food expenditure. Using the data of HES 1988-89, Rahman (1994) found non-food expenditure as 35% of food expenditure.

By converting the per capita poverty lines into household level, the "lower" and "upper" poverty lines have been estimated as Tk26,901.93 and Tk35,245.68 respectively (Table 14). The result suggests that about 43% household lies below the "lower" poverty line and about 63% household lies below the "upper" poverty line. The incidence of poverty was found slightly higher in the study villages as compared to national figure (37.4% by lower poverty line and 53.1% by upper poverty line for rural Bangladesh) reported by BBS (BBS, 2001).

Table 14 shows the incidence of poverty at household level according to some selected background characteristics. The household characteristics include pond ownership, landholding, occupation, family size, standard of living and education. The result suggests that about 27% pond owning households and about 55% non-pond owning households fell below lower poverty line. By contrast, about 51% pond owning households and about 70% non-pond owning households fell below upper poverty line. Landownership was found to have negatively correlated with poverty. About 63% landless households fell below lower poverty, whereas for the medium landholding households it was 30%.

The incidence of poverty was striking among labourer households – nearly three-quarters of them. Family size also appeared to have correlated with the incidence of poverty: only 9% of the larger households were poor, but it was about 79%

for small size households (1-3 members). As expected, the incidence of poverty decreases rapidly with the increase of standard of living index. About 93% were found poor among the households belonging to extremely low SLI group, whereas only about 2% households were found poor for the households belonging to medium and high standard of living. The level of education showed a negative relationship with incidence of povery. For illiterate households, about 85% lies below poverty line, whereas it is only about 15% for higher educated households.

Table 14: Incidence of poverty at household level (head count ratio) by cost of basic needs method according to selected characteristics

Characteristics	Lower poverty line expenditure	Upper poverty line expenditure	Percentage of Household below Poverty Line	
			Using lower poverty line	Using upper poverty line
Pond Ownership				
Own	27539.43	38533.12	26.5	51.2
Not own	26669.32	33064.72	54.7	69.8
Land Ownership				
Landless	26825.17	32136.60	62.9	79.5
Marginal	26880.38	35634.90	41.7	67.0
Medium	35634.90	41527.05	30.3	39.4
Occupation				
Agriculture (owner)	27425.05	37380.40	25.2	49.1
Agri-labourer	26569.28	29332.54	77.6	87.3
Non-agri labourer	27077.75	33516.71	64.7	79.4
Fishing	27259.16	30672.03	55.0	70.0
Job/Service	25815.53	42603.06	24.6	55.1
Trade/Business	27725.70	35853.87	36.8	55.6
Others	26248.76	36250.25	51.0	71.6
Family Size				
1-3	26325.21	32979.64	78.6	86.1
4-6	26807.77	35073.80	41.2	64.7
7 & above	27458.35	36888.36	8.9	30.2

Table 14: (continued)

Characteristics	Lower poverty line expenditure	Upper poverty line expenditure	Percentage of Household below Poverty Line	
			Using lower poverty line	Using upper poverty line
Standard of Living				
Extremely Low	26326.23	28874.46	92.6	94.9
Low	26964.14	33076.63	55.4	75.9
Lower-Medium	27727.63	36987.42	27.5	55.1
Medium	28162.28	47871.29	1.9	29.8
High		47160.63	0.0	11.1
Education				
No education	26213.02	29158.84	84.6	88.5
Primary	26806.71	32875.40	54.8	72.2
Secondary	27582.07	38928.88	28.0	50.7
Higher	27503.03	41255.86	15.1	37.8
Overall	26901.93	35245.68	42.7	62.5

Conclusion

The basic indicators were found almost consistent with other studies of the country. The proportion of landless households was found slightly lower in the study areas as compared to other parts of Bangladesh. Land was found to have strong influence on the occupation pattern and majority of the households (52%) were involved in farm-related activities. Comparatively a lower proportion of female headed households was found in the study areas. Though the main house of majority of the households were made by tin, a considerable proportion of the households were deprived of some basic provisions required to maintain a healthy and hygienic life. A few households owned any luxury. The work-related items except fishing net were rarely found in the households. Animals and poultry birds were found very common items in most of the households as household assets. The housing conditions and possession of durable goods of the surveyed households suggests that the economic condition in the study areas is worse than in other parts of Bangladesh.

The standard of living using composite index indicates that majority of the households belonging to 'low' or 'extremely low' living standard. Comparison of standard of living with the self-assessed socio-economic condition indicates that in the self-assessment, households belonging to the 'poor' or 'extremely poor' slightly overestimates them.

The food poverty line was estimated as Tk4,401.90 and the "lower" and "upper" allowances (per capita) for non-food consumption were estimated as Tk904.20 and Tk2,549.91 respectively. The "lower" and "upper" poverty lines at household level were estimated as Tk26,901.93 and Tk35,245.68 respectively. The study indicated that that about 43% household lies below the "lower" poverty line and about 63% household lies below the "upper" poverty line. Landownership was found to have negatively correlated with poverty. The poverty was severe for the households who sold labour than those who earned from office-based job/service. The incidence of poverty was found inversely related with education, family size and standard of living index.

References

Ahmed, Q.K. and M. Hossain. 1984. *Rural poverty alleviation in Bangladesh: Experiences and policies*. Indepth Studies Series No. 10. Rome: Food and Agriculture Organization.

Alamgir, M. 1978. *Bangladesh: A case below poverty level equilibrium trap*. Dhaka: Bangladesh Institute of Development Studies.

Bangladesh Bureau of Statistics (BBS). 1991. *Report on the Household Expenditure Survey 1988-89*. Ministry of Planning.

_____. 1999. *Statistical Pocket Book of Bangladesh 1999*. Ministry of Planning.

_____. 2000. *Rural Poverty Monitoring Survey 1998*. Ministry of Planning.

_____. 2001. *Preliminary Report of Household Income and Expenditure Survey-2000*. Ministry of Planning.

Bangladesh Institute of Development Studies (BIDS). 1997. *Methods of Measuring Poverty and Trend.* In Rahman. R.I. edited *Poverty and Development: Bangladesh Context*, *Bangladesh Development Studies*.

Cramer, J.S. 1971. *Empirical Econometrics*. Amsterdam: North Holland Publishing Company.

Government of Bangladesh (GOB). 2000. *Achievement of the Goal fixed by World Child Summit - National Report 2000*. Dhaka: Ministry of Women and Child Affairs.

Hossain, M. 1988. *Credit for alleviation of rural poverty: The Grameen Bank in Bangladesh*. IFFRI Research Report No. 65. Dhaka.

Hossain, M.Z. 2000. *Some Demographic Models and their applications with special reference to Bangladesh*. An unpublished Ph.D thesis. Banaras Hindu University, India.

Hossain, M.Z., Erik H.J. Keus and N.A. Apu. April 2002. *Report on Integrated Baseline Survey*. Patuakhali: Patuakhali Barguna Aquaculture Extension Project.

Khan, A.R. 1977. *Poverty and inequality in rural Bangladesh*. *Poverty and Landlessness in Rural Asia*. Geneva: International Labour Organization.

_____. 1990. *Poverty in Bangladesh: A consequence and constraint on growth*. *The Bangladesh Development Studies.* vol. 18 (3).

Mitra, S.N., A. Al-Sabir, T. Shaha and S. Kumar. 2001. *Bangladesh Demographic and Health Survey, 1999-2000*. National Institute of Population Research and Training (NIPORT), Dhaka, Bangladesh; Mitra and Associates, Dhaka, Bangladesh, and Micro International Inc., Calverton, Maryland.

Osmani, S.R. 1982. *Economic Inequality and Group Welfare*. Oxford: Clarendon Press.

_____. 1990. *Structural Change and Poverty in Bangladesh: The case of false turning point*. *The Bangladesh Development Studies.* Vol. 18 (3). 75-87.

Pragathir Pathey. 1999. *A report on Multiple Indicator Cluster Survey 1999*. Dhaka: GOB and UNICEF.

Rahman, A. and T. Haque. 1988. *Poverty and Inequality in Bangladesh in the Eighties: An Analysis of Some Recent Evidence*. BIDS Research Report No. 91.

Rahman, Pk. M.M. 1994. *Poverty Issues in Rural Bangladesh*. Dhaka: University Press Limited.

Ravallion, M. 1990. *The Changing Arithmetic of Poverty in Bangladesh*. *The Bangladesh Development Studies*. Vol. 18 (3). 33-50.

Ravallion, M. and B. Sen. 1996. When Method Matters: Monitoring Poverty in Bangladesh. *Economic Development and Cultural Change*. Vol. 44. No. 4.

Sen, A. 1976. *Poverty: An Ordinal Approach to Measurement. Econometrica*. vol. 48. 437-446.

Sen, B., O.H. Chowdhury, S. Hamid, M. Hossain and H.Z. Rahman. 1990. *The Face of Rural Poverty in Bangladesh: Trends and Insights*. Dhaka: Bangladesh Institute of Development Studies.

.Siddiqui, K. 1982. *The Political Economy in Rural Bangladesh*. Dhaka: National Institute of Local Government.

United Nations Development Programme (UNDP). 2002. *Human Development Report 2002*.