

# Assessing the livelihood status of fishermen at Sunamganj district in Bangladesh

## Abstract

Fish is considered as one of the most essential food items that provide proteins to build our body throughout the world. In Bangladesh, Fish and Fisheries sectors play an immensely important role in terms of nutrition, income, employment generation and foreign exchange earnings. Most of the lands in Sunamganj covered by haors and cannals and therefore many people in this area are involved in capturing fish than fish farming. In this study we aimed to assess the livelihood status of fishermen at Sunamganj. For this we randomly collected data based on a questionnaire from 425 fishermen during April 2018. We found most of the fishermen belong to middle age group and had middle family size. Around 56.3% fishermen took loan from different banks while only 3.1% received loan from NGO. The financial condition of fishers was observed very poor as the land owned by them was decreasing day by day. Though there was significant increase in monthly income compare to last 10 years, however it's not sufficient for better livelihood. Their socio-economic condition doesn't match with national economic progress. The results of logistic regression model shows that earning members had significant influence (OR=1.77, CI: 0.965,3.272,  $P<0.10$ ) on taking loan, indicates that households with only one earning member are 1.77 times as likely to take loan than household with more than one earning members. That is taking loan is likely to increase around 77% for households with only one earning member. About 89.9% fishermen were afraid about their future earnings due to early/flash flood. Taken together, we may conclude that overall situation of the livelihood status is not so good because of more illiteracy, more loan and natural disasters like flood. So government and non-government organizations should play role to improve their economic status by providing well education to their children as well as give more incentives so that they don't need to take loan. In addition, need to construct of embankment or dam for protecting them from flood as well.

**Keywords:** Livelihood status, fishermen, Sunamganj, Bangladesh

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## Background

From the first stage of human civilization, fish is considered as one of the most essential food items throughout the world and it is a major protein providing source in Bangladesh.<sup>1-3</sup> About 10 percent of the world's population depends on fisheries for their livelihoods, and 4.3 billion people are reliant on fish for 15 percent of their animal protein intake.<sup>4</sup> In Bangladesh, Fish and Fisheries sector play an immensely important role in terms of nutrition, income, employment and foreign exchange earnings.<sup>5</sup> Fish is so popular complement to rice in the national diet that Bangladeshis are called *Maache-Bhate Bengali* ("a Bengali is made of fish and rice").<sup>6</sup> About 1.78 million people's full-time and part-time employment facilities are provided by fisheries.<sup>7</sup> This sector also contributes about 60% of the national animal protein in-take and 19% percent of the total protein consumption in the average Bangladeshi diet.<sup>8</sup> Moreover, this sector adds about 2.46% of the total export earning, 4.39% to GDP and 22.76% agrarian sector.<sup>9</sup> According to Fisheries Statistical Yearbook 2016-17, Bangladesh has recorded surplus fish production with an annual output of 41.34 lakh MT against a demand of 40.50 lakh MT in 2016-17.<sup>10</sup> Bangladesh is blessed with huge water bodies in the form of rivers, canal and natural depressions (haors and beels).<sup>11</sup> As far, Bangladesh is surrounded by 230 rivers and estimated total length of rivers, streams and canals altogether cover more than 24,000 km.<sup>12</sup> Most of the haors and

beels are located in the districts of Sunamganj, Sylhet, Maulvibazar, Habiganj, Brahmanbaria, Netrokona and Kishoreganj.

Human capabilities, assets (material and social resources) and activities which are required for a means of living is livelihood.<sup>13</sup> The fishing communities secure their livelihoods from haor by capturing fish, fish trading, fish drying, aquatic life and net weaving.<sup>14</sup> They are one of the most vulnerable and poorest communities in Bangladesh due to having the income below the marginal level.<sup>15</sup> The fishermen who take the risk of their lives disregarding storms and rains and catch fishes to meet the demand of animal protein are mostly deprived of many amenities of life and are considered as the poorest of the poor.<sup>1</sup> Most of them live from hand to mouth. All time they have to struggle to survive. Fishing communities are still the dominant communities of poor people live in coastal areas, especially in countries that are developing (FAO, 2007).<sup>16</sup> Livelihood condition of fishermen is not satisfactory at all because they do not get free access to the water body for catching fish in all seasons. Moreover, significant research has not yet been conducted on the haor fishermen of north eastern Bangladesh although it has a great ecological, commercial and socio-economic importance in the economy of Bangladesh. For proper development, it is essential to improve the livelihood of people of all categories, especially the vulnerable one- the fishermen community. For this improvement, information about fisherman of a particular

region is necessary and vital.<sup>17</sup> But there is no sufficient information about livelihood of fishermen community in Bangladesh. However, some studies<sup>18-20</sup> on socio-economic conditions of fishermen have been done in Bangladesh but all these efforts lack specific information of livelihood like access to organizations, livelihood vulnerabilities and outcomes. The purpose of this study was to know the livelihood status of fishermen of Bishwambarpur, Derai and Tahirpur upazila at Sunamganj district in Bangladesh and to identify the factors that are affecting the livelihood of the fishermen.

### Methods

In this study a primary dataset was collected based on a semi-structured questionnaire from the fisherman at Sunamganj district. Simple random sampling technique was applied for this study. We interviewed total 425 fishermen randomly. Among them 195 from Tahirpur upazila, 136 from Derai upazila and rest of them are from Bishwambarpur upazila. Descriptive statistical analysis and logistic regression model were applied to analyze the data. We used SPSS program for this study.

### Results

Family size is an important socioeconomic indicator as it affects the income, food consumption and socio-economic wellbeing of the households. The family size of the fishers were divided into three categories as small (less than 5 members), middle (5 to 7 members) and large (more than 7 members). The present study shows that the average family member of the fishermen is around 5 and maximum numbers of studied fishermen lived in middle family (64.7%) while only 12.9% fishermen are in large family. It is observed that a large number of families are in middle family. This indicates that trends of joint family or large family are continuously decreasing in the fishermen society of Bangladesh which may be due to the poor economic condition and different natural calamities of the fishermen. To determine the status and the roles of fishermen in their community and to know their behaviour, age structure is an important factor. The following (figure-1,2) shows that 26.7% fishermen were in age group 30-40 indicating middle age groups which were the dominant in fishing due to their physical strength.

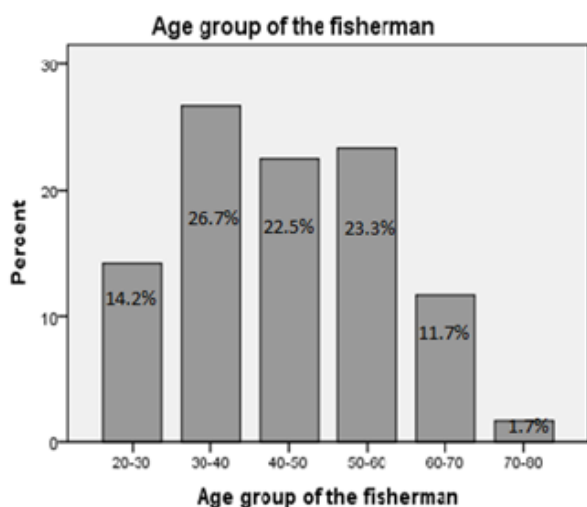


Figure 1 Age groups of the respondents.

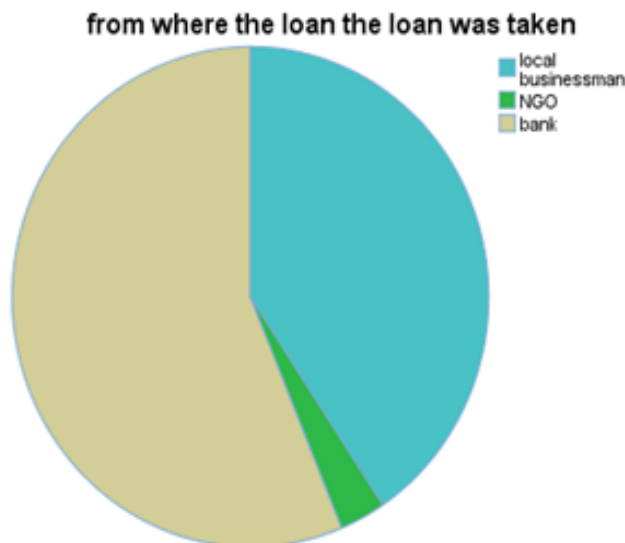


Figure 2 Loan access of the fishermen.

It was also observed that average age of the fishers’ wives were 35.65 indicating most of the fishers’ wives were middle age group. The mean age of the fishers’ 1<sup>st</sup> son was 17.15 i.e. the fishers’ children were not adult whereas 13.26, 11.2, 13.02 and 9.64 were the mean ages of fishers’ 2<sup>nd</sup> son, 3<sup>rd</sup> son, 1<sup>st</sup> and 2<sup>nd</sup> daughter respectively.

Educational qualification influences on individual preferences, behavioural patterns, performance, skill and capability. In the present study educational status of the fishermen and their families have been grouped into 4 categories such as- (i) Illiterate (ii) Up-to class five passed (iii) Up-to SSC (Secondary School Certificate) passed and (iv) Higher than SSC. Many of the fishermen were literate at various levels of education. Most of the fishermen were primary educated (48%), while some were in secondary level (20%). About 31% of the fishermen had no primary education. The following Table -1 shows the details educational qualification of the fishermen and their family members:

From Table-1, it is also observed that most of the fishermen wives were illiterate. The primary educated were 36.1% while most of them had no education (46%) and only a small portion(15.5%) had education level up to SSC. It was quite evident that most of fishermen were found to send their children to school but still there are a lower percentage of highly educated people found in the selected areas of Sunamganj. In case of fishers’ 1<sup>st</sup> son, the illiteracy levels among them were 22.3% while 37.7% were primary educated and 34% were up to SSC level. The highest number of fishers’ 2<sup>nd</sup> children (34.5%) had no education where 29.3% were primary educated. About 32.8% fisherman’s 2<sup>nd</sup> son had education level up-to SSC. For fishers’ 3<sup>rd</sup> son, 32.3% were uneducated, 35.5% were primary educated and 29% were up to SSC level. The fishers’ 1<sup>st</sup> daughter had the highest percentage of primary level education (33.8%) where 28.8% were illiterate. For 2<sup>nd</sup> daughter, 34% were illiterate, 30% were primary educated while 32% were up-to SSC level.

As the study focused on the fishermen, fishing was obviously their main or primary occupation. There were full time fishermen those solely depended on fishing for their livelihood. But it is also observed

that the fishermen were also involved in agriculture, business and worked as day labourer in other times. About 51.3% of the respondents

served as farmer while 43.5% as day labourer and only 4.7% were businessman in the other times.

**Table 1** Educational qualifications of the fishermen and their family members

Categories	Respondent	Wife	1 <sup>st</sup> Son	2 <sup>nd</sup> Son	3 <sup>rd</sup> Son	1 <sup>st</sup> Daughter	2 <sup>nd</sup> Daughter
No Education	23(30.7)	116(46)	48(22.3)	40(34.5)	10(32.3)	40(28.8)	17(34)
Class 5	36(48)	91(36.1)	81(37.7)	34(29.3)	11(35.5)	47(33.8)	15(30)
Class 6-10	15(20)	39(15.5)	73(34)	38(32.8)	9(29)	45(32.4)	16(32)
Higher than SSC	1(1.3)	5(2)	13(6)	3(2.6)	1(3.2)	5(3.6)	2(4)

Parenthesis indicates the %

In the present study occupational status of the fishers' families have been grouped into 5 categories such as: (i) Fishing (ii) Housewife (iii) Job (iv) Study (v) Others. Most of the fishers' wives (97.8%) in the study area were housewives. They were the main worker for

homestead agriculture activities. They also engaged in different household activities as net making, stitching, basket making etc (Table 2).

**Table 2** Occupational status of fishers' family members

Categories	Wife	1 <sup>st</sup> Son	2 <sup>nd</sup> Son	3 <sup>rd</sup> Son	1 <sup>st</sup> Daughter	2 <sup>nd</sup> Daughter
Fishing		83(37.9)	28(24.6)	3(11.5)	1(.08)	1(2.6)
Housewife	309(97.8)				19(14.5)	2(5.3)
Job	2(.06)	8(3.7)	4(3.5)		2(1.5)	
Study	2(.06)	91(41.6)	61(53.5)	19(73.1)	96(73.3)	32(84.2)
Others	3(.09)	37(16.9)	21(18.4)	4(15.4)	13(9.9)	3(7.9)

Parenthesis indicates %

There was some diversification among the occupation in Haor areas people. The people depend on different occupations on the basis of fishing season and off season. In off season, some people go to other areas as day laborer for agricultural activities as well as stone and sand collection labour. But in fishing season, the main purpose of all aged people was fishing and selling them into market. In this study, it was observed that 37.9% fishers 1<sup>st</sup> son whose average age was near 18 years involved in only fishing, so called fisherman while 41.6% were involved in studying. About 24.6% fishers' 2<sup>nd</sup> son and 11.5% fishers' 3<sup>rd</sup> son were involved in fishing. While the percentage of students were 53.5% and 73.1% respectively. A very few number of fishers' son had a government or non-government job. It was observed that fishers' 1<sup>st</sup>, 2<sup>nd</sup> and 3<sup>rd</sup> son were involved in others occupation (like agriculture, day labourer etc) as 16.9%, 18.4% and 15.4% respectively. Most of the fishers' daughters (73.3% and 84.2%) were students while 14.5% and 5.3% were housewives. The results indicates that the younger children of a family can get more facilities such as educational facility or other types of facility compared by others members of the family.

The major assets of the fishermen were agricultural lands, livestock's, poultry, fishing gears and traps etc. In the study area, it was observed that the average amount of total land owned by the fishermen was 26 decimal in which 21.93 decimal land was for agriculture. But it was unfortunate that before 10 years, the average amount of total land and agricultural land was higher than the recent time.

The monthly income is the main economic point of national development. In the study area, the annual income of fishers mainly depends on haor fisheries resources. The only source of income of the fishermen is selling fish in the market and other place. There are very limited options for non-fishery related activities such as day labour in agricultural field. It has been observed in this study that the monthly average income was BDT 9169.08 while their 10 years previous monthly average income was BDT 6230.22. So, the increasing rate of the fishers' monthly income was 47% during last 10 years and it indicates a poor living standard of the fishers in Sunamganj.

The national and local NGO like BRAC provide loan only to the organized poor members for purchase fishing gears and boats. In this study, among 425 fishermen 56.3% fishermen took loan from different banks while only 3.1% received loan from NGO. But though 96.4% was registered fishermen, most of them took loan (40.6%) from the local businessmen/dadon babosai.

It was observed from the study that the fishers' took loan for leasing purpose as well as family needs. The average amount of loan taken by fishers for leasing waterbodies/Jahalmahal was BDT 136812.50 while the average amount of loan for family needs was BDT 25,609.20.

Flood is most frequently occurring in the Haor area like Sunamganj district and people face many problem in leading their normal lives. As a result, about 89.9% fishermen were afraid of their future earnings

due to the flood and climate change indicating a miserable living standard of the fishermen family in Sunamganj district.

To estimate the effect of earning members and agricultural land on borrowing loan (Yes/No) a logistic regression model was conducted. We observed earning members had significant influence (OR= 1.77, CI: 0.965,3.272, P<0.10) on taking loan, indicates that households with only one earning member are 1.77 times as likely to take loan than household with more than one earning members. That is, borrowing loan is likely to increase around 77% for households with only one earning member. We also found that agricultural land is likely to decrease around 3% for the fishermen who are taking loan compare to who are not taking loan.

## Discussion and Conclusions

Various socio-economic and demographic characteristics that indicate the livelihood status of fishermen in Sunamganj district have been studied in this study. This study indicates that most of the fishermen belong to middle age group and had middle family size. The primary education has been reached in the fishermen families as most of them were class-5 passed and their children were also more or less received primary education. The financial condition of fishers in this study was very poor as the land owned by them was decreasing day by day and there was no significant increase in monthly income during last 10 years. Most of the fishermen met their financial needs by borrowing loan from local businessmen/dadan babosai while a few percentages borrowed loan from NGO's. In this study, 65.8% fishermen were full time fishermen who used to catch fish in the whole year, had more or less similarity with the findings of the studies.<sup>21-23</sup>

Taken together we may conclude that - because of more illiteracy, more loan and natural disasters like flood/flash flood, the overall situation of the livelihood status is not so good of the fishermen in Sunamganj. So Govt. and non-govt. organizations should take necessary steps for developing the living standard of the fishermen in haor regions as well as need to update Jalmahal Nitimala 2009. The findings in this study may have some policy implications that would help the stakeholders as well as the government to take necessary steps for developing the living standard of the fishermen in haor regions.

Due to formulation and implementation of water bodies management policy 2009, fishermen are in better position to avail water bodies lease than ever before (particularly non-registered fishermen society can't participant in the leasehold process of the waterbodies). Indirectly non registered fishermen/businessman/financer of lease money provider are obliged/bound to seek shelter for leaseholder of water bodies which is contributing to enhance the socio-economic conditions'and social prestige of the fisherman families. Due to the lease money of the large water bodies is beyond the capability of most fishermen cooperative societies, the fishermen have to borrow the loan of local merchants/dadan baobsai/ banks to pay the lease money of the water bodies. As a result, the fishermen could not get the actual benefit from the leased water bodies. For this reason, the desired development of fishermen is not happening.

Without improving the socio-economic conditions' or main streaming the fishermen families those who live below the poverty line or marginal poverty line, it is hard to become a middle income country by 2021 or attain SDG by 2030 as well as developed Bangladesh by 2041. Therefore, we recommend some possible solutions to improve the livelihood status of fishermen in haor area and these are as

follows: (i) currently, the yearly revenue from the water bodies of the country is very nominal compared to the financial strength of the country. Since the jalmahal/water bodies lease price is higher than the financial capability of the fishermen societies, for the leasehold can be paid at a token price instead of the existing lease system. (ii) The importance of enhancing the productivity of the fisheries through the biological system has to be taken into account instead of collection of revenue. In this case, the water lease should not be renewed without certification of the ecological division of the fisheries department. (iii) The complexity of water issues are increasing day by day as there is scope for writ of litigation in multiple benches of the honourable High Court division. Therefore division based bench may be fixed to deal with writ petitions regarding lease of water bodies/Sairat mahals. (iv) Loans can be provided on easy terms at low rate of interest in favour of registered fisheries cooperatives in order to maintain water bodies management. Activities can be taken in the form of piloting with the involvement of third parties/NGOs to return bank loans (during the fish harvesting season). (v) To provide VGF / VGD to registered fishermen with complete closure of fish for 2 or 3 months (April-June) during the breeding season for protection of fish species, fish spread and biodiversity conservation. (vi) Considering the number of water bodies in each upazila, 2 or 3 of the water bodies are excluded from the lease and declared as Mother / Sanctuary Fishery.

## Conflicts of interest

Authors declare that there is no conflicts of interest.

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