

# Hilsa Fishers of Ramgati, Lakshmipur, Bangladesh: An Overview of Socio-Economic and Livelihood Context

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## Abstract

The present investigation was carried out to assess the socio-economic and livelihood status of the hilsa (*Tenualosa ilisha*) fishermen of the river Meghna in Ramgati upazila (sub-district) under Lakshmipur district from December 2015 to May 2016. Pertinent data were collected from randomly selected 150 hilsa fishermen by personal interview with a structured questionnaire, focus group discussion and, data were crosschecked with the key informants. Data interpretation showed that the maximum number of fishers (33%) belonged to the age group of 31 to 40 years. Most of the fishers belonged to the joint family with average family members (7) higher than the national average. In addition, most of the participants (49%) can only sign followed by illiterate (24%) and only few fishers passed primary (20%) and secondary (7%) level of education. Although they are fishing round the year, vegetables were the most common food item consumed by the fishers' family. Majority of the fishers (67%) worked on another fishermen's boat as labour. The highest number (44%) of the fishers' annual income ranged between 21,000 and 40,000 BDT where highest income was more than 100,000 BDT. About 93% of the fishermen depended on loan to run the fishing and among them 33% depended on Mahajon and 24% on Aratdar. Almost all the fishers (91%) mentioned that piracy was the major problem and, 53% and 89% reported both dadon and market controlled by Aratder/bapari respectively as the main constraints in their business. To safeguard the livelihood of the fishermen, the government, donor agencies and NGOs should come forward to provide adult education, loan without or minimum interest and set criteria for the Aratder/bapari so that they can't harass the fishers during fish selling.

**Keywords:** Hilsa; *Tenualosa ilisha*; Meghna river; Livelihood; Bangladesh

## Introduction

In Bangladesh, hilsa (*Tenualosa ilisha*) occurs in inland, marine and coastal waters and is harvested throughout the year. Hilsa has the highest contribution (>10%) to the fish production of Bangladesh as a single species and in 2015-16 the contribution was 0.395 million metric ton [1]. It is considered as the national fish of the country and contributes to the national economy, employment and export. An estimated 0.46 million people are engaged in hilsa and jatka fishing [2]. About 2 million people are directly or indirectly involved with the catching and trading of Hilsa fish in the country for their livelihood [3].

Meghna is one of the largest rivers of the country interconnected by various channels to form one continuous sheet of water in the rainy season. It covers an area of about 900 hectares of Ramgati upazila and an approximately 25,500 fishermen in this area are dependent on the riverine fish for their livelihood and protein supply. The place is blessed with very resourceful water bodies of Meghna, full of riverine fisheries resources, major catches are hilsa, poa, icha, taposhi/rickshaw, *bata*, *pangas* etc [4]. A fairly huge number of different types and forms of gears have been operated in the Meghna river to exploit wild fishes since time immemorial. The intensity of use of any form of gear in a river is dependent on the intensity of target fish population available in the river, some of the gears are selective for a particular species, whereas other account for a number of species caught during operation giving multi-species nature of the fishing [5]. Some nets are specially meant for catching species of fish while others are used for netting any type of fish that comes on the way. The choice of nets also depends upon the area of operation and varies from place to place even in same river [6].

Fishers are engaged throughout the year in the hilsa fishery in Bangladesh. The people do not possess any land for crop cultivation so the rivers and hilsa are their only means of survival. Ignoring the

intense heat of the sun, the lack of security and safety measures during monsoons and tidal waves, and having little or no food during fishing, these fishers struggle for their livelihood. Some fishers are happy with a catch of just one average sized fish per day, as it provides them with money needed to feed their family or repay a boat loan. Most of the fishers are so poor that they are unable to upgrade their boats.

No research work is conducted yet about the lives and livelihood of the hilsa fishermen in Ramgati region. Therefore, the present study was carried out to assess the present socio-economic and livelihood condition of the hilsa fishermen of Ramgati upazila along the Meghna river.

## Materials and Methods

### Location of the study area

In the present study Ramgati upazila (sub-district) of Lakshmipur district was selected as the study area that represents more or less common picture of the total hilsa fishermen community. The main criteria behind the selection of the study area are:

a) The suitability of the area to fulfil the objectives of the study,

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- b) Concentration of different types of fishermen and
- c) Good communication system.

The upazila is situated on the bank of the Meghna river and under Lakshmipur district of Chittagong division, Bangladesh. It is located between 22°52' and 22°90' North latitudes and in between 90°47' and 91°01' East longitudes. It has an area of 291.82 sq km.

### Study duration

The study was conducted for a period of six months from December 2015 to May 2016 to get the ideal picture of the basic profile of fishermen of the Meghna river.

### Sample size and sampling procedure

The major focus of the study was the fishermen and fisher folk involved in fishing and fish marketing of the Meghna river. A total of 150 hilsa fishermen were selected equally from three different areas (Ramgati Bazar, Char Algi and Char Alexander) adjacent to the Meghna river by using random sampling. To achieve the objective of the study a comprehensive interview schedule of structured questionnaire was used to collect data through both primary (questionnaire interviews, focus group discussion) and secondary sources (cross-check interviews).

### Data processing and analysis

Collected data were summarized and scrutinized carefully and recorded. Data collected in local unit were altered into standard unit in order to lessen miscalculation. Collected data were analyzed by computer software Microsoft Excel version 2010.

## Results and Discussion

### Fishermen types

Fishes are caught throughout the year by a large number of fishermen

around the Meghna river area. Hilsa fishermen can be categorized into two groups on the basis of standard practice: professional fishermen (depend on fishing almost year-round for their livelihood) and seasonal fishermen (catch fish only a part of the year as a source of income and keep them engaged in other activities in other time). In the present study it was found that most of the hilsa fishermen were professional (91%), followed by seasonal hilsa fishermen which was only 9% (Table 1). In a study of Jamuna river at Dewangonj upazila, Akram found that 60% of the fishermen were professional, 30% were seasonal and the rest 10% were subsistence [7].

### Age and sex of the respondents

22% of fishermen of the study area were 11 to 20 years old, 22% were 21 to 30 years old, 33% were 31 to 40 years old, 16% were 41 to 50 years old and 7% were more than 50-years-old (Table 1). There was no female fisherman found in any of the study area. Bhaumik and Saha reported the age group of fishermen of Sunderbans varied between 20 to 70 years [8]. In a similar study, Minar et al., found that most of the fishermen belonged to the age groups of 31 to 40 years (56%) in the Kirtonkhola river near to the Barisal town [9].

### Family types and members

The family functions as a unit for income generation, consumption, reproduction and social interaction. 91% fishermen families were jointed, and 9% families were nuclear in the present study area (Table 1). The average family members were found 7 in each household. Considering all the members of the respondents' family average 3 were found male and 4 were female members. Minar et al., found that 86% of fishermen family was jointed and 16% of family was nuclear and, most of the fishermen family was represented by 5 to 6 members in the Kirtonkhola river [9].

Parameters	Fishermen number	Frequency (%)
<b>Fishermen category</b>		
Professional	137	91
Seasonal	13	9
<b>Age (Years)</b>		
11-20	33	22
21-30	33	22
31-40	50	33
41-50	24	16
>50	11	7
<b>Sex</b>		
Male	150	100
Female	0	0
<b>Family type</b>		
Joint	137	91
Nuclear	13	9
<b>Educational status</b>		
No education	36	24
Can only sign	74	49
Primary level	30	20
Secondary level	11	7

**Table 1:** Socio-demographic information of the hilsa fishermen of Ramgati.

Food items	Fishing season (days/month)	Banning season (days/month)
Vegetables	30	30
Fish	9	0
Meat	2	0
Egg	8	5
Milk	13% respondent	7% respondent

**Table 2:** Food taken by the fishermen of Ramgati upazila during fishing and banning season.

### Educational status

Hilsa fishers were categorized into four based on their level of education. Out of 150 fishermen of Meghna river of Ramgati upazila, 24% had no education (illiterate), 49% can only sign, 20% had primary level (class 1-5) and 7% had secondary level (class 6-10) of education (Table 1). It can be said that majority of the fishermen were either illiterate or only can sign because most of the sampled fishermen were compelled to earn from fishing profession in their early stage due to poor economic status of their parents and lack of awareness about education. Another important factor was that educational institutions needed in the areas of fishing villages were not sufficient.

### Drinking water and sanitary facilities

The study showed that all of the hilsa fishermen (100%) households used tube-well water for drinking purposes. Among them 9% fishermen used their own tube-well, 27% used government tube-well, 60% used neighbors' and remaining used community tube-well (Figure 1). This scenario was very common among the fishermen in most areas of Bangladesh and similar results were noted by other authors [10-13].

In the studied area, it was found that majority (137) of the respondents had katcha (earthen) toilet and 13 respondents had semi-pacca (semi-cemented) toilet. Fishermen were not aware due to lack of knowledge on health and environment, less income etc [14]. Poor sanitation system reflects poor socio-economic condition and lower income.

### Food taken by the fishermen

Fishermen were found to work hard all day long to manage their food. In spite of such heavy labour they were found to be the poorest community suffering from the scarcity of daily bread. During the study it was found that vegetables were the most common food item in every fisher's family. They had little fish (average 9 days per month and no fish during banning period) and egg (average 8 days per month and 5 days during ban period) to eat. They took very little meat (average 2 days per month but no chance during ban period). Only 13% fishermen had facility to take milk (average 5 days per month) and only 7% fishermen took average 6 days per month during ban period (Table 2). Similar findings were also reported by Kostori [15].

### Experience in Fishing

The average experience in fishing was found 18 years (1998-2016) in the current study where the minimum was 3-years (2013-2016) and maximum was 40 years (1976-2016). Islam et al., found that the mean experience in fishing was  $17.9 \pm 7.12$  years [16].

### Fishing Duration

In the study area all fishermen were reported to go for fishing during both day and night. The average fishing duration recorded was 15 hour/

day. They usually go for fishing in peak season which was average 19 days/month that reduced to an average 9 days/month in off season.

### Fishing assets

The present findings showed that 33% fishermen had their own boats and nets. Most of the hilsa fishermen (67%) worked with other fishers who possessed fishing gears and boat but surprisingly no fishermen were found under joint collaboration with other fishers (Figure 2). In his study Alam et al., found almost similar results [10].

### Occupation status

All respondents reported fishing is their primary occupation and highest total income (89%) source. However, primary occupation could not afford full time employment and the income derived therefore might be insufficient to supply adequate means of livelihood. Several types of secondary occupations were recorded. The most common secondary occupation was PL collection 29%, labour 11%, agriculture 15%, fish culture 2%, business 7% and 36% had no other job source (Figure 3).

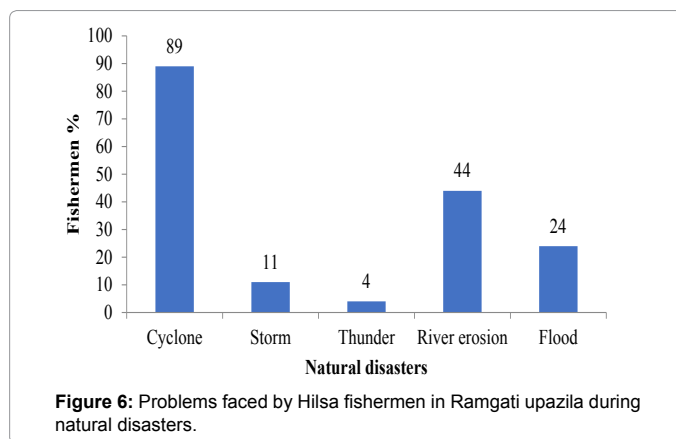
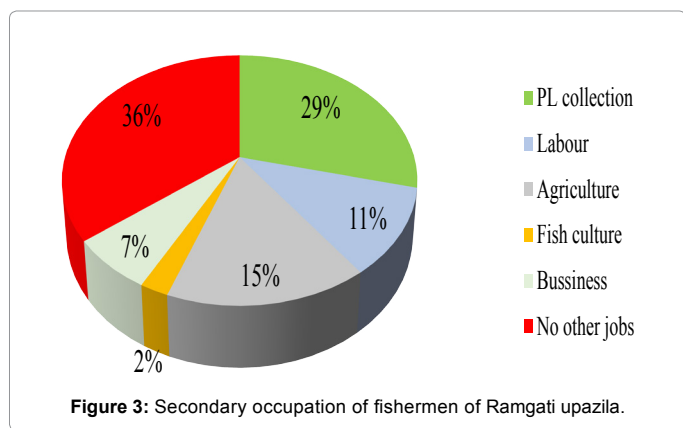
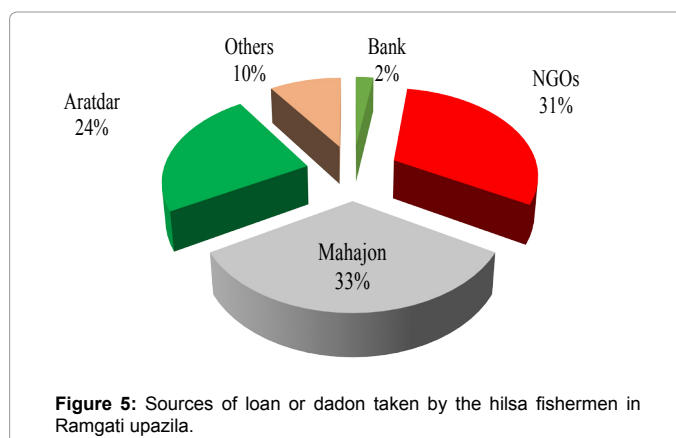
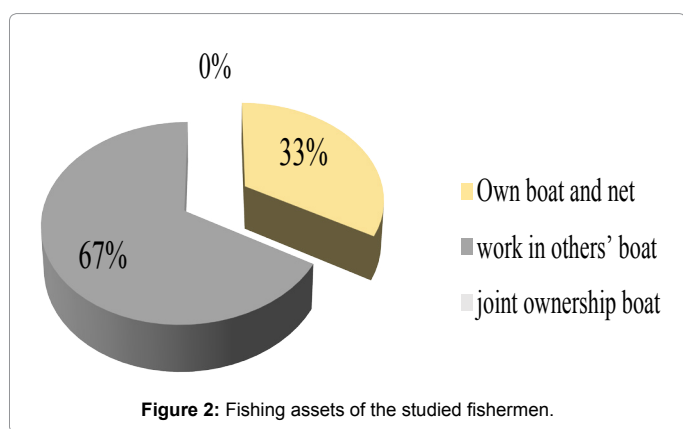
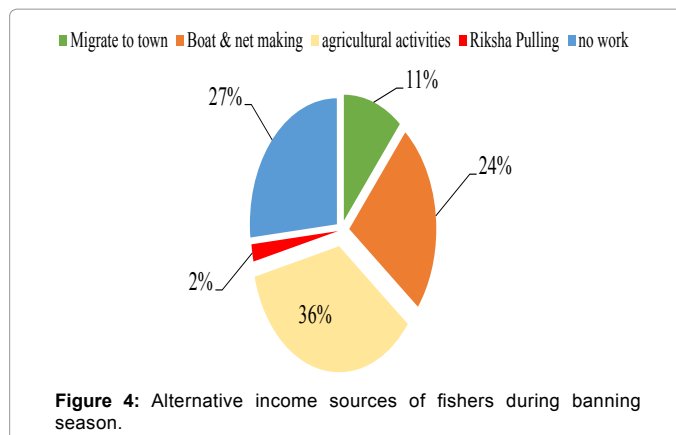
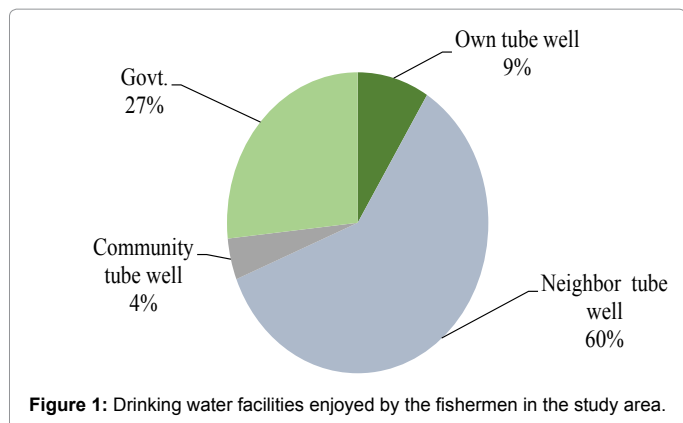
During the banning season fishermen seek alternative income opportunities and involved in various occupations as migrate to town 11%, boat and net making 24%, agricultural works 36%, rickshaw pulling 2% and remaining 27% without work (Figure 4) which was similar to the findings of Alam and Bashar [17].

### Income level and expenditure of hilsa fishermen

Level of income of an individual family determines socio-economic status in a society. In most cases the income of the fishermen in Bangladesh is below poverty level [18]. During study period it was observed that the highest (44%) and the second highest number (31%) of the fishers' annual income ranged between 21,000-40,000 and 41,000-60,000 BDT respectively. The highest and the lowest 100,000 and 20,000 BDT was earned annually by 5% and 2% of the fishers. Ali et al., also reported the similar findings [19]. The major expenditures of a household were found as in food, health, cloths, education, maintenance of housing and telecommunications etc.

### Credit access

The survey evidences that majority of fishermen (93%) took loan but the institutional credit facilities were very limited for the fishermen community. The poor fishermen took loan from boat owners or mahajon (33%) where they bound to work round the year. On the other hand, the boat owners took loans from aratdar or dadondar (24%) where they had to repay the loan selling the fish to the aratdar in their fixed price and commission rates and fishers were restricted from selling their catch to open market. They also took loan from NGOs (31%), Banks (2%) and other sources (10%) with high interest rate (Figure 5). In a study by Zaman et al., it was revealed that poor fish farmers had no access to bank loan due to lack of mortgage assets [20]. Hilsa fishermen usually



took loan for boat construction and net buying, to meet the payment of boat labour, for marriage and dowry, for food and medicine, for natural disaster and repayment of previous loans etc.

### Livelihood constraints and vulnerability context

The fishers of the study area encountered many constraints in maintaining livelihood activities. The main constraints were burden of dadon, market controlled by aratder/bapari, poor market facilities, reduction in fish catches in the recent years, loss of fishing equipment especially nets and boats during fishing to the 53%, 89%, 9%, 9% and 56% respectively. These types of problems were also being faced by the fishermen elsewhere [2,18,21]. In recent years, piracy in the fishing areas becomes a major problem for the 91% fishers. Pirates abducted fishers for ransom, looted fish catch and fishing accessories, sometime

injured or killed the fishers. Kleih et al., showed that piracy is very rampant in the Chittagong, Cox's Bazar and Patuakhali coasts, and almost daily the fishers along this coastline are facing the act of piracy of their fishing gears and catches in the sea [22]. Day by day increasing price and unavailability of fishing materials like boat, net, ice were main fishing constraints for fishermen. Sometimes they could not go to the river with boat and net for insufficient capital. 89%, 11%, 4%, 44% and 24% fishermen faced natural disasters like cyclone, storm, thunder, river erosion and flood respectively (Figure 6).

### Status of current livelihood

Livelihood outcomes can be thought of as the inverse of poverty.

Contributing to the eradication of poverty and food security depends on equitable access to the resources, access of disadvantaged group to sufficient, safe and nutritionally adequate food [23]. From the survey it was revealed that 54% fishermen (though they get benefit from government during banning period) improved their livelihood status through fishing where 46% fishermen had not yet improved their status. Similar results also reported by Halder et al. [24]. Livelihood outcome factors are food security, nutrition, health, income, education, housing facilities, environment, safety etc.

## Conclusion

The socio-economic conditions of fishermen of Ramgati upazila were not satisfactory. Fishers were found to be mostly poor, landless and neglected in the society and are exploited by the rich people/mahajan/aratdar in different ways. Population pressure, low income, lack of alternative employment opportunities, extortion by the local extortionist, loan problems, piracy etc. were the common socio-economic constraints to the fishermen of the study area. Government support to the affected fishers during ban period is quite insufficient and is not properly distributed. Urgent steps from the government, NGOs and donor agencies should be taken to provide alternate livelihood support as well as job creation to the hilsa fishers especially during ban and lean period.

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