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## Md. Ibrahim

Faculty of Disaster Management,  
Patuakhali Science and  
Technology University,  
Patuakhali, Bangladesh

## Md. Elias Khan

Faculty of Fisheries, Patuakhali  
Science and Technology  
University, Patuakhali,  
Bangladesh

## Md. Mahmudul Hasan

Department of Geo-Information  
Science and Earth Observation,  
Faculty of Disaster  
Management, Patuakhali  
Science and Technology  
University, Patuakhali,  
Bangladesh

## Ruma Khanam

Department of Disaster  
Resilience and Engineering,  
Faculty of Disaster Management,  
Patuakhali Science and  
Technology University,  
Patuakhali, Bangladesh

## Correspondence

### Md. Ibrahim

Faculty of Disaster Management,  
Patuakhali Science and  
Technology University,  
Patuakhali, Bangladesh

## Livelihood condition of fishermen at Amtali Upazila, Barguna, Bangladesh

**Md. Ibrahim, Md. Elias Khan, Md. Mahmudul Hasan and Ruma Khanam**

### Abstract

Most of the people of Bangladesh are fishermen and they lead a vulnerable livelihood condition. The present study was conducted on Amtali Upazila of Barguna district in three discrete points; 1) Atharo Gachia, 2) Chowra and 3) Gulishakhali during the period from 19 June to 25 December, 2017. This study focuses on the livelihood condition of river side fishermen of the study area and to recommend some management options to enhance their livelihood status. The livelihood condition of fishermen in Amtali Upazila according to the age groups was 20-35 years highest (70%) in Chowra and religion status was highest 100% Muslim in Chowra. The education level of the study area was highest 40% in Gulishakhali and family size was highest 80% medium in Atharo Gachia. The single earning members was highest 80% in Chowra and housing condition was highest 90% semipacca in Chowra. The sanitation conditions was highest 100% semipacca in Chowra and health facilities was founded 80% in Chowra area. All fishermen were using tube well water facilities and electricity facilities was highest 10% in Atharo Gachia. The highest 90% financial support was provided from NGO in Chowra and the quantity per day capturing fishes 6-10kg was 60% in Chowra. The highest income above 20001tk was found in both Chowra and Gulishakhali (10%). On the other hand highest 90% of fishermen from Atharo Gachia was found to be engaged with agriculture except rest of the areas. Fishermen were faced various problems such as social, economic and technical problems, which was identified during the survey in the study area. Study recommended that GOs, NOGs and local leaders should come forward for resolving this problem so that the livelihood status of fishermen may enhance.

**Keywords:** Livelihood, fishermen, vulnerable, management

### 1. Introduction

Bangladesh is one of the world leading fish producing country<sup>[1]</sup>. Fishes and Fishery resources play a vital role in improving the socio-economic condition combating malnutrition, earning foreign currency and creating employment opportunities in Bangladesh<sup>[2]</sup>. About 10% of the population is dependent directly and indirectly on the fisheries for their living<sup>[3]</sup>. The growth of aquaculture in the last five years was 5.9% which contributed around 4.39% of the national GDP<sup>[4]</sup>. Fish supplements to about 60% of our daily animal protein intake<sup>[5]</sup>. The development of aquaculture is not enough and equal all over the country<sup>[6]</sup>. Most of the fishermen here are deprived of many amenities<sup>[7]</sup>. All the time they have to struggle to survive but for the lack of fishing equipment they earn less and most of them lead a poor livelihood condition<sup>[8]</sup>. The Payra river system is one of the major river systems of Barguna district<sup>[9]</sup>. It has great influence on fish biodiversity and socio-economic status of fishermen<sup>[10]</sup>. Many families are directly and few areas indirectly involved in fishing and earning to maintain their livelihood by fishing throughout the year<sup>[11]</sup>. For proper development of fishing community, it is essential to understand the baseline information to initiate proper developmental steps and improve the livelihood of fishermen<sup>[12]</sup>. But, there is no sufficient information about livelihood of fishermen community in Amtali upazila of Barguna district<sup>[13]</sup>. However, few studies on socio-economic conditions of fishermen were carried out but all these efforts lack specific information of livelihood<sup>[14]</sup>. Therefore, the current study was conducted to assess the livelihood conditions of the fishermen of Amtali Upazila in Barguna district at three discrete areas. In Amtali Upazila most of the people were Muslim and their age group was highest 20-35 years in chowra. Most of the educated fishermen lives in Gulishakhali and medium size family exist highest 80% in Chowra. Also in Chowra most of the peoples housing (90%) and sanitation (100%) condition was semipacca. All fishermen were using tube well water

facilities and electricity facilities was lowest in Amtali Upazila-highest 10% in Atharo Gachia. The quantity per day capturing fishes highest 6-10kg was 60% in Chowra and the highest income above 20001tk was 10% both Chowra and Gulishakhali. Most of the financial support was provided from NGOs, highest 90% in Chowra and 90% people in Atharo Gachia found to be engaged with agriculture. This study helps to enhance the livelihood condition of fishermen in Amtali Upazila. The objectives of this research are; a) To determine the livelihood status of fishermen in Amtali Upazila and b) To recommend some management options for future development of fishermen in Amtali Upazila.

## 2. Materials and Methods

### 2.1 Study Area

This present study was carried in three unions namely 1) Atharo Gachia; 2) Chowra; and 3) Gulishakhali (figure 1) in Amtali upazila of Barguna district, Bangladesh. Those study areas located between 22.14°N to 90.22°E. It has 45,804 households and a total area of 720.76 km<sup>2</sup>.

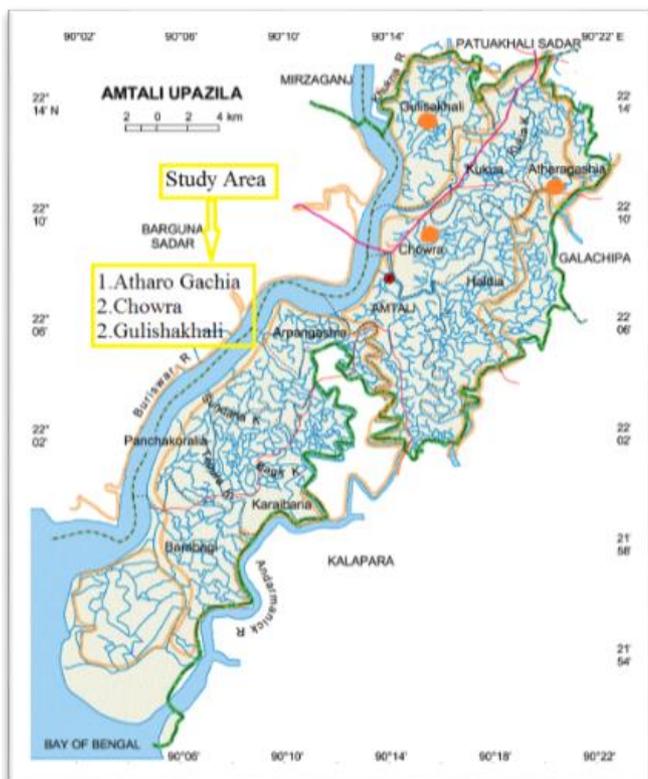


Fig 1: Location of study area (Amtali Upazila)

### 2.2 Data collection

Most of the people in Amtali Upazila was fishermen. But their livelihood status was not so good. They lead a vulnerable livelihood condition and government as well as different NGOs didn't take appropriate action to improve their livelihood status for increasing safety, so, this study thought that Amtali Upazila of Barguna district was the right

places for research. Field survey and observation were conducted for collection of data on various aspects of livelihood condition of fishermen, in 3 areas of Amtali Upazila (Atharo Gachia, Chowra and Gulishakhali). About 13 fishermen were randomly selected for each area towards data collection. A range of Participatory Rural Appraisal (PRA) and personal interview were applied with different degree of effectiveness.

Questionnaire survey was conducted to collect data on livelihood assessment of the fisherman. Before preparing the final questionnaire was developed keeping in view the specific objective of the study. The selected parameters were as follows; a) Family size, education and culture related information, b) Socio-economic and demographic characteristics of the fishermen, c) Fish marketing, yearly income, investment, and profit, d) Identification of the occupation of fishermen, e) Various assets including agricultural land, livestock, poultry and fishing, f) Health and sanitation.

Observation and survey methods were used as principal tools for data collection. The whole survey were gone through personal interview supplemented by multiple methodology-Participatory Rural Appraisal (PRA), tools such as Focus Group Discussion (FGD) and Crosscheck finally was done with key informants. Questionnaire forms was filled in by interviewing 40 fishermen fishings at Amtali Upazila at three distinct unions namely 1) Atharo Gachia; 2) Chowra; and 3) Gulishakhali.

For this survey one of the PRA tool, such as Focus Group Discussion was conducted with fishermen; to know overviews of the livelihood status of the fishermen of the Amtali Upazila. Crosscheck interviews were conducted after collecting the data through questionnaire, interviews and FGD, with Upazila Fisheries Officers (UFO), Field Assistant, relevant NGO workers and school teachers at their office/home.

Collected data were accumulated grouped and interpreted according to the objective. Data were subjected to simple descriptive analysis using computer software SPSS version 15.

## 3. Results

### 3.1 Fishermen

In Amtali Upazila large number of fishermen caught fishes throughout the year. The fishermen's livelihood depends on catching fishes in the nearby river such as Payra river and their income, livelihood conditions varied according to the quantity of fishes caught per day.

### 3.2 Type of Fishermen

There were two types of fishermen; 1) Seasonal, 2) Professional. In Atharo Gachia all fishermen were seasonal. Professional fishermen found 100% in Gulishakhali while in Chowra it was 90% (Figure 2).

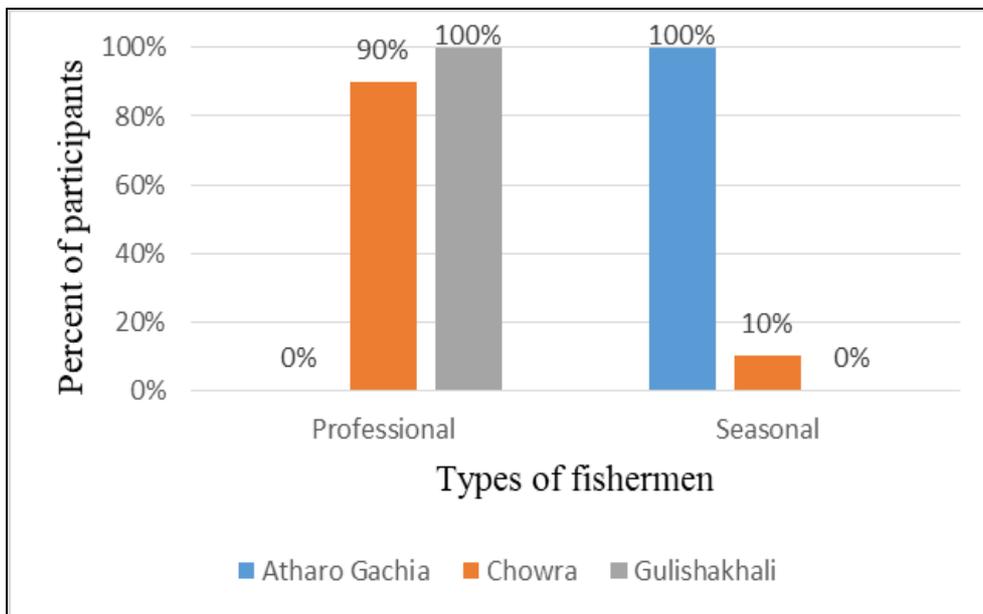


Fig 2: Types of fishermen in study area

**3.3 Fishing Gear Used in Amtali Upazilla Fishermen**

From the survey, it was found that the fishermen of Amtali upazilla operated different types of fishing gears to catch

fishes (Table 1). The fishing gear was categorised into two major types-

Table 1: Different types of fishing gears

| Name of the Fishig Gear  |                       | Area          |
|--|-----------------------|---------------|
| Nets   | Woundaring Gear       |               |
| Ilisha jal, Benthil jal, Ber jal, Puti jal, Thela jal, Jhaki jal | Koach, Borsi, Poholla | Atharo Gachia |
| Ilisha jal, Benthil jal, Air jal, Ramsos jal, Poma jal           | Chai                  | Chowra        |
| Ilisha jal, Benthil jal, Air jal, Ramsos jal, Poma jal           | Borsi                 | Gulishakhali  |

**3.4 Livelihood Condition of Fishermen**

The aim of the study was to determine the livelihood conditions of fishermen. More specially there were some variables where more emphasis was given-

Different categories of age groups were considering to examine the age structure. It appeared that age group of 20-35 years was 70% in Chowra, 60% in Atharo Gachia and 45% in Gulishakhali respectively. The age group of 36-50 years was 45% in Gulishakhali and 40% in Atharo Gachia. At last the age group of 51-70 years was 30% in Atharo Gachia and 10% in Gulishakhali (Figure 3).

**3.4.1 Age Structure**

In estimating potential productive human resources, the knowledge about age structure of fishermen was important.

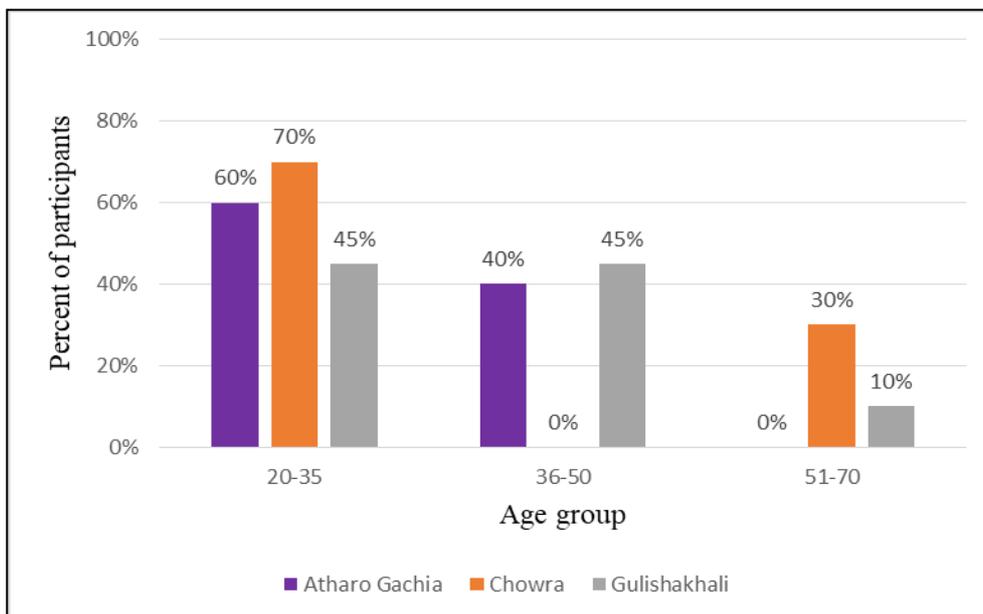


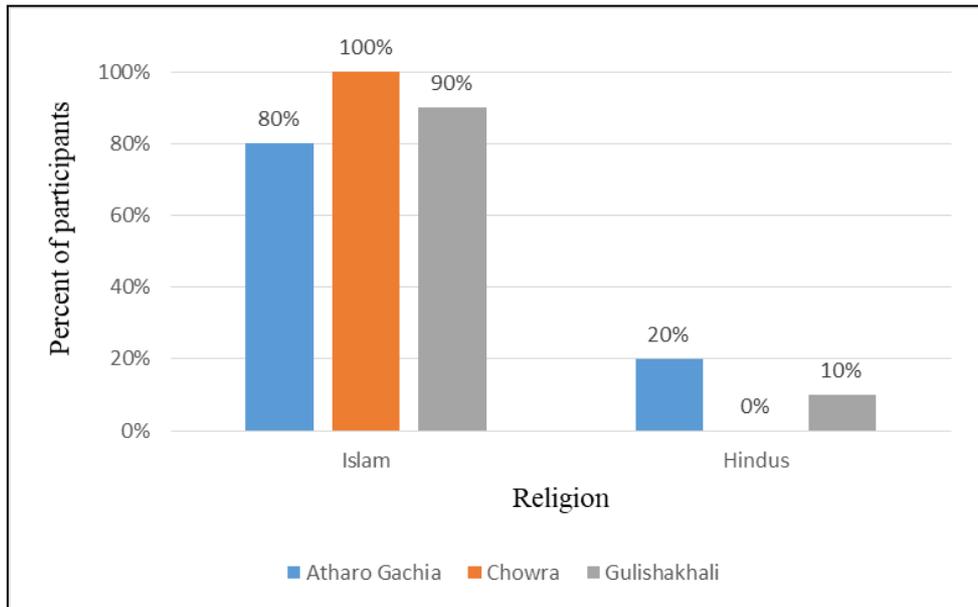
Fig 3: Age structure of study area

**3.4.2 Social Status**

**3.4.2.1 Religion Status**

Most of the fishermen were Muslims in the area of Amtali Upazila and small portion was Hindu. The fishermen

estimated 100% Muslims in Chowra, 95% in Gulishakhali and 80% in Atharo Gachia. Where Hindus fishermen 20% in Atharo Gachia and 10% in Gulishakhali (Figure 4).

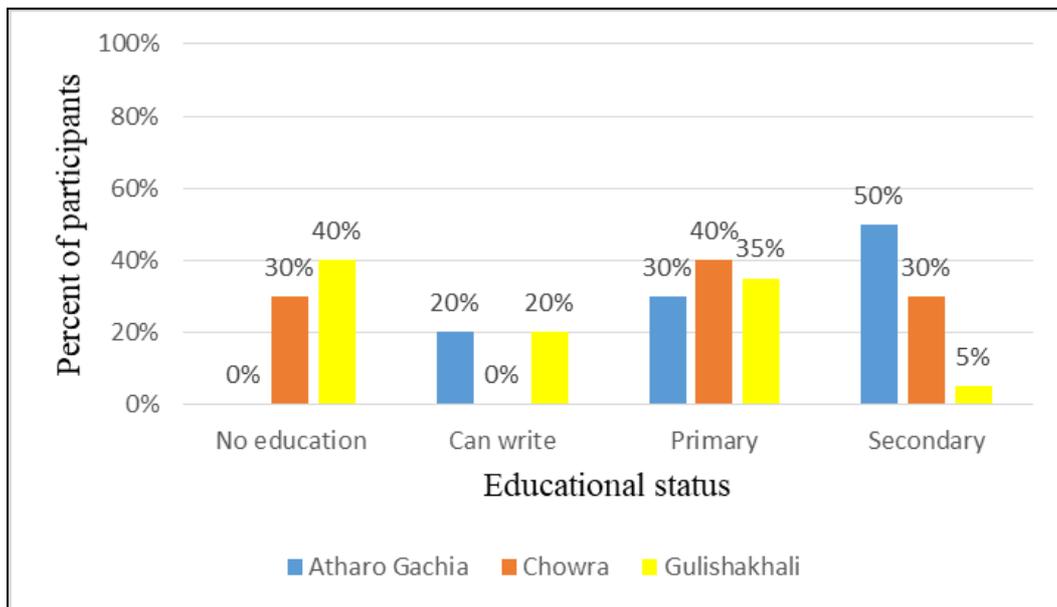


**Fig 4:** Religion of study area

**3.4.2.2 Educational Status**

The educational status of fishermen community was very poor. There was no graduate and higher secondary education level of fishermen. Secondary education level was 50% in Atharo Gachia and 30% in Chowra and 5% in Gulishakhali.

The primary education level found 40% in Chowra and 35% in Gulishakhali and 30% in Atharo Gachia respectively. The only sign level found 20% both in Atharo Gachia and Gulishakhali. No education level found 40% in Chowra and 30% in Gulishakhali (Figure 5).



**Fig 5:** Education of study area

**3.4.3 Family Size**

The family sizes of the fishermen were divided into three categories depending on the number of the family members. Small size (2-4), medium size (5-7) and large size (up to 8 members). The small sizes family found 60% in Chowra, 50%

in Gulishakhali and 20% in Atharo Gachia. The medium family size found 80% in Atharo Gachia, 40% both Chowra and Gulishakhali. The large family group found 10% in Gulishakhali (Figure 6).

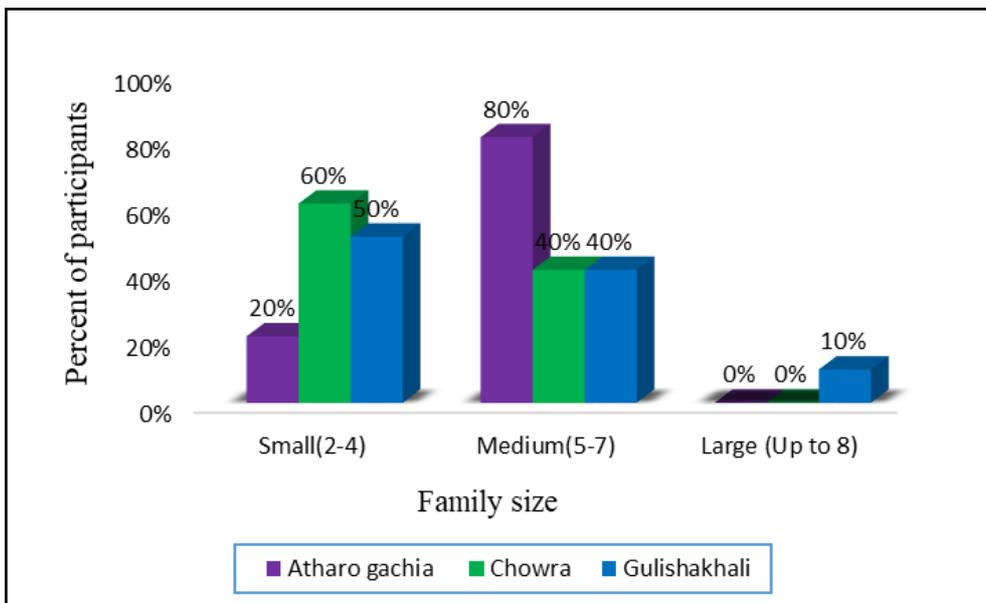


Fig 6: Family size of Study Area

**3.4.4 Earning Members**

The selected area such as Atharo Gachia, Chowra and Gulishakhali fishermen were engaged in fishing and other sectors. The single earning members found 80% in Chowra,

75% in Gulishakhali and 30% in Atharo Gachia. On the other hand more earning family members found 70% in Atharo Gachia, 25% in Gulishakhali and 20% in Chowra (Figure 7).

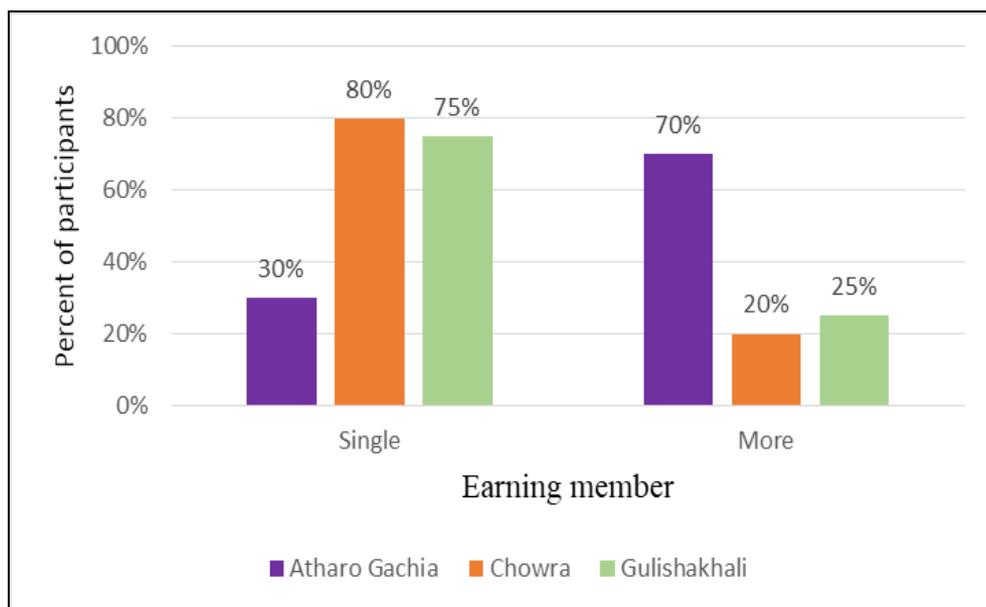


Fig 7: Earning member of study area

**3.4.5 Housing Condition**

The housing condition is one kind of indicator of economic status. Attempts were making to find out the condition of houses of fishermen. In the study area, houses of the community were three main types: 1) Kacca- houses were made of bamboo and talli or tin with mud flooring, 2)

Semikacca- made of wood or/and tin, and 3) Half building-made of brick and tin. The kacca house found 10% both in Gulishakhali and Chowra. The semipacca house found 90% in Chowra, 75% in Gulishakhali and 60% in Atharo Gachia. The hulf building found 40% in Atharo Gachia, 10% in Chowra and 15% in Gulishakhali (Figure 8).

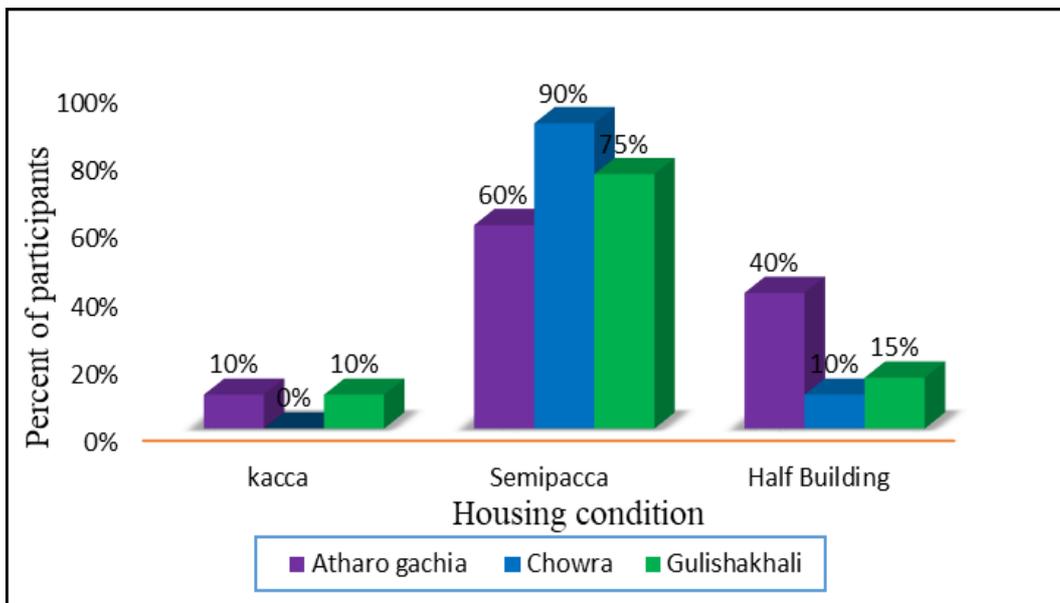


Fig 8: Housing condition of study area

**3.4.6 Sanitation Practice of the Fishermen**

It was observed that the fishermen sanitary conditions were not good. Types of toilets that was used; 1) kacca toilet-made of bamboo fencing with leaf and inadequate drainage disposal, 2) Semipacca -made of rings and tin, 3) Pacca. The

kacca toilet found 10% both in Atharo Gachia and Gulishakhali. The semipacca toilet found 100% in Chowra, 90% in Gulishakhali and 80% in Atharo Gachia. The pacca toilet found 10% in Atharo Gachia (Figure 9).

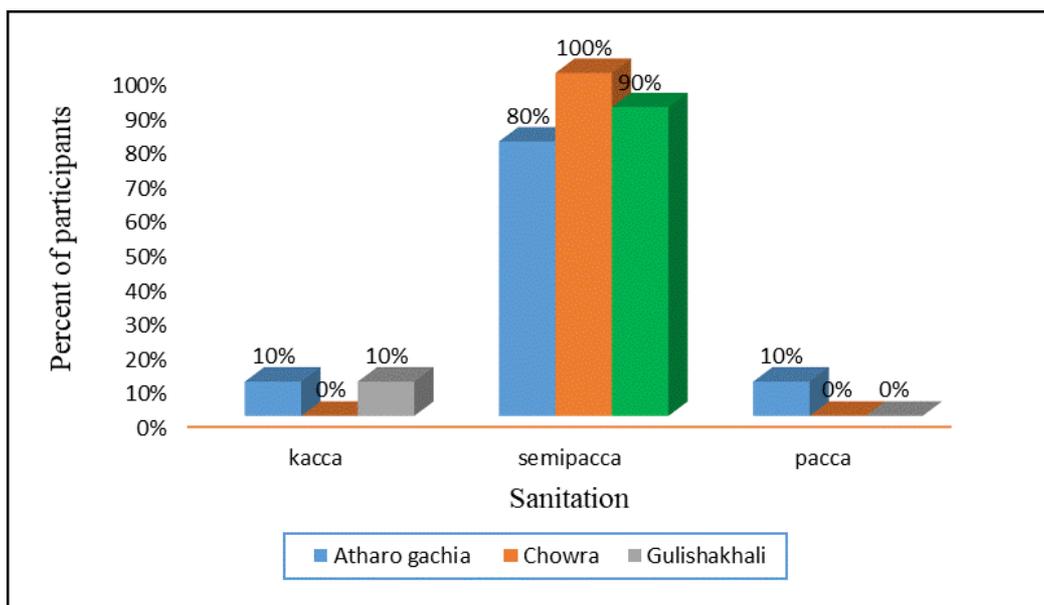


Fig 9: Sanitation condition of study area

**3.4.7 Essential Facilities**

**3.4.7.1 Health Facilities**

The fishermen were mostly concious on their health condition. The fishermen were treated by 20% from village doctors both in Athara Gachia and Gulishakhali. From

the union hospital 60% in Atharo Gachia, 20% in Chowra and 15% in Gulishakhali. From the upazila hospital 80% in Chowra, 65% in Gulishakhali and 20% in Atharo Gachia (Figure 10).

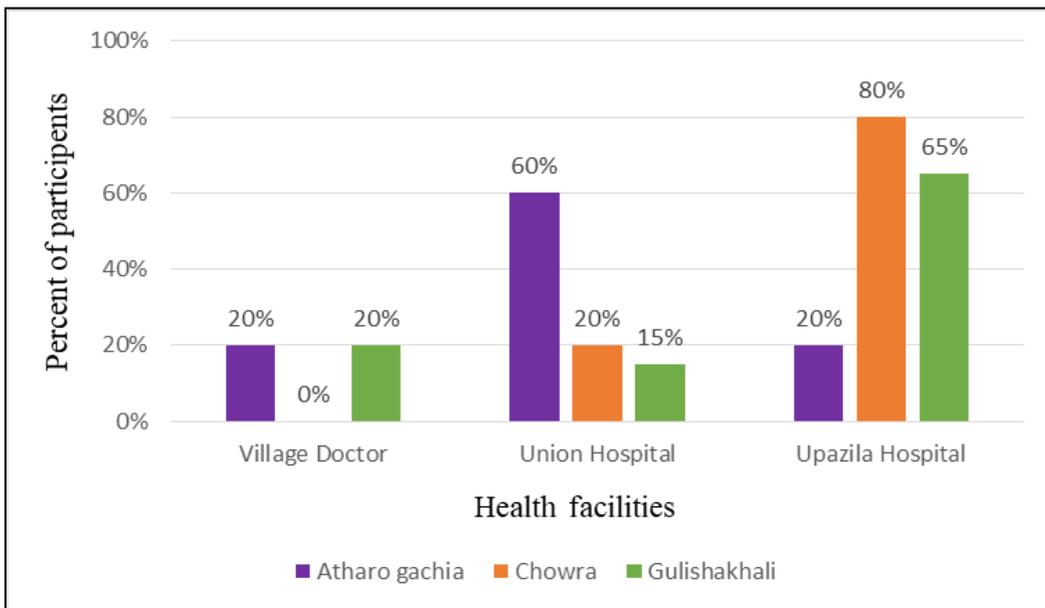


Fig 10: Health facilities of study area

**3.4.7.2 Drinking Water Facilities**

All the fishermen had pure drinking water facilities. Some of the fishermen had own tubewell but most of the fishermen collected pure water from others tubewell.

**3.4.7.3 Electricity Facilities**

Electricity facilities of the fishermen were too poor. The fishermen of Atharo Gachia 10% had electricity facilities. No electricity facilities found 90% in Gulishakhali, 70% in Atharo Gachia and 40% in Chowra. The solar system facilities found 60% in Chowra, 20% both Atharo Gachia and Gulishakhali (Figure 11).

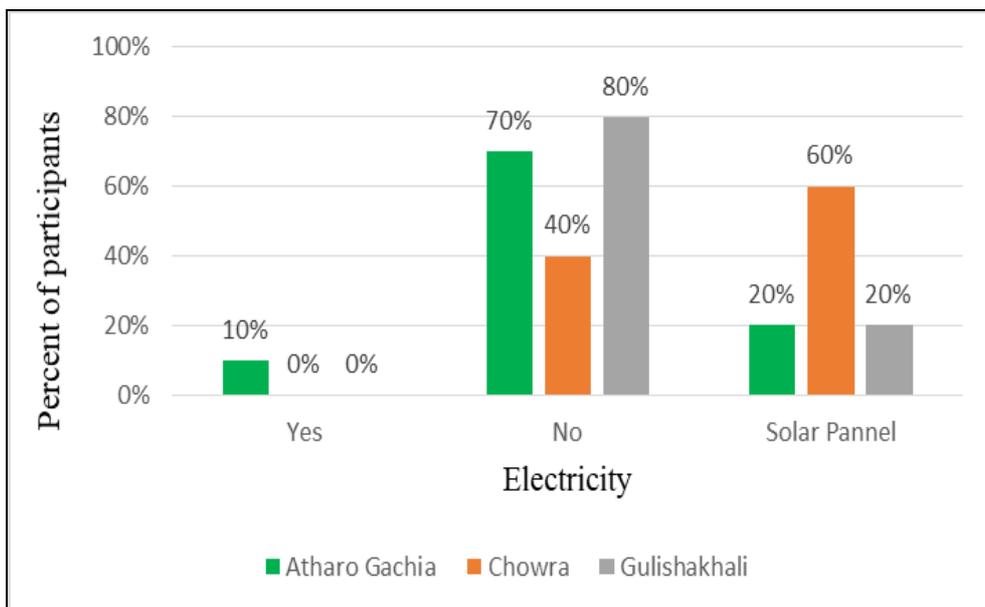


Fig 11: Electricity facilities of study area

**3.4.8 Financial Support**

Most of the fishermen were financially supported by NGOs and some was supported by government. The own supported fishermen found 40% in Atharo Gachia, 10% both in Chwra

and Gulishakhali. The government supported fishermen found 30% in Atharo Gachia and 10% in Chowra. The NGOs supported fishermen found 90% in Gulishakhali, 80% in Chowra and 30% in Atharo Gachia (Figure 12).

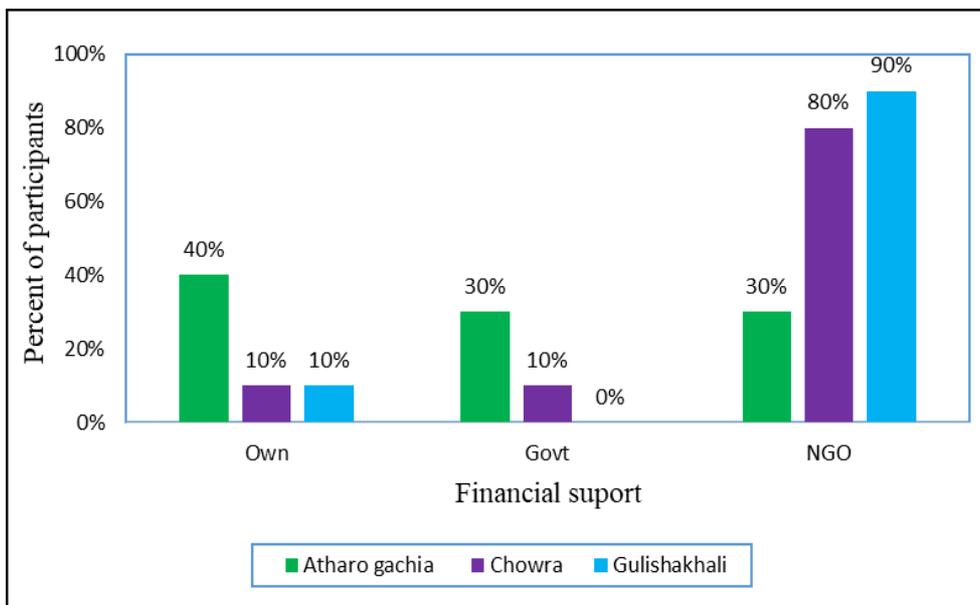


Fig 12: Financial support of study area

**3.4.9 Quantity of Capturing Fish Per Day**

The fishermen caught the fishes every day. The quantity of fishes 0-5 kg/day found 60% in Atharo Gachia, 50% Gulishakhali and 20% in Chowra. While 6-10kg/day found

60% in Chowra, 30% in Gulishakhali and 20% in Atharo Gachia. But above 11kg/day found 30% in Gulishakhali, 20% both in Atharo Gachia and Chowra (Figure 13).

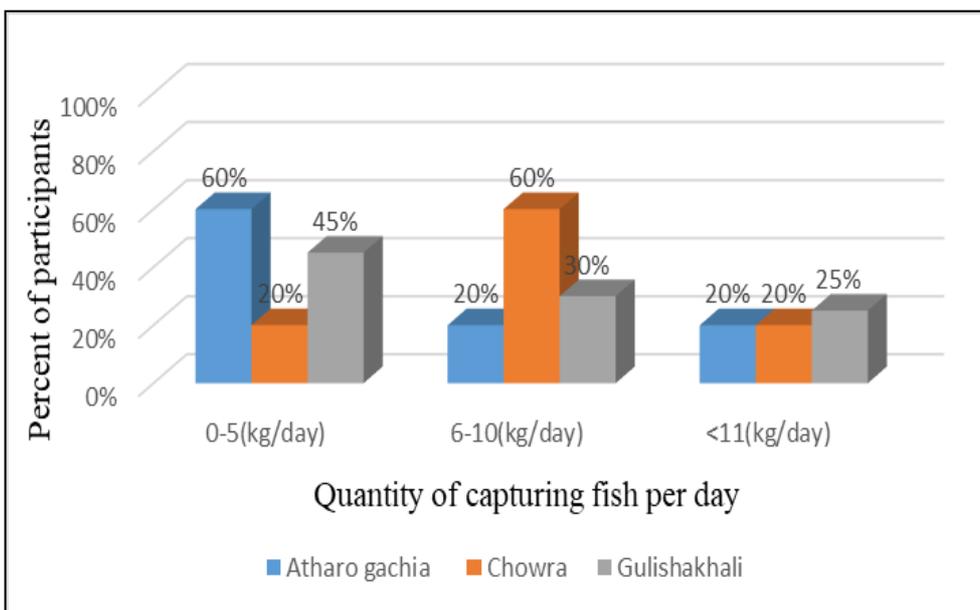


Fig 13: Quantity of capturing fish per day

**3.4.10 Income per Month**

The income conditions of the fishermen were not so good. The only source of income of fishermen were selling fish in the market and other place. There were very limited options for non-fishery related activities such as day labor in agricultural field, brick field, honey collect, easy bike drive, motor bikes drive and vegetable cultivate. The income range

found 0-5000tk was 60% in Gulishakhali, 50% in Chowra and 30% in Atharo Gachia. The income range found 5001-10000tk was 40% in Atharo Gachia, 30% in Chowra and 20% in Gulishakhali. The income range found 10001-20000tk was 30% in Atharo Gachia, 20% in Chowra and 10% in Gulishakhali. While income above 20001tk was 10% both in Chowra and Gukishakhali (Figure 14).

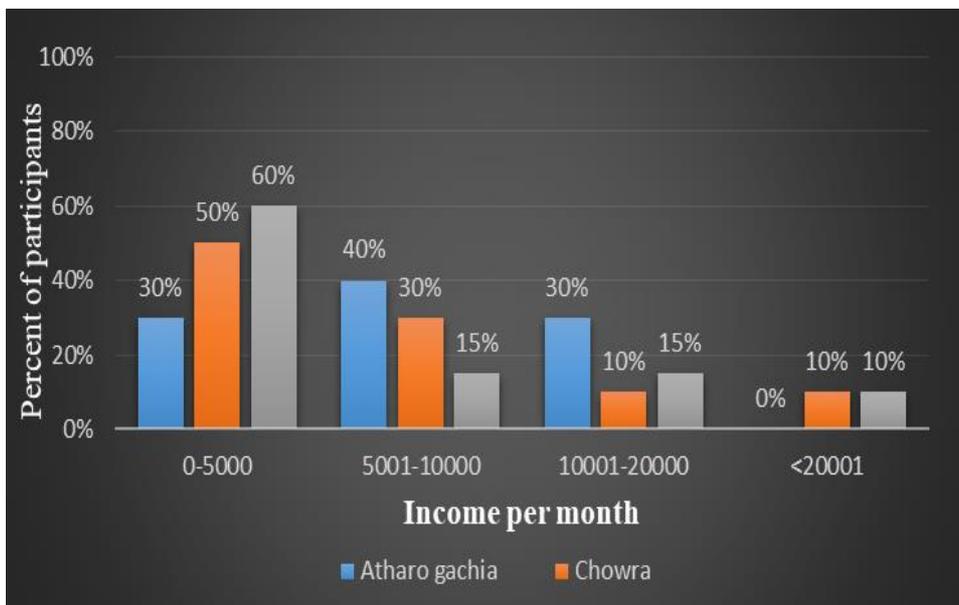


Fig 14: Income per month of fishermen

**3.4.11 Engaged with other Occupation**

The fishermen engaged with other occupation like agriculture 90% in Atharo Gachia and 30% in Chowra. The fishermen who work in brick field were found 10% in Atharo Gachia and easy bike driver 20% found in Chowra. Motor bike driver

found 10% in Chowra and 5% in Gulishakhali. Vegetable cultivated 5% in Gulishakhali and the day labor was found 10% in both Chowra and Gulishakhali. The honey collected fishermen found 5% in Gulishakhali (Figure 15).

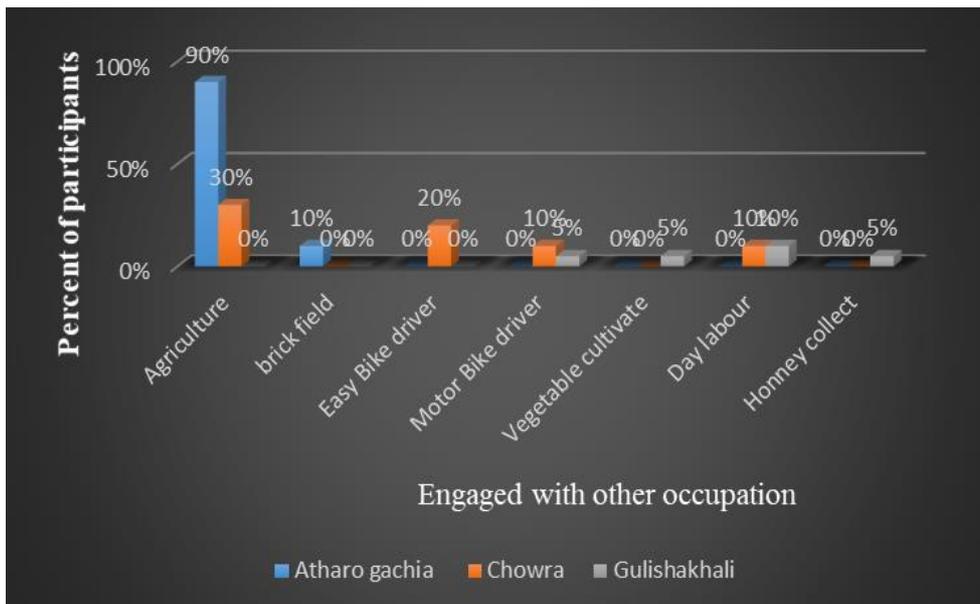
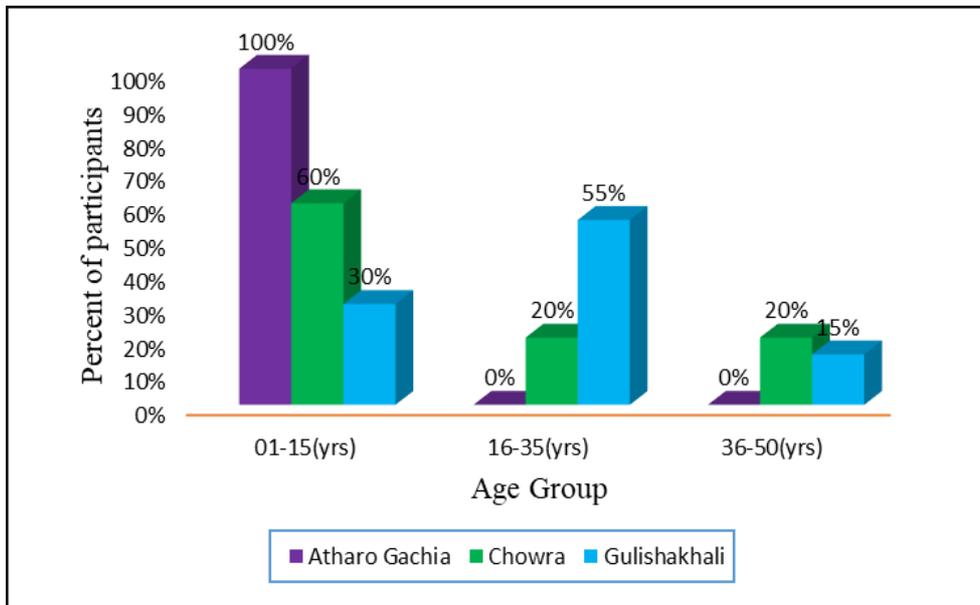


Fig 15: Engaged with other occupation of fishermen

**3.4.12 Involvement with Fisheries**

The fishermen involved with fisheries for their livelihood purpose. Most of the fishermen influenced by their family because they caught fish generation to generation. The involvement with fisheries found 01-15 years 100% in Atharo

Gachia, while 60% in Chowra and 30% in Gulishakhali. In 16-35 years, the 60% fishermen involved Gulishakhali, while 20% in Chowra. The 36-50 years, 30% fishermen involved in Chowra and 20% in Gulishakhali (Figure 16).

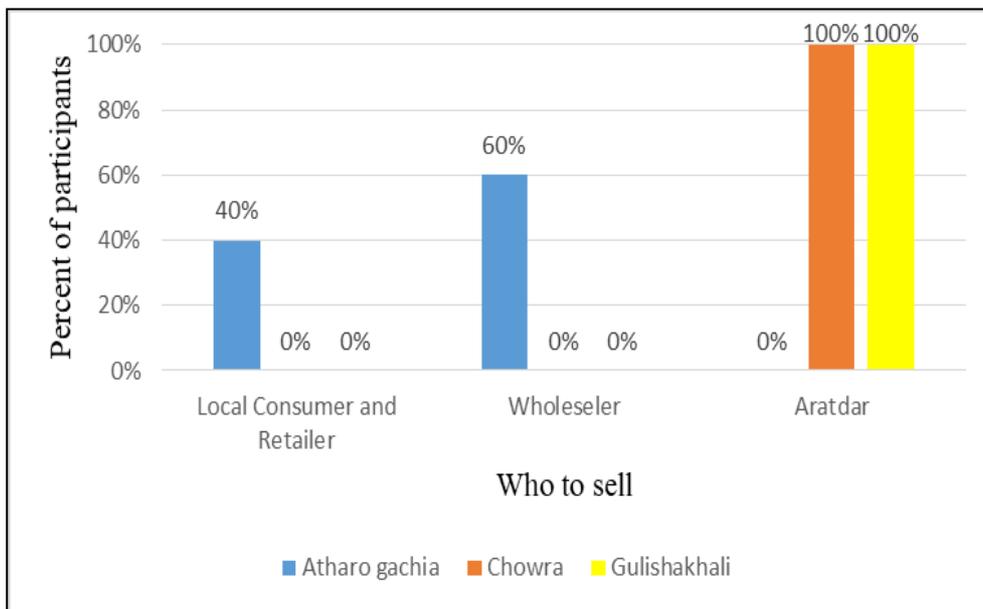


**Fig 16:** Involvement with fisheries of fishermen

### 3.5 Marketing System of Capturing Fishes

Atharo Gachia fishermen sold their catching fishes to local consumers and retailer 40% and wholesaler to 60%. But the fishermen in Chowra and Gulishakhali sold their capturing

fishes 100% in Aratdar (fish stocking and selling person) (Figure 17). Aratdar stocked those fishes and transferred them to Amtali Sadr for selling.



**Fig 17:** Who to sell of fishes

### 4. Discussion

In the present study it was observed that fishermen in Amtali upazila such as Atharo Gachia 100% and Chowra 10% seasonally involved with fisheries, respectively. On the other hand 100% fishermen in Gulishakhali and 90% fishermen in Chowra involved in fisheries professionally. The result are controversial with the study of Paul *et al.* (2013) [15] who reported that about 34% fishermen found seasonally in Boroibari and 70% fishermen found in Birulia professionally in Svar Upazila, Bangladesh. The fishermen of Amtali Upazila used the fishing gears as like ilisha jal, ramsos jal, poma jal, air jal, benthi jal, jhaki jal, ber jal, puti jal etc. Small portion of fishermen used borsi, chai, koach, pohollah etc. Kabir *et al.* (2012) [12] found the fishing gear were less same. Different age group fishermen found in the targeted area. The

highest 70% fishermen found with the age range 20-35 years old, 45% highest fishermen found the age range of 36-50 years old and the age range of 51-70 years old was highest 30%. Reza *et al.* (2015) [6] reported that majority 48% of the fishermen was middle aged (31-45 yrs), other 24% was young aged (15-30 yrs) and 28% was old (46 yrs and above) at Chiribandar Upazila under Dinajpur district that are less same. The highest 100% Muslim fishermen found in Chowra and lowest 80% fishermen found in Atharo Gachia. The highest Hindus 20% fishermen found Atharo Gachia. Mahmud *et al.* (2015) [1] described that highest Muslim was 54% and Hindus was 46%, around the Payra river that is not closed with the present study. The education level highest in SSC 10% and lowest 5% in Chowra and Gulishakhali, the secondary level highest 50% in Atharo Gachia, the primary

level highest 40% and lowest 30% in Chowra and Atharo Gachia. Rahman *et al* (2016) <sup>[5]</sup> found that illiterate 32.5%, can sing only 40%, primary level 15%, secondary level 7.5% and higher secondary and above 5% at Gouripur Upazila under Mymensingh district that is less equal with the present study. The small family size highest 60% in Chowra and medium family size highest 80% in Atharo Gachia. The large family size highest 10% in Gulishakhali. Akter *et al.* (2016) <sup>[16]</sup> reported that the highest 66.67% fishermen followed nuclear families while 33.33% lived in joint family at Kaharole Upazila under Dinajpur district that are less same at all. The kacca (houses which made of tin with mud flooring) housing condition of fishermen found highest 10% both Atharo Gachia and Chowra, the semipacca house highest 90% in Chowra, the half building house highest 40% in Atharo Gachia. Akther *et al.* (2017) <sup>[2]</sup> revealed that 40% households of the fishermen were iron roof, 20% rich fishermen lived in pacca house and rest were living their fishing boat that were not the same with present study. The kacca (made of bamboo fencing with leaf) sanitation condition highest 10% in both Atharo Gachia and Gulishakhali, the semipacca highest 100% in Chowra and the pacca highest 10% in Atharo Gachia. Paul *et al.* (2013) <sup>[15]</sup> reported that about 4% fishermen used kacca toilet that used in Boroibari, 48% used semipacca in Birulia and 60% used pacca in Boroibari. The highest 90% financial supporter fishermen from NGO in Gulishakhali, 30% govt. in Atharo Gachia and Gulishakhali, 40% Atharo Gachia. Kabir *et al.* (2012) <sup>[12]</sup> was described that about 14% borrow money from their neighbors, 18% from relatives, 22% from NGOs and 6% from co-operatives around Brahmaputra river in Bangladesh. The income 0-5000tk/month highest 60% in Gulishakhali, 5001-10000tk/month highest 40% in Atharo Gachia, 10001-20001tk/month highest 30% in Atharo Gachia and Chowra and above 20000tk/month highest 10% in both Chowra and Gulishakhali. Reza *et al.* (2015) <sup>[6]</sup> reported about the income per year and it was less same.

## 5. Conclusion & Recommendation

Livelihood status of fishermen were partially low in the Amtali Upazila of Barguna district. The income of the fishermen were not satisfactory. Maximum fishermen had no electricity facilities. Education level of fishermen were not a standard stage. Also the fishermen had no refreshment facilities. Maximum health facilities they received from upazila hospital that was very poor. Due to lack of awareness with poor income the livelihood of fishermen had been deprived of many facilities. For solving those problems, educational institutes should be built up near the fishermen community. Alternative sources of work should be ensured in the fishermen community. The government, NGOs and local leader should come forward to the fishermen and ensured the basic needs.

The following recommendations can be made to improve the socio-economic condition of the fishermen and thereby improve their well fare.

- The fishermen should be encouraged to sell their fish to the market directly without involvement of the intermediaries.
- Government should give loans for them at a low interest rate and create alternative job opportunity in off peak season.
- Organization of fishery co-operative society should be done.
- Increase of public awareness through the various

publications and publicity for protecting fishery resources should be done.

- Fishing regulations should be strictly implemented.

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