

**STUDIES ON THE FISH MARKETING SYSTEM IN MAWAGHAT,  
MUNSHIGANJ DISTRICT, BANGLADESH**

**A Thesis Submitted to Department of Fisheries, University of Dhaka  
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**February 2017**

**Dedicated**  
**To**  
**My parents**  
**&**  
**Honorable Supervisor**

## **Declaration by Student**

I hereby declare that the dissertation entitled “Studies on Fish Marketing System Mawaghat, Munshiganj district” submitted to the Department of Fisheries, University of Dhaka for the degree of Master of science (MS) is based on self investigation, carried out under the supervision Dr. Md. Raknuzzaman, Department of Fisheries, University of Dhaka, Dhaka-1000, Bangladesh.

I also declare that this or any part of this work has not been submitted for any other degree anywhere. All sources of knowledge used have been duly acknowledged.

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## **Certificate**

I certify that the research work embodied in this entitled “Studies on Fish Marketing System Mawaghat, Munshiganj district” submitted by Md.Hasibur Rahaman, roll number:803, session: 2015-2016, registration number:2011-612-746 has been carried out under my supervision.

This is further to certify that it is an original work and suitable for partial fulfillment for the degree of Master of Science(MS)in Fisheries from the Department of Fisheries, University of Dhaka.

I wish every success in his life.

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**Author**

## **Abstract**

The present study was carried out on fish marketing system of Mawaghat, Munshiganj district to find out marketing channel, market infrastructure, market constraints of fish marketing, price of fish species, market recommendation for future management and development. This research was conducted from June 2016 to February 2017 in three selected fish markets in Mawaghat. The study was based on existing marketing system and economic features of marketing activities. Data were collected from three different markets. A total of 120 consumers, 30 from each market were interviewed at the market centre. The market chain from fishermen to consumer passes through a number of intermediaries: local traders, agents/ suppliers, retailers and consumers. There are some fish species available in three different markets, such as Indian major carps i.e. rohu, catla, mrigal and exotic carps silver carp, grass and common carp, tilapia, pangas etc. The price of fish depends on market structure, species, quality, size, weight. All traders in three markets made a considerable amount of profit. Traders have broadly improved their food consumption facilities, standards of living, purchasing power, choice and ability as an economic sector than previous time. However, concerns arise about the sustainable marketing system due to higher transport costs, poor road and transport facilities, inadequate supply of ice, lack of money for this business, poor institutional support. Basic infrastructure such as, clean water supply, sanitary facilities, adequate drainage system, icing, flooring etc. should be ensured for promotion of fish marketing system. In Mawaghat, almost all fish traded internally move through the private sector where a large number of people are dealing with fish distribution and marketing system. On the basis of a sample of 30 traders from the market, the usual amount of the daily turnover of fish in this market is between Tk 2.5 and 3 million and the volume varies relying on the variation in catches during peak or off-season. Virtually most of the fish (near about 70%) is locally supplied, near about 30% brings in from all over the country including Cox's Bazar, Teknaf, Chittagong, Mohangang, Chandpur, Barisal, Kuliarchar, Jessore and Satkhira, Khulna, Bicrompur, Mymensingh.

The marine fish supply and freshwater fish supply amount is near about 30% and 70% respectively. It is estimated that near about 16% of fish supplied in Mawaghat Market is Indian major carps, 14% exotic carps, 6% other carps, 20% hilsa, 8% catfish, 4% snake-heads, 2% live-fish, 6% small indigenous fish, 12% prawn, 10% tilapia and 2% others including small chingri and marine fishes. Mawaghat Market is the highest fish percentage of Hilsha (20%), Holodia Fish Market supplies of Indian major carp 12%, 10% exotic carps, 14% other carps, 18% hilsa, 10% cat fish, 4% snake-heads, 4% live-fish, 8% small indigenous fish, 10% prawn, 8% tilapia and 2% others. Hilsha is the highest percentage (18%) of Holodia Fish Market. Kumaravog Fish Market supplies of Indian major carp 15%, 13% exotic carps, 11% other carps, 17% hilsa, 8% cat fish, 6% snake-heads, 2% live-fish, 10% small indigenous fish, 8% prawn, 6% tilapia and 4% others. Hilsha is the highest percentage (17%) of Kumaravog Fish Market. Market structure, species quality, size and weight have an influence on the price of fish and it was obtained from the survey that the price of fish increases per kilogram with size and species wise. A great amount of profit is made by all traders in the market in a successful manner.

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## **Chapter 1**

# **INTRODUCTION**

## Introduction

### 1.1 Introduction

The fisheries sector, in an agro-based country like Bangladesh, plays an important role in food consumption, nutrition, employment and export. This sector contributes nearly about 58% of animal protein to the daily diets of the consumers, about 3.74% to GDP, 4.04% in export earnings and 20.87% to agriculture in 2007-08, (DOF, and Ministry of Fisheries & Livestock).The domestic fish marketing system is almost entirely maintained by the private sector, which contribute to the employment section in Bangladesh; as a riverine country, large number of people mainly living below the poverty line, get employed in the form of farmers, processor, traders, intermediaries, day labours and transporters in the fish market chain (Alam et al., 2010, Ahamed et al., 1993; Islam 1996 and DFID 2000). This sector provide full-time employment of 1.4 million professional Fishers and Fish farmer, and 11 million part-time Fishers, fish farmer and women, which is about 10% of total population (Alam et al.,2010).

Fish marketing is entirely maintained by the private sector in Bangladesh where four different types viz. primary, secondary, higher secondary and consumer market of marketing systems are observed in the process of distribution of fishes (Ahmed, 1983). Fish collectors commonly known as Mahajans or Aratdars procure fish from the catchers with the help of local brokers who get a profit margin or commission from the Mahajans. However, the most serious marketing difficulties seem to occur in the remote communities owing to lack of transport, ice, poor road facilities and where the farmers are in a particularly weak position in relation to intermediaries (Rahman 1997).

The marketing system is one of the main indicators of socio economic condition of the local people and production system of any area (Alam et al., 2010).Thus study on fish market system of any particular area is an important dataset to understand the fish marketing and associated problems in Bangladesh.The scientific information on the fish marketing system in Bangladesh is inadequate. Few occasional studies on some selected areas are found conducted by different researchers. Ahmed et al. (1993) studied different aspects and fish marketing in Kapasia and Sreepurthana of Ghazipur District,Ahmed et al. (2005) in Gazipur District;Rahman et al. (2009) in Khulna District;Alam et al, (2010) study on fish marketing system of Swarighat, Dhaka;Rahman et al.(2012) in the northwestern Bangladesh; Ali et al.(2014) in the southern

Bangladesh. Therefore, a significant gap is still remaining to unravel the fish marketing system in Bangladesh to be studied in other parts of Bangladesh. Mawa, in Munshiganj District, is an important fish market situated adjacent to the Padma River. A large amount of fresh fish has been distributed through this market in different fish markets of Bangladesh, especially ilsha fish. The proposed study is aimed to study marketing systems to identify marketing inefficiencies that having adverse impact on farmers, fishermen and poor traders involved of Mawa Ghat fish market and how fish market contributed to the socio-economic development of the country.

Thus data on fish marketing system i.e. marketing channel, marketing cost and marketing margin and problems associated with fresh fish marketing, is important to understand the fisheries sector and its contribution in the economic development in Bangladesh.

## **1.2 Background**

Bangladesh is a riverine country and fish is an integral part of the diet of the consumers in the country (Ahmed et al., 1993). Fish is also a major source of animal protein to its rural population, which is presently contributed nearly 73% of the total protein intake in the rural areas (Ahmed et al., 1993). Traditionally, capture fisheries in the rivers is an important livelihood activity to fishers and farmers community adjacent to river (Rahman et al., 2012). In view of the degradation and depletion of many natural stocks and in order to meet the growing demand for fish, a lot of emphasis has been given on the development of aquaculture and fishing in the river in the country's development plans as an alternative as well to complement the natural supply of fish (MOFL 1990). Since fishing in the river is the mainstay of the riverside people, information on the fish marketing based on fishing in the river could be a major step toward sustainable economic and social development.

## **1.3 Fish market and marketing system**

Fish market may be defined as the place where people gather for selling and buying of fishes. Fish marketing system is the system through which fishes reach to consumers from producers (farmers). Fish consumers are to depend on an effective fish marketing system, through which fishes will be available to them within a short period before decomposition of fishes. Once fish and rice were the common food habit of Bangali people that gave rise to a local adage "Mache Bhate Bangalee". However, once upon a time, it was true when fishes were very much available

to people. Though total closed water fish production has been increased many times, still it is not sufficient against the requirement of the people. High rate of population growth resulted in growing gap between supply and demand of fish and fisheries product of Bangladesh. Government of Bangladesh in collaboration with foreign donors and local NGOs are working in the fisheries sector to increase fish production. But neither the government nor the development partners have taken any pragmatic steps to improve the fish marketing system, which is an important component of fisheries sector. Fish marketing in Bangladesh is almost exclusively a function of the private sector where the livelihoods of a large number of people are associated with fish production and marketing systems. However, the most serious marketing difficulties seem to occur in remote communities with lack of transport, ice, and poor road facilities and where the farmers are in particularly weak position in relation to intermediaries (DFID, 1997). The middlemen in the fisheries sector have established a new marketing chain, based on the extreme exploitation of the fish farming communities, by setting up an artificial pricing chain through intermediaries at different levels. As a result farmers have poor knowledge on pricing policy. Therefore, it is important to know the existing fish marketing system.

#### **1.4 Objectives**

1. To understand the infrastructure e.g. marketing process, marketing channel etc. of fish market.
2. To make an inventory of fish species sold in the market and respective fish price.
3. To identify associated constraints and recommendation for future management and development



**CHAPTER 2**

**MATERIALS AND**

**METHODS**

## **Materials and Method**

This chapter deals with the methodology, which was adopted to attain the objectives of the study. It explains the selection of research tools, methods for data collection, selection of research area, identify target groups and selection of analytical methods. The study is based on market survey, obtaining information through a sample survey among fish traders, fish farmers, operators (middlemen) and consumers (Fig.2.1). The method of collecting data depends on many considerations, such as the nature of research problem, time, constraints, availability of funds etc. Though there are various methods of collecting field level data, the survey method was chosen in the present study because it was thought to be more advantageous. The word survey refers to a method of study in which an overall picture is obtained by a systematic collection of all available data on the subjects. The major advantages of this method are, it is less expensive and its coverage is much wider. But the main limitation of this method is that investigator has to depend upon the memory of the fishermen or traders. To overcome this shortcoming, several visits were made to collect data in the study area and the questions were asked in such a manner that the interviewers could answer from the memory. The design of the survey for the present study involved some necessary steps which are outlined in this session. The survey was carried out for 6 month from June 2016 to February 2017.

### **2.1 Selection of the study area: Mawaghat, Lohajang Upazila**

Mawaghat is an important fish marketing place of Lohajang upazilla under Munshiganj district. It is situated about 9 km west from Lohajang Upazila. There are ten Union in Lohajang upazilla. Lohajang upazilla is advanced in the field of education, culture and many other ways. Now a day, a significant numbers of fish farmers are engaged in culture and capture fish on the commercial basis. For this reason a fish marketing network is developed among fish farmers, commission agents, fish traders, consumers and other associated groups. This area is important for culture and capture fish species. For the above reason, Mawaghat, Lohajang upazilla was selected as the research area (Fig. 2.2).

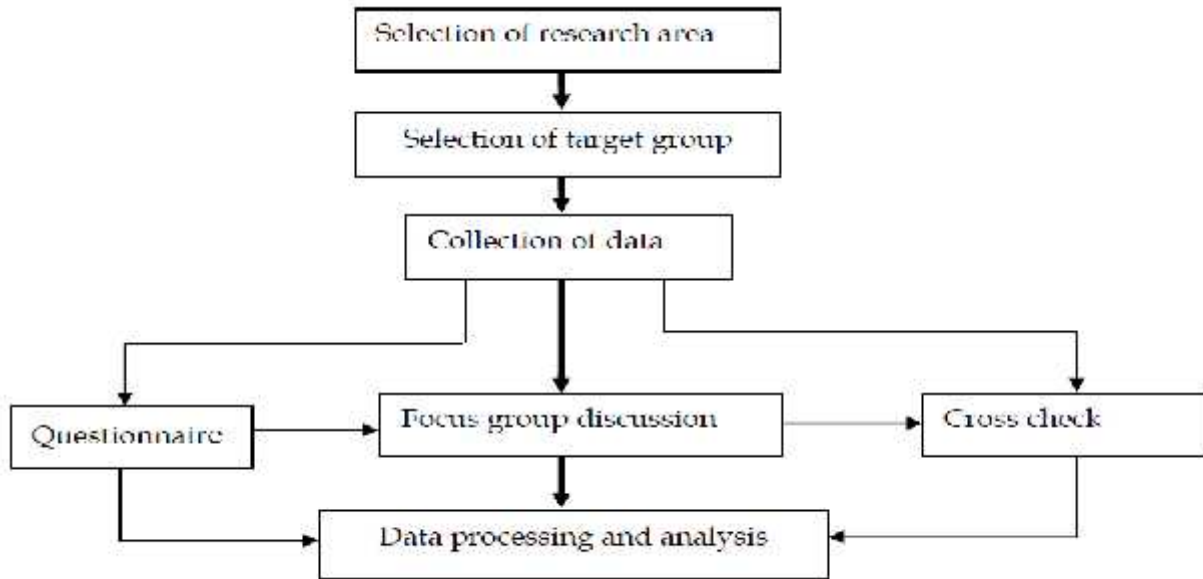


Figure: 2.1 Survey design for data collection



Figure:2.2 A map of Mawaghat Lohajang Upazila

There are about 20 markeks, some of these are small and some are large. Among these three fish markets (1. Mawaghat Market, 2.Holodia fish market, 3. Kumaravog fish market) were selected for the study after discussion with the fishermen, fish traders, Upazila Fisheries Officer, and NGO workers who are working with fisheries sector, based on market history, number of fish traders, duration of marketing time, season etc.

## 2.2 Target groups

In order to get a representative picture of the fish marketing system of Mawaghat the following, groups of the people were selected:

### **2.2.1 Fish farmers (producers)**

In Bangladesh, a large number of people earn their livelihoods from fish farming and its associated activities. Farmers capture fish from River, Beel, Haor, Baor etc. A few farmers are financially solvent who possesses own fishing gear and earn very little cash and almost all “Small and marginal” farmers are poor. According to Kendrick (1994) small and marginal farmers are those who have less than 1 (one) ha land including pond, while Rutherford (1994) noted that small farmers are those who have less than 0.81 ha land. Most of the farmers live in the rural areas and work as seasonal labours, part-time farmers or occasional wage earners in order to supplement their family income. Fish farmers have traditionally been a socially neglected class in both Muslim and Hindu society previously fish farming was considered as low class profession. The standard of living of the fish farmers is commonly low and they have little access to lack of basic needs such as, sanitary facilities, housing, electricity, drinking water supply, education, health and medical facilities (DFID, 1997). Most of the fish farmers are highly dependent on middlemen or moneylenders who provide money and take the lion's share of total earning from fish production (Hannan, 1994). They are in a chain of indebtedness to the moneylenders who prevent the farmers entangled to approaching commercial banks for credit, as the procedures to borrow money from the financial institute are too complex (Chandrasekera, 1994). Moneylenders have therefore, developed strong bonds with the fish fanners.

### **2.2.2 Paikers**

Paikers are the professional fish traders. Usually most of the paikers run their business independently. They purchase fishes from farmers or fishermen and sell in the wholesale market. The beparies (paikers) earn profit though buying and selling fish.

### **2.2.3 Commission agents (middlemen/dalals)**

Commission agents are also fish traders but without capital. They do not buy fish for their own selling purpose, but they sell fishes to the retailers on behalf of the fish farmers and take a percentage as commission from the farmers. The rate of commission varies with the variety and quantity of fishes available in the market.

#### **2.2.4 Wholesalers**

Wholesalers are those fish traders in the existing marketing channel who purchase the fish from fish suppliers and paikers in bulk quantity. They invest a big amount of capital for purchase of fish for short period of time. They sell the fish in massive quantity to the retailers. They are very influential in the marketing network. Sometimes they act as moneylenders and give credit to the paikers or fish supplier at a very high rate of interest.

#### **2.2.5 Fish traders (retailers)**

Retailers are those who buy fishes from commission agents (middleman) and sell them to consumers ultimately. The function of retailers is to procure supplies and display them in front of consumers at times convenient for them. Usually retailer buy fishes from commission agents through open auction. Very often retailers buy fishes of different type and categories depending on the species and size of the fish.

#### **2.2.6 Consumers**

Almost all the people of Bangladesh like fish as delicious food and it contributes about 63% of animal protein throughout the country (DoF, 2003). Generally the entire domestic production of fish is consumed fresh or iced. Limited amount of fish are smoked and dried. Restaurants and hotels also buy fresh and iced fish, but most of the fish is consumed directly by the households.

### **2.3 Sample Number**

A total of 90 fish traders (retailers) were selected for questionnaire interviews in three different markets (30 in each market). Among them 30 were selected for personal interviews through simple random sampling method (Table 1). In addition, a total of 120 consumers (40 from each market) were interviewed at the market center. A well-structured questionnaire was used for interviewing with consumers.

Table: 1 Sample sizes in three different markets

Study area	No. of Fish traders	No. of Consumer
Mawaghat fish market	30	40
Holodia fish market	30	40
Kumaravoug fish market	30	40
Total	90	120

## 2.4 Design and Test of Questionnaire

In survey, a questionnaire is very essential tool for the collection of necessary information. In this study, questionnaires were prepared in consistent with the objectives for collecting relevant information. The questionnaire was composed of both closed and open form of questions. Closed formed questions are easier to fill up. However, some descriptive types of answers and open forms of question are also necessary to know facts. That is why both closed and open form of questions was used in the questionnaire. The draft questionnaire was initially pretested with 10 traders by the researcher herself. In this pilot survey, much attention was given to any new information, which was not designed to be asked but was important and informative towards the objectives. Thus, some parts of draft schedule were improved, rearranged and modified according to the actual experiences gathered from the pilot survey. Thus the final questionnaire was prepared on the basis of pilot survey.

## 2.5 Data collection

The data collection method as well as field survey was under taken for eight months from June 2016 to February 2017. Collection methods were divided into 3 steps, these were i) questionnaire interviews ii) focus group discussion with intermediaries and iii) crosscheck interviews with key informants (Figure 2.4-2.8).

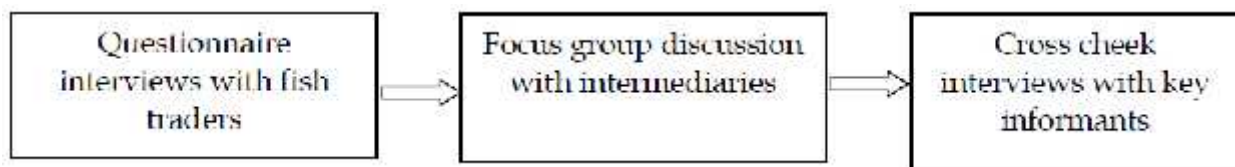


Figure: 2.3 Steps of data collection methods

### **2.5.1 Questionnaire interviews with fish traders (retailers)**

For questionnaire survey, fish traders were selected through simple random sampling method. Interviews were conducted at the market centre during marketing time. Traders took part in interview together with their fish selling activities as a result there was a scope to observe the marketing activities. The questionnaire was simple and focusing, only marketing information. Time required for each interview was about an hour.

### **2.5.2 Focus group discussion with intermediaries**

Information from intermediaries was collected through group discussion (FGD). FGD was conducted with intermediaries in Mawaghat to get in overview of fish distribution and marketing systems, constraints of fish distribution and marketing etc. A total of 30 FGD sessions (10 in each area) were conducted where each group size of FGD was 9 to 14 intermediaries.

### **2.5.3 Crosscheck interviews with key informants**

Key informants are especially knowledgeable on particular topic and are expected to be able to answer questions in relatively important way about the knowledge and behavior of others, and especially about the operations of the system. Crosscheck interviews were conducted with key informants such as school teachers, local leaders, Upazilla Fisheries Officers, MAEP staff and Relevant NGO workers where information was contradictory or requested for further assessment.





Figure: 2.4 Questionnaire interviews with fish traders at Mawaghat Market



Figure: 2.5 Questionnaire interviews with fish traders at Holodia Fish Market



Figure 2.6 Questionnaire interviews with fish traders at Kumaravog Fish Market



Figure: 2.7 Questionnaire interviews with fish consumers



Figure: 2.8 Activities of Fish Market

#### **2.5.4 Problems encountered during data collection**

Some problems were faced during data collection such as traders were busy in trading and unwilling to talk. Some traders thought that the researchers to be the government official of tax or other department and feared to talk. In addition, language problems or use of local terminologies, data in local units and some traders want something in cash or kind for giving interviews. However, the problems were overcome by the researcher through given extra attention and more discussion on rapport buildup. Clarifications of local terminologies and local units were obtained from key informants and local units were converted later on.

#### **2.6 Data Processing and Analysis**

After collection of data from the field, these were verified to eliminate errors and inconsistencies. Some of the collected data were in local units, due to respondent's familiarity with those units. These data were converted into international units, before transferring to the computer. Preliminary data sheets (in computer) were compared with the original questionnaire and result sheets to ensure the accuracy of the data entry. The data were processed and finally analyzed using Microsoft Excel software.

**Chapter 3**  
**RESULTS**

## Results

A large number of people are associated with the fish production, distribution and marketing systems in Mawaghat, Munshiganj district with conspicuous socio-economic conditions. The presents report describes the existing fish marketing systems, problems and efficiencies of fish marketing. Finally, it concludes with consumer's behavior regarding purchase of fish. The aim of this study is to describe the present status of fish marketing systems. This description is based on secondary data and results of primary data collected in three markets of Mawaghat, Munshiganj.

### 3.1 Socio-economic status of fish marketing system:

The aim of this study was to estimate the socio-economic condition of the fish marketing system. More specially emphasis on such variables such as religions educational status, age status. The outcome of this chapter was the comparison in the economic social and demographic profile of the fish marketing system.

#### 3.1.1 Age structure:

In estimating productive human resource the knowledge about age structure of fish marketing system were important, in this study 33% of fish retailer 18 to 30 year of age, 28% of fish retailer 31 to 40 year of age, 23% of fish retailer 41 to 50 year of age, and 5% of fish retailer above 50 years of age .

Table:2 Age structure of fish trader in the study area

Age category	No of Fish traders					
	Mawaghat Market		Holodia Fish Market		Kumaravog Fish Market	
	No.	%	No.	%	No.	%
18 to 30 years	10	33.33	13	43.33	10	33.33
31 to 40 years	13	43.33	8	26.66	7	23.33
41 to 50 years	6	20	7	23.33	10	33.33
51 to above years	1	3.3	2	6.66	2	6.22
Total	30	100	30	100	30	100

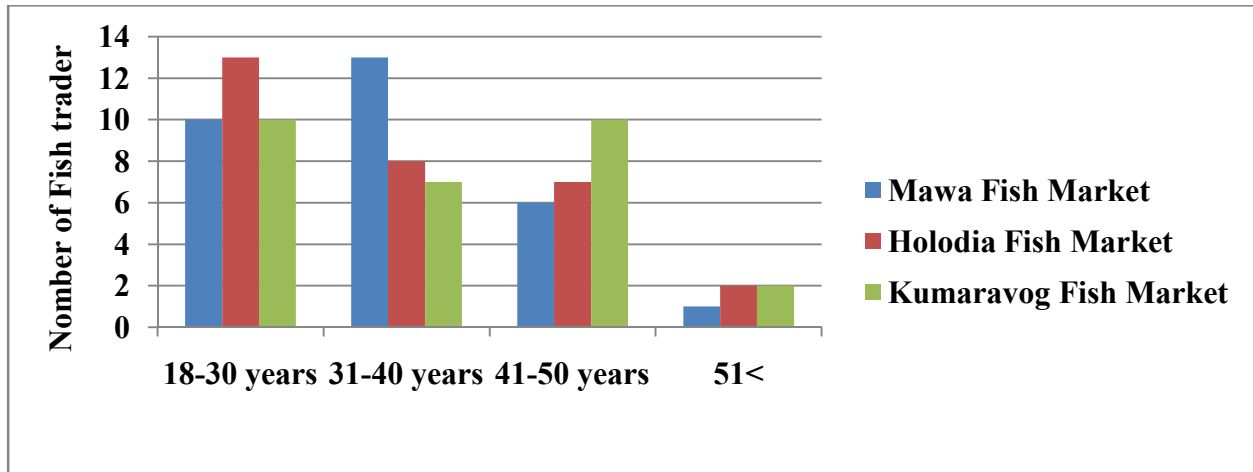


Figure:3.1 Age structure of fish trader in the study area

### 3.1.2 Educational status:

Six categories were used to define education level; such as (i) no education (illiterate) (ii) only can sign (iii) Primary (iv) Secondary <. From The survey, it was found that 20% fish traders were illiterate, 22% only can sign, 35 % primary level, 13% secondary level (Table 6). It was observed that the higher numbers of traders with primary level of education was in Mawaghat fish market (50%) than Holodia fish market (33.33%) and Kumaravog fish market (33.33%).

Table:3 Educational status of fish traders of Mawaghat

Level of education	No of Fish traders					
	Mawaghat Market		Holodia Fish Market		Kumaravog Fish Market	
	No.	%	No.	%	No.	%
No education	4	13.33	6	20	10	33.33
Only can sign	6	20	10	33.33	6	20
Primary	15	50	10	33.33	10	33.33
Secondary<	5	16.16	4	13.33	4	13.33
Total	30	100	30	100	30	100

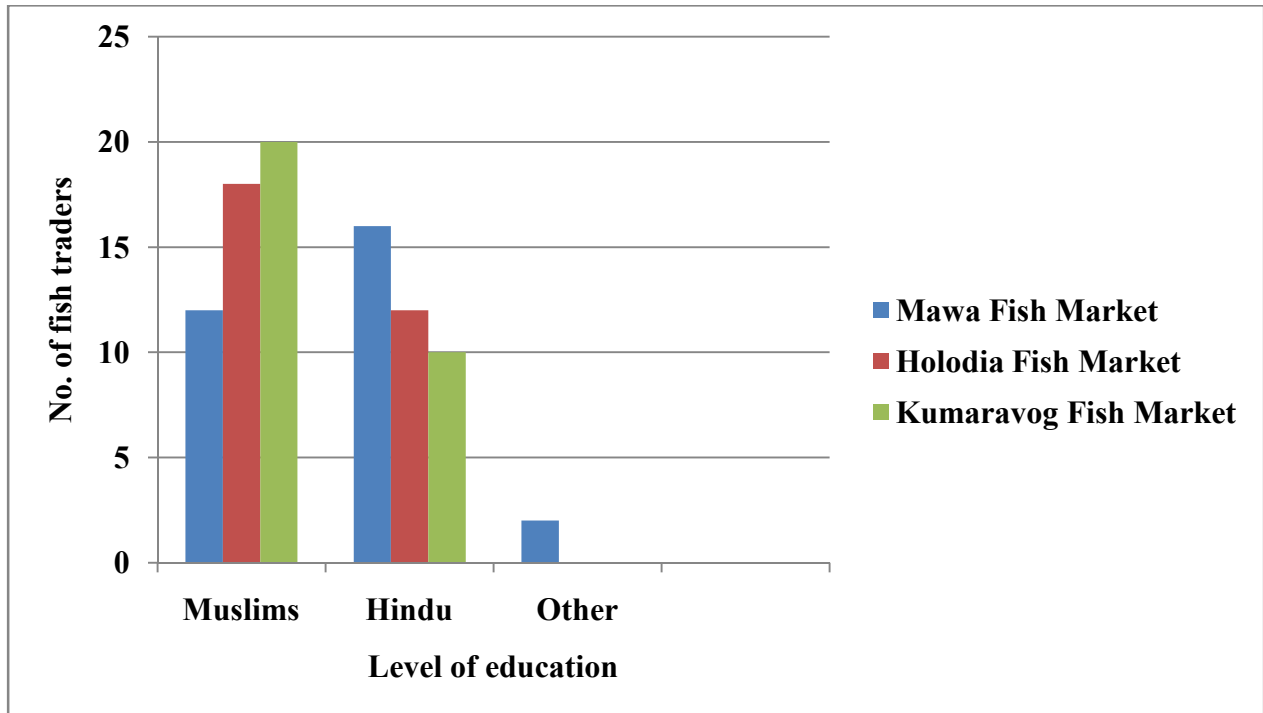


Figure:3.2 Educational status of fish traders of Mawaghat

### 3.1.3 Religious status:

Religion can play an important role in the socio- cultural environmental life of people of a given area, and can act as notable constraints or modifies in social changes. In the study area, 86.66% of interviewed traders were Muslims and the remainders (13.33%) were Hindus, with no Christian or Buddhist. As Table 7 shows that Muslim traders predominated in three markets, the higher percentage being in Mawaghat Market (53.33%) than that in Holodia fish market (60%) and kumaravog fish market (66.66%).

Table:4 Religious status of fish trader of mawaghat

Religion	No of Fish traders					
	Mawaghat Market		Holodia Fish Market		Kumaravog Fish Market	
	No.	%	No.	%	No.	%
Muslims	12	40	18	60	20	66.66
Hindu	16	53.33	12	40	10	33.33
Other	2	6	0	0	0	0
Total	30	100	30	100	30	100

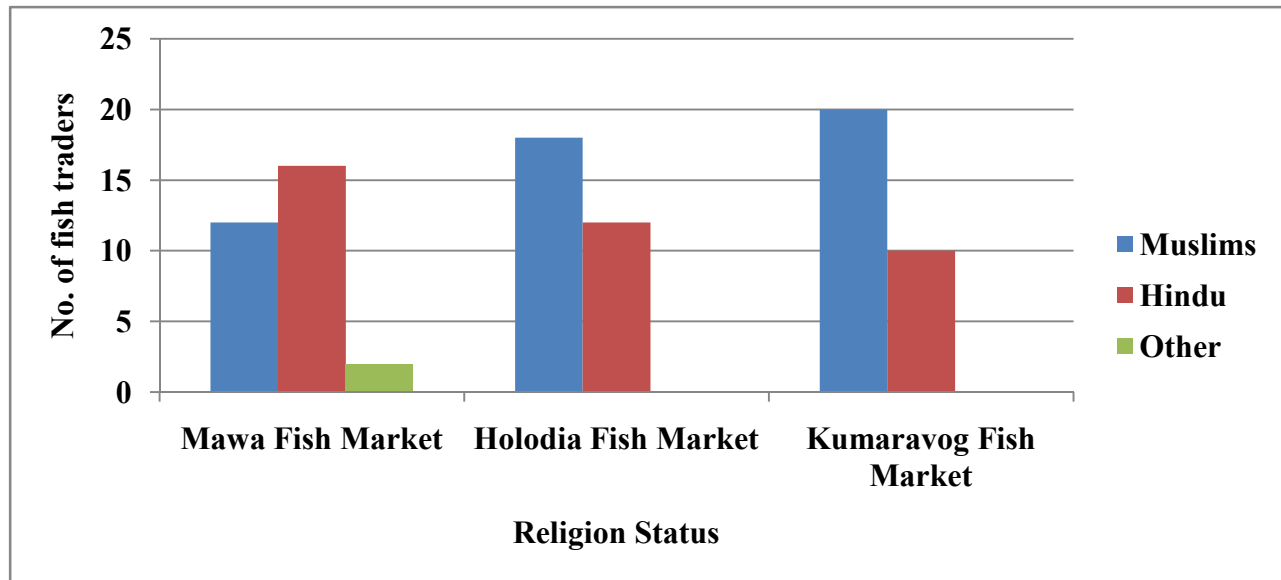


Figure:3.3 Religious status of fish trader of mawaghat

### 3.2 Marketing Infrastructure:

For marketing fisheries product domestically and for the physical development of markets, infrastructure facilities are most important. Market infrastructure frequently behaves to become different from place to place according to different parts of Bangladesh. It is not well developed throughout the country and Mawaghat is not out of this.

#### 3.2.1 Landing Facilities:

In Mawaghat, Landing facilities belong to municipal authorities. There is no landing centre, proper auction sheds, packing shades, landing terminal and proper drainage or hygienic facilities.

#### 3.2.2 Ice Supply & Cold Storage:

In Mawaghat, there are 4 ice plants in the market and ice storage facilities exist. Mostly block ice is used with manual methods being used to change the form of blocks to crushed ice. Especially at peak season, there is clearly a deficiency of ice and this is reflected in the prices charged for



the same. Only river water is used for making ice which is of very uneven quality and is often not chlorinated. It looks so muddy and translucent.

### **3.2.3 Handling & Transport of Fish:**

The transportation system of fish determines the demand and purity or hygienic condition of it, because with the change of time, fish will perish rapidly. Also its value decreases, if it requires too much time to transport this fish from the collection point to the market. Mawaghat gets a very good facility from the topography, as this market is situated at the side of the Padma River and also at the side of the highway. To carry fish over larger distances from the collection point to the market, mainly river transport is used but fishes from local area are transported by road or river. Two types of fishes are found here as dead fish and live fish. Normally Shol, Taki, Pangus, Koi, Shing, Magur are transported here as live form. Dead fish carried to the market in box or cages but live fish by drum or tray. Mainly small Pangus are carried by tray. Each drum contains 40-45 kg of fish with water. Mainly this type of fish is transported by truck. On the other hand, dead fishes are carried at a rate of 10 ton per truck. Fishes from other districts like Barisal, Khulna, Chittagong, Vola, Feni, Bagerhat, comes by steamer, launch and or by boats or trawler. Because of its easy transportation system and availability river is more suitable than road. Fish has carried into and out of the market by head-load; baskets involve unnecessary handling as there is no access of vehicles.

### **3.2.4 Hygienic Condition and Sanitation:**

Hygienic condition of Mawaghat market is so poor. At the market time these place become so muddy and walking become very difficult. There is no source of hygienic water for ice making and cleaning of fish. River water is used for this purpose. There is no drainage system and Sanitation receives a low priority at all stages of marketing. For example, cleaning and washing of fish and containers to carry fish are not common practice and fails to use chemicals (bleaching powder, chlorine etc) to sterilize surfaces which are used to hold fishes.

### **3.3 Fish Distribution Channel:**

Marketing distribution channels are sets of organization which depends on each other involved in a series of action to make a product or service available for use or consumption. By the means of the channel members (Local traders, Fishers or fish farmer, Aratdars, Mahajans, Whole seller,

Distributor etc) the harvested fisheries transfer from producers to consumers (Fig. 1). Depending on kind and quality of fish market, ability to use marketing services and the prevailing social and physical environment this may be short or long. Fish marketing channel in Mawaghat is almost entirely managed, supported, financed and controlled with rules by traditional, diligent and skillful middlemen. The demand for fish is high in the market in relation to supply and a stable network has developed with brokers and traders between farmers and consumer. Tradition and the strength held by separate channel members are affecting the action of distribution system and the fish farmers/ fishers are Mawaghat occupies the higher secondary market level because collectors, distributors, Mahajans, local agent, local fish traders etc are collected fishes from the farmers/ fishers of remote villages and sell these to the wholesalers of this market where prices are determined in a competitive market situation and they sell this fish to the Aratdar. Here some Aratdar also works as wholesaler. Finally, Aratdar sells their fishes to the retailer. Here also agents or suppliers carry fish to the wholesalers and Aratdar of Mawaghat and typically earns 1 to 4% commission for their services. Suppliers commonly use boats, trawler, steamer, launch, truck to transport the fish from farmers/ fishers to Mawaghat depending on market distance and transport facilities. Sometimes suppliers receive small amounts of credit known as dadon from wholesalers and Aratdars to make certain that he bound to deliver his collection of a good and desirable quality of fish to the same. The Aratdars have arranged themselves into a powerful association which has a far-reaching influence as they are the middle point of the entire marketing system and including financing of suppliers and buyers, and often associated with their own account, their function goes Mawaghat occupies the higher secondary market level because collectors, distributors, Mahajans, local agent, local fish traders etc are collected fishes from the farmers/ fishers of remote villages and sell these to the wholesalers of this market where prices are determined in a competitive market situation and they sell this fish to the Aratdar. Here some Aratdar also works as wholesaler. Finally, Aratdar sells their fishes to the retailer. Here also agents or suppliers carry fish to the wholesalers and Aratdar of Mawaghat and typically earns 1 to 4% commission for their services. Suppliers commonly use boats, trawler, steamer, launch, truck to transport the fish from farmers/ fishers to Mawaghat depending on market distance and transport facilities. Sometimes suppliers receive small amounts of credit known as dadon from wholesalers and Aratdars to make certain that he bound to deliver his collection of a good and desirable quality of fish to the same. The Aratdars have arranged

themselves into a powerful association which has a far-reaching influence as they are the middle point of the entire marketing system and including financing of suppliers and buyers, and often associated with their own account, their function goes far beyond what one would usually regard as likely to a commission agent. Separate values in every channel levels are added by the channel members and as a result a value network system is caused to happen. The channel members behave like more individualistic rather than work together. Despite they are directed to establish their own financial goal but they add value in marketing chain. Thus, the middleman plays an essential role in this market.

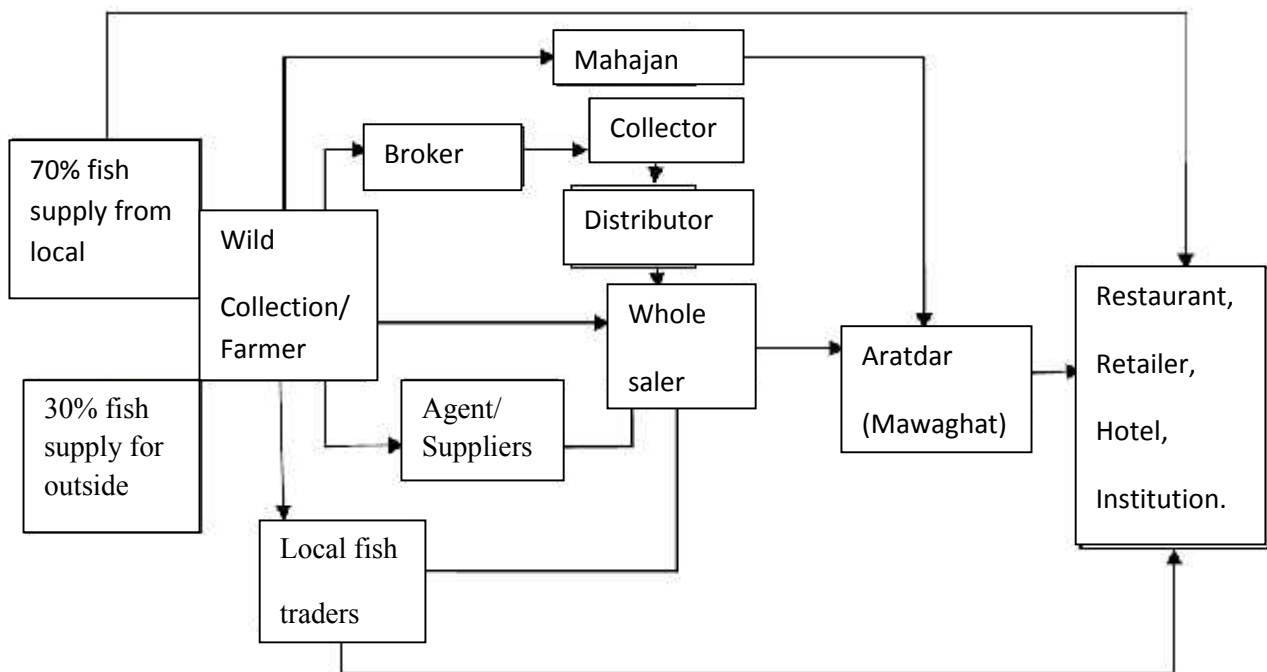


Figure:3.4 Fish Distribution Channel from Farmer to Retailer in Mawaghat

### 3.4 Constraints of fish marketing

A number of constraints for fish marketing were stated by fish farmers and traders during the survey. It included higher production costs, higher harvesting and transport costs, poor road communication facilities, poor supply of ice, higher demand of labours, exploitation by middlemen, lack of capital, inadequate drainage system, poor water supply, poor sanitary facilities, unhygienic condition. According to them, political disturbances sometimes also affect fish transport, as well as marketing. As a result, the perishable fishes get damage and the farmers and traders are to sell these at a cheaper price; sometimes they even fail to get any return, due to

decomposition of fishes. Traders were asked to mention the top most constraints as they fell regarding fish marketing. The views of respondents are presented in Table 4. where, 15.66 % of the respondents identified unhygienic market place, 10% lack of sanitary facilities in the markets, 5.6% higher transport costs, 5.7% of respondents higher production costs, 11% informed lack of capital, 18% explained exploitation by middlemen, 10% mentioned poor ice supply and 20% political hand were the most important Constraints for fish marketing. Mawaghat fish market the highest political hand is 23%, Holodia fish market the highest market constrains of exploitation by middlemen 23% and Kumaravog fish market the highest marketing constrains of lack of sanitary facilities 20%.

Table: 5 Constraints of Mawaghat fish market

Constraints	No of Fish traders					
	Mawaghat Market		Holodia Fish Market		Kumaravog Fish Market	
	No.	%	No.	%	No.	%
Unhygienic market place	5	17	5	17	4	13
Lack of sanitary facilities	3	10	3	10	6	20
Higher transport cost	2	7	1	3	2	7
Higher production cost	1	3	2	7	2	7
Lack of capital	2	7	4	13	4	13
Poor ice supply	4	13	2	7	3	10
Exploitation by middlemen	6	20	7	23	4	13
Political hand	7	23	6	20	5	17
Total	30	100	30	100	30	100

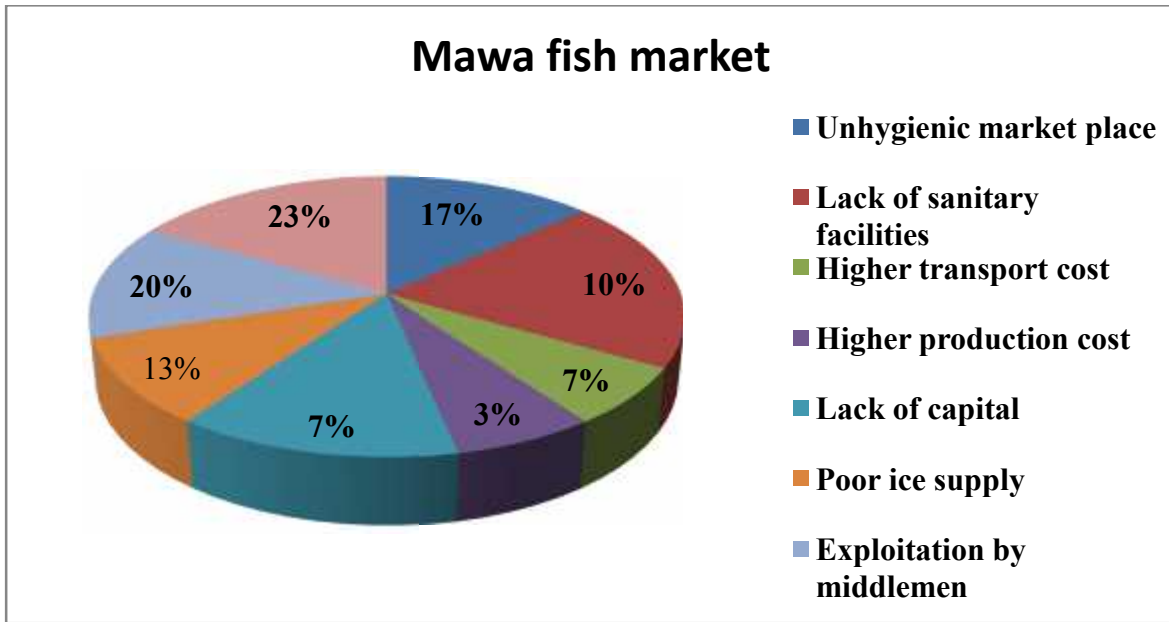


Figure:3.5 Constraints of Mawaghat Market

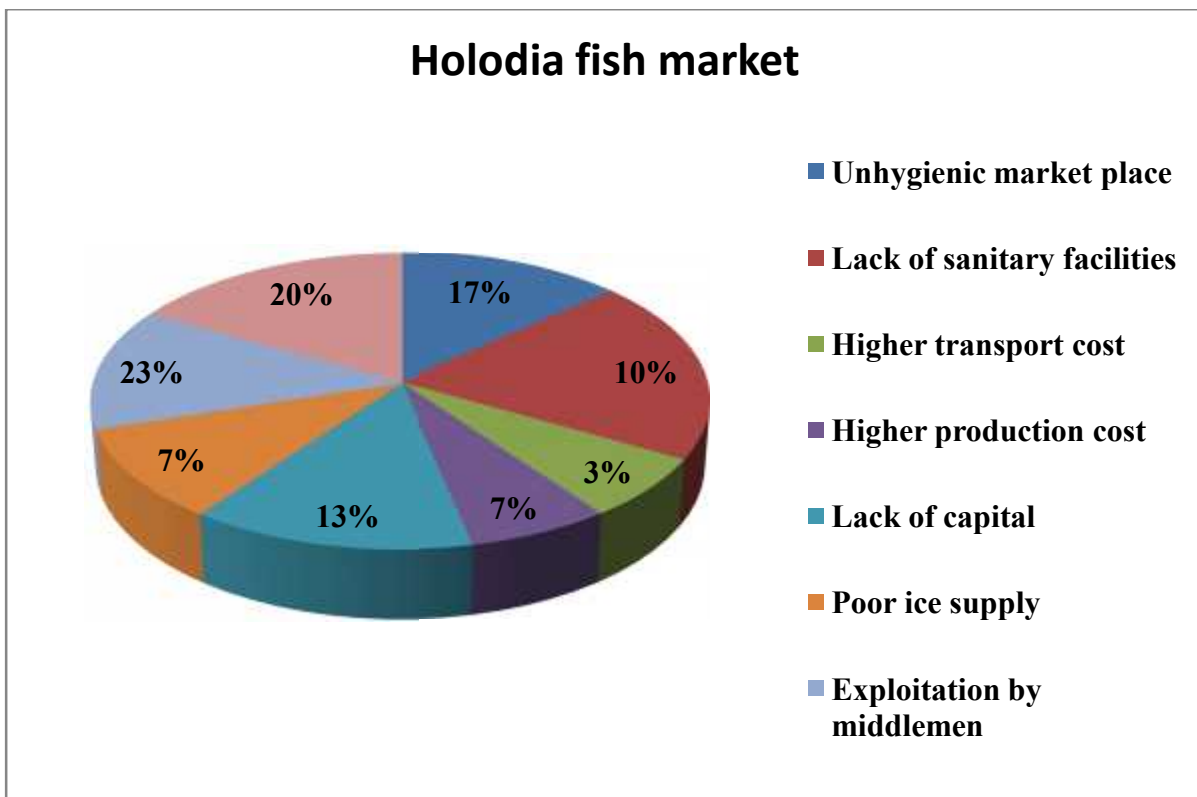


Figure:3.6 Constraints of Holodia fish market

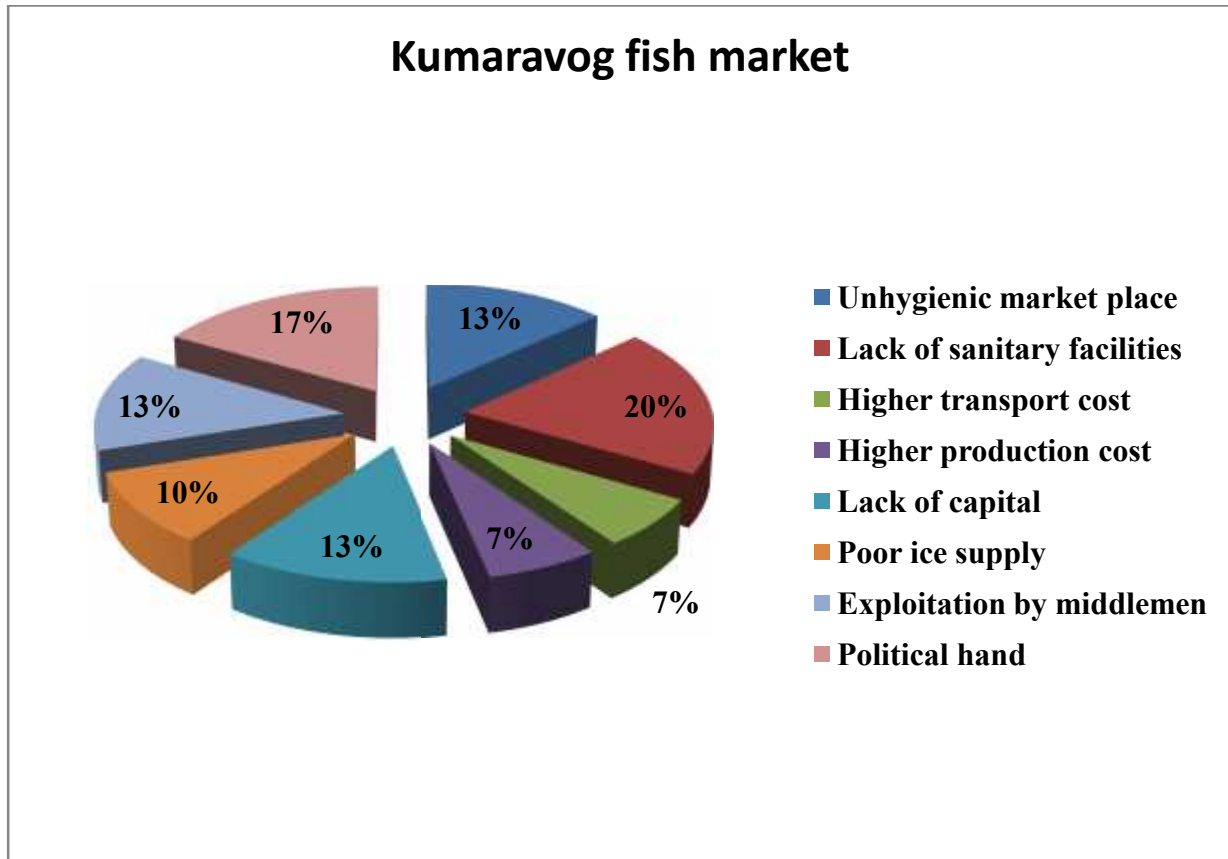


Figure:3.7 Constraints of Kumaravog fish market

### 3.5 Price of Fish:

In Mawaghat, Price of fish is fixed neither by the government nor by the fisheries co-operatives, not even by the trade associations but price of fish influenced by two major factor- the price at which the wholesaler buy their fish and the amount of profit they intend to gain and it is fixed through supply and demand interaction. Generally, in proportion to other commodities, fish price have been raising faster. According to the species and size of fish, price of fish become different with season of the year and freshness of the fish. The price of fish varies irregularly and more

widely than other agricultural commodities. In this market, the main buyers are retailer. The price of fish is usually set through open auction by the Aratdars and wholesalers. According to rules of auction system, the price for an allotment of fish is settled securely through open, competitive bidding. The highest bidder then receives the delivery of the fish in exchange of payment to the seller. Generally the payment is made in full and in cash. This auction method is conducted through an Aratdar. Aratdars usually charges about 2-3% of the sale price from wholesalers and also sometimes retains a small quantity of fish as commission. The price is also fixed by direct bargaining between seller and expected buyers. The sellers try to obtain a price that is generally higher than his least attainable selling price. The potential buyer begins with a price which is lower than that of their minimum buying capability. Through several rounds of adjustments, the price is reached at a satisfactory destination to both parties. Production area of the fish tends to influence the price of the fish. There is a variation of price between fishes produced in Bangladesh and India or Myanmar, as Bangladeshi fishes are liked better and sold at a higher price than fishes from other countries. Because Bangladeshi fish is believed to be fresher than India and Myanmar and have packed in ice for several days. For example, among the carp species, Indian major carps (ruhi, catla and mrigal) fetch higher prices than the exotic carps (silver carp, grass carp and common carp) a result very much similar to that the consumers are not willing to pay high prices, but an important factor is lower production costs to allow supplying fish at this price. Naturally, the price of carp depends on market structure, location, species, quality, size and weight. The price is also influenced by supply and demand and there are generally seasonal variations in prices with the highest in summer (March to May) and the lowest in winter (November to January), during the fish harvesting season (Rahman *et al*, 2009). From the survey of this fish market it is found that the price per kilogram of carp increases with size for both native and exotic species (Table 6).

Table:6 Price of fish of Mawaghat

Fish species	Size of fish	Price(Tk/Kg)	Demand
Indian major cap			
Rui	Small /large	120/180	High
Katla	Small/Large	140/200	High
Mrigel	Small /Large	100/130	Medium
Exotic fish			
Silver carp	-	100-110	High
Common carp	-	105-115	Low
Grass carp	-	95-105	Medium
Other carps			
Bata	-	125	Medium
Sharpunti	-	95	Low
Cat fish			
Shing	-	390	Low
Magur	-	400	Low
Pungas	-	90-100	High
Ayr	-	300	Medium
Tengra	-	150	Low
Boal	-	250	Medium
Live fish			
Koi	-	300	Low
Taki	-	110	Medium
Shol	-	120	Low
Small fish			
Mola	Small	130	High
Kachi	Small	85	High
Chanda	Small	95	Medium
Punti	Small	100	Low



Hilsha	-	450	High
Prawn	Small/Large	400/700	Medium
Tilapia	-	110-120	High
Others			
Kakhle	-	130	Medium
Bele	-	230	High
Baim	-	180	Low
Poa	-	300	Medium
Chela	-	150	Low
Veda	-	200	Medium

### 3.6 Consumers Behavior

During the market survey it was found that almost all consumers between 14 to 55 years of ages liked major carps than exotic carps. Although higher prices of major carps, consumers like this for its taste even poor consumers also like Indian major carps for its better taste than exotic carps. Sometimes it is noted that the price of Indian major carps are more expensive than beef (Tk.230- 250/kg) but much cheaper than mutton (Tk. 400-450/kg). According to consumers, price of fish has increased less than meat in general during last 10 years. From the survey, it was also found that the average price of carps significantly varied from producer's level to consumer's level. Of the total 120 consumers interviewed, 30 (80%) mentioned that they spent more money for buying fish than meat, while the remainder (20%) spent more money for meat. It was found that young group of people (below 30 years) like meat than fish. Whereas, the older people (above 50) like fish. Almost all traders mentioned that fish consumption has increased over the last 10 years. Survey results showed that an average 570g, 470 g and 450g fish was consumed per person per week in Mawaghat Market, Holodia fish market and Kumaravog fish market areas respectively (Table 7).

Table:7 Weekly fish consumption rate of the people living in the vicinity of different in Mawaghat

Region	Range of fish	consumption (g) Average	Standard deviation
Mawaghat Market	320-820	570	150.54
Holodia Fish Market	270-715	480	90.70
Kumaravog Fish market	220-620	460	120.36

### 3.7 Species wise fish percentage (%) in Mawaghat

Usually, all religious and social groups in Bangladesh like fresh fish (without ice) better than iced or preserved fish. Mainly large fishes are bought by the income groups and medium and small sized fishes are consumed by the poorer people. Hotel and restaurant and hostel of many educational institutes also buy fish but maximum fish is eaten by households. According to market survey, the daily supply of fish in Mawaghat market varies depending on the variation in catches during peak or off-season. Virtually most of the fish (near about 70%) is locally supplied and near about 30% is imported from outside. Delivery of fish is operated by the intermediaries in the market and when required, fishes are iced, sorted, stored, packed and transported. In general fishes are arrived from Cox's Bazar, Teknaf, Chittagong, Mohangang, Chandpur, Barisal, Kuliarchar, Jessor, Satkhira, khulna, Bikrompur, Mymensingh, Kalindi, Jinjira, keranigong and Gazipur etc where there are major landing and marketing centers exists for the greater quality and quantity of fish supply. According to survey, we found that different type of fish species is exist in Mawaghat. Mawaghat includes different type of fish market such as Mawaghat Market, Holodia Fish Market, Kumaravog Fish Market is one of them.

Virtually most of the fish (Near about 70%) is locally supplied, near about 30% brings in from all over the country including Cox's Bazar, Teknaf, Chittagong, Mohangang, Chandpur, Barisal, Kuliarchar, Jessor and Satkhira, Khulna, Bicrompur, Mymensingh. The marine fish supply and freshwater fish supply amount is near about 30% and 70% respectively. It is estimated that near about 16% of fish supplied in Mawaghat Market is Indian major carps, 14% exotic carps, 6% other carps, 20% hilsa, 8% catfish, 4% snake-heads, 2% live-fish, 6% small indigenous fish, 12%

prawn, 10% tilapia and 2% others including small chingri and marine fishes. Mawaghat Market is the highest fish percentage of Hilsha (20%), Holodia Fish Market supplies of Indian major carp 12%, 10% exotic carps, 14% other carps, 18% hilsa, 10% cat fish, 4% snake-heads, 4% live-fish, 8% small indigenous fish, 10% prawn, 8% tilapia and 2% others. Hilsha is the highest percentage (18%) of Holodia Fish Market. Kumaravog Fish Market supplies of Indian major carp 15%, 13% exotic carps, 11% other carps, 17% hilsa, 8% cat fish, 6% snake-heads, 2% live-fish, 10% small indigenous fish, 8% prawn, 6% tilapia and 4% others. Hilsha is the highest percentage (17%) of Kumaravog Fish Market.

Table:8 Species wise fish percentage in Mawaghat

Fish species	No. of Fish taders					
	Mawaghat Market		Holodia Fish Market		Kumaravog Fish Market	
	No.	%	No.	%	No.	%
Indian major carp	8	16	6	12	7	15
Exotic carp	7	14	5	10	6	13
Other carp	3	6	7	14	5	11
Hilsha	10	20	9	18	8	17
Cat fish	4	8	5	10	4	8
Snakehead	2	4	2	4	3	6
Live fish	1	2	2	4	1	2
Small indegenous	3	6	4	8	5	10
Prawn	6	12	5	10	4	8
Talapia	5	10	4	8	3	6
Other	1	2	1	2	2	4
Total	50	100	50	100	50	100

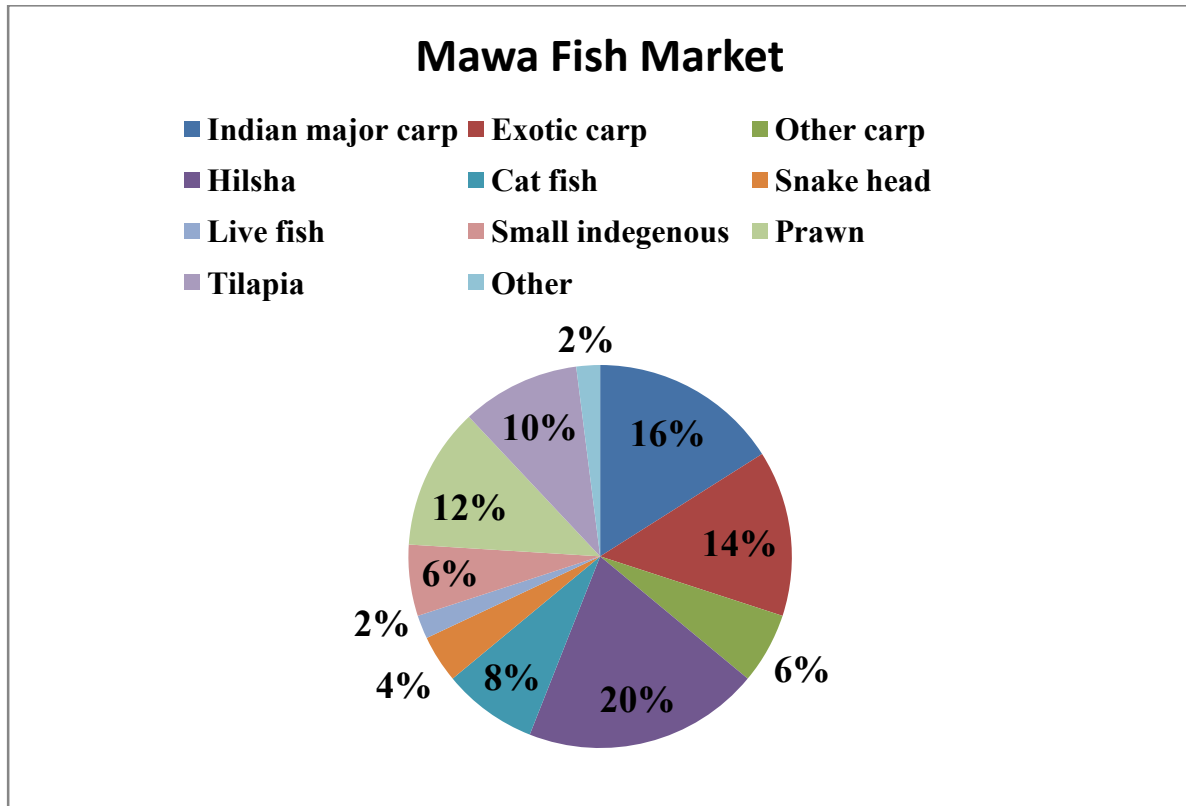


Figure:3.8 species wise fish percentage(%) in Mawaghat Market

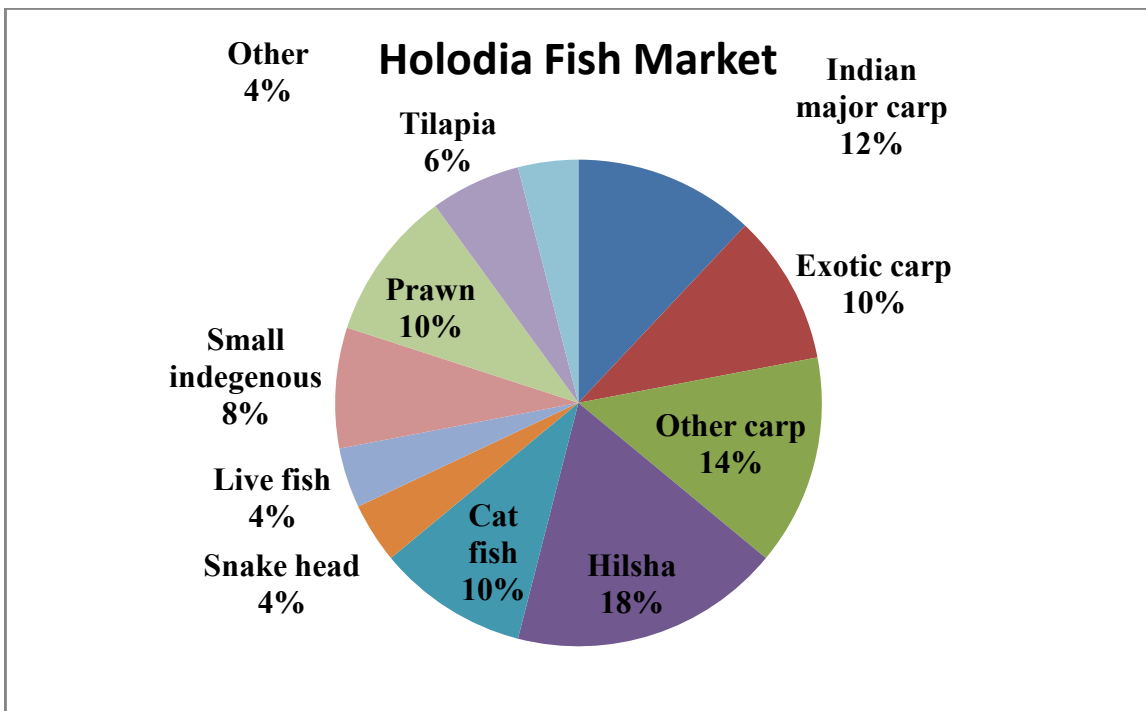


Figure: 3.9 Species fish percentage (%) in Holodia Fish Market

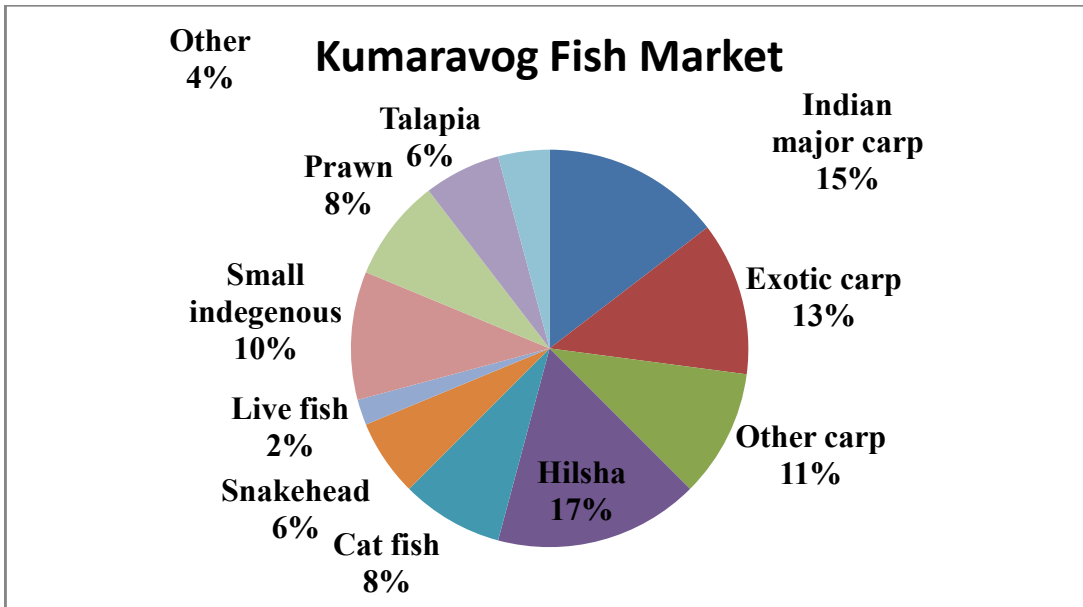


Figure: 3.10 Species wise fish percentage (%) in Kumaravoug Fish Market

**Chapter 4**  
**DISCUSSION**

## Discussion

The study was conducted to know the present situation of the fish marketing system in Mawaghat. The investigation covered the three markets namely: Mawaghat Market, Holodia fish market and Kumaravog fish market. Data were collected by interview technique were supplemented by information received from various sources and also personal observation. As such, fish market chains from the producers to ultimate consumer are in operation. This chain passes through a number of intermediaries such as, local fish trader, beparies, aratdar, whole sellers and retailers. In our present study three types of marketing channels were observed. These channels were: (a) fish farmers- paikers- whole sellers-retailers- consumer (b) fish farmers- whole sellers- retailers- consumers and (c) fish farmersretailers- consumers. Rahman (2003) reported that in Gazipur the market chain from farmers to consumers consisted of a number of intermediaries such as, local fish traders, agents, whole sellers and retailers. Local fish traders earned a profit of 1-5% of the sale proceed of fish at wholesale price. Quddus (1991) also identified a similar market chain in Mymensingh district. The above observations are in conformity with our findings. The price of fish varies with the types of species, sizes, freshness, market demands and seasons. Usually the prices of the fishes are higher in April to July when the fish are in short supply. On the contrary, prices remain lower during November to January which seemed to be related with the increased availability of both captured and cultured fishes during this period (Quddus, 1991). It has been found that the price of Indian major carps always remained higher than the exotic carps. This difference in the prices of fishes might be related with the flesh texture and taste of the local fishes. Rahman (2003) reported that major carps such as, rohu, catla, and mrigal fetched higher price than exotic carps in Gazipur district. Quddus (1991) concluded that fish price is influenced by seasonably, abundance, market structure and origin of fish. Fish imported from India and Myanmar was sold at a much lower price than our native fish. Ranadhir (1995) reported that rohu, catla and mrigal are the highly priced fish in India. Hasan and Middendrop (1999) reported that rohu was the most expensive fish followed by catla, mrigal, common carp and grass carp in the southwest Bangladesh. Our present finding is in agreement with the above reports. The fish producers in the surveyed areas usually contact with the local agent/fish supplier before harvesting of fish, and the local agents purchase the fish at the pond side and carry them to the fish markets. Here they make a small profit in the tune of 5-10% of the farm price. On the other hand, some of the local agents do not invest any capital

rather they act as a commission agent at 1- 4% commission for sending the fish to the market. The role of local agents/suppliers in the present study are very much in line with the observation of Rokeya *et al.* (1997) who reported that local agents collect and purchase fish from the farmers on commission basis in Rajshahi fish market. The wholesalers invest more capital than the retailers, and as such, they have greater control over the agent and retailers. Marketing was a profitable business. People may earn a substantial amount of cash income all the year round by which the incumbents may improve their economic condition. Therefore, an efficient production and marketing of fish may be considered as a means of social and economic change for those who are engaged in this business. Farmer's share of the consumer's price was found reasonable. Margins of traders were lower. There is scope for increasing the farmer's share by the reducing the cost of marketing particularly transportation cost, cost of wastage, marketing tolls, entertainment etc. through overall improvement of the marketing methods and transportation system. The fish farmers, fish traders (Paikers) and other intermediaries have been benefited from fish farming and fish marketing business. This has been reflected in their higher income, improvement of housing conditions, increased consumption of food and better health and clothing. In our study a large number of problems were found in the fish market and marketing environment. These were higher transport cost, poor road communication, absence of icing facilities, inadequate water supply, poor hygienic and sanitation condition etc. This is the common scenario of fish markets in rural Bangladesh which need immediate improvement. The above problems regarding fish marketing were also reported by Quddus (1991), Khan (1995), Subasinghe (1995), Mia (1996) Parween *et al.* (1996) and Rokeya *et al.* (1997). Young people particularly the Muslim are coming to the fish marketing business in increased number. Active participation of the young educated people in fish marketing network was also observed by other researchers. Siddique (2001) reported that Muslim fish traders were dominating the fish trader's community in Mymensingh district. Rahman (2003) found increased number of Muslim fish traders in Gazipur and Sreepur fish markets. Infrastructure facilities are important for marketing fisheries products domestically and for the physical development of markets. Improvement of the existing physical infra-structures in term of drainage, water supply, icing facilities etc. in fish markets are required to ensure hygienic and good quality of fishes to be available to the consumers at reasonable price. Most of the fish traders in all level of marketing chain have



educations at some level. Fish traders and market managers need to be educated in maintaining sanitary and hygienic places for handling fish.

The improvement of an efficient fish marketing system from the present status depends upon the overall level of national development. A vigorous attempt to improve the system should begin from a very careful and detailed evaluation of the problem. For example, dismantling the market power used by traders will not be operative if there actually any problem exists in transport, storage or handling. It is a common indicator of marketing efficiency is the size of the marketing margin which is the differences between the farm gate price and the next price level such as retail. Margin could be high if the marketing costs and/or profits are high. Marketing costs are high if marketing functions are not performed efficiently due to functional difficulties such as poor roads, inadequate storage leading to losses, poor handling, etc. Profits may be high if there are high risks of losses and huge capital investment (Rahman *et al*, 2009). Due to the increasing demand of fishes go with low supply and manifold variety of channel members in between harvesters and final consumers, a large price increase continue to grow in this fish marketing chain which is mainly created and influenced by the channel intermediaries. The increased amount of catches by the fisher and effective marketing of produces at appropriate price will help them to fetch higher profit from the investment. Nevertheless, experience offers for the essential role which is played by the government. For giving strength and confidence to the community organizations and their networks in marketing management, long term solution needed for these purpose. Short term solution may also provide fishers to get a better price for their catch including greater market transparency by providing with market information and better fish-care practice. The improvement of a series of modern facilities in this wholesale market, where hygienic and less physical handling exists may lessen the losses due to qualitative damages. Training and extension in improved handling processing addressed at all those involved in the handling of fish, including fishermen, traders and municipal authorities. At the national or policy level, an important role of government should be played to improve marketing by the means of proper price policies, training and extension works in marketing and management of relevant market research. Strengthening the bargaining power of the farmers/Fishers by providing with the actual information about the present market status, pricing policy, credit facilities and above all, the formation of association is a right supervision.

Specific suggestions which are needed to improve marketing system are as follows:

- ❖ Establishment of more ice-plants, cold-storage and preservation facilities,
- ❖ Introduction of insulated and refrigerated fish vans and fish carriers to maintain cold-chain during transportation,
- ❖ Improvement of existing fish market structure,
- ❖ Improvement of fish transport, handling facilities,
- ❖ Establishment of modern wholesaling facilities,
- ❖ Improvement of sanitation, hygienic condition, drainage, washing facilities and sufficient auction places,
- ❖ Introduction of mechanical weighing equipment,
- ❖ Proper electric supply,
- ❖ Increasing fish supply through improved culture practice,
- ❖ Proper attention should be paid to the personal hygiene,
- ❖ A study on socio-economic development, credit system,
- ❖ Financial and technical assistance,
- ❖ Training of manpower,
- ❖ An independent act or ordinance for fish landing and market

**Chapter 5**  
**CONCLUSION**  
**AND**  
**RECOMMENDATIONS**

## **Conclusion**

A total of 60 traders (retailers) were selected for answering the questionnaire in three different markets (30 in each market). Among them 30 were selected for questionnaire interviews through the random sampling method. A total of 90 questionnaires, 30 from each market were interviewed at the market centre. Information from intermediaries was collected through focus group discussion (FGD). FGD was conducted with intermediaries in Mawaghat Market, Holodia fish market and Kumarivog fish market areas to get an overview of fish distribution and marketing system, constraints of fish marketing etc. Collected data were processed and finally analyzed using Microsoft Excel. In fish marketing systems, there are a number of middlemen involved in Mawaghat. The market chain from farmer to consumers passes through a number of intermediaries; local fish traders, agents, wholesaler and retailers. With a few exceptions, farmers never directly communicated with consumers; market communication normally being made through middleman. The middlemen usually buy the fish from the farmers but do not seem to have formal agreements with particular producers. Fish traders live in the vicinity of the local markets nearer to fish farming communities. They carry fish from remote villages to the wholesalers in market centers and typically earns significant amount of money. Traders typically operate with capital of around Tk. 10,000 to 25,000 per day. From the study it was observed that most of the retailers used their own capital in fish trading. Statistics of fish supply according to the retailers daily fish sell range from 160-180 kg. In Mawaghat Market, traders are engaged in fish trading from morning (7.00 am to 5.00 pm), while in Holodia fish market traders are engaged from early morning 11.00 am to 5.30 pm and Kumarivog fish market traders are engaged from 7.30 am to 4.30 pm. According to the survey, it was observed that a fish trader of Mawaghat Market sell an average 170 kg fish daily, compared with 95 kg in Holodia fish market and 65 kg in Kumarivog fish market. Among the cultured species, rohu, catla, and mrigal fetched higher prices than the exotic carps. The price of fish depends on market structure, species, quality, size and weight. Survey of three fish markets showed that the price per kilogram of carp increases with size for both Indian major carps i.e., rohu, catla, and mrigal and exotic carps silver, grass and common carp. A number of constraints for fish marketing were reported by traders including higher transport cost, poor road and transport facilities, lack of supply of ice and exploitation by middlemen as a result of lower market prices, inadequate drainage system, poor water supply, poor sanitary facilities, unhygienic condition etc. According to the traders,

political disturbances affect fish transportation as well as marketing. Basic infrastructures including clean water supply, sanitary facilities, adequate drainage system, icing, flooring etc. should be ensured for promotion of fish marketing system. Fish traders have very limited knowledge of hygienic and sanitation. It is also indispensable that the fish markets are kept clean. Proper management with regards to day-to-day maintenance of the market-premises from a sanitary and hygienic point of view has to be ensured. The traders have little access to bank credits due to too much official formalities and co-related activities. The local NGO's may come forward to help the fish traders through providing credit on soft-terms basis. A positive policy at government level should be adopted and implemented properly for sustainable marketing system.

## **Recommendations**

The following measures may be taken for improvement of the existing marketing system:

- ❖ Insulated containers should be used for transport of fishes from the village to the market place;
- ❖ Improvement of rural roads, transports, handling and shipment facilities.
- ❖ Efforts should be taken to develop suitable market infrastructure in the study area with respect to quick transportation, proper storage and other physical facilities. Provision of such facilities would diminish the cost of marketing.
- ❖ Improvement of hygienic and sanitary facilities of fish trading centers and fish markets.
- ❖ Modern wholesaling and retailing facilities with maintaining the quality of products should be ensured.
- ❖ Establishment of ice factories in every fish market area.
- ❖ Training of fish market operators on fish preservation, handling, icing curing, and hygiene.
- ❖ Fish quality control measures should be maintained.
- ❖ Sufficient water supply and drainage facilities should be ensured of government and local authorities.
- ❖ An efficient market information system should be introduced.
- ❖ Governmental, institutional and banking assistance should be ensured.

## **Chapter 6**

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# **APPENDICES**

## Appendix

### Questionnaire on fish marketing system and obstacles in Mawaghat Munshigang district

Date:

#### Identification of the Respondent

1. Name of the Respondent :
2. Address : Village: Thana:
3. Age :18-30/ 31-40/ 41-50/ 50< years
4. Religion : Muslim/ Hindu/ Other
5. Educational status : Illiterate/ Only can sign/Primary level/ Secondary<
6. Main occupation :
7. Secondary occupation :
8. Total annual income :

#### Identification of Fish Marketing Information in Mawaghat Munshigang Districts:

1) When did you Fish Trading?

.....

2) What did you do before fish trading?

.....

3) What is the Trading Season, marketing day per week, number of fish traders and selling time?

a) Selling time.....

b) Marketing day per week

.....

c) Numbers of traders involved.....

4) Source of fish:

.....

5) Where does fish come from?

.....

6) What species?

.....

7) Who supply fish to you?

.....

8) What type of transport is used for fish carrying?

.....

9) What is average selling price?.....Tk./kg or quintal?

Rui..... Tk./kg or quintal. Catla..... Tk./kg or quintal

Mrigal.....Tk./kg or quintal Silver..... Tk./kg or quintal

Grass carp..... Tk./kg or quintal Mirror carp..... Tk./kg or quintal

Pangus..... Tk./kg or quintal Punti..... Tk./kg or quintal

Magur..... Tk./kg or quintal Shing.....Tk./kg or quintal

Koi.....Tk./kg or quintal Tengra.....Tk./kg or quintal



Chanda.....Tk./kg or quintal Chapila.....Tk./kg or quintal

Illish.....Tk./kg or quintal Sarpunti.....Tk./kg or quintal

Veda..... Tk./kg or quintal Baim.....Tk./kg or quintal

10) How much is sold? .....

11) How much is your income?  
.....

12) What is your comment of supply and demand in this season?  
.....

### **Obstacles in relevant to fish marketing system in Mawaghat Munshiganj district**

(13) Distance between market and the source of fish--

- (a) 0-2 km
- (b) 2-4 km
- (c) 4-6 km
- (d) 6-10 km

(14) Having any fish processing centre in this market?

- (a) Yes
- (b) No

(15) Do you face any comission problem?

- (c) Yes
- (d) No

(16) What is the primary market level problem?

- (a) Lack of bargaining power
- (b) Lack of market information
- (c) Barriers to entry in the market

(17) Transport system--

(a) Highly modified

(b) Medium

(c) Low

(18) Laking of buyers?

(a) Yes

(b) No

(19) Having insurance schemes to cover the loss of selling fish?

(a) Yes

(b) No

(20) Having any unexpected syndicate?

(a) Yes

(b) No

(21) Physical facilities and infrastructure

Electricity	Yes	No
Water supply	Yes	No
Ice	Yes	No
Shelter	Yes	No
Parking	Yes	No
Sanitation	Yes	No
Institution	Yes	No

(22) Directly fisherman present here as seller?

(c) Yes

(d) No

If yes which type of problem he creates?

(a) He meets buyers one at a time and at different times

(b) He cannot keep fish for a long time because the product is highly perishable

(c) He has no specific place to sit in the market to sell his fish.

(23) Availability of price tagging?

(a) Yes

(b) No

(24) Availability of sorting and grading?

(a) Yes

(b) No

(25) Drainage facilities--

(a) Yes

(b) No

If yes which type of preservation?

(a) Icing

(b) Salting

(c) Chilling

(26) Do you use gloves at the time of handling?

(a) Yes

(b) No

(27) Do you face instant price hiking in the market?

(a) Yes

(b) No

(28) Political problem

(a) Yes

(b) Not

(29) Lack of management

(a) Yes

(b) Not

(30) Do you know about effective marketing system?

(a) Yes

(b) No

Signature