

**MARKETING SYSTEM OF CAPTURED FISH IN SOME
SELECTED AREAS OF GAIBANDHA SADAR**

MD. MEHEDI HASAN



DEPARTMENT OF AGRIBUSINESS AND MARKETING

SHER-E-BANGLA AGRICULTURAL UNIVERSITY

DHAKA - 1207

JUNE 2021

**MARKETING SYSTEM OF CAPTURED FISH IN SOME SELECTED AREAS
OF GAIBANDHA SADAR**

BY

MD. MEHEDI HASAN

REGISTRATION NO: 19-10092

A Thesis

Submitted to the Department of Agribusiness & Marketing,
Sher-e-Bangla Agricultural University, Dhaka in
partial fulfillment of the requirements
for the degree of

MASTER OF SCIENCE

IN

AGRIBUSINESS AND MARKETING

SEMESTER: JANUARY-JUNE, 2021

Approved by:

Noor Md. Rahmatullah

Professor

**Department of Agricultural Statistics
Sher-e-Bangla Agricultural University
Supervisor**

Dr. Sharmin Afrin

Associate Professor

**Department of Agribusiness and Marketing
Sher-e-Bangla Agricultural University
Co-Supervisor**

Md. Rashidul Hasan

Chairman

Examination Committee

**Department of Agribusiness and Marketing
Sher-e-Bangla Agricultural University
Dhaka-1207**



DEPARTMENT OF AGRIBUSINESS AND MARKETING
Sher-e-Bangla Agricultural University
Sher-e-Bangla Nagar
Dhaka-1207

CERTIFICATE

This is to certify that the thesis entitled “**MARKETING SYSTEM OF CAPTURED FISH IN SOME SELECTED AREAS OF GAIBANDHA SADAR**” submitted to the faculty of Agribusiness Management, Sher-e-Bangla Agricultural University, Dhaka in partial fulfillment of the requirements for the degree of **Master of Science in Agribusiness and Marketing**, encapsulates the outcome of legitimate research by **MD. MEHEDI HASAN**, Registration Number: **19-10092** under my direction and supervision.

No portion of the thesis has been submitted in support of any other degree or diploma. I therefore certify that any assistance or information provided throughout this investigation has been properly acknowledged

Date:

Noor Md. Rahmatullah
Supervisor & Professor
Department of Agricultural Statistics
Sher-e-Bangla Agricultural University
Sher-e-Bangla Nagar,
Dhaka-1207



**DEDICATED
TO
My Beloved
Parents**

ACKNOWLEDGEMENT

All praises are owned to the almighty Allah for His gracious kindness and endless mercy altogether efforts that initiate this kind of opportunity for the author to complete the research with success needed for the partial fulfillment connected with the degree of Master of Science.

*The author would like to express his heartfelt gratitude and sincere appreciation to his Supervisor **Noor Md. Rahmatullah**, Professor, Department of Agricultural Statistics, Sher-e-Bangla Agricultural University, Dhaka, for his valuable direction, advice, encouragement and support during the study. Also, grateful appreciation is conveyed to his Co-supervisor **Dr. Sharmin Afrin**, Associate professor, Department of Agribusiness and Marketing, Sher-e-Bangla Agricultural University, Dhaka, for her constant encouragement, constructive criticisms and advice to finish the thesis.*

The author would like to express his gratitude to the respondents in the survey and most importantly helped to understand their initiatives and activities related to fish production and trading business in general and in particular.

The author is also delighted to convey thanks to all his friends from the bottom of his heart for their cordial cooperation and support.

Finally, the author is profoundly indebted and thankful to his family members who frequently prayed for success. Without their love, affection, inspiration, and sacrifice, this work would not have been completed.

The Author

ABSTRACT

A survey was conducted on Gaibandha Sadar fish marketing system in some selected areas to determine the socio-economic profile, marketing channels of fish trading, marketing margins, consumer price share by fish farmer and other intermediaries and factors that affect marketing margin of the fish traders, therefore, identify the problems and suggestions for its improvement. The research was carried out at Gaibandha town's several markets from October 2020 to February 2021. A total of 120 fish dealers (Fish Farmer, Bepari, Aratdar, and Retailers) equally from three markets were selected through purposive sampling. A significant number of people in Gaibandha district engaged as *beparis*, aratdars, and retailers in the fish trading sector. The farmer traded fish to *bepari*. The fish was subsequently sold to the retailer via aratdar. Retailers served as the final link in the fish marketing chain, interacting directly with customers. In the study region, for aratdar, the entire expense of fish was found to be Tk. 154.96, TK.438.96 fish farmer, Tk. 646.96 for Bepari, and retailer, Tk.228.46 per quintal of fish. Among them, Beparis value-added cost is the highest as a result of higher aratdar commission and transportation charges, although Aratdar has the lowest value-added cost. Bepari average net profit was Tk.3436 and Aratdar's' average net profit was Tk.221.54 and the Retailers' average net profit was Tk.3851.54. It was observed that market Channel – II is the longest route than channel-I and channel-III. On aggregate, fish farmers obtain 49.3% of the price paid by consumers, implying that intermediaries gain 51% of the consumer price. Among 13 variables included in the multiple regression model, transportation, loading and unloading, icing, electricity, personal expense wage, wastages, sale & cost price, other expense are found significantly affecting the marketing margin of fish traders. Traders and customers faced a lot of problems. The upgrading of fish transport facilities, the accessibility of loans, and the implementation of fish quality control procedures, awareness about fish marketing system is proposed in order to enhance the fish marketing system and uplift the socio-economic condition of stakeholders in the study areas.

TABLE OF CONTENTS

CHAPTER	TITLE	PAGE NO
	ACKNOWLEDGEMENT	V
	ABSTRACT	VI
	CONTENTS	VII-XI
	LIST OF TABLES	X- XI
	LIST OF FIGURES	XI
	ABBREVIATIONS	XII
	TERMINOLOGY	X III
CHAPTER-1	INTRODUCTION	01-03
1.1	Background	1
1.2	Justification of the study	2
1.3	Objectives of the study	3
1.4	A study outline	3
CHAPTER-2	REVIEW OF LITERATURE	4-9
2.1	Introduction	4
2.2	Literature review on Fish marketing system	4-8
2.3	Research gap	9
CHAPTER-3	METHODOLOGY	10-16
3.1	Selection of the study region	10-11
3.2	Sampling Technique and Data Collection Procedure	12
3.3	Questionnaire Preparation	12
3.4	Data	12
3.4.1	Primary data	12
3.4.2	Secondary data.	12

3.5	Period of Data Collection	13
3.6	Collection of Data	13
3.7	Processing and Tabulation of Data	13
3.8	Analytical Techniques and Procedures	13
3.8.1	Marketing Cost	14
3.8.2	Marketing Margin	14
3.8.3	Producer's share and Middlemen's share in the consumer's price	15
3.8.4	Estimation of different factor affecting the marketing margin	15
3.9	Constraints faced by fish intermediaries	16
3.10	Problems faced during data collection	16
CHAPTER-4	SOCIO-ECONOMIC STATUS OF THE STAKEHOLDERS	17-19
4.1	Preface	17
4.1.1	Age distribution of fish intermediaries	17
4.1.2	Educational status of fish intermediaries	18
4.1.3	Occupation status of fish intermediaries	18
4.1.4	Year of Experience of fish intermediaries	19
4.2	Concluding Remarks	19
CHAPTER-5	MARKETING SYSTEM OF FISH	20-33
5.1	Marketing system	20
5.2	Marketing Intermediaries	20-21
5.3	Marketing Channel	21-22
5.4	Market Information	23
5.5	Source of Finance	24

5.6	Pricing Method	25
5.7	Mode of Transportation	26
5.8	Packaging Practice	27
5.9	Marketing Cost of Fish intermediaries	28-29
5.10	Marketing margin of Fish intermediaries	29-30
5.11	Fish farmer's share and Middlemen's share in the consumer's price	30
5.12	Estimation of factors that affecting the marketing margin	31-33
5.12.1	Concluding Remarks	33
CHAPTER-6	PROBLEMS FACED BY FISH INTERMEDIARIES	34-37
6.1	Constraint Facing Index (CFI)	34
6.1.1	Unstable production and price	35
6.1.2	Higher transport cost	35
6.1.3	Lack of physical facilities	35
6.1.4	Unexpected syndicate	35
6.1.5	Commission problem	36
6.1.6	Drainage problem	36
6.1.7	Poor sanitary Conditions	36
6.1.8	Lack of effective marketing system	36
6.2	Concluding Remarks	37
CHAPTER-7	DISCUSSIONS	38-39
7.1	socio-economic profile	38
7.2	Fish marketing system, Marketing cost and margins and consumer price share	39
7.3	factors that affect marketing margin of the fish traders	39
CHAPTER-8	SUMMARY CONCLUSIONS ANDRECOMMENDATIONS	40-42

8.1	Summary	40
8.2	Conclusions	41
8.3	Recommendations	41-42
8.4	Limitation of the study	42
	REFERENCES	43-45
	APPENDIX-1	45-49

	LIST OF TABLES	PAGE NO
Table: 1.1	Table shows the fish production over last four years	02
Table: 3.1	shows the total number of samples that was selected purposively from the three fish markets	12
Table: 4.1	Age distribution of fish intermediaries in the study region	17
Table: 4.2	Educational status of fish intermediaries in the study region	18
Table: 4.3	Occupational status of fish intermediaries in the study region	18
Table: 4.4	Year of Experience of fish intermediaries in the study region	19
Table: 5.1	Market information of the study region	23
Table: 5.2	Source of Finance in the study region	24
Table: 5.3	pricing Method Used by intermediaries in the study region	25
Table: 5.4	Mode of Transportation Used by intermediaries in the study region	26
Table: 5.5	Packaging practice of fish intermediaries in the study region	27

Table :5.6 Total marketing cost of different intermediaries in the study region	28
Table: 5.7 Total marketing cost, Gross margin & net margin of different intermediaries involved in the study region	29
Table: 5.8 Estimate of coefficient of multiple linear regression model of factors affecting marketing margin	31
Table: 6.1 Constraints faced by the fish intermediaries	34

LIST OF FIGURES

PAGE NO

Figure: 3.1 Geographical location of Gaibandha Sadar	11
--	----

ABBREVIATIONS

FY	:	Fiscal Year
No.	:	Number
%	:	Percent
ha	:	Hectare
Kg	:	Kilogram
m	:	Million
mt	:	Metric tons
Quintal	:	100 kg
et.al	:	All Others
GDP	:	Gross Domestic Product
GNP	:	Gross National Product
GOB	:	Government of Bangladesh
BFRSS	:	Bangladesh Fisheries Resource Survey System
FAO	:	Food and Agriculture Organization
DOF	:	Directorate of Fisheries
BBS	:	Bangladesh Bureau of Statistics
DAE	:	Department of Agriculture Extension
DAM	:	Department of Agricultural Marketing
DEPS	:	Development and Poverty Studies
MFL	:	Ministry of Fisheries and Livestock
MoA	:	Ministry of Agriculture
BFRI	:	Bangladesh Fisheries Research Institute
TFO	:	Thana Fisheries Office
UNDP	:	United Nations Development Program
WB	:	World Bank

TERMINOLOGY

Arat: An *Aratdar's* office, store, or warehouse in a bazaar where he does his business.

Aratdar: The most effective player in the fish supply system. On a commission basis, an *Aratdar* organizes or negotiates sales for the vendors. He frequently works as a wholesaler. He is also a major source of credit for fishermen as well as traders.

Paiker/Bepari: *Paikers* are middlemen in the fish marketing chain who often cover the assembly function while also working as *Dadandar*; depending on the region, they are also known as distributors and retailers. They're also known as *Bepari*.

Farias: *Farias* are fish market brokers that buy tiny quantities of fish from fishermen far away from the market, transport it to the terminal point, and sell it to an *Aratdar* or retailer.

Dadan: This is a type of loan given to fishermen by *Aratdars* and *mohajans* (traditional money lenders) on the condition that they must sell their fish to them. Rates are sometimes set in fixed.

Koyals: *Koyals* are those who handle the auction for the *Aratdars*. They arrange the auction by offering the assembled bidders the lot's initial price. The bids offered by the purchasers are then announced loudly in front of the auction participants. They continue the loop until the exact price

CHAPTER 1

INTRODUCTION

1.1 Background

The agriculture sector stands at the Centre of the Country's economic growth, accounting for 39% of the total employment in the country, in the FY2020-21 budget, the development expenditure of BDT 118.68 billion earmarked towards agriculture marks a 4.59% growth since FY2019-20 (ILO, 2021). The Bangladesh economy is dominated by agriculture sector contributing 13.47% to the (GDP) Gross Domestic Product (BBS, 2020). Among agricultural products, the fishing sector accounts for 3.61% of GDP and 24.41% of agricultural GDP (BBS, 2018). In Bangladesh, total inland fishing supply water region is roughly 5.3 million hectares, with 92.27 % inland open waters and only 7.73 % confined water bodies (DoF, 2019). Fishery are second-largest foreign exchange earner, after only garment exports in our country. The most important products are Hilsa, dry, salted, and dehydrated fish, live fish, and crab, as well as a small quantity of value-added fish and shrimp supplies. Bangladesh's frozen fish and shrimp exports make for about 5% of the country's total export revenues (DoF, 2019). Bangladeshi shrimp is mainly imported by the EU Countries, the Americas, and Japan, taking account for more than 95 % of Bangladesh's cumulative fishery export earnings (DoF, 2019). Southeast Asia and the Middle East make up the rest of the region. Exporting fish and fish products added 3.52% to national GDP, 26.37% to agricultural GDP, and 1.39% to international trade in 2017-18. (BBS, 2019). Fish probably accounts for 60% of total domestic animal protein intake. In Bangladesh, fish has become one of the key commodities for food security in recent days. Besides other agricultural products, the country's food sector is seeing an increase in demand for fish. As a consequence, it is essential to investigate the possibilities of the fish market and efficiently and successfully suggest marketing and supply network concepts on this. The analysis of marketing tactics, particularly value - adding analysis, offers the series of activities required to bring a product from idea to primary product delivery to end user. (Kaplinsky and Morris, 2000). Marketing mechanisms play a crucial role in escalating demand and supply, as well as in triggering the stage of economic progress.

The nation generated over 4.503 million (45.03 lakh) tons of fish in fiscal year 2019-20, a little than last decade's start figuring of 4.503 million (45.03 lakh). (DoF, 2020) Bangladesh obtains self-sufficiency. The following table shows the fish production over last four years:

Table 1.1: Fish production over last four years in Bangladesh

Year	Production in terms of sources (MT)			Total
	Inland water	Closed water	Marine water	
2019-2020	1248401	2583866	671104	4503371
2018-2919	1235709	2488601	659911	4384221
2017- 2018	1216539	2405415	654687	4276614
2016- 2017	1163606	2333352	637476	4134434

Source: Department of Fisheries (2020)

1.2 Justification of the Study

The economy of Bangladesh is largely depend on agriculture and fisheries is one of the prime sub-sector of it where about 15.81 million people engaged in this sector for their livelihood. (BBS, 2019). Therefore, research work need to be taken on management of fish marketing system. Literature suggest few research on marketing system of fish and socioeconomic profile of fish traders (Barman, 2014; Zafar, 2015), several research conducted on profitability of fish farming all over the country (Roy, 2010). But combination of net profit and the factors that affects to the net margin as well as consumer price share by stakeholders at the end level was done in a few numbers. Therefore, this study work on the estimation of marketing margin and factors influencing marketing margin of fish in Gaibandha Sadar. This study also provides the information of problems faced by farmers and possible solutions for listed problems of fish trading that can be a catalyst to develop the fish market in the study area and a valuable source of information to the literature.

1.3 Objectives of the study

In the context stated above, the intention of this survey was to find out a little more about the following objectives:

- a. To identify the socioeconomic profile of the fish traders;
- b. To assess the emerging fish marketing system;
- c. To examine the factors that affect marketing margin of the fish traders.

1.4 A Study Outline

This thesis includes six chapters or sections. Chapter I discusses the introduction including the background, domestic production, justification and objectives of the study. Later, a review of related literature is presented in Chapter II. Chapter III explains the research methodology of the study. The results and the discussion of the study are revealed in Chapters IV, V, VI, and VII Finally, Chapter VIII. Shows the summary, conclusions and policy recommendations of the study.

CHAPTER 2

REVIEW OF LITERATURE

2.1 Introduction

The main purpose of this chapter is to review the available studies related to present research. In any research review of literature is essential; because it provides a scope for reviewing the stock of knowledge and information relevant to the proposed research. In spite of the necessity of studies on the marketing of fishes, some empirical studies have so far been conducted in Bangladesh. Here is given below a summary of few key research conducted both within and outside in Bangladesh.

2.2 Literature review on Fish marketing system

Achaijee (2006) conducted research on the socioeconomic characteristics of fishermen, examined the current open water fish marketing system, evaluated marketing costs and margins of intermediaries at different market levels in the system, and estimated the seasonal price fluctuation of different species of fish.

Siddique (2008) found that in Mymensingh district, fishermen utilize boats, pushcarts, rickshaws, and vans to transport their catch, while middlemen use trains, rickshaws, and pushcarts.

Biswas (2009) found that Producers used boats/mechanical boats, shoulder load, head load, rickshaw and van to transport fish and dried fish, while intermediaries in Cox's Bazar and Chittagong districts employed truck, van, rickshaw, head load, shoulder load.

Hasan and Middendrop (2013) investigated two fish markets in south-west Bangladesh and observed that the price per kg of carp increased with size for both Indian major and exotic carps. Rohu was determined to be the most costly of the six carp species studied, followed by catla, mrigal, grass carp, common carp, and silver carp.

Yousuf (2014) conducted a study on the condition of fish selling in Jamalpur, the social and economic aspects of fish producers and marketing systems in Jamalpur district was its focus of this study. It was found that the price of fish is affected by market structure, species, quality, size, and weight. The price per kilogram of carp goes up with the size and freshness of the fish.

Sabur (2014) noted that an efficient marketing system is essential for earning fair profit for the fish farmers and traders. Marketing functions may be defined as major specialized activities performed in accomplishing the marketing process of concentration, equalization and dispersion.

Majid (2015) carried out a research in selected parts of the Mymensingh district, on pond fish marketing. The present marketing structure, as well as the expenses and margins of market intermediaries, were calculated in that research. In that investigation, five different types of marketing channels were discovered.

Sabur (2005) studied on the marketing of marine seafood. The research analysed the current fish selling system in Chittagong town and Cox's Bazar, as well as the costs and margins at various functional levels. He also looked for ways of making the current marketing systems better.

Muir *et al.* (2007) noted that consumer expectations, global competitiveness, health and quality product features have taken on considerably higher significance in many aquaculture industries than they did in the early phases while output levels were lower.

Mia (2003) found that in Mymensingh district, three marketing chains are available: fish farmer-bapary-aratder-retailer-consumer, fish farmer-bapery-retailer-consumer, and bapary-aratder-retailer-consumer.

Ahmed (2014) studied the marketing margins of representative intermediaries' action between inland producers on the one hand and Dhaka and Pabna consumers on the other. The fish species considered were hilsa, rohu, and shing. It was observed that producers received between 50% and 65% of the selling price in all cases. The assembler and distributor received the majority of the marketing profit, whereas retail margins were just 5-10% of the consumer.

Khalil (2002) stated that fishermen and intermediaries in the Cox's Bazar and Chittagong districts faced a variety of issues, including a lack of fishing equipment, ice, and capital, as well as higher gear tolls, a defective weighing system, low fish prices, a lack of marketing facilities, price fluctuation, and political instability.

Cui (1995) mentioned that China's fisheries sector still requires guidance to help, particularly in the areas listed below: 1) the renovation of wholesale fish markets;

2) the establishment of a nationwide fish marketing information system; 3) the implementation of fish marketing rules and regulations, the uniformity of marketing activities, and the improving of market management and operations skills; and 4) personnel training in fish market operations and management.

Chimbuya and Mutsekwa (1993) stated that trucks transport consignments from kabob to major metropolitan markets in Zimbabwe are primarily responsible for fish distribution. Fish are delivered by public bus or private motor trucks from smaller waterbodies, however local settlements are served by bicycle-mounted vendors.

Sadanandan *et al.* (2006) noted that consumer acceptability and market price levels are two of the most important elements that influence economic sustainability in many circumstances.

Katiha and Chandra (2012) found that in Allahabad, the existing fish market system was fairly integrated in terms of inter-market price fluctuations and higher retailer profit margins, account for a large percentage of the price paid by customers, indicating inefficiency.

Olukosi *et al* (2007) making fish available to consumers at reasonable prices at right time and place in fresh condition requires an effective marketing system.

Rokeya *et al* (2002) in Rajshahi markets, five kinds of men were found to be involved in the supply chain from producer to customer. Local agents (*dalal*) collect and purchase fish on commission. *Mahajans* then bring the catch to the local market and sell it to local shopkeepers, wholesalers (*paikers*), and distributors (*Bapery*) via commission agents (*Aratdar*). The primary packaging materials utilized to transport the fish were wooden boxes, bamboo baskets, earthen pots, aluminum cans, drums, and so on. As an alternate packing material, banana leaves and aquatic weeds were commonly used. In Rajshahi, fish transportation methods include boat, head load, shoulder load, pull cart, rickshaw, and motor vehicle, as well as trains, buses, and trucks.

Wohlgenant (2001) reviewed the studies on marketing margins and the development of empirical models. Aside from the variables that come in when using a structural model

that looks at the farm, retail, and input market equilibria, he also discussed other possible explanatory variables that had been included in studies that used reduced-form models instead of a complete structural model.

Quddus and Rahman (2000) claimed that numerous methods of transporting fish were studied, and truck transport seemed to be the most acceptable. He observed that increased fish supply through better organization and investment in sufficient trucks will lower the cost and maintain the quality of fish in the marketplaces of the major towns and their surrounding areas.

Hoshen (2013) mentioned that in Bangladesh, around 97 percent of production is marketed internally for domestic use, while just 3 percent of trading is exported. Marketing organizations, fish freezing and storage facilities, and ice factories should all be enhanced for proper marketing systems. Furthermore, he advised that fish quality control, the role of cooperatives, financing availability, and women's participation in fish marketing be ensured.

Zaman and Jeweland (2006) did a study on the marketing system and the price behavior of pond fish in some selected existing marketing systems, as well as estimated marketing expenses and margins for intermediaries. According to the study's findings, the costs of Aratdar, Paiker, and Retailer were BDT 12.45, 62.32, and 26.22/100kg, respectively. The net marketing margin or profit for aratdar, paiker, and retailer was calculated to be BDT 157.04, 204.21, and 724.49/100kg of fish, respectively. The seasonal price change of sampled fish was not noticeable. It was similar in the case of rohu and catla fish.

Ahmed (2008) observed several sorts of organizations/intermediaries participating in various stages of fish marketing in India. Costs, commissions, structure, risk, and profitability of different members, price spread, and the function of cooperatives and state fisheries development enterprises in the marketing system are all taken into account.

Ranadhir (2001) six major markets in Lagos, Nigeria, were researched. According to analysis, traders obtain the majority of their first financing via trade groups. Most traders rely on working capital to maintain a consistent network of outlets, therefore

wholesalers seek cash from associations, while retailers seek funds from wholesalers. They eventually make up for it when they sell to customers.

Agarwal (1990) suggested that the goal of fish marketing should not be to capture and sell fish, but rather to have a broad scope for exploitation, production, distribution, preservation, and transportation of fish in addition to the actual sale of fish by minimizing intermediaries.

Atapattu (2007) mentioned that Sri Lanka's fish marketing and distribution system is centered with cooperative aspects. Cooperatives created specifically for the purpose of fish marketing may not only help to improve fish distribution, but also help to provide more equal earnings for fishermen.

Dewan (2000) carried out a research on the selling of freshwater fish in the town of Mymensingh. He evaluated the structural and organizational aspects of the fish marketing industry and observed that concentration was higher at the Aratdar level. He also stated that the marketing channels included Nikeris (carriers), auctioneers, dispatchers' chalanis, Aratdars, and retailers.

Sarker (1999) extensively worked on the selling of cultured fish in a few areas of Chandpur district. He looked at the marketing channels, expenses, margins, and pricing spreads, as well as marketing issues, and made several recommendations for improving the fish marketing system.

Srivastava and Ranadhir (2005) found that in Bhubaneswar, Orissa, India, the fish prices were highest in the case of the longest marketing channel since it included a high marketing cost in comparison to gross margin.

Rahman (2003) found that in Gazipur marketing of fish was almost exclusively a preserve of the private sector where the livelihoods of a large number of people were linked with fish distribution and marketing system.

Research Gap:

After reviewing several literatures, a conclusion can be drawn that most of the studies conducted on socio-economic profile, cost and return, profitability and marketing system of fish. In most of the cases, the studies were done on marketing system of fish on a particular area. There are few studies conducted on identifying and estimating the influential effect of various factors on marketing margin of fish. Moreover, there is a limited study was conducted in the study area on fisheries sector regardless of economic importance of fisheries in this area.

CHAPTER 3

METHODOLOGY

Methodology is the organized activity which entails gathering data from a predetermined region and respondents in accordance with the study's objectives. Methodology is the groundwork and therefore most essential component of any research inquiry. Used of appropriate methodology and steps shows the reliability of any scientific research. (Alam,2003) This chapter includes with step by step procedures, different methods, statistical tools and techniques in a logical manner. The researchers has a precise knowledge in following scientific and logical methods. It provides detailed information about study analysis, description of study area and characteristics of respondents related with the objectives. This chapter includes; selection of study area and its description, selection of respondents, sampling technique, process for data grouping, analytical techniques and statistical tools.

3.1 Selection of the Study Region

The study area is a crucial phase in any research project since it establishes a base from which required data may be collected in accordance with the goals. Gaibandha is a north district located with vast water bodies in form of ponds, canals, floodplains, rivers and so on. Major rivers are Tista, Bromaputra, kartoaaand Ghaghot. Fish farming become more widespread. As a result, significance number of people engaged with fish farming and trading business. The major reasons for selecting the study area were as follows:

- i. Availability of commercial fish farming in the study area.
- ii. Easy communication & cooperation from the respondents.
- iii. Previously few studies were conducted in this location.



Figure 3.1: Geographical location of Gaibandha Sadar

3.2 Technique of Sampling and Data Collection Procedure

Sampling is a vital feature of field survey. Due to time and resource barriers, it was not possible to engage all of the stakeholders in the study region. Both fish farmers and aggregators are entailed. *Bepari*, *Aratdars* and *Retailers* were selected purposively. The author had collected all the data from three fish markets named *Puraton Bazar*, *Notun Bazar*, and *Howkers market* for its significance. A total of 120 fish dealers (*Fish farmer*, *Bepari*, *Aratdar*, and *retailers*) were equally from three markets were selected through purposive sampling.

Table 3.1: Number of samples picked on specific purpose from the three fish market-

Study Area	Fish intermediaries	Sample size
Puraton Bazar	Fish farmer, Bepari, Aratdar, retailer	40
Notun Bazar	Fish farmer, Bepari, Aratdar, retailer	40
Howkers market	Fish farmer, Bepari, Aratdar, retailer	40

3.3 Questionnaire Preparation

The accomplishment of a survey is entirely reliant on the appropriate organized of the questionnaire plan. The pretesting interview was taken with a preliminary structured questionnaire for collecting data. A few fish farmers and traders were randomly pretested. After pretesting, some modification and changes were done in the questionnaire. Some of the readjustments also happened on the basis of observation on fish local market in the study area.

3.4 Data

Data were managed to gather according to the questionnaire, face-to-face meeting and secondary data were collected from different sources of published journals, articles and reports.

3.4.1 Primary data

Initial data were obtained via individual interviews of chosen respondents and through structure questionnaire survey. Socio-economic data, quantity of fish production, loan accessibility or not, costing, profits, different prices from different intermediaries in the market, market supply and demands, market information, processing, marketing channel, marketing costs and margins were collected.

3.4.2 Secondary data

Secondary data were also used in this study from different sources as articles, journal and reports. The sources of secondary data were- BBS, BFRI, DAE, WB and FAO.

3.5 Period of Data Collection

Primary data were collected from Gaibandha Sadar in October-December, 2020. Secondary data were managed to gather from multiple sources during the documentation assignment. Survey was conducted from regarded farmers by the researcher himself.

3.6 Collection of Data

Direct interviews were done for data collection. Each questionnaire was directly showed the data about respondents related to the study. The respondents were only fish farmers and fish market related intermediaries. Sometimes the respondents were not aware about the costing and required agricultural equipment they used and that's why at the interview time some problems were arise. Some of them didn't want to cooperate by telling their income, expenditure and profit related items. Sometimes, for this reason interview schedule only recorded on the basis of their memory. At their free time, the questions were asked sequentially and in a really clear concise manner. Collected information were recorded on interview questionnaire. In order to ease of data collection, data were obtained in full compliance with their regional units. But after these data were converted into standard units for analysis.

3.7 Processing and Data Compilation

Following data collection, each questionnaire was double-checked for consistency and completeness. Before entering the data into the computer, it was edited and coded. All of the collected data were carefully summarized and scrutinized to eliminate any potential error. The data collected from the interview schedule were carefully compiled and inspected by using SPSS 22.0 software. The interpretation and discussion of findings were presented in simple terms, and everything was finally organized and summarized in the context of the study.

3.8 Analytical Techniques and Procedures

The marketing cost, gross margin, and value added by the intermediaries in the fish market, producer's share and middlemen's share in the consumer's price, and the factor affecting the marketing margin were estimated in the contemporary study. The methodologies and analysis tools are described in details below

3.8.1 Marketing cost

The marketing cost includes the costs of road transport, storage, labor, and other expenses involved in moving the goods through one spot to some other. Point of sale to the client or final point of sale buyer.

The entire cost of marketing was derived from the simple formula -

$$Tc = Cp + \sum Mci$$

Where, $i=1, 2, 3, \dots, n$,

Tc= Total cost of marketing,

Cp= Producer cost of marketing,

Mci= Marketing cost by the i^{th} trader

3.8.2 Marketing margin

According to Kohls and Uhl (2005), in a sense, the marketing margin is the cost of all utility-adding activities and functions performed by intermediaries. The marketing margin at a given point in the transaction is the difference between the sales price and the purchase price. However, the major factors of profitability in fish marketing are marketing cost and marketing margin of the respective categories of intermediaries. The supply and demand for marketed fish significantly impacts the marketing margin of a given level of business. As a result, the market conditions at the time of buying and selling specify with their sales margins.

The middlemen, wholesaler, (trader, and retailer) gross margins were derived as follows:

$$Mg = Psa - Pba$$

Where, Mg= Gross margin,

Psa= Selling price, Pba= Buying price,

Mc= Marketing cost

And the middlemen, (wholesaler, trader) and retailer's net margins or absolute margins were derived as follows:

$$Mn = Psa - (Pba + Mc)$$

Where, Mn= Net margin

P_{sa}= Selling price, P_{ba}= Buying price

M_c= Marketing cost

3.8.3 Producer's share and middlemen's share in the consumer's price

According to S.S. Acharya and N.L. Agarwal (2003), it is the farmer's charge expressed as a percentage of the final retailer price (i.e., the price paid by the consumer). The net price received by the farmer at the time of first sale is referred to as the producer price.

If P_r is the retailer price, the producer's share of the retail price P_s is as follows:

$$P_s = (P_f / P_r) * 100$$

Where, P_f is producer Price or Farm price

P_r is final retail price

P_s is producer or fish farmer's share on consumer's paid price

And Middlemen share in the consumer's price= 100- P_s

3.8.4 Estimation of different factors affecting the traders marketing margin

Different types of marketing cost generally affect the marketing margin of fish traders. The cost of road transport, packing and unpacking, packaging, commission agent, market toll, individual bills, and other marketing costs mostly have an impact on a fish dealer's marketing margin. Finally, the sale and purchase price also consider as factor. For determining the factor affecting the marketing margin, a multiple linear regression model was estimated by the following formula:

$$Y = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \mu$$

Where,

Y= Net marketing margin, (Tk/quintal)

B_j = Coefficient of the respective variables

β₀ = Constant

X₁= Transportation cost, (Tk /quintal)

X₂= Loading and unloading, (Tk /quintal)

X₃= Icing, (Tk /quintal)

X₄= Wastage (Tk /quintal)

X₅= Personal Expense, (Tk/quintal)

X₆= Wage, (Tk /quintal)

X_7 = Mobile Bill, (Tk/quintal)

X_8 = others, (Tk /quintal)

X_9 = Sale Price, (Tk /quintal)

X_{10} = Cost Price, (Tk /quintal)

μ = error term

3.9 Constraints Faced by Fish Intermediaries

The stakeholders' difficulties or barriers in the study region were assessed through using a survey instrument. Farmers were asked to respond on specific problems identified during the data collection period. A four-point rating scale was used to compute a respondent's constraint score. For each constraint, a score of 3, 2, 1, or 0 was assigned to indicate the degree of constraint as high, medium, low, or not at all. The total constraint score for each respondent was computed by summing the scores for all constraints.

The following method was used to evaluate the Constraint Facing Index (CFI)-

$$CFI = (Ch \times 3) + (Cm \times 2) + (Cl \times 1) + (Cn \times 0)$$

Where, CFI = Constraints Facing Index

Ch = Respondents with a high level of constraint

Cm = Respondents with a medium level of constraint

Cl = Respondents with a low level of constraint

And Cn= Respondents with no level of constraint

3.10 Problems Faced during Data Collection

The majority of the respondents in the study regions had never heard of a research project, making it difficult to explain the research's aim and convince them at first. During data collection, certain problems came, such as traders who were engaged with trading and unwilling to speak, some traders believed the researchers for government officials from the tax or other departments, and they were afraid to speak up.

CHAPTER 4

SOCIO-ECONOMIC STATUS OF THE STAKEHOLDER

4.1 Preface

The important role of sociodemographic data cannot be overstated, as it is used for a diverse purpose. It can be used for social science research, to assist in developing different policy initiatives, and to identifying probable elements that play a key role in the socioeconomic context. It is a study guidance and starting point for basic information on the topics of research. The purpose of this chapter is to highlight the socioeconomic status of the fish stakeholders. A few parameters with relation to their socio-economic level namely educational level, age, experience and, occupational status, source of finance have been investigated and reported on.

4.1.1 Age distribution of fish intermediaries

Age is important in estimating productive human resources. Even though effective management of fish farming activities is reliant on youth and middle-aged persons. One of the most major demographic elements is age. It was observed that the age of 45% fish intermediaries were 18 to 30 years and around 28% were range 31 to 40 years old.

Table 4.1: Age distribution of fish intermediaries in the study region

Age category	No of fish traders			
	Pruraton Bazar	Notun Bazar	Hawkers market	Percentage
18 to 30 years	10	22	23	45.8
31 to 40 years	15	12	7	28.3
41 to 50 years	11	5	6	18.3
51 to above year	4	1	4	7.5
Total	40	40	40	100

Source: Field survey, 2020

4.1.2 Educational profile of fish intermediaries

Education is essential for all individuals to lead a better living. Schooling is pertinent in attempting to make choices in life. An uneducated person is less aware of nutrition, earnings, savings, and so on than an educated individual.

Table 4.2: Educational status of fish intermediaries in the study region

Literacy level	No of fish traders			
	Pruraton Bazar	Notun Bazar	Hawkers market	Percentage
Illiterate	5	9	10	20
Only can sign	15	12	7	28
Primary school	11	5	6	29
Secondary school	4	1	5	16
Others	5	13	12	7
Total	40	40	40	100

Source: Field survey, 2020

The table 4.2 shows that 20% of fish dealers are illiterate, 28% can only sign, 29% have primary school and only 7% are others. So the maximum intermediaries have completed the elementary school level.

4.1.3 Occupation status of fish intermediaries

The fish traders are engaged in various forms of income - generating activities. Fish farming was the major occupation of the most of the fish farmers in the study region. According to the field survey, 81% of fish farmer were engaged in fish farming as their main occupation while 19% had other sources of income along with fish farming.

Table 4.3: Occupational status of fish intermediaries in the study region

Occupation Type	No of Fish traders			
	Pruraton Bazar	Notun Bazar	Hawkers market	Percentage
Main (fish business)	30	35	32	80.83
Others as secondary Business	10	5	8	19.16
Total	40	40	40	100

Source: Field survey, 2020

4.1.4 Year of Experience of fish intermediaries

Table 4.4 shows that around 45% fish traders experience were ranged from 11 to 20 years in this field, 33% fish trader had experience less than 10 years and 23% fish traders had more than 20 years' experience in the respective business. So most of the fish traders from selected fish markets were experienced well.

Table 4.4: Year of Experience of fish intermediaries in the study region

Year of Experience	No of Fish traders			
	Pruraton Bazar	Notun Bazar	Hawkers market	Percentage
Low (Less Than 10years)	12	7	20	32.5
Medium (11 to 20 years)	18	23	12	44.16
High (More than 20 years)	10	10	8	23.33
Total	40	40	40	100

Source: Field survey, 2020

4.2 Concluding Remarks

The socio-economic condition of fish traders were still at the primary stage of growth in the studied area, traders are poor, few credit access to run business, illiterate, most of them completed only the elementary education, Similarity found with Mia (2004) noted that majority of the fish traders had just completed high school and few follow the traditional fish business. It is also found that some traders are involved with other business along with fish trading to maintain livelihood. Moreover, the study emphasized the significance of socio-economic status in the growth of fish farming activities and also be helpful for making any development decision for fish market and other fisheries sectors in Gaibandha Sadar.

CHAPTER 5

MARKETING SYSTEM OF FISH

A significant number of individuals are engaged with the fish production, distribution, and marketing systems in Gaibandha Sadar, all of them live in deplorable socioeconomic situations. The present study evaluates existing fish marketing mechanisms, marketing costs, margins & consumer price share by fish intermediaries at different level in Gaibandha Sadar. The focus of this survey is to explain where fish marketing systems are now. This appraisal is based on secondary and primary data obtained from three major markets in Gaibandha Sadder.

5.1 Marketing System

The fish marketing system in Bangladesh is traditional, but it still plays an important role in connecting producers and customers, contributing significantly to the value-added process. (Alam, 2005) A vast number of people worked in the fish marketing channel as fish farmers, *Beparis*, *Aratdar*, *Paiker*, retailer, exporter, and day laborers. Farmers were the primary producers in the fish marketing systems.

5.2 Marketing Intermediaries

Fisherman

The initial link in the fish marketing chain is fish farmers or fishermen. The fisherman or farmers (producers) of fish generally sell small quantities to *paiker/Bepari* or to the local *Aratdar*.

Aratdar

The *Aratdar* is the heart of the entire marketing system, and their responsibilities extend well beyond what one would normally expect of a commission agent, including financing of suppliers and purchasers, as well as trading on their own account. (Uddin, 2018) When fish arrives at wholesale marketplaces, *Aratdars* take charge and control of each transaction. They sell the fish through an auction system and receive a fee ranging from 3 to 4%, depending on the type of fish. *Aratdars* are often self-funded. Depending on the volume of business, they recruit the necessary salaried employees or laborers.

Bepari

Paiker and Beparis are theoretically the same but are used interchangeably in different fish marketing systems in Bangladesh that acquire large volume of fish from fishermen. Some *paikers/Beparis* receive money in advance from the aratdar in exchange for selling their fish via them.

Faria

Faria is another sort of middleman in the marketing system. They buy a little amount of fish from distant fisherman far from the market.

Retailer

Retailers, the last intermediates in the fish marketing chain, do not have a permanent establishment but have set locations in the market centre or travel from door to door with hari (aluminium pot) on their heads. Typically, retailers purchase fish from aratdar and sell it directly to the consumer. They mostly buy fish with cash. They may also purchase on credit for short times. If the size of the fish is too enormous, purchasers prefer that it be cut into pieces since cutters have the necessary tools to cut the giant fish. Retailers may cut entire fish for customers or use cutters to remove scales and cut into pieces.

5.3 Marketing Channel

The marketing channel refers to the route followed by goods and services from producers to consumers. A channel is often made up of several levels or stages. Each step has a team of intermediaries that do a variety of duties in order to get the product closer to the point of usage. The transit of a commodity from raw to final shape is referred to as the marketing channel. (Shrivastata and Randhir, 1995). The fish marketing channel begins with the fish farmer and concludes with the ultimate customer after going through a number of middlemen. Three major marketing channels are found in the study areas.

Marketing channels of the study areas are shown below-

Channel - I: Fish farmer → *Aratdar* → Retailer → Consumer

Channel – II: Fish farmer→ Local agent (*Bepari*) →*Aratdar* →Retailer→Consumer

Channel – III: Fish farmer→ Retailer →Consumer

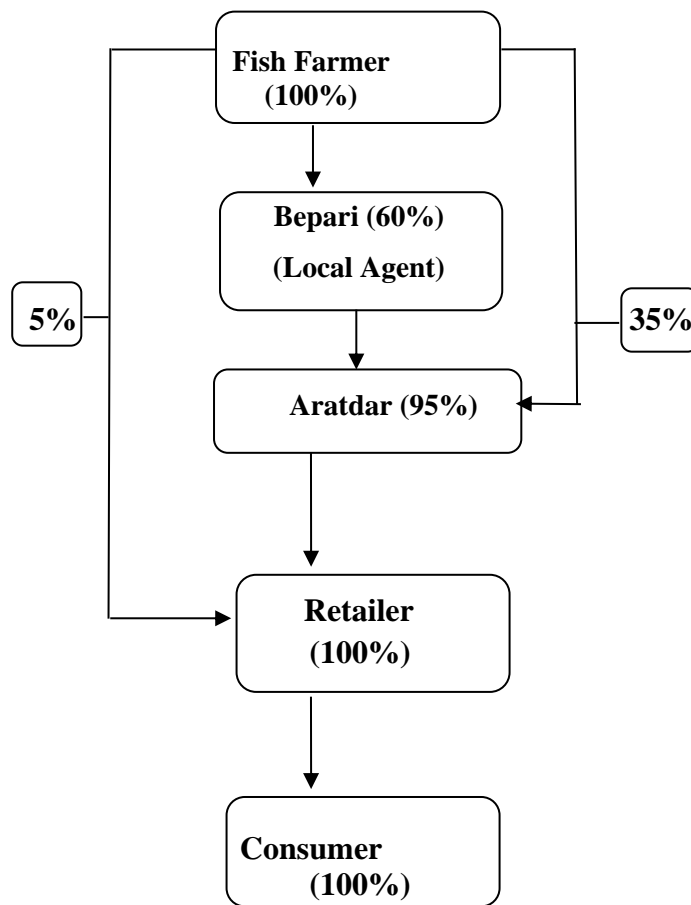


Figure: Marketing Channel of Fish in the Study areas

Source: Field survey, 2020

Fishermen transport fish from rural areas to commission agents for wholesale, with the commission agents charging the farmers a 3% commission. Traditionally, market communication was carried out through the use of intermediaries. Local *Paikers* (*Beparis*) drove the fish (about 60%) from fish farmers to markets on their own or rented conveyance, then sold them to shops through aratdar. Fish producers, with a few exceptions, rarely have the opportunity to interact directly with clients. Farmers occasionally transport the fish (5% of the time) to markets and sell them to shops. All of them require *Aratdars* and binaries to actively participate as a strong link in the existing marketing system.

(Siddique and Rahman, 2003) reported a clear seasonal fish price variation, with the highest being in the summer and the lowest being in the winter.

(Shrivastava and Ranadhir, 1995) concluded that the highest fish price was in the case of the longest marketing channel, which required a significant marketing expense in comparison to gross margin.

5.4 Market Information

Market information play significant role in agribusiness section. It is a necessary feature for a properly functioning marketing system. In the early days, market information provision in underdeveloped nations, government agencies collected pricing data and arranged for it to be distributed through newspapers and radio stations. The information given was often inaccurate, and it often came too late to be of practical use to farmers. But now technological advancement makes it easy through mobile or internet.

Table 5.1: Market information in the study region

Source of Information	Market participants (%)							
	Fish farmer	(%)	<i>Bepari</i>	(%)	<i>Aratdar</i>	(%)	Retailer	(%)
Visit to the market	-	-	11	36.6	-	-	10	33.5
Fellow Traders	10	33.3	15	50	30	100	20	66.6
Mobile	20	66.7	4	13.3	-	-	5	16.6
Internet	-	-	-	-	-	-	-	-
Total	30	100	30	100	30	100	30	100

Source: Field survey, 2020

It was found in the study area that about 67% farmers get information through mobile phone and around 33% from fellow traders. Fish farmer, *Aratdar* and retailer get it from fellow traders most of the time. So using the telephone/mobile phone and information in all value chains, fellow dealers are the most frequent providers of market information.

5.5 Source of Finance

To manage a business, financial assistance is essential. However, organisational finance is limited in the fisheries sector. As a consequence, extending credit to stakeholders can allow small fish traders maintain and improve their business.

Table 5.2: Sources of Finance in the study region

Source of Finances	Market Participant (%)							
	Fish farmer	(%)	<i>Bepari</i>	(%)	<i>Aratdar</i>	(%)	Retailer	(%)
Own fund	5	16.6	-	-	15	50	-	-
Bank	8	26.3	-	-	6	20	-	-
Aratdar	-	-	22	73.3	-	-	-	-
NGO	17	56.6	8	26.6	9	30	30	100
Friends & relatives	-	-	-	-	-	-	-	-
Total	30	100	30	100	30	100	30	100

Source: Field survey, 2020

It was found from Table 5.2 that around 57% fish farmers took loan from NGOs, 73% of *Bepari* took *Dadon* form *Aratdar* and Retailer took loans 100% from NGOs. They have to pay high interest to NGOs which is around 14%. Because it is related to conditions, *Aratdar/Mahajan* makes fishermen extremely vulnerable. Fishermen that get *dadon* from *Aratdar/Mahajan* are obligated to sell their catch to them, sometimes at predetermined prices that are often lower than market rates. They indicated that when they required financial assistance, they were unable to obtain it quickly from institutional sources. They also noted how difficult it was to secure bank lending. It's also a time-consuming matter to get a loan from institutional sources.

5.6 Pricing Method

Pricing method is a technique for determining the price of products and services, while considering all of the factors that influence the pricing structure as a whole, such as the product/service, competition, target audience, product life cycle, firm's growth vision, and so on (Halder,1997). The price of several fish groups was reported to be affected by market structure, species, quality, size, and weight. Traders claimed that the price of fish fluctuates daily depending on quantity demanded. In fish trading, different value chain agents use different pricing methods which are categorically grouped below

Table 5.3: Pricing method used by intermediaries in the study region

Pricing method (%)	Intermediaries							
	Fish farmer	(%)	<i>Bepari</i>	(%)	<i>Aratdar</i>	(%)	Retailer	(%)
Open bargaining	20	66.6	25	83.4	30	100	-	-
Based on-going market price	10	33.3	5	16.6	-	-	16	53.3
Prefixed price	-	-	-	-	-	-	10	33.3
Cost plus method	-	-	-	-	-	-	4	13.3
Total	30	100	30	100	30	100	30	100

Source: Field survey, 2020

It was found that in the study areas fish trader, fish farmer and *Bepari* used fixed prices through open bargaining pricing method most of the time, which around 67% and 83% respectively. In case of selling small-scale fish, fixed prices, they used based on-going market price which is around 33% and 17% respectively (table 5.3). Retailer determined price through based on-going market price most of the time, sometimes on prefixed price for highly demand fish species and in the case of low selling used cost plus method in market.

5.7 Mode of Transportation

Transportation is an integral part of the fisheries sector since it allows live, fresh, and preserved fish to be transported from one site to another. (Dewan, 2001) Farmers typically sell their products at the farm gate; it is the responsibility of middlemen to transport fish from farms or processing companies to market buyers. In Bangladesh's interior and offshore water resources, a considerable amount of fish and other fisheries products are captured every day. However, a considerable proportion of fish are damaged or rotting due to a lack of suitable storage and transportation facilities, resulting in a loss of quality. For proper distribution, containers and transporters (fish-carrying trucks) are necessary. These two elements have a significant impact on fish quality. Several types of vehicles were identified to transport the fish during the investigation. These vehicles can be classified as shown in Table 5.4.

Table 5.4: Mode of transportation used by intermediaries in the study region

Agents	Mode of transportation					
	Fish farmer	(%)	Bepari	(%)	Retailer	(%)
Rickshaw/Van	5	16.6	-	-	8	26.6
Truck	2	6.6	10	33.3	10	33.3
Tempo	15	50	20	66.6	-	-
Head loader	-	-	-	-	5	16.6
Others	8	26.6	-	-	7	23.33
Total	30	100	30	100	30	100

Source: Field survey, 2020

Table 5.4 shows that fish traders like Fish farmer, *Bepari* used mostly Tempo (Nossimon) and truck to carry fish to distant market where fisherman and retailer used Van or on head carry fish to near market.

5.8 Packaging Practice

This is really the method of putting fish into various materials or containers, such as bags, cans, nylons, and cartons. It is the method for placing fish in any of the containers in order to keep or sell them.

Table 5.5: Packaging practice of fish intermediaries in the study region

Types of packages	Using materials	Capacity	Used by
Basket	Bamboo, Rope and Polythene	40 kg 20 kg	Farmer, Bepari & Retailer
Drum	Plastic	40 kg 20 kg	Farmer, Bepari & Retailer
Wooden box	Wood, Polythene	160 kg	Bepari, & Retailer
Box	Cork sheet	40 kg	Bepari & Retailer
Patil	-	15-20kg	Farmer, Bepari & Retailer

Source: Field survey, 2020

Packaging makes fish goods more appealing to marketers and consumers, along with making transportation easy. The effective transportation of fish necessitates the use of packaging. Farmers, *Paikers*, and dealers of large carps, pangas, and tilapia fish use a bamboo, rope, and polythene 'basket.' Plastic barrels are commonly used to transport live fish. *Beparis* and retailer use steel and wooden crates in their fish marketing. Fish dealers commonly used 'boxes' to transport and store fish (Table 5.5).

5.9 Marketing Cost of Fish Intermediaries

Marketing cost of fish includes all costs incurred by different intermediaries like Faria, *Bepari*, wholesaler, *Aratdar* and farmer who perform some marketing functions in the study areas. Products get value added during their movement across items.

Table 5.6: Total marketing cost of intermediaries in the study region (Tk/Quintal)

Cost items	Fish farmer	<i>Bepari</i>	<i>Aratdar</i>	Retailer	Total	(%)
Transportation	56.33	99.6	-	52.5	208.43	14
Loading & unloading	-	100	-		100	6.7
Wage	-	-	5	-	5	0.33
Salaries	-	-	10	-	10	0.67
<i>Aratdar's</i> commission	269	333.5	-	-	602.5	40.85
House rent	-	-	13.73	10	23.73	1.60
Electricity	-	-	15	10	25	1.69
Security	-	-	1.5		1.5	0.10
Packaging Materials	-	-	-	20	20	1.35
Storage & Icing	-	-	-	23.63	23.63	1.60
Mobile Bill	26.96	28.8	32.03	25	112.79	7.64
Personal expense	43.83	45.3	50.8	29.9	169.83	11.5
Market Toll	-	-	10	10	20	1.35
Wastage	-	-	-	10	10	0.67
Input cost	320	-	-	-	320	0.32
Others	42.83	40.66	16.467	42.83	142.78	9.68
Total Cost	438.96	646.93	154.79	233.96	1794.6	100

Source: Field survey, 2020

Table 5.6 shows the marketing cost and intermediary profit per quintal of freshwater fish in the Gaibandha Sadar market. It illustrates the expenditure incurred by various intermediaries in the marketing chain, from the fish farmer to *Bepari* through *Aratdars*/wholesaler to retailer.

The average cost of handling fish (mixed species) per quintal was Tk 1475 (Tk 14.75/kg) from farm gate to end client. The greatest component of total marketing expenditure was *Aratdars'* commissions, which account for around 40.85% of total marketing costs, followed by personal expenses (11.5%) and transportation expenditure (14%). *Aratdars* receive 55% of *Beparis'* total costs in commissions. *Beparis* are active in the marketing of fish, either as buyers from fish ponds or as transporters from assembly markets to *Arat* canters. Transportation, labor, market tolls, *Aratdars'* commissions, containers, and other expenses are included in *Beparis'* costs. *Beparis* paid Tk 647 per quintal (100 kg), *Aratdar* Tk 155, and retailers Tk 234 per quintal (100 kg). *Beparis* has the greatest value-added cost of all of them, while *Aratdar's* value added cost is the lowest.

5.10 Marketing margin of Fish Intermediaries

All marketing expenses, as well as profit or loss incurred by all marketing channel intermediaries, are included in marketing margins. The marketing margin is the amount charged by middlemen for any services they provide. (Kohl and Uhl, 1985, p.230)

Marketing margins earned by Fish farmer, *Beparis*, *Aratdar* and Paiker/retailer are shown in the following table.

Table 5.7: Total marketing cost, gross margin and net margin of different intermediaries involved in the study region (Tk/Quintal)

Intermediaries	Purchase Price /cost price	Sale Price	Gross Margin	Marketing Cost	Net Margin
Fish farmer	320	8,467	8,467	438.96	7708
<i>Beparis</i>	8467	12550	4088	646.93	3436.07
<i>Aratdar</i>	-	-	376.5	154.96	221.54
Retailer	12550	16,630	4080	228.46	3851.54

Source: Field survey, 2020

According to the results of the survey, on average marketing margin for fish farmer, *Bepari*, *Aratdar* and retailer were Tk 7,708 / quintal, Tk 3436 /quintal, Tk 221.54 /quintal, Tk 3851.54 / quintal. Among them Fish farmers' net margin was the highest

and the *Aratdar* net margin was the lowest as *Aratdars* assist buyers and sellers of fish by bargaining between them and facilitating them in buying and selling at their own business premises in exchange for a commission.

5.11 Fish Farmer's share and Middlemen's Share in the Consumer's Price

Fish farmer's share to consumer's price $P_s = (P_f / P_r) * 100$

$$= 8,467/16,630 * 100$$

$$= 49.3$$

Where, P_f = Farmer's price,

P_r = Consumer's price

On average, fish farmers receive 49% of the price paid by the end consumers, in other words, 51 percent of the consumer price goes to intermediaries which is found similar with producers or fishers share ranged from 49.72% to 69.74% (60 ± 5.4) that is relatively higher (Mohammad, 2014).

According to the reports, producers received 50% of the end selling price of the rohu and shingi fish in commercial fish farming of Mymensingh region. (Ara, 2010).

Nonetheless, due to the presence of a large number of intermediaries, commission agents, and their huge margins, fish producers/fish farmer received only around half to two thirds of the amount paid by the ultimate consumer (Rahaman, 2012).

5.12 Factors that Affecting the Marketing Margin

The tabular method was employed to observe the contribution of using various factor inputs to net margin or profit. The focus of the present chapter is to determine the factor affecting the marketing margin a multiple linear regression model was estimated. The estimated values of coefficients related to statistics of the model presented in Table 5.8.

Table 5.8: Estimated co-efficient of multiple linear regression model

Variables	Estimated co-efficient	Standard error	P-value
Constant	-131.306**	51.661	0.012
Transportation cost	-1.257***	0.298	0.000
Loading & unloading	-1.682***	0.448	0.000
Icing	-1.045***	1.238	0.004
House rent	-0.016	2.876	0.996
Electricity	-0.044*	3.084	0.053
Personal expenses	-0.683***	0.241	0.006
Wastage	-0.821***	6.476	0.000
Wage	-0.080***	14.749	0.000
Mobile bill	1.369	0.409	0.369
Agent commission	0.011	0.031	0.735
Others expense	-1.032***	0.183	0.000
Sale price	0.980***	0.005	0.000
Cost price	-0.993***	0.005	0.000

Note:

- The coefficient of multiple determinations (R^2) indicates the total variations of dependent variables explained by the independent variables included in the model.
- Coefficients were tested for significance level at 1 percent, 5 percent and 10 percent levels of significance where ‘***’, ‘**’ and ‘*’ represents 1%, 5% and 10% level of significance.

Value of R²

The coefficient of multiple determinations (R²), for marketing margin was 0.83 signifying that the individual components in the model represented about 83% of diversify in fish marketing margin. The following feature noted based on the model-

Transportation cost (X₁)

The regression co-efficient of transportation cost was significant at 1% level. This meant that a 1% rise in transportation cost, while holding all other factors unchanged, would result in a 1.257 % drop in marketing margin.

Loading & Unloading(X₂)

The regression co-efficient of loading and unloading expense was significant at 1% level. This meant that a 1% rise in lifting and carrying, while keeping all other factors fixed, would result in a 1.68 % drop in marketing margin.

Icing(X₃)

The regression co-efficient at 1% level, the expense of icing was significant. This meant that a 1% rise in icing cost would result in a 1.045% drop in marketing margin, assuming all other factors remained unchanged.

Personal expenses(X₄)

The regression co-efficient for personal expenses was significant at 5% level. This meant that a 1% rise in personal expenses, while holding all other elements unchanged, would result in 0.683 % drop in marketing margin.

Wastage(X₅)

The regression co-efficient for wastage was significant 1% level. This meant that a 1% increase in wastage would result in 0.821% drop in marketing margin, assuming all other factors held constant.

Wage(X₆)

The regression co-efficient for Wage was significant at the 1% level. This meant that a 1% increase in Wage would drop the marketing margin by 0.080 %, assuming all other factors remained unchanged.

Others expense(X7)

The regression co-efficient for the other expenditure was significant at 1% level. This meant that a 1% raise in other expenses, while leaving all other parameters fixed, would result in a 1.032 would drop in marketing margin.

Sale Price(X8)

The regression co-efficient for the Sale Price was significant at 1% level, This meant that a 1% increase in sale price would expand the marketing margin by 0.980 %, assuming all other factors remained unchanged.

Cost Price(X9)

The regression co-efficient for Cost Price was significant at the 1% level. This meant that a 1% raise in Cost Price would result in 0.993 percent drop in marketing margin, assuming all other things remained unchanged.

5.12.1 Concluding Remarks

It is evident from a multiple linear regression model that that the included key variables had significant and positive effect on margin or profit except house rent, electricity, mobile bill, agent commission were statistically insignificant. So, there is a positive effect of key factors in the net margin of fish marketing system in the study area.

CHAPTER 6

PROBLEMS FACED BY FISH INTERMEDIARIES

Bangladesh economy mainly depends on agriculture. But this agricultural sector is negligible still now. In the study areas fish intermediaries faced a number of problems. It was noted that the troubles and difficulties experienced by fish intermediaries were not the same as those faced by other fish intermediaries and the problems were differed from one to another. In this section an attempt has been made to identify some major problems in fish marketing system.

6.1 Constraint Facing Index (CFI)

The stakeholders' difficulties or barriers in the study region were assessed through using a survey instrument. Farmers were asked to respond on specific problems identified during the data collection period. A four-point rating scale was used to compute a respondent's constraint score. For each constraint, a score of 3, 2, 1, or 0 was assigned to indicate the degree of constraint as high, medium, low, or not at all. The total constraint scores for each respondent were computed by summing the scores for all constraints.

Table 6.1: Constraints faced by the fish intermediaries

Constraints	Respondents				CFI	Rank
	High (3)	Medium (2)	Low (1)	Not at all (0)		
Lack of physical facilities	35	33	22	3	193	2
Higher transport cost	39	29	19	6	194	3
Unstable production & price	33	39	18	3	195	1
Poor sanitary conditions	21	24	14	34	125	7
Drainage problem	24	26	21	22	145	6
Lack of effective marketing System	19	25	15	34	122	8
Commission problem	31	31	21	10	176	5
Unexpected syndicate	29	38	22	4	185	4

Source: Field survey, 2020

6.1.1 Unstable production and price

The respondents' most significant constraint was cost and unstable production. In the peak season, they face excessive supply effect which reduces the price. Most of them suffer from these problems all time. Thirty-five respondents in the study area faced these limits to a high degree, 33 respondents to a medium degree, 22 respondents to a low degree, and around three respondents did not face these constraints. In this scenario, the computed CFI value for each table was 195, with a range of 0 to 279 conceivable. The problem has a score of 1, indicating that it is a major issue.

6.1.2 Higher transport cost

Higher transport cost was the second highest constraints faced by the respondents. Due to oil price hike, it takes more cost to move from one place to another. Thirty nine respondents in the study region faced these problem to a high degree, 29 respondents to a medium degree, 19 respondents to a low degree, and approximately 6 respondents did not face these constraints. CFI was found to be 194 in this scenario, with a potential range of 0 to 279 for each table.

6.1.3 Lack of physical facilities

Physical infrastructure should be improved. Market leaders and fish traders must be made aware on how to maintain clean and hygienic surroundings when dealing with fish during in the hot and wet season, fish spoils quickly and readily. This not only decreases prices, but it also jeopardizes people's health. In the study region, 35 farmers encountered these constraints to a high degree, 33 farmers confronted them to a medium degree, 22 farmers faced them to a low degree, and around three farmers did not face them at all. CFI was found to be 193 in this scenario, with a potential range of 0 to 279 for each table.

6.1.4 Unexpected syndicate

There are some syndicate who don't allow stakeholders from remote area, businessman from outside areas have to sell at low price to syndicate members. Out of 93 respondents 29 respondents faced the high extent, 38 respondents faced the medium extent and 22 respondents faced the low extent and 4 respondents did not face this extent.

6.1.5 Commission problem

Commission problem is another problem. Fish farmer or Bepari have to pay certain amount to road or highway police or local agent to carry the fish to the market that reduce the profit of fish traders. Out of 93 respondents in the study area, 31 faced these constraints to a high degree, 31 faced them to a medium degree, 21 faced them to a low degree, and 10 intermediaries did not face them at all. CFI was found to be 176 in this scenario, with a potential range of 0 to 279 for each table.

6.1.6 Drainage problem

Due to improper drainage system, throwing wastage to drain causes water stagnation and also make bad smell all over the fish market. Out of 93 farmers, 24 farmers experienced this constraint to a high degree, 26 farmers experienced it to a medium degree, 21 farmers experienced it to a low degree, and 22 farmers did not experience it at all. In this scenario, the computed CFI value for each table was 145, with a range of 0 to 279 possible.

6.1.7 Poor sanitary Conditions

Most of fish market has barely proper sanitation facility that causes to suffer fish intermediaries' different diseases. Out of 93 farmers, 21 farmers experienced this constraint to a high degree, 24 farmers experienced it to a medium degree, 14 farmers experienced it to a low degree, and 34 farmers did not experience it at all. CFI was computed to be 125 in this scenario, with a potential range of 0 to 279 for each table.

6.1.8 Lack of effective marketing system

The majority of fish stakeholders are not familiar with fish market management. Effective marketing management can help to sell quality fishes to divisional areas and also ensure to get fair price for their fishes. Out of 93 respondents in study area, 19 scored these constraints at high extent, these limits were experienced by 25 respondents to a medium amount, 15 respondents to a low extent, and 34 respondents did not

experience them at all. CFI was reported to be 122 in this scenario, with a potential range of 0 to 279 for each table.

6.2 Concluding Remarks

From the above discussion, most of the fish traders were reported that unstable production and price was the main constraint for fish trading. Higher transport cost, lack of physical infrastructure, unexpected syndicate, commission problem, drainage problem, Poor sanitary Conditions, lack of effective marketing system as second, third, fourth, fifth, sixth, seventh and eighth respectively. If proper scientific way of fish production and monitoring of marketing channel by respective authorities at the right time can be ensured, then the production can be increased significantly and thus the traders may be benefited.

CHAPTER 7

DISCUSSION

This section summarizes the research findings based on the study objectives: identify socioeconomic profile, assess the emerging fish marketing system and estimate marketing costs, margins and consumer price share by fish farmer and other intermediaries at the end level and examine the factors that affect marketing margin of the fish traders.

7.1 socio-economic profile

From the above study it was found that socio-economic condition of fish traders are still at the primary stage of growth in the studied area, traders are poor, few have credit access to run business and 81% of fish farmer were engaged in fish farming as their main source of income and most of them completed only the elementary education. Most of the fish traders depend on fish business which is around 97% and 3% involves other involved other business along fish trading. (Abdulla *et al*, 2015) and Fish traders mostly can sign only and have little capital (Rahman *et al*, 2012) found similarity with this study. Here Author emphasized the significance of socio-economic profile in the growth of fish farming activities and also for making any development activity in the study areas of Gaibandha Sadar.

7.2 Fish marketing system, Marketing cost and margins and consumer price share

This study reported that, three major marketing channels are found in the study areas. Most of the transitions occurred through Aratdar which was 95% and rest 5% through fish farmer directly to retailers. fish farmers receive 49% of the price paid by the end consumers, in other words, 51 percent of the consumer price goes to intermediaries. which is found similar with producers received 50% of the end selling price of the rohu and shingi fish in commercial fish farming of Mymensingh region (Ara, 2010). Studies reported that Producers or fishers share on consumer price ranged from 49.72% to 69.74% (60 ± 5.4) that is relatively higher (Mohammad, 2014). Here is some deviation between the two studies because fish marketing margin varies from market to market, location to location, species to species and presence of a large number of intermediaries.

7.3 Factors that affecting marketing margin of the fish traders

Total thirteen variables included in the multiple linear regression model-Transportation cost, loading & unloading cost, Icing, House rent, Electricity, Personal expenses, Wastage, Wage Mobile bill, Agent commission, others expense, Sale price and Cost price. the included key variables had significant and positive effect on margin or profit except house rent, electricity, mobile bill, agent commission were statistically insignificant. Marketing margins would have negative relations with marketing cost due to increased transportation cost, labour, capital cost and level of completion (Cristina, 2005). Similarity the study found that, the cost of transportation, loading and unloading, and icing having higher negative co-efficient values with marketing margin. Therefore, the study concluded that the higher cost of transportation, loading and unloading, icing, wastage and other expenses decreases the marking margin of fish stakeholders.

CHAPTER 8

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

8.1 Summary

The type and scope of the fish marketing system in the study area were investigated using descriptive and inferential statistics (i.e. cumulative, mean, percentages, rates, etc.). From the viewpoint of stakeholders, per quintal of fish production was evaluated in terms of gross margin, net return or profit, Consumer price share by fish farmer and other intermediaries at end level and factors that affect marketing margin of the fish traders were assessed through multiple linear regression model. The Constraint Facing Index was computed to check the challenges issued by the stakeholders.

The part of north region of Bangladesh (Gaibandha district), fish marketing system is analyzed with an emphasis on productivity and profitability. The fish middlemen were observed to be uneducated, genuinely believed that a minimal level of schooling was required to understand the functioning of the fish marketing system. Result reveals that 29 % of the respondents had primary level education. Respondents of different categories secondary school and above primary levels constituted 16 and 7 % respectively. Most of the respondents aged between 36 to 55 years accounted for 61.30 % of the total sampled respondents while respondent's age between 18 to 30 were 45.8 %. There were only 7.5 % sample respondents who belonged to old aged, 81% of fish farmer were engaged in fish farming as their main occupation while 19% had other source of income along with fish farming. Approximately 45% of fish traders have 11 to 20 years of experience in this field. The entire cost of managing fish (mixed species) per quintal averages Tk 1475 (Tk 14.75/kg) from local farms to end buyer. The highest component of total marketing costs is *Aratdars'* commissions, which account for about 40.85% of total marketing costs, and personal expenses amount to 11.5%. The end result illustrates that on average marketing margin for fish farmer, *Bepari*, *Aratdar* and retailer were 7,708Tk / quintal, 3436 Tk/quintal, 221.54 Tk/quintal, 3851.54 Tk/ quintal respectively. On average, fish farmers receive 49% of the price paid by the end consumer, while intermediaries receive 51 % of the consumer price. Various problems were associated with fish production. The fish intermediaries were allowed to respond against eight structured problem statement. The assertions were set up on a four-point

scale, with responses ranging from 'high' to 'medium' to 'low' to 'not at all,' with scores ranging from 3, 2, 1 to 0 accordingly. It was found that fish farmer ranked unstable production and price, higher transport cost, lack of physical infrastructure, unexpected syndicate, commission problem, drainage problem, Poor sanitary Conditions, as first, second, third, fourth, fifth, sixth, seventh, and eighth place, respectively.

Farmers who identified their problems also suggested measures for the improvement of the existing fish production and marketing system, such as; scientific way of production, supply of inputs and machinery, market monitoring, supply of credit on easy terms, improvement of transportation facilities, formation of farmers' organization and improvement of market facilities.

8.2 Conclusions

The study's findings suggest that if scientific way of production, market monitoring to ensure fair price both traders and customers, short- term loan facility, law enforcement to check syndicate can be improved, the performance of fish marketing of the study areas could become a more viable and attractive commercial enterprise, helping to alleviate rural poverty in the study area. Recommendations are key instructions for the fish marketing sector's development.

8.3 Recommendations

Based on the findings of the study, the following particular suggestions are given for the improvement of fish marketing system.

- Scientific way of fish production and monitoring of marketing channel by respective authorities at the right time can be ensured, then the production can be increased significantly and stakeholders will be benefited.
- Renovation of the contemporary fish market structure.
- Availability of governmental, institutional, and banking supports.
- Institutional loans could be made available to fish traders on a short-term basis at a time of crisis.
- Value chain participants must be aware about the marketing system, as well as other stakeholders. If the actors were better informed about the value chain, the fish market would be more efficient, and everyone would benefit.

- The extension activities need to be strengthened to give support to the fish farmers.

8.4 Limitation of the study

Truth be told, there are some limitations in the study as the study reviewed the farmers of the country through interview schedules.

- Most of the data were collected through interviews of the farmers and sometimes they were not welcoming with the interviewer.
- The information was collected generally through the memories of the growers which were not consistently correct.
- Fish is sometimes cultivated and traded without requiring proper attention & practices so the record of the costs or earnings were not recalled by the stakeholders.
- In the resource and time constraints, wide-ranging and in-depth studies got affected and hampered to some extent.

REFERENCES

- Ali, M. and Hossain, M. (2015). Investigation on fish marketing system and species availability at Daulatpur fish market in Khulna, Bangladesh.
- Ahmed, N. (1983). Marketing of selecting fishes study in efficiency. Ph. D Thesis. Department of Marketing University of Dhaka, Bangladesh.
- Agarwal, S.C. (1990). Fishery Management. Ashish Publishing House, 8/18, Punjabibagh, New Delhi-10026.
- Acharya, S.S. and Agarwal, N.L. (1994). Agricultural Price-analysis and policy. Oxford and IBH Publishing Co., PVT., Ltd., New Delhi.
- Ahmed, M., Rab, A. and Bimao, M.P. (1993). Household socio-economics, resource use and fish marketing in some selected areas of Bangladesh.
- Ara, T., Sultana, Z., Ahmed, S., Haque, M.R. and Roy, D. (2010). Present status of capture fishery and fish marketing at Beel Dakatia in Khulna Region. *Bangladesh Research Publications Journal*, 3: 1086-1094.
- Acharya, S.S. and Agarwal, N.L. (2001). Agricultural marketing in India. Oxford and IBH Publishing Co., PVT., Ltd., New Delhi.
- Atapattu, A.R. (1995). Community-based approaches to fisheries management: the role of marketing development and fisheries co-operatives in improving socio-economic conditions of small-scale fishermen. Proceedings of the indo-pacific fishery commission (IPFC1).
- Ali, M.H., Hasan, M., Bashar, M.A., (2008). Assessment of livelihood status of the fish farmers in some selected areas in Bagmara Upazilla under Rajshahi district, Bangladesh Agricultural University, Mymensingh.
- Barman, P.P. and Barman, A.K., (2014). Fish marketing system and socio-economic status of Aratdar in Gaibandha, Bangladesh.
- BBS, (2019). Statistical Yearbook. Bangladesh Bureau of Statistics, Ministry of Planning, Government of the People's Republic of Bangladesh, Dhaka.
- Biswas, H. (2001). Dried marine fish marketing in the greater Chittagong District. MS Thesis submitted to the Department of Co-operative and Marketing, Bangladesh Agricultural University, Bangladesh.

- Cristina, M. and Camrambas, D.M. (2005) Analysis of Marketing margin in Eco-labeled products, Center for development research, University of Bonn, Germany.
- Chopra, S. and Meindl, P. (2007). Supply Chain Management Strategy, Planning and Operation (third edition), Prentice Hall of India Private Limited, Delhi, India.
- Dewan, B.K. (2001). A study of fish marketing in the Mymensingh town. MS Thesis, Department of Agricultural Economics, East Pakistan Agricultural University, Mymensingh.
- DOF, (2018). Fisheries statistical year book of Bangladesh 2016-2017. Department. of fisheries, Ministry of Fisheries and Livestock, Dhaka.
- Hoshen, M. (2013). A study of Fish market and the marketing system of Khulna Upazilla. MS Thesis submitted to the Dept. of Fisheries Management, Bangladesh Agricultural University, Mymensingh.
- Islam, M.S. and Elahi, K.Q. (1993) the small scale marine fisheries in Bangladesh: A Socio-economic Analysis, Research Report, Bureau of Socio-economic Research and Training, BAU, Mymensingh.
- Khalil, M.I. (1999). Marine fish marketing in some selected areas of Bangladesh. MS Thesis, Dept. of Co-operative and Marketing, Bangladesh Agricultural University, Mymensingh.
- Kohl's, R.L. and Uhl, J.N. (1985). The Marketing of Agricultural Products, 6th Edition MacMillan, New York.
- Kaplinsky, R. & Morris, M. (2001). A handbook for the value-chain research. Retrieved from: <http://www.ids.ac.uk/ids/global/pdfs/VchNov01.pdf>
- Mia, G.M.F. (1996). A study of production and marketing of culture fishes the selected pond owners in Mymensingh District. MS Thesis, Department of Cooperative and Marketing, Bangladesh Agricultural University, Mymensingh.
- Minkin, S. I., Stephen, F. M., Rahman, M. and Halder, S. (1997). Inland Capture Fisheries of Bangladesh, University Press Limited, Dhaka.

- Quddus, M.A., Rahman, M.S., and Moniruzzaman, M. (2013). Socioeconomic conditions of the pond owners of Demra, Dhaka, *Bangladesh Journal of Fisheries*, 14: 63-6.
- Rahman, M.M. (2012). Status of fish marketing in Gazipur district, Bangladesh. M.S. thesis, department of fisheries management, Bangladesh Agricultural University, Mymensingh.
- Rokeya, J.A., Ahmed, S.A., and Alam, (2005). Marketing system of native and exotic major carps of Rajshahi district, *Bangladesh journal of fisheries*, 20(1-2): 99-103
- Sharif, N., Abdulla, and Zafar, A. (2015). Socio-economic condition of fish farmer and trader at the village of Pitamborpur in Chaugacha upazilla in Jossore, Bangladesh. *International journal of Fisheries and Aquatic studies*. 3 (2): 212-217
- Sabur, S.A. (1977). An economic study on the marketing of marine fish in Bangladesh. MS Thesis, Department of Co-operative and Marketing, Bangladesh Agricultural University, Mymensingh.
- Siddique, M.A. (2001). A study on socio-economic status of fishermen and fish marketing system in Mymensingh district, Bangladesh. MS Thesis, Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh.
- Sarkar, S. (1999). A study on marketing of cultured fishes in some selected areas Chandpur district. MS thesis, Department of Agricultural Economics and Rural sociology, Bangladesh Agricultural University, Mymensingh.
- Uddin M.H., Sirazunnesa, M.S., and Fatema, M.K. (2018). Structural performance of fish market in Bogura district, Bangladesh. *Research in Agriculture Livestock and Fisheries*, 5 (3): 399-410.
- Zaman, T., Jewel, and Bhuiyan, A.S. (2006). Present status of pond fishery resources and livelihood of the fish farmers of Mohanpur upazilla in Rajshahi district, Bangladesh

APPENDIX-1

Interview Schedule

Marketing system of captured fish in some selected areas of Gaibandha Sadar.

Department of Agribusiness and Marketing

Sher-e-Bangla Agricultural University, Dhaka-1207

Sample No	
-----------	--

Identification of the respondent (fisherman/ Bepari/Aratdar/ Retailer)

1. Name:
2. Address:
3. Age:
4. Education level (years of schooling): (Literate/only can sign/Primary level/secondary <)
5. Mobile no.:
6. Experience in fish trading (years).....
7. Occupation.....
8. Secondary Occupation.....

9. Buying and selling Pattern (Per day product transaction /Kg)

Market intermediaries	Purchase from (%) & price (Tk/kg)				Sales to (%) & Price (Tk/kg)		
	Farmer	Aratdar	Paiker	Retailer	Paiker	Aratdar	Retailer
Farmer							
Paiker							
Aratdar							
Retailer							

10. Mode of transportation used by fish market intermediaries

Mode of transportation (%)						
Van/Rickshaw	Tempo	Bus	Truck	Boat	Head load	Others (specify)

11. Grading & Standardization practices by fish market intermediaries

Basis	Specification
Weight	
Size	
Cleanliness	
Others (specify)	

12. Packaging practices by fish market intermediaries

Packaging practices	Using materials	Capacity (kg.)
Basket		
Drum		
Box		
Wooden box		
Steel box		
Others		

13. Pricing methods used by fish market intermediaries

Pricing method practices (% of total product)				
Open bargaining	Based on going market prices	Prefixed prices	Cost plus method	Others(Specify)

14. Sources of finance of major fish market intermediaries

	Sources of finance					
	Own fund	Bank	NGO	Friend and relatives	Dadon from Aratdar	Others
Amount (%)						
Interest rate (%)						

15. Market information

Sources of information (%)				
Visit to the market	Fellow traders	Telephone/ Mobile	Email/Internet	Others

16. Marketing cost involved in fish marketing (Tk/100kg)

Items	volume of trade per month or day	Cost Per month or day	Cost (Tk./100kg)
Transportation			
Loading & Unloading			
Basket/ Container			
Grading			
Icing			
Storage			
Wages			
Salaries			
House rent			
Security			
Electricity			
Toll			
Polythene			
Packaging			
Personal Expenses			
Wastage			
Telephone bill			
Watering			
Customs clearing			
License fees			
Maintenance cost			
Others			

Obstacles in relevant to fish marketing system in Gaibandha Sadar district:

17. Infrastructure problem

(a) Yes (b) No

18. Poor sanitary conditions

(a) Yes (b) No

19. Higher transport cost -

(a) Yes (b) No

20. Unstable production & price

(a) Yes (b) No

21. Drainage facilities

(a) Yes (b) No

22. Packaging & storage facilities

(a) Yes (b) No

23. Commission problem in road

(a) Yes (b) No

24. Having any unexpected syndicate

(a) Yes (b) No

25. Knowledge about effective Marketing System

(a) Yes (b) No

Date:

Name and Signature

Thank you for your kind Co-operation