



## A study on fish marketing system in Jamalpur, Bangladesh

Md. Fakhru Islam<sup>1\*</sup>, Mohammad Shadiqur Rahman<sup>1</sup>, Md. Rajib Sharker<sup>2</sup>

<sup>1</sup>Department of Fisheries, Bangamata Sheikh Fojilatunnesa Mujib Science and Technology University, Melandah, Jamalpur-2012, Bangladesh

<sup>2</sup>Department of Fisheries Biology and Genetics, Patuakhali Science and Technology University, Patuakhali-8602, Bangladesh

### ARTICLE INFO

#### Article history

Received: 14 April 2021

Accepted: 27 April 2021

#### Keywords

Fish marketing, Marketing channel, Constraints, Jamalpur, Bangladesh

#### \*Corresponding Author

Md. Fakhru Islam  
✉ fakhru1022@gmail.com

### ABSTRACT

The present study was conducted at three fish markets in Jamalpur based on existing fish marketing systems to explore the marketing activities, fish distribution channel and constraints associated with fish marketing. The marketing chain from farmers to consumers passes through a number of intermediaries such as, local fish traders (paikers), suppliers, wholesalers and retailers. Questionnaire interviews and focus group discussions were used for data collection. Based on the survey of 75 traders (25 in each market) from the three different markets in Jamalpur, the average daily supply of fish in Sokalbazar (Anandaganj Bazar, Jamalpur sadar), Melandah and Islampur markets were estimated approximately at 3.5-4, 1.5-2 and 2-2.5 tons respectively. Nearly most of the fish (75%) was imported from outside and only 25% fish was locally supplied. The price of fish depends on market structure, freshness, species quality, size, supply and demand of fish in the market and it was found that the price of carp increases with increases in size. There was seasonal variation in prices where highest in summer (April to June) and lowest in winter (October to January) during the fish harvesting season. However, lack of cold storage facilities, insufficient ice supply, poor water supply, exploitation by middlemen, poor transport system, inadequate drainage system, high transportation cost, poor sanitation facilities and inadequate infrastructure were reported to be the major constraints which hindering the marketing system in the surveyed areas.

### INTRODUCTION

Jamalpur is situated on the bank of the Old Brahmaputra River and Jamuna River. Jamalpur district has various types of natural water bodies especially two large rivers (the river Jamuna and Brahmaputra), some small rivers and floodplain areas where a large amount of Small Indigenous Species (SIS), Indian major carp and other fishes are produced (Shahriar et al., 2010). Fish market is a place where people are periodically gathering for buying and selling of the fish and fishery products (Chaston, 1987). Marketing is involved from the point of production and the consumers. The total fish production in Bangladesh was estimated at 43.84 lakh MT (Metric Ton) in 2018-19, of which about 37.24 (84.95%) and 6.60 (15.05%) lakh MT came from inland and marine waters respectively (DOF, 2020). About 97% of the production is marketed internally for domestic consumption while the remaining 3% exported to the foreign

(Ahmed et al, 1993). Now, Bangladesh becomes self-sufficient fish producing country which supplements about 60% (with per capita of 62.58 g/day against targeted 60 g/day) of total daily animal protein intake of her people.

Bangladesh earns a considerable number of foreign currencies by exporting fish, shrimps and other fishery products. In 2018-19, fisheries sector contributes 3.50% to the national GDP and more than one-fourth (25.72%) to the agricultural GDP (DOF, 2020). The production of fish is an entire part of the marketing system in which fish and fishery products are highly traded commodities (Deomampo, 1998). Fish marketing in Bangladesh is almost exclusively a function of the private sector which is operated through a complicated system such as village markets, township markets, assembly centers, retail markets and major urban wholesale (DoF, 2012). However, in the remote communities of Bangladesh, there are most serious

marketing difficulties occur due to lack of transport, storage facilities, supply of ice, poor communication system and where the farmers in relation to intermediaries are particularly in weak position (Rahman, 1997). In addition, at different levels of marketing, the middlemen have introduced a new marketing chain based on the utmost exploitation of the fisher's communities by placing a fictitious pricing policy through intermediaries. As a result, the prices of fish are high at marketing margin that makes the consumers, farmers, fishers and poor traders are displeasure. The roles of marketing are being accused of earning higher profits the middlemen in the marketing system (Bryceson, 1993). The present study was design to comprehend the existing fish marketing systems and to identify the different marketing constraints that having bad impact on poor fishermen and traders.

## **MATERIALS AND METHODS**

### **Study site and duration of the study**

The present study was conducted at the Jamalpur district and its three important fish markets, namely, Sokal bazar (Anandaganj Bazar, Jamalpur sadar), Melandah and Islampur. There are nine major fish markets in Jamalpur district, of which Sokal bazar (Anandaganj Bazar Jamalpur sadar), Melandah and Islampur markets were selected after conversation with fish farmers, traders, Upazila Fisheries Officers and based on history of the market. For present study, the necessary data were collected from October 2020 to March 2021.

### **Data collection**

For the gathering of primary data, field surveys were used. Primary data was also used for the confirmation of the secondary data. Questionnaire interviews, Focus Group Discussion (FGD) and Cross-check interviews were used for the collection of primary data.

Secondary data were collected from related government and non-government organizations such as Department of Fisheries (DOF), District Fisheries Officer, Upazila Fisheries Officers and relevant NGO workers.

### **Questionnaire interviews**

A total number of 75 fish traders (retailers) were selected randomly in three markets (25 in each market) in the study area for questionnaire interviews. Questionnaire was tested in the field before commencement of interviews. For the collection of information, traders were interviewed at the market center to know about marketing information, trading actions, pricing strategy and constraints of fish marketing.

### **Focus Group Discussion (FGD)**

Focus Group Discussion (FGD) was done to get a general idea about marketing systems such as fish distribution, existing marketing channels, pricing policies, constraints of fish marketing etc. in the three markets. A total of 15 FGD sessions (5 in each area) were conducted where each group size of FGD was 8 to 10 farmers.

### **Cross-check interviews**

Cross-check interviews were conducted with key informants such as local leaders, school teachers, Upazila Fisheries Officers and relevant NGO workers.

### **Data processing and analysis**

Data from different sources were coded and entered into a database system using Microsoft® Excel 2010 software. At each stage of the survey, initial data sheets were compared with the original coding sheets to make sure the exactness of the data entered.

## **RESULTS AND DISCUSSION**

### **Fish market structure**

The structure of fish market is characterized by presents of many buyers and sellers. There were 8 to 10 wholesalers and 80 to 90 retailers in Sokal bazar (Anandaganj Bazar, Jamalpur sadar) markets, 4 to 5 wholesalers and 50 to 60 retailers in Melandah markets and 4 to 5 wholesalers and 40 to 45 retailers in Islampur markets. Among three markets, the numbers of wholesalers and retailers are high in Sokal bazar (Jamalpur sadar) market. In Melandah and Islampur markets,

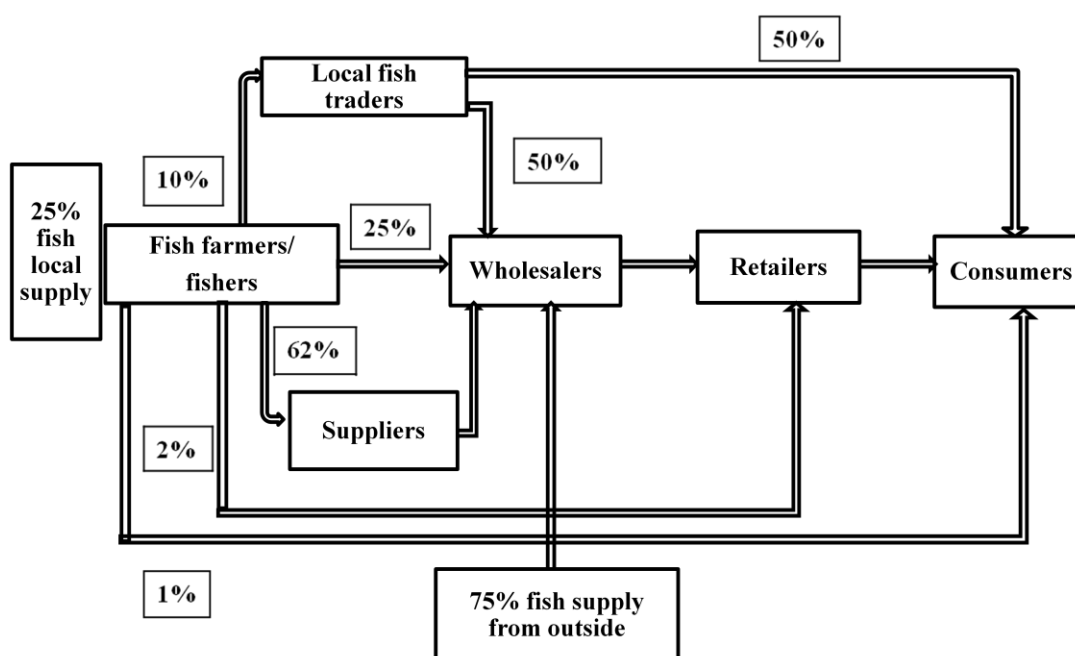
traders were involved in fish trading from 9.00 am to 4.00 pm where in Sokal bazar (Jamalpur sadar) from 8.00 am to 5.00 pm. Duration of trading time was longer in Sokal bazar (Anandaganj Bazar, Jamalpur sadar) markets due to presence of large numbers of wholesalers, retailers and consumers. The conditions of the markets were not satisfactory judging with the point sanitation, shade, water supply, drainage system, ice supply and preservation facilities.

### Sources of fishes in the market

Most of the fishes supply (75%) in the three markets came from Rajshahi, Bagura, Natore, Sirajgong, Jessor, Khulna, Satkhira, Mymensing, Netrokona, Mohongonj, Kuliarchar, Chandpur, Chittagong and only 25% came from different rivers, floodplains and ponds in Jamalpur. Ahmed et al (2005) reported that in two markets of Gazipur, 80% fish came from outside Gazipur and only 20% was from local supply which were similar to the present study. According to the survey, the average daily supply of fish in Sokal bazar (Anandaganj Bazar, Jamalpur sadar), Melandah and Islampur markets was approximately 3.5-4, 1.5-2 and 2-2.5 tons respectively. Fishes were transported to the market by trucks, pick-ups, trains, buses, rickshaw and van etc.

### Fish distribution channel

Fish marketing is a system where fishes reach to consumers from producers (farmers) through different intermediaries. In the three markets nearly similar market chain were observed during the study period. A number of middlemen were found to be involved in fish marketing system between farmers and consumers. The market chain from farmers to consumers passes through a number of intermediaries, such as local fish traders (paikers), suppliers, wholesalers and retailers (Figure 1). The local paikers and suppliers carry the fish (about 62%) from fishers/farmers to the markets and then sell to retailers with the help of wholesalers in a competitive market situation. Retailers, in turn, sell the fish directly to the consumers. Only a small portion of farmers sell their fish directly to retailers. Rahman (2003) and Gupta (2004) reported 4 to 5 intermediaries were present in fish marketing. Agents or suppliers also carry fish from remote villages to the wholesalers in market centres and typically earns 1 to 3% commission for their services. Rokeya et al. (1997) mentioned that local agent's collects fish from farmers on commission basis in the fish distribution network of Rajshahi.



**Figure 1:** Fish distribution channel from farmers to consumers in Jamalpur

## Price of fish

The price of fish varied considerable depending upon the freshness, availability, season, size, species and quality of the specimen being sold. Alam et al., (2010) reported that market structure, species quality, size and weight influence the price of fish. In three markets of Jamalpur, pricing policy is not fixed by the government and trade association. The price of fish was usually set

through open auction and bidding bargain between wholesalers and retailers. According to policy of auction system, the price for an allotment of fish was settled firmly through open, competitive bidding. The highest bidder takes prompt delivery of the commodity in exchange of cash payment. Generally, bidding was announced loudly by auctioneer in front of retailers. Auctioneer usually charges about 2-3% commission of the sale price from wholesalers..

**Table 1:** Average selling (retail) price (Tk. /kg) of fish in three different markets

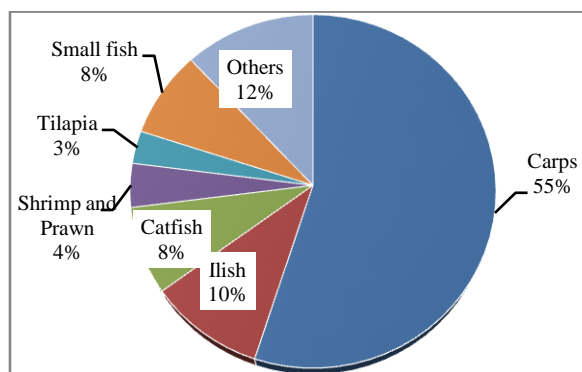
	Local Name	Scientific Name	Size of fish (kg)	Sokal bazar (Anandaganj Bazar, Jamalpur sadar)	Melandah	Islampur
Indian major carp	Rohu	<i>Labeo rohita</i>	<1	160	170	150
			1-2	210	220	190
			3-4	250	250	240
	Mrigal	<i>Cirrhinus cirrhosis</i>	<1	140	140	130
			1-2	170	170	160
			3-4	200	200	210
	Catla	<i>Gibelion catla</i>	<1	150	170	160
			1-2	190	200	200
			3-4	240	250	250
Calbasu	<i>Labeo calbasu</i>	<1	140	160	130	
		1-2	170	190	160	
		3-4	220	220	210	
Exotic carp	Grass carp	<i>Ctenopharyngodon idella</i>	<1	120	130	110
			1-2	140	150	130
			3-4	170	170	160
	Silver carp	<i>Hypophthalmichthys molitrix</i>	<1	120	100	110
			1-2	140	140	130
			3-4	160	160	150
	Common carp	<i>Cyprinus carpio</i>	<1	130	140	120
			1-2	160	160	150
			3-4	180	180	180
Cat fish	Pangas	<i>Pangasianodon hypophthalmus</i>	<1	100	100	110
			1-2	110	120	120
			3-4	130	130	140
	Tengra	<i>Mystus vittatus</i>		350	400	400
Shing	<i>Heteropneustes fossilis</i>		350	300	300	
Other	Ilish	<i>Tenualosa ilisha</i>	<1	500	500	550
			1-2	800	800	850
	Tilapia	<i>Oreochromis mossambicus</i>	<1	110	110	100
			1-2	140	130	140
	Prawn	<i>Macrobrachium rosenbergii</i>		800	850	850
	Shrimp	<i>Penaeus monodon</i>		500	500	550

On the basis of the present study, it was observed that among the carp species, Indian major carps (ruhi, mrigal, catla and calbasu) bring higher prices than the exotic carps (silver carp, grass carp and common carp). The present result was very much similar to the findings from Debnath et al. (2019). The causes for the low prices of exotic carp were that the demand and taste of exotic carp were low compared to Indian major carps. The price of fish was also influenced by supply and demand. The price of fish were highest in summer (April to June) and the lowest in winter (October to January), during the fish harvesting season. The present study showed that price of carp is increasing with increase in size. Generally larger

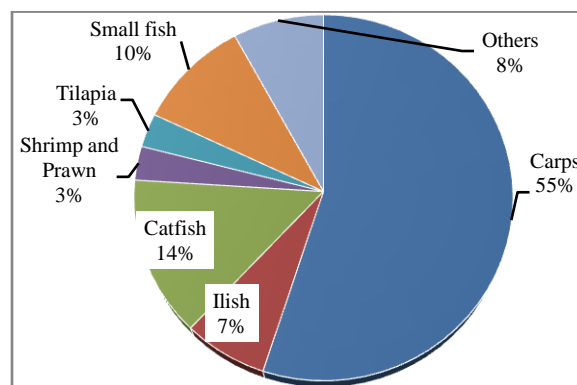
fishes get more price compares to smaller ones. The price of some important fish species in three markets of Jamalpur are shown in Table 1

### Composition of fish in three markets

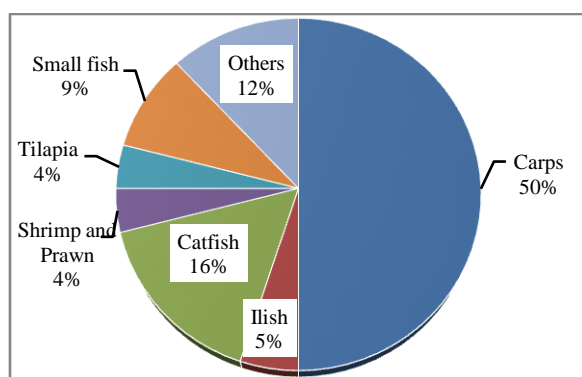
According to the results of the survey, it was estimated that most of the fishes in these three markets were Indian major carps and exotic carps. Besides carps, small quantities of other fishes such as Small Indigenous Species (SIS), catfishes, ilish, prawn, shrimp, tilapia, and other fish including marine can be seen in the three markets. Market share of different fish species in the three markets are shown in Figures 2, 3 and 4.



**Figure 2:** Estimated market share of fishes in Sokal bazar (Anandaganj Bazar, Jamalpur sadar) market



**Figure 4:** Estimated market share of fishes in Islampur market



**Figure 3:** Estimated market share of fishes in Melandah market

### Profit margin

In the present study it was found that the primary producers barely get 45-50% of the retail market prices for their products. Middlemen get 35-40% of the retail market prices. The cost of transportation, preservation and tools paid to leaseholders determine how much share of the retail market prices get fishermen/farmers. The quality/weight loss of 5-10% and the remaining 15-20% was spent for transportation, preservation and other charges.

### Constraints associated with fish market

From the present study it seems that the marketing chain in the three markets was relatively longer and requires longer time for transportation.



According to the view of farmers and traders associated with fish market about 12-15% of fish caught becomes rotten and unsuitable for human consumption due to absence of cold chain system. The major constraints of fish marketing system in the three markets of Jamalpur could be summarized as:- lack of cold storage facilities, insufficient ice supply, poor water supply, exploitation by middlemen, poor transport system, inadequate drainage system, high transportation cost and poor sanitary facilities. The above problems concerning fish marketing system were also reported by Hasan et al. (2014), Ali et al. (2017). According to the retailers, political disturbances may also affect fish transporting as well as marketing.

## CONCLUSION

The fish marketing chain passes through a number of intermediaries such as local fish traders (paikers), suppliers, wholesalers and retailers. As a result, price of fish increased to a great extent that affects the fish sellers and ultimate consumers. At the national level, government should play an important role in setting up an appropriate pricing policies and regular monitoring in the market.

## RECOMMENDATION

On the basis of the study findings, the following recommendations have been made for improving the marketing system:

- Establishment of cold storage and preservation facilities
- Establishment of ice factories for sufficient supply for fish preservation
- Improvement of fish transportation and shipment facilities
- Introduction of fish quality control measures
- Ensure sufficient water supply
- Establishment of well-planned drainage and sanitation system

## REFERENCES

Ahmed M, Rab A and Bimbao M P (1993). Household socioeconomics resource use and fish marketing in two thanas in Bangladesh. ICLARM Technical Report, 4: 34.

- Ahmed N, Rahman M M and Rahman M M (2005). A Study on Fish Marketing Systems in Gazipur, Bangladesh. Pakistan Journal of Biological Sciences, 8 (2): 287-292.
- Alam MJ, Yasmin R, Rahman A, Nahar N, Pinky NI and Hasan M (2010). A Study on Fish Marketing System in Swarighat, Dhaka, Bangladesh. Nature and Science, 8(12): 96-103.
- Ali MY, Hossen S, Azad SMO, Alom MS, Mondal M AH, Ali MM and Hossain MB (2017). Fish Availability and Marketing System at Local Markets of a Coastal District, Southern Bangladesh. Asian Journal of Animal Sciences, 11(5): 221-229.
- Bryceson DF (1993). Liberalizing Tangamia food trade; Public and private faces of urban marketing policy 1939 – 1988 UNRISD James Carry, London.
- Chaston I (1987). Marketing in fisheries and aquaculture. Fishing News Books Ltd, Farnham Survey, England.
- Debnath SL, Islam MF, Haque SA, Das PS, Miah MI and Uddin MJ (2019). A study on fish market and marketing system in Gazipur district, Bangladesh. Asian-Australasian Journal of Bioscience and Biotechnology, 4 (1): 7-13.
- Deomampo NR (1998). Farming system, marketing and trade for sustainable aquaculture. In: Report on a regional Study and Workshop-Aquaculture Sustainability and the Environment, Network of Aquaculture Centres in Asia-Pacific: 203-217.
- DoF (Department of Fisheries) 2012. Fish Fortnight Compendium. Department of Fisheries, Ministry of Fisheries and Livestock, Dhaka, Bangladesh.
- DoF (2020). Yearbook of Fisheries Statistics of Bangladesh. Fisheries Resources Survey System, Department of Fisheries, Ministry of Fisheries and Livestock, Dhaka, Bangladesh.
- Gupta SD (2004). Status of Fish Marketing in FulpurUpazila, Mymensingh. M.S. Thesis. Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh. 63 pp.
- Hasan AA, Shahjahan M, Hossain MM and Haque MM (2014). Fish Availability and Marketing System at Three Markets in Barisal, Bangladesh. International Journal of Innovation and Applied Studies, 7(2): 765-773.
- Rahman AKA (1997). Fish marketing in Bangladesh: Status and Issues. In: Open water Fisheries of Bangladesh (Eds. Chu-fa Tsai and M. Youssouf Ali), The University Press Limited, Dhaka, Bangladesh, pp: 99-114.
- Rahman MM (2003). Status of Fish Marketing in Gazipur, Bangladesh. M.S. Thesis. Department of Fisheries Management, Bangladesh Agricultural University, Mymensingh. 79 pp.

Rokeya J, Ahmed SSA, Bhuiyan AS and Alam MS (1997). Marketing system of native and exotic major carps of Rajshahi District. Bangladesh Journal of Fisheries, 20(1-2): 99-103.

Shahriar M, Hoque MM, Haque MR, Mondal MN and Islam MJ (2010). Fish fauna, fishing gear and marketing channel of Morgangi beel under Melandah upazilla Jamalpur, Bangladesh. Journal of Agroforestry and Environmetn, 4 (1): 163-166.