

Present Status of Fish Marketing in Gopalpur Upazila of Tangail District

Abu Bakar Jamali¹, Md. Anisuzzaman², Maruf Hossain Minar^{3,*}

¹Department of Aquaculture, Bangladesh Agricultural University, Mymensingh, Bangladesh

²Department of Fisheries and Marine Science, Noakhali Science and Technology University, Sonapur, Noakhali, Bangladesh

³Department of Fisheries Biology and Genetics, Bangladesh Agricultural University, Mymensingh, Bangladesh

*Corresponding author: minarfirms02@gmail.com

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Abstract The present study was undertaken to observe the fish marketing chain through a number of intermediaries such as, local fish traders, paikers, wholesalers and retailers in 5 arbitrarily selected markets (Belua Bazar, Gopalpur Bazar, Nandanpur Bazar, Suti Bazar and Alamnagar Bazar) in Gopalpur upazila under Tangail district. A total of 50 traders were selected (10 from each market) for personal interview and focus group discussion. Traders typically operated with capital of around Tk.5000 to 15000/day. Among the cultured species, Rohu, Catla, and Mrigal fetched higher prices (Tk.120-250/kg) and price depends on market structure, species, quality, size and weight. It was observed that under market channel I (Fish farmer – Paikers- Wholesalers- Retailers- Consumers), fish farmer's gross price per quintal of fish was Tk. 9000. Similarly for channel II (Fish farmer -Wholesalers- Retailers- Consumers) the price spread was Tk. 1605 per quintal of fish, while the fish farmers gross share was 82.16% of consumers price. In case of channel III (Fish farmers-retailers- consumers) the price spread was Tk. 1087 per quintal of fish while the fish farmer's gross sale was 87.92 %. Therefore, in term of farmer's share, the performances of channel III was relatively, much better than those of other channels. A number of constraints during fish marketing were reported by traders including higher transport cost, poor road communication and transport facilities, poor supply of ice, and exploitation by middlemen. In spite of socio-economic constraints, most of the household's of the traders (80%) have improved their status through fish marketing activities.

Keywords: fish marketing system, constrains, intermediaries, performance channel

1. Introduction

Fish marketing is almost entirely a function of the private sector and operates through a complex system of village markets (*hat*), township markets (*bazar*), assembly centers, major urban wholesale and retail markets [1]. There is a corresponding network of personnel, from buyers who may be hat traders or agents of bigger bazar fish merchants (*Bepari/Mahajan*) to wholesale market commission agents (*Aratdar/Paikar*) who effectively control the whole system. The fishermen are compelled to hand over their catches to the trader/middleman (*Aratdar/Paikar*) at a price determined by the latter [1,2].

Traders play a leading role in the fish marketing system of Bangladesh. They can play several brokerage functions at the same time. This includes commission agent whereby they obtain a percentage fee of the auctioning price (i.e. normally 3-6%, in the case of fresh fish marketing), or wholesaler whereby they become the buyer and seller of the commodity. Communications between the traders in different markets take place with mobile telephone, which keeps wholesale prices in line throughout the country. The least informed party is the fishermen, because of his physical isolation from the markets [2].

Other factors, which weaken the fisherman's bargaining position, are their dependency on credit and illiteracy [3]. In Bangladesh, fish marketing is almost exclusively a preserve sector where the livelihoods of a large number of people are associated with fish production and marketing systems. However the most serious marketing difficulties seem to occur in remote communities, with lack of transport, ice, and poor road facilities and where the farmers are in particularly weak position in relation to intermediaries [4].

Livelihood status of the people involved in fish related activities depend on the fisheries resources and marketing system. So, fishing group is an important community to enrich economics of Bangladesh. But most of the fishermen and fish traders are poor and are deprived of many amenities of life. Livelihood condition of fishermen is not satisfactory at all [5,6].

As the middlemen have established a marketing chain based on extreme exploitation of the fish farming communities by setting up an artificial pricing policy through intermediaries at different levels, therefore, in order to make fish available to consumers at the right time and in the right place, an effective marketing system shall have to be evolved to safeguard the fish producers from exploitation by the net work of intermediaries [7]. In the context above, the present study was undertaken to know the existing fish marketing system along with the socio-

economic status of traders, fish farmers and fish retailers. In addition costs and margins were estimated at different stages of fish marketing by identifying the problems faced by traders, fish farmers and fish retailers.

2. Materials and Methods

The study was based on market survey obtaining information through a sample survey among fish traders, fish farmers, operators (middlemen), consumers (Figure 1). The survey was carried out for a period of six months

from July to December, 2011. Gopalpur is an important Upazila under Tangail district. It is situated 40 km away from Tangail district. Now a day a significant numbers of fish farmers are engaged in fish culture on the commercial basis in Gopalpur Upazila. For this reason a fish marketing network is developed among fish farmers, commission agents, fish traders, consumers and other associated groups. For the above reason, Gopalpur Upazila (Figure 2) was selected as the research area.

The schematic diagram about the research activities is shown below (Figure 1):

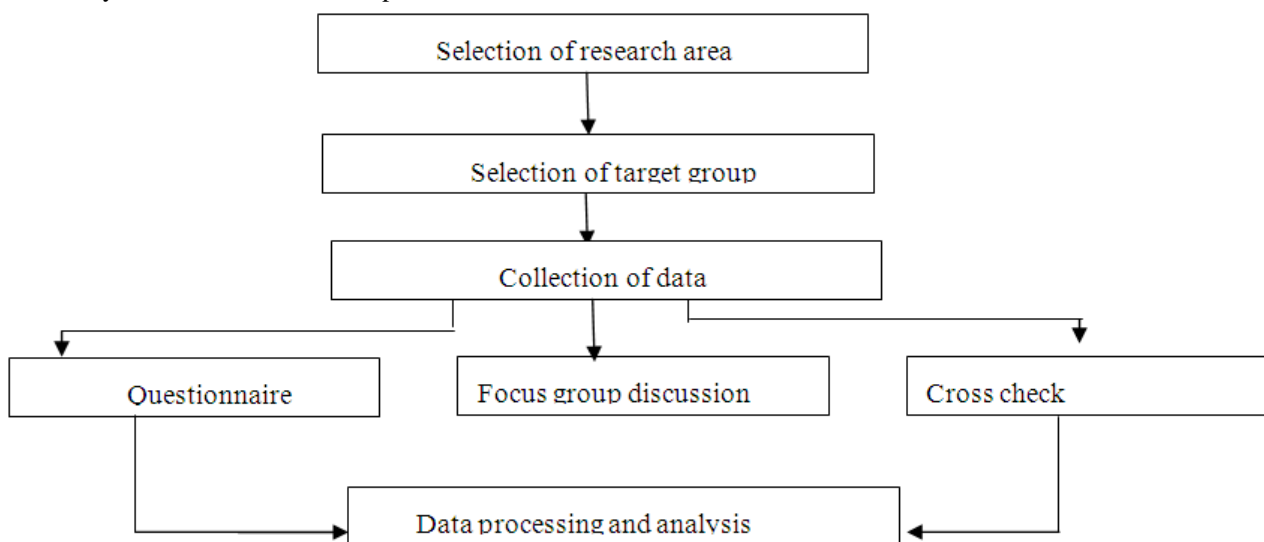


Figure 1. Flow diagram of the research activities

A total of 50 fish traders (retailers) and 50 consumers were selected for questionnaire interviews in five different markets (10 in each market) (Table 1). A well-structured questionnaire was used for interviewing with consumers. In survey, a questionnaire is very essential tool for the collection of necessary information. In this study, questionnaires were prepared in consistent with the objectives for collecting relevant Information. The questionnaire was composed of both closed and open form of questions. Closed formed questions are easier to fill up. However, some descriptive types of answers and open form of questions are also necessary to know facts. That is why both closed and open form of question was used in questionnaires. The draft questionnaire was initially pre-tested with 10 traders by the researcher himself. Based on the finding of the pretesting the survey questioner improved, rearranged and modified according to the actual experiences gathered from the pilot survey. Thus the final questionnaire was prepared on the basis of pilot survey.

Table 1. Sample sizes in five different markets

Study area	No of the fish traders (retailers)	No of consumers
Gopalpur bazaar	10	10
Nandanpur bazaar	10	10
Alamnagar bazaar	10	10
Belua bazaar	10	10
Suti bazaar	10	10
Total	50	50

Cost of marketing

Attempt has been made to analyze the costs of marketing of fishes at different stages of intermediaries

and also the total cost of marketing in the whole marketing channel. In this study marketing margin of each type of intermediary was calculated by deducting the purchase price of fish at farm level, the sale price while the component was calculated by deducting the marketing cost from his share of marketing margin.

Gross margin = Price paid by an agency- Price received by the preceding agency.

Marketing cost = Labor cost + Transportation cost + Storage cost etc.

Net margin = Gross margin – Marketing cost.

Price spread = Retail price – Farmers net price

Farmer net price = Fish farmer price – Fish farmer production cost

$$\text{Fish farmer gross share} = \frac{\text{Fish farmer's gross price}}{\text{Retail price}} \times 100$$

$$\text{Fish farmer net share} = \frac{\text{Fish farmer's net price}}{\text{Retail price}} \times 100$$

The collected data were summarized and processed for analysis. These data were verified to eliminate all possible errors and inconsistencies. Tabular technique was applied for the analysis of data by using simple statistical tools like averages and percentages. Finally, the processed data were transferred to a master sheet from which classified tables were prepared revealing the finding of the study. For processing and analysis purpose, MS Excel and MS word have been used. Tables bar diagram and pie-charts had been used for data processing and analysis.

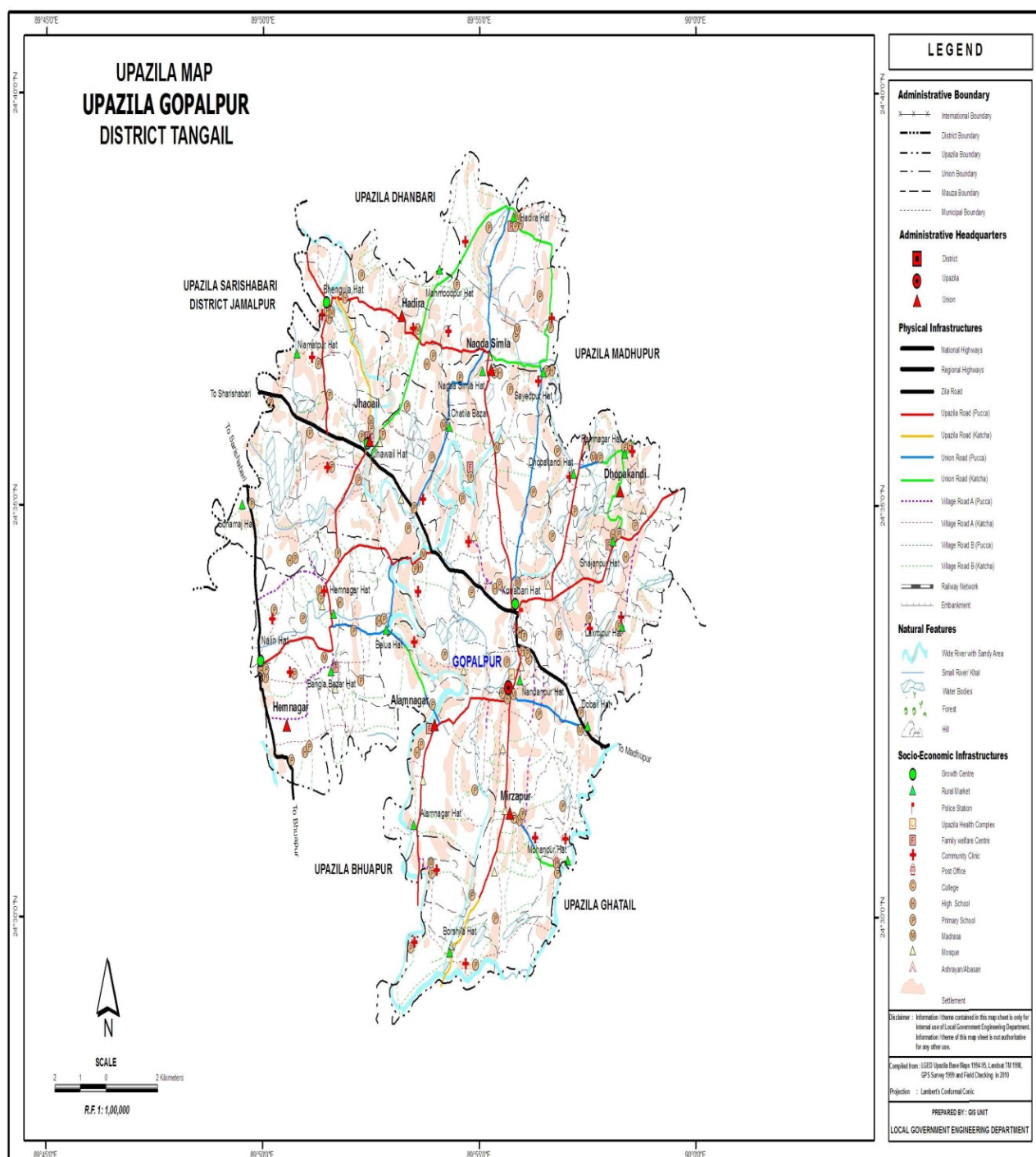


Figure 2. Area showing the place where the fish marketing has been surveyed

3. Results and Discussion

The present report describes the existing fish marketing systems, problems and efficiencies of fish marketing. Finally, it concludes with consumer's behavior regarding purchase of fish. The description was based on primary data collected in five markets of Gopalpur Upazila. Quddus [8], Mia [9] and Rahman [10] identified several types of marketing channels in Netrokona, Mymensingh and Gazipur district, respectively, all of which involve the active participation of aratdar and beparies as a strong link in the existing marketing system. Presence of intermediaries has also been reported in other parts of Bangladesh and India [11,12].

3.1. Fish Production and Distribution

(a). Culture Fish and Fish production

In Gopalpur Upazila fish farmers usually culture both Indian major carps and exotic carps. Indian major carps such as, Rohu (*Labeo rohita*), Catla (*Catla catla*) and Mrigal (*Cirrhinus cirrhous*), and exotic carps such as, Silver carp (*Hypophthalmichthys molitrix*), Grass carp (*Ctenopharyngodon idella*) and Common carp (*Cyprinus carpio*), Sarputi (*Puntius sarana*), Pangus (*Pangasius hypophthalmus*) were very familiar among the farmers due to known culture technology, higher growth rate and good market price. Production of fish varied with the culture environment and management techniques. From the survey, it was found that a farmers production was an

average of 3,512.8 kg/ha of carps. Among them 1,862.6 kg/ha (53.02%) were Indian major carps and the remainder of 1,650.2 kg/ha (46.98%) were exotic carps

(Table 2). The present level of fish production was within the range (2500-4000 kg/ha/yr) reported by of MAEP (1996).

Table 2 Mean fish production (kg/ha) among in the surveyed fish farmers of Gopalpur Upazilla under Tangail district.

Fish	Jurisdiction area					Average
	Gopalpur	Belua	Alamnagor	Suti	Nandanpur	
Indian major carp	2000 (54.35%)	1922 (54.36%)	1831 (51.90%)	1794 (51.89%)	1766 (52.51%)	1862.6 (53.02%)
Exotic carp	1680 (45.65%)	1614 (45.64%)	1697 (48.10%)	1663 (48.11%)	1597 (47.49%)	1650.2 (46.98%)
Total production	3680 (100%)	3536 (100%)	3528 (100%)	3457 (100%)	3363 (100%)	3512.8 (100%)

(b). Fish distribution and marketing system

A number of middlemen were involved between farmers and consumers in fish marketing system in Gopalpur upazilla. The market chain from farmers to

consumers passed through a number of intermediaries, such as: local fish traders (*paikers*), wholesalers and retailers (Figure 3).

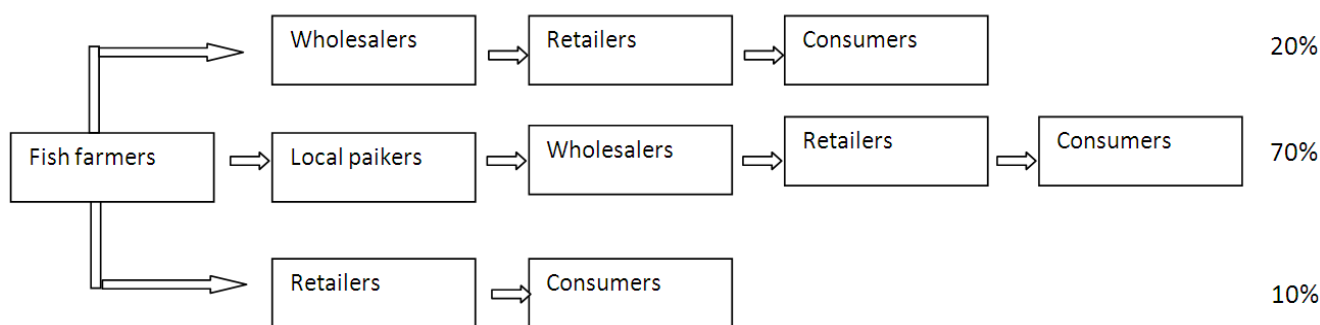


Figure 3. Fish marketing chain from farmers to consumers in Gopalpur

Channel I: Fish farmers- Paikers- Wholesalers- Retailers- Consumers

Channel II: Fish farmers- Wholesalers- Retailers - Consumers

Channel III: Fish farmers- Retailers- Consumers

During survey, it was observed that the demand of fish especially Indian major carp was very high in the Gopalpur bazar market but supply was limited. Here a strong network has developed with brokers and traders, intervening between farmers at one end and the consumers at the other end. In the surveyed where as, there were 10-15 retailers selling fish in each market and about 5 to 7 labors worked with a trader (retailer). Traders operated a capital of around Tk. 5,000 to 15,000 per day. From the survey, it was found that about 70% retailers used their own money for fish trading, while the rest (30%) received loans from friends and relatives without paying any interest.

(c). Amount of fish sold

According to the study, it was found that a fish traders of Gopalpur bazar sold an average 100 kg fish daily, compared with Belua bazar bears 120 kgs, per day, Alamnagor bazar 90 kg per day, Suti bazar 85 kg per day and Nandanpur bazar 80 kg per day. The number of retailers involved in trading fish was 10-12 in Gopalpur bazar, 30-40 in Belua bazar, 15-20 in Alamnagor bazar and 15-25 in Suti bazar. The daily supply of total fish in Gopalpur bazar was estimated at 1.5 tons (average 15 traders × 100 kg), Belua bazar was estimated 4.2 tons (average 35 traders × 120 Kg), Alamnagor bazar was 1.08 tons (average 12 traders × 90 kg) Suti bazar was estimated at 1.5 tons (average 18 traders × 85 kg) and Nandanpur bazar was estimated at 1.6 tons (average 20 traders × 80 kg per week), respectively.

(d). Farmer's, wholesalers and paikers income

Table 3 indicated the average annual income of farmers, wholesalers and paikers.

Table 3. Income (taka) of the fish producers, wholesalers and paiker's in different market of the surveyed area

Parameters	Name of the market				
	Gopalpur bazar	Nandanpur bazar	Suti bazar	Belua bazar	Alamnagor bazaar
Farmers income (Tk/year)	200520	100500	12090	210800	140801
Wholesalers income (Tk/day)	325	250	275	350	300
Paikers income (Tk/year)	109500	100050	100375	127750	91250

(e). Price of fish

Among the cultured species, rohu, catla and mrigal fetched higher prices than the exotic carps. Naturally the price of carp depends on market structure, species, and quality, size and weight. Survey of five fish markets showed that the prices per kilogram of carp increases with size for both Indian major carps (i.e. rohu, catla and mrigal) and exotic carps (silver carp, grass carp and common carp). Traders reported that price varies according to daily demand and there were generally seasonal variations in price with the highest in summer (March to May); the lowest in pre-winter, and winter (November to January) and during fish harvesting season. Table 4 shows average prices of carp in five different markets. It was evident for data in Table 4

Table 4. Average retail price (Tk. / kg) of fishes in different markets

Table 7: Average retail price (Tk./kg) of fishes in different markets							
Fish species		Size of fish (Tk./kg)	Gopalpur bazar (Tk./kg)	Belua bazar (Tk./kg)	Alamnagor bazar (Tk./kg)	Suti bazar (Tk./kg)	Nandanpur bazar (Tk./kg)
Indian major carp	Rohu	≤1	220	210	200	190	200
		1-2	250	230	225	210	220
	Catla	≤1	200	180	190	180	200
		1-2	220	240	230	225	230
	Mrigal	≤1	140	150	150	150	140
		1-2	180	180	180	220	180
Exotic carp	Silver carp	≤1	100	110	100	100	115
		1-2	150	140	130	140	140
	Grass carp	≤1	110	100	95	100	110
		1-2	160	160	150	140	160
	Common carp	≤1	120	120	130	140	130
		1-2	200	200	220	230	200
Average price (1kg size)			176.67	172.5	166.67	169.58	168.75

It was observed that Indian major carps were sold at higher price than exotic carps. In addition, consumers or local traders were not willing to pay high prices for exotic carps due to less demand or taste of the fish. Market price for rui were varied between Tk.190 to 250 (average Tk.220) per kg of fish. The highest average price of Indian major carps was noted for rui (220/ kg) followed by catla (Tk. 210/ kg) and mrigal (Tk.180/kg). Among the exotic carps the highest price was found for common carp (Tk.175/kg) and the lowest for silver carp (Tk.125 per kg) (Table 4). The price variation of silver carp and grass carp was very low between Tk. 95-100/ kg.

(f). Marketing cost

In fish marketing, the cost of fish was not same at different stages in the marketing process. This fluctuated from producer to consumer by the involvement of various intermediaries.

Marketing cost of farmer

Major items of marketing cost of producer of all the groups were transportation market toll, loading and unloading, personal expenses and grading. Data on the marketing costs of fish producer have been presented in Table 5.

Table 5. Marketing cost of farmer

Cost item	Cost (Tk/kg)	Percentage (%)
Transportation	0.355	39.75
Market toll	0.15	16.8
Personal expenses	0.105	11.76
Loading and Unloading	0.208	23.29
Grading	0.075	8.4
Total	0.893	100

The total marketing cost of farmer of study areas was estimated to be Tk. 0.893/kg. Table 5 revealed that the highest cost item of farmer in the study area was transportation, which accounted for 39.75 percent of total cost. The second highest cost was due to loading and unloading of fish (23.29%). The other cost items of producer of study areas in descending order were market toll (16.8%), personal expenses (11.76%) and grading (8.4%). Farmer does not bear any storage cost.

Marketing cost of traders

The traders were the commission agents who performed the function of marketing arrangement for selling fish of farmer and *Paikars*. For performing these functions they had to incur some

Total marketing cost of fish for different intermediaries

The total marketing costs of fish included all costs incurred by different intermediaries standing between the

traders and ultimate consumers. Nature and extent of marketing cost varies of all intermediaries had been shown in Table 6. The total marketing cost of farmer, Traders and, *Paikers* were Tk.0.893, Tk.2.3 and Tk.6.167 for per kg fish, respectively. Cost of marketing of *Paiker* was the highest because of the fact that they had to pay higher Traders commission and higher transportation charges as they took fish from primary market to the long distance in terminal market. Since retailers needed to keep fish few in times before sale than other intermediaries, they increase higher cost because of larger wastage cost. Rahman [13] reported that average marketing cost of *aratdars* and Retailers in Muktagacha market were Tk 83 and Tk 92 per quintal of fish in Cox's Bazar and Chittagong the market margin of the producers/processor, *beparies*, *aratdar*, wholesalers and retailers were Tk 1125, Tk 503, Tk 70, Tk 408 and Tk 554, respectively per quintal of fish [14]. A very much similar picture was also noted in our study.

Marketing margin

Marketing margin at a particular stage of product flow may be defined as the difference between purchase and sale price of a commodity. Marketing margin may be defined as the difference between what the consumer pays and what the producer receives. Marketing margin, in a sense was the price of all utility-adding activities and functions that were performed by intermediaries. Marketing margin includes both marketing cost of performing various marketing functions and profit or loss of intermediaries involved in a marketing channel. Marketing margins of fishes were calculated separately for different intermediaries. Gross marketing margin of each type of intermediaries was calculated by education of the purchase price of fish from their sale prices while net margin or profit component was calculated by deducting the marketing cost from gross marketing margins. As Traders did not perform buying and selling function, they sold the products on behalf of farmer for which they received commission (3%), which was considered as gross margin. The bulk of marketing margin was earned by the assembler and the distributor and retail margin were only 5-10% of the consumer's price. Farmers' share of consumer's price was found to be inversely related with the length of the marketing channel [8,9,13]. Shorter is the marketing chain, the more is the farmer's share to consumers price [15].

Price spread

Summary data on price spread and fish farmer's share of consumer's price are shown in Table 7

Table 6. Total marketing cost of fish for different intermediaries (Tk./kg)

Cost items	Farmer	Traders	Paiker	Total	(%)
Traders commission	....	0.7	2.961	3.661	39.11
Transportation	0.355	0.6	0.801	1.756	18.76
Personal expenses	0.105	0.4	0.545	1.05	11.22
Wastage	...	0.3	0.545	0.845	9.03
Icing	...	....	0.415	0.415	4.43
Wages and Salary	...	.....	0.215	0.215	2.30
Market toll	0.15	0.15	0.144	0.444	4.74
Rent and electricity	...	.....	...	.....	...
Packaging materials	...	...	0.115	0.115	1.23
Loading and unloading	0.208	....	0.165	0.373	3.99
Mobile bill	....	0.15	0.185	0.335	3.58
Grading	0.075	....	0.076	0.151	1.61
Security	...	....	...	....	....
Total	0.893	2.3	6.167	9.36	100

Table 7. Average price (Tk/quintal) spread and fish farmer's share of consumer's price

Marketing channel	Retail price	Fish farmers gross price	Fish farmers net price	Price spread	FFGS (% of retail price)	FFNS (% of retail price)
I	9000	6520	6520	2480	72.44	72.44
II	9000	7395	7251	1605	82.16	80.56
III	9000	7913	7769	1087	87.92	86.33

FFGS = Fish farmer's gross share

FFNS = Fish farmer's net share

Qnt= Quintal (1 quintal = 100 Kg)

Cannel I: Fish farmer – Paikers- Wholesalers- Retailers- Consumers

Cannel II: Fish farmer -Wholesalers- Retailers- Consumers.

Cannel III: Fish farmer - Retailers- Consumers

It was observed that under market channel I (Fish farmer – Paikers- Wholesalers- Retailers- Consumers) the retail price, fish farmers gross price per quintal of fish were Tk. 9000 and Tk., 6520 respectively. The corresponding price spread was Tk. 2480 per quintal of fish, while the fish farmer's gross share was 72.44 %. Similarly for channel II (Fish farmer -Wholesalers- Retailers- Consumers) the price spread was Tk. 1605 per quintal of fish, while the fish farmers gross share was 82.16% of consumers price. In case of channel III (Fish farmers-retailers- consumers) the price spread was Tk. 1087 per quintal of fish while the fish farmer's gross share was 87.92 %. Therefore, in term of farmers share, the performances of channel III relatively much better than that of other channels.

(g). Problems and suggestions of fish marketing

Problem faced and remedial measures suggested by the fishermen by the fishermen

The selected fishermen were asked whether they faced any problems in marketing their fishes. They encountered a variety of marketing problems such as, poor communication and high transportation cost, low price of fish, financial hardship, higher market tolls and lack of marketing facilities such as, electric supply, water supply, drainage facilities and the law order situation. The fishermen suggested that the law and order in the fish market should be maintained and credit should be supplied timely on easy a term which was followed by suggestions such as, market tolls should be fixed, immediate sale of

fish, improvement of roads and communication facilities and timely supply of equipment. Of course this is the common scenario of fish markets in rural Bangladesh which calls for immediate improvement. The above problems regarding fish marketing were also reported by Quddus [8], Khan [12], Subasinghe [16], Mia [9], Parween *et al.*, [17] and Rokcya *et al.* [18].

In fish marketing systems a number of middlemen were involved in each market in the surveyed whereas. The market chain from farmers to consumers passed through a number of intermediaries; local fish traders, agents, wholesalers and retailers. With a few exceptions, farmers never directly communicated with consumer; market communication normally being made through middleman. The middlemen usually bought the fish from the farmers but did not seem to have formal agreements with particular producers.

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