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Marketing System of Carps Alongwith Socio-Economic Status of Fish Traders of Sylhet Sadar, Bangladesh

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Abstract: The present study was conducted in several fish markets in Sylhet Sadar to observe the marketing chain from farmers to consumers through a number of intermediaries such as, local fish traders, *paikers*, wholesalers and retailers. Survey of fish markets showed that the price per kilogram of carps increases with size for both Indian major carps and exotic carps. Among the cultured species, Rohu, Catla and Mrigal observed higher prices (Tk.168-230/kg) the exotic carps (Tk. 140-190/kg). Three types of marketing channel were identified. It was observed that under market channels fish farmers gross price per quintal of fish were Tk. 11500. The corresponding price spreads were Tk. 2200, 1400 and 1000 per quintal of fish, while the fish farmer's gross share were 80.87%, 87.83% and 91.30% respectively. The retailers who purchase fish from the wholesalers and sold to the consumers earned a gross margin of tk 900 per quintal. After deducting marketing cost of Tk 80.75 per quintal, net margin stood at Tk 819.25. The result shows that net marketing margin of retailers under the present study was very high. A number of constraints during fish marketing were reported by traders. In spite of socio-economic constraints, most of the household's of the traders (80%) have improved their status through fish marketing activities.

Key words: Fish · Marketing Channel · Traders · Socioeconomic Condition

INTRODUCTION

Sylhet is a major urban center in north-east Bangladesh and physiographic is consists mainly of hill soils, encompassing a few large depressions known locally as "*beels*" which can be mainly classified as *haor*. Fisheries sector contributes to 4.46% GDP, 5.10% to foreign exchange earnings and 23% to agricultural GDP. About 58% of animal protein comes from fish and one of the most important sectors of the national economy. The total fish productions in Bangladesh were estimated at 32.22 lakh tones in 2011-2012 [1].

Fish marketing is the act of buying or selling fish or fishery products which includes the activities and agencies conducting them, involved in the movement of fish or fish products from the farm or industries to the final consumers or end users. The fish marketing should not have the object only catching and selling of fish but the fish marketing should have the wide scope for exploitation production, distribution, preservation and transportation of fish in addition actual sale of fish by reducing middlemen [2-4]. Livelihood status involved in fish related activities depend on the fisheries resources and marketing system. But most of the fishermen and fish traders are poor and are deprived of many amenities of life. All time they have to struggle to survive. Livelihood condition of fishermen is not satisfactory at all. As the middlemen have established a marketing chain based on the 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 [5].

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Sylhet is recognized as one of the most important fisheries zone of the country and plays a vital role for the development of fish culture and production. The proper emphasis should be given to improve the existing fish marketing system as both are interrelated and closely associated with each other. Considering the importance of the matter, the present study was undertaken with the following objectives to know the existing culture fish (carps) marketing channels and market margin of different stakeholders; and also socio-economic status of traders, fish farmers and fish retailers.

MATERIALS AND METHODS

The present study was based on market survey obtaining information through a sample survey among fish traders, fish farmers, operators (middlemen) and consumers for a period of six months from June to November, 2013.

Study Area: A significant numbers of fish farmers are engaged in fish culture on the commercial basis in Sylhet sadar Upazila. Therefore, a strong and well developed marketing channel is established with fish farmers, commission agents, fish farmers, fish traders, consumers and other associated groups. For the above reason, Sylhet sadar Upazila was selected as the research area. The fish farmers are those people who raise fish for either own consumption or for sales. A total of 30 commercial fish farmers having 10 from each market were selected based on the principle of random sampling; and they were interviewed personally for collection of pertinent information about fish production and fish marketing.

Collection of Data: For the study a combination of interview schedule, participatory rural appraisal (PRA) tool such as focus group discussion (FGD) and cross-check interviews with key informants were used for fishermen. A total of 15 FGDS sessions (5 in each area) were conducted where each group size of FGD was 6 to 12 intermediaries. Crosscheck interviews were concluded with key informants such as Upazila Fisheries Officers, Fish market management committee and relevant NGOs workers where information was contradictory or request for further assessment.

Data Processing and Analysis: The collected data were summarized and processed for analysis. 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, MS word and SPSS package have been used.

RESULTS AND DISCUSSION

In Sylhet Sadar, fish farmers usually culture both Indian major carps and exotic carps. From the survey, it was found that a farmer's production was an average of 2150 kg/ha of carps. Among them 1200 kg/ha (55.81%) were Indian major carps and the remaining of 950 kg/ha (44.19%) were exotic carps. Jamali *et al*. [6] found that a farmers production of carp in Gopalpur Upazilla 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 which is more similar to the present findings.

Fish chain passes through a number of intermediaries such as, local fish trader, beparies, aratdar, whole sellers and retailers (Fig. 1). In the present study, three types of marketing channels were observed. These channels were: (a) fish farmers- paikers- whole sellers-retailers- consumer. (b) Fish farmers- whole sellers-retailers- consumers and (c) fish farmers- retailers-consumers which coincides with Quddus [7], Mia [8] and Rahman [9] where they identified several types of' marketing channels in Netrokona, Mymensingh and Gazipur district, respectively.

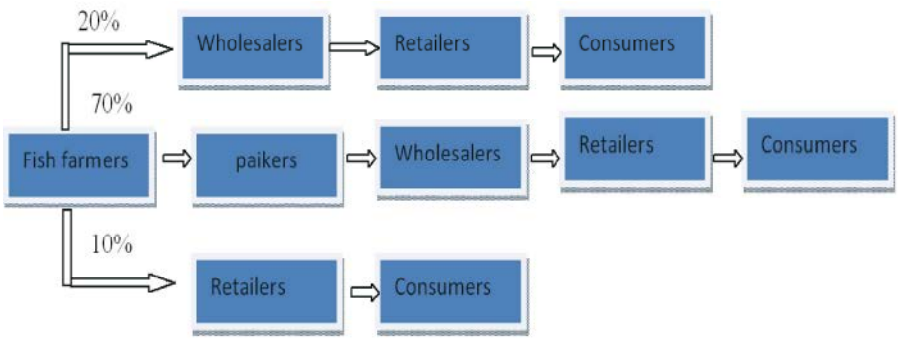

Fig. 1: Fish marketing chain from farmers to consumers in Sylhet Sadar

Table 1: Retail price (Tk.kg^{-1}) of carps in three different markets

	Fish species	Bandar bazar	Kazi bazaar	Modina market
Indian major carp	Rohu *(Labeo rohita)*	192.94±13.09	189.39±16.82	190.83±19.88
	Catla *(Catla catla)*	179.66 ±13.26	179.50±13.35	182.72±17.83
	Mrigal *(Cirrhinus cirrhous)*	167.78±11.86	164.89±12.59	163.00±10.27
Exotic carp	Silver carp *(Hypophthalamichthus molitrix)*	146.00±3.16	144.83±3.68	142.78±2.63
	Grass carp *(Ctenopharyngodon idella)*	153.06±1.96	153.06±1.98	153.72±2.87
	Common carp *(Cyprinus carpio)*	164.83±10.56	167.83±12.50	169.83±14.42

**(Mean ± standard deviation)

Table 2: Prices of fish in Bandar Bazar during June to November 2013

Month	Rui	Catla	Mrigal	Common carp	Silver carp	Grass carp
June	210.00±10.00	196.67±5.77	186.67±5.77	181.67±2.89	149.33±1.15	155.33±.58
July	201.00±7.64	196.67±11.55	175.00±5.00	173.33±2.89	149.33±1.15	154.67±.58
August	195.00±5.00	172.33±2.52	171.67±2.89	166.67±2.89	147.00±1.73	153.00±1.73
September	195.00±5.00	172.33±2.52	161.00±3.61	157.67±2.52	145.00±.00	153.33±1.15
October	177.67±2.52	170.00±2.00	157.00±1.73	155.33±.58	143.00±1.73	151.33±1.15
November	178.33±2.89	170.00±2.00	155.33±.58	154.33±.58	142.33±2.52	150.67±1.15

**(Mean ± standard deviation)

Table 3: Prices of fish in Kazi Bazar during June to November 2013

Month	Rui	Catla	Mrigal	Common carp	Silver carp	Grass carp
June	216.67±15.28	200.00±10.00	183.33±5.77	188.33±2.89	149.33±1.15	155.67±.58
July	199.33±11.02	190.00±10.00	180.00±5.00	178.33±2.89	148.67±1.15	154.67±.58
August	185.67±4.04	179.00±6.56	158.00±2.00	168.33±2.89	144.00±1.73	152.67±1.15
September	183.33±10.41	170.67±1.15	155.67±.58	158.67±1.15	145.00±3.00	153.33±1.15
October	175.00±3.00	169.33±1.15	155.33±.58	157.33±1.15	140.67±1.15	151.33±1.15
November	176.33±3.21	168.00±2.00	157.00±1.73	156.00±1.73	141.33±1.15	150.67±1.15

**(Mean ± standard deviation)

Table 4: Prices of fish in Modina Market during June to November 2013

Month	Rui	Catla	Mrigal	Common carp	Silver carp	Grass carp
June	223.33±5.77	216.67±5.77	178.33±2.89	193.33±2.89	147.00±1.73	157.33±1.15
July	210.00±10.00	190.00±10.00	175.00±5.00	181.67±2.89	144.00±1.73	156.67±1.15
August	180.67±1.15	179.00±6.56	157.67±2.52	171.67±2.89	143.00±1.73	154.33±.58
September	181.00±1.73	170.67±1.15	156.33±1.53	158.67±1.15	141.33±1.15	152.67±1.15
October	177.67±2.52	169.33±1.15	155.33±.58	156.67±1.15	140.67±1.15	150.67±1.15
November	172.33±2.52	168.00±2.00	155.33±.58	157.00±1.73	140.67±1.15	150.67±1.15

**(Mean ± standard deviation)

During survey there were 25-35 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. Ahmed *et al.* [10] found that traders operated around Tk. 5,000 to 50,000 per day and 60% retailers used their own money for fish trading, while the rest 40% received loans which are more or less similar to the present study. Local fish traders earned a profit of 1-5% of the sale proceed of fish at wholesale price. Quddus [7] also identified a similar market chain in Mymensingh district.

Survey of three 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) which are presented in Table 1.

The price of fish varies with the types of species, sizes, freshness, market demands and seasons. Usually the prices of the fishes are higher in June to July when the fish are in short supply. On the contrary, prices remain lower during October to November which seemed to be related with the increased availability of' both captured and cultured fishes during this period. 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 (Tables 2-4).

Table 5: Marketing margin of intermediaries (Tk per quintal of fishes)

Intermediary	Purchase price 1	Sell price 2	Gross Margin *3=(2-1)	Marketing cost 4	Net margin **5=(3-4)
Paiker	9300	10000	700	174.50	525.50
Wholesaler	10100	10500	400	47.50	352.50
Retailer	10500	11400	900	80.75	819.25

*1quintal = 100 kg, *Gross margin = Sale price – purchase price

**Net margin = Gross margin – marketing cost

Table 6: 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 sprea	FFGS (% retail price)	FFNS (% retail price)
I	11500	9300	9300	2200	80.87	80.87
II	11500	10100	10000	1400	87.83	86.96
III	11500	10500	10400	1000	91.30	90.43

FFGS = Fish farmer's gross share, FFNS = Fish farmer's net share

Qnt= Quintal (1 quintal = 100 Kg)

Channel I: Fish farmer → Paikers → Wholesalers → Retailers → Consumers

Channel II: Fish farmer → Wholesalers → Retailers → Consumers.

Channel III: Fish farmer → Retailers → Consumers

It has been found that the price of Indian major carps (Tk168-230) always remained higher than the exotic carps (Tk 140-190). This difference in the prices of fishes might be related with the flesh texture and taste of the local fishes. Jamali *et al.* [6] reported that 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) and the exotic carps the highest price was found for common carp (Tk.175/kg) and the lowest for silver carp (Tk.125 per kg) which is higher in price than the present finding. It may be occurred due to different area of the country. Rahman [9] reported that major carps such as, Rohu, Catla and mrigal fetched higher price than exotic carps in Gazipur district. The retailers who purchase fish from the wholesalers and sold to the consumers earned a gross margin of Tk 900 per quintal. After deducting marketing cost of Tk 80.75 per quintal, net margin stood at Tk 819.25 (Table 5). The result shows that net marketing margin of retailers under the present study was very high. Therefore, the fishers and fish farmers are losing more in this region.

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. 11500 and Tk. 9300, respectively. The corresponding price spread was Tk. 2200 per quintal of fish, while the fish farmer's gross share was 80.87%. Similarly for channel II (Fish farmer -Wholesalers-Retailers- Consumers) the price spread was Tk. 1400 per quintal of' fish, while the fish farmers gross share was 87.83% of consumers price. In case of channel III (Fish farmers-retailers- consumers) the price spread was Tk. 1000 per quintal of fish while the fish farmer's gross shale was 91.30%. Therefore, in term of farmers share, the performances of channel III was relatively much better than that of other channels (Table 6).

From our survey it was found that the wholesalers make a significant amount of profit. Generally they make a profit of Tk 850-2000 taka per quintal of fish over their purchase price. The wholesalers operate with a capital of Tk 20,000 to 30,000 per day. The wholesalers invest more capital than the retailers and as such, they have greater control over the agent and retailers. The present findings are in agreement with the report of Rahman [9] who observed similar scenario in Gazipur Sadar and Sreepur Upazilla market. Rahman [11] reported that the 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 [12]. A very much similar picture was also noted in our study.

The production and marketing of fish was a profitable business. People may earn a substantial amount of cash income all the year round by which the incumbents may improve their economic condition- Therefore, on efficient production and marketing of fish may be considered as a means of social and economic change for those who are engaged in this business. In our study the fish market and marketing environment were found to be manifested with a large number of problems. These were higher transport cost, poor road communication, absence of icing facilities, inadequate water supply, poor hygienic and sanitation condition etc. The above problems regarding fish marketing were also reported by Khan [13], Mia [8] and

Rokeya *el al.* [14]. From the present survey it was found that, maximum of traders (40%) were quit young, less than 30 years of age. There was very little difference in average age of the fish traders among the three markets. Among the traders 40% were up to 30 years of age, 37.77% between 31 to 40 years, 15.55% between 41 to 50 years and 6.66% were more than 50 years of age. The highest percentages of the fish traders in all the markets were up to 30 years age group. According to Siddique *et al.* [15] distribution of age structure ranged from 18 years to 60 years of fishers of the *Dogger beel* which is less similar to the present findings.

Young people particularly the Muslim are coming to the fish marketing business in increased number. Active participation of the young educated people in fish marketing network was also observed by other researchers. Siddique [15] reported that Muslim fish traders were dominating the fish trader's community in Mymensingh district. Rahman [9] found increased number of Muslim fish traders in Gazipur and Sreepur fish markets. The present finding coincides. From the survey, it was found that 26.66% fish traders were illiterate, 42.22% have primary level of education, 15.55% secondary level, 8.88% S.S.C., 6.66% H.S.C. and none of them found to have bachelor degree. It was also observed that the higher number of traders with primary level of education was in Bandar Bazar (46.66%) followed by Kazi bazaar (40%) and Modina Market Bazar (40%). Alam *et al.* [16] reported that fish traders are near about 10% illiterate, 25% primary level, 10% secondary level, 40% S.S.C. level, 5% H.S.C. level and 10% other or higher educated at Swarighat in Dhaka which is more or less similar to the present study.

The fish farmers, fish traders (Paikers) and other intermediaries have been benefited from fish farming and fish marketing business. This has been reflected in their higher income. Analysis of the marketing margins indicates that the intermediaries particularly the retailers enjoy a substantial amount of financial benefit (about Tk 710 /quintal of fish) from selling fish. Improvement of' the existing physical infra-structures in term of drainage, water supply, icing, facilities etc, in fish markets are required to ensure hygienic and good quality of fish to be available to the consumers at a reasonable price.

CONCLUSION

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. A number or constraints during fish marketing were reported by traders including higher transport cost, poor road and transport facilities, poor supply of ice and exploitation by middlemen, inadequate drainage system, poor water supply, poor sanitary facilities and unhygienic condition etc. Political disturbances also sometimes affect fish transportation as well as marketing. However, concerns arise about the long term sustainability of their livelihoods. The present sales facilities could considerably be improved in regard to hygiene and fish quality. Insufficient supply of ice in the markets is one of the most important problems for fish preservation. The development of infrastructure is essential for better fish marketing systems. A suitable positive policy at government level should develop and implement properly for sustainable marketing system.

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