



Short Communication

Fish availability and marketing system at Ashuganj Upazila, Brahmanbaria, Bangladesh

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Abstract. The research was conducted to identify the fish availability and fish marketing system in different markets of Ashuganj upazila under Brahmanbaria district. Data were collected from fish retailers, wholesalers and consumers of three different markets namely Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar through individual interviews and focus group discussion. The maximum 19 species were found in Ashuganj Bazar while 16 species were found in Ferryghat Bazar and 14 species were found in Khariyala Bazar. The species composition included 36% Catfishes, 15.33% SIS, 11.33% Ilish, 6.66% Thai pangas, 6% Prawn and Shrimp, 6% Marine fish, 6% Carps, 5% Tilapia and 2.33% Thai koi. The daily average gross profit of fish retailers in Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar were estimated as Tk. 550/day, Tk. 500/day and Tk. 480/day respectively. The results showed that 62% of the retailers have improved their socio-economic condition through fish selling. A number of constraints such as lack of storage facilities, poor supply of ice, exploitation by middleman, lack of money and lack of infrastructure were reported by the retailers.

Keywords: Fish availability, Fish marketing

The position of fish and fish products is third in the list of exporting products from Bangladesh (DoF 2016). Markets have become a major issue for fisheries sector, where consumers' demands, international competitiveness, health and quality product are important (Muir *et al.* 1996). To develop fisheries sector, proper emphasis should be given on fish marketing system. Considering the importance of the matter, the present study was undertaken to identify the fish availability, the existing fish marketing systems and to figure out the existing problem in the fish market of Ashuganj upazila of Brahmanbaria district of Bangladesh.

The study area includes three important fish market, namely: Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar. The data were collected through questionnaire interview from relevant stakeholders. The data were verified to eliminate errors and inconsistencies. Some of the collected data were in local units due to respondent's familiarity with those units. Data of local units were converted into international units before transferring to the computer. Preliminary data sheets were compared with the original questionnaire and result sheets to ensure the accuracy of the data entry. Data were processed and finally analyzed by using Microsoft Excel Software.

Fish distribution and marketing channel: The fish marketing chain from farmer/fishers to consumers passes through a number of intermediaries such as, local fish trader, *aratdar*, wholesalers and retailers. Three types of marketing channels were observed in the Ashuganj Bazar, Ferryghat Bazar, and Khariyala Bazar. These channels were: (a) fishermen/fish farmers–wholesalers–retailers–consumer, (b) fishermen/fish farmers– *aratdar/local paikers*– wholesalers–retailers– consumers, and (c) fishermen/fish farmers– retailers– consumers.

Supply of fish in markets: The daily supply of fish in these markets varied with season. The average daily supply of fish and species composition in Ashuganj Bazar, Ferryghat Bazar, and Khariyala Bazar are shown in (Table I). Most of the fish (80.1%) are brought from different rivers, canals, beels and ponds of Ashuganj region and the remaining parts (19.99%) from Shabajpur, Akhuara, Comilla, Chadpur, Narsingdi, Chittagonj and Mymensingh region (especially Thai Pangus, Tilapia, Ilish, Shrimp, Prawn, Thai koi) and Indian major carp from India.

Several types of marketing channels were observed in Netrokona, Mymensingh and Gazipur district (Rahman 2003). Presence of intermediaries has also been reported in other parts of Bangladesh and India (Khan 1995). Local *mahajan/aratdar* purchases the fish on the bank of river or beel/pond side and carries them to wholesalers in Ashuganj by truck and van. Here they make a profit in the tune of 10-12% commission. (Sen 2008) shows agents or suppliers of Madaripur to purchase the fish at the pond side and carry them to the fish markets. Here they make a small profit in the tune of 5-10% of the farm price. On the other hand, some of the local agents do not invest any capital rather they act as a commission agent at 2-5% commission for sending the fish to the markets.

Composition of fish in markets: The variation on species composition of fish in three different markets is shown in Table I. It was found that Catfishes were the dominant fish species in the three markets. It was estimated that a major portion (36%) of the fish found in the three markets were catfishes (native Pangus, Shing, Magur, Rita, Tengra, Boal, Air). The availability of riverine fish such as Rohu, Catla, Mrigal, Jat punti, Tit punti, Koi, Shol, Taki, Shing and SIS. Small indigenous fish (Bele, Mola, Baim, Bata, Puti, Sarputi, Chanda, Taki) (15.33%), (11.33%) Ilish. Besides the small quantities of other fishes such as Thai Pangus (6.66%), Prawn and Shrimp (6%), Marine fish (6%), local pond Carp (5.33%), carps (6%), Tilapia (5%), Thai Koi (2.33%) and some other types of open water fish were found in the three markets. The availability of Carps, Tilapia, Thai Pangus were higher in November, December and January months. (Afroz 2007) found that about half of the fish (48%) supplied in the markets was Indian major carps, minor carps and exotic carp and catfish (13%), ilish (8%), tilapia (6%), small indigenous fish (7%), prawn and shrimp (4%) and other fish including marine about 10% (Table I). (Shrivastava and Ranadhir 1995) observed that the demand for rui fish and its local contribution to sale was highest in India. The most commonly sold fish species in the market were Rui, Catla, Mrigal and Grass carp. Most of the fish (80.1%) are brought from different rivers of the district and the remaining part from Mymensingh, Comilla, Chadpur, Shabajpur and Chittagonj region (especially Thai Pangus, Tilapia, Thai Koi, Ilish, Jat Punti) and large sized Indian major carp from India. (Afroz 2007) found the daily supply of fish in Mechua bazar, Natun bazar and railway market in Mymensingh as 5-6 tones, 2-3 tons and 1-2 tons respectively. It was also found that a good number of Indian major carps was imported from India and Mayanmer. (Rahman, 2003) found the daily supply of fish in Gazipur Sadar and Sripur markets as 2-3 tons and 1-2 tons respectively. A significant amount of carps imported from outside the country mainly from India and Myanmar. (Siddique 2001) also found that in Mymensingh markets, fish are imported from Myanmar and India especially large sized Indian major carps.

Table I. Market shares of main fish species in three different fish markets

Source of fish in the markets	Fish	Ashuganj Bazar %	Ferryghat Bazar %	Khariyala Bazar %	Average %
Ashuganj region %	Ilish	14	12	8	11.33
	Marine fish (Rup chanda, Surma, Churi,)	7	6	5	6.00
	Catfishes (Pangus, Shing, Magur, Pabda, Rita, Tengra, Boal, Air)	35	36	37	36.00
	Local pond carp (Indian major carps and exotic Carps)	5	7	4	5.33
Outside of Ashuganj region %	Carps (Indian major carps and exotic carps)	4	5	9	6.00
	Tilapia	6	5	4	5.00
	Prawn & Shrimp	6	5	7	6.00
	Thai Koi	2	2	3	2.33
	Thai Pangus	6	7	7	6.66
	Total	100	100	100	100

Season and timing of fish trading: Fishes are marketed year round. But during rainy season the availability of captured fish is very high and before winter and during winter the availability of cultured fish is higher than captured fish. Also during Ilish breeding period (August, September, October) the availability of Ilish and Chingri become very high. The time of fish trading was different from each other. Ashuganj Bazar traders were engaged in fish trading from 7.00 AM to 10.00 AM, while in Ferryghat Bazar traders were engaged in fish trading from 7.00 PM to 9.00 PM and Khariyala Bazar traders were involved in fish trading from 3.00 PM to 6.00 PM.

Mode of transportation of fish: The daily supply of fish in these markets varied with season. The average daily supply of fish and species composition in Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar are transported by various way. Virtually most of the fish (80.1%) are brought from different rivers, canals, beels and ponds of the Ashuganj region by van, truck and rickshaw and the remaining parts (19.99%) from Shabajpur, Akhara, Comilla, Chadpur, Narsingdi, Chittagonj and Mymensingh region (especially Thai Pangus, Tilapia, Ilish, Shrimp, Prawn, Thai koi) and Indian major carp from India by mainly truck and steamer.

Fish marketing constraints: Different types of constrain were found in the three market of Ashuganj upazila that included: High production cost and marketing cost, Poor icing facilities, Poor road and transport facilities, High demand of labour during harvesting season, Exploitation of middleman, Lack of maintenance of proper hygiene, Poor infrastructure, Poor electricity, Poor water supply, Poor landing, Poor drainage system, Poor sanitation condition, No system to keep the fish in alive, Roof made of tin, so problem in summer. In Ashuganj, several types of constraints for fish marketing were reported by retailers including exploitation by middleman, lack of storage facilities, lack of infrastructure, poor supply of ice and lack of money. According to the retailers, political disturbances may also affect fish transportation as well as marketing. As a result, the perishable product of fish get damaged and the retailers sold these in cheap price, sometimes they even fail to get any profit due to quality deterioration. Khan (1995)

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described several problems of fishermen and intermediaries in Mymensingh such as poor transportation, lower price of fish, lack of storage facilities, lack of weighting system, assessment of market tolls, lack of marketing facilities as well as political instability. (Subasinghe 1995) found that the quality of the fresh fish in most domestic markets in the Asian region is far from satisfactory. Poor on board practices, poor infrastructure, handling, and storage facilities are causes for the low quality fish in many domestic markets.

Number of retailers: The number of retailers and traders in the three different markets varied from each other. The total number of traders in Ashuganj Bazar 13, while 11 in Ferryghat bazar and Khariyala Bazar in 9. The total number of retailers in Ashuganj Bazar 55, while 40 in Ferryghat Bazar and 30 in Khariyala Bazar.

Amount of fish landing and sale: It was found that the total fish landing in the markets varied from time to time. During winter season quantity of cultured fish landed was higher than other seasons and during rainy season the quantity of captured fish landing was higher than cultured fish. The amount of fish landed in Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar have been estimated to 5.5-6.5 tonnes, 5.5-6 tonnes and 3.5-5.5 tonnes, respectively (Table II).

Table II. Amount of fish landed and capital operated by retailers and wholesaler in three fish markets

Markets	Amount of fish landed (tonnes)	Capital operate by retailer (Tk/Day)	Capital operate by wholesaler (Tk/Day)
Ashuganj Bazar	5.5-6.5	7000-19000	42000-250000
Ferryghat Bazar	5.5-6	6000-20000	34000-180000
Khariyala Bazar	3.5-5.5	4000-14000	

Amount of capital operated: It was found that the amount of capital operated by fish retailer and wholesaler of Ashuganj Bazar, Ferryghat Bazar and Khariyala Bazar were different from each other. Table II shows that retailers of Ashuganj upazila typically operate with capital of around Tk. 7,000 to Tk. 19,000 in Ashuganj Bazar while in Ferryghar Bazar Tk. 6,000 to Tk. 20,000 and at Khariyala Bazar Tk. 4,000 to Tk. 14000 per day whereas the wholesalers possess more capital around Tk. 42,000 to Tk. 250,000 at Ashuganj Bazar and Tk. 34,000 to Tk. 180,000 Ferryghat Bazar. per day) than retailers and have the means to control agents and retailers.

Price of major fish species: The price of fish varied with season, availability, size and quality. It also varied with live or death condition especially Jat punti, Sarpunti, Pangus, Rohu, Shol, Taki, Shing, Tit Punti, Catla, Mrigal etc. Due to limited secondary data, it was difficult to do any proper price analysis but nevertheless a trend can be conducted for ranging the price of mostly available fish (Table III). Retailers also noted that price varied according to daily demand and supply of fish. Seasonal variations in prices were the highest in summer (March to May) and the lowest in rainy season (August, September and October). Among the three markets Khariyala Bazar showed the lower prices of all kinds of fishes either native or exotic and captured or cultured compared to other three markets in the Ashuganj upazila. Among the cultured species, Rohu, Catla and Mrigal are higher prices than the exotic carp. The reason for the low prices of exotic carp can be explained by the demand and taste that consumers or local

retailers are not willing to pay high prices. Among the exotic carp, common carp was found to be most valuable. In the present study the price of carp was found to fluctuate with the variation of species, size and weight. During Ramadan months in July and August the demand of fishes became higher that lead the price of fish to be higher than other months. According to (Rahman, 2003), naturally the price of carp depends on market structure, species, quality, size and weight.

Table III. The price of some important fish species in three different markets

Most available fishes	Price range Taka/Kg		
	Ashuganj Bazar	Ferryghat Bazar	Khariyla Bazar
Rohu (<i>Labeo rohita</i>)	200-210	190-205	175-185
Catla (<i>Catla catla</i>)	220-240	208-220	195-210
Tilapia (<i>oreochromis niloticus</i>)	150-160	145-155	135-145
Bele (<i>Glossogobius giuris</i>)	270-290	265-275	250-270
Pangus (<i>Pangasius pangasius</i>)	110-120	105-110	110-120
Sarpunti (<i>Puntius sarana</i>)	150-170	155-170	140-160
Silver carp (<i>Hypophthalmichthys molitrix</i>)	120-140	120-130	110-120
Koi (<i>Anabas testudineus</i>)	480-500	450-500	420-450
Prawn (<i>Macrobrachium rosenbergii</i>)	180-190	170-180	150-165
Common carp (<i>Cyprinus carpio</i>)	260-270	250-260	240-250
Tit punti (<i>Puntius ticto</i>)	120-130	125-130	115-120
Kalibaush (<i>Labeo calbasu</i>)	300-320	290-310	
Bata (<i>Labeo bata</i>)	180	150	150
Shing (<i>Heteropneustes fossilis</i>)	450	430	400
Magur (<i>Clarias batrachus</i>)	380	350	330
Tengra (<i>Mystus annulus</i>)	250	260	240
Mola (<i>Amblypharyngodon mola</i>)	230	250	220
Taki (<i>Channa panchatus</i>)	150	130	130

The study was based on market survey, obtaining information through a sample survey among fish retailers. The marketing chain from farmers to consumers passes through a number of i.e, *mahajan*, *aratdar*/ *local paikers*, wholesalers and retailers. With a few exceptions, fishermen never directly communicate with consumers, communication normally being made through middleman. Local *paiker*/*aratdar*/*mahajan* carries fish from fishermen to the wholesalers in market and typically earns 7-10% commission for their services. Physical marketing facilities should be extended to reinforce and grow the marketing channel, and unnecessary and underused middlemen should be eliminated. More fish marketing study is anticipated to be undertaken in order to evaluate the importance of a marketing strategy for effective management and cleanliness.

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