Marketing system of fishes and socioeconomic condition of fish retailers in Rajshahi city corporation

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Abstract: The fish marketing system in three markets of Rajshahi City Corporation and the socio-economic status of the fish retailers were studied for a period of six months from January to June, 2008. Data were collected through questionnaire interviews and focus group discussions. The fish marketing chain started from thtye fish farmers to the consumers' passes through a number of intermediaries such as, local fish traders, agents/supplier, commission agents and the retailers. The daily supply of fish in Binodpur bazar, Shaheb bazar and Court bazar was estimated as 1-2, 4-5 and 0.5-1 tones, respectively where carp fish was the highest (33.66%) and tilapia was the lowest (4%). The fish price varied according to daily demand and seasonal variations. The fish retailers in three markets made a considerable amount of profit. Most of the fish retailers in all level of marketing chain had education at some level and were quite young and Muslim dominated (75%). The average family size of the fish retailers was 5.6 and 81.66% improved their socio-economic conditions through fish trading. Higher production cost, transport cost, unhygienic market place, lack of sanitary facilities, poor ice-supply, and exploitation by the middlemen, lack of capital and the political disturbances were the common constraints of the fish marketing. Necessary measures were recommended to overcome these problems.
Key words: Fish marketing system, fish retailers, constraints and socio-economic condition.

Introduction

Rajshahi has different types of natural water resources especially floodplain areas where a large amount of small indigenous species (SIS) of fishes and other Indian major carp, exotic carp were produced. Rajshahi town is interconnected with the Padma river and other adjacent beels, floodplains, canals and other water resources. Fish markets have become a major issue for aquaculture sector, where consumers demands, international competitiveness, health and quality product are important (Muir *et al.,* 1996). The prices usually fluctuated seasonally due to variations in the supply and demand (Shang, 1981). The consumers' acceptance and price levels of the market are major factors that determine economics viability in many situations (Sadanandan *et al.,* 1992). The fish market in our country is virtually a cluster of disorganized activities and always remains in the control of influential persons of the surroundings area, depending on a wide range of social, economic and political factors (Rashid, 2006). The control over domestic markets by government official is only sporadic (Parween, 1982). In Bangladesh, fish marketing is almost exclusively a preserve of the private 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 (DFID, 1997). Several studies have already been carried out to explore the marketing system and the socio-economic condition of the poor retailers (Ahmed, 1984 and 1997; Khan, 1995; Rokeya *et al.*, 1997 and Siddique, 2001), but no or limited information is documented on Rajshahi City Corporation also. Therefore, the present study was undertaken to understand the existing fish marketing systems and to assess the socio-economic condition of the fish retailers.

Materials and Methods

Selection of the study area: Three fish markets namely, Binodpur bazar, Sahaheb bazar and Court bazar of Rajshahi City Corporation were selected for the present study after discussion with fish farmers, retailers, local leaders, District Fisheries Officer (DFO), Senior Upazila Fisheries Officer (SUFO) and NGO workers based on market history, number of fish retailers, duration of marketing season and time etc. The study was carried out for a period of six months from January to June, 2008.

Methodology: For this study a combination of questionnaire interview, Participatory Rural Appraisal (PRA) tools such as Focus Group Discussion (FGD) and crosscheck interviews were conducted with key informants such as Upazilla Fisheries Officer, BRAC, Local leaders and NGOs workers. The draft questionnaire was tested with 10 fish retailers in the study area. The questionnaire were changed, modified and rearranged according to the experience gathered in pre-testing of questionnaire. A total of 60 fish retailers taking 20 from each of the selected bazar were randomly chosen for questionnaire interview. In addition, a total of 60 consumers were interviewed at the market centre, home or office with questionnaires. Tabular technique was applied for the analysis of data by using simple statistical tools like average and percentage by Microsoft Excel.

Results

Fish distribution and marketing system: A number of middlemen are involved between farmers and consumers in fish marketing system in Rajshahi town. The market chain from farmers to consumers passes through a number of intermediaries, such as: local fish traders (paikers), wholesalers and retailers (Fig. 1) and found three types of marketing chain.

Supply of fish in markets: Fishes in Binodpur bazar, Shaheb bazar and Court bazar have been estimated as 1-2, 4-5 and 0.5-1 tones, respectively. Virtually most of the fish (90%) are brought form different areas of the district and the remaining part of Barisal and Chandpur region (especially hilsa fish). It was estimated that about half of the fish (35%) regularly sold in markets were major carps (Table 1). Besides the carps, small quantities of other fish, e.g. hilsa, catfish, tilapia, small indigenous species (SIS) of fish, prawn and shrimp and other fish including marine ones are sold in the markets. Buses, trucks and pickups

were used for transport of fish to the markets from inside and outside of the district. During the survey some consumers claimed that they did not prefer imported fish because of formalin (a highly toxic substance and hazardous to human health).
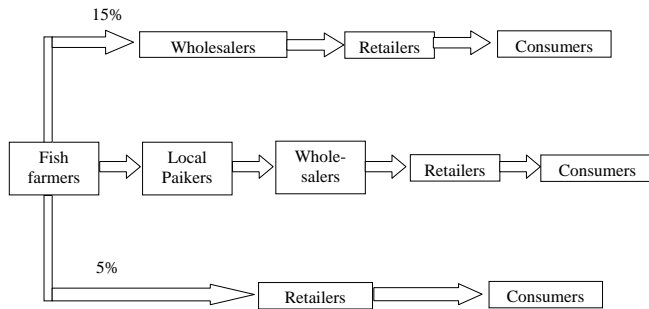

Fig 1. Fish marketing chain from farmers to consumers in Rajshahi City Corporation

Channel I: Fish farmers → Paikers → Wholesalers → Retailers → Consumers
Channel II: Fish farmers → Wholesalers → Retailers → Consumers
Channel III: Fish farmers → Retailers → Consumers

Season and time of fish trading: The season of fish trading was round the year. In Binodpur bazar, retailers were engaged in fish trading from morning 8 am to noon 1 pm, while in Shaheb bazar and Court market were engaged from 6 am to 8 pm and 7 am to 11 am, respectively. Retailers in Binodpur bazar and Shaheb bazar were spent more time due to higher amount of fish.

Amount of fish sold: It was found that a fish retailer of Binodpur bazar, Shaheb bazar and Court bazar sold on an average 50, 65 and 30kg fish/day, respectively. About 35, 75 and 25 numbers of retailers were involved in Binod bazar, Shaheb bazar and Court market, respectively. The daily supply of fish in Binod bazar, Shaheb bazar and Court market was 1-2, 4-5 and 0.5-1 tones, respectively which indicated that the amount of fish sold by a retailers at Shaheb bazar was double than Binodpur bazar and the amount of fish sold in Binodpur bazar was double than Court market.

Price of fish: It was found that price of fishes were varied according to daily demand and seasonal variations with the highest in April to June and the lowest in January to March and the Court bazar showed the lower prices of all kinds of fishes either native or exotic and captured or cultured compared over two markets in the Rajshahi City Corporation. Price of some important fish species were found flexible in market to market (Table 2).

Table 1. Market shares of main fish species in three different fish markets

Source of fish in markets	Fish	Binodpur (%) bazar	Sahaeb bazar (%)	Court market (%)	Average (%)
Rajshahi region (90%) (Sadar upazila, Paba, Puthia, Godagari, Tanore, Durgapur)	Indian major carps	26	34	31	30.33
	Small indigenous fish (Mola, tengra, shol, bele, punti)	36	26	26	29.33
	Catfishes (Pangus, Shing, Air, Boal, Magur)	9	10	11	10
	Hilsa	10	12	11	11
	Prawn	5	6	4	5
	Tilapia	3	3	6	4
	Others (Silver carp, Bighead carp, Grass carp)	4	4	7	5
Outside of Rajshahi (10%) (Gopulgonj, Faridpur, Barisal, Chandpur)	Carps (Indian and Exotic)	5	2	3	3.33
	Other (Including marine marine fish)	2	3	1	2
Total		100	100	100	100

Table 2. Average price (Tk./kg) of fishes in different markets of the Madaripur town

Fish species	Av. price (Tk./kg)
Catla (*Catla catla*)	100-120
Rohu (*Labeo rohita*)	120-150
Mriga (*Currhinus cirrhosus*)	80-90
Illish (*Tenualosa ilisha*)	250-280
Thai pangus (*Pangasius hypophthalmus)*	50-80
Small indigenous species of fish (Mola, Tengra, Shole, Bele, Punti)	125-150

Constraints of fish marketing: A number of constrains for fish marketing were reported by retailers, including higher transport cost, poor road and transport facilities, poor supply of ice, exploitation by middlemen as a result of lower market prices, inadequate drainage system, poor water supply, poor sanitary facilities, political disturbance and unhygienic condition (Table 3). As a result, the perishable product of fish got damaged and the retailers sold these as cheap prices, sometimes they even failed to get any revenue due to quality deterioration.

Socioeconomic conditions of fish retailers

Age structure: Most of the retailers were quite young and average age was 32.1 years with a range from 19 to 65

years. There was very little difference in average age of the fish retailers among the three markets (Table 4).

Family size : The average family size of the retailers was found to be 5.6 persons in a single family. The average family size was higher in Shaheb bazar (5.8) than Binodpur bazar (5.6) and Court bazar (5.4).

Education: It was found that the total (60) interviewed, 58.33% of retailers had primary level of education, 26.67% had secondary, 9% had S.S.C, none had H.S.C and bachelor level of education (Table 5).

Table 3. Key constraints for fish marketing by retailers

Constraints	Binodpur bazar	Shaheb bazar	Court market	Total
	n = 20	n = 20	n = 20	N = 60
Higher transport cost	9 (45%)	6 (30%)	4 (20%)	19 (31.66%)
Exploitation by middlemen	5 (17%)	4 (20%)	3 (15%)	12 (20%)
Poor ice supply	2 (10%)	3 (15%)	3 (15%)	8 (13.33%)
Lack of money	3 (15%)	4 (20%)	5 (17%)	12 (20%)
Lack of infrastructure	1 (5%)	3 (15%)	5 (25%)	9 (15%)

(n = sample size)

Table 4. Distribution of fish trader's age groups

Age distribution (years)	Binodpur bazar	Shaheb bazar	Court market	Total
	n = 20	n = 20	n = 20	N = 60
Up to 30	8 (40%)	5 (25%)	9 (45%)	22 (36.66%)
31-40	7 (35%)	8 (40%)	6 (30%)	21 (35%)
41-50	3 (15%)	3 (15%)	4 (20%)	10 (16.66%)
Above 50	2 (10%)	4 (20%)	1 (5%)	7 (11.66)

(n = sample size)

Table 5. Distribution of fish trader's education level

Educational Level	Binodpur bazar	Shaheb bazar	Court market	Total
	n = 20	n = 20	n = 20	N = 60
Primary	12 (60%)	10 (50%)	13 (65%)	35 (58.33%)
Lower secondary	5 (25%)	6 (30%)	5 (25%)	16 (26.66%)
SSC	3 (15%)	4 (20%)	2 (10%)	9 (15%)
HSC	-	-	-	-
Bachelor	-	-	-	-

(n = Sample size)

Religious status: In the study area, 75% of interviewed retailers were Muslims and the remainders (25%) were Hindus, with no Buddhists or Christians (Table 6).

Daily average gross profit of the fish retailers: The average gross profit of a fish retailers in Binodpur bazar, Shaheb bazaar and Court market were 600, 500 and 300 Tk./day.

Improved socio-economic conditions: The present study showed that the fish retailers were improved their socio-economic conditions through fish trading which was confirmed by 80% of the fish retailers. These could include increased food consumption, increased social status, and improved their standards of living, purchasing power, choice, and ability as an economic sector.

Table 6. Religious status of retailers in three markets of Rajshahi town

Religious status	Binodpur bazar	Shaheb bazar	Court market	Total
	n = 20	n = 20	n = 20	N = 60
Muslims	14(70%)	16(80%)	15(75%)	45(75%)
Hindus	6(30%)	4(20%)	5(25%)	15(25%)

(n = sample size)

Table 7. Improved socio-economic conditions through fish trading

Improved socio-economic conditions	Binodpur bazar	Shaheb bazar	Court market	Total
	n = 20	n = 20	n = 20	N = 60
Yes	16 (80%)	18 (90%)	15 (75%)	49 (81.66%)
No	4 (20%)	2 (10%)	5 (25%)	11 (18.33%)

(n = sample size)

Discussion

The fish market chain was passed through a number of intermediaries such as, local fish trader, beparies, aratdar, whole sellers and retailers. Three types of marketing channels were observed i.e. fish farmers-paikers-whole sellers- retailers- consumer, fish farmers-whole sellers-retailers-consumers and fish farmers-retailers-consumers. Mia (1996) and Rahman (2003) identified several types of marketing channels in Netrokona, Mymensingh and Gazipur district, respectively, all of which involved the active participation of aratdar and beparies as a strong linked in the existing marketing system. Presence of intermediaries was also reported in other parts of Bangladesh and India (Ahmed 1984, Khan 1995). The daily supply of fish in Binodpur bazar, Shaheb bazar and Court market was estimated as 1-2, 4-5 and 0.5-1 tones, respectively. It was also found that good number of Indian major carps was imported from India and Myanmar. Rahman (2003) found that the daily supply of fish at Gazipur Sadar and Sripur marker was 2-3 and 1-2 tones, respectively. A significant amount of carps were also imported from outside the country mainly from India and Myanmar. Similar result was reported by Siddique (2001). Indian major carps, minor carps, exotic carps, small quantities of other fish (catfish, hilsa, tilapia, small indigenous fish, prawn and shrimp and other fish including marine) were found in the markets. Rahman (2003) found similar results in Gazipur district. Shrivastava and Ranadhir (1995) observed that the demand for rohu fish and its local contribution to sale was highest in India. Rohu, catla, mrigal and grass carp were the most commonly sold fish species in the market. Rahman (2003) found that rohu fish was the most valuable among the Indian major carps and grass carp was among the exotic carps in Gazipur district. Hasan and Middendrop (1999) mentioned that rohu was found to be the most expensive fish followed by catla, mrigal, grass carp, common carp and silver carp in southwest Bangladesh. These findings also supported by Siddique (2001). The price of carp was fluctuated with the variation of market structure, species, quality, size and weight. The price of carp fish depends on market structure, species, quality, size and weight (Rahman, 2003). Quddus (1991) also found similar seasonality for the price of fish market in Mymensingh. The fish retailers' average profit in Binodpur bazar, Shaheb bazar, and Court market in Madaripur town were estimated at Tk 600, 500 and 300/day, respectively. Rahman (2003) found the average net profit of a fish retailer in Gazipur Sadar market were Tk. 325/day, while for Sripur market it was Tk. 175/day. However, Siddique (2001) reported the average gross profit of fish retailers in Nutun Bazar, Mymensingh were Tk. 540/day. The fish market and marketing system of Rajshahi City Corporation 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 Quddus (1991), Khan (1995), Subasinghe (1995), Mia (1996), Parween *et al.,* (1996) and Rokeya *et al.,* (1997). It is notable that most of the fish retailers in all level of marketing chain had education at some level. Most of the fish retailers were quite young and average age was 32.1 years. The age structure of the retailers was not significantly different among the markets. About 75% of the fish retailers were Muslims and the other 25% were Hindus. More or less similar results also reported by Rahman (2003) and Siddique (2001). The average family size of the fish retailers was 5.6 which were similar to the national household size (5.6) (BBS, 2000). The average family size was found higher in Binodpur bazar (5.8) than Shaheb bazar (5.6) and Court market (5.4). Rahman (2003) found similar findings in Gazipur district. About 81.66% retailers were improved their soci-oeconomic conditions, where the remaining 18.33% were not improved their previous socio- economics conditions.

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