

Fish marketing system and socio-economic status of fish retailers in three markets of Puthia Upazila, Rajshahi district, Bangladesh

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Abstract: The study was conducted to determine the fish marketing system and the socio-economic status of fish retailers in three markets of Puthia Upazila namely Puthia, Jhalmolia and Baneshware fish market for a period of six months from January to June, 2007. The fish marketing chain started from the fish farmers to the consumer's passes through a number of intermediaries such as, local fish traders, agents/supplier, commission agents and the retailers. The daily supply of fish in Jhalmolia bazaar can be estimated at 1.6 m. tones while 0.3 m. tones and 0.45 m. tones in Baneshwar and Puthia bazaar, respectively. Higher transport cost, poor road and transportation facilities, insufficient ice supply, exploitation by middleman, inadequate drainage system, poor water supply, poor sanitary facilities, unhygienic condition as well as poor infrastructure were the common constraints of the fish marketing. The average net profit of fish retailers was found higher in Jhalmolia (Tk.333) followed by Baneshwar bazaar (Tk.54) and Puthia bazaar (Tk.106/day/retailers) and the average age groups of 21-40 years were found among the markets. The average family size was 5.8 which were higher than national average. Most of the housing conditions were kacha (68.9%) and Muslim fish retailers were predominant in all markets. Improvement in basic infrastructure such as, clean water supply, sanitation facilities adequate drainage and ice facilities are recommended by the present study.

Key words: Fish retailers, marketing chain, constraints and socio-economic status

Introduction

Fish marketing network is developed among fish farmers, consumers, commission agents, fish traders and other associated groups. Fish consumption are ultimately depend on an effective fish marketing system, through which fishes will be available to them within a short period before decomposition of fishes (Rokeya *et al.* 1997 and Siddique, 2001). Presently the marketing system of our country is important because it is often considered to be a limiting factor for fisheries development (Rahman, 1997). 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 (Sabur, 1977). The control over domestic markets by government official is only sporadic (Parween, 1982). On the other hand, fish marketing in Bangladesh, 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 specially fish retailers. 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). The middlemen in the fisheries sector have established a new marketing chain, based on the extreme exploitation of this fish farming communities, by setting up an artificial pricing chain through intermediaries at different levels (Thompson, 1993). Therefore, it is important to know the existing fish marketing system to improve the overall fish marketing system. The aim of this study is to identify marketing inefficiencies and how its impact on the livelihoods of the people, involved in fish production, distribution and marketing system. The study was under taken, to identify marketing inefficiencies and how its impact on the livelihoods of the different people, involved in fish production, distribution and marketing system.

Materials and Methods

Study Area: Puthia is an important upazila in Rajshahi district. It is situated 20 km away from Rajshahi district. Now a day a significant number of fish farmers are engaged in fish culture on the commercial basis in Puthia 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 Puthia upazila was selected as the study area.

Methodology: A total of 45 retailers were selected for questionnaire interviews in three different markets (15 in each market). It is noted that in each market around 20-35 retailers were involved. In addition, a total of 30 consumers (10 from each market) were interviewed at the market centre. The data collection was under taken for 6 months form January to June, 2007. Data were collected through questionnaire interviews, focus group's discussion with intermediaries and crosscheck interviews with key information's. Data were processed and finally analyzed using Microsoft Excel and SPSS (Statistical Package for Social Sciences) program version 11.5.

Results and Discussion

The livelihoods of a large number of people are associated with the production, distribution and marketing systems in Puthia Upazila, with conspicuous socio-economic conditions.

Fish distribution and marketing system: The local *paikers* carried the fish (about 60%) from fish farmers to the markets by their own or hired transport and sell them to retailers with the help of *aratdars*. Rahman (2003) identified several types of marketing channels in Netrokona, Mymensingh and Gazipur district, respectively; all of which involve the active participation of *aratdars* and *beparies* as a strong link in the existing marketing system. The fish farmers carried their maximum catch (about 25%) to the markets by their own or hired transport and sell them to retailers, with the help of *aratdars* (commission agents). Rokeya *et al.* (1997) mentioned that local agent's collects fish from farmers on commission basis in the fish distribution network of

Rajshahi. Farmers partially sold their fish to the wholesalers (about 10%) with the help of *aratdars* and the wholesalers sold it to the retailers. Rahman (2003), Yousuf (2004) and Gupta (2004) reported 4 to 5 intermediaries were present in fish marketing. In a very rare case; farmers directly carried the fishes (5%) to the markets and sold them to the retailers. In Puthia, there were 25-30 retailers selling fish in each market. Retailers generally operate a capital of around Tk. 300 to 3000 per day. From the study, it was found that about 10% retailers used their own money for fish trading while the rest 90% received loans from moneylender or *aratdars* without paying any interest.

Season and time of fish trading: The season of fish trading is year round. Retailers were engaged in fish trading from 7.00 am to 3:00 pm in the three markets. It was found that almost all retailers of all markets spend around 7 to 8 hours in fish selling if sufficient fishes are available. It was also found that some retailers sell their fishes as early as possible and engage themselves in other homestead works.

Amount of fish sold: It was found that a fish retailers of Baneshwar bazaar and Puthia bazaar sold an average of 15 kg fish daily, compared with Jhalmalia bazaar 65 kg per day. There were 20 retailers involved in Baneshwar, 20-25 retailers in Jhalmalia bazaar and 25-30 retailers in Puthia bazaar. The daily supply of fish in Jhalmalia bazaar can be estimated at 1.6 m. tones (25 retailers × 65 kg) while 0.3 m. tones (20 retailers × 15 kg) and 0.45 m. tones (30 retailers × 15 kg) in Baneshwar and Puthia bazaar respectively. Retailers reported that the price varies according to daily demand and seasonal variations in prices which is highest in the summer (March to May) and the lowest in the winter (November to January and rainy season July to August). Quddus (1991) reported similar seasonality for the prices of fish in Mymensingh fish markets. Rahman (2003) also mentioned that the price of fish varies with the season and highest prices are found in the summer and lowest in the winter in Gazipur. Hasan and Middendrop (1990) noted that the price per kg of carp increases with the size and weight to carps.

Constraints of fish marketing: A number of constraints for fish marketing were reported by fish retailers during the study. It included higher transport cost, poor road and transportation facilities, insufficient ice supply, exploitation by middleman as a result of lower market prices, inadequate drainage system, poor water supply, poor sanitary facilities, unhygienic condition as well as poor infrastructure. According to the fish retailers, political disturbances may also affect fish transporting as well as marketing. As a result, the fish get damage and retailers become bound to sell these as cheap prices, and even they fail to earn any return for decomposition of fish. Rahman (2003), Yousuf (2004) and Gupta (2004) reported the more or less same types of problems in fish marketing in the markets of Gazipur, Jamalpur and Fulpur of Mymensingh district respectively. Subasinghe (1995) noted that the quality of fresh fish in most domestic markets in the Asian region is far from satisfactory. Poor onboard practices, poor infrastructure, handling and storage facilities are causes for the low quality fish in many domestic markets. Poor quality of fish limits their use for

further processing, depriving the producer of a chance to get better income for the producer; it also restrict the export potential of landings. Similar fish marketing problems were found by Parween *et al.* (1996).

Socio-economic conditions of fish retailers

Age structure: It was found that, fish retailers with age from 15 to 72 years were engaged in fish trading in Puthia upazila. The maximum 42.2% of fish traders in all the markets were under the age group of 21-40 years. Among the retailers 17.8% were up to 20 years of age, 26.7% between 41 to 50 years and 13.35% were more than 50 years of age. It is also found that Muslim fish retailers were predominant in all the markets 100% were in Baneshwar bazaar, 80% in Jhalmalia bazaar and 60% in Puthia bazaar (Table 1). Rahman (2003) noted that in Gazipur the highest percentage of fish retailers were found up to 30 age group. Siddique (2001) mentioned that Muslim fish retailers were predominant in the market in Mymensingh. The average age of retailers was found highest (60 years) in Baneshwar bazaar, while average age of 47 years and 40 years in Jhalmalia bazaar and Puthia bazaar, respectively.

Family type and size: The average family size of retailers in Puthia upazila was estimated at 5.8 in a single family which was nearer with national household size at 5.6 (Table 2). The study reveals that 86.66% of fish retailers improved their socio-economic conditions through fish trading. Remainder 13.33% had not got any specific benefit, due to take loans from money lenders or large family size or lack of capital or education. More or less similar results also found by Siddique (2001), Rahman (2003), Yousuf (2004) and Gupta (2004) there was no significant difference in average family size of retailers among the three markets.

Education: From the study it was found that maximum fish retailers have certain level of education. 42.2% had no education or illiterate, 31.1% traders had primary level of education, 24.4% had secondary level, 2.2% had S. S. C. level of education and none of them H.S.C. and bachelor level of education (Table 3). Similarly Mia (1996) reported that most of the fish retailers were up to secondary level of education in his study in Mymensingh town. The higher number of retailers with illiteracy was found in Baneshwar bazaar (53.3%) followed by Jhalmolia bazaar (40%) and Puthia bazaar (33.3%), respectively.

Religious status: Religion can play an important role in the socio-cultural environmental life of the people in a given area and can act as notable constraints or modifies in social changes. In the study area, 80% of interviewed retailers were Muslims and the remainders 20% were Hindus, with no Christian or Buddhist (Table 4). Muslim retailers predominated in three markets, the higher percentage being in Baneshwar bazaar (100%) followed by Jhalmalia bazaar (80%) and Puthia bazaar (60%).

Housing Conditions: Houses of fish retailers are of three main types: (i) *Kacha*-made of bamboo and tree leaves with mud flooring (ii) *Semi-Pucca*-made of wood or/and tin and (iii) *Pucca*-made of brick. The study reveals that 68.9% of housing structures were *Kacha*, while 26.7% were semi- *Pucca* and only 4.4% were *Pucca* (Table 10).

No *pucca* housing structures of fish retailers were Baneshwar and Puthia bazaar.

Drinking water facilities: Traditional water supplies are based on collected rainwater, ponds, and simple pit walls and more recently by shallow and deep tube-wells, etc. in Bangladesh. It was found that 100% of the retailer's household used tube wells for drinking water, among them. 71.1% used own tube-wells for drinking water and the

remaining 28.9% collected water from others tube-wells (Table 6).

Health facilities: The study showed that 77.8% of retailers household were dependent on village doctor (unqualified practitioners), who did not have any understanding and knowledge of medical science, while 8.9% got health service from community hospital and private clinic and only 4.4% from upazila health complex (Table 7).

Table 1. Age group distribution of fish retailers

| Age distribution | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=15) |
|------------------|------------------|------------------|---------------|--------------|
| Up to 20 years | 1 (6.7%) | 4 (26.7%) | 3 (20.0%) | 8 (17.8%) |
| 21-40 years | 7 (46.7%) | 7 (46.7%) | 5 (33.3%) | 19 (42.2%) |
| 41-50 years | 5 (33.3%) | 2 (13.3%) | 5 (33.3%) | 12 (26.7%) |
| Above 50 years | 2 (13.3%) | 2 (13.3%) | 2 (13.3%) | 6 (13.3%) |

n= sample size

Table 2. Family type and size of fish retailers

| Family type | Baneshware (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|-------------|-------------------|------------------|---------------|--------------|
| Nuclear | 10 (66.7%) | 7 (46.7%) | 7 (46.7%) | 24 (53.3%) |
| Joint | 5 (33.3%) | 8 (53.3%) | 8 (53.3%) | 21 (46.6%) |
| Average | 6.10 | 5.30 | 5.96 | 5.80 |

Table 3. Educational level fish retailers

| Education level | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|-----------------|------------------|------------------|---------------|--------------|
| No education | 8 (53.3%) | 6 (40.0%) | 5 (33.3%) | 19 (42.2%) |
| Primary | 4 (26.7%) | 3 (20.0%) | 7 (46.7%) | 14 (31.1%) |
| Secondary | 3 (20.0%) | 5 (33.3%) | 3 (20.0%) | 11 (24.4%) |
| S.S.C. | 0 (0.0%) | 1 (6.7%) | 0 (0.0%) | 1 (2.2%) |
| H.S.C | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |
| Bachelor | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) | 0 (0.0%) |

Table 4. Religious status of fish retailiates

| Religion | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|----------|------------------|------------------|---------------|--------------|
| Muslim | 15 (100.0%) | 12 (80.0%) | 9 (60.0%) | 36 (80%) |
| Hindus | 0 (0%) | 3 (20.0%) | 6 (40%) | 9 (20%) |

Table 5. Distribution of fish retailers housing condition

| Housing condition | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|-------------------|------------------|------------------|---------------|--------------|
| Kacha | 11 (73.3%) | 10 (66.7%) | 10 (66.7%) | 31 (68.9%) |
| Semi- Pucca | 4 (26.7%) | 3 (20.0%) | 5 (33.3%) | 12 (26.7%) |
| Pucca | 0 (0.0%) | 2 (13.3%) | 0 (0%) | 2 (4.4%) |

Table 6. Use of drinking water by fish retailers

| Drinking water facilities | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|---------------------------|------------------|------------------|---------------|--------------|
| Own tube well | 10 (66.7%) | 14 (93.3%) | 8 (53.3%) | 32 (71.1%) |
| Others tube well | 5 (33.3%) | 1 (6.7%) | 7 (46.7%) | 13 (28.9%) |
| Supply water | 0 (00%) | 0 (00%) | 0 (00%) | 0 (00%) |

Table 7. Health service used by fish retailers

| Health facilities | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|------------------------|------------------|------------------|---------------|--------------|
| Village doctor | 15 (100%) | 9 (60.0%) | 11 (73.20%) | 35 (77.80%) |
| Community hospital | 0 (0%) | 3 (20.0%) | 1 (6.7%) | 4 (8.9%) |
| Upazila health complex | 0 (0.0%) | 1 (6.7%) | 1 (6.7%) | 2 (4.4%) |
| Private clinic | 0 (0.0%) | 2 (13.4%) | 2 (13.4%) | 4 (8.9%) |

Table 8. The average of net profit of fish retailers of three markets

| Name of markets | Profit range (Peak season) | Profit range (Off season) | Average profit |
|-----------------|----------------------------|---------------------------|----------------|
| Baneshwar | 215 | 93 | 154 |
| Jhalmalia | 510 | 155 | 333 |
| Puthia | 168 | 85 | 127 |

Table 9. Improvement of socio-economic conditions through fish retailers

| Improvement of socio-economic condition | Baneshwar (n=15) | Jhalmalia (n=15) | Puthia (n=15) | Total (n=45) |
|---|------------------|------------------|---------------|--------------|
| Yes | 13 (86.66%) | 14 (93.33%) | 12 (80.0%) | 39 (86.67%) |
| No | 2 (13.33%) | 1 (6.67%) | 3 (20.0%) | 6 (13.33%) |

Income of fish retailers: Traders are trying to improve their socio-economic conditions. During trading, fish traders always tried to get maximum profit. But now a day, fish trading is a competitive job, as reported by the traders. According to the survey, The average net profit of fish retailers was found higher in Jhalmalia bazaar (333) followed by Baneshwar bazaar (Tk.54) and Puthia bazaar (Tk. 106/day/retailers) (Table 8). Siddique (2001) noted that the average gross profit of fish retailers in Natun Bazaar, Mymensingh was estimated at Tk. 540 per day. Rahman (2003) mentioned that the average gross profit of fish retailers of Gazipur was estimated at Tk. 175 to 375 per day.

Improvement of socio-economic condition of fish retailers: Although fish retailers are comparatively poor, but study results showed that they have improved their socio-economic conditions through fish trading as stated by 86.66% of fish retailers. A few retailers (13.33%) have not obtained any specific benefits, due to large family size, poor education and lack of capital for this business.

A number of constraints for fish marketing were reported by fish retailers during the study and political disturbances also affected fish transporting as well as marketing. Most of the consumers mentioned that they spent more money for buying fish than meat. In spite of socio-economic constraints, most of the household's retailers have improved their status through fish marketing activities.

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