

Research Article

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Marine Fish Marketing System and Marketing Margin in Chittagong and Cox'sbazar District of Bangladesh

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Abstract

Marine fish is very important for our animal nutrition. The study was based on a sample survey of 48 fishermen and 48 intermediaries from Chittagong and Cox'sbazar district of Bangladesh. Fishermen and intermediaries were randomly selected for this study. An enterprise costing technique was used for calculating costs and returns and marketing margin for fishermen and intermediaries. Marketing Channel showed that fishermen sold their products to the Beparis (78 percent), to Aratdars (13 percent) and finally to the consumers (9 percent). Among all the marketing cost items, transportation cost was the highest cost item. Total marketing margin of the intermediaries were the highest for Rupchada and lowest for Loyttia. The major constraints were found as lack of bargaining power and market information system, lack of knowledge on fish washing, sorting, grading, icing & storing, poor market infrastructure, higher marketing and transport cost, inadequate ice supply etc. during survey study.

Keywords

Marine Fish,
Fishermen,
Intermediaries,
Chittagong,
Cox'sbazar and
Marketing.

Introduction

Marine fish being an important source of animal protein can fight against the problem of malnutrition by providing cheap protein food for the people of Bangladesh. The fisheries sector plays a very important role in the national economy, contributing 3.69% to the Gross Domestic product (GDP) of the country and 23.12% to the agricultural GDP (FRSS, 2016).

In Bangladesh, current fish intake 53.00 gm/person/day and desirable fish in take 60.00 gm/person/day and 11% of total population engages in this sector. Bangladesh

has 9060 km² marine water (territorial), 118, 813 km² maritime boundary and 710 km coast line marine fish creates more (25%) employment opportunity for unemployed youths. Marine fisheries production 5,99,846 metric tonne. In recent years the bulks of the production has been obtained from marine (16.78%) and fresh water (83.22%) wild capture fisheries (DOF, 2016). From 2000 and 2016, aquaculture production increased from 712,640 and 2,060,408 metric tonne a much larger quantity than wild capture production (1, 023 million tonne) in 2016 (Shamsuzzaman, M.M., 2017).

The important species of marine fish are Lakhua, Poa, Chanda, Loittyia, Hilsa, Chhuri, Maitya, Shrimp, Koral etc. are also available in considerable amount in the Bay of Bengal. Though protein percentage of marine fish is similar to that fresh water fish, it has not so far been very popular in Bangladesh except in the coastal areas. Because of high cost, transportation and preservation problems, marine fishes have not been introduced in many areas. Besides, people have natural preference for fresh water fish. As a result, only a small portion of marine catch is used for home consumption and the rest is partly exported and partly disposed of in sundried form. At present some appreciable changes in domestic markets of marine fishes are being observed. A large amount of marine fishes are made available in the inland markets because fresh water fishes are insufficient in these market now. Domestic fish marketing is largely managed, financed and controlled by private sector consisting of groups of intermediaries where entry of new traders are restricted. public sector organization like BFDC though involved in marketing has limited role to play (Khalil, M.I, 2016).

Many studies have been conducted on marine fish marketing but no systematic and comprehensive study has yet been conducted on marine fish marketing system and margin in Chittagong and Cox'sbazar. This has inspired the researchers to conduct a study on the marine fish marketing system and margin Chittagong and Cox'sbazar.

The specific objectives of the study are-

i) To identify the socio-economic characteristics of the fishermen and intermediaries

ii) To study the existing marketing system of marine fish in selected areas
 iii) To estimate costs and margins at different stages of marine fish marketing Channels.

Methodology

In the present study four important marine fishes namely Poa, Loyttiya, Rupchanda and Hilsha were selected. The study covered the markets of Chittagong and Cox'sbazar because these are the central points of concentration of marine fishes in Bangladesh. Primary data were collected by using questionnaire survey from the fishermen and intermediaries of Chittagong and Cox'sbazar district and secondary data were collected from literature, report, books, BFDC, FAO, DFO and BBS publication etc. The data were collected by the researcher himself during the period of 2016. Fishermen and intermediaries were randomly selected for primary data. For this study a total of 48 fishermen, 24 from Chittagong and 24 from Cox'sbazar and 48 intermediaries, 24 from Chittagong and 24 from Cox'sbazar were selected purposively. A list of table was prepared in accordance with the objectives of the study. Average and percentage were the major statistical tools employed to show the results in a comprehensive manner.

Results

The selected fishermen were grouped into three Categories according to the level of their annual income. Table 1 shows that majority of the fishermen had annual income ranging from Tk. 2,50,000 to Tk. 3,50,000.

Table 1. Annual income of the fishermen

Level of income	Number of fishermen	Percent of total
Up to Tk. 2,50,000	16	33
Tk 2,50,001 - 3,50,000	24	50
Tk 3,50,001 - above	8	17
Total	48	100

(Source- Based on MS Thesis 2016 of first author.)

Table 2 revealed that selected 48 intermediaries were categorized into three groups according to the level of annual income. Table 2 also showed that last category

intermediaries (Aratdars) earned highest annual income BDT 8,00000 and above.

Level of income	Number of intermediaries	Market actors	Percent of total
Up to Tk. 6,00,000	10	Retailers	21
Tk. 6,00,001 - 8,00,000	14	Beparai (Whole seller)	29
Tk. 8,00,000 - above	24	Aratdars (Commission agents)	50
Total	48		100

(Source- Based on MS Thesis 2016 of first author.)

Marketing channels of marine fish

Marketing channels were the alternative routes of product flows from producers to consumers (Kohls and Uhl, 1980). It is the sequence of intermediaries

- i) Fishermen Beparis Aratdars Retailers consumers.
- ii) Fishermen Aratdars Retailers Consumers.
- iii) Fishermen Retailers Consumers
- iv) Fishermen Beparis Retailers Consumers.

through which a commodity passes from the producer to the consumer. There were four stages in the movement of marine fish from the fishermen to their consumers.

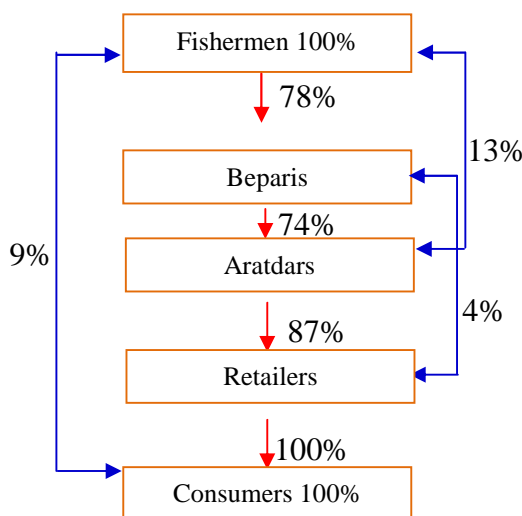


Figure 1. Marine fish marketing channels

Figure 1 showed that fishermen sold their product to Beparis (78 percent), to Aratdars (13 percent) and finally to consumers (9 percent).

Table 3 revealed that the total marketing cost of marine fishes were estimated at Tk. 828.25 per quintal. Among all the cost items, cost of transportation was the highest cost item to Tk. 189.75 which is 22.90 percent of the total costs.

Table 3. Total marketing cost of intermediaries

Cost item	Average cost per quintal by the intermediaries (in Tk)		Total cost (in Tk.)	Percentage of total cost (in Tk)
	Beparis	Retailers		
Transportation	103.00	86.75	189.75	22.90
Icing	55.00	47.50	102.50	12.38
Loading and unloading	72.00	–	72.00	8.68
Market tolls	50.00	40.00	90.00	10.86
Aratdari commission	78.00	–	78.00	9.42
Personal expenses	52.00	68.75	120.75	14.57
Electricity	25.00	32.25	57.25	6.90
Polythene	22.00	30.50	52.50	6.39
Wastage	27.00	38.50	65.50	7.90
Total	484.00	344.25	828.25	100

(Source- Based on MS Thesis 2016 of first author)

Table 4 showed that total marketing margin of the intermediaries were the highest for Rupchanda (BDT 2068.00) and the lowest for Loyttia (BDT 1958.00).

So, Rupchanda was profitable product for intermediaries. The average margin of intermediaries was BDT 1995.00

Table 4. Total marketing margin of the intermediaries

Name of intermediaries	Loyttia		Poa		Hilsa		Ruchanda		Average	
	Marketing margin per quintal (in Tk.)	Percentage of total	Marketing margin per quintal (in Tk.)	Percentage of total	Marketing Margin per quintal (in Tk.)	Percentage of total	Marketing margin per quintal (in Tk.)	Percentage of total	Marketing margin per quintal (in Tk.)	Percentage of total
Beparis	840.00	42.81	850.00	42.67	878.00	44.80	886.00	42.84	863.00	43.26
Retailers	1118.00	57.19	1142.00	57.33	1086.00	55.20	1182.00	57.16	1132.00	56.74
Total	1958.00	100.00	1992.00	100.00	1964.00	100.00	2068.00	100.00	1995.00	100.00

(Source- Based on MS Thesis 2016 of first author)

Constraints of Marine Fish Marketing System

A number of constraints were informed by the fishermen and traders during the survey. The major constraints are included as poor market infrastructure, high transport cost, poor road communication facilities, unhygienic conditions, inadequate ice facilities, lack of awareness of fish marketing system of fishermen, lack of access of finance with low interest, lack of bargaining power and market information system of fisher men, higher marketing cost etc. In addition, lack of training of fishermen about fish washing, sorting, grading and icing were also found during survey. During road blocked, the fish transportation also affected as well as marketing.

Discussions

Table 1 shows that majority of the fishermen had annual income ranging from Tk. 2,50,000 to Tk. 3,50,000 because they were diversified in nature than category one but lesser diversified than category three. The annual income might be higher due to catching marine fish round the year as well as fish volume also higher. Rahmatullah *et al.* (2015) found that the average annual income of professional fishermen was found to be Tk.39131 and only income from fishing was Tk. 36,542 which is partially supported the current study. Table 2 also showed that last category intermediaries (Aratdars) earned highest annual income BDT 8,00000 and above because they were

advantageous position in decision making and invested more money compared to other intermediaries in using their business establishment. In addition, profit may be higher because intermediaries are getting fish available from fishermen all year round. Rahman (2003) mentioned that the average annual gross profit of fish traders of Gazipur district was estimated BDT 65000- 1,50,000.

Figure 1 showed that fishermen sold their product to Beparis (78 percent), to Aratdars (13 percent) and finally to consumers (9 percent). Rahmatullah *et al.* (2015) also found similar marketing channels of fish which might be reflected the study.

The total marketing cost of marine fishes was estimated at Tk. 828.25 per quintal in table 3. Among all the cost items, cost of transportation was the highest cost item to Tk. 189.75 which is 22.90 percent of the total costs. Alam *et al.* (2012) mentioned total marketing cost was estimated BDT 953/maund of different intermediaries (District paikers, local paikers, aratdars, retailers and farmers) involved in majors carps, Pangas and Tilapia marketing. Alam *et al.* (2012) also found share of transport cost was the highest (40.54%) followed by others which partially supported to the current study. The total marketing margin of the intermediaries was the highest for Rupchanda and the lowest for Loyttia. So, Rupchanda was profitable product for intermediaries. It might be happened because Rupchanda is popular fishes of Bangladeshi people.

Conclusion

Among different sub-sectors of agriculture in Bangladesh, fisheries subsector is important in terms of GDP contribution, export earnings, employment opportunities and nation's animal protein intake. Four important marine fishes namely Loyttia, Poa, Hilsa and Rupchanda were selected from the study area. In total 96 samples, consisting of 48 fishermen and 48 Intermediaries were purposively selected from Chittagong and Cox'sbazar districts. Fifty percent of total fishermen had annual income ranging from Tk. 2,50,001 to 3,50,000 and the majority percent of

intermediaries earned Tk. 8,00,001 to above. In the present study four marketing channels were identified.

They are Fishermen Beparis Aratdars
Retailers Consumer, Fishermen Aratdars
Retailers Consumers, Fishermen Retailer
Consumers Retailers Consumers and Fishermen
Retailer Consumers. Fishermen sold their product to Beparis (78 percent), to Aratdars (13 percent) and finally to retailer (9 percent) Total marketing cost of marine fishes were estimated at Tk. 828.25 per quintal. Among all the cost items, transportation cost was the highest cost item. The total marketing margins of the intermediaries were the highest for Rupchanda and the lowest for Loyttia.

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