



## STUDY ON MARKETING CHANNEL AND VALUE CHAIN ANALYSIS OF SOME COMMERCIALLY IMPORTANT MARINE FISH SPECIES AVAILABLE IN COX'S BAZAR AREA, BANGLADESH

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### ABSTRACT

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A study was conducted to investigate marketing channel and value chain analysis of some commercially important marine fish species available in Cox's Bazar area, Bangladesh. Three commercially important marine fish species were investigated in respect to their marketing channel and value analysis: 1) Pomfret, *Stromateus chinensis*, 2) Jewfish, *Otolithoides argenteus* and 3) Hilsha, *Tenualosa ilisha*. Three marketing channels mainly encompasses from fishermen to consumers, namely the primary, secondary and retail markets involving sales agents, suppliers, wholesalers, commission agents, processors and retailers. A total of 120 fishermen and intermediaries involved in the channels were interviewed. A large number of intermediaries were found to be involved in the marketing channel and this group is believed to make huge profit, thus the prices of fishes were very high in the final consumer market. Marketing margin and profit also analyzed. Marketing margin for Pomfret fish, Jewfish and Hilsha were 21%, 27% and 27% of consumer purchase price, respectively. Poor road and transport facilities and large number of intermediaries in the chain were some of the major problems of marine fish marketing chain. It was therefore necessary to provide organizational support, government support, extension service and training facilities to the market operators for sustainable fish marketing systems.

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## INTRODUCTION

Fish marketing system is the system through which fishes reach to consumers from fishermen or fish farmers. Fish consumers have to depend on an effective fish marketing system through which fishes will be available within a short period in fresh state. Due to involvement of middlemen in the marketing channel, the price of fishes at the catching area is low but at the consumers area is high; sometimes it goes double at consumer level from the fishermen (World Bank, 1991). Marketing system varies from area to area and with the time. As more intermediaries are involved in the marketing chain so it was needed to know their roles in the marketing channel. Again the marketing chain and the price of fish changes in course of time and for this reason it is very important to know the present status of marketing chain of the marine fishes.

## MATERIALS AND METHODS

The study was based on market survey, collecting information through sample survey among fishermen, fish traders, middlemen and fish retailers. The study about marketing channel and value chain analysis of some commercially important marine fish species was conducted in Teknaf and Cox's Bazar Upazila under the district of Cox's Bazar. Three types of fish market such as primary, secondary and consumer markets were selected for this study. In addition, Dhaka city retail markets were selected to examine the price variation. Total sample size of the study was 120 which comprised mainly of 45 fishermen, *beparis* and depot owner, 40 brokers and marketing agents, and 35 retailers. Questionnaire was prepared for collecting relevant information of the study

### Data Collection Methods

Primary data were gathered by field survey. This survey involved the inspection of the study area in terms of commercially important marine fish marketing systems. Data were collected for six months from November 2014 to April 2015. Combinations of participatory, qualitative and quantitative methods were used for data collection.

### Rapid Market Appraisal (RMA)

RMA is an efficient way to obtain policy-relevant and intervention-focused information about any commodity sub-sector (Holtzman, 2003). RMA techniques mostly rely on semi-structured interviews with key informants, knowledgeable observers of a sub-sector, and a minimum number of participants at different stages of the commodity system.

### Questionnaire Survey

For questionnaire survey different market operators such as fishermen, assemblers, wholesalers and retailers were interviewed. The interviews focused on marine fish distribution and marketing systems, marketing costs, marketing profit and margin, value chain analysis, marketing constraints etc. Collected data were analyzed using Microsoft Excel.

### Participatory Rural Appraisal (PRA)

PRA is a group of methods to collect information in a participatory basis from rural communities. The advantage of PRA over other methods is that it allows a wider participation of the community, the information collected is likely to be more accurate (Chambers, 1992; Nabasa *et al.*, 1995).

### Cross-check interviews

Resource personnel in the study area like Upazilla Fisheries Officer (UFO), Manager of BFDC were interviewed for the accuracy of the data collected from the fishermen and intermediaries.

## RESULTS

Three levels of market or marketing systems were observed in the distribution channel of fish trade: primary, secondary / higher secondary and final consuming markets. Primary market was the catching point in the landing area. Fish collectors or assemblers, commonly known as *mahajans* or *aratdar*, procured fish from the catchers with the help of local brokers called *dalal* who get a profit margin or commission from the *mahajans*. Part of the catch is also locally sold by the local retailers. In secondary market, the collectors brought the fish from primary market to the nearest upazila market or at a place well linked by rivers and road transport. The *mahajan* sold the fish there to distributors known as *beparies*, generally with the help of *aratdars* or the commission agents. The *beparies* transported the fish to the nearest city/town markets by road or boat. These were the main distributing markets and there *beparies* sold fishes to another set of distributors known as *paikars*, again with the help of *aratdars*. After purchasing fishes from the higher secondary market, *paikars* sold the fish to the retailers who took it to the final consumer market. There were two channels of retailing: the urban retailers sold the fish in the urban markets in permanent stalls or set out with the fish on their heads or rickshaw or vans, sold them at door to door. Other retailers took the fish to sub urban areas or to the villages around the town. Marketing chain of marine fishes given below:

### Pomfret

Four marketing chains were found for pomfret fish marketing. In marketing chain I, pomfret fish reached export market from fishermen through landing center, depot and processing plant. In marketing chain II, pomfret fish were dried then supplied local market, distant market and export market and ultimately reached to consumer. In marketing chain III, pomfret fish reached distant consumer from fishermen through landing center, distant *paiker*, distant wholesaler and distant retailer. In marketing chain IV, pomfret fish reached to consumer from fishermen through local wholesalers and local retailers (Figure 1).

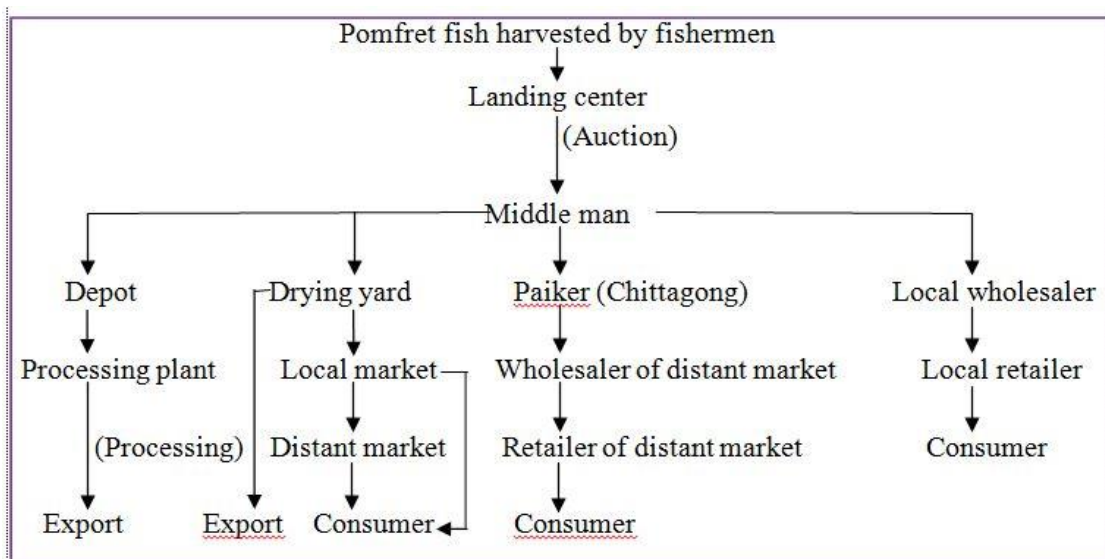


Figure 1. Marketing channels of pomfret fish

### Jewfish

Three marketing chains were found for jewfish marketing. In marketing chain I, dried jewfish reached export market from fishermen through landings center, *aratdar* or assembler and drying yard. In marketing chain II, jewfish reached distant consumer from fishermen through landing center, distant *paiker*, and distant retailers. In marketing chain III, jewfish reached local consumer from fishermen through local market and local retailers (Figure 2).

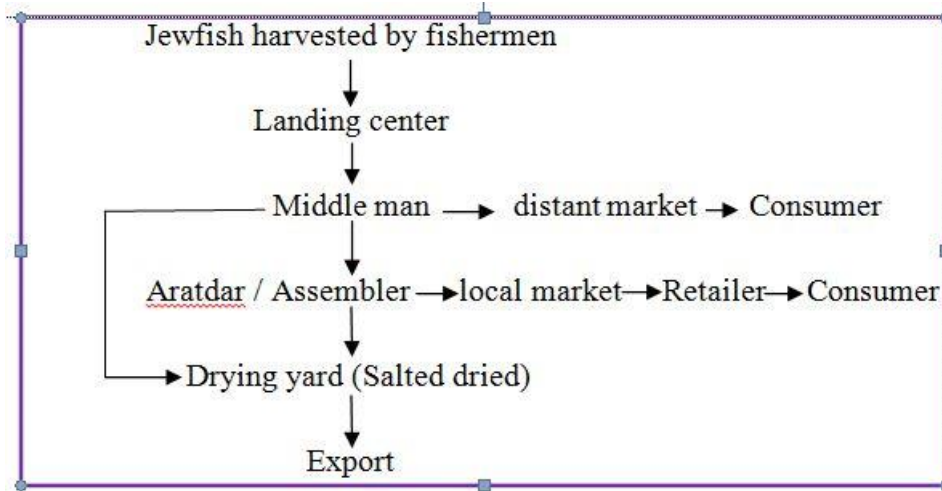


Figure 2. Marketing channels of jewfish

### Hilsha

Three marketing chains were found for marketing of hilsha. In marketing chain I, hilsha fish reached export market from fishermen through landing center, depot and processing plant. In marketing chain II, hilsha fish reached distant consumer from fishermen through landing center, distant *paikers*, distant wholesalers and distant retailers. In marketing chain III, hilsha fish reached local consumer from fishermen through local wholesalers and local retailers (Figure 3).

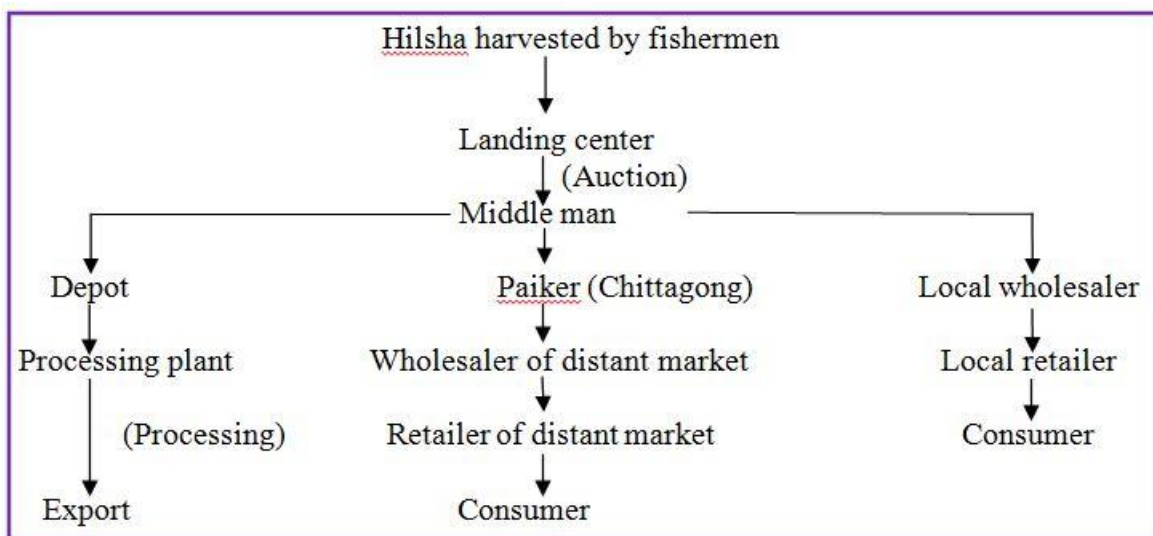


Figure 3. Marketing channels of hilsha

### Marketing margin and profit

#### Pomfret fish

Total marketing margin for per kg of pomfret fish was BDT 175 which was 21% of the consumer purchase price (BDT 850) and constituted 6%, 5% and 10% in primary, secondary and consumer market, respectively. Total marketing profit was BDT 139 which constituted BDT 39, 32 and 68 from the primary, secondary and consumer market, respectively. Fishermen share to sales price were 93%, 88% and 79% from primary, secondary and consumer market, respectively (Table 1).

**Table 1.** Marketing margin and profit of different intermediaries involved in marketing of pomfret fish in domestic marketing (BDT / Kg)

Market level	Particulars of marketing	Price BDT/Kg	% of consumer purchase price	Marketing margin (%)	Fishermen share in sales price (%)
<b>Primary market</b>	Purchase price (PP)	675			
	Marketing cost (MC)	12			
	Sales price (SP)	726	79 %	85-79= 6%	93 %
	Marketing margin (MM=SP-PP)	51			
	Marketing profit (MP=MM-MC)	39			
<b>Secondary market</b>	Purchase price (PP)	726			
	Marketing cost (MC)	9			
	Sales price (SP)	767	85 %	90-85= 5%	88 %
	Marketing margin (MM=SP-PP)	41			
	Marketing profit (MP=MM-MC)	32			
<b>Consumer market</b>	Purchase price (PP)	767			
	Marketing cost (MC)	15			
	Sales price (SP)	850	90 %	100-90= 10%	79 %
	Marketing margin (MM=SP-PP)	83			
	Marketing profit (MP=MM-MC)	68			
<b>Consumer purchase price</b>		<b>850</b>	<b>100%</b>		
<b>Total marketing margin: 51+ 41+83= 175 (21%)</b>					
<b>Total marketing profit: (39+32+68)= 139 BDT / Kg</b>					

**Jewfish**

Total marketing margin for per kg of Jew fish was BDT 95 which was 27% of the consumer purchase price (BDT 355) and constituted 9%, 5% and 13% in primary, secondary and consumer market, respectively. Total marketing profit was BDT 73 which constituted of BDT 24, 14 and 35 from the primary, secondary and consumer market, respectively. Fishermen share to sales price were 89%, 84% and 73% in primary, secondary and consumer market, respectively (Table 2).

**Table 2.** Marketing margin and profit of different intermediaries involved in marketing of jewfish in domestic marketing (BDT / Kg)

Market level	Particulars of marketing	Price BDT/Kg	% of consumer purchase price	Marketing margin (%)	Fishermen share in sales price (%)
<b>Primary market</b>	Purchase price (PP)	260			
	Marketing cost (MC)	8			
	Sales price (SP)	292	73 %	82-73= 9%	89 %
	Marketing margin (MM=SP-PP)	32			
	Marketing profit (MP=MM-MC)	24			
<b>Secondary market</b>	Purchase price (PP)	292			
	Marketing cost (MC)	5			
	Sales price (SP)	311	82 %	87-82= 5%	84 %
	Marketing margin (MM=SP-PP)	19			
	Marketing profit (MP=MM-MC)	14			
<b>Consumer market</b>	Purchase price (PP)	311			
	Marketing cost (MC)	9			
	Sales price (SP)	355	87 %	100-87= 13%	73 %
	Marketing margin (MM=SP-PP)	44			
	Marketing profit (MP=MM-MC)	35			
<b>Consumer purchase price</b>		<b>355</b>	<b>100%</b>		
<b>Total marketing margin: 32+19+44= 95 (27 %)</b>					
<b>Total marketing profit: (24+14+35)= 73 BDT / Kg</b>					

### Hilsha

Total marketing margin for per kg hilsa fish was BDT 160 which was 27% of the consumer purchase price (BDT 600) and constituted 9%, 5% and 13% in primary, secondary and consumer market, respectively. Total marketing profit was BDT 135 which constituted of BDT 47, 24 and 64 from the primary, secondary and consumer market, respectively. Fishermen share to sales price were 89%, 84% and 73% in primary, secondary and consumer market, respectively (Table 3).

**Table 3.** Marketing margin and profitability of different intermediaries involved in marketing of hilsha in domestic marketing (BDT / Kg)

Market level	Particulars of marketing	Price BDT / Kg	% of consumer purchase price	Marketing margin (%)	Fishermen share in sales price (%)
Primary market	Purchase price (PP)	440			
	Marketing cost (MC)	8			
	Sales price (SP)	495	73 %	82-73= 9%	89 %
	Marketing margin (MM=SP-PP)	55			
	Marketing profit (MP=MM-MC)	47			
Secondary market	Purchase price (PP)	495			
	Marketing cost (MC)	6			
	Sales price (SP)	525	82 %	87-82= 5%	84 %
	Marketing margin (MM=SP-PP)	30			
	Marketing profit (MP=MM-MC)	24			
Consumer market	Purchase price (PP)	525			
	Marketing cost (MC)	11			
	Sales price (SP)	600	87 %	100-87= 13%	73 %
	Marketing margin (MM=SP-PP)	75			
	Marketing profit (MP=MM-MC)	64			
<b>Consumer purchase price</b>		<b>600</b>	<b>100%</b>		
<b>Total marketing margin: 55+30+75=160 (27 %)</b>					
<b>Total marketing profit: (47+24+64)= 135 BDT / Kg</b>					

## DISCUSSION

Different types of marketing system developed for marine fishes caught in artisanal fisheries. Different types of intermediaries such as wholesaler, commission agent, *beparies*, *aratdars*, *paikers* (local market, distant market) and retailers were found involved in marine fish marketing chain. The marketing channels for different fishes were different from each other. Some fishes had the long marketing channel with more intermediaries (eg. distant market) and some fishes had short marketing chain (eg. local retailer market). Khalil (1999) noted that the main marketing channel of marine fish in Cox's Bazar and Chittagong districts are fishermen-beparies-aratdars-retailers-consumers. Munir *et al.* (2006) noted that generally the supply chain of marine dried fish was comprised of several stakeholders like producers, wholesalers, *aratdars*, middlemen, retailers and finally at the top, the consumers. Alam (2012) observed the supply chain of fish comprises of six intermediaries namely farmer, *aratdar*, *paiker*, trader, retailer and consumer for the distant domestic market. So the results from the present study were more or less similar with previous study. Marketing margin as well as marketing profit was relatively higher in consumer market followed by primary and secondary markets where *beparies* and *aratdars* were involved. It was evident that high priced fish demanded high marketing cost compared to low priced fish. It was reported that transportation costs were higher for high valued species compared to the low valued ones.



In marketing of pomfret, jewfish and hilsa the marketing margin were 21%, 27% and 27% of consumer purchase price, respectively. Islam *et al.* (2006) reported that the marketing margin for pomfret and hilsa was 20% and 30%, respectively. Faruq MH (2009) reported that marketing margin for hilsa was 33% of consumer purchase price. Findings from the present study were more or less similar with Islam *et al.* (2006) and Faruq MH (2009).

Fishermen share was less than 75% in the consumer market which represents the facts that fishermen got low price from the marine fishes which were caught by the fishermen.

In marketing of some marine fishes like pomfret, hilsa, bombay duck, catfish, tuna and shrimp the average share that fishermen received was 68% of the consumer purchase price (Islam *et al.* 2006). Findings of the present study were more or less similar with Islam *et al.* (2006) and it clearly represented that fishermen received only small amount of price from the marine fishes caught. So the improvement of economic condition of the fishermen was not possible without the intervention of the government and other organizations in the marketing chain.

## CONCLUSION

The market price of the marine fish species seemed to be increasing step by step and was at the highest level when they reached to the consumer. It was inevitable because at every step the people involved were getting profit from it and that is why the price at the catching area was low but high at the consumer level. Such as, in primary market the price of pomfret was found BDT 675 /kg and in consumer market it was found BDT 800-850/kg. It was clear that the profit from wholesaler to consumer market was almost double. The marketing margin and profit found in marketing of pomfret, jewfish and hilsha were 21%, 27% and 27% of consumer purchase price, respectively. So intervention of the government and other non-government sector is needed for the suitable marketing channel of marine fishes.

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