

Value chain analysis for hilsa marketing in coastal Bangladesh

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This study sought to broadly understand hilsa marketing systems with its value chain analysis. Hilsa (*Tenualosa ilisha* – the national fish of Bangladesh) is the most important single species, economically and emotionally. Highly demanded in local markets, the fish accounts for 30% of national fisheries production (DOF, 2005). Hilsa is marketed and consumed all over Bangladesh. According to the survey, 88% of hilsa is marketed internally for domestic consumption while the remaining (12%) is exported, primarily to Bangladeshi communities in the Middle East, Europe and USA (Kleih *et al.*, 2003).

price variation. A combination of participatory, qualitative and quantitative methods was used for data collection. Data were collected for six months from July to December 2005.

Bangladesh's coastal waters are rich in diverse fisheries resources, with 475 recorded species of finfish including cartilaginous fishes like sharks, skates and rays. However, only 90 fish species are commercially important (Fisheries Sector Review, 2003).

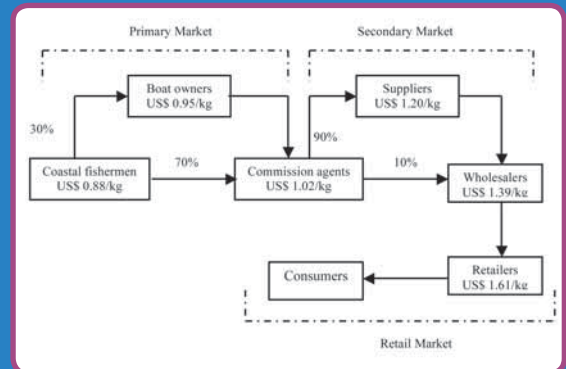


Figure 1. Hilsa marketing systems and its value chain (sales price of hilsa)



Hilsa fish in a bamboo basket with pomfret

The study was conducted in Patuakhali district, a coastal area of the Bay of Bengal, situated in the southern part of Bangladesh. Three types of fish market (primary, secondary and consumer) were selected for this study. In addition, Dhaka city retail markets were selected to examine the



Unloading of hilsa from a fishing boat

Marketing Systems

In terms of volume, value and employment, the fish market in Bangladesh is large. The fish marketing systems are traditional, complex, and less competitive but play a vital role in connecting the fishermen and consumers, thus contributing significantly in the 'value adding' process. A large number of people, many of whom live below the poverty line, find employment in the coastal fish marketing chain as fishermen, assemblers, processors, traders, intermediaries, transporters and day labourers, including women and children. The market chain from fishermen to consumers encompasses mainly primary, secondary and retail markets, involving sales agents, suppliers, wholesalers and retailers (Figure 1).

Fishermen are the primary producers in the fish marketing chain. Fishermen work on their own boat or operate other people's (locally known as *mahajans*) boats. The boat owners have full control over the fishermen as they have extended credit for the purchase of nets and other fishing equipment. Fishermen often feel exploited by the boat owners – believing that the prices they receive for their catch do not adequately reflect the prices paid for hilsa in the wholesale or retail markets where they are subsequently sold.

With a few exceptions, fishermen never directly communicate with wholesalers,

retailers and consumers. Fishermen tend to sell their catch at the landing centres to suppliers (locally known as *baperies*) with the help of commission-based sales agents (known as *aratdars*). As soon as the fishermen land the fish in the primary market, the sales agent takes care of landing, handling, sorting and auctioning by size-groups. In general, sales agents follow the incremental price system. It is the most competitive form of auctioning and ensures better prices for fishermen. Auctioneers call out the bid by the bidders loudly in the presence of the buyers. Sales agents get commission at different rates of the sale proceeds, normally 2 to 5% of the auction price, for their services and costs involved.

In the present fish marketing systems, the auctioneers and suppliers play a crucial role in determining prices for hilsa at the landing centre. Communication between the sales agents and suppliers is generally strong and takes place by mobile phones. Suppliers are a form of intermediaries who supply fish from primary markets to wholesale markets. In general, suppliers are tied to a limited number of sales agents. Suppliers commonly use boats, trawlers, micro-buses, buses and trains to transport hilsa from coastal areas to the wholesalers at urban fish markets who then sell to retailers.

Two main categories of fish retailers have been encountered: market-based retailers

continued on page 19...



Sorting and grading of hilsa at primary market

and itinerant retailers (fish vendors, hawkers, etc). Retail sales are made at stalls in fish markets and door-to-door to household customers. Fish are traded whole, un-gutted, and fresh without processing apart from sorting and icing. More than 75% of the total hilsa catch is actually consumed away from the coast so it requires processing, icing and transportation. A large number of day labourers, including women and children, are involved in the process. The travel duration between primary markets and retail for urban markets is usually less than 12 hours. If the transportation time is less than six hours from primary market to retail point the fish is not iced, or if iced, it is not done properly. There is a large gap between supply and demand, thus hilsa marketing is very easy in primary, secondary and retail markets.

Table 1. Calculation of marketing margin and profit for hilsa in different markets

Markets	Particulars of marketing	US\$/kg	Share* (%) of	Marketing margin (%)
Primary Market	Purchase Price (PP)	0.88	55%	63 - 55 = 8%
	Marketing Costs (MC)	0.05		
	Sales Price (SP)	1.02		
	Marketing Margin (MM=SP-PP)	0.14		
	Marketing Profit (MP=MM-MC)	0.09		
Secondary Market	Purchase Price (PP)	1.02	63%	86 - 63 = 23%
	Marketing Costs (MC)	0.07		
	Sales Price (SP)	1.39		
	Marketing Margin (MM=SP-PP)	0.37		
	Marketing Profit (MP=MM-MC)	0.30		
Retail Market	Purchase Price (PP)	1.39	86%	100 - 86 = 14%
	Marketing Costs (MC)	0.04		
	Sales Price (SP)	1.61		
	Marketing Margin (MM=SP-PP)	0.22		
	Marketing Profit (MP=MM-MC)	0.18		
Consumers Price		1.61	100%	

* Share of consumer price = (Purchase price/ Consumer price) x 100 Source: Survey data (2005)

within the domestic economy while at the same time understanding the manner in which marketing people are participating in the national economy (Kanji and Barrientos, 2002). Analysing value chains can bridge the gap between the focus of mainstream economics on aggregate measures of poverty such as income and the stress of livelihoods perspectives on micro-level complexity. In fish marketing systems, value chain is a structure

For hilsa value chain analysis, variables like marketing costs, marketing margins, number of middlemen in the marketing channel, distance between primary and retail markets, and consumers' behaviour on price are



Auctioning of hilsa at landing site

considered. A large number of intermediaries are involved in the process of hilsa marketing from the Patuakhali coast to Dhaka retail markets. The net share to the fishermen of the price paid by the consumer is 55% of US\$ 1.61 per kg of hilsa (Table 1). The price of hilsa depends on quality, size and weight, season, market structure, supply and demand, etc. Hilsa prices are known to follow a seasonal pattern, with the demand period around festivals not necessary coinciding with bumper harvests. Prices also vary from market to market. Prices in town markets tend to be higher than in coastal markets due to a larger concentration of consumers and superior family incomes. Moreover, market prices differ according to size, with larger hilsa fetching significantly higher prices per kilogram.

The margins received by intermediaries involved in the process of hilsa trade are relatively high due to the long distance between Patuakhali and Dhaka, which involves several transport stages and trader categories. Amongst the intermediaries, the highest margins were received by wholesalers. The highest average marketing margin per kilogram of hilsa was found in secondary

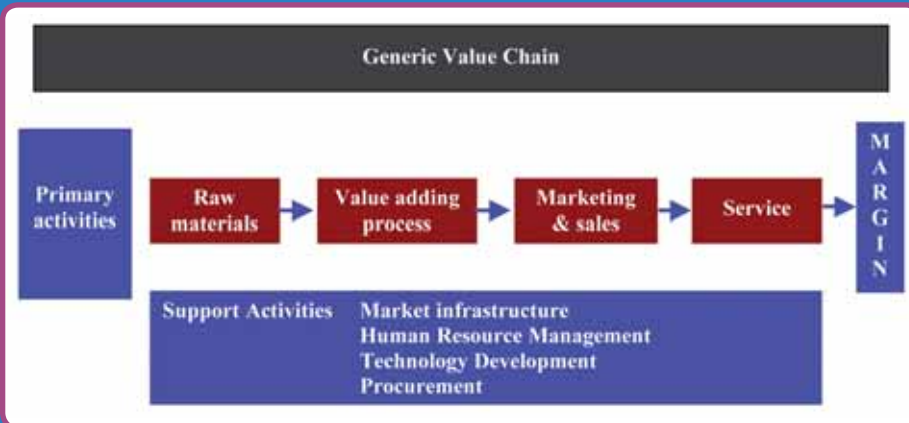


Figure 2. The concept of a value chain (Trondsen et al., 2004)

The demand for hilsa is high in markets but supply is limited, and a strong network has developed with intermediaries and traders intervening between fishermen at one end and the consumers at the other.

Value Chain Analysis

The value chain describes the full range of activities which are required to bring a product or service from conception, through the different phases of production and delivery to final consumers (Porter, 1980; Kaplinsky and Morris, 2000). In reality, value chains tend to be extended with a whole range of activities within each link and links between different value chains (Jacinto, 2004). Value chain analysis can be a useful analytical tool in understanding the policy environment in terms of efficiency in allocation of resources

of physical, economic and social transactions between individuals and organisations engaged in raw material transformation into end products (Figure 2). Flows of fish products and money are exchanged through value adding transactions driven by profit and allocation.



Processing of hilsa with ice



Transporting of hilsa from primary market to wholesale market by a boat



Hilsa trading at retail market

markets (US\$ 0.37 per kg) followed by retail (US\$ 0.22 per kg) and primary markets (US\$ 0.14 per kg). Similarly, the highest average marketing profit was found in secondary markets (US\$ 0.30 per kg) compared with retail (US\$ 0.18 per kg) and primary markets (US\$ 0.09 per kg).

Marketing Constraints

In general, facilities at fish markets are minimal, with poor hygiene and sanitation. There are currently no standard practices for handling, washing, sorting, grading, cleaning and icing of fish. At the primary market level, the main constraints for fishermen are a lack of bargaining power and market information. The marketing infrastructure, including cold storage, ice and transport facilities are generally inadequate, unhygienic and in

disrepair. Political disturbances (i.e. strikes, road blocks, etc.) also affect fish transportation as well as marketing. Comparatively, wholesale markets have better facilities, but in general conditions in primary and retail markets are far from satisfactory with regards to stalls, parking, spacing, sanitation, drainage and management.

Further Development

A number of issues are important for the development and sustainability of hilsa marketing including:

- Infrastructure: improvements of fish landing, modern wholesale and retail markets, road and transport systems, handling, and preservation facilities are essential to supply quality products.
- Supply of ice: insufficient supply of ice in markets is one of the most serious problems for hilsa preservation. Ice is fundamental for good quality fish storage and preservation. Having ice readily available on the premises would facilitate the enhancement of appropriate fish handling. It is therefore necessary to establish a sufficient number of ice factories for marketing of quality hilsa.
- Credit facilities: fishermen, traders and intermediaries do not have easy access to bank and non-government organization (NGO) credits due to too much official paperwork and collateral arrangements. Therefore, assisting traders to obtain cheaper adequate bank credit for market operating costs should be considered.
- Hygiene and quality: there seems to be very limited knowledge amongst fishermen, traders and intermediaries with regard to sanitary standards and fish quality. It is also imperative that the fish markets

are kept clean. Proper management with regard to day-to-day maintenance of the premises from a sanitary point of view has to be ensured. Improvements to hygienic conditions of fish landing centres and markets are essential for producing good quality products. Thus, training of fish market operators in areas of preservation, handling, icing and curing should be provided.

- Government policy: a positive policy at government level should be considered for sustainable hilsa marketing systems.

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Tilapia UK...OK, but AST out as RAS prevails

Kathleen Grady, Dave Little, Jimmy Young, Andrew Watterson and Francis Murray give an update on the tilapia project: 'Warm Water Fish Production as a Niche Production and Market Diversification Strategy for UK Farmers'

The project is developing a sustainable system for the culture of tilapia in the UK while investigating the health impacts and potential markets for this warm water species. Now in the third and final year of the project and with the bulk of research entering

the final phases, public, academic and stakeholder dissemination is a top priority. This year we will also engage farmers who are interested in adopting small scale tilapia production as an income supplementing diversification strategy.

Research

Technical results so far have shown that the novel Activated Suspension Technology (AST) system will not be a viable option for farmers, as originally envisaged. Conventional recirculation systems (RAS) are a more financially realistic option with higher tilapia growth rates and the capacity to operate at higher stocking densities without negative impacts on growth or fish welfare. Therefore, the final tilapia trials are