

Supply Chain Analysis of Hilsa (*Tenualosa ilisha*) Egg in Bangladesh

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Abstract:

Chandpur is popularly known as the city of Hilsa in Bangladesh. The fame of Hilsa of Padma-Meghna River in Chandpur district is worldwide. Hilsa exploited from different rivers in different regions of the country are landed in plenty at Chandpur Fish Landing Center. The present study was conducted from August 2016 to November 2016 in Chandpur district. The aim of this study is to determine the supply chain analysis of Hilsa egg and to assess the prospects for effective management and monitoring of this trade and export potentialities. Primary data were collected from direct observation through personal interview following a structured questionnaire with the fishermen, fisher folk, retailer and local transporters. Secondary data were collected from the daily newspapers of Bangladesh both local and national. Hilsa eggs are collected from the landed Hilsa fishes that are lower grade in terms of quality. The eggs are packed in the plastic boxes which are then stored in large Styrofoam boxes covered with ice and then sold to sea food companies of Chattagram, Bangladesh. From them, the eggs are exported to different countries in the world including India, Malaysia, UK, USA, Saudi Arabia and some European countries. The trade and export channel should be monitored regularly whether it is done properly or not. Due to its export potentiality, the authority should give concern on its trade and make a plan for considering Hilsa egg as a value added product in the country's market and abroad.

Keywords: Hilsa; Hilsa egg; *Tenualosa ilisha*, Supply chain; Trade; Export; Bangladesh

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Introduction

Hilsa (*Tenualosa ilisha*) is the single largest fishery of Bangladesh. It is the national fish of the country and it makes a huge contribution to the national economy and employment (Haldar, 2001). A Bengali proverb is “Macher raja Ilish” which means “Hilsa is the king of fish” (Sarker et al., 2016). Hilsa has secured recognition as the second geographical indication (GI) product of Bangladesh (“Hilsa recognised Bangladesh’s,” 2017).

Hilsa contributes about 12% to the total fish production and 1% to GDP. About 2% of the total population of the country is directly or indirectly involved in the fishery for their livelihood (DoF, 2018). Hilsa catches in Bangladesh represent about 60% of global hilsa production while remaining part comes from mainly India and Myanmar (Hossain, 2014).

Hilsa is a widely distributed clupeid species inhabiting the coastal waters mainly from Arabian Sea to the Bay of Bengal and ascending most of the estuaries, rivers and brackish water lakes of Indo-Pacific faunistic region for spawning purpose (De, 2001).

Hilsa is caught and landed throughout the year, the majority of landing (60-70%) is found during the peak breeding season (September-October). In this season, about 60-70% hilsa are found to be sexually mature and ripe (Rahman et al., 2009). Hilsa is a highly fecund fish that may produce up to 2 million eggs (Rahman et al., 2017). The upstream migration during the main breeding season depends largely on the commencement of the Southwest monsoon and consequent flooding of the major rivers of Iran, Bangladesh, Burma and India (Roomiani et al., 2014).

Chandpur is popularly known as the city of Hilsa in Bangladesh. The fame of Hilsa of Padma-Meghna River in Chandpur district is worldwide. Hilsa exploited from different rivers in different regions of the country are landed in plenty at Chandpur Fish Landing Center which is one of the biggest Hilsa landing centers in the country. Because of both tastiness and nutritional quality of Hilsa egg, the demand of Hilsa egg is good both in the country and abroad. Hilsa eggs are collected from Chandpur, and then transported to Chattagram and from there exported to abroad.

Neither research work has been done nor is relevant literature found on Hilsa egg trade in Bangladesh. The aim of this study is to determine the supply chain analysis of Hilsa egg and to assess the prospects for effective management and monitoring of this trade and export potentialities.

Methodology

Time period

The study was conducted from August 2016 to November 2016.

Sampling site

The study was conducted in Chandpur district as Hilsa from different regions and different landing centers are landed there and it's the transition zone for Hilsa trade.

Data collection sources

Data were collected primarily from direct observation through personal interview following a structured questionnaire with the fishermen, fisher folk, retailer and local transporters. Secondary data were collected from the daily newspapers of Bangladesh both local and national.

Data were collected regarding following topics:-

Collection system of Hilsa egg: The sources of Hilsa and Hilsa egg were found out and collection system of Hilsa egg was determined.

Preservation system of Hilsa egg: The preservation system of Hilsa egg and the materials used for preservation were figured out.

Transportation system of Hilsa egg: The transportation system of Hilsa egg was also found out.

Trades of Hilsa egg: How trade of Hilsa egg is done and who are involved with the process were found out.

Supply chain analysis of Hilsa egg: Supply chain analysis of Hilsa egg was assessed and determined for better understanding of trade and export channel.

Results and Discussion

Collection system of Hilsa egg

Hilsa fish exploited from different rivers in different regions and different landing centers are landed at Chandpur Fish Landing Center (locally known as Mach ghat) located in Boro Station at the bank of River Dakatia. Some of the exploited Hilsa fish before the peak spawning season (before ban period of Hilsa) are found to be matured and gravid (**Figures 1-5**). At that time due to the landing of huge number of Hilsa fishes in the fish landing center,

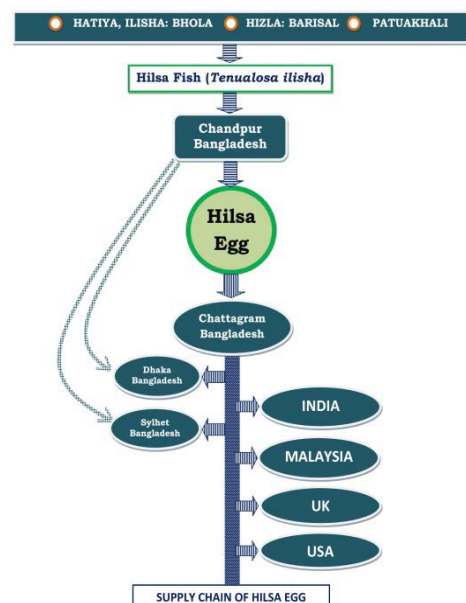


Figure 1: Supply chain of Hilsa egg.



Figure 2: Pictorial view of Hilsa egg collection from Hilsa fish at Fish Landing Center of Chandpur, Bangladesh.



Figure 3: Pictorial view of Hilsa egg packaging materials (plastic boxes).



Figure 4: Pictorial view of Hilsa (*Temualosa ilisha*) eggs.

fishes are stored in the ice/freezing boxes. Among them, some Hilsa fishes are found to be lower grade in terms of quality due to improper handling. That means these Hilsa fishes can't be sold at better prices. Hilsa eggs are separated from the inside of these lower grades Hilsa during the salting process (locally called as

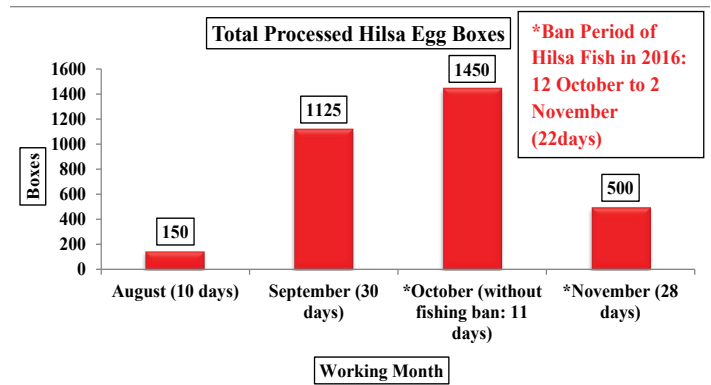


Figure 5: Pictorial view of month-wise trade of processed Hilsa egg boxes.

Nona ilish) and then collected (Figure 2). In this process Hilsa eggs are collected in several rooms in the fish landing center which are used as a temporary preservation room. People are hired from Mymensingh, Jamalpur and Sherpur districts by the fish traders for this work. After the ban period, a class of fish traders comes here to collect the Hilsa eggs from the fish traders of Chandpur Fish Landing Centers.

Preservation system of Hilsa egg

The eggs are kept stacked after the collection. Then eggs are packed in the plastic boxes (Figure 3). Each box's holding capacity is two and half kilograms of Hilsa eggs. The price of a plastic box is 50 taka. After that hundreds of plastic boxes are stored in large Styrofoam boxes and then covered with ice for temporary preservation till transportation.

Transportation system of Hilsa egg

The Styrofoam boxes are transported to Dhaka, Chattagram and Sylhet by truck or pickup. In most cases the Styrofoam boxes are transported to Chattagram by either pickup or train.

Trades of Hilsa egg

Although the price of Hilsa is lower, the prices of Hilsa eggs are much higher due to its demand and unavailability. The traders of Chandpur Fish Landing Center sell Hilsa eggs to different sea food companies in Chattagram. About 3225 processed boxes of Hilsa eggs were found to be transported during the studied period (Figure 5). The whole sale rate ranges from 1000 to 1500 taka/kg depending on the quality of Hilsa egg. As per the prices, each box ranges from 2500 to 3700 taka. The sea food companies further process and preserve the purchased Hilsa eggs of their own way. Later, the preserved eggs are traded in our country and exported to different countries in the world including India, Malaysia, UK, USA, Saudi Arabia and some European countries.

Supply chain analysis of Hilsa egg

Hilsa fish (*Temualosa ilisha*) from Hatiya, Ilisha: Bhola, Hizla: Barisal, Patuakhali and from other Hilsa abundant regions are landed in the Fish Landing Center of Chandpur, Bangladesh. Lower graded Hilsa in terms of quality are separated from the

landed Hilsa and from them Hilsa eggs are collected. The collected Hilsa eggs are traded in the country in two channels; one is Hilsa eggs are sold to the fish traders of Dhaka and Sylhet either directly or indirectly via Chattagram who sells them in the local market to meet the demand of consumers of Bangladesh. In the other trade channel, Hilsa eggs are sold to different sea food companies of Chattagram and from them Hilsa eggs are exported to India, Malaysia, UK and USA mainly after the processing (**Figure 1**).

Recommendation and Conclusion

Hilsa (*Tenualosa ilisha*) locally known as 'Ilish' is very much involved with the culture of Bangladesh and hence it has been designated as the national fish of Bangladesh (Rahman, 2017). As Hilsa eggs are traded in the country and exported to foreign countries, the trade and export channel should be monitored regularly whether it is done properly or not. Due its export potentiality, the authority should give concern on its trade and make a plan for considering Hilsa egg as a value added product in the country's market and abroad. Lastly, Catching Hilsa in the ban period should be controlled strictly.

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