

A Study on Fish Marketing System in Swarighat, Dhaka, Bangladesh

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Abstract: The study was conducted at fish marketing system in Swarighat, Dhaka, attempts to study of existing marketing system, economic features of marketing activities and inefficiencies. This paper attempts to identify infrastructure facilities, present market structure, nature of costs, profit margins and the factor influence the marketing system. In Swarighat, almost all fish traded internally move through the private sector where a large number of people are dealing with fish distribution and marketing system. The market chain from producers to retailers goes onward through a number of intermediaries: traders, broker, aratdar, wholesalers, mahajans, and dadondars. On the basis of a sample of 20 traders from the market, the usual amount of the daily turnover of fish in this market is between Tk 2.5 and 3 million and the volume varies relying on the variation in catches during peak or off-season. Virtually most of the fish (Near about 60%) is locally supplied, near about 40% brings in from all over the country including Cox's Bazar, Teknaf, Chittagong, Mohangang, Chandpur, Barisal, Kuliarchar, Jessor and Satkhira, Khulna, Bicrompur, Mymensingh. The marine fish supply and freshwater fish supply amount is near about 20% and 80% respectively. It is estimated that near about 15% of fish supplied in markets is Indian major carps, 10% exotic carps, 5% other carps, 25% hilsa, 10% catfish, 5% snake-heads, 3% live-fish, 5% small indigenous fish, 7% prawn and shrimp, 5% tilapia and 10% others including small chingri and marine fishes. Market structure, species quality, size and weight have an influence on the price of fish and it was obtained from the survey that the price of fish increases per kilogram with size and species wise. A great amount of profit is made by all traders in the market in a successful manner. [Nature and Science 2010;8(12):96-103] (ISSN: 1545-0740).

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1. Introduction

In the agro-based economy of Bangladesh, the fisheries sector contributes near about 58% of animal protein to the daily diets of the population, about 3.74% to GDP, 4.04% in export earnings and 20.87% to agriculture in 2007-08, (DOF, and Ministry of Fisheries & Livestock). This sector provide full-time employment of 1.4 million professional Fishers and Fish farmer, and 11 million part-time Fishers, fish farmer and women, which is about 10% of total population.

The marketing system and structure is one of the main circumstances of socio economic condition of the local people and production system of any area. With intra-linkage and inter-linkage from production sector to consumer sector, it is a chain of various systems involved in marketing. As fish and fishery products are highly traded commodities, fish production is a necessary part of the marketing process to make a whole complete. The total fish production in Bangladesh was estimated to near about 2.56 million tons in 2007-08, of which near about 2.07 (80.59%) and 0.5 (19.41%) million tons came from inland and marine waters respectively (DOF, Ministry of Fisheries & Livestock). About 97% of the production is marketed internally for domestic consumption while the remaining 3% exported to the foreign (Ahmed *et al*, 1993). Fish from many areas, flow to Swarighat due to eating habits and economic conditions. Hence, it has become one of the main fish trading centers in Dhaka city. The system and price of other places such as Rampura, Malibagh, and

Santinagar etc in the city is determined by its system and price.

In Bangladesh, fish marketing is almost exclusively maintained by the private sector. Four distinct tiers viz. primary, secondary, higher secondary and consumer market of marketing systems are observed in the process of distribution of fishes in Bangladesh (Ahmed, 1983). Fish collectors commonly known as Mahajans or Aratdars procure fish from the catchers, with the help of local brokers who get a profit margin or commission from the Mahajans, However, the most serious marketing difficulties seem to occur in the remote communities which lack of transport, ice, poor road facilities and where the farmers are in a particularly weak position in relation to intermediaries (Rahman, 1997). In addition, a new marketing chain have settled by the middlemen based on the extreme exploitation of the fish farming communities by setting up an illogical artificial pricing policy through intermediaries' at different levels. As a result dissatisfaction to consumers, farmers, fishers and poor traders occur due to high marketing margin and high prices.

The fresh fishes are mainly marketed in the vicinity of the households in the rural market of Bangladesh. The fishes, which are not sold in fresh condition, are generally used for producing dried and fermented products. The highest quality loss of 35% occurs due to longer exposure of fish at high temperature followed by 25% rough handling and excessive pressure, The present study is concerned with the existing marketing systems to identify

marketing inefficiencies that having adverse impact on farmers, Fishers and poor traders (Rahman *et al*, 2009).

2. Materials and Methods

2.1. Study Site:

The study site was Swarighat, located at the south part of Dhaka city, just beside the Sadarghat launch terminal. It is one of the most common, oldest and well known fish market in the city. This market is very important for fish marketing as almost all people like fish.

2.2. Methodology:

The data was gathered over five days from 21st December to 25th December, 2009. For gathering data, combination of several survey techniques was adopted are as follows:

2.3. Secondary Data Collection:

From appropriate government and non-government organizations such as Department of Fisheries (DOF), Swarighat Matsha Aratdar Samity, Swarighat Matsha Arat Sramic Union etc, secondary data about fish distribution and marketing information were gathered.

2.4. Primary Data Collection:

Field surveys were used for the collection of primary data. For the confirmation of the secondary data, primary data was used also. The study area was visited officially to check on standards in term of fish distribution and marketing information. By using questionnaire interviews and direct observations, primary data were gathered for this survey.

2.5. Questionnaire Interviews:

20 fish traders were carefully choose as the most suitable in the study area through careful inspection for the questionnaire interviews. Questionnaire was examined in the field before interviews. At the market center, traders were interviewed through a formal conversation for this purpose. Information about fish marketing, pricing policy, trading actions, constrains of fish marketing and socio-economic conditions of traders are the consequences of the interviews.

2.6. Data Processing and Analysis:

Using Microsoft Excel software, data from different relevant sources were coded and recorded into a database system. To make certain the accuracy of the data recorded at each stage of the survey, similarity between preparatory data sheets and the original coding sheets were assessed; accuracy and quality of the data were examined up, edited and coded at the field level.

3. Results

3.1. Marketing Process:

In the fishery trade, fish marketing has a momentous role. Protecting provision of the interest of trader and consumer are always performed by a good market. The provision of welfare and protection for maximum efficiency of production, best possible quality of commodity and their supply at an appropriate time to consumer at fair and sensible price are also taken by a trader. Before reaching to the consumers who have varying incomes, tastes and preferences, fisheries captured by a large no of scattered, small fishers are assembled, transported, stored, processed and passed through several channels.

3.2. Fish Market Structure:

The actual and potential buyers describe about character of the structure of the market. It is the place where demand of a product exists. Traditionally places where buyers and sellers are brought together to buy or sell fish are referred as fish market. In Swarighat, total no of wholesaler and Aratdar is between 500 and 700 and over 80-100 peoples are act as Aratdar. Over 500 no of people also work with the traders as day laborers and they get Tk 200 per day for their work. This market is performed only for a few hours in the early morning where traders are involved in fish trading from 6 am to 9-10 am. From the other markets of the city, the fish trading system in the market is unusual to a certain extent. In the open place, fish is mainly traded here. Medium and large size fishes are separated from a mixed group by species and size and are sold in *hali* (4 pieces) basis and most small size fishes are sold in *maund* (37.6 kg) basis. It is operated by the "Swarighat Mosque". Every trader has a fixed space for their business. There is no stalls for the traders but a few sheds are already exists. There is no Electricity or telecommunication, preservation or freezing facilities.

3.2.1. Educational Structure of Fish Traders:

To have some thorough background of knowledge is absolutely necessary for all traders. Actually it is true that education is not an essential subject for the fish trading, but chooses to follow and be aware and familiar with the latest technology and appropriate use of it, education is must. Also, it is almost impossible to operate the fish market without a good performance in education. In Swarighat, fish traders are near about 10% illiterate, 25% primary level, 10% secondary level, 40% S.S.C. level, 5% H.S.C. level and 10% other or higher educated (Fig. 2).

3.2.2. Secondary Occupation of the Traders:

All the traders have alternative sources of income in most of the cases, and sometimes fisheries sector found as their alternative source of income. Possibility of risk tolerating tendency rely on how strong is his alternative source of income. In Swarighat, There are many other source of income for the traders and those can be recognized as Medicine business, Dredging,

Automobile business, Cookeries business etc. From the survey, it is obtained that the secondary occupation of most of the Aratdar is also a business. And who have no other occupation or business are directly related with fish trading.

3.2.3. Level of Interest of the Fish Traders:

The self esteem of the traders to do his job is expressed as the Level of interest. If they are not satisfied with their work, there always have a chance to change their job and migrate to other jobs. In Swarighat, most of the traders are satisfied with this job, but there are some traders who are unsatisfied and some have no comments. In general, most of the traders do this job as a family tradition.

3.2.4. Level of Knowledge of the Traders to Keep Fish in Good Condition:

It is very important for a market to supply the good product to its customers. Fish is the most perishable food and easily goes for denaturation. There is only one way to maintain its quality and for that the knowledge about this is too much essential. In Swarighat, most of the traders have medium knowledge, some have poor knowledge and very few people may have high knowledge about this.

3.2.5. Associations:

In Swarighat, there are two associations, one is Aratdar samity and another is Sramik samity. The name of the Aratdar samity is "Swarighat Matsha Aratdar Samity" that built in 1990 and the name of Sramik samity is "Swarighat Matsha Arat Sramik Union that built in 1999. Selection for chairman of this Samity held every three years. Here no voting system is going on. Chairman is selected by the members of the Samity. Main purpose of building this association was to look after all the necessary things in this market as its security, hygienic condition, taxes, labor welfare etc.

3.3. Marketing Infrastructure:

For marketing fisheries product domestically and for the physical development of markets, infrastructure facilities are most important. Market infrastructure frequently behaves to become different from place to place according to different parts of Bangladesh. It is not well developed throughout the country and Swarighat is not out of this.

3.3.1. Landing Facilities:

In Swarighat, Landing facilities belong to municipal authorities. There is no landing centre, proper auction sheds, packing shades, landing terminal and proper drainage or hygienic facilities.

3.3.2. Ice Supply & Cold Storage:

In Swarighat, there are 4 ice plants in the market and ice storage facilities exist. Mostly block ice is used with manual methods being used to change the

form of blocks to crushed ice. Especially at peak season, there is clearly a deficiency of ice and this is reflected in the prices charged for the same. Only river water is used for making ice which is of very uneven quality and is often not chlorinated. It looks so muddy and translucent.

3.3.3. Handling & Transport of Fish:

The transportation system of fish determines the demand and purity or hygienic condition of it, because with the change of time, fish will perish rapidly. Also its value decreases, if it requires too much time to transport this fish from the collection point to the market. Swarighat gets a very good facility from the topography, as this market is situated at the side of the Buriganga River and also at the side of the highway. To carry fish over larger distances from the collection point to the market, mainly river transport is used but fishes from local area are transported by road or river. Two types of fishes are found here as dead fish and live fish. Normally Shol, Taki, Pangus, Koi, Shing, Magur are transported here as live form. Dead fish carried to the market in box or cages but live fish by drum or tray. Mainly small Pangus are carried by tray. Each drum contains 35-40 kg of fish with water. Mainly this type of fish is transported by truck. On the other hand, dead fishes are carried at a rate of 10 ton per truck. Fishes from other districts like Barisal, Khulna, Chittagong, Vola, Feni, Bagerhat, comes by steamer, launch and or by boats or trawler. Because of its easy transportation system and availability river is more suitable then road. Fish has carried into and out of the market by head-load; baskets involve unnecessary handling as there is no access of vehicles.

3.3.4. Hygienic Condition and Sanitation:

Hygienic condition of Swarighat market is so poor. At the market time these place become so muddy and walking become very difficult. There is no source of hygienic water for ice making and cleaning of fish. River water is used for this purpose. There is no drainage system and Sanitation receives a low priority at all stages of marketing. For example, cleaning and washing of fish and containers to carry fish are not common practice and fails to use chemicals (bleaching powder, chlorine etc) to sterilize surfaces which are used to hold fishes.

3.4. Fish Distribution Channel and Value Network:

Marketing distribution channels are sets of organization which depends on each other involved in a series of action to make a product or service available for use or consumption. By the means of the channel members (Local traders, Fishers or fish farmer, Aratdars, Mahajans, Whole seller, Distributor etc) the harvested fisheries transfer from producers to consumers (Fig. 1). Depending on kind and quality of fish market, ability to use marketing services and the prevailing social and physical environment this may

be short or long. Fish marketing channel in Swarighat is almost entirely managed, supported, financed and controlled with rules by traditional, diligent and skillful middlemen. The demand for fish is high in the market in relation to supply and a stable network has developed with brokers and traders between farmers and consumer. Tradition and the strength held by separate channel members are affecting the action of distribution system and the fish farmers/ fishers are

very sensitive to this as they never directly communicate with consumers. Because this may be very hard to do as the market communication is mainly made by the means of middlemen and the wholesaler will not permit this in most of the time. It may also be true about the hostile behavior of retailer towards the fish farmer/ fisher who sells their fishes directly to households.

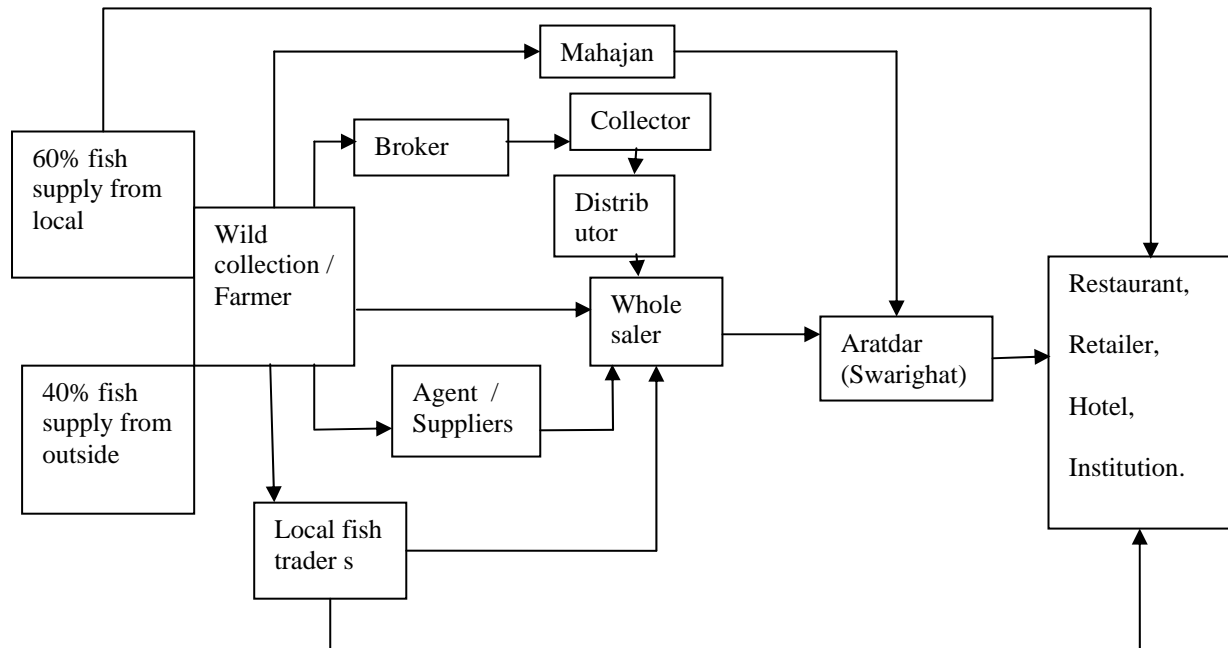


Figure 1. Fish Distribution Channel from Farmer to Retailer in Swarighat

Swarighat occupies the higher secondary market level because collectors, distributors, Mahajans, local agent, local fish traders etc are collected fishes from the farmers/ fishers of remote villages and sell these to the wholesalers of this market where prices are determined in a competitive market situation and they sell this fish to the Aratdar. Here some Aratdar also works as wholesaler. Finally, Aratdar sells their fishes to the retailer. Here also agents or suppliers carry fish to the wholesalers and Aratdar of Swarighat and typically earns 1 to 3% commission for their services. Suppliers commonly use boats, trawler, steamer, launch, truck to transport the fish from farmers/ fishers to Swarighat depending on market distance and transport facilities. Sometimes suppliers receive small amounts of credit known as dadon from wholesalers and Aratdars to make certain that he bound to deliver his collection of a good and desirable quality of fish to the same. The Aratdars have arranged themselves into a powerful association which has a far-reaching influence as they are the middle point of the entire marketing system and including financing of suppliers and buyers, and often associated with their own account, their function goes

far beyond what one would usually regard as likely to a commission agent.

Separate values in every channel levels are added by the channel members and as a result a value network system is caused to happen. The channel members behave like more individualistic rather than work together. Despite they are directed to establish their own financial goal but they add value in marketing chain. Thus, the middleman plays an essential role in this market.

3.5. Demand and Trade Flow of Fish in Market:

Usually, all religious and social groups in Bangladesh like fresh fish (without ice) better than iced or preserved fish. Mainly large fishes are bought by the income groups and medium and small sized fishes are consumed by the poorer people. Hotel and restaurant and hostel of many educational institutes also buy fish but maximum fish is eaten by households. According to market survey, the daily supply of fish in Swarighat market varies depending on the variation in catches during peak or off-season. Virtually most of the fish (near about 60%) is locally supplied and near about 40% is imported from outside

(other parts of Bangladesh and India and Myanmar). Trains, trucks, steamers, launches, boats etc are used for transport of fish to wholesalers in Swarighat from outside of Dhaka. Delivery of fish is operated by the intermediaries in the market and when required, fishes are iced, sorted, stored, packed and transported. In general fishes are arrived from Cox's Bazar, Teknaf, Chittagong, Mohangang, Chandpur, Barisal,

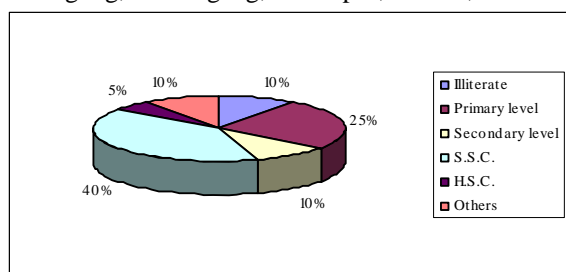


Figure 2. Level of literacy of the fish traders in Swarighat.

Kuliarchar, Jessor, Satkhira, khulna, Bikrompur, Mymensingh, Kalindi, Jinjira, keranigong and Gazipur etc where there are major landing and marketing centers exists for the greater quality and quantity of fish supply. People strongly prefer to consume largely the production from inland freshwater resources then the marine form. According to the survey, it was found that every Aratdar of Swarighat sell an average 300 kg - 400 kg offish daily. Demand of fish is rising in the market due to the raising population of the city. The present supply figure indicates quite a considerable increase then the last 10 years. Nevertheless, it is probably safe to say that compared to some 10 years ago, the market volume has increased and that consumers are slowly growing used to including more fish in their menu It was estimated that around 20-30% more fish is generally supplied during fish harvesting season (November - January). As a result more fish is generally consumed during this season which is also festivities and the wedding season (Rahman *et al*, 2009).

From the other markets of the city, the fish trading system in the market is quite different to a certain extent. Medium and large size fishes are sorted from a mixed group by species and size and are sold in *hali* (4 pieces) basis and most small size fishes are sold in *maund* (37.6 kg) basis. Fishes are also sold in *palla* (5 kg) and one *kharia* (near about 1 *maund*) basis. Sometimes small fishes are sold by weighing with the eye estimation. Sometimes local units of measurement and metric system are also used.

3.6. Price of Fish:

In Swarighat, Price of fish is fixed neither by the government nor by the fisheries co-operatives, not even by the trade associations but price of fish influenced by two major factor- the price at which the wholesaler buy their fish and the amount of profit they intend to gain and it is fixed through supply and

demand interaction. Generally, in proportion to other commodities, fish price have been raising faster. According to the species and size of fish, price of fish become different with season of the year and freshness of the fish.

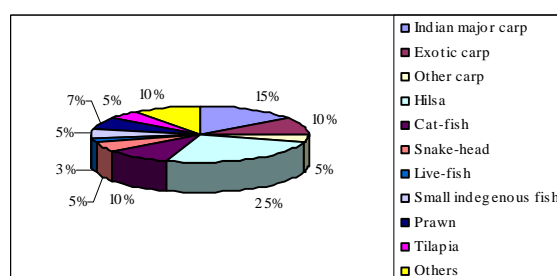


Figure 3. Species wise fish percentage (%) in Swarighat.

The price of fish varies irregularly and more widely than other agricultural commodities. In this market, the main buyers are retailer. The price of fish is usually set through open auction by the Aratdars and wholesalers. According to rules of auction system, the price for an allotment of fish is settled securely through open, competitive bidding. The heist bidder then receives the delivery of the fish in exchange of payment to the seller. Generally the payment is made in full and in cash. This auction method is conducted through an Aratdar. Aratdars usually charges about 2-3% of the sale price from wholesalers and also sometimes retains a small quantity of fish as commission. The price is also fixed by direct bargaining between seller and expected buyers. The sellers try to obtain a price that is generally higher than his least attainable selling price. The potential buyer begins with a price which is lower than that of their minimum buying capability. Through several rounds of adjustments, the price is reached at a satisfactory destination to both parties.

Production area of the fish tends to influence the price of the fish. There is a variation of price between fishes produced in Bangladesh and India or Myanmar, as Bangladeshi fishes are liked better and sold at a higher price than fishes from other countries. Because Bangladeshi fish is believed to be fresher than India and Myanmar and have packed in ice for several days. For example, among the carp species, Indian major carps (rui, catla and mrigal) fetch higher prices than the exotic carps (silver carp, grass carp and common carp) a result very much similar to that the consumers are not willing to pay high prices, but an important factor is lower production costs to allow supplying fish at this price. Naturally, the price of carp depends on market structure, location, species, quality, size and weight. The price is also influenced by supply and demand and there are generally seasonal variations in prices with the highest in summer (March to May) and the lowest in winter (November to January), during the fish harvesting season (Rahman *et al*, 2009). From the survey of this fish market it is found

that the price per kilogram of carp increases with size for both native and exotic species (Table 1).

3.7. Market Share by Fish:

From the survey, it is observed that most of the fishes provided in Swarighat are of Indian and exotic carps. As well as small quantities of other fish, i.e.,

hilsa, catfish, tilapia, snake-head, live-fish, small indigenous fish, prawn and shrimp and other fish including marine are also sold in the market. From the survey, it was also observed that most of the carps are imported from India and Myanmar. It is remarkable that consumers still like Bangladeshi fish

Table 1. Average Selling Price (Tk/kg) and Demand of Fish in Swarighat.

Fish species	Size of fish	Price (Tk/Kg)	Demand
Indian major carp			
Rui	Small	140	High
	Large	200	
Katla	Small	140	High
	Large	200	
Mrigel	Small	80	Medium
	large	100	
Exotic carp			
Silver carp	-	50-60	High
Grass carp	-	65-70	Low
Common carp	-	80-90	Medium
Other carps			
Bata	-	130	High
Sharpunti	-	80	Medium
Cat-fish			
Shing	-	400	High
Magur	-	400	High
Pungus	-	50	Medium
Ayre	-	250	Medium
Tengra	-	130	Medium
Boal	-	250	High
Live-fish			
Shol	-	90	Medium
Taki	-	60-70	Medium
Koi	-	300	High
Small fish			
Kachki	Small	70	Low
Chanda	Small	50	Medium
Mola	Small	150	Low
Punti	Small	120	Medium
Hilsha	-	80	High
Prawn	Small	260	Medium
	Large	600	High
Tilapia	-	80	High
Others			
Kakhle	-	120	Low
Baim	-	150	-
Bele	-	200	low
Chela	-	140	-
Poa	-	250	low
Veda	-	180	low

more than exotic one. It is estimated that near about 15% of fish supplied in markets is Indian major carps, near about 10% exotic carps, 5% other carps, 25% hilsa, 10% catfish, 5% snake-heads, 3% live-fish, 5% small indigenous fish, 7% prawn and shrimp, 5% tilapia and about 10% others including small chingri and marine fishes (Fig. 3).

3.8. Marketing and Profit Margin:

Under the circumstances of perfect competition, marketing margin is expressed as the difference between prices at different levels of the marketing system. From the present survey it was estimated that the primary producers scarcely receive or earn near about 30-40% of the selling price for their production. Depending upon the estimated cost of transportation, preservation, icing

and money paid to moneylenders of the market, fishers/farmers share of the prices become different a lot. Aratdar's profit per kg is 10 Tk. They also charges about 2-3% commission of the sell price and 4% interest from them who receive dadon. Middlemen's share is near about 40-45%, the quality/weight loss near about 10-15%, while the remaining 15-20%(near about) was spent for transportation, preservation and other charges of the sell price.

3.9. Bottlenecks and Constraints of Fish Marketing:

Main constraints of fish marketing are related to infrastructure, plant management and institutional management aspect. From the infrastructural constraints, lack of modern, hygienic fish landing centers; illiteracy, ignorance, lack of awareness and poor socio-economic condition of the fishers; shortage of adequate ice-plants with sufficient capacity, cold and freezer storage; lack of handling and preservation facilities etc are the most severe. Problems are particularly serious in certain inaccessible area where inadequate transportation and distribution facilities, lack of insulated and refrigerated fish vans, resulting in considerable wastage of ice; lack of electricity present and where open trucks are the main fish carriers. According to Ahmed, 1983, the average rate of ice usage was inadequate and fish cannot be kept at a sufficiently low temperature to maintain it in optimum quality throughout the distribution chain. Lack of proper knowledge of modern sanitation techniques in controlling plants; ignorance or careless in managing personal hygiene of the worker, isolation of may fishing community from their wholesale landing facilities etc are also regard as the constraints of fish marketing. Extra pressure on the producers to provide undergrad fishes in order to maintain a quantitative balance between demand and supply exists. The present system of official inspection and quality control is restricted mainly to the processed products, which gives large of scope for deterioration of raw fishes during transit from harvest or landing centers to the consumers and cannot assure the quality of fish entering the internal markets. According to the traders, marketing and fish transporting also affected by political disturbances. As a result, fishes tend to damage and the traders sell these at lower price then that required obtaining these, sometimes they even unsuccessful to earn any revenue due to decomposition of this perishable commodity.

The consumers have to pay higher price due to the participation of too many intermediaries in the marketing channel, but the actual fishers do not get the perfect price for their products and the lion shares go to the intermediary's pocket.

The state of landing and wholesale facilities is usually not sufficient enough for handling of a commodity which subjected to rapid decay like fish. Lack of adequate drainage, lack of facilities for washing down, dirty and earthen floor, lack of toilets, lack of auction place at peak period, lack of mechanical weighing equipments etc are regarded as the main constrains for efficient fish marketing system in this market at one hand and on the other hand a public health hazard for the surrounding communities.

4. Discussion

The improvement of an efficient fish marketing system from the present status depends upon the overall level of national development. A vigorous attempt to improve the system should begin from a very careful and detailed evaluation of the problem. For example, dismantling the market power used by traders will not be operative if there actually any problem exists in transport, storage or handling.

It is a common indicator of marketing efficiency is the size of the marketing margin which is the differences between the farm gate price and the next price level such as retail. Margin could be high if the marketing costs and/or profits are high. Marketing costs are high if marketing functions are not performed efficiently due to functional difficulties such as poor roads, inadequate storage leading to losses, poor handling, etc. Profits may be high if there are high risks of losses and huge capital investment (Rahman *et al*, 2009).

Due to the increasing demand of fishes go with low supply and manifold variety of channel members in between harvesters and final consumers, a large price increase continue to grow in this fish marketing chain which is mainly created and influenced by the channel intermediaries. The increased amount of catches by the fisher and effective marketing of produces at appropriate price will help them to fetch higher profit from the investment.

Nevertheless, experience offers for the essential role which is played by the government. For giving strength and confidence to the community organizations and their networks in marketing management, long term solution needed for these purpose. Short term solution may also provide fishers to get a better price for their catch including greater market transparency by providing with market information and better fish-care practice.

The improvement of a series of modern facilities in this wholesale market, where hygienic and less physical handling exists may lessen the losses due to qualitative damages. Training and extension in improved handling processing addressed at all those involved in the handling of fish, including fishermen, traders and municipal authorities.

At the national or policy level, an important role of government should be played to improve marketing by the means of proper price policies, training and extension works in marketing and management of relevant market research. Strengthening the bargaining power of the farmers/Fishers by providing with the

actual information about the present market status, pricing policy, credit facilities and above all, the formation of association is a right supervision.

Specific suggestions which are needed to improve marketing system are as follows:

- Establishment of more ice-plants, cold-storage and preservation facilities,
- Introduction of insulated and refrigerated fish vans and fish carriers to maintain cold-chain during transportation,
- Improvement of existing fish market structure,
- Improvement of fish transport, handling facilities,
- Establishment of modern wholesaling facilities,
- Improvement of sanitation, hygienic condition, drainage, washing facilities and sufficient auction places,
- Introduction of mechanical weighing equipment,
- Proper electric supply,
- Increasing fish supply through improved culture practice,
- Proper attention should be paid to the personal hygiene,
- A study on socio-economic development, credit system,
- Financial and technical assistance,
- Training of manpower,
- An independent act or ordinance for fish landing and marketing.

5. Conclusion

For increasing the productivity of fishers and making certain their livelihood security, an efficient fish marketing system is a vital requisite. Though Swarighat is not competitive in view of the huge gap between demand and supply and also suffering from ill-management, unsatisfactory state of market structure, unhygienic and unscientific conditions; the fish marketing system in this market is quite efficient. Despite many problems this market is still regard as an important and one of the biggest fish market in Dhaka city and government get huge amount of taxes from this. So, government intervention and public-privet relationship is necessary for commercial implementation and improvement of the existing system of fish marketing in Swarighat.

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References

1. Ahmed M, Rab A, Bimbao MP. Household socioeconomics, resource use and fish marketing in two thanas in Bangladesh. 1993; ICLARM Tech. Rep. ,40. 82 pp.
2. DFID. Introduction to Sustainable Livelihood and its relation to project work.2000. www.livelihoods.org.
3. Islam, M. S. Manual on Socio-economic Analysis in Aquaculture Research, Fisheries Research Institute (FRI), Mymensingh, Bangladesh.1996.
4. Mazid MA. Proc. SAARC workshop on fisheries socioeconomics and marketing. BARC, Dhaka. 1994.
5. Rahman AKA. Fish Marketing in Bangladesh: Status and Issue. The University Press Ltd. Dhaka, Bangladesh. 1997: Pp 99-114.
6. DOF. Brief on department of fisheries Bangladesh. Department of Fisheries (DOF), Ministry of Fisheries and Livestock, Dhaka, Bangladesh.2007-2008.
7. Rahman MM, Hossain MM, Rahman SM, Alam MH. Fish Marketing System in Khulna, Bangladesh. *j.innov.dev.* 2009; *strategy 3 (5):* 27-31.
8. Ahmed N, Rahman MM, Rahman MM. A Study on Fish Marketing Systems in Gazipur, Bangladesh. *Pak. J. Biol.* 2008; *Sci, 8 (2):* 287-292.
9. Banglapedia.The National Encyclopedia of Bangladesh (version 2.0.0). Asiatic society of Bangladesh. 2006. www.banglapedia.org.
10. Shammi QJ, Bhatnagar S. Applied Fisheries. Updesh Purohit for Agrobios (India), Jodhpur, India. 2002: 191-204.
11. Shaw SA. Marketing the Product of Aquaculture. FAO fish. 1986; Tech. Pap., (276): 106P.
12. Sathiadash R. Production and Marketing Management of Marine Fisheries in India. Daya Publishing House, Delhi, India. 1997: 118-148.
13. Srivastava U.K. Inland Fish Marketing in India Reservoir Fisheries. Concept Publishing Company, New Delhi, India. 1984: 403.
14. Hussain MM, Uddin MH. Quality Control and Marketing of Fish and Fish Products: Needs for Infrastructure and Legal Support. 1995: Pp, (9): 233-272.
15. Hossain MS, Das NG, Chowdhury, MSN. Fisheries Management of the Naaf River. SAMS Creation, Andherkillah, Chittagong, Bangladesh. 2007:159-172

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