

THE STUDY ON FISH MARKETING IN SOME SELECTED AREAS OF CHUADANGA DISTRICT



BY

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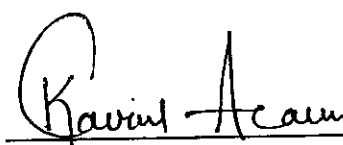
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THE STUDY ON FISH MARKETING IN SOME SELECTED AREAS OF CHUADANGA DISTRICT

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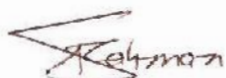
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DECLARATION

The results in this thesis are entirely the candidate's own investigation and no part of the results has been accepted for any degree, nor it is being concurrently submitted for any degree.

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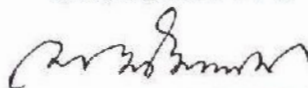
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DEDICATED TO

*MY BELOVED PARENTS
&
MY SWEET DAUGHTER*

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The author

ABSTRACT

Inland fish is an important source of animal protein which can solve the problem of nutrition, earn considerable foreign exchange, extend productive employment and play a great role in economy of Bangladesh. To make the inland fish available at reasonable price to the ultimate consumer, studies on inland fish marketing are essential for improving the marketing system. The study is based on sample survey of twenty five fishermen from two villages of Chuadanga sadar in Chuadanga District and seventy five traders from Rail Bazar and Sarojgang Bazar. The study examined marketing channels, costs and margins, marketing problems and also suggested some measures for the improvement of the marketing system. In the study area, two marketing channel were identified. One was Fishermen-Aratdars-Paikers-Consumers and other was Fishermen-Aratdar-Paikers-Retailers-Consumers. Transportation facilities like Van, shoulder load, head load, nocimon are used to carry fishes by the fishermen while train, truck, rickshaw, nocimon shoulder load and head load are used by intermediaries. The average marketing cost per quintal of fish incurred by the fishermen are estimated to be Tk. 230 while the average marketing cost per quintal of fish incurred by the intermediaries of Rail Bazar and Sarojgang Bazar were Tk. 342.22 and Tk. 454.60 respectively. The marketing margin per quintal of fish for Aratdars and Paikers are calculated at Tk. 437 and Tk. 647 respectively at Rail Bazar while the marketing margin per quintal of fish for Aratdars, Paikers and Retailers are calculated at Tk. 319, Tk. 551 and Tk. 506 respectively at Sarojgang. The profit for Paikers was the highest (11.39 %) while the profit for Aratdars was 7.44 % at Rail Bazar. On the other hand, the profit for Paikers was also the highest (10.36 %) while the profit for Aratdars and Retailers were 5.09 % and 7.18 % respectively in Sarojgang. As a whole the Paikers of Rail Bazar and Sarojgang earned more profit than all other traders. In channel (I) fishermen received about 75.90 % of Retail price and in channel (II) fishermen received about 68.80 % of Retail price. This indicates that fishermen's share decrease with the increase of intermediaries in the marketing channel. Fishermen and intermediaries faced a number of problems such as poor transportation, low price, lack of storage, financing and lack of weighing system, assessment of market tolls, lack of marketing facilities as well as political instability etc. measures are also suggested to improve the situation.

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1. Introduction

Fisheries, one of the major sub-sectors of agriculture play a dominant role in nutrition, employment and foreign exchange earning of the economy of Bangladesh (Taskforce, 1991). Fish provides 63% (DoF, 2002) of the total supply of animal protein consumed by 130 million populations; of which 49.15% comes from capture and 50.85% come from culture fishery resources.

Bangladesh is a land of rivers which yield about 90% of the country's fish harvest (Mandal, 1977). This richness of the inland water fish production is attributable to geographical characteristics of the country. Being a delta of the three major rivers flowing into the sea through Bangladesh, a huge number of large and small rivers with their tributaries and branches crisscross the countries. The vast inland fisheries of this country consist of rivers and estuaries (10,31,563 ha), beels (1,14,161 ha), Kaptai lake (68,800 ha.) and flood plains (28,32,792 ha). The inland closed water body, on the other hand, consist of ponds (2, 41,500 ha), and shrimp farm (1,41,353 ha), (DoF, 2002). The area of fish resources and year wise fish production are depicted in Table 1.1 and 1.2 respectively.

Bangladesh is a country blessed with generous aquatic resources which accounts for 5.3% of G.D.P, 63% of animal protein intake and 5.77% of the export earning and 19.21% sectoral contribution to agriculture (DoF, 2002). Besides, 10% people of the country derive their livelihood from fish and fish products (DoF, 2002).

The Sector provides full time employment to an estimated 0.20 million people comprising of fishermen, small fish traders, fish transporters, packers etc. and about 73% of the households are involved in subsistence fishing in flood lands (World Bank, 1990).

Table 1.1: Water areas of inland fisheries resources in Bangladesh

Water bodies	Area (hac.)
A. Closed water	
Ponds	2,41,500
Boars	5,488
Shrimp farms	1,41,353
B. Open water body	
Rivers, estuaries	10,31,563
Hoar & Beel (marshes & lakes)	1,14,161
Kaptai Lake	68,800
C. Seasonal Aquaculture	
Seasonal water bodies including flood plains	28,32,792

Source : DoF , 2002

Table 1.2: Year wise fish production in Bangladesh during 1995-96 to 2000-01

Year	Total fish production (MT)	Inland Open Water	
		Production from capture (MT)	Production from Culture(MT)
1995-96	12,57,940	6,09,151	3,79,087
1996-97	13,60,468	5,99,900	4,85,864
1997-98	14,63,579	6,15,949	5,74,812
1998-99	15,52,417	6,49,418	5,93,202
1999-00	16,61,384	6,70,465	6,57,120
2000-01	17,81,057	6,88,920	7,12,640

Source: DoF, 2002

Table: 1.3 Year wise volume of export and earnings of fisheries sector

Year	Quantity (MT)	Value (Crore Tk)	% of total export earnings
1995-96	38929	1340.94	9.38
1996-97	41549	1457.41	7.75
1997-98	30158	1387.81	5.83
1998-99	28531	1379.37	5.41
1999-00	39391	1811.50	6.21
2000-01	38988	2032.75	5.77

Source: DoF, 2002

Bangladesh earns every year a considerable amount of foreign exchange by exporting fish product which is about 5.77% of total foreign exchange. The position of fish and fish products is third list of exporting products in Bangladesh, (DoF, 2002).

1.1 Concept of marketing

Different researchers have viewed marketing in different ways and the changing focus of marketing is reflected in the multiplicity of marketing view point (Crosier, 1975). Marketing is the business function that identifies an organization customer needs and wants, determines, which target markets it can serve best and designs appropriate products services and programs to serve those markets. However, marketing is much more than just an isolated business functioning. It is philosophy that guides the entire organization. The goal of marketing is created customer satisfaction profitably by building value-laden relationship with important customers.

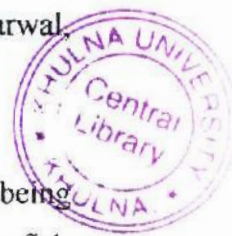
Marketing is all around us and we all need to know some thing about it. Marketing is used not only by manufacturing companies, whole sellers or retailers but by all kinds of individual organizations (Kolter and Armstrong, 1995).

Marketing is defined as social and managerial process by which individual groups obtain what they need and through creating and exchanging products and value with others. Principles of marketing is designed to help learn about and apply the basic concepts and practices of modern marketing as are used in a wide variety of settings, in product and service firms, consumer and business markets, profit and nonprofit organizations, domestic and global companies and small and large business (Baker, 1976).

In earlier days the term marketing of fish meant "Buying and selling of fish" at the landing center (Biswas, 1990). After the Second World War, the concept and function of fish marketing have taken a new role in business activities. The fisheries have now become highly industrialized in all advanced fishing nation. The new marketing techniques have been adopted so as to sell more fish. The modern fish marketing system lays emphasis in meeting the existing demands for fish, besides tapping the potential demand in the important markets (Agarwal, 1990).

In many advanced countries the improved methods of fish marketing are being adopted with the advancement of fisheries development. A progressive fish marketing system will also provide remunerative price to the primary producer and also the interest of the consumers is protected. The fish marketing needs modernization in all the developing countries including Bangladesh. The marketing of fish depends upon the availability, consumption and demand.

The fish marketing system faces serious problems including heavy losses and waste and poor fish quality. Yet since fish demand generally exceeds supply, there is limited incentive for traders to improve the quality of marketing system (World Bank, 1990).



1.2 Justification of the Study

Production of fresh water fish can be increased by making best utilization of the existing inland resources through modern and scientific method of fish culture and fishing. But the ultimate consumers have to depend on an efficient marketing system to make this fish available at reasonable prices. Similarly, successful fish culture also depends on an efficient distribution system.

The total area of water bodies in Chuadanga district is about 2849.77 hectare including 11 baors area of 513.42 hectare, 63 beels area of 501.90 hectare, 12 canals area of 19.90 hectare, rivers area of 499.45 hectare, flood plains area of 330.58 hectare. The production from these water bodies was about 7500 metric tons in 2002 (DoF, 2002). The water body and production of this area is promising but the fishermen and the ultimate consumer are deprived due to poor and inefficient marketing system.

Steps are being taken in Bangladesh to increase production but little emphasis has been given to improve the existing marketing system though production and marketing both are interrelated. During the fishing season, a huge quantity of fish is not marketed and wasted due to inadequate transport facilities. There is a great dearth of facilities for proper storage and preservation on a large scale. Moreover, the fishermen preserve the excess fish through age-old process of sun drying which has many drawbacks.

Therefore, there is utmost needed to develop the marketing system not only to support the marginal fishermen or traders but also to strengthen our national economy. Although, various research in marketing system have been accomplished but almost all were concentrated in the shell fish marketing system. This sector has been developed immensely compare to fin fish or fresh fish marketing system. The present study mainly focus on the marketing channels, institutions, functions and basic problems in the marketing of fish in Chuadanga

district. The suggestions based on findings of the study will help to improve the organization and operation of fish marketing. The present study will add a new knowledge in the field of fish marketing and build a foundation for further research on fishes. Finally, this study would be a model for planning and developing programs thus improving the fish marketing system throughout the country.

1.3 Objectives of the study

The broad objective of the study is to observe the status of fish marketing in some selected areas of Chuadanga district. The specific objectives of the study can be detailed as follows:

- (i) To analyze the existing system of fish marketing.
- (ii) To estimate costs and margins at different stages of fish marketing.
- (iii) To know the socio-economic status of the fishermen and intermediaries.
- (iv) To identify the problems associated with fish marketing and
- (v) To suggest the remedial measures for marketing problems.

1.4 Review of literature

Several studies on marketing of different agriculture commodities have been made in Bangladesh. But inspire of the great necessity of studies on the marketing of fishes, only a few empirical studies have so far been made. However, a brief review of the few important studies available in the field of fish marketing is given below.

Dewan (1967) conducted a study on marketing of fresh water fish in Mymensingh town. He analyzed the structural and organizational features of fish marketing and observed that concentration was higher at Aratdars level. He also showed that the marketing channels consisted of Nickers or carriers, auctioneers, Chileans or dispatchers, Aratdars and retailers.

Sabur (1977) studied on marketing of marine fish in Bangladesh. The study showed the existing system of fish marketing in the study area and analyzed the costs and margins at different functional levels. He also examined the possibilities of improving the present marketing system.

Another study was conducted by Biswas (1990) on fish marketing in some selected areas.

Chowdhury (1990) studied on the socio-economic characteristics of the Hilsa fish marketing intermediaries. He also analyzed the costs and margins at different stages of Hilsa marketing in the selected areas.

Kaniz (1998) investigated the marketing systems with particular reference to Daulatpur and New market in Khulna city. She also analyzed the price of fish and its fluctuation through out the year.

Thus, in the dearth of sufficient research work on fresh water fish marketing, the present study will be considered an up-to-date necessary work in this field.

2. Materials and Methods

This chapter deals with the methodology which was adopted for selection of the study area, sample for the study and collection of data. The methodology that was used for this study is briefly described below.

2.1 Selection of the study area

On the basis of high concentration of fishes, Rail Bazar and Sarojgang Bazar under Chuadanga were selected as market place for the study. The two most important villages namely Vultia and Nihampur under Chuadanga district were also selected for interviewing of the fishermen as because they are directly engaged in fishing and sell their product of the above mentioned market.

2.2 Selection of population

In the selected study areas, fishermen and intermediaries were considered as population of the study. From the population, a total number of 100 fishermen and intermediaries were selected on the basis of random sampling method from different stages of fish marketing. Twenty five fishermen were selected from Vultia and Nihampur for interview. Again, the intermediaries involved in fish marketing were categorized into three groups, namely

- (i) Aratdars
- (ii) Paikers (Wholesalers)
- (iii) Retailers

Among the Aratdars Chuadanga town 10 Aratdars (66.66 percent) out of 15 were selected from Rail Bazar. 5 Aratdars (50 percent) out of 10 were selected from Sarojgang. Among the Paikers 25 (50 percent) out of 50 Paikers were selected from Rail Bazar. Then 12 Paikers (40 percent) out of 30 were selected from Sarojgang. At last 23 Retailers (38.33 percent) out of 60 were selected from Sarojgang Bazar.



2.3 Data collection

Different data and information both documentary and oral is necessary to make a thesis meaningful. For preparing this thesis paper, the necessary data were collected from both primary and secondary sources.

2.3.1 Primary sources

Primary data mainly collected through field survey. A questionnaire was prepared keeping in view with the objectives of the study. The questionnaires were filled up through direct interviewing with the fishermen, aratdars, paikers and retailers. The data were collected in the month of July to December, 2002. The questionnaire used for collection information is enclosed in the Appendix -1.

2.3.2 Secondary sources

For supporting the primary data, secondary data were also collected from different sources. The sources are given as follows:

- 1) DoF
- 2) Books and journals.
- 3) Other concerned sources like researchers, fisheries extension workers etc.

2.4 Indicators used

For obtaining detailed information about the socio-economic status of fishermen and intermediaries, the following indicators were used:

1. Age categories
2. Experience
3. Level of education
4. Annual income

2.5 Analysis of data

The collected data were carefully edited to eliminate errors after sorting and checking. The data were then transferred to tabular forms after careful examination and calculation. The analysis of data was mainly based on tabular and descriptive techniques. Tabular technique was applied with the help of statistical tools like averages and percentages.

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CHAPTER THREE

3. Results

3.1 Marketing system of fish

Marketing system may be thought of as the connecting link the bridge between specialized producers and consumers (Kohls and Uhl, 1980). It is both a physical distribution and an economic bridge designed to facilitate the movement and exchange of commodities from the farm to the fork. It is composed of alternative product flows (marketing channels), a variety of firms (middlemen) and numerous business activities (marketing functions)

Marketing channels are the alternative routes of product flows from producers to consumers (Kohls and Uhl, 1980). It is the sequence of intermediaries through which a commodity passes from the producers to the consumers. The marketing channel may be short or long for a particular commodity depending on the marked quality of the products, nature and size of the consumers and produces, marketing services needed and the prevailing social and physical environments. In the study area, the marketing channels which consisted of fishermen, Aratdars, Paikers (Wholesalers), retailers and consumers are depicted.

3.1.1 Fishermen

The earliest links in the fish marketing chain were the fishermen. Twenty five fishermen were selected from two villages, namely, Vultia and Nihampur. They brought their fish to Rail Bazar at Chuadanga and sold their fish (75 %) usually to the Aratdars. But some fishermen sold their fish (15 %) to the Paikers (Wholesalers) and some Fishermen (10 %) directly to the consumer. After the fishermen, the major intermediaries who entered into the fish marketing chain in the study area were Aratdars, Paikers (Wholesalers) and retailers (Figure-1).

3.1.2 Aratdars

The Aratdars were the commission agents who had fixed establishment in the marketing and did the function of negotiating transactions between buyers and sellers of fishes on receipt of Aratdars' commission. They provide short period storage facilities and also perform the function of grading, sometimes; they also buy and sell fish. The Aratdars of Rail Bazar negotiated between fishermen and Paikers (Wholesalers). They negotiated 75 % fish (Fig. 1) between fishermen and Paikers (Wholesalers). They got 4 % commission from fishermen and 5 % commission from Paikers (Wholesalers) at Rail Bazar of Chuadanga. And in Sarojgang the Aratdars negotiated fish transaction between fishermen and Paikers (Wholesalers) of Sarojgang. All Aratdars had business licenses. The aratdars of Rail Bazar gained more benefit than the aratdars of Sarojgang because the supplies of fish at Rail Bazar were higher than the supplies of Sarojgang.

3.1.3 Paikers (Wholesalers)

Wholesaling is a major step in the dispersion activities of marketing (Kohls and Uhl, 1980). They were big merchants and licensed traders having fixed business premises in the wholesale market and they did business with large volume of transactions. The Paikers (Wholesalers) of Rail Bazar invested a large amount of money in their business, because they supply their fish to another district. But the Paikers (Wholesalers) of Sarojgang invested relatively a small amount in their business because they sell their fish to the retailer and consumer in the local market.

3.1.4 Retailers

Retailers, who are primarily interested in the problems that arise from servicing their customers, could not possibly search out and deal with the producer and sources of all their product (Kohls and Uhl, 1980). The retailers buy fish in the wholesale market for resale directly to ultimate consumers. They are the last link of intermediaries in the channel of marketing. The function of retailer is procured supplies and display them in forms and at times convenient for consumers. In the study area retailers sold total market supply of their fish to consumers (Fig.1)

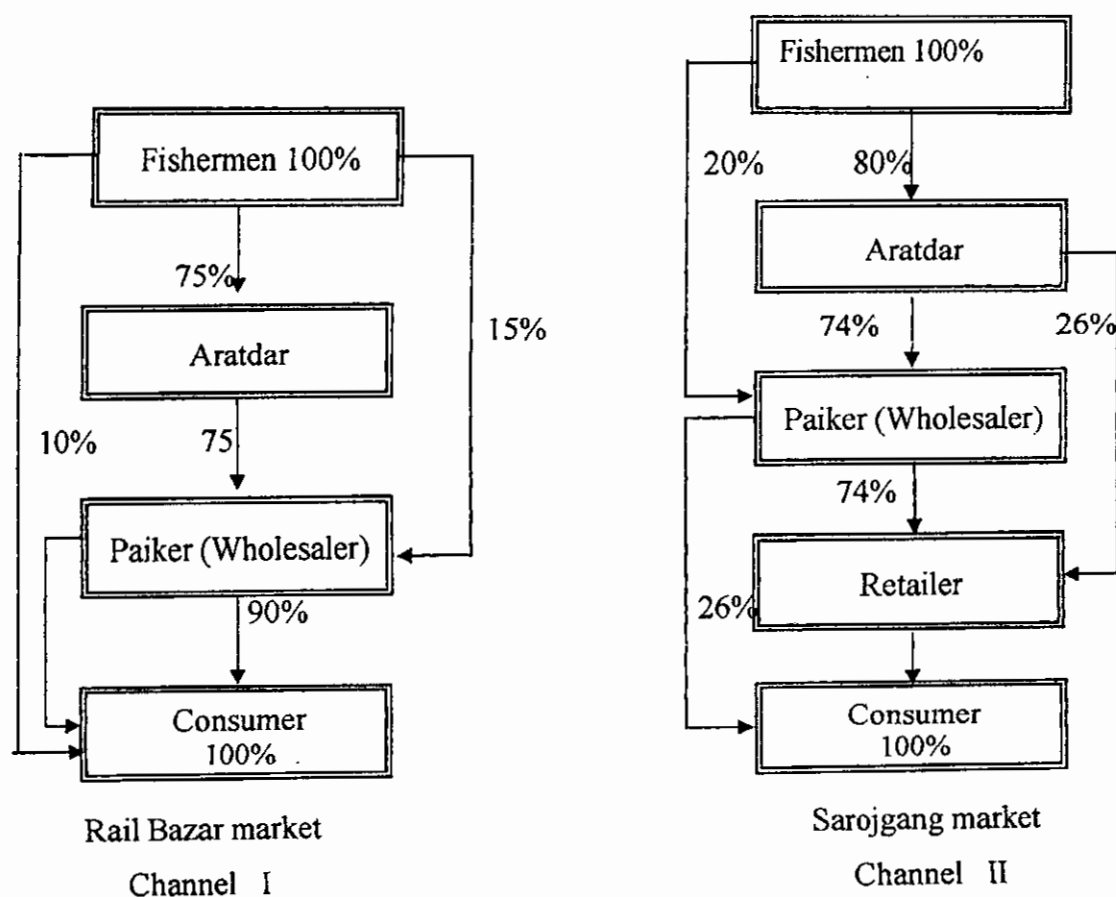


Figure: 1. Marketing channels of Fish at Rail Bazar and Sarojgang Bazar.

3.1.5 Functions of fish marketing

Marketing functions may be defined as major specialized activities performed in accomplishing the marketing process of concentration, equalization and dispassion (Kohls, 1967). In the study area, the whole marketing of fish has been broken down into various functions such as transportation, grading, storage, weighing, buying and selling, financing market information and pricing.

3.1.5.1 Transportation

Transportation is the movement of products between places which facilitates availability of goods at the proper places and create places utility. Way of transport is badly essential for highly perishable commodity like fish. So perishable goods must be move as early as possible from the producing centre to the consuming centre, "Adequate and efficient transportation is a cornerstone of our modern marketing system" (Kohls, 1980). Transport is important not only because it is essential to the operation of the marketing system, but also because it accounts for a very substantial part of total marketing costs (Abbott,1958) As effective transportation helps expand the potential and dynamic market areas, it has become the life-blood of our modern economy now-a-days.

In the study area, among the various modes of transportation, slow moving van, trains, rickshaws, truck, nocimon were found to carry fish from one place to another. The various modes of transportation used by fishermen and intermediaries are shown in Table 3.1.

Aratdars and Paikers (Wholesalers) used train to the highest extent (60%) in transporting fish. Aratdars and Paikers (Wholesalers) used shoulder load, the fishermen used shoulder load to the largest extent (70%). Head load was also used by all kinds of fish mongers while the fishermen used head load to the highest extent (30%). Aratdars (60%) and Paikers (Wholesalers) (40%) used train for transportation of fish.

3.1.5.5 Buying and Selling

Buying and selling are the functions of exchange. Both have their primary objectives of negotiating favorable terms of exchange. Buying generally includes the selection of kinds of goods, the determination of quality and quantities and the selection of sources of assisting and persuading service (Dewan, 1967). Percentage of fish, transacted by fishermen and intermediaries in Rail Bazar and Sarojgang are shown in tables 3.2 and 3.3 respectively.

In Rail Bazar fishermen sold 75 % of their fishes to Aratdar, 15% to Paiker (Wholesaler) and the rest 10% to consumer. Aratdar purchased 75% of their produce from fishermen and sold the entire 75% to Paiker (Wholesaler) (Rail Bazar). Paiker (Wholesaler) purchased 15% from fishermen and 75% from Aratdar and sold 90% of those fish to consumer. From the (Table 3.2) it is revealed that Arardar purchased the entire volume of fish from the fishermen.

In Sarojgang, Aratdar purchased 80% fish from the fishermen and 20% from the Paiker (Wholesaler) (Rail Bazar) and sold the entire amount of Paiker (Wholesaler) (Sarojgang) by auction. Paiker (Wholesaler) (Sarojgang) purchased 100% fish from Aratdar (Sarojgang) on auction and sold 74% fishes to retailer and the rest 26% fishes to consumers. The retailers of Sarojgang purchased the entire amount of 74% fish from Paiker (Wholesaler) (Sarojgang) and sold the entire amount to consumers (Table 3.3).

Table 3.2: Percentage of fish transacted by fishermen and intermediaries at Rail Bazar

Fishermen/ Intermediaries	Purchased from (%)				Sold to (%)			
	Fisher men	Aratdar	Paiker	Retailer	Fishermen	Aratdar	Paiker	Consumer
Fishermen	-	-	-	-	-	75	15	10
Aratdar	75	-	-	-	-	-	70	-
Paiker	15	75	-	-	-	-	-	90

Table 3.3: Percentage of fish transacted by fishermen and intermediaries in Sarojgang

Fishermen/ Intermediaries	Purchased from (%)				Sold to (%)			
	Fishermen	Aratdar	Paiker	Retailer	Aratdar	Paiker	Retailer	Consumer
Aratdar	80	-	20	-	-	100	-	-
Paiker	-	100	-	-	-	-	74	26
Retailer	-	-	74	-	-	-	-	74

3.1.5.6 Financing

The function of advancing money to carry on various aspects of marketing function properly is known as financing. The source of finance at the proper time requires prosecuting the fish marketing business smoothly. Financing involves the forms of advances from different sources. It helps the fishermen and intermediaries to accomplish their marketing functions smoothly. Non-institutional loans are found generally as the source of finance in the study area.

The source of non-institutional finance for the fishermen, Aratdar, Paikers (Wholesalers) and retailers of the study area shown in Table (3.4).

Table 3.4: Sources of finance of fishermen and intermediaries

Fishermen and Intermediaries	Different source				Total
	Own fund %	Friends and relatives %	Money lenders%	Traders %	
Fishermen	62	8	10	20	100
Aratdars	75	5	10	10	100
Paikers	66	7	22.30	4.70	100
Retailers	57	8.86	17.14	17	100

The table 3.4 shows that all fishermen mostly invested their own fund (62%) mostly to run their business. They borrowed 20% of the total fund from traders,

10% from money lenders and the rest 8% from friends and relatives. The sources of financing for Aratdars were own fund (75%), money lenders (10%), traders and friends and relatives 5%. In case of Paikers (Wholesalers), the sources of financing were 66% form fund, 22.30% from money lenders, 7% from friends and relatives that relatives used 5% of own fund, 17.14% from money lenders, 17% from traders and 8.86% from friends and relatives, It is observed that the major source of fund for both fishermen and intermediaries were their own fund. They did not requires to pay any interest for borrowing fund from friends and relatives, But the fishermen borrowed money from money lenders who were also the intermediaries of marketing. On the contrary, the Aratdar, the Paiker (Wholesaler)s as well as relatives had to pay a nominal rate of interest to the money lenders who were the business associates of intermediaries. In the study area no institutional loan was distributed by any Bank to fishermen and intermediaries.

3.2.5.7 Market information

Information is one of the key functions of all marketing functions. Without genuine information a business cannot be prosecuted smoothly in a modern economy. Market information is a facilitative function require for an efficiently operating marketing system. "Accurate and timely market information facilitates producers in deciding about the price, time and place of sale of their produce" (Kohls, 1980).

In the study area, visit to markets and personal observation, fellow fishermen and traders as well as relatives were the main sources of market information for the fishermen and the intermediaries. Distribution of response according to source of market information is shown in Table 3.5.

Table 3.5 reveals that for 88% of the fishermen and for almost all the intermediaries, visit to markets, personal observation and current condition of the market were the major source of their information while 36% of the fishermen and intermediaries responded that they received pressing information about fish market from their fellow fishermen and traders as well as relatives.

Table 3.5: Source of market information for fishermen and intermediaries

Fishermen and Intermediaries	Visit to markets, personal observation and current condition of the market		Fellow fishermen, traders and relatives	
	Number	Percentage	Number	Percentage
Fishermen	22	88	9	36
Aratdar	10	66.67	7	46.67
Paiker	34	91.89	8	21.62
Retailer	22	95.65	12	52.17
All	85		33	

3.1.3.8 Pricing

All the traders involved in fish marketing channel follow the open bargaining method for fixing the price at the time of buying and selling. The price is mainly determined by the number of buyers attending the market and the volume of product offered for the sale. In the wholesale market, in particular, price varied with the variation of quality and size of fish.

3.2 Marketing costs and margins of fishermen and intermediaries

3.2.1 Marketing costs

The cost of marketing represents the cost of performing the various marketing functions made by fishermen and intermediaries from the point of production to the point of consumption. In fish marketing, the nature and type of costs are not same at different stages in the marketing process. So, attempts have been made to analysis the marketing costs of fish at different levels.

3.2.1.1 Marketing cost of fishermen at Vultia and Niharpur

Among the various cost items, transportation, personal expenses, Aratdar's commission, market tolls, entertainment and wastages were the major items of fishermen (Table-3.6). The marketing cost for each component has been calculated on quintal basis. Transportation cost per quintal was the highest (30.43 %) which is followed by personal expenses (13.04%), Aratdar's commission (26.09 %), wastage (15.22%), market tolls (8.70%) and entertainment cost (6.52 %). The total marketing cost of the fishermen was 230.0 Tk. per quintal.

Table 3.6: Marketing cost of fishermen

Cost items	Average cost/ Quintal (Tk.)	Percentages
Transportation	70.00	30.43
Personal expenses	30.00	13.04
Aratdar's commission	60.00	26.09
Wastages	35.00	15.22
Market tolls	20.00	8.70
Entertainment	15.00	6.52
Total	230.00	100.00

3.2.1.2 Marketing cost of Aratdars at Railbazar

The average marketing cost of Aratdars of Railbazar was estimated at Tk.159.05 per quintal (Table 3.7). Wages and salaries per quintal was the highest (31.44 %) followed by wastage (25.43 %), personal expenses (16.35 %), entertainment (12.64 %), market tolls (7.86 %) and stationary (6.29 %).

3.2.1.3 Marketing cost of Paikers (Wholesalers) at Railbazar

The average marketing cost of Paikers (Wholesalers) of Railbazar was estimated at Tk. 183.17 per quintal (Table 3.7). Transportation was the highest cost (21.84 %) of Paikers (Wholesalers) followed by wastage (19.52 %), Aratdar's commission (13.65 %), market tolls (11.19 %), personal expenses (11.15 %), entertainment (8.46 %), grading (7.51 %) and storage (6.69 %).

3.2.1.4 Total cost of marketing of intermediaries at Railbazar

The total cost of marketing of fish includes all cost incurred by different types of intermediaries standing between the producers and the ultimate consumers. It appears from table 3.7 that the total cost of marketing at Railbazar is taka 342.22 per quintal. Among all the cost items, wastage is the highest amounting to taka 76.2 (22.27 %) which is more than one-fifth of the total cost. Wages and salaries is the second highest cost item amounting to taka 50 which is 14.61 % of the total cost. Next in descending order are the costs of personal expenses, transportation, entertainment, market tolls, Aratdar's commission, grading, storage and stationery. Table 3.7 reveals that cost of Paiker (Wholesaler)s is the highest which is more than half of the total cost mainly due to high cost of wastage, transportation and personal expenses.

Table 3.7: Marketing cost of intermediaries at Railbazar

Cost items	Types of intermediaries			
	Aratdar	Paiker	Total cost	Percentages
Transportation	- (31.44)	40 (21.84)	40	11.69
Wages and salaries	50 (31.44)	-	50	14.61
Market tolls	12.50 (7.86)	20.50 (11.19)	33	9.64
Storage	-	12.25 (6.69)	12.25	3.58
Wastage	40.45 (25.43)	35.75 (19.52)	76.2	22.27
Grading	-	13.75 (7.51)	13.75	4.02
Aratdar's commission	-	25.00 (13.65)	25	7.31
Personal expenses	26 (16.35)	20.42 (11.15)	46.42	13.56
Entertainment	20.10 (12.64)	15.50 (8.46)	35.60	10.40
Stationary	10 (6.29)	-	10	2.92
Total	159.05 (100)	183.17 (100)	342.22	100

Note: Figures in parentheses indicate percentages

3.2.1.5 Marketing cost of Aratdars at Sarojgonj

The average marketing cost incurred by Aratdars of Sarojgang was Tk.132.05 per quintal of fish (Table 3.8). Wages and salaries, the highest cost item, claimed 30.67 % of the total cost. Wastage which is the second highest cost item accounted for estimated at 27.07 % of the total cost. The other cost items in descending order were personal expenses (15.37 %), entertainment (12.68 %), market tolls (7.76 %) and stationary (6.44 %).

3.2.1.6 Marketing cost of Paikers (Wholesalers) at Sarojgonj

The average marketing cost of Paikers (Wholesalers) of Sarojgang was calculated at Tk. 140.70 per quintal (Table 3.8). Transportation was the highest cost (21.34 %) while Aratdar's commission was the second highest (18.12 %) cost item. The other costs incurred by Paikers (Wholesalers) were wastage (17.95 %), personal expenses (14.39 %), entertainment (11.19 %), grading (8.71 %) and market tolls (7.96 %).

3.2.1.7 Marketing cost of Retailers at Sarojgonj

The average marketing cost of Retailers at Sarojgang was estimated at Tk. 181.85 per quintal of fish (Table 3.8). Wastage was the highest (33.02 %) cost of Retailers followed by personal expenses (27.77 %), transportation (16.49 %), market tolls (13.91 %) and containers (8.66 %) respectively.

3.2.1.8 Total cost of marketing of intermediaries at Sarojgonj

The total cost of marketing of fish at Sarojgang was estimated to be taka 454.60 per quintal (Table 3.8). Among all the cost items, wastage is the highest amounting to taka 121.05 (26.63 %) which is more than one-fourth of the total cost. Personal expenses was the second highest cost item amounting to taka 91.05 which is 20.02 % of the total cost. Next in descending order were the costs of transportation, market tolls, Wages and salaries, entertainment, Aratdars commission, containers, grading and stationery. Table 3.8 reveals that cost of Retailers is the highest mainly due to high cost of wastage, transportation and personal expenses.

Table 3.8: Marketing cost of intermediaries at Sarojgonj

Cost items	Types of intermediaries				
	Aratdar	Paiker	Retailer	Total cost	Percentages
Transportation	-	30.50 (21.34)	30 (16.49)	60.5	13.31
Wages and salaries	40.50 (30.67)	-	-	40.5	8.91
Market tolls	10.25 (7.76)	11.20 (7.96)	25.30 (13.91)	46.75	10.25
Storage	-	-	-	-	-
Wastage	35.75 (27.07)	25.25 (17.95)	60.05 (33.02)	121.05	26.63
Grading	-	12.25 (8.71)	-	12.25	2.69
Aratdar's commission	-	25.50 (18.12)	-	25.5	5.61
Containers	-	-	15.75 (8.66)	15.75	3.46
Personal expenses	20.30 (15.37)	20.25 (14.39)	50.50 (27.77)	91.05	20.02
Entertainment	16.75 (12.68)	15.75 (11.19)	-	32.5	7.15
Stationary	8.5 (6.44)	-	-	8.5	1.87
Total	132.05 (100)	140.70 (100)	181.85 (100)	454.60	100

Note: Figures in parentheses indicate percentages

3.2.2 Marketing margin

Marketing margin at a particular stage of transaction may be defined as the difference between purchase price and sale price of a commodity. Total marketing margin is the difference between the price received by the producer and the price paid by the consumer. According to Khol and Uhl (1980), marketing margin is the price of all utility, adding activities and functions that are performed by the intermediaries.

3.2.2.1 Marketing margin of intermediaries at Railbazar

Table 3.9 presents the marketing margins of intermediaries at Railbazar. The fishermen sold fish to Aratdars at an average price of taka 3740.70 per quintal and Aratdars sold these to the Paikers (Wholesalers) at taka 4178.00 per quintal. The marketing cost of Aratdars were estimated at taka 159.05 per quintal. So, the gross margin and net margin or profit was taka 437.30 and taka 278.25 respectively. The Paikers (Wholesalers) who purchased fish from Aratdars and sold to consumers had a gross margin of taka 647.62 per quintal. They incurred marketing cost of taka 183.17 per quintal. Thus the net margin earned by them was taka 464.45 per quintal. So, in term of profit making, the performance of Paikers (Wholesalers) was relatively better than that of Aratdar at Rail Bazar.

Table 3.9: Marketing margins of intermediaries at Railbazar

Intermediaries	Purchase price (1)	Sale price (2)	Gross margin 3=2-1	Marketing cost (4)	Net margin 5= 3-4
Aratdar	3740.70	4178.00	437.30	159.05	278.25 (7.44)
Paiker	4078.00	4625.62	647.62	183.17	464.45 (11.39)

Note: Figures in parentheses indicate percentages

3.2.2.2 Marketing margin of intermediaries at Sarojgonj

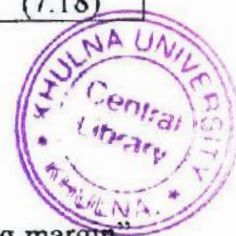
It can be observed from Table 3.10 that the fishermen sold fish to Aratdars at an average price of taka 3684.85 per quintal and Aratdars sold these to the Paikers (Wholesalers) at taka 4004.40 per quintal. The marketing cost of Aratdars were estimated at taka 132.05 per quintal. So, the gross margin and net margin or profit was estimated to be taka 319.55 and taka 187.50 respectively. The Paikers (Wholesalers) who purchased fish from Aratdars and sold to retailers had a gross margin of taka 551.35 per quintal. They incurred marketing cost of taka 140.70 per quintal. Thus the net margin earned by them was calculated at taka 410.65 per quintal. The retailers who purchased fish from Paikers (Wholesalers) and sold to

consumers earned a gross margin of taka 506.10 per quintal. After deducting marketing cost of taka 181.85, the net margin emerged at taka 324.25 per quintal. Therefore, in terms of profit making, the performance of Paikers (Wholesalers) was relatively better than that of other intermediaries at Sarojgonj.

Table 3.10: Marketing margins of intermediaries at Sarojgonj

Intermediaries	Purchase price (1)	Sale price (2)	Gross margin 3=2-1	Marketing cost (4)	Net margin 5= 3-4
Aratdar	3684.85	4004.40	319.55	132.05	187.50 (5.09)
Paiker	3964.40	4515.75	551.35	140.70	410.65 (10.36)
Retailer	4515.75	5021.85	506.10	181.85	324.25 (7.18)

Note: Figures in parentheses indicate percentages



3.2.3 Price spread and fishermen's share in retail price

The term "price spread" is used synonymously with the term "marketing margin" (Rashid and Chowdhury, 1973). The fishermen's share is widely regarded as a measure of fairness of the farm price and the efficiency of marketing system (Kohls and Uhl, 1980). But the important aspect is the size of the share rather than the total return received by the producers for the sale of their products. This must be adequate to cover their production costs and to give a fair rate of return for the risks and labour undertaken. The fishermen's share in retail price has been worked out by dividing the net amount paid by retailer and then multiplying it by 100 (Loh Wee-Yet, 1974). That means:

$$\text{Fishermen's share in retail price} = \frac{\text{Net amount received by fishermen}}{\text{Total amount paid by retailer}} \times 100$$

Price spreads and fishermen's share under two fish marketing channels are shown in table 3.11. Under channel I (Fishermen-Aratdar – Paiker (Wholesaler) - Consumer), the retail price, fishermen's gross price and net price per quintal of fish were taka 4625.62, taka 3740.70 and taka 3510.70 respectively. The corresponding price spread was taka 884.92 per quintal of fish while the fishermen's gross share was 80.87 % and the fishermen's net share was 75.90 %. Similarly, in channel II (Fishermen-Aratdar-Paiker (Wholesaler)-Retailer-Consumer), the price spread was taka 1337 per quintal of fish while the fishermen's gross share was 73.38 % and the fishermen's net share was 68.80 % of consumers' taka. Therefore, the fishermen's share decreases with the increases of middlemen in the marketing channel.

Table 3.11: Price spread and fishermen's share of consumer's price in different marketing channels

Marketing channels (a)	Retail price Tk. per quintal	Fishermen's gross price Tk. per quintal	Fishermen's net price Tk. per quintal (b)	Price spread	Fishermen's gross share (% of retail price)	Fishermen's net share (% of retail price)
I	4625.62	3740.70	3510.70	884.92	80.87	75.90
II	5021.85	3684.85	3454.85	1337.00	73.38	68.80

Note: (a) Channel I = Fishermen-Aratdar-Paiker (Wholesaler)-Consumer

Channel II= Fishermen-Aratdar-Paiker (Wholesaler)-Retailer-Consumer

(b) Fishermen net margin = Fishermen price – Fishermen's marketing cost

3.3 Socio-economic characteristics of fishermen and intermediaries

3.3.1 Socio-economic characteristics of fishermen

3.3.1.1 Age categories of fishermen

The selected twenty five fishermen were grouped into three categories in accordance with their age. The first category includes fishermen 18-30 years old, second category includes 31-49 years and thirds category includes fishermen of 50-65 years of age.

Table 3.12 shows 24 % of fishermen were in the age category of 18-30 years, 60 % fishermen were in the age category of 31-49 years and the remaining 16 were in the age category of 50-65 years in the selected villages. It is revealed from the table that most of the fishermen belong to the age category of 31-49 years due to their physical strength in fishing. Other two age categories are mainly engaged as helper.

Table 3.12: Fishermen age category

Age category	Number	% of total
18-30	6	24.0
31-49	15	60.0
50-65	4	16.0
Total	25	100.0

3.3.1.2 Fishermen's experience in fishing

Fishermen's experience in fishing were categorized according to their age category Table 3.13 shows that the first category ranging from 18-30 years were involved in fishing for 15 years, the second category ranging from 31-49 years were involved in fishing for 25 years, the third category were involved in fishing for 30 years in selected villages. It is observed that 50-65 years of age category were engaged in fishing for a long time (30 years) because they are engaged in fishing for a long period for their livelihood.

Table 3.13: Fishermen's experience in fishing

Age category	Number	Experiences(years)	% of total
18-30	4	15	16
31-49	14	25	56
50-65	7	30	28

3.3.1.3 Fishermen's level of education

The selected twenty five fishermen were grouped into four categories according to their level of education. The first category includes illiterate (who did not know how to read and write) fishermen, the second category includes those who read upto primary level, the third category includes those who read upto secondary level of education and the fourth category includes those who read above secondary level.

In accordance with the level of education of the fishermen, Table 3.14 shows that 60.0 % were illiterate, 24 % were educated upto primary level and 12 % were education upto secondary level. No fisherman was found educated above secondary level. It is observed that most of the fishermen (60 %) were illiterate. The literate fishermen could easily be adapted with the new techniques and systems than the illiterate fishermen.

Table 3.14: Fishermen's level of education

Level of education	Number	% of total
Illiterate	15	60.0
Upto primary level	6	24.0
Upto secondary level	4	16.0
Above secondary level	0	0
Total	25	100.0

3.3.1.4 Annual income of fishermen

The selected fishermen were grouped into three categories according to the level of their annual income. The first category includes the fishermen having annual income upto Tk. 10000.0. The secondary and third category includes Tk.10001.0 to Tk. 20000 and Tk. 20001.0 to Tk. 30000.0 respectively.

Regarding the annual income of the selected fishermen Table 3.15 reveals that the annual income of 16 % of the selected fishermen was upto Tk. 10000.0 while 72 % of the fishermen had annual income ranging from Tk 10001.0 to Tk. 20000.0 and 12 % of fishermen had income ranging from Tk.20001.0 to Tk. 30000.0. The majority of the fishermen had annual income ranging from Tk.10001.1 to Tk. 20000.0.

Table 3.15: Annual incomes of fishermen

Level of income (Tk.)	Number	% of total
Upto Tk. 10000.0	4	16.0
10001.0-20000	18	72.0
20001-30000	3	12.0
Total	25	100.0

3.3.2 Socio-economic characteristics of the intermediaries

3.3.2.1 Age category of the intermediaries

The selected intermediaries were also grouped into three categories according to their age. The first category includes fishermen 18-30 years old, second category includes 31-49 years and third category includes 50-65 years of age.

Table 3.16 shows that 20, 66.67 and 13.33% of Aratdars were in the age category of 18-30, 31-49 and 50-65 years respectively. It is observed that most of the Aratdars were in the age of the category of 31-49 years. The table shows that 18.92%, 54.05% and 27.02 % Paikers (Wholesalers) belong to the age category of

18-30, 31-49 and 50-65 years respectively, which indicates that the highest number of Paikers (Wholesalers), were in the second age group. Again, 21.73 % of retailers were found in the age category of 18-30 years. 56.52 % were in the category of 31-49 years and 21.75 % were in the age of 50-65 years thus the highest percentage of retailers who were in the category of 31-49 years old.

Table 3.16: Age categories of the intermediaries

Age category	Aratdar		Paikers		Retailers	
	Number	% of total	Number	% of total	Number	% of total
18-30	3	20.0	7	18.92	5	21.73
31-49	10	66.67	20	54.05	13	56.52
50-65	2	13.33	10	27.02	5	21.73
Total	15	100.0	37	100.0	23	100.0

3.3.2.2 The experience in fish trading of intermediaries

Intermediaries' experiences in fish trading were categorized according to their age category. It is reported from the table 3.17 that the Aratdar of 50-65 years old (26.67 %) were engaged in fish trading for the highest period of time (27 years). The Paikers (Wholesalers) of 50-65 years (18.92 %) were engaged in fish trading for about 25 years. Again, the retailers of 50-65 years (34.75 %) were engaged in fish trading for the highest (23 years) period.

Table 3.17: The experiences of intermediaries in fish trade

Age category	Aratdar			Paiker			Retailer		
	No.	Period of fishing years	% of total	No.	Period of fishing years	% of total	No.	Period of fishing years	% of total
18-30	3	10	20.0	12	10	32.43	9	13	39.13
31-49	8	22	53.33	18	15	48.65	6	15	26.08
50-65	4	27	26.67	7	25	18.92	8	25	34.78

3.3.2.3 The level of education of intermediaries

The selected intermediaries were also group into four categories according to their level of education. Table 3.18 reveals that 26.67 % Aratdar were illiterate, 53.33 % were upto primary level, 6.67 % were upto secondary level and 13.33 % were above of secondary level of education. It is observed that most of the Aratdar were upto primary level. Among the Paikers (Wholesalers) 67.57, 18.92 and 13.5 % were illiterate, up to primary level and secondary level respectively while no Paiker (Wholesaler) was found above secondary level. Most Paiker (Wholesaler) (67.57 %) were found illiterate. In the study area, 43.48 % retailers were illiterate and 56.52 % retailers were upto primary level of education while no retailers were found upto secondary level and above secondary level. It is revealed that the Aratdars were most literate compared to other groups of traders.

Table 3.18: The level of education of intermediaries

Level of education	Aratdar		Paiker		Retailer	
	Number	% of total	Number	% of total	Number	% of total
Illiterate	4	26.67	25	67.57	10	43.48
Upto primary level	6	53.33	7	18.92	13	47.83
Upto secondary level	1	6.67	5	13.51	0	0.0
Above secondary level	2	13.33	0	0	0	0.0
Total	15	100	37	100	23	100

3.3.2.4 Annual income of Aratdars and Paikers (Wholesalers)

The selected fifteen Aratdars and thirty seven Paikers (Wholesalers) were categorized into three levels according to the level of annual income. The first category includes those whose annual income was upto Tk. 100000.00. The second

and third category includes Tk.100001.00 to Tk 200000.00 and Tk 200001.00 to Tk 300000.00 respectively. Table 3.19 reveals that 20.0, 53.33 and 26.67 % Aratdars were first, second and third category ranging from Tk.100001.0 to 200000.00. On the other hand, 54.05, 27.02 and 18.91 % Paikers (Wholesalers) were in the first, second and third category respectively. Majority of the Paikers (Wholesalers) had annual income upto Tk 100000.00.

Table 3.19: Annual incomes of Aratdars and Paikers (Wholesalers)

Level of income (Tk)	Aratdars		Paikers	
	Number	% of total	Number	% of total
Upto Tk 100000.0	3	20.0	20	54.05
100001-200000	8	53.33	10	27.02
200001-300000	4	26.67	7	18.91
Total	15	100.0	37	100.0

3.3.2.5 Annual income of retailers

According to the level of income the selected twenty three retailers were categorized into three groups. Namely, the first category income level ranging from Tk 15000.0 to Tk 20000.0, the second category ranging from Tk 20001.0 to Tk 25000.0 and the third category ranging from Tk 25001 to Tk 30000.0. In the study area, 30.43 %, 52.17 % and 17.39 % of fishermen belong to the first, second and third categories respectively (Table 3.20). These indicate that the majority of the retailers were in the income group ranging from Tk 20001.00 to 25000.00.

Table 3.20: Annual incomes of Retailers

Level of income(Tk)	Number	% of total
15000-20000	7	30.43
20001-25000	12	52.17
25001-30000	4	17.39
Total	23	100.0

3.4 Problems and suggestions of fish marketing

3.4.1 Problems faced by the fishermen

The selected fishermen were asked whether they faced any problems in marketing their fishes. The problems are reported by them are presented in table 3.21. They encountered a variety of marketing problems such as poor communication and high transportation cost, low price of fish, financial hardship, higher market tolls and lack of marketing facilities such as electric supply, water supply, drainage facilities and the law order situation. It can be seen from table 3.21 that lack of marketing facilities is the major problem of fishermen. More than 88 % fishermen reported this problem. Poor communication and high transportation cost was reported as the second major problem by 84 % of the respondents. The other problems in descending order are financial hardship, higher market tolls, low price of fish as reported by 72%, 64% and 60% of the respondent fishermen respectively.

Table 3.21: Problems faced by the fishermen in fish marketing

Reported problems	Number of respondents	Percentage
Lack of marketing facilities	22	88
Poor communication and high transportation cost	21	84
Financial need	18	72
Higher market tolls	16	64
Low price of fish	15	60

3.4.2 Measures suggested by the fishermen

Fishermen's suggestions in connection with the solutions of the problems were presented in table 3.22. Although there were variations in responses among the fishermen, the suggestions were arranged on the basis of responses. The highest number (about 92 %) of the fishermen suggested that the law and order in the fish market should be maintained and credit should be supplied timely on easy terms

which is followed by suggestions such as Market tolls should be fixed (80 %), Immediate sale of fish (76 %), Improvement of roads and communication facilities (68 %), Timely supply of equipment (64 %).

Table 3.22: Fishermen's suggestions regarding solutions of the problems

Suggestions	Number of respondents	Percentage
Improvement of roads and communication facilities	17	68
Immediate sale of fish	19	76
Timely supply of credit on easy terms	23	92
Market tolls should be fixed	20	80
Maintenance of law and order in the fish market	23	92
Timely supply of equipment	16	64

3.4.3 Problems faced by the intermediaries

The intermediaries were asked to mention the problems faced by them in fish marketing. Table 3.23 shows the problems that were reported by intermediaries.

Shortage of capital was the major problem of fish marketing as pointed out by all Aratdars, Paikers (Wholesalers) and 86.97 % of retailers. Frequent price fluctuation and low price of fish was the problem mentioned by 73.33 % Aratdars, 70.27 % Paikers (Wholesalers) and 78.16 % Retailers. As a whole 73.33 % intermediaries reported this problem.

About 66.67 % Aratdars, 86.49 % Paikers (Wholesalers) and 69.33 % Retailers consider perishability of fishes as one of their problems. On an average 77.33 % intermediaries responded so. Out of 56 % intermediaries, 67.57 % Paikers (Wholesalers) and 73.91 % Retailers mentioned the problem of inadequate storage facilities and high storage charge while no Aratdar faced this problem.

About 49.33 % intermediaries noted inadequate transportation facilities as one of their problems. Lack of marketing facilities (drainage, water supply, electricity etc.) was the second highest problem as mentioned by 88 % intermediaries. Among the respondents, there were 86.67 % Aratdars, 89.19 % Paikers (Wholesalers) and 86.95 % retailers who cited this problem.

About 60 % intermediaries noted political instability as one of the problems. Among the respondents, there were 80 % Aratdars, 75.67 % Paikers (Wholesalers) and 21.74 % retailers who admitted this problem.

Table3.23: Problems faced by the intermediaries

Reported problems	Types of intermediaries			
	Aratdars	Paiker	Retailers	All intermediaries
Shortage of capital	15 (100)	37 (100)	20 (86.97)	72 (96)
Price fluctuation and low price of fish	11 (73.33)	26 (70.27)	18 (78.16)	55 (73.33)
Perishability of fish	10 (66.67)	32 (86.49)	16 (69.57)	58 (77.33)
Inadequate storage facilities and high storage charge	-	25 (67.57)	17 (73.91)	42 (56)
Inadequate transportation facilities	-	37 (100)	-	37 (49.33)
Lack of marketing facilities	13 (86.67)	33 (89.19)	20 (86.95)	66 (88)
Political instability	12 (80)	28 (75.67)	5 (21.74)	45 (60)

Note: Figures in parentheses indicate percentages.

3.4.4 Measures suggested by the intermediaries

From the table 3.24, it can be seen that all Aratdars, 75.67 % Paikers (Wholesalers) and 73.91 % Retailers proposed the provision of supplying of credit from institutional sources on easy terms. About 80 % Aratdars, 81.08% Paikers (Wholesalers) and 69.56 % Retailers suggested storing fish rapidly as well as rapid fish marketing were reported by 86.66 % Aratdars, 64.86% Paikers (Wholesalers) and 78.26 % Retailers.

About 70.27 % Paikers (Wholesalers) and 62.22 % Retailers reported to reduce storage charges as well as installation of ice factories. Cent percent Paikers (Wholesalers) noted improvement of roads and facilities as one of the measures.

Electricity and water supply and improvement of drainage system were suggested by 86.66, 81.08 and 82.61 % of Aratdars, Paikers (Wholesalers) and Retailers respectively. Fish marketing areas must be free from strike was reported by 62.66 % intermediaries as one of the suggestion for solution of their problems.

Table 3.24: Intermediarie's suggestions for solution of the problems.

Suggestions	Types of intermediaries			
	Aratdars	Paiker	Retailers	All intermediaries
Timely supply of credit on easy terms	15 (100)	28 (75.67)	17 (73.91)	60 (80)
Arrangement for immediate sale and storage of fish	12 (80)	30 (81.08)	16 (69.56)	58 (77.33)
Quick disposal of fish	13 (86.66)	24 (64.86)	18 (78.26)	55 (73.33)
Reduction of cold storage charge and installation of ice plants	-	26 (70.27)	15 (62.22)	41 (54.67)
Improvement of roads and communication facilities	-	37 (100)	-	37 (49.33)
Regularity of electricity supply, water supply and drainage	13 (86.66)	30 (81.08)	19 (82.61)	62 (82.67)
Fish marketing areas must be free from strike	11 (73.33)	23 (62.16)	13 (56.52)	47 (62.66)

Note: Figures in parentheses indicate percentages.

CHAPTER FOUR

4. Discussion

The main objective of the present study is to observe the existing fish marketing with a view to assessing the performance of the marketing system, estimate cost and margins, to identify problems associated with the fish marketing and remedial measures of fish marketing problems.

The selected areas have two markets, the Rail bazaar under Chuadanga and the Sarojgang bazaar. The Rail bazaar is mainly for wholesale marketing and the Sarojgang is mainly for retailing. In total 100 samples, consisting of 25 fishermen, 15 Aratdars, 37 Paikers (Wholesalers) and 23 Retailers were randomly selected from different stages of marketing. The data were analyzed by tabular and descriptive techniques. Data was collected by interview technique were supplemented by information received from various sources and also personal observation.

In the present study, there were two marketing channels. One channel consisted of Fishermen-Aratdar-Paiker-Consumer. The other channel was Aratdar-Paiker-Retailer-Consumer. Aratdars purchased fish directly from the fishermen and sold the same to the Paikers (Wholesalers). Paikers (Wholesalers) sold the same to the retailers and the retailers sold the same to the consumers. Again, Fishermen sold directly fish to Paikers (Wholesalers) and they sold the same to consumers.

Marketing functions are studied from the view point of transportation, grading, storing, buying and selling, weighing, financing and market information. Prices of fish are determined by the method of open bargaining between buyers and sellers. Market price depended on the supply of fish and number of buyers in the market. Payment in cash as well as credit was common in fish marketing.

Shoulder load, head load, rickshaw were the means of transporting fish from the fishermen to the Aratdars. Storage facilities at various levels of fish trading were

quite unsatisfactory. Due to the lack of storage facilities it was reported that 15.22 percent, 25.43 percent and 19.52 percent of the fishermen's, Aratdar's and Paiker's fish were wasted respectively in Rail bazaar while 27.07 percent, 17.95 percent and 33.02 percent Aratdar's, Paiker's and retailer's fish were wasted respectively in Sarojgang. In fish marketing very little grading was done according to their sizes.

The fishermen, Aratdars, Paikers (Wholesalers) and Retailers were not self sufficient in respect of their capital needs. They borrowed money from their friends and relatives, money lenders and fellow traders. Visit to markets, personal observation and current condition of the market were the major sources of market information.

The cost of marketing of fish included all costs of performing various functions at different stages of marketing by fishermen and intermediaries. The average cost of marketing for fishermen, Aratdars and Paikers (Wholesalers) were taka 230.00, taka 159.05 and taka 183.17 per quintal of fish respectively at Rail bazaar while the average cost of marketing for Aratdars, Paikers (Wholesalers) and Retailers were taka 132.05, taka 140.7 and taka 181.85 per quintal of fish respectively in Sarojgang. At Rail bazaar, wages and salaries (31.44 percent) were reported to be the highest marketing cost for Aratdars while transportation was the highest marketing cost for Paikers (Wholesalers). In Sarojgang, wages and salaries (30.67 percent) was also the highest marketing cost for Aratdars and transportation (21.34 percent) was also the highest marketing cost for Paikers (Wholesalers). Wages and salaries enhanced to increase marketing cost of aratdar in Railbazar and Sarojganj bazar.

At Rail bazaar, the marketing margins for Aratdars was taka 437.30 per quintal which contained average profit of taka 278.25. The marketing margins for Paikers (Wholesalers) was taka 647.62 per quintal which contained average profit of taka

464.45. Profit as a percentage of investment, also known as Return on Investment (ROI), was calculated at 7.44 and 11.39 percent respectively for the Aratdars and the Paikers (Wholesalers). At Sarojgang, the marketing margins for Aratdars was taka 319.55 per quintal which contained average profit of taka 187.50. The marketing margins for Paikers (Wholesalers) was taka 551.35 per quintal which contained average profit of taka 410.65. The marketing margins for Retailers was taka 506.10 per quintal which contained average profit of taka 324.25. Profit as a percentage of investment that is (ROI) was 5.09, 10.36 and 7.18 percent respectively for the Aratdars and the Paikers (Wholesalers). The study reported that despite of high marketing cost, the Paikers (Wholesalers) at Rail bazaar and at Sarojgang obtained the higher ROI mainly because of the higher wholesale price.

The fishermen's share of the consumer's price was however, found to be inversely related with the length of the channel; the shorter the channel, the higher was the share. The profit component in the margin for all intermediaries was higher than the cost component.

Socio-economic characteristics of fishermen and intermediaries were observed in the study area. Most of the fisherman (60%) were belong to the age category of 31-49 because this group was physically stronger than other categories. 50-60 years age category were engaged in fishing for long time (30 years) as it was their inheritance profession. Most of the fishermen (60%) were illiterate due to low income, involvement in fishing from childhood. Annual income of 72% fishermen was 10,001-20,000 taka of age group 31-49 years, because they involved themselves in fishing properly rather than other groups.

Most of the Aratdar (66.67%) were in the age category of 31-49 years due to their experience of fish trading. Aratdar are more educated (73.33%) followed by Paikers (Wholesalers) (33.43%) and Retailers (47.83%) because Aratdar were financially solvent. Annual income of Aratdar was higher than other categories due to large capital investment in fish trading.

Two criteria, namely, marketing margin and availability of physical marketing facilities have been used to evaluate the inland fish marketing system. High marketing cost is due to mainly to the functional inefficiency in the marketing system. Again, lack of transportation, storage, preservation, and lack of market information indicate some degree of inefficiency in the inland fish marketing system.

Profit margin of intermediaries of fish marketing, which, however, does not seem to be unusual in the context of developing country like Bangladesh. The fishermen's share of the consumer's taka was low and this could however, be increased by improving physical marketing facilities and eliminating unnecessary and insufficient and exploitative middleman from the marketing channel. Inefficient transportation and inadequate and unscientific storage facilities for fish signify lack of efficiency in the existing fish marketing system.

CHAPTER FIVE

5. Conclusion

Bangladesh being a riverine country, it plays a great role in providing animal protein in order to meet the problem of malnutrition of the nation. The country can earn huge amount of foreign exchange by exporting fish. Besides, inland fisheries are likely to extend productive employment to a large number of labor forces. In the world market, Bangladesh has potentiality to earn huge foreign exchange by exporting fish, if production can be increased.

Fish marketing in Bangladesh faces various problems such as rough handling, improper cleaning, marketing in unhygienic surrounding, exploitation of fishermen by the traders, insufficient transportation, inadequate storage facilities, lack of grading system, shortage of capital and marketing facilities etc. No systematic attempt has been made so long to study the inland fish marketing system in Bangladesh.

The objectives of the study were to analyze the existing system of fish marketing, to estimate costs and margins at different stages of fish marketing, to know the socio-economic status of the fishermen and intermediaries, to identify the problems associated with fish marketing and to suggest the remedial measures for marketing problems. The study expected to provide useful information to traders, consumers, producers and policy makers.

The problem of low fish production and consumption is further aggravated the lack of efficient and organized market system. Steps are being taken to increase fish production, but practically very little emphasis is being given to improve the existing fish marketing system. On the basis of observation and findings in the study, the following recommendations having significant policy implications may be put forward.

- Efforts should be taken to develop suitable market infrastructures in the study area with respect to quick transportation, proper storage and other physical facilities. Provision of such facilities would diminish the cost of marketing fish and might ensure a fair price for the fishermen and a better margin for the fish intermediaries.
- Standards should be established on the basis of size and quality of fish and accordingly grading can be done through the use of standards containers which might facilitate buying and selling of fishes at different stages of marketing. Though wastage of fish can not be completely eliminated, it can be reduced to a minimum level by improving transportation, storage and other physical facilities. Fishes should not be allowed to remain on dirty places under sunshine and high temperature after harvest. Fish should be washed thoroughly with clean water immediately after catch and finally should be stored in crushed ice without allowing the fish lie heaped up in open spaces. At all stages of marketing, efforts should be made to keep fish under low temperature. To solve this problem, there should be established more cold storage, ice factories, freezing plants at the assembling centre of fish in Bangladesh.
- Fishermen should learn how to catch fish in large quantity. They must also know how to store the fish for keeping its quality. For this reason, training should be provided to the fishermen and the intermediaries on the techniques of cleaning, handling, transporting, storing and marketing of fishes.
- The net return of the fishermen could be increased if they were able to sell fish directly to the retailers without the help of other intermediaries. But it is not possible to eliminate the intermediaries from the market. With a view to improving the bargaining power of the fishermen as well as exploitation

free intermediaries, form of cooperatives will not only strengthen their bargaining power but will also enable them to sell fishers profitably in the market.

- Institutional credit should be made available to the fishermen and intermediaries to meet their production and marketing requirements.
- The discriminatory charges for market tolls and donations from the fishermen and intermediaries should be checked by fixing the rate of charges on a reasonable basis.
- Retailers dealing with other commodities like vegetables should not be allowed to sit in the fish market which is disadvantageous to sell fishes.
- Provision should be made for sufficient ice, water supply, electricity supply as well as drainage facilities should be provided by the authority at the place to keep a healthy atmosphere for fish trading.
- Steps should be taken for eliminating the illiteracy of the fishermen and intermediaries. Government and other non government organization should take the necessary step for eliminating illiteracy.

Last of all, considering the shortcomings, some measures for possible improvement have been suggested. More intensive research related to the various socio-economic problems of inland fish marketing efficiency, the quality of product, secure of economic subsistence of the people working in this trade should be undertaken to improve the marketing system.

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APPENDIX

The study on fish marketing in some selected areas of Chuadanga district

Questionnaire:

Date of interview:

Name of the Market:

1. Respondent's name:
2. Address:
3. Occupation of the respondent:

- i) Fishermen
- ii) Aratdar
- iii) Paiker
- iv) Retailer

4. Respondent's age:
5. Education level:
6. Experience in business:
7. Monthly income:
8. Used transportation type:

- i) Train
- ii) Truck
- iii) Rickshaw
- iv) Van

- v) Nocimon
- vi) Shoulder load
- vii) Head load

9. Sources of fish:

- i) Fishing
- ii) Fishermen
- iii) Aratdar
- iv) Paiker

