

# The Marketing Functions of Shrimp Supply Chain in Gujarat

Jahnvi Tandel<sup>1</sup>, Dr. Dhaval Maheta<sup>2</sup>

<sup>1</sup> Research Scholar, Department of Business and Industrial Management G.H.Bhakta Management Academy, Veer Narmad South Gujarat University, Surat, Gujarat, India

<sup>2</sup> Assistant Professor, Department of Business and Industrial Management G.H.Bhakta Management Academy, Veer Narmad South Gujarat University, Surat, Gujarat, India

[jjahnvi.tandel@gmail.com](mailto:jjahnvi.tandel@gmail.com)<sup>1</sup>

[dhavalmaheta1977@gmail.com](mailto:dhavalmaheta1977@gmail.com)<sup>2</sup>

DOI: 10.29322/IJSRP.9.02.2019.p8675

<http://dx.doi.org/10.29322/IJSRP.9.02.2019.p8675>

## ABSTRACT:

The empirical research, based on primary and secondary data, examines the overall marketing functions of shrimp supply chain with particular emphasis to the extent of value addition during the process of distribution. The researchers demonstrate the distribution channel and the linkages between the relative benefits obtained as well as the outcome from the chain. The four districts of Gujarat namely Valsad, Navsari, Surat, and Bharuch are the major contributors for shrimp production having 95% of state shrimp farmer's population with the potential area of 69,583.91ha (Vibrant Gujarat Report, 2017). The findings of the study revealed that the marketing functions of shrimp supply chain worked well and some recommendations were provided for the improvement of shrimp marketing in the country.

Key words: marketing functions, shrimp supply chain, export channels

## 1. INTRODUCTION

The important marketing functions performed by different marketing agencies in South Gujarat, apart from buying and selling of shrimp are assembling, transportation, grading, storage, weighing and etc.

Supply Chain is the sum of below three points, including the value addition activities in between like manufacturing, packaging, grading, storage, distribution channels, buying and selling process, handling and transportation etc.

1. Flow of goods from Suppliers to Customer.
2. Flow of Money from Customer to Supplier
3. Flow of Communication between All the stake holders

By supplier, any stake holder who provides raw materials, semi finished goods, finished goods to his consumer. In a supply chain, at every stage, there will be a supplier and a consumer, until the finished good reaches end consumer. Similarly consumer is the one who gets material/finished goods/produce from a supplier. A manufacturer i.e. farmer is consumer for raw material supplier i.e. brood stock. A retailer is a consumer to wholesaler and so on.

The marketing functions or practices of the shrimp supply chain are buying and selling, grading, storage, pricing, marketing channels, transportation, market information etc. They are the major functions of the shrimp supply chain.

## 2. LITERATURE REVIEW

(Salagrama, 2004) studied that four important channels of fish marketing which frequently overlap and coexist, but each was a distinct entity with its own set of characteristics. These were Local fresh fish trade, processed fish trade, Export trade, and urban trade. Out of these, the first two belong to the traditional marketing systems and the latter two to the modern category. Local fresh fish trade was the simplest kind of marketing operation while export trade stand for the most complex. In many villages, all four chains can be seen in operation simultaneously and the same producer/trader will often be involved in more than one kind of marketing chain. (Pomeroy & Dalton, 2005) stated that value is added to fish and fishery products depending on the requirement of different markets. In addition to preservation, fish can be industrially processed into a wide array of products to increase their economic value and allow the fishing industry and exporting countries to reap the full benefits of their aquatic

resources. Globally, a transition period is taking place where cooked products are replacing traditional raw products in consumer preference. Societal changes have led to the development of outdoor catering, convenience products and food services requiring fish products ready to eat or requiring little preparation before serving.

(Sidhu, Sidhu, & Singh, 2012) used convenience sampling technique in Jalandhar district. The study suggested that modern market infrastructure may be built up with the public private partnership to bring efficiency in the marketing. (Al-Hasan, Shahjahan, Hossain, & Haque1, 2014) studied in Fish Availability and Marketing System at Three Markets in Barisal, Bangladesh that The fish availability and marketing system at three markets in Barisal were studied for a period of twelve months from August 2012 to July 2013. Data were collected through questionnaire interviews and focus group discussions. A total number of 64 fish species were recorded in the three markets during the study period. Among them highest amounts were ilish (39%) and lowest amounts were Thai koi (2%). About 85% of the fishes were brought from different rivers and ponds of the Barisal region and only 15% from Mymensingh, Jessor, Satkhira and from India (major carps). The marketing channel from fishermen/fish farmer to consumers passes through a number of intermediaries such as local paikers/aratdar/mahajan (local agent), wholesalers and retailers. The average gross profit of fish retailers in Port Road Bazar, Natun Bazar and Lakhutia Bazar were estimated as BDT 950/day, BDT 750/day and BDT 400/day (1 US\$=78 BDT), respectively. Lack of storage facilities, poor supply of ice, exploitation by middlemen, lack of money and infrastructure were the common constraints of the fish marketing.

(Das, Upadhyay, Kumar, & Prakash, 2013) reported the fish marketing channel starts with a farmer and ends with the ultimate consumer involving a number of intermediaries in between. It was observed that the farmers did not sell fish directly to the consumers in the urban markets, except a few in the rural markets.

### 3. METHODOLOGY

The study will cover all the supply chain processes from the production to export. Two stage sampling method was used. First stage was purposively selected four districts namely Valsad, Navsari, Bharuch and Surat. Second stage was to identify the aquatic cultured farmers by convenience sampling method in each district. The sample consisted of 100 farmers, 2 exporters, 20 middlemen, 12 vendors and 20 women from South Gujarat region. The data were collected from the selected farmers, exporters, middlemen and vendors about their costs of marketing of shrimp. The secondary data about area, production were taken from the Department of Fisheries, MPEDA, CIBA, NAU of Gujarat. The primary data from the respondents were collected in 2016-17 year. Table 1.1 defines the sample size, data collection method as well as sample distribution.

TABLE 1. 1 SAMPLE DISTRIBUTIONS

Target Groups	Zone / area	Sample Size	Data collection methods
<b>Shrimp Farmers</b>	Valsad	25	✓ Questionnaire interviews
	Navsari	25	✓ PRA tools such as FGD
	Surat	25	✓ Transect walk
	Bharuch	25	✓ Cross check interviews with key informants
	Total 100		
<b>Exporters cum Processors</b>	Bilimora & Surat	2	✓ Questionnaire interviews ✓ Cross check interviews with key informants
<b>Intermediaries</b>	Valsad	5	✓ Questionnaire interviews
	Navsari	5	✓ Transect walk
	Surat	5	✓ Cross check interviews with key informants
	Bharuch	5	
	Total 20		
<b>Vendors</b>	Navsari	12	✓ Questionnaire interviews
	Valsad		✓ PRA tools such as FGD ✓ Transect walk
<b>Women</b>	Valsad	5	✓ PRA tools such as FGD
	Navsari	5	✓ Interviews with a list of questions (not questionnaire )
	Surat	5	
	Bharuch	5	
	Total 20		

### 4. RESULTS AND DISCUSSIONS

**4.1 BUYING AND SELLING**

In the study areas, the whole marketing of shrimp has been broken down into various functions such as buying and selling, transportation, grading, storage, weighing, financing, market information and pricing. The activities involved in the transfer of goods are completed through buying and selling functions. Middleman or commission agents or company agents do the functions of negotiation between buyers and sellers of shrimp and help them at their own business premises on receipt of commission. They do not take the ownership of the products. Shrimp petty retailer purchase 95% shrimp from vendors/fish market and 5% from farmers who are relatives/ neighbors or their own shrimp farmer villager (Petty retailer).

**TABLE 1.2 PERCENT OF SHRIMP/PRAWN TRANSACTED BY VALUE CHAIN ACTORS**  
**Purchase From (%)**

Value chain Actor	Farmer	Farmer via Commission Agents	Processors/ Exporter	Vendors/ Fish Market	Petty Retailer
Processors/ Exporter	75	25	--	--	--
Vendors/ Fish Market	60	40	--	--	--
Petty Retailer	05	--	--	95	--
Consumer	--	--	--	--	100
<b>Sold to (%)</b>					
Value chain Actor	Processor/ Exporter	Commission Agents	Vendors/ Fish Market	Petty Retailer	Consumer
Farmer	70	25	05	--	--
Farmer via Commission Agents	95	--	05	--	--
Processors/ Exporter	--	--	World Market		
Vendors/ Fish Market	--	--	--	100	--
Petty Retailer	--	--	--	--	100

Source: Field Survey

Vendors purchase 60% shrimp from farmers directly, 40% from farmers via commission agents. Processors/ Exporters purchase 75% shrimp from farmers directly, 25% from farmers via commission agents. Consumers purchase 100% of shrimp from the retailers in the study area (Table 1.2). Shrimp farmers sell 70% of their shrimps to processors/ exporters and 25% to processors/exporters via commission agents and 5% to vendors/ fish market. Farmers via commission agents sell 95% to processors/ exporters and 5% to vendors/ fish market. Vendors/ fish market sell 100% of their shrimp to petty retailers (restaurants/ hotels). Petty retailers sell 100% of their shrimps to consumers. Processors/ exporters sell 100% shrimp to world market (export). Some of them are busy for own other business, so they don't want to mash up or want hassle free business by giving commission to agents. Retailers sell the entire shrimp to ultimate consumers. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

#### 4.2 GRADING

Grading is the basic function of sales transactions and is defined as the classification of products according to some standards or measures (Kohls & Uhl, 2005). Grading of shrimp is not common at farmers' level. Grading is generally done by processors or local traders or by the commission agents in the wholesale market and by retailers in the retail market before selling to the consumer. It also simplifies the concentration process and makes easier and less costly the movement of goods through the marketing channel. Grading facilitates sale since different sizes of Shrimp have different prices. All intermediaries' grade shrimp on the basis of weight. However, Grading system of shrimp is different from other species. Here grading is based on number of pieces to make one kg. In case of vanamai or black tiger, Usually grading of shrimp is based on counts like number of pieces per kg. For example there are 30 count shrimp means 30 pieces per kg. i.e. size of the shrimp. Bigger size shrimp, prices more. Buyers are grading shrimp at farm level only, smaller size shrimps excluded. Shrimp farmers sell smaller size shrimps to local market by vendor or agents or by themselves. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012). Table 1.3 shows some basic grading parameters of shrimp.

TABLE 1.3 GRADING OF SHRIMP  
Grading for Shrimp /producer's price

Grade of shrimp
20 Grade (20 pieces/kg)
30 Grade (30 pieces/kg)
40 Grade (40 pieces/kg)
50 Grade (50pieces/kg)

Source: Field survey, 2016-17

#### 4.3 STORAGE

The storage facilities help buyers and sellers to reduce the wide fluctuation of prices between peak and lean seasons. The storage function is primarily concerned with making goods available at the desired time and enables traders to receive better prices for their products. Because of high perish ability; shrimp requires extremely specialized storage facilities matching the seasonal demand. Only the processing plants in the shrimp industry use proper storage systems for export to the world market. Other intermediaries use only ice to transport shrimps from one place to another. Though all intermediaries use ice during marketing, their use of ice in shrimp is not scientific for which quality of shrimp gets affected. While retail selling, some use ice and some do not. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

#### 4.4 TRANSPORTATION

Transportation is a basic function of making goods available at proper place and it creates place utility. Perishable goods must be moved as early as possible from the producing centre to the consumer centre. So transportation is essential for highly perishable commodities like shrimp. Adequate and efficient transportation is a cornerstone for the modern marketing system (Kohls & Uhl, 2005).

In the study areas, the shrimp farmers and intermediaries use various modes of transports such as van, rickshaw, scooter etc, to transfer product from the producing areas to the consumption centre. Figures 1.1 show different modes of transport used by the intermediaries to transport shrimp from one place to another. Transportation of shrimp from pond to market is one of the important activities in marketing. Besides head load (bhar), other types of carriages that are commonly used for shrimp transport in South Gujarat are refrigerated van, moped, Rickshaw, Auto-rickshaw, Small truck etc depending on the distance to be travelled. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

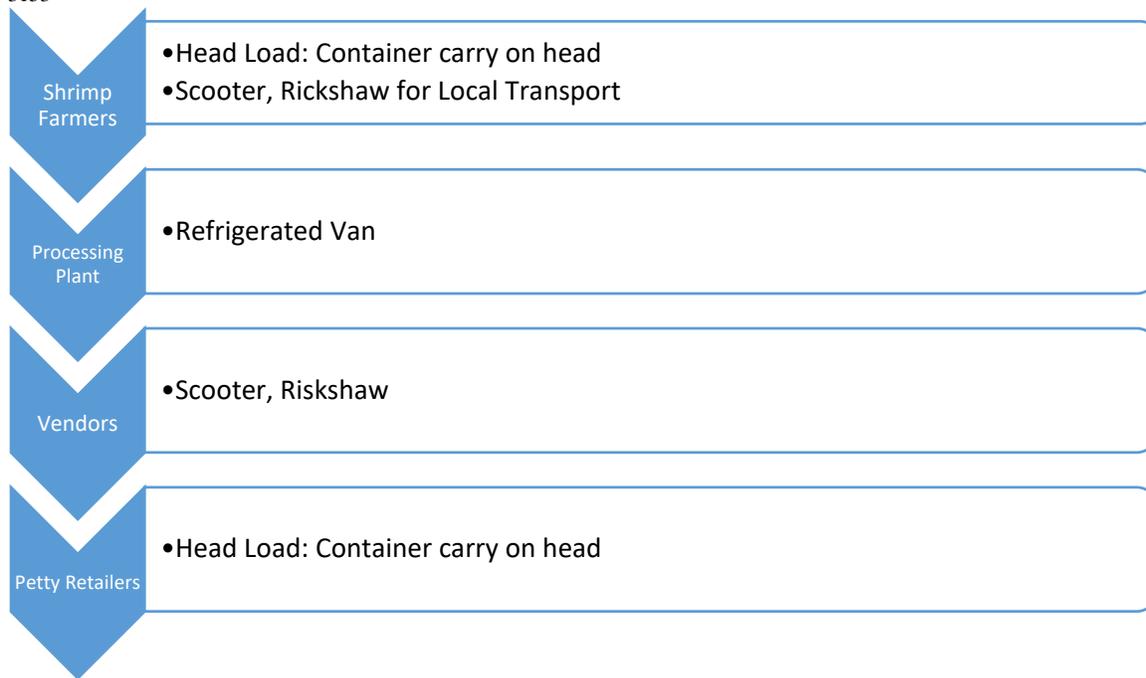


Figure 1. 1 MODE OF TRANSPORT USED BY FARMERS AND INTERMEDIARIES FOR MOVEMENT OF SHRIMP

#### 4.5 FINANCING

The financing function is the advancing of money by someone to carry on the business. For effective operation, financing is of crucial importance in the whole marketing system of shrimp. The source of finance for the value chain actors in the study areas are shown in Table 1.4.

TABLE 1.4 SOURCES OF FINANCE OF SHRIMP FARMERS AND INTERMEDIARIES

Sources of Finance	Market Participants				
	Farmers	Commission Agents	Processors/ Exporter	Vendors/ Fish Market	Petty Retailer
<b>Own Fund</b>	56	100	38	95	97
<b>Bank</b>	9	0	62	0	0
<b>NGO</b>	12	0	0	0	0
<b>Friends/relatives</b>	2	0	0	2	1
<b>Credit from commission agent</b>	8	0	0	3	2
<b>Credit from Processors/ exporter</b>	13	0	0	0	0

Source: Field Survey, 2016-17

Table 1.4 shows that in the case of shrimp, most of the farmers, intermediaries, vendors and petty retailers are self-financed. Processors/ Exporters 62% of the loan procure from the bank and 38% of them used own fund for their business. Processing plant owners mostly depend on bank loans to accelerate the business operations. Farmers are taking credit from commission agents of inputs (seed/feed), Processors on some terms and conditions. Terms and conditions are changing by farmer to farmer. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

#### 4.6 MARKET INFORMATION

Market information is a facilitative function required for efficiently operating marketing system. In the study area, visiting the markets and use of telephone/mobile phones are the most common sources of collecting market information for all value chain actors. Table 1.5 shows that fellow traders are also a common source of market information for all types of value chain actors except processing plants. 11% of Farmers are getting information from MPEDA/ NAU/CIBA. Most of the farmers are formed with the social groups

like what's app etc for getting daily rates of shrimp etc. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

**TABLE 1.5 SOURCES OF MARKET INFORMATION FOR FARMERS AND INTERMEDIARIES**

Sources of Market Information	Market Participants (%)				
	Farmers	Commission Agents	Processors/ Exporter	Vendors/ Fish Market	Petty Retailer
<b>From Market</b>	72	58	59	42	5
<b>Fellow Traders</b>	36	46	0	9	7
<b>Email/Internet</b>	1	0	100	0	0
<b>Telephone/ Mobile</b>	17	68	100	75	12
<b>Government Offices</b>	3	0	0	0	0
<b>MPEDA/ NAU/ CIBA</b>	11	0	2	0	0
<b>Magazines/print media</b>	6	1	1	0	0

Source: Field Survey, 2016-17

#### 4.7 PACKAGING

Packaging may be defined as the general group of activities in product planning which involves designing and producing the container or wrapper for a product (Stanton, 1991). Packaging is essential for proper transportation of shrimp. 'Box' made of cork sheet is widely used by processing plant owners in shrimp. Different sizes of packaging materials along with their capacities are shown in Table 1.6. Packaging of shrimp/prawn Processors and exporters use manufactured carton, plastic packets and trays with customized labels for packaging. The quality and packaging style varies according to the requirements of the buyers and the price negotiated by the buyers. Exclusive and simple plastic packs or blocks are frequently used for shrimp/prawn packaging for exporting. Exclusive packaging is used for higher prices and simple plastic packs or blocks are used for lower international market prices of shrimp/prawn. Usually developed countries prefer simple packaging because disposal is expensive. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

**TABLE 1.6 PACKAGING PRACTICES OF SHRIMP MARKETING IN GUJARAT**

Packaging Practices	Using Materials	Capacity	Used By
<b>Basket</b>	Bamboo	20-40 kg	Farmer, Petty Retailer
<b>Crate</b>	Plastic	20-40 kg	Farmer, Petty Retailer
<b>Vessel of basket shape</b>	Steel/Aluminium/iron	20 kg	Farmer, Petty Retailer
<b>Box</b>	Cork Sheet	20-40 kg	Processing Plant

Of all packaging materials, plastics have a major share, as they are versatile and can be converted into any form, lend to excellent decoration, have excellent barrier properties and are hygienic in use. In the fish industry, plastics are extensively used for replacing traditional packages, either as crates, trays, insulated boxes for storage and for internal movement and distribution of raw materials and finished products. Bare films are used for over-wrapping of wet and frozen fish, pouches from co-extruded films for frozen / dry fish packaging, thermoformed trays of PVC/HDPE for unit packages of IQF fish and shrimp etc as shown in fig. 1.2 and 1.3.



FIGURE 1.2 FROZEN SHRIMPS IN LDPE POUCHES



FIGURE 1.3 PLASTIC LAMINATED CARTONS FOR FROZEN SHRIMP

Sources: Pictures taken from Super Markets (Good Fortune, USA)

#### 4.8 PRICING

The pricing of shrimp sectors depends on the demand on foreign market. If the foreign market demand is increased, the price will increase. Sometimes some faults were identified in Indian shrimp and then the price is decrease in the shrimp market.

TABLE 1.7 PRICING METHODS IN SELLING PROCESS OF SHRIMPS

Pricing Methods	Market Participants				
	Farmers	Commission Agents	Processors/ Exporter	Vendors/ Fish Market	Petty Retailer
Open Bargaining	75	79	68	0	100
Auction	11	0	0	100	0
Based ongoing market prices	49	26	85	0	0
Pre-fixed prices	0	0	0	2	0
Cost plus method	0	0	0	0	0

Source: Field Survey, 2016-17

TABLE 1.8 PRICING FOR SHRIMP AS PER GRADES

Price for Shrimp /producer's price	
Grade of shrimp	Price (Rs./kg)
20 Grade (20 pieces/kg)	600-700

30 Grade (30 pieces/kg)	450-550
40 Grade (40 pieces/kg)	400-450
50 Grade (50pieces/kg)	300-400

Source: personal observation and interview with farmer, exporters and middleman

In the study areas, all intermediaries are involved in buying and selling of shrimp. Generally middlemen of shrimp marketing chain follow prefixed prices set by the processing plant. Some shrimp Farmer, commission agents or middlemen and processing plants practice open bargaining and ongoing market prices method for fixing price of their products in varying degree. Cent percent of the petty retailers follow open bargain for selling their shrimp to consumers. Vendors in domestic market decided the prices by auction. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

**4.9 PROMOTIONAL ACTIVITIES**

Actually in shrimp marketing promotion plays a little role in terms of marketing. Sometimes promotional activities occurred by the Government, MPEDA, CIBA arranges different trade show of export shrimp from India in foreign market. Trade show in foreign market is arranged for increasing the buying rate of foreign buyer. Different workshops and seminars are arranged for knowing the quality of shrimp to the foreign buyer. Sometimes the fisheries department of India use mass media likes TV and radio for the awareness of shrimp farmers. Government arranges different kinds of workshop, training and seminar for increasing the efficiency of shrimp cultivation to the farmers. 45.7 % respondents have attended the training from DOF, 34.3% respondents have attended the training from MPEDA and 20% respondents have attended the training from NAU. Different magazine and trade papers are published by the fisheries department and MPEDA which act as promotional tools. Some of the big farmers who also acted as commission agents have given advertisements in newspapers and magazine, personally contacting with firms and traders, participating in trade fairs also. They also do road development in villages, donation in small villages and arrange cricket tournament for entertainment for the small farmers, so that they are actively involved in this activity and give them supports all and act like a co operatives.

**4.10 DISTRIBUTION CHANNEL OR MARKETING CHANNEL**

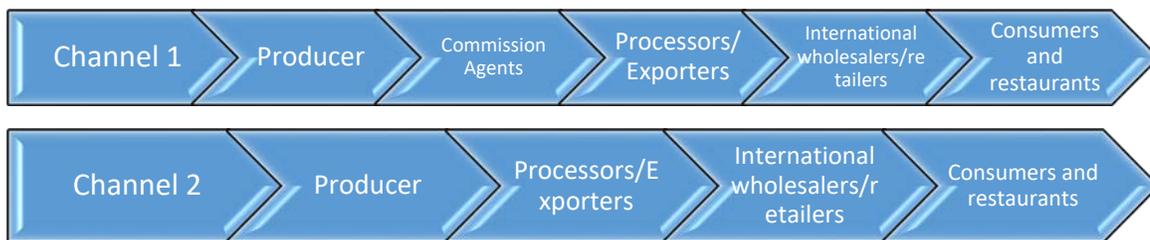
SCM is a concept whose primary objective is to integrate and manage the sourcing, flow and control of materials using a total systems perspective across multiple functions and multiple tiers of suppliers (Robert, Trent, & Handfield, 1994). Marketing channels/ value chains are the alternative routes of product flows from producers to consumers (Kohls & Uhl, 2005). Value chain may be long or short for a particular commodity depending on the qualities of products, size and nature of consumers and producers and the prevailing social and physical environment.

Distribution system plays the connecting link between the first stage shrimp farmer and the last stage consumers. By the means of the channel members (shrimp farmer, Agents/middlemen, retailer, Whole seller, Distributor etc.) the harvested shrimp transfer from producers to consumers. Shrimp distribution channel is almost entirely managed, supported, financed and controlled with rules by traditional and skilful middlemen/agents as shown in fig. 1.4.

Tradition and the strength held by separate channel members who affect the distribution system and the shrimp farmers are very sensitive to this as some of them never directly communicate with processors/exporters. Some of the Shrimp farmers have no proper education or knowledge to make the best out of the supply chain management.

Marketing channel is the route followed by the produce after the harvest at pond site to the ultimate consumer involving a number of intermediaries in between. The shrimp farmer cannot communicate with the market directly because the market communication is mainly made by the middlemen. This situation involves lots of intermediaries in the shrimp supply chain. (also studied by (Omar, Islam, Haque, Alam, & Janifa, 2014) and (Alam, Palash, Mian, & Dey, 2012).

**Export Channels**



**Domestic Channel**





FIGURE 1.4 MARKETING CHANNELS FOR SHRIMP IN SOUTH GUJARAT REGION (FROM PRODUCER/FARMERS TO CONSUMERS)

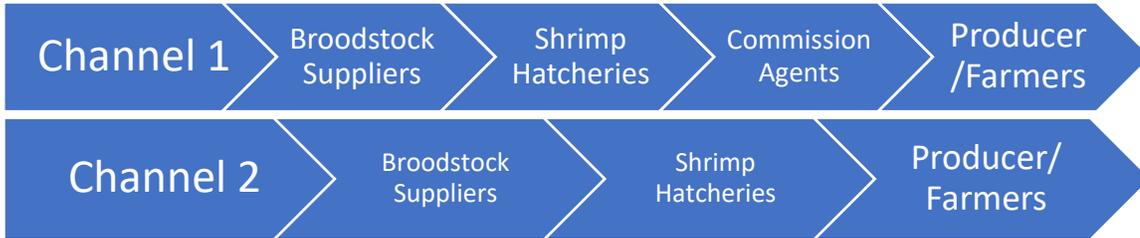


FIGURE 1.5 MARKETING CHANNELS FOR SHRIMP IN SOUTH GUJARAT REGION (FROM BROOD STOCK SUPPLIERS TO PRODUCER/FARMERS)

Domestic supply chains for shrimp distribution involve four intermediaries (shrimp farmer, local agents, wholesalers and consumer) for local market and four intermediaries (shrimp farmers, shrimp processors, agents and overseas consumers) for distant markets as shown in fig. 1.5. The involved intermediaries are at most four, namely, shrimp farmer, agents, processing plant and overseas consumer. There are two marketing channels from brood stock suppliers to farmers working in South Gujarat region. Brood stocks are imported from other countries, mainly USA.

**4.11 LABOR MARKETS OF PROCESSING SEGMENT  
 ICING OF SHRIMP/PRAWN**

Icing is a part of cleaning and de-heading of shrimp/prawn for selling to commission agents and final processors or exporters. Usually after buying shrimp/prawn from farmers with head but without legs, the shrimp/prawn keep in ice for 4-5 hours in plastic containers or big aluminium pots for easy and sophisticated de-heading. After finishing buying process at the end of day, and keep the shrimp/prawn into icing containers or pots at the evening time. This icing process occurs in every day in the peak time of shrimp/prawn harvesting. After icing, de-heading starts from 9-10pm and finish at the end of night (morning). In morning, send de-heading shrimp/prawn for selling to final processors or exporters using insulated vehicles. Also studied by (Barmon, Chaudhury, & Munim, 2011)

**DE-HEADING OF SHRIMP/PRAWN**

De-heading is the part of cleaning process for exporting. After buying, de-heading is required for selling to final processing plants. Mainly local female labors are engaged in de-heading of shrimp/prawn. The de-heading process is done in night time. Usually 4-5 female labours work together for de-heading process. Usually they clean and de-head 200-400 kg shrimp/prawn in a night. Also studied by (Barmon, Chaudhury, & Munim, 2011)

**WAREHOUSING**

Warehousing house is mainly used for shrimp/prawn packaging for exporting. Generally, two layer warehousing facilities are adopted in the factory. The first layer preserves semi or unprocessed shrimp/prawn in 5-10 kg packs and it keep at -50 centigrade. The second layer is used for fully processed shrimp/prawn that will be shipped to buyers after verification and this layer is kept at a temperature of between -120 to -200 centigrade. Also studied by (Barmon, Chaudhury, & Munim, 2011)

**4.12 VALUE ADDED SHRIMP PRODUCTS**

Value addition is the enhancement added to a product or service by a company before the product is offered to customers. Products processed as "Ready to eat", "Ready to cook", "Ready to fry", "thaw & eat", "Heat & Serve" and "retail raw branded products" and other fishery pharmaceutical and cosmetic products of high unit value in export market are considered as Value Added Products as shown in fig. 1.6.

TABLE 1. 9: LIST OF VALUE ADDED SHRIMP ITEMS

1. Breaded And Battered Shrimp	2. Cooked salad shrimp
3. IQF Marinated Shrimp	4. Cooked and peeled shrimp
5. Skewered Shrimp	6. Sushi
7. Stretched Shrimp (Nobashi)	8. Shrimp Pickle
9. AFD Shrimp, AFD Powder	10. IQF Tray pack shrimp
11. Blanched/ Cooked Shrimp	12. Shrimp Curry
13. IQF Head-On/ Headless /Butterfly cooked/ blanched shrimp	14. IQF Peeled Tail-on cooked shrimp



FIGURE 1.6 VALUE ADDED SHRIMP PRODUCTS

## 5. FINDINGS

Shrimp farmers sell 70% of their shrimps to processors/ exporters and 25% to processors/exporters via commission agents and 5% to vendors/ fish market. Farmers via commission agents sell 95% to processors/ exporters and 5% to vendors/ fish market. Vendors/ fish market sell 100% of their shrimp to petty retailers (restaurants/ hotels). Petty retailers sell 100% of their shrimps to consumers. Processors/ exporters sell 100% shrimp to world market (export). Usually grading of shrimp is based on counts like number of pieces per kg. For example there are 30 count shrimp means 30 pieces per kg. i.e. size of the shrimp. Bigger size shrimp, prices more. Buyers are grading shrimp at farm level only, smaller size shrimps excluded. Common centers with refrigerated storage facilities may be developed so that the perishability of shrimp is checked, which would enable the centers to make bulk sell/transfer to the next destination. So that reduces post harvest loss and provide better price for the shrimpers/farmers. The middlemen of shrimp supply chain follow prefixed prices set by the processing units. Most of the farmers, intermediaries, vendors and petty retailers are self-financed. Processors/ Exporters 62% of the loan procure from the bank and 38% of them used own fund for their business. 11% of Farmers are getting information from MPEDA/ NAU/CIBA. Most of the farmers are formed with the social groups like what's app etc for getting daily rates of shrimp etc. Usually developed countries prefer simple packaging because disposal is expensive. Sometimes promotional activities occurred by the Government, MPEDA, CIBA arranges different trade show of export shrimp from India in foreign market. Trade show in foreign market is arranged for increasing the buying rate of foreign buyer. Distribution system plays the connecting link between the first stage shrimp farmer and the last stage consumers. By the means of the channel members (shrimp farmer, Agents/middlemen, retailer, Whole seller, Distributor etc.) the harvested shrimp transfer from producers to consumers. Shrimp distribution channel is almost entirely managed, supported, financed and controlled with rules by traditional and skilful middlemen/agents.

## 6. CONCLUSION

Marketing of shrimp in South Gujarat is characterized by involvement of many intermediaries. When shrimp moves through value chains, every intermediary adds some extra costs with the purchase price as part of their involvement or profit. As a consequence, price of shrimp increased to a great extent which affects the shrimp sellers and ultimate consumers. As the marketing system dominantly maintained by private sectors, so government does not play active role in properly regulating market behaviour and market performance in terms of price fixation, physical facilities, shortening channel etc.

This study concludes that shrimp farmers earn good sources of monetary values from shrimp farming through proper understanding of techniques, trainings, supports and division of money spent on variable costs as well as fixed costs. They can negotiate with the buyers by improving their shrimp quality and through collective marketing. Shrimp is a forex earner so that shrimp farmers can get benefitted through export of the shrimp and increase their living standards by economic upliftment.

## REFERENCES

- Al-Hasan, A., Shahjahan, M., Hossain, M. M., & Haque1, M. M. (2014). Fish Availability and Marketing System at Three Markets in Barisal, Bangladesh. *International Journal of Innovation and Applied Studies* , 7 (2), 765-773.
- Alam, M. F., Palash, M. S., Mian, M. I., & Dey, M. M. (2012). Marketing of major fish species in Bangladesh:A Value Chain Analysis. Malaysia: FAO.
- Abdullah Al-Hasan, Md. Shahjahan, Md. Moazzem Hossain, and Md. Mahfuzul Haque, "Fish Availability and Marketing System at Three Markets in Barisal, Bangladesh," *International Journal of Innovation and Applied Studies*, vol. 7, no. 2, pp. 765-773, August 2014.

- Azam, M., Rahman, M. B., Ruma, M., Azad, S. O., Alom, M. S., Ali, M. Y., et al. (2016). Marketing system of some fish species in the north-eastern region of Bangladesh: An empirical study. *Journal of Entomology and Zoology Studies* , 4 (5), 923-927.
- Barmon, B. K., Chaudhury, M., & Munim, S. S. (2011). Value Chain and Marketing Channels of Shrimp/Prawn Sector of Gher Farming System in Bangladesh. *World Review of Business Research* , 1 (1), 10-24.
- Das, A., Upadhyay, A. D., Kumar, N. R., & Prakash, S. (2013). Marketing Profile of Selected Fish Markets of Tripura. *Agricultural Economics Research Review* , 115-120.
- Habib, & Mamun. (2010). "Supply chain management: theory and its future perspectives". *International Journal of Business, Management and Social Sciences* , 1 (1).
- Habib, & Mamun, D. M. (2010a). *Supply Chain Management for Academia - An Integrated Tertiary Educational Supply Chain Management (ITESCM)*. LAP Lambert Academic Publishing, Germany .
- Habib, & Mamun, M. (2011). "Supply Chain Management (SCM): Theory and Evolution. (D. M. Habib, Ed.) "Supply Chain Management – Applications and Simulations .
- Islam, M. S., Rahman, M. S., Haque, M. M., & Sharmin, S. (2011). Economic study on production and marketing of shrimp and prawn seed in Bangladesh. *J. Bangladesh Agril. Univ.* , 247-256.
- Islam, S. B., & Habib, D. M. (2013). Supply Chain Management in Fishing Industry: A Case Study. *International Journal of Supply Chain Management* , 2 (2), 40-50.
- Kohls, R., & Uhl, J. (2005). *Marketing of agricultural products 9th edition*. Newyork: Macmillan publishing co., Inc.,.
- Kohls, R., & Uhl, J. (2005). *Marketing of agricultural products, 9th edition*. New York.: Macmillan publishing co., Inc.,.
- Omar, M. I., Islam, M. A., Haque, S. A., Alam, M. A., & Janifa, U. A. (2014). Marketing System of Shrimp in Some Selected Areas of Bangladesh . *European Journal of Business and Management* , 6 (4), 132-141.
- Pomeroy, C., & Dalton, M. (2005). *Market Channels and Value Added to Fish landed at Monterey Bay Area Ports*. Retrieved from <http://escholarship.org/uc/item/1ds60982>
- Robert, M., Trent, R., & Handfield, R. (1994). *Purchasing and Supply Chain Management*. Cincinnati: OH: South- Western College Publishing.
- Salagrama, V. (2004). *A study of the market supply chains in fisheries sector in the southern districts of orissa*. Kakinada: Intigrated Coastal Management.
- Sidhu, R., Sidhu, M., & Singh, J. (2012). Marketing efficiency of potato under different supply chains in Punjab. *Indian Journal of Agricultural Marketing* , 14-24.
- Vibrant Gujarat Report. (2017). Development of shrimp aquaculture. Government of Gujarat.*

## Authors

### 1. Jahnvi Tandel – Research Scholar

**Postal Address:** 445, Tirupati Nagar, Nandanvan Society, Vijalpore, Navsari-396450

I am pursuing PhD in Management at Veer Narmad South Gujarat University, Surat. I have 2 years of experience in research field in Agricultural University as a Senior Research Fellow and holds degree of B.E. (Electronics & Communication) and M.B.A. (Marketing). I have cleared N.E.T. (Management) examination.

### 2. Dr. Dhaval Maheta – Research Guide (Assistant Professor)

Dr. Dhaval Maheta has 14 years of Post Graduate teaching experience. He holds degree of B.E.(Production) and M.B.A.(Finance), PH.D. (Management), Post Graduate Diploma in Research Methodology. Dr. Maheta has cleared N.E.T. (Management) examination. He has conducted and organized various Faculty Development Programme on Data Analysis using SPSS, AMOS, Minitab, E-views, R Software, Gretl, Matlab, Design Expert, etc.

