An analysis of marketing cost, producer's share in consumer's rupee and market efficiency of marketing channels of prawn fish/shrimp farming in district Rohtak (Haryana)

Abstract

The present study was conducted in district Rohtak of Haryana state. In the study; total 60 fish farmers, 5 traders, 5 wholesaler, 5 retailers and 10 consumers were taken. The most of produce of prawn was marketed to Andhra Pradesh, Tamilnadu and Gujarat other states. The price of prawn depended on size, weight, season, availability, species quality and size of fishes. The market chain from fishermen to consumer passes through a number of intermediaries: local traders, , retailers and consumers. The presence of intermediaries or market functionaries leads to reduce the producer's share in consumer's rupee and higher price spread. There were three different marketing channel existed in the study area. For the marketing aspects analyzed by tabular and percentile analysis and the constraints faced by the sample farmers in prawn marketing were ranked using Garrett's ranking technique, were used in the study. The present study revealed that the average of market cost, market margin and price spread of channels was Rs,38, Rs.37 and Rs.75 per kg. The average of producer's share in consumer's rupee 85.68%. The average of market efficiency of existing channels was 8.67.

Keywords : Marketing cost, margin, efficiency and constraints.

Introduction

Shrimp is crustacean species farmed on commercial scale. Shrimps are have commercial significance in the fishing industry. Shrimp farming provide large scale employment opportunities and gives foreign exchange to our country. In fish export of India more than 70% place account by shrimp fish product. The overall export of shrimp during 2021-22 was to be counted 728123 MT (MPEDA, 2021). India exports most of shrimp produces to USA, China, EU

and other countries. It is source of essential fatty acid, vitamin and protein 18-20%. In year 2020-2021 inland fish production was 121.21 lac tonnes; Haryana accounted 2.08 lac tonnes (Handbook on Fisheries & Statistic. Shrimp accounted more than 70% of fishery product. There is an increased knowledge, attitude and better perception about health, quality and safety issues related to fish consumption, customers are swift switching to online fish markets.

Research Methodology

The present study was conducted in district Rohtak of Haryana state. The purpose of study was to examine the market aspects; market cost, market margin, price spread, consumer's share in producer's rupee. Multi - Stage sampling procedure was adopted in selection of district, block, villages, respondents and market functionaries purposively. In 1st stage – selection of district, 2nd stage – selection of block, 3rd stage – selection of villages, 4th stage – selection of respondents and 5th stage was selection of market functionaries. A list of shrimp farms located in each of the selected villages in district Rohtak was prepared with the help of the staff of the department of District Fishery Office and Heads of selected villages. In this study total 60 farmers from villages *viz*. Anwal, Bahuakbarpur, Kalanaur and Lahli selected purposively. For the purpose of examine the marketing aspects of shrimp market; 5 traders, 5 wholesaler, 5 retailers and 10 consumers were selected purposively. Collected data in aspect of market are summarized, analyzed, and tabulated that helped to find a result of study. The descriptive statistics such as mean, standard deviation, frequency and percentages were used to achieve the given objectives. In statistical tool; tabular analysis was used to find out the marketing aspects. Garrett Ranking also used to give rank to the problems and constraint faced by fish farmers in marketing. In the study marketing efficiency was analyzed through the Shepherd Method (1965). An average of market cost, market margin and price spread Rs.38, Rs.37 and Rs.75 per kg were in channel I, channel II and channel III respectively. An average of producer's share in consumer's rupee was 85.68 and market efficiency was 8.67 in channel I, channel II and channel III respectively. The period of study was agriculture year; 2021-2022.

Statistical Analysis : -

Constraints in Fish marketing:

$$\textbf{Percent Position} = \frac{100\ (\text{Rij} - 0.5)}{\text{Nj}}$$

Where,

Rij = Rank given to ith constraint by jth individual,

Nj = Number of constraints ranked by jth individuals.

Analytical tools :-

i Marketing Cost :- consisted of loading and unloading charges, sorting, weighing, icing and packing in channels. It may also defined as cost incurred by farmers, traders, wholesalers and retailers

Total Marketing Cost is calculated by below given formula;

$$\mathbf{C} = Cf + Cm1 + Cm2 \ldots\ldots\ldots Cmi$$

Where,

C = Total marketing cost.

Cf = Cost paid by the fishermen for sell of prawn.

Cmi = Cost incurred by i^{th} middleman in the process of buying and selling of prawn.

ii Market margin :-is the price of all utility, as a profit earned by market intermediaries.

Marketing Margin of Middlemen is given by below given formula;

Percentage margin of i^{th} middlemen

$$\mathbf{PRi} = \frac{\text{Ppi} + \text{Cmi}}{\text{PRi}} \text{ x } 100$$

Where,

PRi = Total value of receipts per unit (sale price)

Ppi = Purchase value of goods per unit (purchase price)

Cmi = Cost incurred on marketing per unit

iii. Price Spread :- price paid by the consumer and price received by the fishermen.

Price spread is calculated by below given formula.

$$\mathbf{Ps} = Cp - Pf$$

Where,

Ps = Price spread

Cp = Consumer's price

Pf = Price received by farmer

iv Producer's share in Consumer's Rupee

$$\mathbf{Ps} = \frac{Pf}{Pc} \times 100$$

Where,

Ps = Producer's share in consumer's rupee

Pf = Price of the produce received by the fishermen

Pc = Price of the prawn paid by consumer.

v Marketing efficiency

The marketing efficiency is measured with the help of the following formula given by Shepherd (1965)

$$ME = \frac{V}{I} - 1$$

Where,

ME = Index of Marketing Efficiency,

V = Value of goods sold or consumer price and

I = Total marketing cost or marketing cost per unit

Net price of Producer = Gross sale price – cost incurred in market of produce by producer to sell.

Result and Discussion

A large number of people are concerned with fish production, distribution and marketing systems in the nearby market of study area. Marketing as an operation that involves cost, and margin at different levels of marketing and therefore, the price spread from producer to consumer increase. The understanding of these concepts is necessary to choose the channels in marketing of agricultural product. The movement of products from the producers to the ultimate consumers involves costs, taxes, and cess which is called marketing costs. These costs vary with the channels through which a particular commodity passes through. like - Cost of packing, transport, weighment, loading, unloading, losses and spoilages. The result was based on primary and secondary data collected related to markets of study area. There were three different marketing channels exist in prawn fish marketing. They are given below.

Channel I : - Fish farmers → Traders → Consumer.

Channel II : - Fish farmers → Traders → Wholesalers → Consumer.

Channel III : - Fish farmers → Traders → Wholesalers → Retailers → Consumer.

The lengths of marketing channels depend upon number of intermediaries involved in the channels.

The various cost of marketing, market margin and price spread of channels are shown in table 1. In channel I the costs incurred by fishermen were Rs.11 per kg and sale price of fish was Rs.280 per kg. The costs incurred by traders were Rs.11; trader's margin was Rs. 15 and price spread in channel was Rs.37 per kg. In channel II, market cost incurred by traders Rs.13, trader's margin was Rs.19 and cost incurred by wholesalers were Rs.10; wholesaler's margin was Rs.14 and price spread in this channel was Rs.69. In channel III, the cost incurred by fishermen, traders, wholesalers and retailers were Rs.14, Rs.15, Rs.13 and Rs.14 respectively. The margin of

traders, wholesaler and retailer was Rs.23, Rs.21 and Rs.19 per kg respectively. In channel III price spread was Rs.119.

In table 2; shown that an average of market cost was Rs.38 in channels. The market cost in channel I, channel II and channel III was Rs.22, Rs. 36 and Rs.56. The market margin of intermediaries was Rs.15, Rs.33 and Rs.63 in channel I, channel II and channel III respectively while an average of margin of market channels was Rs.37. The average of price spread of channels was Rs.75; where channel I was Rs.37, channel II was Rs.33 and channel III was Rs.63. The average of producer's share in consumer's rupee of all channels was 85.68%, where channel's I was 94.91%, channel's II was 86.68% and channel's III was 75.47%. The overall market efficiency of channels was 8.67; channel's I, channel's and channel III's market efficiency was 12.41, 7.47 and 5.63 respectively.

Table 3 : - shown that preference and and ranking of problems and constraints given by fishermen. The problems and constraints in the study area market were non availability of market, lack of market information on price, high cost of transport, Perishability of fish, distance of market, Inadequate storage of facilities, small number of fish buyers and lack of standardizations and grading facility. In which non availability of local market was ranked top most problem which accounted 57.33% by respondents.

Table 1: - Average composition of market cost, market margin and price spread in channels.

Sr. No.	Market functionaries	Value in rupees per kilogram		
1	**Producers**	**Channel I**	**Channel II**	**Channel III**
i	Gross price received by producer	280	280	280
ii	Market charges	11 (3.73)	13 (4.02)	14 (3.77)
iii	Net price received by producer	269 (91.19)	267 (82.66)	266 (71.70)
2	**Traders**			
i	Market charges	11 (3.73)	13 (4.02)	15 (4.04)
ii	Market margin	15 (5.08)	19 (5.88)	23 (6.20)
iii	Sale price of trader's to consumer/wholesalers/retailers	295	299 (92.57)	304 (81.94)
3	**Wholesalers**			

i	Market charges	----	10 (3.10)	13 (3.50)
ii	Market margin	----	14 (4.33)	21 (5.66)
iii	Sale price of wholesaler's to consumer/ retailers	----	323	338 (91.11)
4	**Retailers**			
i	Market charges	----	----	14 (3.77)
ii	Market margin	----	----	19 (5.21)
5	**Consumer purchase price**	**295**	**323**	**371**

Table 2 : - An average composition market cost, market margin, price spread, producer's share in consumer's rupee and market efficiency channel wise.

Sr. No.	**Particulars**	**Channel I**	**Channel II**	**Channel III**	**Channel average**
1.	Market cost	22	36	56	38
2.	Market margin	15	33	63	37
3.	Price spread	37	69	119	75
4.	Producer's share in consumer's rupee	94.91	86.68	75.47	85.68
5.	Market Efficiency	12.41	7.97	5.63	8.67

Table 3 : - Ranking and percentage of problems and constraints in marketing by respondents

Sr. No.	**Particulars**	**Total score**	**%**	**Rank**
1	Non availability of local market	4800	57.33	I
2	Lack of market information on price	4080	47.03	II
3	Higher cost of transport	3600	30.80	III

4	Perishability of produce	3180	21.65	IV
5	Distance of market	2820	19.92	V
6	Inadequate storage facilities	2460	9.45	VI
7	Small number of fish buyers	1888	3.60	VII
8	Lack of standardization and grading facility	1220	0.67	VIII

Conclusion

An average of market cost of all channels was Rs.38; the highest market cost was incurred in channel III Rs.56 and lowest was in channel I Rs.22. The overall market margin was Rs.37; highest market margin was found in channel III was Rs.63 and lowest in channel I was Rs.15. The price spread in channel I was lowest Rs.37 and highest in channel III Rs.119. An average of producer's share in consumer's rupee was 85.68%, channel I had highest value 94.91and best for fishermen. The overall market efficiency of channels was 8.67. Channel I had highest market efficiency which was 12.41 and best for fishermen in marketing of fish and channel III was worst channel; because more involvement of middlemen in market and lowest producer's share in consumer's rupee.

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