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 of 60 fish farmers, 5 traders, 5 wholesalers, 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 fishe.The market chain from fishermen to consumers passes through a number of intermediaries: local traders, retailers and consumers. The presence of intermediaries or market functionaries leads toreduce the producer's share in consumer's rupee and a 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 is 85.68%. The average of market efficiency of existing channels was 8.67.

Keywords: Marketing cost, margin, efficiency and constraints.

Introduction

Shrimpare crustacean species farmed on commercial scale.Shrimps ~~are~~ have a commercial significance in the fishing industry. Shrimp farming provideslarge-scale employment opportunities and gives foreign exchange to our country. In the fish export of India more than 70% place accountedfor shrimp fish products. The overall export of shrimp during 2021-22 was to be counted as 728123 MT (MPEDA, 2021). India exports most of the shrimp products to the

USA, China, EU and other countries. It is the source of essential fatty acids, vitamins and proteins 18-20%. In the year 2020-2021 inland fish production was 121.21 lac tonnes; Haryana accounted for 2.08 lac tonnes(Handbook on Fisheries & Statistic. Shrimp accounted for more than 70% of fishery products. There is an increased knowledge, attitude and better perception of health, quality and safetyissues related to fish consumption, customers are swiftly switching to online fish markets.

Research Methodology

The present study was conducted in district Rohtak of Haryana state. The purpose of the study was to examine the market aspects; market cost, market margin, price spread, and consumer's share in the producer's rupee. Multi - Stage sampling procedurewas adopted in the selection of districts, blocks, villages, respondents and market functionaries purposively.In 1ststage – the selection of district, 2ndstage – the selection of the block, 3rd stage – the selection of the villages, 4th stage – selection of respondents and 5th stage was a selection of the 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 of 60 farmers from villages*viz*. Anwal, Bahuakbarpur, Kalanaur and Lahliwere selected purposively. For the purpose of examining the marketing aspects of the shrimp market; 5 traders, 5 wholesalers, 5 retailers and 10 consumers were selected purposively.Collected data in aspectsof themarket are summarized, analyzed, and tabulated which helpedto find a result of the study. ~~The descriptive~~ statistics such as mean, standard deviation, frequency and percentages were used to achieve the given objectives. In the statistical tool; tabular analysis was used to find out the marketingaspects. 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 spreadof 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:

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 :-

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

Total Marketing Costis calculated by the below given formula;

C=Cf+ Cm1 + Cm2..... 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.

iiMarket margin :-is the price of all utility, as aprofit earned by market intermediaries.

The marketing Margin of Middlemen is given ~~by~~ below given formula;

Percentage margin of i^{th}middlemen

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

ThepPrice spread is calculated ~~by~~ below given formula.

Ps = Cp- Pf

Where,

Ps = Price spread

Cp =Consumer's price

Pf= Price received by farmer

iv Producer's share in Consumer's Rupee

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

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.

vMarketing 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 systemsin the nearby market of the study area. Marketing is anoperation that involves cost, and margin at different levels of marketing and therefore, the price spread from producer to consumer increases. Anunderstanding of these concepts is necessary to choose the channels for marketing ~~of~~ agricultural products.The movement of products from the producers to the ultimate consumers involvescosts, taxes, and cess which are called marketing costs.These costs vary with the channels through which a particular commodity passes through like - Cost of packing, transport, weighing, loading, unloading, losses and spoilage. The result was based on primary and secondary datacollected related to the markets of the study area. There were three different marketing channels existed 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 a 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 a sale price of fish was Rs.280 per kg. The costs incurred by traders were Rs.11; the trader's margin was Rs. 15 and the price spread in the channel was Rs.37 per kg. In channel II, the market cost incurred by traders

Rs.13, the trader's margin was Rs.19 and the cost incurred by wholesalerswas Rs.10; the wholesaler's margin was Rs.14 and price spread in this channel was Rs.69. In channel III, the cost incurred by fishermen, traders, wholesaler 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; shows that the 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 I was 94.91%, channel II was 86.68% and channel III's 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: - showsthe 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 the local market was ranked the top most problem which accounted 5for 7.33% of 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	19	23

		(5.08)	(5.88)	(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

The average of market cost of all channels was Rs.38; the highest market cost was incurred in channel III Rs.56 and the lowest was in channel I Rs.22. The overall market margin was Rs.37; the 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. The average of producer's share in the consumer's rupee was 85.68%, a channel I had the highest value of 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 forfishermen in the marketing of fish ~~and~~ channel III was the worst channel; becauseof more involvement of middlemen in the market and lowest producer's share in the consumer's rupee.

References

1.**Acharya, S.S. and Agarwal, N.L**. 2014. Agricultural Marketing in India (5thEdn) Oxford & IBH Publishing Co. Pvt. Ltd. New Delhi.

2. Deshmukh, D. R., and C. S. Jawale. "Study of fish markets in Paithan, Dist. Aurangabad, Maharashtra". *Trends in Fisheries Research 3, no. 3 (2014): 5–6*

3.Mopidevi, R., and Devi, S. K. (2015). Primary fish market conditions: An analysis on role ofmiddlemen (Nizampatnam Port- Bay of Bengal). *International Journal of Medical Research andReview*, **5** (3) :151-158.

4. Gawa, S., NaliniRanjan Kumar, NavghanMahida, Vinay MarutiHatte and Vinay, A. 2017. A study on marketing cost, margin, price spread and efficiency of fish marketing in unregulated fish markets in Srinagar, *Jammu and Kashmir. Int. J. Pure App. Biosci*. 5(4), 300-308.

5.Parmar, G., Leua, A. and Vanza, J. 2020. Study on fish marketing channel and consumption pattern for fish in *Navsari. Multilogic in Science*, 8(25): 75-76.

6.Sajeev, M.V., A.K. Mohanty, Suresh, A., Sajesh, V.K. and Rejula, K. (2018) "Drivers andbarriers to fish consumption: A review of emerging factors in the context of online fish marketing in Kerala"