

An analysis of marketing cost, producer's share in consumer's rupee and market efficiency of marketing channel of prawn fish in district Rohtak, Haryana

Abstract

present study was conducted in district Rohtak of Haryana state. In the investigation, 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 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 to reduce the producer's share in consumer's rupee. 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 channel's was Rs,38, Rs.37 and Rs.75 per kg. The average 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, constraints.

Introduction

Prawn or shrimp are crustacean species farmed on commercial scale. Shrimps have a commercial significance in the fishing industry. In the share of fish export of India more than 70% place accounted for shrimp fish products. The overall export of shrimp production during 2021-22 was to be counted as 728123 MT. India transport most of the shrimp products to the USA, China, EU and other countries [7-10]. Prawn fish are important 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 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 safety issues related to fish consumption, customers are swiftly switching to online fish markets.

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 procedure was adopted in the selection of districts, blocks, villages, respondents and market functionaries selected purposively. In first stage – the selection of district, second stage – the selection of the block, third stage – the selection of the villages, fourth stage – selection of respondents and last 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 Lahli were selected purposively. For the purpose of finding the mean of the marketing aspects of the prawn fish market; 5 traders, 5 wholesalers, 5 retailers and 10 consumers were selected purposively. Collected data in aspects of the market are summarized, analyzed, and tabulated which helped to find a result of the study. In the study, marketing efficiency was analyzed through the Shepherd Method (1965). An average of market cost, market margin and price spread of 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:

$$\text{Percent Position} = \frac{100 (R_{ij} - 0.5)}{N_j}$$

Where,

R_{ij} = Rank given to *i*th constraint by *j*th individual,

N_j= Number of constraints ranked by *j*th individuals.

Analytical tools :-

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

Total Marketing Cost is calculated by the below given formula;

$$C = C_f + C_{m1} + C_{m2} + \dots + C_{mi}$$

Where,

C = Total marketing cost.

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

C_{mi} = 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.

The marketing Margin of Middlemen is given below given formula;

Percentage margin of *i*th middlemen

$$PR_i = \frac{P_{pi} + C_{mi}}{PR_i} \times 100$$

Where,

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

P_{pi}= Purchase value of goods per unit (purchase price)

C_{mi}=Cost incurred on marketing per unit

iii. The price Spread:- it is difference between price paid by the consumer and price received by the fishermen.

The price spread is calculated 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

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

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

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 the study area. Marketing is an operation that involves cost, and margin at different levels of marketing and therefore, the price spread from producer to consumer increases. An understanding 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 involves costs, taxes, and cess which are called marketing costs.. The results were based on primary and secondary data collected 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; in channel I, the margin of trader's was Rs. 15 and the price spread in the channel I was Rs.37 per kg. In channel II, the market cost incurred by traders was Rs.13, the trader's margin was Rs.19 and the cost incurred by wholesalers was 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, wholesalers and retailers was Rs.14, Rs.15, Rs.13 and Rs.14 respectively. In channel III the margin of trader's, wholesaler's and retailer's 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: - shows the preference and ranking of problems and constraints given by fishermen. The problems and constraints in the study area were non-availability of local market, lack of market information of price, high cost of transportation, Perishability nature of fish, distance of market, Inadequate storage of facilities, and lack of standardizations and grading facility. In which non-availability of the local market was ranked the top most problem accounted 57.33%.

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

| Sr. No. | Market functionaries | Value in rupees per kilogram | | |
|------------|--|------------------------------|----------------|----------------|
| | | Channel I | Channel II | Channel III |
| 1 | Producers | | | |
| 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

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 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 94.91 and best for fishermen.

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 of middlemen (Nizampatnam Port- Bay of Bengal). *International Journal of Medical Research and Review*, 5 (3) :151-158.
4. **Gawa, S., Nalini Ranjan Kumar, Navghan Mahida, Vinay Maruti Hatte 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 and barriers to fish consumption: A review of emerging factors in the context of online fish marketing in Kerala"