

## A Study on Marketing Cost, Margin, Price Spread and Efficiency of Fish Marketing in Unregulated Fish Markets in Srinagar, Jammu and Kashmir

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### ABSTRACT

*Fish marketing in Srinagar city of Jammu and Kashmir unlike any other city of India is highly unorganised and lack basic infrastructure. There is lack of species diversity in the market and the locally grown high value Trout fish has not made way into the local market and are sold at farm gate price. In this study an attempt was made to understand the marketing problems in Kashmir. It was found that there was only one wholesale market at Chattabal and very few retailers who own proper marketing retail outlets, rest all sell fish on footpath at different locations in the city hence they are categorised as vendor by the author to make the study simple. The wholesale and retail markets are dominated purely by men, while vendors were solely women and all the vendors were illiterate. Analysis of investment in fixed inventories incurred by different market intermediaries found Rs.36600, Rs.18573.33 and Rs.2989 were incurred by wholesaler, retailer and vendor, respectively. Retailer incurred the highest marketing cost of Rs.10.57/Kg followed by wholesaler and vendors with Rs.6.76/Kg and Rs.5.33/kg, respectively. Salary to permanent labour was the largest share for both wholesaler and retailer which accounted 46.12 and 44.28 percent to the total cost, respectively which indicate high cost of human labour in the valley. There exist three marketing channels and the channel- 3 was most efficient with marketing efficiency of 36.06 which was a form of direct marketing. The constraints analysis found that lack of marketing facility and high transportation was the most sever constraints faced by all the intermediaries. In order to reduce the marketing cost marketing intermediaries need to deal in bulk to achieve economies of scale and there is need to establish modern fish market in the valley which does not exit at present.*

**Key words:** Marketing cost, Price spread, Marketing efficiency, Marketing channel.

### INTRODUCTION

Fish marketing is one of the most unorganised and poorly managed marketing systems in the developing countries mainly in Asia and Africa. Fish being a highly perishable item

needs storage infrastructure like cold chain and icing facilities. The fishers and fish trader involved in fish marketing are one of the most economically backward and are devoid of basic amenities<sup>11,13</sup>.

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In order to safeguard the interest of fishers and fish producers and to make available the fish at right time and right place, an effective marketing system must be introduced<sup>5</sup>. To protect fish producers from exploitation, group marketing, cooperative marketing, contract marketing etc. can play a vital role and will also lead to improve marketing efficiency and profit margin<sup>2, 6</sup>. In India too fish marketing is mainly dominated by informal sector and around 14 million people involved in fish and fishery related activities<sup>4</sup> and contributes to the livelihood of people who are economically underprivileged section of the society<sup>3</sup>. Lack of infrastructure is one of the bottlenecks in the efficient marketing of fish in Indian states<sup>9, 16</sup>. The fish consumption has depicted an increasing trend; during the period 1983-2000, it increased from 6.97 kg/year/ capita to 9.12 kg/capita in the rural areas and from 8.01 kg/year/capita to 11.05 kg/capita in the urban areas<sup>15</sup>. To make the fish available at cheaper price to the common people in future, there is need of higher growth in the fish supply in species which are used in domestic market<sup>4</sup>.

In Kashmir Valley, majority of the people are non-vegetarian and fish is highly relished in the valley. In Srinagar city itself about 60 percent of the population are fish consumers<sup>12</sup>. Just like other parts of the India, fish marketing in the valley is highly unorganised, unregulated and lack basic infrastructure facilities. Though there are local species like schizothoraxs popularly known as snow trout, the fish markets are mainly dominated by fish species like IMC, exotic carp like common carp, silver carp and catfish like Pangus which are mainly brought in the valley from different parts of the country like Punjab, Delhi, Andhra Pradesh and West Bengal via Jammu. Local fish species are mainly caught from Dal lake, Wular lake, Manasbal Lake and Jhelum river<sup>12</sup>. The fishing community which is mainly involved in the fishing activities in the valley are called *hanjiis* and they also involve in fish marketing. Though trout species like rainbow trout and brown trout are also found in the valley out of which rainbow trout is cultured and sold at

farm gate price due to its high demand whereas brown trout is mainly used for sports fisheries and are not available in the local markets<sup>7, 8</sup>. Chhatabal fish market is the only whole sale market in entire Kashmir valley which received fishes from different parts of country and from there it is distributed to the whole valley. There are number of fish markets in the city of Srinagar namely, Amira Kadal, Maharaj Bazar, Jamia Masjid, Hazrabal, Dal gate, Khaniyar and Nawabazar etc.<sup>12</sup>. These fish markets are all informal markets and there is no modern marketing system available in the Kashmir valley. At present one modern wholesale market is under construction with the estimated cost of 3.02 crore at Nehwal in Jammu province under NFDB scheme and another is proposed in Srinagar city. For hygienic fish retailing the department has purchased two refrigerated vans for transportation of the harvested fish stock up to the consumers in hygienic condition, keeping intact its nutritional values. Under “ National Mission for protein supplement several retail outlet are constructed at government farms at Basholi in Kathua (Jammu Province), Bandipora, Muradpur in Rajouri and Kokernag of Anantnag district and two are proposed at Budgam and Ashapra in Anantnag<sup>10</sup> except these developments there is no any scheme related to fish marketing in the state. So, in order to proposed an appropriate marketing scheme it is utmost necessary to understand the present prevailing fish marketing scenario. Hence, the present study is an attempt to understand the marketing system of fish in Kashmir and suggest suitable measures to improve it.

## MATERIALS AND METHODS

Srinagar is capital city of the state of Jammu and Kashmir and it covers an area of 294 km<sup>2</sup>. There are numerous places in the city where fishes are sold without any proper infrastructure, which are actually footpath besides road. So these places technically couldn't be called as fish retail markets. Hence, I have designated them as vendor since these fish sellers only sell fishes at places

which are not designated for fish selling by any authority but are just being followed as an age old tradition. A total of 30 such fish sellers/vendors were randomly selected for the study and interviewed with help of structured schedules specially designed for the study. The fish sellers who own proper place or shop has been categorized as retailers but are very scarce. With great difficulty 6 of such fish sellers could be contacted and interviewed. Since, there was only one wholesale market in the valley which house only three fish wholesalers out of which two were interviewed for the study. The study was carried out during the period of 2014-15. The collected data was analysed using methodology developed by Acharya and Agarwal (2002) after making it suitable for the present study

#### Marketing cost

$$C = CF + Cm1 + Cm2 + \dots + Cmm$$

Where,

C = Total cost of marketing

CF = Cost borne by the farmer in marketing of his produce

Cm1 to Cmm = Costs borne by different middlemen in the process of marketing of trout

#### Marketing Margin

$$\text{Marketing margin} = Pr - (Pp + Cm)$$

Where,

Pr = Total value of receipts (sale price)

Pp = Total purchase value of goods (purchase price)

Cm = Cost incurred in marketing

#### Modified Marketing Efficiency:

$$ME = FP / (MC + MM)$$

Where,

ME is Modified marketing efficiency

FP is price received by farmers

MC is marketing cost

MM is marketing margin

#### Constraints analysis

Rank Based Quotient (RBQ) was estimated to quantify the severity of the constraints in trout production and marketing as given by Sabarathnam and Vennilla<sup>14</sup>.

$$R.B.Q = \frac{\sum f_i (n+1-i)}{N \times n} \times 100$$

Where,

$f_i$  = Number of respondents reporting a particular problem under  $i^{\text{th}}$  rank

N = Sample size

n = Number of rank or number of problems identified

## RESULTS AND DISCUSSION

The study observed that all the fish vendors were women whereas both the fish retailers and fish wholesalers were men. All the vendors were female mainly due to division of labour among Hanjjis clan, where males indulge in fishing operations and female do marketing part. The educational status of the sample population was studied and results were presented in the table 1.

**Table 1: Educational qualification of the sample respondents**

Category	Wholesaler	Retailer	Vendors
Illiterate	0	4 (66.67)	30 (100)
Primary	0	2 (33.33)	0
Graduate	2 (100)	0	0

*\*The figures in the parenthesis indicate their percentage to total*

The results revealed that all vendors were illiterates and were not having any formal education, while 66.67 percent of the retailers were illiterate and 33.33 percent were having primary education and in the case of wholesaler both of them were educated up to graduate level.

#### Fish species handled by marketing intermediaries

The fish species handled by different marketing intermediaries were analysed and presented in the table 2.

**Table 2: Fish species handled by marketing intermediaries**

Species	Wholesaler	Retailer	Vendors
Common carp	2 (100)	6 (100)	30 (100)
Silver carp	0 (0)	0 (0)	6 (20)
Rohu	2 (100)	6 (100)	14 (46.67)
Schizothorax	2 (100)	6 (100)	18 (60)
Pangus	2 (100)	6 (100)	4 (13.33)
Others	0 (0)	2 (33.33)	2 (6.67)

\* The figures in the parenthesis indicate their percentage to total

It was observed that there were very limited varieties of fishes in the market namely common carp, Silver carp, Rohu, Schizothorax, Pangus and other local fishes caught from water bodies like Dal lake, Wular lake and Jhelum River. Both the wholesalers mainly dealt in fish varieties like Common carp, Rohu, Pangus and Schizothorax. While in the case of retailers, all of them were dealing in fishes like Common carp, Rohu, Schizothorax and Pangus but two were dealing in other locally available fish species. Whereas in case of the vendors the scenario was bit different not all of them dealt in all the fishes that were available in the market, except common carp. Number of vendors dealing in the species like Silver carp, Rohu, Schizothorax, Pangus and other fishes were 6,

14, 18, 4 and 2 percent, respectively. Hence, the study concludes that wholesalers were dealing in only few fish species which were imported from outside in bulk which are dominated by Rohu and Pangus. The other fish species dealt by them were Common carp and Schizothorax that were locally available. Almost similar scenario can be seen in the case of retailers but vendors dealt in one or two species only, and it was observed that every vendor was dealing with different fish species in the market.

#### **Investment pattern by market intermediaries**

The investment pattern in fixed inventories by different market intermediaries was estimated and presented the table 3.

**Table 3: Investment pattern in fixed inventories by market intermediaries**

Particulars	Wholesaler	Retailer	Vendor
Deep freezer	25000 (68.31)	0 (0)	0 (0)
Crates	2100 (5.74)	0 (0)	0 (0)
Table	1700 (4.64)	8333.33 (44.87)	0 (0)
Chair	700 (1.91)	300 (1.62)	0 (0)
Tubs	0 (0)	5083.33 (27.37)	1683.3 (56.32)
Knife	0 (0)	956.67 (5.15)	221.0 (7.39)
Weighing balance	5000 (13.66)	2333.33 (12.56)	940.0 (31.45)
Bucket	0 (0)	0 (0)	144.7 (4.84)
Mobile	1500 (4.10)	1566.67 (8.44)	0 (0)
Others	600 (1.64)	0 (0)	0 (0)
Total	36600 (100)	18573.33 (100)	2989 (100)

\* The figures in the parenthesis indicate their percentage to total

The result showed that wholesalers possessed the highest number of fixed inventories with the total investment of Rs.36600 followed by retailers and vendors with investment of Rs.18573 and Rs.2989, respectively. Deep

freezer and weighing balance was the major investment in case of wholesaler which accounts 68.31 and 13.66 percent to the total investment, respectively. Other investments were on crates (5.74%), table (4.64%), mobile

(4.10%), chair (1.91%) and others (1.64%). The major investment for retailer was for the procurement of table and tubs which accounts for 44.87 and 27.37 percent to the total investment. Other investments incurred by retailers were for weighing balance (12.56%), mobile (8.44%), knife (5.15%) and chair (1.62%). The major investment by vendors was for procurement of tubs and weighing balance which accounted for about 56.32 and 31.45 per cent to the total investment,

respectively. Other investments by vendors were on knife and bucket with 7.39 and 4.84 per cent to the total investments, respectively. No intermediaries were owning any infrastructure facility and all have rented hence it was not included in the investment study.

#### **Marketing cost incurred by the marketing intermediaries**

The marketing cost incurred by marketing intermediaries was analysed and presented in the table 4

**Table 4: Marketing cost incurred by marketing intermediaries (Rs./Kg)**

Particulars	Wholesalers	Retailers	Vendors
Rent for shop/office	0.015 (0.22)	0.05 (0.47)	
Packaging	1.17 (17.30)	0.25 (2.37)	---
Icing	0.91 (13.45)	0.6 (5.68)	---
Transportation	0.65 (9.61)	3 (28.38)	3.93 (73.75)
Electricity	0.25 (9.61)	0.22 (2.08)	---
Loading/Unloading	0.26 (3.84)	0.65 (6.15)	1.40 (26.25)
Salary	3.12 (46.12)	4.68 (44.28)	---
Others	0.39 (5.77)	1.12 (10.60)	----
Total Cost	6.76 (100)	10.57 (100)	5.33 (100)

*\* The figures in the parenthesis indicate their percentage to total*

The results showed that retailers incurred the highest marketing cost of Rs.10.57/kg followed by wholesalers (Rs.6.76/kg) and vendors (Rs.5.33/Kg). Upon component wise analysis it was found that retailers incurred major chunk of cost in paying salary to the permanent labour followed by transportation cost which accounts for 44.28 and 28.38 percent of the total marketing cost respectively. Other costs incurred were loading/unloading (6.15%), icing (5.68%), packaging (2.37%), electricity (2.08%), rent for shop (0.47%) and others (10.60%). The major cost incurred by wholesaler was payment of salary to the permanent labour followed by packaging accounting for about 46.12 and 17.30 percent of total marketing cost respectively. Other costs incurred by wholesalers involve icing (13.45%), transportation (9.61%), loading/unloading (3.84%), electricity (3.61%) and others

(5.77%). In the case of vendors, it was found that only two marketing costs were involved i.e. transportation and loading/unloading accounting for 73.75 and 26.25 percent to the total cost. This analysis shows that for both wholesaler and retailer payment of salary to permanent labour was major marketing cost while in case of vendor it was transportation.

#### **Fish Marketing channel in Kashmir and Volume handled by each channel**

Since the major chunk of fish is imported into the valley from different states like Punjab, Delhi, West Bengal and Andhra Pradesh etc. which is received at Chattabal Wholesale market, the only existing wholesale market in the entire Kashmir region. The present study only analysis the marketing of fish within the valley starting from Chattalbal wholesale market and doesn't study the channels through which is received in the valley.

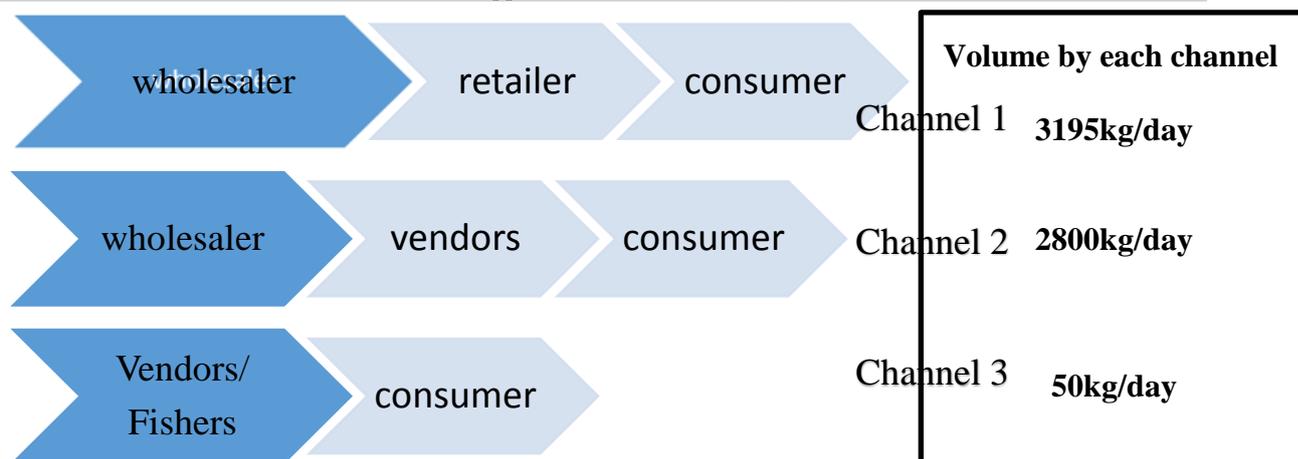


Fig. 1: Fish Marketing channel in Kashmir

The marketing channel of fish in Kashmir was analysed and presented in figure: 1. Mainly three marketing channels were present in the Kashmir valley. The channel 1 consisted of wholesaler, retailer and consumer, channel 2 consisted of wholesaler, vendor and consumer and channel 3 consisted of vendor and consumer respectively. Here it is important to note that vendors are from the fisherman community known as hanjjis and they also involved in fish marketing, hence this forms the third channel. This shows that channel 1 and 2 were of same length which include two intermediaries while channel 3 was shortest and it was direct marketing. The volume handled by each channel has been estimated and it was found that channel 1 handled the maximum quantity of 3195kg/day, where channel 2 handles 2800kg/day and while channel 3 handles 50kg/day. Qureshi and Krishnan, (2015) reports that a total quantity

of 5000kg/day of fish is received at the chatabal fish wholesale market, which is found to be only wholesale market in the valley. As fish is a highly perishable item and its availability doesn't remain constant. Hence the present study found lesser quantity of fish handled by different channels than as reported by Qureshi and Krishnan (2015). There are numerous reasons by road connectivity, fish availability, political instability in the valley but the most important reason which the author concludes was due to flood which hit the valley in year 2014 has been the main reason in drop of fish quantity handled.

#### Price spread, marketing margin and marketing efficiency of different channels

The price spread, marketing margin and marketing efficiencies for the three channels was estimated separately and presented in table 5.

Table 5: Price spread, marketing margin and marketing efficiency (Rs/kg)

Particulars	Channel 1	Channel 2	Channel 3
Price paid by wholesaler	115.45	115.45	---
Price received by wholesaler	146.38	146.38	---
Cost incurred by wholesaler	6.74	6.74	---
Margin	24.19	24.19	---
Price paid by retailer	146.38	---	---
Price received by retailer	166.54	---	---
Cost incurred by retailer	10.52	---	---
Margin	9.64	---	---
Price paid by vendor	---	146.38	---
Price received by vendor/fisher	---	185.36	192.22
Cost incurred by vendor	---	5.33	5.33
Margin	---	33.65	186.89
Price spread	51.09	69.91	0
Marketing efficiency	2.87	2.09	36.06

The study showed that marketing channel 3 was the most efficient followed by channel 1 with marketing efficiencies of 36.06 and 2.87, respectively, while channel 2 was the least efficient among the three channels. The channel 3 was most efficient due to the fact that it was direct marketing with marketing margin of Rs.186.89/Kg and Rs.5.33/kg as marketing cost and zero price spread. While channel 1 was the second most efficient marketing channel with price spread of Rs.51.09/kg. The channel 2 was the least efficient marketing channel has a price spread of Rs.69.91/kg. Hence, it can be concluded

that there is no physical value addition except for the service provide by the intermediaries. Hence there is need to focus on value addition to increase the marketing efficiency of the channels.

#### **Common Constraints faced by different market intermediaries**

Market intermediaries faced a number of constraints at different level of operations. Attempt was made to identify the major constraints faced by the market intermediaries and ranked them according to the severity using RBQ techniques and presented in table 6.

**Table 6: Major constraints faced in fish marketing**

Constraints	RBQ Score	Rank
Storage problem	75.93	III
Lack of marketing facility	96.43	I
High transportation cost	95.36	II
Unavailability of ice	88.93	IV
Packaging	67.86	V

The common constraints faced by market intermediaries in Kashmir valley were storage problem, lack of marketing facility, high transportation cost, unavailability of ice and packaging. Out these 5 commonly identified constraints, lack of marketing facility got rank I with RBQ score of 96.43. This is quite obvious since there was no proper marketing facility in the whole valley. Though, the government has allotted land for construction of fish market in the city of Srinagar but yet the work has to start. There is urgent need to develop a modern fish market so that fish sellers and buyer can have a proper place which will also improve the hygiene and attract more consumers that will help in realizing higher value for the fish. The second most important constraint was high transportation cost with RBQ score of 95.36. Most of the fishes in Kashmir valley are imported and hence result in high transportation cost for wholesalers. Also, transporting fish from one place to another in the valley cost considerable amount. Unavailability of ice was also one of the big problem during summer season and it was ranked third most sever constraints with RBQ score of 88.93. There is need to establish ice

plant especially in the Srinagar city from where fish is distributed to the whole valley. Other two problems with fourth and fifth rank were storage and packaging with RBQ score of 75.93 and 67.86, respectively.

#### **Suggestions for improving of fish marketing**

There is an urgent need to develop the proposed wholesale market in Srinagar city for regulated operation of fish sale in the Kashmir valley. There is also need to establish fish retail market in the city since at present there is no designated retail market in the valley.

There is need to strengthen the on-going scheme like National Mission for Protein supplement, RKVY scheme to encourage youth to take up fish culture to reduce the dependency of fish supply from outside the state. This will also help in reducing the transportation cost for the intermediaries which are the major cost component in marketing of fish.

There is need to increase the production of trout in the valley to make it available in the local market which is not present and it will also help to increase the species diversity in the market.

In order to reduce the cost per unit there is need to scale the operation by the

intermediaries, as at present they deal in small quantities which result in high marketing cost. Storage and ice unavailability were found to be among the major constraints, so there is need to establish ice plant and cold chains to increase the shelf life of the fish.

At present there is no fish marketing schemes or regulation except for licensing for operating of fishing activity in the state. Hence there is need to introduce schemes and regulation to improve fish marketing in the state.

### CONCLUSION

The study revealed that retail and wholesale market were solely carried out by males while vendors were all females. There is need to spread awareness of education among vendor since all the respondent vendors were illiterate. There was very limited variety of fish available in the markets which were mainly Rohu, Common carp, Silver carp, Pangus and Schizothorax. Investment pattern in fixed inventories were Rs.36600, Rs.18573.33 and Rs.2989 for wholesaler, retailer and vendors, respectively. Fish retailers incurred highest marketing cost of Rs.10.57/Kg followed by wholesalers and vendors with Rs.6.76/Kg and Rs.5.33/Kg, respectively. There were three marketing channels prevalent in the valley out of which Channel 3 was the most efficient with marketing efficiency of 36.06. There is need to establish proper marketing facility in the valley and promote fish production in the valley such as trout and carp that has already started as initiative from the fisheries department of the state to meet the growing demand of fish and to reduce the dependency on imported fish which will help in reducing the transportation cost. There is urgent need to introduce fish marketing schemes and regulation to improve fish marketing in the valley.

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