Analysis on Marketing of Inland Fish (Catla catla)

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ABSTRACT
The study is an analysis of price spread, producer’s share in consumer’s rupee and marketing efficiency of Catla catla in West Godavari district of Andhra Pradesh. A multistage sampling technique was employed to select the market functionaries from whom information were collected using structural questionnaires from the different marketing channels. This study reveals the total marketing cost and marketing margins of the market intermediaries involved in various stages. Then the collected data has been tabulated and analyzed with the help of statistical tools.

Keywords: Catla catla, Price spread, Producer’s share, Marketing efficiency.

INTRODUCTION
Catla catla has been one of the most produced fish across the country which is grown extensively alongside Rohu, Silver carp and other native fishes. Consumption of fish might be low in India compare to FAO reports that is 20.4 kg per capita in India it is recorded up to 6.6 kg per capita. Setting this aside India is one of the leading exporters of fish production in India registered massive growth in the past six decades with 13.7 million metric tons in 2018 - 2019. Inidia stands third in fisheries and second in aquaculture industry across the world. India aims to grab and sustain the proportionate share in global market as it contributes 6.3 % of global fish related production.

MATERIALS AND METHODS
This study has been conducted in Eluru block of West Godavari located in between latitude 16.9174⁰ North, 81.33990 East. West Godavari District is well developed in Fisheries with Resources of Fishery wealth in Marine, Brackish Water, Reservoir and Inland Fisheries. It is in fact the aqua hub of Andhra Pradesh. Blue Revolution is well expressed in this district through a multi-pronged approach which includes the introduction of fast-growing, high-yielding species Multi stage random sampling was used for the study to select the respondents, 98 respondents has been selected from four different villages randomly based on the population of the villages.

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RESULTS AND DISCUSSION

Table 1: Marketing Cost, Marketing Margin and Price Spread in different Size of Farm Groups (Rs/qtls)

| Channel 1 | Producer → Consumer |
|-----------|---------------------|
| Sno       | Particulars         | catla catla |
|           | Sale price of producer | 12168       |
|           | Cost incurred by producer |
|           | Packing cost         | 105         |
|           | Weighing cost        | 86          |
|           | Miscellaneous        | 96          |
|           | Total cost           | 287         |
|           | Net price received by producer | 12112 |
|           | Consumer paid price  | 12168       |
|           | Marketing efficiency | 42.39       |

The above table reveals the marketing channel 1, in which there are no intermediaries involved. It shows total marketing cost incurred for a producer which involves packing, weighing of the fish which is Rs 287/quintal in fingerling size and marketing efficiency recorded 42.39 in a fingerling size of catla catla respectively.

Table 2: Marketing Cost, Marketing Margin and Price Spread in different Size of Farm Groups (Rs/qtls)

| Channel 2 | Producer → Auctioneer → Wholesaler → Retailer → Consumer |
|-----------|---------------------------------------------------------|
| Sno       | Particulars | Rs/qtls |
| 1         | Sale price of producer | 12362  |
|           | auctioneer commission | 250    |
|           | total marketing cost  | 250    |
|           | producers selling price | 12362 |
|           | net price received by producer | 12112 |
| 2         | Cost incurred by wholesaler |
|           | Wholesalers buying price | 12232 |
|           | Auctioneers commission | 250    |
|           | Transportation | 80     |
|           | Wages/loading &unloading) | 73    |
|           | market tolls | 35     |
|           | Miscellaneous | 56     |
|           | Wholesaler’s marketing cost | 494   |
|           | Wholesaler’s marketing margin | 150   |
|           | Wholesaler’s selling price | 12876 |
| 3         | Cost incurred by retailer |
|           | Retailers paid price | 12876 |
|           | Wages/loading &unloading) | 70    |
|           | marketing tolls | 38     |
|           | Miscellaneous | 51     |
|           | storing and icing | 60     |
|           | Containers | 73     |
|           | Transportation | 61     |
|           | Cleaning | 50     |
|           | Retailer’s marketing cost | 403   |
|           | Retailer’s marketing margin | 233   |
|           | Retailer’s selling price | 13512 |
| 4         | total marketing cost | 1147   |
| 5         | Total marketing margin | 383    |
| 6         | Consumer’s paid price | 13512 |
| 7         | Price spread | 1530   |
| 8         | Marketing efficiency | 8.83   |
Above table reveals the marketing cost, price spread and marketing margin of channel 2, three intermediaries were identified in this marketing channel. Producer sells his produce to wholesaler through auctioneer. Producer finds targeted wholesalers and auctions the produce to wholesaler and in turn sells it to the retailers in the market. Finally the produce reaches customer after collecting commissions. Marketing cost when producers sold the produce is Rs.250/quintal which is auctioneers commission. The purchased produce is transported in containers and supplied to retailers by wholesaler at various levels which costs about an average of Rs. 494/qtls in fingerling, after adding margin to it i.e. Rs 150/quintal .similarly retailers marketing cost and marketing margin i.e.Rs.403/quintal and Rs.233/quintal respectively. In total the average total marketing cost from the collected samples 1147/quintal, marketing margin is recorded as Rs.383/quintal. Price spread is recorded as Rs.1530/quintal. Marketing efficiency is calculated at 8.83.

Table 3: Marketing Cost, Marketing Margin and Price Spread in different Size of Farm Groups (Rs/qtls)

| S.no | Particular | Cost per quintal |
|------|------------|------------------|
| 1    | Sale price of producer | 12362 |
|      | auctioneer commission | 250 |
|      | total marketing cost | 250 |
|      | producers selling price | 12362 |
|      | net price received by producer | 12112 |
| 2    | Cost incurred by trader | |
|      | Traders buying price | 12362 |
|      | auctioneer’s commission | 250 |
|      | Transportation | 110 |
|      | wages (loading & unloading) | 31 |
|      | market tolls | 39 |
|      | Miscellaneous | 71 |
|      | Containers | 54 |
|      | total marketing cost of trader | 555 |
|      | marketing margin of trader | 312 |
|      | Traders selling price | 13229 |
| 3    | Cost incurred by wholesaler | |
|      | Wholesalers buying price | 13229 |
|      | Transportation | 80 |
|      | wages (loading & unloading) | 73 |
|      | market tolls | 35 |
|      | Miscellaneous | 60 |
|      | wholesalers marketing cost | 248 |
|      | wholesalers marketing margin | 150 |
| 4    | Wholesalers selling price | 13627 |
| 5    | Cost incurred by retailer | |
|      | Retailers buying price | 13627 |
|      | warest (loading & unloading) | 70 |
|      | marketing tolls | 38 |
|      | Miscellaneous | 51 |
|      | storing and icing | 40 |
|      | Containers | 45 |
|      | Transportation | 41 |
|      | Cleaning | 50 |
|      | retailers marketing cost | 335 |
|      | retailers margin | 152 |
| 6    | Retailers selling price | 14114 |
| 7    | Customers buying price | 14114 |
|      | total marketing cost | 1388 |
|      | total marketing margin | 614 |
|      | price spread | 2002 |
|      | Marketing efficiency | 6.84 |
Above table reveals the marketing cost, price spread and marketing margin of channel 3, four intermediaries were identified in this marketing channel. Producer sells his produce to trader through auctioneer. Producer finds targeted traders and auctions the produce to traders and in turn sells it to the traders in the market. The traders buy the produce from farmer and transports to various markets to distribute among wholesalers adding his marketing cost and marketing margin i.e. 555/quintal and 312/quintal. Then wholesalers distribute the produce to local retailers with certain margin. Finally the produce reaches customer after collecting commissions. Marketing cost when producers sold the produce is Rs.250/quintal which is auctioneers commission. The purchased produce is transported in containers and supplied to retailers by wholesalers at various levels which costs about an average of Rs.248/quintal, after adding margin to it i.e. Rs 150/quintal. similarly retailers marketing cost and marketing margin i.e. Rs. 335/quintal and Rs.152/quintal. In total the average total marketing cost from the collected samples are 1388 fingerling, marketing margin is recorded as Rs.614/quintal. Price spread is recorded as Rs.2002/quintal. Marketing efficiency is calculated at 6.84.

Table 4: Comparison of total marketing cost, total marketing margin, price spread, producer’s share in consumer rupee (%) and marketing efficiency in three different channels (fingerling) (Rs/qtls).

| S.no | Particulars                              | Channel-I | Channel-II | Channel-III |
|------|------------------------------------------|-----------|------------|-------------|
| 1    | Total marketing cost                     | 287       | 1147       | 1388        |
| 2    | Total marketing margin                   | 0         | 383        | 614         |
| 3    | Price spread                             | 287       | 1530       | 2002        |
| 4    | Producer share in consumer rupee (%)     | 97.68     | 89.63      | 85.81       |
| 5    | Marketing efficiency                     | 43.2      | 8.83       | 6.84        |

Table 4 reveal that total marketing cost in channel-I was Rs.287/quintal, price spread Rs.287/quintal, producer share in consumer rupee 97.68, marketing efficiency 43.2 percentage and there is no total marketing margin respectively.

The total marketing cost in channel-II was Rs.1147/quintal, total marketing margin Rs.383/quintal; price spread Rs.1530/quintal, producer share in consumer rupee 89.63 percent and marketing efficiency 8.83 percentage.

The total marketing cost in channel-III was Rs.1388/quintal, followed by total marketing margin Rs.614/quintal, price spread Rs.2002/quintal, producer share in consumer rupee 88.36 and marketing efficiency 6.84 percentage.

Produce share in consumers rupee is recorded highest in channel I with 97.68 percent, followed by channel II with 90.97 percent and channel III with 88.36 percent as there are more market intermediaries involved in channel II and channel III.

Table 5: ANOVAs for Comparison of total marketing cost, total marketing margin, price spread, producer’s share in consumer’s rupee (%) and marketing efficiency in three different channels.

| ANOVA                | Source of Variation | SS       | df  | MS        | F            | F crit        | result | sed | cd  |
|----------------------|---------------------|----------|-----|-----------|---------------|---------------|--------|-----|-----|
| Rows                 |                     | 2461054.232 | 3   | 820351.406 | 5.839325421   | 4.757062664   | s      | 265 | 648.431 |
| Columns              |                     | 1485813.408 | 2   | 742906.7041| 5.288067951   | 5.14325285    | s      | 306 | 748.755 |
| Error                |                     | 842924.158 | 6   | 140487.3597|               |               |        |     |     |
| Total                |                     | 4789791.798 | 11  |           |               |               |        |     |     |

In the above ANOVA table, due to size group degrees of freedom is 2, sum of squares is 1485813, mean sum of squares is 742906, F. Calculated value is 5.28, F. tabulated value @
5% is 5.14, result is not significant, standard deviation is 306 and critical difference is @ 5% is 748.755. In due to particulars, degrees of freedom is 3, sum of squares is 2461054, mean sum of squares is 820351, F. Calculated value 5.83, F. tabulated value @ 5% is 4.75, result is significant, standard deviation is 265 and critical difference is 648.4316. In error, degree of freedom is 6, sum of squares is 842924 and mean sum of squares is 140487.35.

**CONCLUSION**
The present study reveals that the large farmers practicing fisheries tend to gain more profit when compared to medium and small farmers. There are about four middle men involved in the process of marketing of inland fish (*Catla catla*) i.e. Auctioneer, Trader, Wholesaler, Retailer. The study reveals three existing marketing channel i.e. channel I (Producer to Consumer), channel II (Producer - Auctioneer - Wholesaler - Retailer - Consumer), channel III (Producer - Auctioneer – Trader - Wholesaler – Retailer - Consumer). The producer’s share in consumer’s rupee happens to higher in channel I followed by channel II and channel III because of no market intermediaries present in the particular channel.

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