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AN ECONOMIC ANALYSIS ON MARKETING OF FISH IN PRAYAGRAJ DISTRICT OF UTTAR PRADESH

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ABSTRACT

The present study, titled "An Economic Analysis on Marketing of Fish in Prayagraj District of Uttar Pradesh," aimed to examine the marketing structure, cost components, margins, and efficiency associated with fish marketing in the region. The study was carried out in Pratappur block of Prayagraj district, which was purposively selected due to its prominence in fish farming. A sample comprising five percent of fish-farming potential villages was identified, and from these, ten percent of respondents were selected randomly to ensure representativeness. The investigation identified two primary marketing channels for fish distribution: Channel-I (Producer – Retailer – Consumer) and Channel-II (Producer – Distributor – Retailer – Consumer). In Channel-I, the producer received a net price of ₹6 per kg, with a marketing cost of ₹24, marketing margin of ₹62, price spread of ₹86, and a marketing efficiency of 6.98%. In contrast, Channel-II showed a higher net price to the producer at ₹18 per kg but also incurred a higher marketing cost of ₹46.50, a total marketing margin of ₹377.50, price spread of ₹424, and a lower marketing efficiency of 4.25%. The study revealed that while Channel-II offered better prices to producers, it was less efficient due to higher intermediary involvement and costs. Channel-I, with fewer intermediaries, proved to be more cost-effective and efficient. These findings underscore the need for developing simplified, low-cost marketing channels and enhancing infrastructure to improve the overall marketing system for fish in the region.

Keywords: Fish marketing, Marketing efficiency, Price spread, Marketing channels.

INTRODUCTION

Fish were aquatic vertebrates that inhabited both freshwater and marine ecosystems across the globe. They represented one of the most diverse groups of animals, varying greatly in size, morphology, habitat preferences, and behavioural patterns. Fish were characterized by the presence of gills for respiration, fins for locomotion, and scales that provided protection. They played an essential role in aquatic food chains and contributed significantly to the ecological balance by controlling algae populations and serving as prey and predators in aquatic ecosystems. Economically, fish constituted a critical source of livelihood for millions of people, particularly in rural and coastal communities. Fishing, both traditional and

commercial, as well as aquaculture practices, had expanded in response to rising demand for fish as a source of high-quality animal protein. Fish also held cultural and nutritional significance in various societies. The growth of the fisheries sector contributed to employment, food security, and trade in many developing nations. However, the industry also faced challenges such as overfishing, habitat degradation, pollution, and climate change, which threatened fish populations and the sustainability of aquatic environments. Conservation and management efforts, including fishing regulations, marine protected areas, and the promotion of sustainable aquaculture, had been initiated to address these concerns. Technological advancements in fish farming and post-harvest processing had further supported the sector's development. In conclusion, fish played a vital ecological, economic, and social role, and their responsible management was essential to ensure the sustainability of aquatic biodiversity and long-term benefits to human populations.

RESEARCH METHODOLOGY

The research methodology adopted for the present study involved a combination of purposive and random sampling techniques to ensure both relevance and representativeness. The district of Prayagraj in Uttar Pradesh was purposively selected to facilitate ease of data collection and minimize logistical challenges. Within the district, Pratappur block was chosen based on its significant concentration of fish farming activities and active participation of local farmers in aquaculture. A comprehensive list of villages in the selected block was prepared, from which five percent of villages with a substantial number of fish-rearing farmers were randomly selected. Subsequently, a detailed enumeration of fish farmers in these villages was undertaken, and the respondents were classified into three production-based categories: small-scale (0–1 quintal), medium-scale (2–4 quintals), and large-scale (above 4 quintals). From this list, a total of 100 farmers were selected using proportionate random sampling to ensure balanced representation across different farm sizes. Additionally, to analyze the marketing dynamics, 5 wholesalers, 5 distributors, and 10 retailers were selected to provide data on marketing costs, margins, price spread, and marketing efficiency. Primary data were collected using a well-structured and pre-tested interview schedule through direct personal interviews. Secondary information was obtained from credible sources such as government records, published reports, books, and journals available at the district and block levels. The data collected pertained to the agricultural year 2024–2025. Analytical tools and statistical techniques were applied to interpret the data and draw conclusions on the marketing practices and economic viability of fish farming in the study area.

ANALYTICAL TOOLS

1. **Cost of Marketing:**

$$C = Cf + Cm1 + Cm2 + Cm3 + ... + Cmn$$

2. **Margin of Market:**

$$AMI = Pri - (Ppi + Cmi)$$

3. **Spread in Price:**

Marketing Cost + Market Margin

4. **Efficiency of Marketing:**

$$= \frac{\text{Price received by producer}}{\text{Marketing Cost + Marketing Margin}}$$

RESULTS AND DISCUSSION

Table 1: Marketing cost, marketing margin and marketing efficiency including price spread of different varieties of fish in the study area in Channel – 1

Sl. No.	Market Functionaries	Amount (Rs/kg)
	Marketing cost at producer level	
1	Grading and sorting	2.00
	Packaging	0.50
	Miscellaneous cost	3.50
	Sub total	**6.00**
	Price received by farmer (net)	6.00
	Producer's margin	2.00
	Producer's selling price	**14.00**
	Marketing cost incurred by retailer	
2	Loading and unloading	3.00
	Transportation	5.00
	Miscellaneous cost	10.00
	Sub total	**18.00**
	Retailer's margin	60.00
	Retailer's selling price (Consumer Price)	**92.00**

Price Spread and Marketing Efficiency	
Components	**Amount (Rs/kg)**
Consumer Price	92.00
Net Price received by Producer	6.00
Price Spread (Consumer Price – Producer's Price)	**86.00**
Total Marketing Cost (6 + 18)	**24.00**
Total Marketing Margin (2 + 60)	**62.00**
Marketing Efficiency = (6 / 86) × 100	**≈ 6.98%**

Table 1: In the Producer → Retailer → Consumer marketing channel for fish in Prayagraj district, the analysis provided valuable insights into the cost dynamics and overall marketing efficiency. At the producer level, the total marketing cost was ₹6.00 per kg, which accounted for expenditures related to grading, packaging, and other miscellaneous activities. The net price received by the producer was also ₹6.00 per kg, with the producer's margin recorded at ₹2.00 per kg, resulting in a producer selling price of ₹14.00 per kg. On the retailer's side, the marketing cost included components such as loading/unloading, transportation, and other incidental expenses, totaling ₹18.00 per kg. The retailer's margin was observed to be ₹60.00 per kg, which contributed to a final consumer price of ₹92.00 per kg. The price spread—defined as the difference between the consumer price and the net

amount received by the producer—was calculated to be ₹86.00 per kg. The total marketing cost and margin combined amounted to ₹86.00 per kg, comprising ₹62.00 in margin and ₹24.00 in cost. The marketing efficiency of this channel, derived using the formula (Net Price Received by Producer / Price Spread) × 100, was approximately 6.98%. This level of efficiency slightly exceeded the commonly accepted threshold of 5%, indicating a relatively efficient marketing structure, though it also highlighted the significant share of intermediary margins and costs in the final consumer price. This suggests scope for improving the distribution mechanism to enhance producer share and reduce consumer burden.

Table 2: Marketing cost, marketing margin and marketing efficiency including price spread of different varieties of fish in the study area in Channel – 2.

Sl. No.	Market Functionaries	Amount (Rs/kg)
	Marketing cost at producer level	
1	Grading and sorting	2.00
	Packaging	0.50
	Miscellaneous cost	4.00
	Sub total	**6.50**
	Price received by farmer (net)	18.00
	Producer's margin	2.00
	Producer's selling price	**26.50**
	Marketing cost incurred by wholesaler	
2	Transportation	7.00
	Commission/Brokerage	3.00
	License/Agreement charges	8.00
	Miscellaneous cost	4.00
	Sub total	**22.00**
	Wholesaler's margin	20.00
	Wholesaler's selling price	**68.50**
	Marketing cost incurred by retailer	
3	Loading and unloading	3.00
	Transportation	5.00
	Miscellaneous cost	10.00
	Subtotal	**18.00**
	Retailer's margin	355.50
	Retailer's selling price (Consumer Price)	**422.00**

Price Spread and Marketing Efficiency

Components	Amount (Rs/kg)
Consumer Price	442.00
Net Price received by Producer	18.00
Price Spread (Consumer Price – Producer's Price)	424.00
Total Marketing Cost (6.5 + 22 + 18)	46.50
Total Marketing Margin (2 + 20 + 35.5)	377.50
Marketing Efficiency = (18 / 104) × 100	≈4.25%

Table 2: In the Producer → Wholesaler → Retailer → Consumer marketing channel for fish in Prayagraj district, the cost and margin structure illustrates the economic intricacies of the fish supply chain. At the producer level, a marketing cost of ₹6.50 per kg was incurred, which included grading, packaging, and miscellaneous charges. The net price received by the producer stood at ₹18.00 per kg, and with a margin of ₹2.00, the producer's selling price amounted to ₹26.50 per kg. The wholesaler, in turn, bore a marketing cost of ₹22.00 per kg, encompassing transportation, brokerage, licensing fees, and other incidental expenses. The wholesaler's margin was ₹20.00 per kg, resulting in a selling price of ₹68.50 per kg. At the retail level, the marketing cost was ₹18.00 per kg, and the retailer earned a substantial margin of ₹355.50 per kg, leading to a final consumer price of ₹422.00 per kg. The price spread—defined as the gap between the consumer's purchase price and the net amount received by the producer—was ₹424.00 per kg, highlighting the significant mark-up across the distribution chain. The total marketing cost across all intermediaries was ₹46.50 per kg, and the total marketing margin also amounted to ₹46.50 per kg. The overall marketing efficiency, calculated using the formula (Net Price Received by Producer / Price Spread) × 100, was approximately 4.25%. This relatively low efficiency indicates that a large portion of the consumer price was absorbed by intermediary costs and margins, suggesting potential for streamlining the supply chain to enhance producer returns.

Table 3: Comparison Between Marketing Cost, Margin, Price Spread, and Marketing Efficiency (Channel-1 vs Channel-2)

Component	Channel-1	Channel-2
Consumer Price	₹92.00	₹422.00
Net Price Received by Producer	₹6.00	₹18.00
Total Marketing Cost	₹24.00 (6 + 18)	₹46.50 (6.5 + 22 + 18)
Total Marketing Margin	₹62.00 (2 + 60)	₹377.50 (2 + 20 + 355.5)
Price Spread	₹86.00 (92 – 6)	₹404.00 (422 – 18)
Marketing Efficiency (%)	≈ 6.98%	≈ 4.25%

Table 3: The comparison between Channel-I and Channel-II reveals significant differences in marketing cost, margin, price spread, and efficiency. Channel-I exhibits higher marketing efficiency at approximately 6.98%, indicating a more cost-effective and producer-favorable marketing route. Despite the consumer price in Channel-II being substantially higher (₹422.00 compared to ₹92.00), the net price received by the producer is only moderately higher at ₹18.00, which results in a larger price spread of ₹404.00. The presence of both wholesaler and retailer in Channel-II leads to increased marketing costs (₹46.50) and margins (₹377.50), thereby reducing overall efficiency. Conversely, Channel-I, with fewer intermediaries, provides a more streamlined supply chain, lower total costs, and better returns relative to the consumer price. This analysis suggests that shorter marketing channels benefit both producers and consumers by improving price efficiency and reducing intermediary costs.

COCNLUSION

The study on the marketing of fish in Prayagraj district provided comprehensive insights into the functioning and efficiency of the prevailing marketing channels. It was observed that the fish marketing system primarily operated through two distinct channels: Channel-I (Producer → Retailer → Consumer) and Channel-II (Producer → Wholesaler → Retailer → Consumer). The analysis revealed that Channel-I exhibited a higher marketing efficiency of approximately 6.98%, compared to Channel-II, which recorded an efficiency of 4.25%. This difference was attributed to the greater number of intermediaries involved in Channel-II, which increased both marketing costs and margins, thereby reducing the net price benefit for producers. Although Channel-II offered a higher net price to producers, the substantial increase in consumer price and overall price spread indicated a less equitable distribution of returns along the supply chain. Conversely, Channel-I's fewer intermediaries ensured a more streamlined process with reduced costs, benefiting both producers and consumers through better price realization and affordability. The study further highlighted the need for improving marketing infrastructure and reducing intermediary layers to enhance the efficiency of fish marketing. Strengthening direct linkages between producers and retailers or consumers could reduce excessive price spreads and marketing margins, thereby increasing producer income and making fish more accessible to consumers. Overall, the findings underscored the importance of adopting shorter marketing channels and promoting cost-effective marketing practices to support the sustainable development of the fish sector in Prayagraj district. Efforts aimed at capacity building, improved logistics, and policy support could contribute significantly to optimizing the marketing system, benefiting all stakeholders involved.

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