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AN ANALYSIS OF THE FISH MARKET AND MARKETING SYSTEM IN PURULIA DISTRICT, WEST BENGAL

Dr. Abhishek Majhi[1]
Assistant Professor [1]
Department of Economics, Ramananda Centenary College
Sidho-Kanho-Birsha University, Purulia, West Bengal. India

Abstract:

The marketing of fish and fishery products in four markets within the Purulia district was examined between January 2024 and July 2024. Data were gathered from four distinct markets, involving interviews with 40 traders (retailers), 10 from each market, conducted at the market centers. A survey questionnaire was developed, pre-tested, and ultimately used to collect data. The data collection process involved questionnaire interviews and focus group discussions in the three fish markets. Three types of marketing channels were identified in these markets. The supply chain from fishermen to consumers included several intermediaries such as local traders, agents/suppliers, retailers, and consumers. A shorter marketing chain, involving only fish farmers, retailers, and consumers, was found to be more advantageous for fish producers. Various fish species were available in the markets, including Indian major carps like Rahu, Catla, Mrigal, and exotic species like Silver Carp, Grass Carp, Common Carp, Tilapia, and Pangas. Fish prices varied based on size, weight, season, availability, species quality, and fish size. The markets also offered different types of Marine fish, Prawn, Shrimp and Crab also. Retailers reported several challenges in fish marketing, including inadequate storage facilities, poor ice supply, exploitation by middlemen, lack of capital, and insufficient infrastructure.

Keywords: Fish Market, Fish Marketing System, Economic Upliftment, Purulia, West Bengal

Introduction:

Fish production plays a crucial role in the marketing process, as fish and fishery products are highly traded commodities. A fish market is a place where people gather to buy and sell fish. It can also be defined as a periodic gathering for the exchange of fish or fisheries products. The fish marketing system is the mechanism

through which fish reach consumers from producers (farmers). Consumers depend on an efficient fish marketing system. In West Bengal, fish marketing is predominantly managed by the private sector, and the livelihoods of many people are closely tied to fish production and marketing systems. The most significant challenges in marketing appear to arise in remote communities, where there are issues such as inadequate transportation, lack of ice, and poor road infrastructure. In these areas, farmers are particularly disadvantaged in their dealings with intermediaries. The domestic fish markets and distribution channels are dominated by numerous intermediaries, with all fish sold domestically or exported passing through private networks. The distribution process typically involves four stages: the primary market, the secondary market, the higher secondary market, and the city or terminal markets. Understanding the fish marketing system is crucial for developing the fisheries sector. Without improving this system, fish farming communities and fishermen will struggle to reap the benefits of aquaculture and open water fisheries. This study aims to: a) Examine the current fish marketing systems in Purulia District. b) Understand the pricing mechanisms at various levels. c) Identify marketing challenges that negatively affect poor fishermen, traders, and other related groups, and provide recommendations for improving the marketing system.

Materials and Method:

The present study is based on an intensive fieldwork conducted in Purulia-I, Kashipur & Hura blocks and Purulia Municipality of Purulia district, West Bengal during the months of January 2024 to July 2024. Before the commencement of fieldwork, a pilot study was conducted during the month of December 2023. Based on that pilot study, Purulia-I, Kashipur & Hura blocks Purulia Municipality of Purulia district were selected for final study. Purposive sampling method was used while selecting the study area.

Purulia came into force as a district of West Bengal in 1956. Purulia is the western-most district of West Bengal with an all-India significance because of its tropical location, its shape as well as function like a funnel. It funnels not only the tropical monsoon current from the Bay to the subtropical parts of north-west India, but also acts as a gateway between the developed industrial belts of West Bengal and the hinterlands in Orissa, Jharkhand, Madhya Pradesh and Uttar Pradesh. This district is between 22^{o}42'35" and 23^{o}42'0" north latitude and 85^{o}49'25" and 86^{o}54'37" east longitude. Midnapore, Bankura and Burdwan district of West Bengal and Dhanbad, Bokaro, Hazaribagh, Ranchi, West Singbhum, East Singbhum district of Jharkhand State bound this district. The total geographical area of the district is 6259 sq. kms. Out of which the Urban and Rural areas are 79.37 sq. kms (1.27%) (Municipalities & Non-Municipalities) and 6179.63 sq. kms (98.73 %) respectively.

Physiographically, Purulia, the westernmost district of West Bengal, is well known as a drought prone district and falls within the semi-arid region of the state. Cultivation of this district is predominantly mono-cropped. Out of total geographical land 52.47 % are used for agriculture. 29.69 % are under forest coverage (including social forestry) and 10.15 % are identified as Wasteland. Soil erosion is the most prominent phenomenon of the district resulting huge deposition of fertile soil in the valley region. Vast areas of land remained uncultivable wasteland.

Out of the total agricultural holding about 73 % belongs to small and marginal farmers having scattered and fragmented smallholding. About 90 % of the population lives in villages and about 44 % of the rural population is below poverty line. As per 2001 census total population of the district is 2535516, out of which 89.93 % are residing in rural areas and 10.07% are in urban areas. About 51.18 % of the populations are males and 48.82% are female. The percentage of Scheduled Caste and Scheduled Tribes are 18.29% and 18.27%. Total no of BPL families in rural areas of this district are 197381 (43.65 %). Out of which SC families are 40645 (20.59 %) and ST families are 47666 (24.15 %). Total no. of BPL families in Purulia and Jhalda Municipality are 2573 (11.31 %) and 571(15.98 %) respectively (District Statistical Handbook, 2013. Bureau of Applied Economics & Statistics, Purulia, Govt. of West Bengal)

The three main advantages of sampling are that the cost is lower, data collection is faster, and since the data set is smaller it is possible to ensure homogeneity and to improve the accuracy and quality of the data. Sampling is concerned with the selection of a subset of individuals from within a population to estimate characteristics of the whole population which is homogeneous in nature. Sampling is the process of selecting units likes people, organizations from a population of interest so that by studying the sample we may fairly generalize our results back to the population from which they were chosen. Using random sampling method around 40 traders (retailers), 10 from each market were selected for final study.

Results and Discussion:

A significant number of individuals are concerned with the fish production, distribution, and marketing systems in the four different fish markets across three blocks and one municipality in the Purulia District. The primary goal of this study is to assess the current status of the fish marketing system within the Purulia District, utilizing both secondary data and primary data collected from these four markets. The fish marketing system in Purulia District involves several intermediaries between the farmers and consumers. This system encompasses all activities involved in moving goods from the initial point of production to the final consumer, including the exchange of property rights, resource allocation, product handling, information dissemination, and institutional arrangements. The market chain from farmer to consumer typically passes through local fish traders (paikers), wholesalers, and retailers. The following are the common channels observed:

- **Channel I:** Fish farmers → Paikers → Wholesalers → Retailers → Consumers
- **Channel II:** Fish farmers → Wholesalers → Retailers → Consumers
- **Channel III:** Fish farmers → Retailers → Consumers

The most commonly used channel was Channel I, through which about 75% of the fish was distributed. In this channel, fish farmers sold their products to local paikers, who then sold them to wholesalers, followed by retailers, and finally reached the consumers. A smaller portion of fish (approximately 20%) was sold directly by farmers to wholesalers, who then passed it on to retailers. In rare cases (about 5%), farmers brought fish directly

to the market and sold them to retailers. During the survey, it was noted that the supply of Indian major carps was robust, and their demand was high across the four markets. A strong network of brokers and traders was observed, mediating between the farmers and consumers. It was reported that retailers in the Purulia District typically operated with a daily capital of around RS. 4,000 to 30,000, while wholesalers managed significantly larger amounts, ranging from RS. 50,000 to 1,000,000 per day, allowing them greater control over agents and retailers. A total of 40 retailers were interviewed for the market survey, and they indicated that fish prices depend on market structure, species, and size. Prices also vary according to freshness, supply, and demand, with seasonal fluctuations. Prices tend to be highest in summer (March to May) and lowest in winter (November to January). Indian major carps commanded higher prices than exotic fish, as consumers and local traders preferred them for their taste. For instance, the market price for Rahu ranged from Rs. 190 to 200 per kg with the highest average price noted for Rahu (RS. 235/kg), followed by Catla (Rs. 250/kg) and Mrigal (Rs. 195/kg).

Among exotic fish, the highest price was recorded for common carp (Rs. 150 per kg), while the lowest was for pangas (Rs. 90 per kg). Prices for silver carp and grass carp were relatively stable, with silver carp averaging Rs. 95 per kg and grass carp Rs. 100 per kg. Other fish, such as hilsa, shrimp, prawn, tengra, magur, and shing, also had significant economic value in these markets. Fish are traded throughout the year, with a notable increase in the availability of captured fish during the rainy season. Before and during the winter, the supply of farmed fish surpasses that of captured fish. The study revealed that the Chasmore fish market receives an average daily supply of 4-5 tons of fish, whereas Purulia fish market receives 2-3 tons, Adra & Lalpur fish market receives 0.5-1.5 tons per day. Wholesalers, who typically spend only 3 to 4 hours selling fish as middlemen, earn significantly more than retailers. Wholesalers are influential in these markets, maintaining strong connections with other intermediaries.

This study was carried out to assess the current state of the fish market and marketing systems in Purulia District. The findings of this research were compared with other studies on fish availability and marketing characteristics. While fish farming is considered an industry in many countries, fish farmers in our country do not engage directly with consumers. The marketing systems identified vary significantly, with a chain that includes several intermediaries such as local fish traders, wholesalers, and retailers. Fish prices are influenced by market structure, species, quality, size, and weight. The survey of four fish markets indicated that the price per kilogram for carp species, including Indian major carps (Rohu, Catla, and Mrigal) and exotic carps (silver, grass, and common carp), increases with size. Prices generally peak in the summer (March to May) and drop in the winter (November to January).In Purulia District, fish farmers typically cultivate both Indian major carps and exotic fish, with Indian major carps commanding higher prices. Popular species among farmers include Rohu (Labeo rohita), Catla (Catla catla), Mrigal (Cirrhinus mrigala), and exotic species such as silver carp (Hypophthalmichthys molitrix), grass carp (Ctenopharyngodon idella), common carp (Cyprinus carpio), rajputi (Barbodes gonionotus), and pangas (Pangasius pangasius). These species are favored due to well-established

cultivation techniques, favorable climate, high growth rates, and good market prices.To enhance the fish marketing system, essential infrastructure like clean water supply, sanitary facilities, proper drainage, icing, and appropriate flooring should be ensured. The survey found that fish traders possess limited knowledge of hygiene and sanitation, underscoring the importance of maintaining clean fish markets. Effective management for daily maintenance of market premises from a sanitary and hygienic perspective is crucial.

Constraints of Fish Marketing

The survey identified several challenges in fish marketing, including high production, harvesting, and transportation costs, poor road conditions, inadequate ice supply, high labor demand, exploitation by middlemen, lack of capital, insufficient drainage systems, inadequate water supply, poor sanitation, and unhygienic conditions. Political disruptions occasionally hinder fish transport and marketing, leading to spoilage and forcing traders to sell at lower prices or, in some cases, suffer losses due to fish decomposition. The study found that 28.88% of respondents cited exploitation by middlemen as the primary constraint, 26.67% pointed to the lack of storage facilities, 20% attributed lower prices to poor ice supply, 15.55% mentioned a lack of infrastructure, and 8.88% identified a lack of capital as a significant issue.

5. Conclusions

Fish retailers, particularly in developing countries, play a significant role in supporting livelihoods by providing income and other social benefits, such as reducing vulnerability to poverty. However, most fish retailers in the study area live below the poverty line. The fish retailer community is considered one of the most vulnerable in terms of livelihood opportunities in West Bengal. Selling fish is their primary occupation, but it cannot be sustained year-round, and they have limited alternative job opportunities. Consequently, the overall livelihood status of fish retailer communities in this area is poor. Retailers reported several challenges in fish marketing, including inadequate storage facilities, insufficient ice supply and exploitation by middlemen, financial constraints, and poor infrastructure. Based on the study's findings, the following recommendations are proposed to improve the existing fish marketing system:

- Introduce modern wholesaling and retailing facilities that maintain product quality.
- Implement fish quality control measures.
- Establish ice factories in every fish market area.
- Develop an efficient market development system.
- Improve hygienic and sanitary conditions in fish trading centers and markets.
- Provide government, institutional, and banking support.
- Offer training for fish market operators on fish preservation, handling, icing, curing, and hygiene.
- Provide institutional credit with favorable terms for retailers during times of crisis.

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