ANALYSIS OF DISTRIBUTION CHANNELS FOR FISH TRADE IN MARINE FISHERIES CONCERNING PALGHAR DISTRICT OF MAHARASHTRA

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Abstract

India stands as the second-largest contributor to global fish production, making up 6.7% of the total output. The fisheries industry's economic significance is evidenced by its dominant position within agricultural exports, with fish and fish product exports alone accounting for a substantial value of ₹46,663 crores in the fiscal year 2019-20. A global fish production of 178.5 million metric tons in 2018 underscores the sector's significance, comprising 96.4 million metric tons from marine fisheries and 82.1 million metric tons from aquaculture. India has displayed a commendable annual growth rate of 4.35% in its fish production. This study delves into the intricate network of distribution channels prevalent in the fish trade industry, particularly focusing on the marine fisheries sector in the state of Maharashtra. A crucial facet of this study is the examination of the impact of these distribution channels on the different stakeholders engaged in the marine fisheries industry. The current study has been carried out to answer the various problems faced by the Fishermen and other stakeholders in marine fish distribution channels. By scrutinizing these issues, the study aims to unearth insights that can drive positive changes within the marine fisheries distribution channels.

Keywords: Marine Fish Distribution, Marine Fish Problems, Middlemen, Stakeholders.

Introduction:

The fisheries sector in India is acknowledged as a robust source of income, achieving remarkable double-digit compound annual growth of 10.87% starting from the fiscal year 2014-15. This growth stimulates the growth of related industries, offers an affordable and nutritious food source, and caters to the sustenance of a considerable segment of the economically disadvantaged populace. Given its multifaceted contributions, the fisheries sector occupies a pivotal role in India's socio-economic development. In the context of India, fishing represents a swiftly expanding industry that not only addresses the dietary needs of the vast population but also generates livelihoods and income for over 28 million individuals.

Presently, India stands as the globe's third most prominent fish producer, contributing to 7.96 per cent of the global output. around 14.73 million tons (MMT), with 11.25 MMT coming from the inland sector and 3.48 MMT from the marine sector. The fisheries sector assumes a pivotal role in India's domestic economic landscape, positioning the country as a prominent exporter of seafood and elevating the sector to a substantial contributor to foreign exchange earnings. Even amid the uncertainties brought about by the COVID-19 pandemic, seafood exports for the fiscal year 2020-21 reached a noteworthy Rs 43.71726 billion, equating to 1.15 MMT. Notably, the United States continues to stand as the foremost importer of Indian seafood, with an import value of US$ 24,047.15 million, encompassing a substantial 41.15% share in dollar terms. This underscores the considerable opportunities present in both the marine and inland fishing sectors.

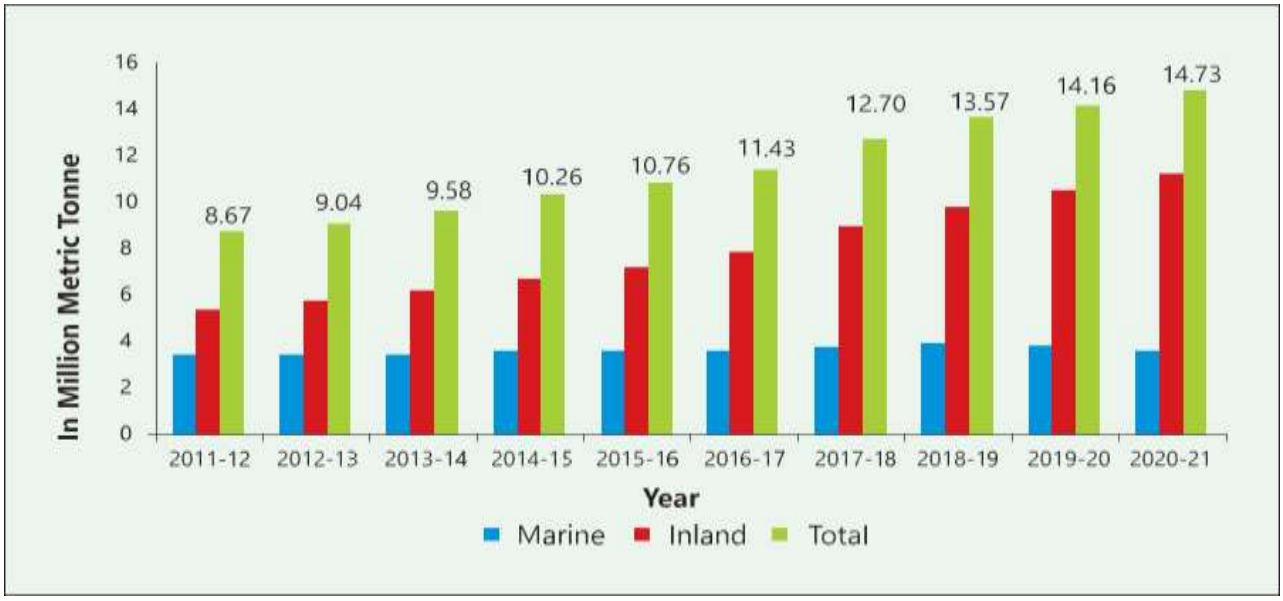

Figure 1- Total Fish Production in India
(Source: Department of Fisheries, Govt. of India Annual Report 2021-22)

Maharashtra State stands as one of India's prominent maritime regions, boasting a coastline stretching 720 kilometers across six maritime districts: Thane, Mumbai Suburban, Mumbai City, Raigad, Ratnagiri, and Sindhudurg. Exploitation extends to the continental shelf area up to 40 fathoms, encompassing 55,529 square kilometers (50% of the total continental shelf). Within these districts, there are 25 zones and 162 fish landing centers. The state's fish potential is estimated at 6.3 lakh tonnes, with current production reaching 71% of this potential according to the Maharashtra State Fisheries Department (2020). The marine sector dominates the state's fishery sector, divided into 25 zones. Marine fishery focuses on the exploitation of seawater or ocean resources. Maharashtra's marine harvest comprises approximately 49 commercially significant species, including Sardine, Non-Penaeid Prawns, Bombay duck, Penaeid Prawns, Pomfret, Seer fishes, Black pomfret, Eles, Lobsters, and Mackerels, among others.

Literature Review:

(Mopidevi & Devi, 2015) This study has examined the involvement of various intermediaries in the marketing of marine products to docking centres, focusing on aspects such as price transmission, market profitability, marketing expenses, and the level of variability in these factors. Additionally, factors like capacity, spoilage, transportation costs, financial considerations, and ultimately, market demands are crucial concerns for fishermen in primary markets. The landscape of fish marketing in India is gradually evolving from traditional to modern practices.

(Salim & Antony, 2015) In their article, the researchers expounded on how markets have emerged as influential catalysts in the fisheries production system, dictating the value derived from the landed or produced fish. Furthermore, the marketing system offers opportunities for increased institutional interventions. However, the current state of marketing falls short in ensuring the delivery of high-quality fish due to unsanitary practices, and it presents limited choices for consumers. In India, the domestic fish marketing system primarily operates through private traders, introducing numerous intermediaries between the producer and consumer.

(Omar et al., 2015) Conducted over an extensive duration from March to April 2012, a comprehensive study aimed to delve into the marketing system and price dynamics of Hilsha fish within specific regions of the Chandpur district in Bangladesh. This endeavor sought to evaluate a spectrum of factors, including cost and profitability considerations, sporadic shifts in pricing, and the underlying structure of the Hilsha fish market. The research combined both primary and secondary data sources to yield insights. The analysis discerned that the aratdar incurred the highest marketing costs, while retailers bore the lowest expenses. Interestingly, retailers secured substantial net marketing profits. The evaluation of market integration portrayed a robust interconnectivity within Bangladesh's Hilsha fish market.

(Markad et al., 2019) The present study was applied to study the status of fish market in Hingoli region in terms of facilities, equipment, cold chain, market construction, cleanliness, hygiene, important species sold, facility pricing structures, women's associations and marketing systems. Research shows that none of the fish markets in Hingoli have proper cold and freezer storage, cleanliness, sanitary conditions and market construction. Most of the markets are built on the side of the open road in an unsanitary condition. The price structure at fish markets varies according to various factors, for example species, size, quality, season, etc. The study suggests that local administrations should initiate and implement some basic fish market facilities. Fisherman ought to be trained and prepared in hygienic fish processing and handling.

(Rahman et al., 2019) This research endeavor aimed to delve into the intricacies of marketing channels, associated costs, and the marketing margins pertaining to marine fish transactions involving various intermediaries at the fishing port of Banjarmasin, Indonesia. Notably, wholesalers emerged as key players, reaping profits that were 2-6 times greater than those earned by local traders or retailers. Interestingly, the marketing margin observed for fish sold outside the fishing port surpassed that within the port itself. This discrepancy was attributed to the additional costs incurred during handling and transportation. The study highlighted the need for strategic interventions, suggesting the establishment of ice plant facilities at the fishing port. Moreover, the study advocated for the utilization of data technology to attract potential investors or entrepreneurs, creating a focused hub for the fisheries industry.

(Vala et al., 2020) This study was conducted at fish markets in Himmatnagar, Sabakantaha and investigated the marketing system, marketing process and financial characteristics. This study has shown the market infrastructure, the current state of the market, the nature of costs and the factors affecting the market system. Numerous individuals were engaged with fish distribution and marketing system. Many fishermen were discovered working in independently for fishing and selling. The study proposed setting up several ice-plants, cold-storerooms, modern wholesaling, and preservation facilities. Providing mechanical weighing gear and improving sanitation, sterile condition, seepage, washing facilities and enough sale places will improve the fish market structure.

Research Methodology:

A descriptive research design is used in this study. This study is a cross-sectional study. The study is carried out in the Palghar maritime district of Maharashtra. The survey was conducted in six zones of Palghar districts, namely Dahanu, Pophran Dandi, Satpati, Kelwa, Bassein (Vasai), and Uttan.

Convenience Sampling method has been used for this study. It is a sampling method that allows for the randomization of sample selection. The calculated Sample Size is 150 Respondents. From each zone, 25 samples were collected.

Primary data was collected through the survey method from Intermediaries (Fishermen, Auctioneers, Wholesalers, Retailers and Vendors) using a structured questionnaire and the

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secondary data for the study was collected from sources like Govt. reports, online publications, reputed journals, magazines, newspapers, books etc.

This research mainly focuses on analysing the distribution channels of marine Fish in the Palghar district of Maharashtra by identifying distribution channels and evaluating the price spread and efficiency of different distribution channels. The marketing efficiency is a measure of market performance, that focuses on reducing marketing costs without reducing output or results.

Results and Discussion:

The network of auctioneers, wholesalers, retailers, vendors, and transporters is integral to the marine fish distribution channels, facilitating the journey of fish from fishermen to end consumers. The significant distribution channels that operate within Palghar for marine fish distribution have been identified and will be expounded upon in subsequent sections.

Major distribution channels

1. Fishermen--Auctioneers--Retailers--Consumers
2. Fishermen--Auctioneers--Vendors--Consumers
3. Fishermen--Wholesalers--Retailers--Consumers
4. Fishermen--Wholesalers--Vendors--Consumers
5. Fishermen--Auctioneers--Wholesalers--Retailers--Vendors--Consumers

Table 2: Distribution / Marketing efficiency of distribution channels

Particulars (Rs. /Kg.)	**Overall average**				
	Channel -1	**Channel -2**	**Channel -3**	**Channel -4**	**Channel -5**
Price Spread (Rs. /kg)	45.04	35.21	40.98	44.89	46.03
Fishermen share in consumer rupee (%)	78.86	83.94	78.98	81.62	79.89
Marketing / Distribution efficiency	4.42	5.87	4.76	4.64	4.23

The above table shows that the Distribution / Marketing efficiency of distribution channels was good for channel 2 followed by channel 3. These two channels' price spread is less, and fishermen’s share in consumer rupees percentage is higher than other channels. So, we can conclude that these two channels are very efficient.

Table No: 3 Mean of intensities of problems in different zones of Palghar district for distribution of marine fish

Zone	**Mean of Intermediators' problems**	**Mean of Infrastructure problems**	**Mean of Cold Storage problems**	**Mean of Marketing problems**	**Mean of Transport problems**
Dahanu	1.53	3.33	2.13	2.98	2.05
Pophran-Dandi	1.51	3.67	3.87	4.61	3.95
Satpati	1.41	1.78	1.37	2.13	1.96

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Kelwa	3.76	2.06	2.32	2.43	1.89
Vasai	3.87	1.17	1.27	2.21	1.87
Uttan	1.53	1.45	1.23	1.68	1.82

The ANOVA test is applied to examine significant intensities in the problems of different zones of Palghar districts of Maharashtra for the distribution of marine fish. It is seen that the probability value (p value=0.000) of all the problems considered for the study is less than the level of significance 0.05 thus it can be concluded that there are significant differences in the intensities of problems faced by different zones of Palghar districts.

The above table depicts different mean values of intensities of problems in different zones of the Palghar district of Maharashtra for the distribution of marine fish. The high mean value of a problem indicates that such a problem's intensity is high in that zone. Dahanu Zone faces significant challenges related to marketing problems and a lack of Infrastructure support from the local government. Pophran-Dandi, is very intensely affected by various problems such as Infrastructure, Cold Storage, Marketing and transport problems. Satpati and Uttan as such not affected by any severe problems. Kelva and Vasai zone has been highly affected by the Intermediators' problems. The intensities of the problems vary with respect to the zones of Palghar district. Based on the above information, we can interpret that the zones of Palghar district are not facing the same intensities of problems when it comes to marine fish distribution. Instead, they are facing different intensities of problems.

Conclusion and Suggestions:

The above study concludes that the Fishermen have a high share of the consumer rupee in channels 2 and 3 and hence the marketing efficiency increases in the case of such distribution channels. There is a need to establish more community-owned storage facilities at small landing centres where fishermen can collectively store their catch for better control of fish quality. Also need to develop mobile auction platforms that allow auctioneers to reach a wider market, enabling buyers from distant locations to participate. Govt. should explore partnerships with transportation companies to negotiate bulk rates for fish transportation, reducing costs for wholesalers, retailers and vendors. Also Advocate for infrastructure improvements, including better storage facilities, more space, and improved hygiene practices within the marketplace.

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