Economics of fish marketing in Therespuram & Poopalrayapuram in Thoothukudi District of Tamilnadu

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Abstract

A significant role for the fishing industry plays in the nation's socio-economic development. Resources related to fishing are also essential for foreign exchange and the GDP of the nation. The economic standing of fish farmers is enhanced by fisheries resources, which lowers the poverty rate in both the households that raise fish and the public. To expedite the sale of fish, the government has established fish landing hubs and auction houses in coastal districts. It has also given fishermen financial support to modernise their fishing gear and equipment. Understanding the fish market's marketing effectiveness in the Therespuram and Poopalrayapuram regions of Tamilnadu's Thoothukudi district was the study's main goal. The fish marketing business in India is a dynamic and developing one that necessitates continual adjustment to shifting client tastes and market conditions. In India, fish marketing is a big sector with many individuals working in different parts of the business. Millions of people in India depend on the fish marketing industry for their livelihoods, but greater infrastructure and technological investment are required to boost the sector's productivity and profits for all parties involved. 54.44 percent of the fishermen were seen to have been in touch with money lenders and negotiated a price for their products. Of these, 22.78 percent concluded that wholesalers and seafood merchants had approached them regarding the state of the market. 15% and 7.78% of them, respectively, gathered market data from their local agents and friends, family, and other acquaintances. The study shows that the marketing efficiency ratios in the Therespuram and Poopalrayapuram areas were roughly comparable. It was calculated to be 2.02 in Poopalrayapuram and 2.22 in Therespuram. It suggests that there is no difference in the two areas' marketing effectiveness.

Key words : Fisheries resources, market conditions, consumer preferences, foreign exchange, marketing efficiency.

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For certain groups of fish workers, fishing was a necessary source of income.¹⁷ India's fish industry is an important one that contributes significantly to both the nation's economy and food security. India has a huge amount of potential for fish production because of its extensive coastline and multitude of inland water bodies. Millions of people, especially in rural and coastal areas, might find work in this industry. The Indian government has put in place several programs to help fishermen's livelihoods and the sale of seafood.

However, as more modern techniques and technologies are used, the industry is evolving to improve efficiency and quality. To help the industry, the government has also started several programs and projects. Our fisheries are a source of economic prosperity. Its initiatives have improved the nutritional status of the populace, increased food production, generated new jobs, and earned foreign exchange². Resources related to fishing are also essential for foreign exchange and the GDP of the nation. The economic standing of fish farmers is enhanced by fisheries resources, which lowers the poverty rate in both the households that raise fish and the public.

Fisheries, one of the sectors with the fastest rate of growth, account for the largest portion of the world's food commerce¹³. The top states with maximum fishing potential are Andhra Pradesh, Gujarat, Maharashtra, Tamil Nadu, Pondicherry, Kerala, and Gujarat. The top states for deep sea fishing are Maharashtra, Gujarat, Tamil Nadu, and Kerala⁴. Even while many households in developing countries still rely heavily on fishing for their local economy, fisheries have developed into a more active

sector of the global food industry. This is a response to the growing demand for fish and fisheries products around the world⁵.

Traditional fishing vessels have become more mechanised and concentrated in this coastal area due to increases in the value of cuttlefish on the export market and the total price of fish on the local market¹⁴. About 8.88 million tonnes of fish are produced in India's fisheries overall, including both catch and aquaculture¹¹. In terms of countrywide exports, fish and fish products brought in over Rs. 8,200 crores, or 18% of all agricultural exports⁸.

Among India's maritime states, Tamil Nadu has the third-longest coastline¹⁵. One of Tamil Nadu's unique features in marine fishing is the entire catch, which includes a far wider variety of species¹². Tamil Nadu is home to a number of well-known pelagic species, including anchovies, oil sardines, tunnies, seer fish, mugil, caranx, and ribbonfish. Pomfrets, perches, red mullets, catfish, eels' sharks, rays, prawns, lobsters, and crabs are among the demersal species⁹. Crab farmers are most likely not experts with specialised knowledge. Farmers don't have enough knowledge on crab fattening⁶.

The production of fish with high unit value depends on the lower Tamil Nadu Coast, particularly the coastline of the districts of Tuticorin, Tirunelveli, Kanyakumari, and Ramnad. This portion of the coastline accounts for about 60% of the state's total catches of fish with export value¹⁰. The results show that several of the fish processing facilities in the Tuticorin region are currently operating at or close to capacity.⁷

Marketing is the act of coming together in a public setting to purchase and sell goods or agricultural products like fish.¹ The exporters still set the prices for exportoriented types, and the increased focus on the finfish export market has led to a shortage of high-quality items inside the internal marketing system.¹⁸ Fishermen, wholesalers, merchants, and consumers are just a few of the many parties involved in the intricate process of selling fish in India. The country's fish industry is diversified, with a large variety of fish species being consumed.

Many regions of India still use the conventional marketing technique, especially the coastal ones. Fishermen use nets, hooks, and traps, along with other traditional methods, to collect fish, which they then sell at local markets. Prices for fish are set by supply and demand, and they are often offered either fresh or dried. Fish is processed, packaged, and marketed by a network of wholesalers and retailers in the current marketing system.

Typically, the fish are shipped to processing facilities, where they undergo filleting, cleaning, and packaging. After that, the fish is packaged and delivered to cold storage facilities, where they are kept cool to preserve freshness. After that, the fish is shipped to stores and wholesalers around the nation, where it is sold to end users. India's fish market suffers several obstacles, such as inadequate cold storage facilities, limited infrastructure, and subpar transportation options. The level of fish merchants' products will rise if they receive instruction and training on safe handling techniques and hygienic requirements.5

In addition, there are a lot of minor firms operating in the highly fragmented Indian fish industry. India's marine fish marketing infrastructure is primarily focused on the export market and has several shortcomings, including a disjointed marketing organisation, inadequate infrastructure, fish degradation and waste during shipping, and the predominance of middlemen.¹⁹ The price differential that exists between the buyer and producer prices for a particular good at a given moment in a market is known as the price spread. Only when the price spread is the smallest can a market be classified as efficient¹⁶. The objectives of this study were to ascertain the efficacy of the fish market's marketing in the Therespuram and Poopalrayapuram regions of the Thoothukudi district of Tamilnadu, as well as to explore and characterise the effects of pricing variation on the percentage of wage earners and boat owners.

Objectives of the study :

- 1. To research the data on the fish market system in the research region.
- 2. To examine how changes in consumer prices affect the proportion of boat owners and wage earners.
- 3. To determine the fish market's marketing effectiveness in the Therespuram and Poopalrayapuram regions.

In order to learn more about the marketing methods used in India for fish and fisheries products, 180 respondents from the Therespuram and Poopalrayapuram areas of Thoothukudi district were surveyed for this study. Among the 180 fishermen, 113 were boat owners, and 67 were salaried workers. A well-structured questionnaire was used to help conduct this investigation. Also, the primary data were gathered by the researchers using a straightforward random sampling technique. Following fieldwork, the data was examined and assessed using regression coefficients, the mean, the t-test, Chow's test, and the method of least squares. The study was conducted between May and July of 2024.

Table-1. T	ype of (Decupation
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Type of	Number of	Percen-
Occupation	Fishermen	tage
Boat owners	113	62.78
Wage earners	67	37.22
Total	180	100.00

Source: Primary data.

The mechanised, motorised, nonmechanised, and shore seine is comprised of boat owners and wage earners. In the research area, boat owners make up roughly 62.78 percent, while wage workers make up 37.22 percent.

Test for structural difference :

to investigate the theory that boat owners and wage earners do not differ structurally in how they capture fish. After using Chow's test, the findings are displayed in Table-2.

Table 2 demonstrates that, at the five percent level with (5,36) degrees of freedom, the computed value of F is determined to be less than the tabular value of F. The tabular

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Σe^2	Σe_1^2	$\Sigma e 2^2$	$N_1 + n_2 - 2k$	F*	F (5,36) At 5% level	Inference
2.1309	1.4621	2.8345	36	2.5107	3.84	There is no structural distinction between wage earners and boat owners.

Table-2. Equality test between boat owners and wage earners

Source: Computed from Primary data.

value of F is 3.84. However, the computed value is 2.5107. Thus, the theory is that there are no structural distinctions between those who own boats and those who earn a living through fishing.

Market System

A strong marketing strategy is necessary for the fishing industry. Naturally, communication and negotiations between buyers and sellers would lessen the majority of marketing-related issues. Table-3 has been developed to provide comprehensive information about the fish market system in the study area.

Table-3 shows that 54.44% of the fishermen got in touch with the moneylenders and negotiated a price for their goods. Fifteen percent and seventy-eight percent of them, respectively, gathered market data from their local agents and friends, family, and other

acquaintances; 22.78 percent of them concluded that wholesalers and fish merchants had contacted them about the current market trends.

system						
	Number	Percen-				
Classification	of	tage				
	Fishermen					
Money lenders	98	54.44				
Wholesalers and	41	22.78				
fish merchants						
Local agents	27	15.00				
Relatives, friends	14	7.78				
and others						
Total	180	100.00				

Table-3. Classification of fish marketing

Source: Primary data.

Impact of price fluctuations on consumers' portion of boat owners' and wage workers' earnings :

Two distinct models were fitted to investigate the impact of price fluctuations on the shares of wage workers and boat owners. The least squares approach used to estimate the models yielded the results shown in Tables 4 and 5.

The substantial regression coefficients from Tables 4 and 5 showed that changes in the consumer price had an impact on the proportions of boat owners and wage earners in the household of the consumer. The boat owner's portion was inversely correlated with

Table-4.	Effects	of	variation	in	consumer'	S	price on	the	shares	of	the	boat	owners
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Sl.	Taluk	Regression Coefficients		R ²	F-value
no.		∞^1	B_1		
1.	Therespuram	2.57	-0.14*	0.83	201.11
			(-3.52)		
2.	Poopalrayapuram	2.84	-0.18*	0.82	325.32
			(-4.82)		

Note: The figures in parentheses indicate the percentages.

* indicates that the coefficients are significant at a 5 per cent level.

Sl.	Taluk	Regression C	Coefficients	R ²	F-value		
no.		∞_1	\mathbf{B}_1				
1.	Therespuram	-3.19	2.84*	0.84	264.31		
			(5.72)				
2.	Poopalrayapuram	-3.57	2.03*	0.85	391.05		

(3.11)

Table-5. Effects of variation in consumer's price on the shares of the wage earners

Note: The figures in parentheses indicate the percentages.

* indicates that the coefficients are significant at a 5 per cent level.

the consumer price, while the wage earner's share was favourably correlated, as shown by the regression coefficients' signs. It suggests that for every 1% increase in consumer price, the proportion of fish boat owners in the Therespuram and Poopalrayapuram areas fell by 0.14 and 0.18 percent, respectively. Conversely, with a 1% rise in consumer prices, the wage workers' shares in Therespuram and Poopalrayapuram climbed by 2.84 and 2.03 percent, respectively. It should be highlighted that, as the values of R² ranged from 0.82 to 0.85 percent, the consumer price accounted

for a large portion of the changes in the proportions of wage workers and boat owners. The F-values show that the regression model is statistically significant at the one percent level.

Marketing efficiency :

The Shepherd's formula was applied in order to calculate the marketing efficiency (M.E.), and the results are displayed in Table-6.

Table-6. Marketing efficiency of the fish market in Therespuram & Poopalrayapuram area

Particulars	Therespuram	Poopalrayapuram
Value of the fish sold (V)	5518.64	4834.57
(Consumer's price Rupee/Metric tonne)		
Marketing cost (I) (Rupee/Metric tonne)	2485.61	2397.83
Marketing Efficiency (M.E)	2.22	2.02
Source: Computed from Primary data.		

Table-6 shows that the Marketing Efficiency (M.E.) ratios in the Therespuram and Poopalrayapuram sectors were roughly equal. It was calculated to be 2.02 in Poopalrayapuram and 2.22 in Therespuram. It suggests that there is no difference in the two areas' marketing effectiveness.

It is incorrect to interpret a rise in the fishing industry's earnings as the exclusive marker of progress. The study found that the two Therespuram and Poopalrayapuram areas, with marketing efficiencies of 2.22 and 2.02, are identical in terms of their marketing efficacy. It was discovered that the marketing effectiveness of the channel declines with the number of market intermediaries, lowering the boat owners' proportion of consumer spending. Therefore, the fisherman can organise into cooperatives or fish farmer producer organisations to cut out middlemen and increase their cut of the rupees that consumers spend. Educating consumers and boat owners about the daily market prices of different fish species will aid in the development of fish marketing. Individual empowerment of both male and female members should be guaranteed, as this becomes increasingly important in the context of marine fisheries' constantly evolving technological options. The catch fisheries industry has a wide range of opportunities for hiring fishermen. In order to develop technologies that are helpful to fishermen, researchers must also give enough thought to understanding the demands of fishermen.

Conflicts of interest

The authors do not have any conflict of interest.

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