



ASSESSMENT OF THE FISH MARKET STRUCTURE ALONG THE NORTH TAMIL NADU COAST

Shyam. S. Salim*¹, Monolisha S¹, Narayana Kumar R², and Geetha R³

¹ICAR-Central Marine Fisheries Research Institute, Ernakulam, Kerala, India

²Regional centre of ICAR-Central Marine Fisheries Research Institute, Chennai, Tamil Nadu, India

³ICAR-Central Institute of Brachwishwater Aquaculture, Chennai, Tamil Nadu, India

ABSTRACT

The paper attempts to analyse the market structure of the selected marine fish markets of the Tamil Nadu Coast. It deals with understanding the market structure and its market potential. The major developments of the market strengthening, trade and the market flow were discussed. The market structure analysis of the selected markets indicates that the trade flow is widely distributed covering the different parts of the state and other consumption destinations. Lack of appropriate infrastructure, adequate amenities and low product diversity act as limiting factors in fish trade in majority of the markets studied. While addressing the economics and the market structure, the limitations involved in market developments were also taken into account and registered during the study. The study suggests the need for improved sanitation, hygienic conditions for clean water and waste disposals stands as a common constraint experienced by the marketers of the Tamil Nadu coast.

Corresponding author:
shyam.icar@gmail.com

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INTRODUCTION

Tamil Nadu coastline extends to about 1076 km with 44,412 sq. km of continental shelf region and 23,000 kms of offshore area. The state has 13 coastal districts with 591 coastal villages and 10 estuarine fishing villages with 0.861 million population and 0.26 million active fisher folk communities. Overall marine fish production of the state was 7.02 lakh tonnes in the year 2018. Tamil Nadu stands second in the marine fish production and it is one of the major exporters of marine products. Figure 1, represents the total marine capture production from Tamil Nadu coast.

Sea food is well known for its commercial importance and demand for consumption. Seafood markets are entities where seafood and seafood related products are reclined to trade in domestic markets and international trade. Seafood markets are linked to the supply and sale of fishes, shrimps, crabs, squids and different marine foods. Fish production and fish consumption is collectively an intricate chunk of the fishing

industry. Different levels of marketing channels include wholesale markets, retail markets and fish retail outlets. The fish marketing intermediaries such as auctioneer, wholesaler, retailer and vendor enables the seafood supplies to reach the consumers acting as a bridge between the producers and consumers. The internal markets within the country involved in supply and demand of the products are called as domestic markets. However, fish markets are also directly concomitant with the economy of the country earning dollars by selling the products (export) to the overseas countries. Market structure is defined as an organisational characteristics and economical trait of a market. The characteristic features are nature of competition, pricing, market share, and so on. Studies on market structure are significant for strategic decision-making analysis with central viewpoints on trade and consumption. However, marketing is highly concerned with the managerial aspects of market structure (Baumol, 1961; Yadav, 1995).

This study is focused on investigating the market structure of the selected marine fish markets of the Tamil Nadu coast. It deals with understanding the market structure and its market potential. The major developments of the markets strengthening the trade and market flow

were also discussed. While addressing the economics and the market structure, the limitations involved in market developments were also taken in account and registered during the study.

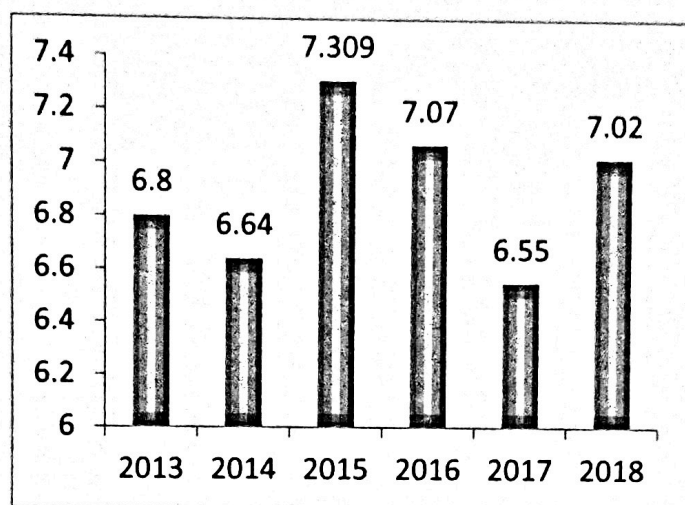


Figure 1. Total marine capture production (lakh tonnes)
(Data source: CMFRI 2018)

Market Structure Analysis

Markets from three coastal districts such as Nagapattinam, Kancheepuram and Chennai were purposively selected for the study. The information on market structure was assessed using the pre-tested survey schedules (Salim & Rahman, 2014). The structured survey schedules were used to collect information from the major wholesale and retail fish markets through the key

informant surveys and focused group discussions with officials and members of fishers' co-operative societies, fish traders and fish marketing agents. The study covers one market from each district and information on market profile, market arrivals and disposal, prevailing market channels, major traded fishery resources and limitations experienced in the markets were gathered (Tables 1-5).

Table 1. Structural Dimensions of the markets studied across the Tamil Nadu coastline

Location	Structure parameters		
	Kancheepuram	Chennai	Nagapattinam
Name of the market	Mahabalipuram Panchayat fish market	Saidapet fishing market	Nagapattinam town fish market
Type of market	Wholesale and Retail market	Wholesale and Retail market	Retail
Area of the market (acres)	One	Five	one
Lat-long			
Year of establishment	2012	1980	1999
Address	Fisherman colony, Mamallapuram	Jones road, Saidapet	VOC Street, Akkaraikulam road
Village	Mahabalipuram	Saidapet	Nagapattinam
Taluk	Thirukazhukundram	Chennai	
District	Kancheepuram	Chennai	Nagapattinam
State	Tamil Nadu	Tamil Nadu	Tamil Nadu
Pin	603104	600 015	611003
Market control	Township	Chennai corporation, Private	Municipality
Market Access	Place and Distance (km)		
Nearest Landing Centre	Kovalam(45), Kalpakkam (45), Thiruporur(45)	Royapuram, Kasimedu (16)	Nagapattinam fishing harbour (10)
Nearest Railway Station	Chengelpet (20)	Saidapet (5 km)	Nagapattinam (7)

Nearest Bus Station	Mahabalipuram (20)	Chennai mofussil bus terminus, Koyambedu (10)	Nagapattinam town bus stand (3)
Nearest Airport	Meenambakkam (75)	Meenambakkam (15)	Pondicherry (50)
Nearest Seaport	Kasimedu, Chennai (60)	Kasimedu, Chennai (60)	Nagapattinam (7)
Market Timing	Daily, 09.00 to 18:00 hrs	Daily, 07.00 to 12.00 hrs and 17.00 to 21.00 hrs	Daily, 07.00 to 12.00 hrs and 15.00 to 18.00 hrs
Market Profile	Nos. & Year		
No. of Registered marketers	35 & 2012	50 & 1990	15&2005
No. of Dealers	20 & 2012	25 & 1995	10
No. of Whole-sales	25 & 2012	60-70 & 2005	10&2005
No. of Retailers	30 & 2012	30-40 & 2010	100
Market conduct			
Type of Sale	Auction, Weights (Tonnage and Kgs)	Auction, Weights (Tonnage and Kgs)	Auction, Weights (Tonnage and Kgs)
Method of payment	Forward (Alternative days)	Same day/Alternative days	Same day/Alternative days
Price Discrimination	Yes	No	No
Entry fee	No	No	No
Time limit	No	No	No
Market closing day	Only on 26, December, Tsunami Day, Closed ban seasons	Only during market strike	Only on 26 December (Tsunami day) and strike seasons

Table 2. Established marketing channels in the markets studied across the Tamil Nadu coastline

Name of the market	Marketing channels
Mahabalipuram Panchayat fish market	Fishermen → local dealer → Wholesaler → Retailer → Consumer Fishermen → Wholesaler → Retailer → Consumer Fishermen → Auctioneer → Retailer → Consumer
Saidapet fishing market	Fishermen → Wholesaler → Retailer → Consumer
Nagapattinam town fish market	Fishermen → local dealer → Wholesaler → Retailer → Consumer Fishermen → Wholesaler → Retailer → Consumer Fishermen → Auctioneer → Retailer → Consumer

Table 3. Quantity and average price of the major traded fishes

Species	Kancheepuram		Chennai		Nagapattinam	
	Quantity	Price	Quantity	Price	Quantity	Price
Carangids	NA	NA	1000	200	NA	NA
Crabs	500	150	500	200	500	100
Flying fishes	NA	NA	NA	NA	3500	150
Groupers	250	75	NA	NA	NA	NA
Mackerels	1000	100	1500	150	1000	100
Pomfrets	500	350	400	200	300	150
Prawns	700	150	3000	150	700	150
Sardines	400		500	50	200	70
Seer fish	1500	400	2500	500	1200	600
White Pomfrets	200	350	500	200	500	300
Anchovies	100	150	100	75	100	120
Baraccuda	100	65	100	80	100	70
Squids	100	150	100	300	100	150
Snappers	NA	NA	NA	NA	400	150
Tuna	400	100	300	100	600	100
Others	900	100	1600	100	1400	100
Total	6650	165	12100	166	10600	155

Table 4. Market Arrivals and Disposals

	Kancheepuram	Chennai	Nagapattinam
Arrivals	Kokkilmedu, Sadraskuppam, Venkateswharam	All Districts of Tamil Nadu - major hub	Karaikal, Pondicherry, Cuddalore
Disposals	Nungambakkam, Chintadripet, Patalam, Saidapet	Tondiarpet, Kasimedu, Royapuram, Minjur	Vedaranyam, Parangipettai, Tharangambadi, Kodiyakarai
Frequency	Everyday	Everyday	Everyday

Market structure and intermediaries

The fish markets studied are the two major, whole-sale and retail fish marketing, hubs from where both the finfishes and shellfishes are traded to domestic and international destinations. Among the three markets studied, the Kancheepuram fish market is a retail market and a terminal fish market situated in the shoreline of Mamallapuram coast with limited infrastructure. This may be due to the fishers of this region are involved only in the small scale fisheries sector. Major fish and fish based products produced by the small-scale fishing activities are absorbed by this domestic market in all the forms such as live fish, fresh / chilled fish or processed fish products. Details on various market structure parameters such as general information of the markets, market access, market profile, market control, market timings and market conduct were composed in Table 1. All three fish markets facilitate through different market intermediaries starting from the fish landing centre to the consumer. These intermediaries are involved in fish loading, processing, preservation, packing and transporting which results in cost addition at the stage of marketing (Bishnoi and Kumar, 2005). The key intermediaries are multifunctional include auctioneer, wholesaler, retailer, local fish collectors and fishermen co-operatives. The local fishers are the wholesale marketing heads who are multifunctional and also involved in processing, storage, value-addition and packaging. Different product diversifications based on the consumers demand for fish products in the domestic and regional markets were carried out by the traders.

Further, the fishes and fish products are marketed to the retailers. For an instance, some retailers are also involved in auctions to directly procure the fishes. The study indicated that the market potential of these markets ranged from 6-15 tonnes per day with a turnover of 10-25 lakhs per day.

The market structure analysis was based on the major market dimensions viz., location, type of market, timing, access, arrival and disposal sources, conduct, infrastructure amenities, market union and regulation. These ten dimensions of the market structure provide an understanding of the marketing functions, facilities available and the linkages of the intermediaries within the market. The market dimensions assessed indicated that these markets register considerable number of market functionaries and diversified marketing functions.

Marketing channels are different for every species and this study represent the highly observed marketing channels of the markets in (Table 2). The markets of Chennai and Mamallapuram are situated far from the landing centre which necessitates the need for creating added infrastructures such as icing, freezing and storage plants for better post-harvesting and processing. Nagapattinam fish market is relatively easy accessible to the intermediaries, and the infrastructures were developed inside the landing centre thereby enabling the vendors and other intermediaries to comfortably carry out the buying and vending activities.

Major traded fishery resources

About 40-50 species of marine and freshwater fishes were traded from these markets. The major traded fishes include scomberoids, pomfrets, sardines, mackerel, shrimps, tuna, crabs, murrels, snappers, groupers, sharks, dolphin fish and sail fish. The quantity and average price of the fishes traded from each market are presented in Table 3. The species composition and availability of fishes in these markets differ seasonally. Low-value fishes such as sardine, mackerel, flying fishes, croakers etc. are said to be available in all the seasons except the fishing ban periods. The average transaction of fishes from the Chennai-Saidapet market is the highest (50 -100 lakhs) followed by Nagapattinam (35 lakhs) and Kancheepuram (10 lakhs). Daily market turnover was about 100 tonnes with fishes valued to about more than 80 lakhs in Chennai-Saidapet market, 40-70 tonnes in Nagapattinam fishing market with value of 30 lakhs followed by Kancheepuram market with turnover of 8-10 lakhs trading fishes of quantum 10-15 tonnes.

Market arrivals and disposals

The data in Table 4 refers to the arrivals and disposal locations of fishes around the state. Fish arrivals to the Kancheepuram market are from small-scale coastal villages of Kancheepuram

and Pondicherry. This market sends disposals to different markets of Chennai. Chennai-Saidapet market serves to be the major fish marketing hub which supplies fishes to all the markets off the Tamil Nadu. Fish arrivals to Nagapattinam fish market are from the Nagapattinam, Karaikal and Pondicherry fishing harbours and the disposals sent to the villages adjacent to the Parangipettai and Kodiakarai coastline stretch. Frequency of the exchanges is on daily basis and are actively devised through the fish traders and marketing channels of the regions.

Constraint analysis

The major constraints experienced by the marketers were lack of adequate storage and processing units and price discrimination. The infrastructure amenities such as parking facilities waste disposing areas, hygienic drinking water are laudable requisites in markets of Chennai and Kancheepuram. Otherwise, the markets are controlled by the market union and fisher co-operative societies with manifestation of regulations on appropriate prices and fish supply periodically by the member-heads, which are strictly followed by all the marketing intermediaries to avoid internal conflicts and smooth running of the markets. The details of the infrastructure adequacy and regulations are detailed in the following Table 5.

Table 5. Market infrastructure and constraints experienced

Infrastructure Adequacy			
	Kancheepuram	Chennai	Nagapattinam
Parking Area	10-15 bikes, 2 cars	Platform parking on roads	more than 15-20 lorries, bikes and cars
Freezer	1	2	4
Icing	1	2	2
Salting	1	5	5
Processing	1	5	1
Fish meal plants	nil	Nil	1
Year of creation	2015	1987	2000
Source of creation	Town Panchayat	Chennai corporation	Municipality
Rental amount daily	Based on the fish size and quantity (Rs. 100 to above)		
Government and Market Regulation			

Is the market regulated by local bodies	Yes	Both local bodies and Government	Government
Level of intervention	Active	Active	Active
Credit/loan facilities	Incentives by the government		
Support of Authorities	Mamallapuram township	Corporation	Municipality
Support from State	Government of Tamil Nadu	Government of Tamil Nadu	Government of Tamil Nadu
Activities of market union	Mamallapuram Fishermen Co-operative Society	Chennai fishers Co-operative society	Nagapattinam fishers Co-operative society

Conclusion

Marketing structure of both domestic and international markets are annotated to be in an organisational set-up across all regions in India. However, the domestic seafood markets in some states were noted to be unorganised in both the physical facilities and trade quantum limits.

The study concluded that Tamil Nadu is one of the major marine fish producing state in the country and it has a wide array of fish markets across the state. The market structure analysis of the selected markets indicated that the trade flow is widely distributed covering the different parts of the state and other distribution and consumption destinations. Among these markets, Chennai which is one of the largest wholesale markets in the zone offers significant marketing functionaries and trade and caters to the fish demand of the nearby towns and cities as well as the neighbouring states. However lack of appropriate infrastructure and adequate amenities and low product diversity act as limiting factors in fish trade in majority of the markets studied. Hence appropriate government interventions in terms of strengthening infrastructure and imparting value addition may be created to facilitate better functioning of these markets, thereby augmenting revenue and catering to the increased demand for marine fish from nearby states. Moreover, the need for improved sanitation, hygienic conditions for clean-water and waste-disposals also stands as a common constraint experienced by the marketers of the Tamil Nadu coast.

In spite of the regulations, the marketers raised concerns towards providing incentives, credits or loans during the ban-season by the government for benefit of survival. The suggested developments in

infrastructure and expansions in preservation and post-harvesting units, new credit allocations and hygienic markets can build an much more active and profitable market structure thereby profiting all the multi-level market intermediaries and consumers. Besides this, the resurgent middle-income populations involved in the marketing chain as a seller, auctioneer or consumer would also meet their fulfilled food and nutritional security.

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