



Fish Market and Marketing System in the Cuddalore District- Chidambaram and Parangipettai Regions

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Abstract

The fish production in the country in 2022 was 8.13 million tonnes, of which 4.2 million tonnes was contributed by the marine sector and the rest by inland sector. Fish and fish products accounted for approximately Rs.9,200 crore towards country's exports, which constitutes 20% of the national agricultural exports. Marine fisheries sector forms the source of livelihood for over 7.5 million traditional fishermen inhabiting about 5,600 coastal fishing villages situated along the country's coastal belt. It provides direct and indirect employment for several million people in fishing, processing, trading and ancillary activities. The present study aims to find out the marketing problems of fisherman in Chidambaram and Parangipettai Villages in the Cuddalore District. A large number of people are concerned with fish production, distribution and marketing systems in both the fish markets of the Cuddalore District, viz., the Chidambaram fish market and the Parangipettai fish market. The main aim of this study is to describe the present status of fish marketing system of fish and dry fish products. The description is based on primary data and secondary data collected in the different markets.

Keywords: Fish Production; Fish Market; Fishermen; Dry Fish Species; Aquaculture

Introduction

A fish market is a marketplace for selling fish and fish products. It can be dedicated to wholesale trade between fishermen and fish merchants, or to the sale of seafood to individual consumers, or to both. Marketing of fish involves all the activities in the flow of fish or fish products from the farmer to the consumers. It includes various operations required to move the fish or fish products from the producer to the consumer [1,2].

Fish production is an integral part of the marketing process as fish and fishery products are highly traded commodities. Fish market is such kind of place where people gather for selling and buying of fishes. Fish market is also be

defined that a periodical gathering of people for buying and selling of fish or fisheries product. Fish marketing system is the system through which fishes reach to consumers from producers [2,4-8]. Fish consumers are to depend on an effective fish marketing system. In India, fish marketing is almost exclusively a preserve of the private sector where the livelihoods of a large number of people are associated with fish production and marketing systems [9,10]. However, the most serious marketing difficulties seem to occur in remote communities, with lack of transport, ice, and poor road facilities and where the farmers are in particularly weak position in relation to intermediaries [11]. Domestic markets and distribution of fish are dominated by a large number of intermediaries. All fish traded internally and for export pass through private channels. Fish distribution

usually involves four levels such as the primary market, the secondary market, the higher secondary market. To develop fisheries sector, is important to know the fish marketing system. Without developing fish marketing system, the fish farming communities and fishermen will be unable to derive their benefit from aquaculture and open water fisheries [12-14]. Establishment of modern fish landing centre and retail markets near the fish landing port, introduction of government fish shops and insulated and refrigerated fish vans and fish carriers, training of all personnel related to fish marketing about fish handling, quality of fish, hygiene practices, improvement of existing fish market structure, provision for government and private funding assistance for fishers/fish farmer, formulation and enactment of independent act/ordinance for fish landing and marketing

are highly recommended by Ali, et al. [15], the following are the goals of this investigation: To study the existing fish marketing systems in Chidambaram and Parangipettai fish market, to know pricing mechanism of fish at different levels and to identify marketing problems that have negative impacts on poor fishermen, traders and other associated groups and recommendation for improvement of the marketing system.

Materials and Method

Two fish markets of the Cuddalore district namely, the Chidambaram fish market and the Parangipettai fish markets were selected for the study. Data were collected from February 2023 to April 2023 (Figure 1).

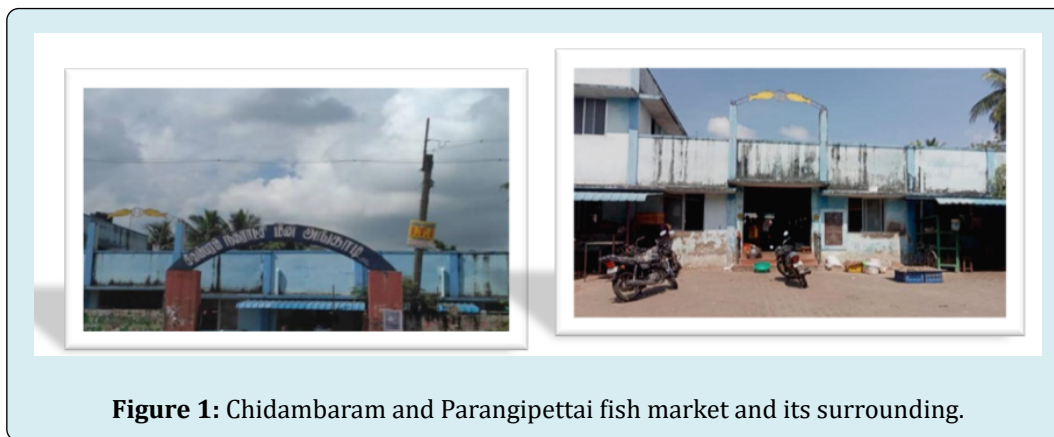


Figure 1: Chidambaram and Parangipettai fish market and its surrounding.

Selection of Target Group and Sample Size

The target groups were the fishermen who were involved in selling fish permanently (as the primary income source) and partially (as the secondary income source) for their livelihood. As Parangipettai market is a primary category market, 10 aratdars were selected from Chidambaram while 17 retailers were selected from both the fish markets.

Data Collection

Physical market visits and questionnaire -based interview methods were used for data collection. Data

were collected from both primary and secondary sources. Face to face interview was followed during data collection from aratdar and retailers. Various books, reports, journals, bulletins, thesis paper were also used as secondary sources for collecting data.

Data Analysis

The collected data were presented in textual, tabular and graphical form and analyze the data by using simple statistical tools such as mean and percentage using Microsoft excel 2007 (Table 1).

Data Collection Technique	Survey Area	Information Gathered
Eye to eye observation and Questionnaire survey	Chidambaram and Parangipettai fish market wholesale fish market	Building information, Fish shed, drainage condition, land use and environmental condition
FGD and KII		Electricity, ice and water supply, sanitation facility and infrastructural constraints.

Table 1: Data collection technique research tools for the study.

Data Processing and Analysis

After collection of data from the field, these were verified to eliminate errors and inconsistencies. Some of the collected data were in local units due to respondent's familiarity with those units. Data of local units were converted into international units before transferring to the computer. Preliminary data sheets were compared with the original questionnaire and result sheets to ensure the accuracy of the data entry. Data were processed and finally analyzed using Microsoft Excel Software.

Results

The results of the present study are based on the data collected from two different markets, Chidambaram and Parangipettai of the Cuddalore District (Table 2).

S.no	Name of the market	Day of the market
1	Chidambaram fish market	Daily
2	Parangipettai fish market	Daily

Table 2: The following is the day- wise list of whole sale market and retail markets.

Season and Time of Fish Trading

Fishes are marketed year-round. But during rainy season, the availability of captured fishes is very high before winter and during winter the availability of cultured fish is higher than captured fish. It was found that the Chidambaram fish

market activities ran from 7am to 6pm every day while the Parangipettai fish market activities ran from 7am to 6pm every day.

Quantity of Fish Sold

According to the study, it was found that daily supply of fishes in the Chidambaram fish market was approximately 1-2 tons, and that of the Parangipettai fish market is 40 kg per day.

Composition of Fishes in the Two Markets

According to the survey results, it was estimated that most of the fishes in these markets were Indian major carps and exotic carp. High quantities of other fishes such as Small Indigenous Species (SIS), catfishes, sardine, prawn, shrimp, tilapia, and other fish including marine are seen in the two markets. The market share of different fish species in the two markets are shown in Figure 2, Tables 3 and 4.

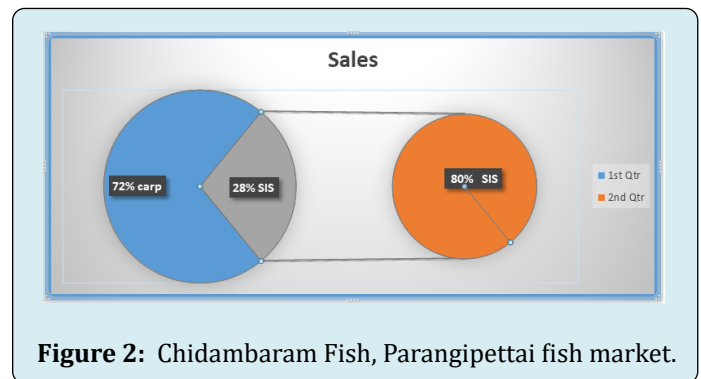


Figure 2: Chidambaram Fish, Parangipettai fish market.

S.No	Family	Local name	Scientific name	Price of species (Rupees /Kg)
1	Mugilidae	Mullet	<i>Mugil cephalus</i>	200
2	Clupeidae	Sardine	<i>Sardinella longiceps</i>	100
3	Scombridae	Mackerel	<i>Rastrelliger kanagurta</i>	150-200
4	Cyprinidae	Carp	<i>Catla catla, labio rohitta, Cirrhinus mrigala</i>	130-150
5	Embiotocidae	Pink perch	<i>Zalemibus rosaceus</i>	200- 250
6	Albulidae	Lady fish	<i>Albula vulpes</i>	250
7	Bramidae	Pomfret	<i>Brama brama</i>	100-150
8	Gadidae	Cod	<i>Gadus morhua</i>	300
9	Channidae	Murrel	<i>Channa striata</i>	300-400
10	Ictaluridae	Cat fish	<i>Siluriformes</i>	300
11	Engraulidae	Malabar anchovy	<i>Thryssa malabarica</i>	50
12	Sphyraenidae	Barracuda	<i>Perciformes</i>	150
13	Trachipteridae	Ribbon fish	<i>Trachipterus ishikawae</i>	100
14	Cichlidae	Tilapia	<i>Oreochromis niloticus</i>	50-100

15	Scombridae	Seer fish	<i>Scomberomorus commerson</i>	700 – 800
16	Engraulidae	Anchovy	<i>Stolephorus indicus</i>	150- 200
17	Oegopsina.	Squid	<i>Decapodiformes</i>	300
18	Lutjanidae	Red snapper	<i>Lutjanus campechanus</i>	300- 500
19	Acanthuridae	Unicorn fish	<i>Naso brevirostris</i>	300
20	Leiognathidae	Pony fish	<i>Leiognathus equulus</i>	50
21	Carangidae	Horse mackeral	<i>Trachurus trachurus</i>	150 – 200
22	Myliobatidae	Ray fish	<i>Batoidea</i>	300-350
23	Soleidae	Sole fish	<i>Solea solea</i>	100-150
24	Serranidae	Sea bass	<i>Centropristis striata</i>	300-400
25	Gerreidae	Silver biddy fish	<i>Gerres oyena</i>	50
26	Latidae	Barramudi	<i>Lates calcarifer</i>	150
27	Cichlidae	pearlspot cichlid,	<i>Etroplus suratensis</i>	100
28	Penaeidae	<i>White leg shrimp</i>	<i>Litopenaeus vannamei</i>	300-350
		<i>Indian prawn</i>	<i>Fenneropenaeus indicus</i>	500
		<i>Caramote prawn</i>	<i>Melicertus kerathurus</i>	500
		<i>Tiger shrimp</i>	<i>Penaeus monodon</i>	500
29	Polynemidea	Ootan	<i>Eleutheronema tetradactylum</i>	100
30	Regalecidae	Oar fish	<i>Regalecus glesne</i>	80-100
31	Pleuronectidae	Flat fish	<i>Hippoglossus tenolepis</i>	100-150
32	Sparridea	Sudan	<i>Leptobarbus hoevenii</i>	80- 100
33	Carangidea	Malabar trevally	<i>Carangidea malabaricus</i>	100
34	Malacostraca	Blue swimming crab	<i>Portunus pelagicus</i>	250
35	Beloonidea	Gar fish	<i>Belone belone</i>	100
36	Scombridea	Tittle tunny	<i>Euthynnus, alletteratus</i>	50-100

Table 3: Family, local name, scientific name of species recorded in both markets during the study period.

S.No	Order	Species	Price (Rs)
1.	Clupeiformes	<i>Sardine</i>	100- 120
2.	Lampriformes	<i>Ribbon fish</i>	200
3.	Gonorynchiformes	<i>Milk fish</i>	150
4.	Siluriformes	<i>Cat fish</i>	50
5.	Perciformes	<i>Pony fish</i>	50 -70
6.	Perciformes	<i>Tilapia</i>	50
7.	Perciformes	<i>Mackeral</i>	150-200
8.	Cypriniformes	<i>Carp</i>	150- 200
9.	Decopoda	<i>Prawn</i>	350
10.	Perciformes	<i>Jew fish</i>	150
11.	Decopoda	<i>Tiger shrimp</i>	500
		<i>White leg shrimp</i>	500
12.	Perciformes	<i>Red snapper</i>	350-500

13.	Perciformes	<i>Cod</i>	250-300
14.	Mugiliformes	<i>Mullet</i>	200
15.	Cypriniformes	<i>Sudan</i>	100
16.	Clupeiformes	<i>Llish</i>	100-150
17.	Cypriniformes	<i>Squid</i>	150
18.	Decopoda	<i>Crab</i>	300
19.	Perciformes	<i>Rabbit fish</i>	150
20.	Elopiformes	<i>Lady fish</i>	200
21.	Pleuronectiformes	<i>Sole fish</i>	150
22.	Carangidea	<i>Malabar trevally</i>	50-70
23.	Scombridea	<i>Bluefin</i>	150
24.	Scombridea	<i>Little tunny</i>	50- 100
25.	Scombriformes	<i>Seer fish</i>	800- 900

Table 4: Price of Parangipettai fish market.

Women Involvement

Women are involved in many fishery activities such as aquaculture, fishing, and capture. Mostly fisherwomen are observed selling fish and shrimps in both the markets

(Chidambaram and Parangipettai). They are engaged in selling fish signifying their major role in marketing (Figures 3-32).



Figure 3: Fisher Women who are Involved in Selling Fish.



Figure 4: Squid.



Figure 5: Cod.



Figure 6: Sardine.



Figure 7: Murrel.



Figure 8: Ray Fish.



Figure 9: Mullet.

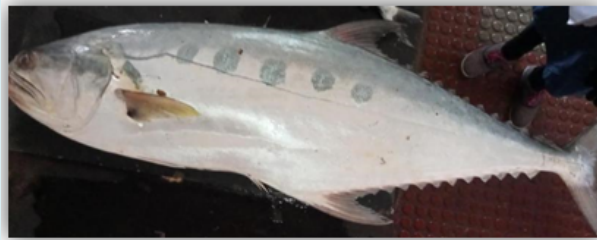


Figure 10: Seer Fish.



Figure 11: Barracuda.



Figure 12: Murrel.



Figure 13: Cultured Pomfret.



Figure 14: Wild Pomfret.



Figure 15: Red Snapper.



Figure 16: Mullet.





Figure 20: Pink Perch.



Figure 21: Sea Bass.



Figure 22: Pomfret.



Figure 23: Red Snapper.



Figure 24: White Leg Shrimp.



Figure 25: Tiger Shrimp.



Figure 26: Anchovy.



Figure 27: Caramote Prawn.



Figure 28: Lady Fish.



Figure 29: Crab.

Figure 30: processing of fish.



Figure 31: Mud Crab.



Figure 32: Ice Freezing of Fish.

Dry Fish Species

Different types of fish found in these fish markets are salted and dried to prepare dry fishes. Freshwater (inland

and brackish) and marine water species were dried (Figure 33) and (Table 5).



Figure 33: Dry fish varieties of both markets.

S. No	Local name	Scientific name	Family	Price
1.	Clupeidae	Sardine	<i>Sardinella longiceps</i>	(50) -100 Rs
2.	Engraulidae	Anchovy	<i>Stolephorus indicus</i>	200- 250 Rs
3.	Gadidae	Cod	<i>Gadus morhua</i>	200 Rs
4.	Clupeidae	Cat fish	<i>Sardinella longiceps</i>	100 Rs
5.	Mugilidae	Mullet	<i>Mugil cephalus</i>	100 Rs
6.	Trachipteridae	Ribbon fish	<i>Trachipteru sishikawae</i>	150 Rs
7.	Bramidae	Pomfret	<i>Brama brama</i>	100Rs

8.	Leiognathidae	Pony fish	<i>Leiognathus equulus</i>	70 Rs
9.	Lutjanidae	Red snapper	<i>Lutjanus campechanus</i>	200Rs
10.	Cyprinidae	Carp	<i>Laeo rohita</i>	200 Rs
11.	Cichlidae	Tilapia	<i>Oreochromis niloticus</i>	100Rs
12.	Scombridae	Mackeral	<i>Rastrelliger kanagurta</i>	150 Rs
13.	Sparridea	Sudan	<i>Leptobarbus hoevenii</i>	100 Rs
14.	-	Dried shrimp	-	50 Rs
15.	-	Dry prawn	-	200 Rs

Table 5: Dry fish family, local name and scientific name.

Price of Fish

The price of fish varied considerable depending upon the freshness, availability, season, size, species and quality of the specimen being sold. Alam Md, et al. [16] reported that market structure, species quality, size and weight influence the price of fish. In two markets of Chidambaram and Parangipettai fish market, pricing policy is not fixed by the government and trade association. The price of fish was usually set through open auction and bidding bargain between wholesalers and retailers. According to policy of auction system, the price for an allotment of fish was settled firmly through open, competitive bidding. The highest bidder takes prompt delivery of the commodity in exchange of cash payment. Generally, bidding was announced loudly by auctioneer in front of retailers. Auctioneer usually charges about 2-3% commission of the sale price from wholesalers. Different kind of fishes like shrimp, prawn, crab, seer fish etc. were also sold in these markets. These kinds of fishes also have good economic importance. Among them seer fish (<25cm) average price was 400 TK./kg and the big size(26-40cm) was about 700 -800TK./kg. and the lowest for pony fish (TK. 50 per kg).

Profit Margin

In the present study it is found that the primary producers barely get 45-50% of the retail market prices for their products. Middlemen get 35-40% of the retail market prices. The cost of transportation, preservation and tools paid to leaseholders determine how much share of the retail market prices get fishermen/farmers. The quality/weight loss of 5-10% and the remaining 15-20% was spent for transportation, preservation and other charges.

Income of Wholesalers and Retailers

The result of the study showed that average daily income of wholesaler in Chidambaram fish market was TK.700, while in Parangipettai fish market at TK. 500. Wholesalers engage themselves a short period (3 to 5 hours) for fish selling as middlemen and earn a considerable amount of money in

comparison with retailers. The average gross profit of the retailers of the Chidambaram fish market was estimated to be 500 TK./day and Parangipettai fish market about 300TK./day. It is true that the wholesalers are influential persons in the fish markets and they have a strong relationship with other intermediaries.

Constraints Present

A number of constraints for fish marketing were reported by the retailers. The constraints were lack of storage facilities, poor supply of ice, exploitation by middlemen, lack of money and lack of infrastructure. On the basis of findings of the study the following recommendations have been made for the improvement of existing marketing of fishes:

- Introduction of modern wholesaling and retailing facilities with maintaining the quality of products;
- Introduction of fish quality control measures
- Establishment of ice factories in every fish market area
- An efficient market developing system should be developed
- Improvements of hygienic and sanitary facilities of fish trading centers and fish markets
- Provision of governmental, institutional and banking assistance
- Training of fish market operators on fish preservation, handling, icing, curing and hygiene
- Institutional credit can be provided on easy term for the retailers at their crisis moment.

Conclusion

A large number of people are concerned with fish production, distribution and marketing systems in both the fish markets of the Cuddalore District. The main aim of this study is to describe the present status of fish marketing system of fish and dry fish products. The description is based on primary data and secondary data collected in the different markets. The following is the summary of the present study:

- Fishes are marketed year-round in both markets.
- It was found that the Chidambaram fish market activities ran from 7am to 6pm every day while the Parangipettai

fish market activities ran from 7am to 6pm every day.

- The daily supply of fishes in the Chidambaram fish market was approximately 1-2 tons, and that of the Parangipettai fish market is 40 kg per day.
- High quantities of other fishes such as Small Indigenous Species (SIS), catfishes, sardine, prawn, shrimp, tilapia, and other fish including marine are seen in the two markets.
- Mostly fisherwomen are observed selling fish and shrimps in both the markets (Chidambaram and Parangipettai).
- They are engaged in selling fish signifying their major role in marketing.
- Different types of fish found in these fish markets are salted and dried to prepare dry fishes.
- The price of fish varied considerable depending upon the freshness, availability, season, size, species and quality of the specimen being sold.
- In the present study it is found that the primary producers barely get 45-50% of the retail market prices for their products.
- Middlemen get 35-40% of the retail market prices.
- The cost of transportation, preservation and tools paid to leaseholders determine how much share of the retail market prices get fishermen/farmers.
- The average gross profit of the retailers of the Chidambaram fish market was estimated to be 500 TK./day and Parangipettai fish market about 300TK./day.
- A number of constraints for fish marketing were reported by the retailers. The constraints were lack of storage facilities, poor supply of ice, exploitation by middlemen, lack of money and lack of infrastructure.
- Recommendation has also been made for the improvement of existing marketing system.

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