

# A Study on Marketing Structure and Price Behaviour of Marine Fish in Tamil Nadu

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Marine fishermen in India are said to be suffered by way of not getting the due price for their produce. The difference between the price of fish paid by the consumer and received by the fishermen is considered to be large. The pricing efficiency is concerned with improving the operation of buying, selling and other connected aspects or marketing process so that it will remain responsive to consumer direction. On the one hand, the producers deserve a legitimate share in the consumer's rupee, and on the other, the consumers have to be safeguarded against excessive prices. These twin objectives can be achieved by ensuring various marketing services at reasonable costs i. e. restricting margins to a reasonable level. As the fish like any other product moves closer and closer to the ultimate consumer, the selling price increases since the margins of the various intermediaries and functionaries are added to it.

moved from the producers to the ultimate consumers at the minimum cost, the marketing system is said to be efficient. The perishable nature of the fish, seasonality of its production and the distance between the producer (fishermen) and the consumers are some of the important factors which require attention while assessing the marketing margin.

The present study on fish marketing was carried out in the Madras region of Tamil Nadu. The main objectives are (i) to carry out a comprehensive study of price spread for major varieties of marine fish to estimate the components of marketing margin and the share of producer in consumer's rupee (ii) to find out the relationship between prices at different levels of fish marketing channel and (iii) to study the various problems relating to fish marketing system.

## DATA AND METHODOLOGY

Pudumanikuppem landing centre has been selected as the primary fish market for observation since it records maximum landing of marine fish in the Madras coast and its supply is mainly confined to the city and suburban areas. Similarly, among the wholesale fish markets of Madras city, Chintadripet dominates in terms of quan-

The marketing margin is an indicator of efficiency of the marketing system. In the absence of any value added process higher the value of marketing margin the lower is the efficiency of the marketing system. Hence, if the goods can be

tivity of arrivals and the number of retail purchasers. Maximum quantity of fish from pudumanikuppam landing centre is also channeled to this wholesale market in addition to the arrivals from other centres of Tamil Nadu and Andhra coasts. Hence, the Chintadripet wholesale market has been selected to record the wholesale price during the reference period. There are about 200 fish retailing outlets in Madras city, mostly bringing fish either from Pudumanikuppam landing centre or Chintadripet wholesale market. Considering the distance from the primary and wholesale markets, the size of the market arrivals and number of buyers and sellers operating at each centre, Pattalam, Chintadripet, Saidapet and Vadapalani markets were selected for recording the consumer prices. Data on landing centre prices, wholesale and retail prices of different varieties of fish were collected by following the marketing channel. Information on cost of sorting, packing and transportation was also collected at different stages. Data have been collected 15 to 20 days in each quarter during the period from April 1984 to March 1985.

The gross marketing margin which includes marketing costs and the middle men's margin is the difference between the consumer price and the price received by fishermen at landing centre. The ratio of gross marketing margin to retail price indicates the efficiency of the marketing system. The average of the retail prices of each variety at four centres was taken as the mean retail value of the fish. All costs involved for assembling, grading, storing, packing, transportation and handling of fish are included under marketing expenses. The gross marketing margin and share of middlemen and fishermen are worked out by using the following formulae.

$$\text{Gross marketing margin (GM)} = \frac{\text{Retail Price (RP)} - \text{Landing Centre price (LP)}}{\text{Retail Price (RP)}}$$

$$\text{Percentage of marketing in margin consumer's rupee} = \frac{\text{RP} - \text{LP}}{\text{RP}} \times 100$$

$$\text{Percentage share of fishermen in consumer's rupee} = \frac{\text{LP}}{\text{RP}} \times 100$$

All the varieties of fish covered under the study were divided into three groups based on the level of consumer preference. The consumer preference for a variety was determined by the annual average consumer price of that variety in the selected consumer markets. The fishes with average consumer price of above Rs. 15 from 1st group, Rs. 10-15 2nd group and less than Rs. 10 3rd group.

## MARKETING STRUCTURE

### (i) Primary market:

Pudumanikuppam, the major mechanised fish landing centre, is situated about 10 Km north of Madras city. The gillnetters and catamarans mostly land their catch in the morning and most of the trawlers land their catch in the afternoon. The morning market at this landing centre hold from 6 A. M. to 10 A. M. and the evening market commences from 14.30 hours and continues till late evening. About 5,000 people involved in different marketing activities at this centre are categorised below.

1. Auctioneers	-	30
2. Women retailers	-	800
3. Cycle vendors	-	200
4. Bulk purchasers	-	50
5. Wholesalers	-	25
6. Commission agents	-	20
7. Others	-	4000
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The distribution pattern of the major varieties of fish sold in fresh and as processes is given below.

Sl. No.	variety of fish	Distribution pattern %	
		Fresh sales	processing
1	Threadfin breams	90	10
2	Silverbellies	70	30
3	Ribbon fish	60	40
4	Lizzard fish	90	10
5	Greyfin croaker	90	10
6	White baits	75	25
7	Sharks	50	50
8	Rays	70	30
9	White fish	90	10
10	Cat fish	80	20

The auctioneers at the landing centre take 5 to 10 per cent of the fish auctioned by them as their commission. Many of the auctioneers advance money to the fishermen. They take this share towards interest for the loan given. They are benefitted in two ways. Firstly the fishermen who have taken loan are bound to sell their catch only through these auctioneers and secondly they get comparatively high return to the amount advanced as the value of fish taken exceeds the normal interest.

For prawns, there are two channels for marketing - one for the domestic and the other for foreign market. There are 5 commission agents supplying the exportable prawns to the processing units. These agents collect prawn catch in carrier boats (catamarans) at pre-fixed prices and transport it to their sheds. The mode of disposal of prawns for domestic market is by auction. Very small size of prawns are auctioned either in baskets weighing 25kg to 30kg each or the whole catch in one lot. In the domestic market

auctioning is also done by fixing the rate per kilogram. After the rates (per kg) is fixed, the prawns are taken to the shed, weighed and the payment is settled.

There is no fish meal plant located in the vicinity of the landing centre. However, about 12 agents are involved in the supply of dried fish wastes to fish meal plants. The study reveals that 15-20 per cent of the trawler catch coming under this category is going for fish meal plants. It consists of the young ones of silverbellies (20%), *thryssa sp* (10%), *Cynoglosses spp.* (10%), ribbon fish (5%), crab (25%), chunks and shells (13%), squilla (2%) and others (15%). About 30 women are employed for drying fish waste at this centre and paid about Rs. 15/- per day each.

#### (ii) Wholesale market

Chintapripet wholesale market is 12 km from Padumanikuppam primary market and located in the heart of Madras city. The transactions of the wholesale market start at 7.30 A. M. and end by 9 A. M. involving 15 wholesale traders in this market for distribution of fish. Daily 5 to 15 tempos and 12 to 30 cycle rikshaws are engaged to transport fish to this market, the number varying according to the season. The inflow of fish to this market is not only from Pudumanikuppam landing centre, but also from many other landing centres in Madras region and Andhra coast. The freight charges for transportation of fish is Rs. 3/- per km. The tempo van carries 600 to 800 kg of fish packed in baskets. The other commonly used mode of transportation is motorised cycle rikshaws. The Cycle rikshaws carry about 3 baskets of fish, weighing around 300kg and are generally engaged on contract basis for Rs. 25/- to 35/- per trip from Pudumanikuppam fish

landing centre to the Chinthadripet wholesale market. The baskets of fish loaded for transportation are properly iced and packed.

The mode of disposal of fish in the Chinthadripet market is auctioning. The auctioneers take a portion of fish (about 2 to 5 per cent) as their commission, mostly in kind. The fish taken by them as their share is also auctioned at the end, each one gets Rs. 50 to 100 per day. About 150 to 300 retail traders from different markets in the city, participate in auctions. They carry fish to various retail markets by cycles and motorised cycle rikshaws.

### (iii) Retail Markets

Out of about 200 retail fish outlets in the Madras city, four retail markets namely Pattalam, Chintadripet, Vadapalani and Saidapet were selected for the present study based on the distance from primary and wholesale markets and volume of sales. Pattalam is the nearest retail market whereas Saidapet is the farthest both from Pudumanikuppam landing centre and Chintadripet wholesale market.

In Pattalam fish market, there are about 80 retail traders and 20 dry fish stalls. The inflow of fish to this market is mainly from the landing centres of Pudumanikuppam, Ayothiakuppam, Notchikuppam and Ouroorkuppam and wholesale market of Chintadripet. About a quantity of 4 tonnes of fish was sold in a day in retail and about a quantity of 500 kg of ice was utilised per day in this market. About 25 per cent of the market arrivals are by bi-cycles, 50 per cent by motorised cycle rikshaws and the rest by headloads and tempos.

In Chinthadripet, the wholesale marketing will be over by about 9 A. M. The same stalls are then used for retail trading. There are about 70 retail traders in this market, 40 of them being females. About 90 per cent of their consignments are purchased from this market itself by the retail traders and the rest brought directly from landing centres including Pudumanikuppam.

There are about 20 retail traders in Vadapalani fish market. They bring fish from Chinthadripet wholesale market and other landing centres such as Rayapuram and Triplicane. Most of the retailers bring fish by bicycles.

In Saidapet retail market, there are about 50 retail traders, 40 of the being women. The arrivals are not only from Chinthadripet wholesale market, but also from the landing centres of Madras coast, mostly from Pudumanikuppam, Thiruvanniyoor, Kottivakkam, Notchikuppam, Ouroorkuppam and Ayothiakuppam. About 3 tonnes of fish per day is transacted through retail trading and the average daily requirement of ice is about 400kg. Regarding transportation, about 40 per cent of fish is brought by motorised cycle rikshaws, 25 per cent by bicycles and remaining by headloads and tempos. For dry fish business there are 12 stalls in this market.

## MARKETING CHANNELS

Since the marine fish is consumed all over the country, it has to be carried to a long way from coastal to interior parts of the country. Marine fishes thus pass through the following prominent channels to reach the ultimate consumers.

- (i) Fishermen - wholesaler - retailer - consumer.

- (ii) Fishermen-commission agent, wholesaler (landing centre) - wholesaler (retail markets) - retailer-consumer.
- (iii) Fishermen - retailer - consumer.
- (iv) Fishermen - consumer.

The major portion of fish trading is practised through Ist and IInd channels. The auctioneers in the primary market and commission agents in secondary markets are also involved in the process without involving themselves in direct possession of the fish. For their marketing service they get commission either from fishermen or from wholesale traders.

### MARKETING EXPENSES

The fish passes through a number of hands before reaching to the ultimate consumer. Due to its perishable nature proper preservation and handling is vital. Bamboo baskets are mostly used to pack the fish which is costing around Rs. 15 and last for a period of about a month. About 25 to 30 kg of fish can be packed in a single basket. The usual mode of transportation are trucks, tempos, motorised cycle rikshaws, bicycles and head-loads. During the reference period the freight charge for a truck load was Rs. 3 per kilometer. In the Madras region, especially for the transportation of fish from Pudumanikuppam to Chinthadripet wholesale market and retail markets, the motorised cycle rikshaws are commonly used. At times even 2 to 3 retailers join together and transport their baskets in a single rikshaw. For packing one basket of fish, 10 to 15 kg of ice is used costing Rs. 6/- to 10/-. The labour charges for packing and loading / unloading worked out at Rs. 2 per basket.

It was found that the marketing cost including handling and transportation of big size fishes like seer fish, giant sea

perch, pomfrets, sharks and barracudas was comparatively higher than that of small size fishes such as sardines, lizard fish and threadfin bröms. The marketing cost of quality fishes transported from Pudumanikuppam to Chinthadripet wholesale market was about 70 paise per kg and for other varieties 45 paise per kg. The marketing expenses of all varieties transported from Chinthadripet wholesale market to Pattalam ranged from 30 to 40 paise per kg, Chinthadripet to Saidapet ranged from 40 to 60 paise per kg and Chintadripet to Vadapalani ranged from 30 to 50 paise per kg.

### QUARTERLY TREND IN PRICE BEHAVIOUR

The average prices for different varieties of fish at Pudumanikuppam landing centre, Chintadripet wholesale market and the selected retail markets during April-June 1984 are given in Table 1. The fisherman received maximum price for seer fish (Rs. 18 per kg) and minimum for rays and silverbellies (Rs. 2 per kg). The difference of wholesale price from landing centre price ranged from Rs. 0.5 to 5 per kg and retail price ranged from Rs. 2.50 to 7.10 per kg for different varieties of fishes. Barring few varieties (seer fish and pomfrets), the average consumer price of other varieties found to be more than double of the landing centre price. Among the consumer markets studied, the average retail prices of different varieties of fish were comparatively lower at Pattalam and higher at Vadapalani.

The average wholesale and retail and landing centre prices of fishes during July-September 1984 are given in Table 2. The increase in wholesale price over landing price ranged from Rs. 1/- to 7/- per kg for different varieties of fish whereas increase in retail price over the

wholesale price ranged from Rs. 2.00 to 8.00 per kg. The consumer price for almost all varieties of fish were comparatively high during this quarter. A four-fold increase in sharks and five-fold increase in rays were observed in the consumer price over that of landing centre price.

Fishermen received an average of Rs. 15 per kg for seer fish and Rs. 2 per kg for rays and silverbellies during Oct.-Dec. 1984 (Table 3). In general the landing, wholesale and retail prices were comparatively low during this quarter in Madras region. The heavy fish landings in the peak season was responsible for the reduction in prices. The increase in wholesale price over the landing centre price ranged from Rs. 1 to Rs. 7 per kg for different varieties of fish and the retail price over the wholesale price from Rs. 2 to 8.50 per kg during this quarter.

During Jan. - March 1985, the fishermen received the maximum price of Rs. 19 per kg for seer fish and pomfrets and minimum of Rs. 3 per kg for lesser sardines (Table 4). The lean season associated with lesser supply of marine fish boosted the landing and retail price during this quarter. The margin in wholesale price over the landing centre price ranged from Rs. 0.5 to Rs. 5 per kg for different varieties of fish whereas difference in retail price over the wholesale price ranged from Rs. 1.50 to 8.50 per kg.

The quarterly minimum and maximum landing centre prices and retail prices have been worked out and given in Table 5. The quarterly variation in landing centre price is very wide for sharks, rays, threadfin-breems and cuttle fish and it is reasonably high in case of wolf-herring, white fish and lesser sardines. Among these varieties, a portion of the landings

of sharks, rays, thread-fin-breems and white fish go for curing and drying but cuttle fish is having export demand. But the wide fluctuation in landing centre prices is not reflected in the retail prices of these varieties in the local markets. Because of the near monopolistic situation at the wholesale level which has been much facilitated by the available processing facilities for the respective varieties, the supply is controlled at the wholesale as well as retail levels and prices are maintained at a higher level even during the period of peak landings. Hence, the benefit of getting higher prices at the wholesale level due to the availability of processing facility was not transferred to the fishermen and the prices at the landing centre showed remarkable fluctuations depending up on the size of catch. The wide seasonal fluctuation of the price of lesser sardines was in accordance with its volume of landings. Lesser sardines was one of the varieties which showed very high quarterly fluctuations in its abundance in catch. For example, of its total landings in Madras and Chengalpet districts during the year 1984-85, 70 per cent was landed only during April-June when the price slashed down to the minimum level.

The seasonal variation of price for varieties like threadfins, tiger-toothed croaker, Indian halibut, greyfin croaker, silverbellies, Indian mackerel and ribbon fish, was insignificant. For ribbon fish, and silverbellies, though the total catch was much higher are compared to other varieties, its quarterly landings were more or less evenly distributed and consequently the seasonal fluctuations in the prices was also not significant. Even for the quality fishes like seer fish and pomfrets the relative price variation was moderate.

Regarding retail prices quarterly fluctuation was not considerable except for pomfrets, barracudas, carangids and rays. Of the twenty five varieties listed in the table, for eleven varieties the quarterly variations in retail price in absolute terms ranged from Rs. 0.35 to Rs. 2.00. Seasonal fluctuation in retail prices was comparatively higher for barracudas, carangids and rays. In Madras region barracudas and carangids are considered to be substitutes for quality fishes like seer fish and pomfrets and thus the level of supply of the latter influences the demand for and the resultant prices of carangids and barracudas. This explains the wide fluctuations in the prices of barracudas and carangids.

The seasonal fluctuation in fish prices at the producer level was wider as compared to consumer level. The excess supply of any variety of fish pulls down the price at the landing centre. But its effect was not fully reflected in the retail market as the excess was supplied to different interior markets. It has been observed that the availability of processing facilities like curing and drying for certain varieties (sharks, rays and silverbellies) does not help the fishermen to get a better price during the time of huge catch. The wholesalers mainly take advantage out of it.

#### MARKETING MARGIN

The marketing margin accounted for quite a big chunk of the consumer price for most of the varieties of fish covered under the study. The annual average marketing margin for these varieties ranged from 28 to 68 per cent of the consumer price. During the year 1984-85, marketing margins ranged from 24 per cent (pomfrets) to 68 per cent (rays) in first quarter, 24 per cent (pomfrets) to 81

per cent (rays) in second quarter, 33 (pomfrets) to 78 per cent (rays) in third quarter and 31 per cent (threadfin breams) to 64 per cent (tunas) in fourth quarter.

The marketing margin is shared by auctioneers, commission agents, wholesalers and retailers and a portion goes towards marketing expenses including transportation. The average landing centre price and consumer price for different varieties of fish along with marketing margins and its percentage distribution are presented in Table 6. The marketing expenses varied from 11 per cent for sharks to 23 per cent for lizard fish in the marketing margins. The wholesalers margin ranged from 10 per cent for goat fish to 47 per cent for white fish and retailers margin from 36 per cent for white fish to 73 per cent for seer fish.

#### SHARE OF FISHERMEN AND MIDDLEMEN IN CONSUMER'S RUPEE

An earlier study on fishermen's share in consumer's rupee in west coast (Quilon-Kerala) indicated that fishermen received higher share in consumer's rupee for quality fishes (Panikkar and Sathiadhas 1981). In the present study also, the higher share of producer in consumer's rupee for quality fishes in group I (seer fish and pomfret) confirmed the earlier findings. However for sharks and tunas which were high priced and included in the first group, fishermen received only 36 paise out of consumer's one rupee. It is seen from the table 7 that wholesaler's share (27 ps.) was maximum for sharks as compared to other varieties. The supply of shark was controlled by wholesalers by diverting it for processing. This indicates that fishermen are not much benefited by the availability of processing facilities for any variety of fish and mainly

wholesalers take advantage of it. In the case of tuna, even though it is not considered as quality fish, the retailers managed to get higher prices by cutting the fish and selling it in pieces. Hence, among all the varieties in the 1st group retailers received maximum share (36 ps.) in consumer's rupee for tunas.

In the 2nd group, fishermen received only 32 paise in case of rays whereas retailers received 31 paise by selling in pieces. The wholesalers also received the maximum share (26 ps) for rays.

In III group, fishermen's share was minimum for silverbellies (32 ps) and maximum for other sardines (57 ps). For other sardines retailers got fairly good margin (29 ps), but the wholesalers received only 5 paise. Because of its small size and the abundance in landings the wholesalers used to transact in bulk quantity and their total margin sufficiently high. Retailers were able to get good margin for this variety mainly due to its consistent demand from the purchasers of low marketing budget.

Among all the varieties, a minimum share of 32 ps for fishermen and a maximum of 45 ps for retailers in consumers one rupee was found for silverbellies. This variety is comparatively popular in this region. But due to the abundance in catch the higher level of consumer price was not reflected in the landing centre price.

#### 1. SEER FISH:

WP = 7.434 + 0.692	LP ( $r^2 = 97\%$ )	.....	(1)
RP <sub>1</sub> = 11.404 + 0.596	WP ( $r^2 = 87\%$ )	.....	(2)
RP <sub>2</sub> = 6.995 + 1.846	WP ( $r^2 = 96\%$ )	.....	(3)
RP <sub>3</sub> = 13.026 + 0.604	WP ( $r^2 = 85\%$ )	.....	(4)
RP <sub>4</sub> = 13.642 + 0.498	WP ( $r^2 = 76\%$ )	.....	(5)

The share of marketing expenses in consumer's rupee ranged from 4 paise to 14 paise. However it was less in the case of 1st group (4 ps to 9 ps) and more in the 3rd group (9 ps to 14 ps). The share of marketing expenses in consumer's rupee was lower for 1st group as compared to 2nd and 3rd groups because of its lesser volume of transaction and higher value.

#### THE RELATIONSHIP BETWEEN LANDING CENTRE, WHOLESALE AND RETAIL PRICES.

The functional relationship of wholesale to landing centre price and retail to whole price has been estimated for selected commercially important varieties like seer fish, pomfrets, sharks, barracudas, threadfin breams and white baits.

Since the relationship is based on cross sectional data it is assumed that in the short run wholesale price depends on the landing centre price which in turn is determined by volume of catch and the retail price depends on the wholesale price. To estimate the relationship, wholesale price is regressed on landing centre price and retail price is regressed on wholesale price. In the relationship L. P. denotes landing centre price at Pudumani-kuppam, W. P. wholesale price at Chintadripet and RP<sub>1</sub>, RP<sub>2</sub>, RP<sub>3</sub> and RP<sub>4</sub> represent retail price at Pattalam, Chintadripet, Vadapalani and Saidapet markets respectively. The functional relationship of wholesale to landing centre price and to retail prices at the four markets for selected varieties have been given below.



## 2. POMFRETS:

WP	=	1.393 + 1.094	LP	( $r^2 = 82\%$ )	.....	(6)
RP <sub>1</sub>	=	5.834 + 0.838	WP	( $r^2 = 88\%$ )	.....	(7)
RP <sub>2</sub>	=	5.812 + 1.062	WP	( $r^2 = 71\%$ )	.....	(8)
RP <sub>3</sub>	=	13.850 + 2.063	WP	( $r^2 = 95\%$ )	.....	(9)
RP <sub>4</sub>	=	3.157 + 1.322	WP	( $r^2 = 91\%$ )	.....	(10)

## 3. SHARKS:

WP	=	2.724 + 1.157	LP	( $r^2 = 90\%$ )	.....	(11)
RP <sub>1</sub>	=	8.200 + 0.600	WP	( $r^2 = 90\%$ )	.....	(12)
RP <sub>2</sub>	=	4.135 + 0.904	WP	( $r^2 = 90\%$ )	.....	(13)
RP <sub>3</sub>	=	9.027 + 0.637	WP	( $r^2 = 91\%$ )	.....	(14)
RP <sub>4</sub>	=	10.366 + 0.519	WP	( $r^2 = 91\%$ )	.....	(15)

## 4. BARRACUDAS:

WP	=	1.360 + 1.429	LP	( $r^2 = 93\%$ )	.....	(16)
RP <sub>1</sub>	=	2.345 + 1.083	WP	( $r^2 = 93\%$ )	.....	(17)
RP <sub>2</sub>	=	7.196 + 1.054	WP	( $r^2 = 78\%$ )	.....	(18)
RP <sub>4</sub>	=	0.434 + 1.395	WP	( $r^2 = 88\%$ )	.....	(19)

## 5. THREADFIN BREAMS:

WP	=	6.779 + 0.402	LP	( $r^2 = 95\%$ )	.....	(20)
RP <sub>1</sub>	=	8.528 + 0.444	WP	( $r^2 = 81\%$ )	.....	(21)
RP <sub>2</sub>	=	1.836 + 1.153	WP	( $r^2 = 92\%$ )	.....	(22)
RP <sub>3</sub>	=	1.262 + 1.540	WP	( $r^2 = 72\%$ )	.....	(23)
RP <sub>4</sub>	=	3.844 + 0.872	WP	( $r^2 = 87\%$ )	.....	(24)

## 6. WHITE BAITS:

WP	=	1.915 + 0.870	LP	( $r^2 = 84\%$ )	.....	(25)
RP <sub>1</sub>	=	1.055 + 1.093	WP	( $r^2 = 85\%$ )	.....	(26)
RP <sub>2</sub>	=	1.775 + 1.900	WP	( $r^2 = 79\%$ )	.....	(27)
RP <sub>4</sub>	=	0.334 + 1.395	WP	( $r^2 = 88\%$ )	.....	(28)

It is seen that one rupee increase in landing centre price of seer fish at Pudukkuppam led to Rs. 0.69 increase in wholesale price at Chintadripet. Similarly one rupee increase in the wholesale price of seer fish led to an increase in retail price of Rs. 0.6 at Pattalam, Rs. 1.85 at Chinthadripet, Rs. 0.60 at Vadapalani and

Rs. 0.50 in Saicapet markets. Similarly the relationship can be explained by equations given for other varieties.

For all the above equations, 82 to 97 per cent variation in the wholesale price (equation, 1, 6, 11, 16, 20, 25) is explained by landing centre price. The

WP-RP relationship explains 71 to 96 per cent of variation in retail prices. The effect of landing centre price on wholesale price was much higher for barracudas, sharks and pomfrets and comparatively low for threadfin breams. The effect of wholesale price on retail price, for almost all varieties was more in Chinthadripet retail market (RP<sub>2</sub>), mainly because it was the major retail as well as wholesale fish market in the city. The number of purchasers were more and the demand for fish was higher as compared to other retail markets.

#### SUMMARY AND CONCLUSION:

Fish marketing in Madras region is still under the clutches of middlemen. The fishermen do not get legitimate share in the recent price escalation of fish and fish products. The involvement of several middlemen in the marketing chain is detrimental to the interest of both producers and consumers. The high level of marketing margin indicates the inefficient fish marketing system prevailing in this area. Of the 25 varieties of fish covered under the study, the percentage of marketing margin in consumer's price for 20 varieties which constitute 90 per cent of landings in this area worked out at more than 40 per cent. For some varieties it was as high as 68 per cent.

The variation in landing centre price is wide only for few varieties depending upon the size of its day to day catch. Even for these varieties the retail prices do not show much fluctuation. Because of the monopolistic situation at the wholesale level, the wholesale and retail prices are maintained at a higher level even at the time of glut either by controlling the supply by making use of the processing facilities or by diverting it to different retail markets. It has been found

that whatever the processing facilities including drying and curing available in this area, only the middlemen take advantage out of it and its benefit is not transferred to the fishermen to any extent. That is why in case of sharks, rays and silverbellies the marketing margin is comparatively very high.

The fishermen's share in consumer's rupee ranges from 32 to 72 paise for different varieties. It is more than 60 paise for five varieties (seer fish, pomfrets, Indian halibut, carangids and wolf herring) which constitutes less than 10 per cent of the total catch in this area. The share of marketing expenditure in consumer's rupee ranges from 4 to 14 paise. The wholesaler's margin is minimum (4 paise) for pomfrets and maximum (27 paise) for sharks. The retailers get the highest margin for silverbellies (45 paise) and minimum for ribbon fish (18 paise).

The regression equations representing the relationship between landing centre - wholesale and retail prices indicate that the effect of landing centre price on wholesale price and wholesale price on retail price is significant for the selected varieties.

To protect the interests of both the producers and the consumers it is essential to reduce the magnitude of marketing margins. The level of marketing margin in respect of many varieties is high mainly due to higher margins received by the middlemen. The share of marketing expenditure is comparatively low. To increase the efficiency of fish marketing system the involvement of too many intermediaries has to be avoided by introducing a co-operative marketing system. In Karnataka, in the major landing centres the Fish Marketing Federation

has very successfully reduced the importance of the intermediaries in fish Marketing. In the Madras region also fish marketing co-operatives can be established with a view of vertical integration of marketing so as to help the fishermen to get a remunerative price and the consumer to get the fish at a reasonable price.

The study indicates that a good number of varieties of fish which have been till recently considered as trash fish have picked up consumer preference and fetched comparatively higher price. This is mainly due to the better transportation facilities to channelise the fish to interior places. Hence by improving the transportation facilities of fish without impeding its quality and also by organising the consumer promotional programmes through establishment of fish stalls to sell the fish at a reasonable price and in hygienic condition, the consumer preference can be created even for those varieties which have been so far discarded as trash fish. It will help the fishermen to realise a higher value for their produce which includes a considerable quantity of trash fish.

The prices of fish at the landing centre (primary market) were subjected to wide fluctuations. Due to the inelastic supply of fish, price is slashed down in the case of heavy catch. Once fish is landed the producer is forced to dispose off at whatever price prevailing due to lack of storage or processing facilities. Even for those varieties which undergo some sort of processing, only the middlemen take advantage of it and the fishermen do not get a legitimate share. Hence it is essential not only to establish storage and processing facilities atleast at the major landing centres but also make it

available to the fishermen for its fuller utilization. It will also help the consumer to get fish at a reasonable price even in lean period.

Regarding the fish marketing there has been no regulation even in major markets which usually helps only the middlemen. No proper grading, weighing and quality control are maintained at any level of fish marketing. Most of the existing malpractices in fish marketing can be avoided by introducing regulated marketing system in the lines of the regulated markets of some of the agricultural produce.

In the event of glut in the primary market (landing centre), the fishermen are forced to dispose off the catch at a throwaway price. But this is not often reflected on the trend in wholesale and retail prices. The occasional huge catch of certain variety does not help either to the fishermen or to the consumer. To avoid such situation it is necessary to have a support price policy as prevailing in the case of jute, cotton etc. For each season a minimum floor price can be declared atleast for the major varieties. However this can be successfully implemented when there is a public agency to enter into the market to purchase fish whatever supplied in excess of demand and also with adequate storage and processing facilities.

The producers and consumers are not aware of the current price structure of different varieties of fish in various markets of the country. The periodical dissemination of information on prevailing prices of commercially important varieties of fish in different markets will be much useful to the fishermen, traders and consumers.

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Table—1: Average fish prices at Primary, wholesale and retail markets at Madras region during April-June 1984

Variety of fish Common name	Local name (Tam.)	Landing centre Price (Pudumani- kuppam), Rs./kg.	Wholesale Price (Chintadripet) Rs./kg.	Retail prices (Rs./kg)					Average <sup>a</sup>
				Pattalam	Chintadripet	Saidapet	Vadapalani	Average <sup>a</sup>	
<b>Group I</b>									
1. Seer fish	Vanjiram	18.00	20.00	22.50	30.00	26.00	30.00	27.10	
2. Pomfrets	Vellai Vavval	16.00	17.00	18.00	24.00	19.00	23.00	21.00	
3. Sharks	Sura	6.50	11.00	16.00	17.00	17.00	18.00	17.00	
4. Giant sea perch	Koduva	8.00	11.00	15.25	16.00	16.00	20.00	16.80	
5. Barracudas	Oozhi	7.00	8.00	11.00	9.00	13.00	—	11.00	
6. Tunas	Choorai	7.00	8.00	15.00	18.00	—	—	16.50	
<b>Group II</b>									
1. Threadfins	Kaala	8.00	9.00	10.00	18.00	—	—	14.00	
2. Tiger toothed croaker	Varipanna	8.00	10.00	13.00	12.00	16.00	17.00	14.50	
3. Indian halibut	Erumainakku	8.00	9.00	12.00	12.00	14.00	18.00	14.00	
4. Carangids	Parai	7.00	10.00	12.00	18.00	11.00	13.00	13.50	
5. Rays	Thirukkai	6.00	11.00	14.00	15.00	15.00	16.00	15.00	
6. Cat fish	Keluthi	4.00	7.00	12.00	9.00	13.00	15.00	12.25	
7. Threadfin breams	Sankara	4.75	8.00	12.00	10.00	12.00	10.00	11.00	
8. Wolf herring	Mulluvalai	5.50	6.00	9.00	8.00	12.00	14.00	10.75	
9. White fish	Suthumbu	6.50	9.00	10.00	11.00	12.00	—	11.00	
<b>Group III</b>									
1. Silverbellies	Karal	2.00	3.00	6.00	5.00	8.00	6.00	6.25	
2. Lizard fish	Thunbili	3.50	5.00	9.00	8.00	9.00	—	8.65	
3. Cuttle fish	Kadamban	4.30	8.00	8.50	12.00	10.00	15.00	9.40	
4. Goat fish	Sennagarai	3.50	4.00	7.75	5.50	8.00	—	7.00	
5. Ribbon fish	Savalai	3.15	4.00	8.50	7.00	10.00	12.00	9.40	
6. Grey-fin croaker	Kathalai	4.35	6.00	9.00	7.00	9.00	9.00	8.60	
7. White baits	Netheli	4.20	6.00	7.00	9.00	10.00	—	8.65	
8. Flying fish	Kolameen	5.50	7.00	8.00	8.00	8.00	—	8.00	
9. Other sardines	Mathakkondai	2.00	3.00	6.00	6.00	—	—	6.00	
10. Indian mackerel	Kanakathai	5.50	7.00	8.00	9.00	8.00	—	8.60	

Table—2: Average fish prices at primary, wholesale and retail markets at Madras region during July-Sept. 1984

Variety of fish common fish	Landing centre price (Pudumanikuppam) Rs./kg.	Wholesale price (Chintadripet) Rs./kg.	Retail prices (Rs./kg.)				Average
			Pattalam	Chintadripet	Saidapet	Vadapalam	
<b>Group I</b>							
1. Seer fish	18.50	20.00	25.00	31.00	24.00	32.00	28.00
2. Pomfrets	16.00	17.00	20.00	22.00	—	—	21.00
3. Sharks	4.00	11.00	16.00	19.00	16.00	19.00	17.50
4. Giant sea perch	9.00	11.00	14.00	14.00	12.00	19.00	14.75
5. Barracudas	10.00	12.00	13.00	15.00	—	16.00	14.65
6. Tunas	5.00	8.00	—	11.00	—	17.00	14.00
<b>Group II</b>							
1. Threadfins	8.00	9.00	—	12.00	—	14.00	13.00
2. Tiger toothed croaker	9.00	10.00	13.00	—	14.00	20.00	15.65
3. Indian halibut	7.00	8.00	10.00	10.00	10.00	—	10.00
4. Carangids	8.00	10.00	12.00	—	12.00	12.00	12.00
5. Rays	2.00	9.00	10.00	12.00	10.00	—	10.65
6. Cat fish	4.00	7.00	8.00	14.00	8.00	14.00	11.00
7. Threadfin breams	4.00	8.00	10.00	12.00	12.00	13.00	11.75
8. Wolf herring	5.00	6.00	7.00	7.00	9.00	8.00	7.75
9. White fish	5.00	9.00	9.00	13.00	10.00	14.00	11.50
<b>Group III</b>							
1. Silver bellies	2.00	3.00	7.00	6.00	7.00	10.00	7.50
2. Lizard fish	4.00	5.00	8.00	9.00	8.00	—	8.35
3. Cuttlefish	6.00	8.00	—	8.00	9.00	10.00	9.00
4. Goat fishes	3.00	4.00	8.00	9.00	—	9.00	8.65
5. Ribbon fish	4.00	5.00	7.00	8.00	9.00	—	8.00
6. Grey fin croaker	4.00	5.00	8.00	10.00	9.00	—	9.00
7. White baits	4.00	6.00	7.00	12.00	8.00	—	8.65
8. Flying fish	4.50	7.00	—	9.00	—	10.00	9.50
9. Other sardines	4.00	5.00	7.00	—	8.00	8.00	7.65
10. Indian mackerel	5.00	7.00	10.00	11.00	11.00	12.00	11.00

Table—3: Average fish prices at Primary, wholesale and retail markets at Madras region during Oct.-Dec. 1984

Variety of fish, Common name	Landing centre price (Puducherry, Kuppam) Rs./kg	Wholesale price (C. Madras) Rs./kg.	Retail prices (Rs./kg.)				Average
			Pattalam	Ch. Madras	Saidapet	Vandavasi	
<b>Group I</b>							
1. Seer fish	15.00	17.00	22.00	24.00	23.00	26.00	23.75
2. Pomfrets	14.00	16.00	—	—	18.00	24.00	21.00
3. Sharks	6.00	11.00	16.00	13.00	16.00	20.00	16.25
4. Giant sea perch	10.00	11.00	15.00	16.00	16.00	20.00	16.75
5. Barracudas	9.00	12.00	13.00	20.00	14.00	20.00	16.50
6. Tunas	7.00	14.00	—	—	18.00	20.00	19.00
<b>Group II</b>							
1. Threadfins	8.00	9.00	—	20.00	15.00	—	17.50
2. Tiger toothed croaker	8.00	10.00	12.00	—	12.00	14.00	12.65
3. Indian halibut	8.00	10.00	11.00	11.00	11.00	16.00	12.25
4. Carangids	8.00	11.00	12.00	16.00	10.00	16.00	13.50
5. Rays	2.00	3.00	8.00	10.00	10.00	—	9.33
6. Cat fish	5.00	9.00	12.00	10.00	10.00	16.00	12.00
7. Thread-fin breams	8.00	9.00	12.00	—	12.00	15.00	13.00
8. Wolf herring	6.00	7.00	10.00	—	10.00	10.00	10.00
9. White fish	8.00	10.00	12.00	12.00	12.00	13.00	12.25
<b>Group III</b>							
1. Silver bellies	2.00	3.00	8.00	6.00	8.00	—	5.50
2. Lizard fish	5.00	6.00	—	—	8.00	8.00	8.00
3. Cuttle fish	3.00	4.00	6.00	—	6.00	—	6.00
4. Goat fishes	4.00	5.00	—	8.00	—	9.00	8.50
5. Ribbon fish	3.00	5.00	8.00	8.00	—	8.00	8.00
6. Grey-fin croaker	5.00	6.00	10.00	—	9.00	—	8.50
7. White baits	6.00	7.00	8.00	9.00	10.00	9.00	9.00
8. Flying fish	—	—	—	—	—	—	—
9. Other sardines	4.00	5.00	—	6.00	8.00	8.00	7.25
10. Indian mackerel	5.00	6.00	8.00	9.00	—	14.00	10.35

Table—4: Average fish prices at Primary, wholesale and retail markets at Madras region during Jan.-March 1985

Variety of fish Common name	Landing centre price (Puzhani kuppam) Rs. kg.	Wholesale price (Chintadripet) Rs. kg.	Retail prices (Rs /kg.)				Average
			Pattalam	Chintadripet	Vadapet	Vadapala	
<b>Group I</b>							
1. Seer fish	19.00	21.00	28.00	30.00	29.00	30.00	29.25
2. Pomfrets	19.00	21.00	26.00	30.00	27.00	30.00	28.25
3. Sharks	8.00	12.00	17.00	19.00	19.00	15.00	17.50
4. Giant sea perch	8.00	11.00	19.00	19.00	20.00	20.00	19.50
5. Barracudas	10.50	13.00	18.00	20.00	20.00	19.00	19.25
6. Tunas	6.00	11.00	14.00	16.00	18.00	18.00	16.50
<b>Group II</b>							
1. Threadfins	—	—	—	—	—	—	—
2. Tiger toothed croaker	—	—	—	—	—	—	—
3. Indian halibut	9.00	10.00	15.00	16.00	15.00	18.00	16.00
4. Carangids	10.00	12.00	16.00	20.00	—	19.00	18.35
5. Rays	4.00	5.00	9.00	6.00	11.00	9.00	8.75
6. Cat fish	6.00	8.00	11.00	12.00	11.00	14.00	12.00
7. Thread-fin breams	9.00	10.00	13.00	13.00	13.00	13.00	13.00
8. Wolf herring	8.00	10.50	12.00	—	12.00	—	12.00
9. White fish	—	—	—	—	—	—	—
<b>Group III</b>							
1. Silver bellies	—	—	—	—	—	—	—
2. Lizard fish	5.00	6.00	—	8.00	8.00	8.00	8.00
3. Cuttle fish	7.00	8.00	—	12.00	—	12.00	12.00
4. Goat fishes	5.00	6.00	8.00	8.00	7.00	8.00	7.75
5. Ribbon fish	4.00	7.00	8.00	9.00	9.00	9.00	8.75
6. Grey-fin croaker	4.00	5.00	9.00	9.00	9.00	9.00	9.00
7. White baits	—	—	—	—	—	—	—
8. Flying fish	6.00	8.00	11.00	—	12.00	—	11.50
9. Other sardines	3.00	3.50	—	—	6.00	6.00	6.00
10. Indian mackerel	6.00	7.00	9.00	10.00	8.00	11.00	9.50



Table—5: Minimum and maximum prices at landing centre and retail markets for different varieties for different quarters

Variety of fish/ Common name	Landing centre Price		Retail Price	
	Minimum	Maximum	Minimum	Maximum
<u>Group I</u>				
1. Seer fish	15.00	19.00	23.75	29.25
2. Pomfrets	14.00	19.00	21.00	28.25
3. Sharks	4.00	8.00	16.25	17.50
4. Giant sea perch	8.00	10.00	14.75	19.50
5. Barracudas	7.00	10.50	11.00	19.25
6. Tunas	5.00	7.00	14.00	19.00
<u>Group II</u>				
1. Threadfins	8.00	8.00	13.00	17.50
2. Tiger toothed croaker	8.00	9.00	12.65	15.65
3. Indian halibut	7.00	9.00	10.00	16.00
4. Carangids	7.00	10.00	12.00	18.35
5. Rays	2.00	6.00	8.75	15.00
6. Cat fish	4.00	6.00	11.00	12.25
7. Threadfin breams	4.00	9.00	11.00	13.00
8. Wolf herring	5.00	8.00	7.75	12.00
9. White fish	5.00	8.00	11.00	12.75
<u>Group III</u>				
1. Silverbellies	2.00	2.00	5.50	7.50
2. Lizard fish	3.50	5.00	8.00	8.65
3. Cuttle fish	3.00	7.00	6.00	12.00
4. Goat fish	3.00	5.00	7.00	8.65
5. Ribbon fish	3.00	4.00	8.00	9.48
6. Grey-fin croaker	4.00	5.00	8.50	9.00
7. White baits	4.00	6.00	8.65	9.00
8. Flying fish	4.50	6.00	8.00	11.50
9. Other sardines	2.00	4.00	6.00	7.65
10. Indian Mackerel	5.00	6.00	8.50	11.00

Table—6: Marketing margins for different varieties of fish at Madras region during April '84 to March 1985

Variety of fish common name	Average price (Rs./kg.)		Marketing margins Rs./kg	Percentage distribution of marketing margins		
	Landing centre	Consumer market		Marketing costs	Wholesalers	Retailers
<b>Group I</b>						
1. Seer fish	17.60	27.00	9.40	12.5	14.0	73.5
2. Pomfrets	16.25	22.80	6.55	18.0	12.5	69.5
3. Sharks	6.00	17.00	11.00	14.7	41.5	43.8
4. Giant sea perch	8.75	16.95	8.20	14.4	19.1	66.5
5. Barracudas	9.10	15.35	6.25	18.9	23.1	58.0
6. Tunas	6.25	16.50	10.25	11.5	32.4	56.1
<b>Group II</b>						
1. Threadfins	8.00	14.85	6.85	15.2	14.7	70.1
2. Tiger toothed croaker	8.35	14.30	5.95	19.8	16.6	63.6
3. Indian halibut	8.00	13.00	5.00	18.0	12.0	70.0
4. Carangids	8.25	14.35	6.10	19.3	29.8	50.9
5. Rays	3.50	10.85	7.35	16.0	38.4	45.6
6. Cat fish	4.75	11.00	6.25	18.9	37.1	44.0
7. Threadfin breams	6.40	12.20	5.80	15.2	32.1	52.7
8. Wolf herring	6.10	10.10	4.00	22.0	20.0	58.0
9. White fish	6.50	11.60	5.10	17.3	46.7	36.0
<b>Group III</b>						
1. Silverbellies	2.00	6.40	4.40	20.0	12.5	67.5
2. Lizard fish	4.40	8.25	3.85	22.9	17.5	59.6
3. Cuttlefish	5.10	9.10	4.00	22.0	36.9	41.1
4. Goat fishes	3.90	8.00	4.10	21.5	10.4	68.1
5. Ribbon fish	3.50	8.50	5.00	17.6	25.3	57.1
6. Grey fin croaker	4.30	8.75	4.45	19.8	16.0	64.2
7. White baits	4.75	8.75	4.00	22.0	28.8	49.2
8. Flying fish	5.35	9.65	4.30	20.5	36.0	43.5
9. Other sardines	3.25	6.70	4.45	20.5	12.3	67.2
10. Indian mackerel	5.40	9.85	4.45	19.8	20.8	59.4

Table 7: Percentage distribution of commercial export for different varieties of fish (April '84-March 1985)

Variety of fish Common name	Fishermen	Percentage share to		
		Handling & Transportation	Wholesalers	Exporters
<u>Group I</u>				
1. Seer fish	65	4	5	26
2. Pomfrets	72	5	4	19
3. Sharks	36	9	27	28
4. Giant Fish Bunch	53	2	3	37
5. Barracudas	56	8	10	26
6. Tunas	36	7	21	36
<u>Group II</u>				
1. Thread fins	55	7	7	31
2. Tiger-toothed croakers	54	9	8	29
3. Indian halibut	62	7	5	26
4. Carangids	60	8	12	20
5. Rays	32	11	26	31
6. Cat fish	40	11	22	27
7. Thread-fin-brems	52	7	15	26
8. Wolf herring	61	8	8	23
9. White fish	56	9	16	19
<u>Group III</u>				
1. Silverbellies	32	13	9	46
2. Lizard fish	54	11	8	27
3. Cuttle fish	55	10	17	18
4. Goat fishes	49	11	5	35
5. Ribbon fish	42	10	15	33
6. Grey-fin croakers	50	10	8	32
7. White baits	54	10	13	23
8. Flying fish	56	9	16	19
9. Other Sardines	57	9	5	29
10. Indian Mackerel	56	9	9	26