CHAPTER-VIII

SUMMARY, CONCLUSIONS AND POLICY IMPLICATION

The Problem Focus

The fishery sector is very important for Kerala's economy. It is a source of livelihood for over three per cent of the state's population that is engaged in the catching, processing and distribution of fish and fish products. Fishery sector contributes about 2 per cent of the state's income. Fish is an important source of inexpensive protein and it provides about 70 per cent of the per capita animal protein intake in the state. Fish and fishery products account for one-fourth of the total export earning of the state (1992-93). Among the maritime states in India, Kerala occupies an important position in fish production. In 1990 its marine production reached the highest ever level with 6.62 lakh tonnes and in 1993, its marine production was 5.74 lakh tonnes, which accounted for 30 per cent of the marine output of India.

The technological modernisation of the fishery sector in Kerala started with the implementation of the Indo-Norwegian Project in two fishing villages, viz., Sakthikulangara and Neendakara of Quilon district in 1953. This state-sponsored capital intensive technological modernisation programme initiated a socio-economic dualism in the fishery sector. It facilitated the inflow of the people from outside the fishermen community into this sector. They started to predominate the production and distribution activities of the fishing industry, which was formerly monopolised by the fishermen themselves. This change in the fish economy ultimately made the traditional fishermen only the peripheral beneficiaries of the capital intensive technological modernisation programme. It only aggravated the miseries of
the fishermen, and the monopoly power that they had enjoyed in the production and distribution was taken away by the capitalist forces in this sector, who did not belong to the fishermen community. As a result of this, the traditional fishermen were reduced to the level of mere workers. So the mechanisation process of the fishery sector reduced the market power of the artisanal fishermen. It stands as the main reasons for the poor economic condition of the fisher folk in Kerala.

Apart from the technology-driven modernisation campaign, the seasonality and perishable nature of fish also led to the dwarfing of the market power of the traditional fishermen. These two elements helped only to increase the dependence of the fishermen on marketing intermediaries. The ultimate effect of this situation is the concentration of the beach level markets and wholesale markets in the hands of few buyers or traders, who set the tone of the market. Under this condition, any increase in production without complementary improvement in the marketing condition would be harmful to the producer-sellers. It was in this context that this study made an attempt to assess the structure and pattern of the present internal marketing system of marine fresh fish and to enquire about the scope for any improvement for it. The specific objectives of this study were: (1) to analyse the working of the internal marketing of marine fresh fish in Kerala with reference to Alleppey district; (2) to give a cross sectional view of the structure and pattern of the internal fish marketing system of marine fresh fish; (3) to examine the market powers enjoyed by the fish producer-sellers and the marketing intermediaries; (4) to analyse the cost and efficiency of the fish marketing system; (5) to assess the producer-sellers' share in the consumer rupee through the price spread analysis; (6) to examine the price system prevailing in the marine fresh fish marketing system in Kerala; (7) to analyse the price behaviour of various species, supply response to price variations and influence of demand and supply on fish prices; (8) to assess the working of the
in the fish production and distribution system, (9) to compare the domestic fish marketing system of Kerala with Andhra Pradesh, a leading maritime state in the east coast and (10) to identify policy alternatives to protect the interest of the fish producer-sellers.

The Approach

In order to examine the structure and pattern of the internal marketing of marine fresh fish in Kerala, a conceptual frame-work was evolved. The actual nature of the fish market was analysed by studying the market structure, marketing channels, market performance, and the role of market functionaries. The price system in the fishing industry was also examined by analysing the existing price mechanism, price movements, impact of price variation on supply of fish and effect of the variation in demand and supply of fish on its prices. The share of the fish producer-sellers was examined by analysing the price spread. An alternative fish marketing system was proposed to protect the interest of the producer-sellers.

In consonance with the objectives and the concepts evolved, the method of study was finalised. To study the structure and pattern of the internal marketing of the marine fresh fish, a case study was conducted about the fish marketing activities going on in the Alappuzha district of Kerala, in the belief that a case study can give real insight into the actual marketing process at the macro-level. For examining the prevailing price system the secondary data were mainly used.

Alappuzha district formed the universe of the study. The market channels began with the producer of fish who sold their fish in the primary markets either directly or through marketing intermediaries. The focal points of the study were Chethi and Purakkadu fishing villages, Cherthala wholesale market and Kanjikuzi and Kalavoor retail markets of Alappuzha.
District. Random sampling method was used to select the sample producer-sellers and 110 fish producers were selected from the list of the actual fishermen who had registered their names with the Kerala Fishermen Welfare Fund Office of Chethi. Most of these fishermen were owning the fishing assets collectively by getting assistance from the Matsyafed (Kerala Cooperative Federation for Fisheries Development Limited). Out of the total 110 fish producer-sellers, 60 fishermen were selected from Chethi fishing village and fifty from the Purakkadu fishing village. The beach levels marketing activities of these two fishing villages were observed. To examine the role of the marketing intermediaries, 10 commission agents-cum-wholesalers were selected at random from Chethi. For assessing the assembling market, 10 wholesale traders were selected from the Cherthala wholesale market. To understand the role of the retail traders, 20 fish traders (all were bicycle loaders) were selected from the Kanjikuzi and Kalavoor retail markets with 10 each. To understand the prevailing system of price, the price setting at the beach level and wholesale markets were observed. To understand the trend of changes in the value of output, linear, logarithmic and exponential trend curves were fitted to price and quantity of various species of fish over a period 18 years from 1975 to 1993 and a Decomposition Model was employed to understand the factors responsible for the changes in the value of fish output. To analyse the supply-response of price change, a supply-response model was used. To examine the impact of changes in supply and demand over the fish prices, simple linear least square method was used. The price spread between the fish traders and producers-sellers was estimated for different market channels with the description to show the cost and profit of each of the marketing intermediaries and return to producer-sellers.

Data collected from the producer-sellers and marketing intermediaries were analyses to study the structure, conduct and performance of the internal market for marine
fresh fish. The statistical techniques employed for this were the four firms concentration ratio of Bain, Gini Ratio and Lorenz curve analysis.

The Results

Having summed up the approach to the present study, this section presents the results of the study.

In the conduct of the internal marketing of marine fresh fish, three channels of marketing were identified in Alleppey District.

1. Producer-sellers → Wholesalers → Retailers → Consumers.
2. Producer-sellers → Commission agents-cum-wholesalers → wholesaler → retailers → consumer

Among these, the first two channels were controlled by the private agencies and the third channel was controlled by the co-operative sector. Out of the three channels, second channel was the most important one as it accounted for about 75 per cent of the total marketed surplus of the marine fresh fish in the district, while the first channel accounted for about 21 per cent, the third channel accounted only for 4 per cent. This means that the third channel that was controlled by the co-operative sector had only little power to control the fish market and enable it to act in favour of the fish producer-sellers.

On the fish producer’s side, the producer seller’s concentration was estimated from the volume of sale of fish carried out by the sample fish producers. The share of the individual producer-sellers in the fish market of the sample area was estimated as 0.035 per cent on an
average and never exceeded one per cent of the total supply of fish in the study area during 1994-95. This showed that no individual producer-seller could influence the fish market as he was just only a ‘price taker’ and has practically no market power. The Gini ratio for the producer-seller was 0.072, which indicated the negligible concentration.

On the buyer’s side of the marine fresh fish, while comparing with the producer-seller, they were few. They co-ordinated their marketing activities with the motive of profit maximisation. The market structure based on the Bain’s classification showed that the wholesalers in the Cherthala market and the commission agents-cum-wholesalers in the Chethi market were highly concentrated oligopsonists in the whole of the three seasons. On the basis of the top single firm’s share, the commission agency business was more moderately concentrated than the wholesale business.

In fish marketing, the wholesalers, the commission agent-cum-wholesalers (purchase) and commission agents (sales) were dealing with the regular customers at both beach level markets and the wholesale market. At beach level market, the first two categories advanced loan to the producer-sellers with an oral agreement over the produce of the fishermen and in that way the intermediaries attract the marketed surplus. In the wholesale market, the commission agents (sales) were also dealing with the regular retail traders who were allowed to take the auctioned product on credit and needed to make the payment only in the next time or next day of business. The traders who had good access to capital enjoyed higher profit. Most of the sample traders seemed to have started with small capital. Since most of traders entered into pre-catch contract with the fish producers, the traders had to find enough capital to give advance to the fishermen to ensure adequate supply of fish. In this context, unlike in the case of fish marketing before the mechanisation of this sector, where the elements like relationship, caste and community, belief systems, custom, etc. acted as barriers
to entry into the fish marketing system, but in the post-mechanisation period of the fishery sector, none of these factors acted as barriers. Instead, the two prominent barriers identified in the present fish marketing system were capital and the experience in the fish trade. Those traders who had good command over these elements could gain higher market power.

Though the fishery sector was being controlled by the government, yet there was no intervention of the government, so far, in the fish trade. There was no force to dictate scientific specifications regarding quality or grading of fish. There was no minimum price system prevailing for fish as in the case of many other agricultural commodities. By law, fish trade was not licensed one, though license was required for mechanised fishing craft. So the fish trade was free in almost all aspects.

It was interesting to note that though there was no governmental intervention in fish trade and traditional barriers did not exist, the fish marketing system was imperfect at primary and wholesale market levels, on account of the financial power of the marketing intermediaries, poverty of the fishermen and the market power gained through experience in the fish trade by the traders. In both the primary and the wholesale markets, larger the business, greater the market power enjoyed by the traders. Therefore, “getting established” in the business was the most difficult task for the new entrants. At beach level markets and the wholesale markets, due to the big size of business carried out by the commission agents-cum-wholesalers and the wholesalers, they did enjoy the benefits of the economies of scale. On the contrary, no such benefits could be seen in the case of retail traders. Not only this, the retail market of fish was found closer to perfect competition and the retail traders were enjoying only lesser market power compared to their counterparts.

The performance of the market as a whole was studied by analysing the price systems that were prevailing both at the beach markets and the wholesale market. Among the
various price systems examined such as auctioning, fixed price, contract price and bargaining, the auctioning method of price setting (English auction) was seen generally followed. The fixed price system was prevailing only for the high valued species like prawn for a short period, say not more than two days, and the contract price system was rarely followed.

Market performance was also examined by analysing the price spread. Among the three types of marketing channels seen in Alleppey District, it was channel III that gave the largest share of the consumer rupee to the producer-seller. This was because, under this channel, the commission charged from the producer-seller was lower, when compared to other two channels. This channel prevented the unauthorised deductions followed in the other two channels. So transacting fish-trade through this channel was more advantageous to the fish producer-sellers. But paradoxically, this channel was not very popular among the fish producers and it could attract only little supply of fish from the fish producers. A basic reason found for this tendency was the pre-catch contract that the fish producers entered into with the intermediaries.

While analysing the trend of fish prices in Kerala, it was found positive and there were year to year variations also. The standard deviation of trend corrected price change from 1961 to 1993 was 4702.723, which was substantially large. The main element in the increase in the value of fish output was the rise in fish prices. The Decomposition Model that was employed to examine the change in the value of fish output proved that, about 98.38 per cent of change in the value of output was on account of price change. It was postulated that the producers would show positive response to increase in price. Hence a supply-response model was fitted to various species by dividing them broadly into two groups, viz., high priced varieties and low priced varieties. The study revealed that for high priced varieties of fish, the supply was more responsive to price changes than the low priced varieties and the price
variation had only little impact on the output changes of the low-priced varieties. Estimation of the demand and supply influence on fish prices showed that the supply factor had only little influence in the determination of fish prices except two species viz. Mackerel and soles. The influence of demand-induced factors on fish price variations showed that, more than 90 per cent variation in fish price could be explained in terms of population and per capita income. In the case of low-priced varieties, the relative influence of population on price was higher than that of income variables.

**Conclusions**

The analysis of the primary market and wholesale market of fish in Alleppey district indicated that they were oligopsonistic in character. The market power of the marketing intermediaries emanating mainly from their capacity for investment and the experience in the fish trade acted as strong barriers to the entry of new traders in fish trade. The former caste orientation in fish trade, which was a strong barrier, disappeared. The buyers or fish traders were fewer and were more organised than the producer-sellers, who were large in number and remained unorganised. Therefore, the fish trade at the beach level and the wholesale market level was less than competitive. This conclusion confirms the first hypothesis enunciated earlier. Hence to promote free competition and growth and to prevent malpractice, the working of a regulatory authority in the fish trade is imperative.

The performance efficiency of marketing of fish was brought out by the study of operational efficiency, the price spread and recent changes in marketing trends. Among the marketing intermediaries, the performance efficiency was greater for wholesalers and commission agents-cum-wholesalers and the retailers were comparatively poor in this matter. Market control analysis showed that the top single firm controlled 46 per cent in peak season,
45 per cent in the normal season and 44 per cent in the lean season in Chethi primary market. The market functionaries enjoyed fairly large share of consumer’s price. Three distinct fish marketing channels were identified in the Alleppey district. The channels dominated by the marketing intermediaries like wholesalers and commission agents-cum-wholesalers. They were detrimental to the economic position of fish producer-sellers. The fishers could get only smaller portion of the consumer rupee. The channel that was controlled by the co-operative sector (Matsyafed) could impart greater share of consumer rupee to the producer-sellers because it could check the malpractice and monopoly power of the marketing intermediaries of other two channels. Hence this channel was the most advantageous system available to the fish producers. But the fact was that it attracted the least supply from the fish producers, because of the financial indebtedness of the fish producers with the commission agents (Purchase) and wholesalers, which forced the fish producers to sell their output to these intermediaries. This conclusion proves the hypothesis that the conduct of the market functionaries, as wholesalers and commission agents-cum-wholesalers, are not at all favourable to the fish producer-sellers.

The study on the cost of fish marketing showed that as the size of business increased, the cost per tonne of fish decreased and the profit per tonne increased. The study revealed that the price per tonne showed an upward trend along with the increase in the volume of business. Though the supply of a commodity positively changes with its price change, but fish supply did not confirm this hypothesis. The supply-response analysis indicated that fish supply only partially responded to price changes. Only the high priced varieties showed its fullest response to price changes and the price variation had little impact on the output changes of the low-priced varieties. About the mode of price setting, among the different forms of price systems practised, the auction system was the one that is widely followed. The trend analysis of the fish prices showed a positive upward movement. There
were year-to-year variations of price on substantial scale and the standard deviation of trend corrected price change in fish was 4702.723. This variation was substantially large and indicated a large price risk in fish trade. Probably, this result would explain the concentration of wholesale fish trade in few traders, who had the capacity to undertake risks. Hence it could be concluded that in the interest of a sound fishery policy, the Government should see that proper balance is maintained between the wholesale price and price demanded by the producers and the price acceptable to the final consumers of fish.

The analysis of the impact of demand-induced factors on fish price variation revealed that the changes in population and per capita income were the prime factors responsible for fish price changes compared to the supply of fish, which had only negligible impact on fish prices. The analysis showed that more than 90 per cent of variation in fish prices could be explained with the first two factors. In the case of low-priced varieties of fish, the relative influence of population on fish price was comparatively higher than the income variable.

An appraisal of the role played by the institutional agencies to equip fishermen to gain control over the marketing of his produce indicated that their efforts were insubstantial. Attempts in this line were initiated even before the planned development of the fisheries in Kerala by organising the fishermen into producer and credit co-operatives. But its objectives were not materialised. Under the planned development, the state Government established many agencies such as Kerala Fisheries Corporation, Kerala Fishermen Welfare Corporation, Harbour Engineering Department, Department of Fisheries, etc. to help fishermen in production and marketing of their produce. But their efforts ended in wildgoose chase. A recent attempt in this line was the formation of Kerala State Co-operative Federation for
Fisheries Development Ltd. (Matsyafed), with the objectives to improve the economics conditions of the fisherfolk, to increase fish production, to improve market power of the fish producer-sellers through the elimination of middlemen and promote general welfare of the fisherman community. At present this agency is acting as the catalyst in the development process of fisheries sector. It is helping the development of fishery sector by supplying production inputs, providing credit facilities to fishermen and promoting the welfare of the fishermen community. Matsyafed is implementing these programmes by organising fishermen into co-operatives. But all these programmes are only in its infancy and an economic analysis over them is not possible. Along with the governmental organisation, non-governmental organisation, namely., South Indian Federation of Fishermen Societies (SIFFS), is also in action to improve the conditions of fishermen. But its activities concentrated only in one or two marine districts in Kerala.

This study realised that no appropriate fish marketing strategy was followed so far to improve the market power of the fishermen. Hence it proposed a domestic fish marketing system to lift the fish producer-sellers from the status of 'price-takers' to the position of 'price-makers'. The proposed fish marketing system advocated to consider both production system and distribution system simultaneously. In production system, emphasis should be given to the producer and his activities related to the optimisation of fishing efforts. The distribution system is confined to the aggregation of physical flows to meet the requirements of the particular markets. Its main aim should be gain control over catches by the primary co-operatives of actual fishermen, and perform all the functions done by the middlemen at present. The nature of activities under the newly proposed domestic fish marketing system are:(1) primary marketing, (2) marketing control, (3) direct marketing and (4) marketing support.
These components of the new domestic fish marketing system can either eliminate the middlemen or mitigate their power.

The comparison between Kerala, the prominent maritime states in the South West Coast and Andhra Pradesh, the chief marine state in the East-Coast, shows that there exists a high degree of similarities in the general conditions of the internal fish marketing system of marine fresh fish in these states. Both states have large number of fish producers, but with little control over the fish markets. The flow of fish from the beach market to the wholesale market is controlled by the middlemen in these states. Pre-catch contract between middlemen and fish producer-seller is generally followed in Kerala and Andhra Pradesh. The economic conditions of the fisherfolk in both states are poor. Their dependency on middlemen for the financial requirements is very great. The price system followed in both states is reasonably similar. Auction and bargaining are the common forms of price system followed in these states to dispose of fish. Many governmental agencies are working in both states for the development of fisheries sector. But there does not follow any definite fish marketing strategy by the governments in these states. It remains unregulated and imperfect and toes the line with the middlemen.

**Policy Implications**

The following policy alternatives have been identified as helpful for promoting the interest of the fish producers and increasing their market power.

Our analysis showed that the market power enjoyed by the fish producer-sellers was meagre and hence their income position was very poor. It led them to depend exceedingly on the marketing intermediaries-cum-money lenders for meeting their production requirements
and personal needs. This conclusion makes government intervention imperative in the fish distribution system. Government can intervene in the fish distribution system by direct involvement through developing good marketing networks both internally and externally and helping the fish producer-sellers to gain control over the primary and wholesale markets. Several forms of social service systems, such as the state owned enterprise, conduct business on fisheries, involvement in production, processing, supplying and marketing activities can be established.

Open market system was prevailing in fish distribution throughout Kerala. But the requirements such as higher level of investment and good experience in fish trade were hindering the entry of new traders in this area and made the system imperfect. So the existing traders enjoyed higher market power, with which they exploited both the producers and the consumers. Hence this monopoly power should be regulated by controlling the private trade and starting regulated markets.

Poor infrastructural facilities could be observed in both beach markets and wholesale market in Alleppey district. The whole of Kerala is no exception to this rule. The existing facilities were incomplete and lacked basic infrastructure, handling capacities and market information system. The fish produce-sellers were in the dark to know about the realities of the market. The market often remained disconnected, scattered and isolated and unable to reflect the macro-realities of the fish market in a timely and objective manner. The fish distribution system lacked scientific and effective management regulation, making it difficult to restrain unlawful operations. The market development lacked in co-ordinated planning and scientific research. Hence it calls for a number of top-level multi-functional markets to be constructed in future. Such markets should serve large areas and be equipped for collecting and distributing fish and fish products, conduct business negotiations, storage
and transportation, price determination as well as information gathering and distribution. A wider fish marketing information net-work should be established, with which systematic gathering of information, selecting, processing, storing and conducting analysis, estimation and forecasting activities can be carried out and thus helping the producers, traders and consumers simultaneously. Such activities can make the fish market perfect and competitive.

An effective price policy is necessary for fish market. Such a policy should guarantee reasonable return to the producer and fair price to the consumer. With planned effort, government can easily work out a policy that can meet the above twin objectives and bring about stability in fish price.

The present open market system has caused a big gap between supply and demand for fish. Hence it calls for trade regulations. To bridge the gap, there is an urgent need to strengthen the regulating system by formulating laws and regulations and trading rules that are suitable to the fish market. A reserve system for fishery products and a fund for market adjustment should be established.

Since capital is the primary requirement for production and marketing and that is lacking in the present fish distribution system, sufficient credit should be made available to the producers of fish by strengthening the primary credit institutions in the fishery sector. The primary fishermen co-operatives should be entrusted with not only the duty of providing financial help, but also of looking after the marketing of fish.

At present, the pre-catch contract is the means through which the middlemen control the fish producer-sellers. It is the main source of their market power. In this context, the fish producer-seller is forced to become a ‘price taker.’ To help the fishermen to gain control over the fish market, the institutional set up should be strengthened. Fishermen may be helped to involve in the processing and marketing of fish and fish product. For this they may
be given the required technology and marketing network. Co-operative agencies like *Matsyafed* can undertake this task, since it is helping the fishermen without any pre-catch contract.

To sum up, it can be said that through the formulation of fishery laws, the regulation of fish trade, strengthening production, improving the system of market management and operations, implementation of effective price policy to guarantee reasonable returns to the producer-sellers and fair price to consumers, maintaining a good marketing information system and improving infrastructural facilities, providing adequate financial help and strengthening the fishermen co-operatives to enable them to gain control over production and distribution at the primary level onwards, the Government can streamline the fishing industry in Kerala in such a way as to safeguard the interest of both the fish producer-sellers and consumers simultaneously.