

MARGINS IN FISH TRADE AND NEED FOR COOPERATIVE MARKETING IN INDIA

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ABSTRACT

The harvesting strategies in open access marine fishery and marketing patterns of marine products have undergone rapid structural changes in the post liberalisation era of the Indian Economy. There is a continuous increase in demand and price of the fish both in domestic and export markets and the thrust on exports mainly led to growth of seafood industry. The present paper briefly highlights (i) the fishermen's share in consumer's rupee for commercially important varieties of fish in private and cooperative marketing channels (ii) the distribution pattern of consumer's rupee to the producers and middlemen and (iii) comparative advantages of cooperative fish marketing in ensuring remunerative price for the fisherfolk. Fish marketing in India is characterised by monopsony and oligopsony conditions and hence, the fishermen are unable to get maximum advantage of high price prevalent in the consumer markets. It is seen that hardly 5 % of the fish is traded through fishermen's organisations or cooperatives and the rest by private marketing channels. The fishermen's share in consumer's rupee ranges from 30 to 70 percent for different varieties in private marketing channels whereas it is 60 to 80 percent in fish marketing carried out by cooperatives. The study reveals that most of the existing malpractices can be avoided by revitalising the cooperative fish marketing system in India. Fisheries cooperatives can further provide substantial employment opportunities in coastal rural areas by involving itself in the preparation of value added products suitable for exports.

Keywords: marketing margin, fishermen's share in consumers' rupee, price spread, cooperative marketing

INTRODUCTION

Marine fisheries form an important component of the GDP in the Indian economy. In absolute terms contribution of marine fisheries sector to the GDP has been increasing over the years from US\$ 1923 million in 1993-94 to US\$ 3061ⁱ million in 2003-04ⁱⁱ. Currently marine fisheries alone accounts for 52.5 % of the total contribution of fisheries to GDP and provides employment to 6.5 million people in active fishing and fishery related activities (3 million in marine capture fisheries, 1.5 million in inland fisheries and 2 million in fresh, brackish and coastal aquaculture). Effective distribution and efficient marketing of perishable fish is inevitably essential to ensure remunerative price and enable the fishermen to earn higher income. Fish marketing in most developing countries is facing monopoly, oligopsony and monopolistic competition ([1] Fernando, 1985). The conditions of monopsony and oligopsony characterise the fish marketing structure of India at various stages and as a result fishermen do not get the advantage of high price prevalent in the consumer markets. The perishable nature of prawns and fishes, seasonality of its production and the long distance between the producers and the consumer markets are some of the important factors which require attention while assessing the marketing channels of fishery products. Price spread is bound to increase with the proliferation of marketing agents performing the services of assembling, storage, transportation, peeling, processing, and exporting. It will also be influenced by the degree of marketing control exercised by the government policies. On one hand, the producers deserve a legitimate share in the consumer's rupee and in the other; the consumers have to be safeguarded against excessive prices. The twin objectives can be achieved by ensuring various marketing services at reasonable costs ie. restricting margins to a reasonable level. The marketing margin is a function of perishable nature of fish, seasonality of production and the distance between the producer and consumer ([2] Swarup et al. 1985).

The prevalent practice of disposal of fish in large volumes is through auction where buyers participate in bidding. The auctioneers in the primary market and the commission agents in the secondary markets are

also involved in the process without involving themselves in direct possession of fish. In the light of the above said issues, this study was taken up with the following broad objectives;

- To assess the annual gross income generated by marine fish landings at primary and consumer level in India.
- To identify the marine fish marketing channels with a view to analyse the share in the consumers' rupee for the producer and the middlemen and
- To assess the comparative advantage of fishermen co-operatives undertaking fish trade over the private sector.

MATERIALS AND METHODS

In India, all the marine fish landing centres of different states serve as primary markets. The mode of sales is by auction. The wholesale markets are located both near the coast as well as interior hinterlands. The final phase of the supply line of marine fish is the retail markets in every nook and corner. Marketing channels in fish trade can be categorised into broad categories such as (i) Fishermen-Auctioneer-Agents of freezing plants-Exporter-Retailer-Consumer, (ii) Fishermen-Auctioneer-Processor (Dry fish)-Wholesaler-Retailer-Consumer, (iii) Fishermen- Auctioneer- Wholesaler (Primary markets)- Wholesaler (Retail markets)- Retailer-Consumer, (iv) Fishermen- Auctioneer –Commission Agent - Wholesaler-Retailer-Consumer, (v) Fishermen- Auctioneer-Retailer-Consumer and (vi) Fishermen-Auctioneer-Consumer.

The major portion of fish trading in internal marketing is practised through 3^d, 4th and 5th channels. ([3] Sathiadhas, (1988) has emphasized the needs for proper grading, weighing and quality control in fish marketing system. As the marketing functions like pooling, sorting, packing, transportation and freight to consumers located at well spread out far off foreign markets become important, the forms of marketing channels become more complex ([4] Srivastava, *et al.*, 1984). Although middlemen are necessary, a long chain of them in fish trading tend to inflate the marketing costs. In the present study an attempt has been made to analyse the fish trade through the fourth channel.

Comprehensive usage of secondary data from various publications of Marine Products Export Development Authority (MPEDA) and Central Marine Fisheries Research Institute (CMFRI) are used in the preparation of this paper. Further, primary data was gathered regarding co-operative and private marketing channels in Kanyakumari area of Tamil Nadu State in India during January- December 2005 to analyse the comparative state of affairs.

RESULTS AND DISCUSSION

Earnings from Marine Fisheries

In India, there are nine maritime states and four Union Territories having sea borders enabling exploitation of marine resources. Andaman and Nicobar Islands have the longest coastal belt being a group of islands. Amongst the states Gujarat have the longest coastal area followed by Tamil Nadu and Andhra Pradesh. The number of fishing villages is also highest in Gujarat whereas landing centres are found more in Andhra Pradesh than all other states. Growth and development of fisheries sector is totally dependent on the revenue generation potential. The gross value of fish at first and last sales was worked out on the basis of average price of different varieties available at sample landing centres and retail markets all over the country (Table I).

The income generated at the landing centre level by marine fisheries was US\$ 2340 million during 1999 and US\$ 2905 million in 2003. It may be noted that crustaceans and cephalopods alone contributed about 50 per cent of the gross earnings indicating high dependence on export marketing system for the sustenance of marine fishing operations. The value of marine fish at consumer level was US\$ 3986

million during 1999, which increased to US\$ 5055 million during 2003. The price has increased by 70 per cent in 1999 and by 74 per cent in 2003 from first sales to last sales. This increase in price from producer level to consumer level indicates excellent scope for providing further employment opportunities for fisherfolk in the secondary sector of fish marketing

Exports played a crucial role for the development of marine fisheries and socio-economic scenario of coastal rural sector. The infrastructure development in terms of ice plants, pre-processing centres, processing centres, export houses, consequent transport and other facilities along the fishing villages greatly owes to the growth of marine product exports. Most of the stakeholders in export marketing chain are women. Although export played a vital role for the development, the WTO regime on Indian exports should be closely watched and efforts on parallel development of domestic marketing system should be accorded paramount importance in the future strategies. It may be seen that US\$2150 million was shared among 1.5 million people involved in post-harvest sector.

Table I: Value of Indian Marine Fish Landings at First and Last Sales (1999 & 2003)
(US\$ Million)

NAME OF FISH	First Sales (Producer Level)		Last Sales (Consumer Level)	
	1999	2003	1999	2003
1. Crustaceans	1056	1287	2031	2298
2 Clupeids	217	362	433	728
3. Cephalopods	174	217	212	330
4. Seer fishes	91	161	108	215
5. Pomfrets	68	117	202	209
6. Croakers	93	97	80	180
7. Carangids	62	92	72	146
8. Mackerel	69	87	222	146
9. Perches	154	81	99	122
10. Ribbon fishes	102	58	130	109
11. Elasmobranchs	57	57	65	78
12. Bombayduck	24	51	50	77
13. Tunnies	27	29	40	47
14. Catfishes	23	28	36	46
15. Flat fishes	23	23	28	39
16. Threadfins	5	19	10	33
17. Barracudas	12	14	28	30
18. Silverbellies	13	13	16	22
19. Eels	9	9	16	18
20. Lizard fish	8	9	10	13
21. Goat fishes	5	5	8	8
22. Half and full beaks	4	4	4	5
23. Mulletts	5	3	7	5
24. Flying fishes	1	3	2	5
25. Big-Jawed jumper	6	3	8	5
26. Bill fishes	1	2	3	4
27. Unicorn cod	0	0	0	0
28. Miscellaneous	32	72	65	137
TOTAL	2340	2905	3986	5055

Price Behaviour

The post-harvest operations of fish provide more employment to labour than the production sector. The increase in price of wholesale and retail price of fish for the last three decades is far higher than any other

food items. The average wholesale and retail prices of selected varieties of marine fish at all India level are given in Table II and III.

Table II: Wholesale Price Behaviour of Selected Varieties of Marine Fish in India (1973-74 to 2003)
(Value in INR* /kg)

NAME OF FISH	1973-74	1984-85	1989-90	1993-94	2003
1. Sharks	1.50	11.25	13.85	26.00	68.00
2. Rays	1.00	6.00	6.40	12.00	19.00
3. Catfishes	1.00	7.75	13.00	20.00	23.00
4. Oil sardine	1.00	4.00	6.90	13.00	21.00
5. Ribbon fishes	2.00	5.00	6.15	10.00	18.00
6. Pomfrets	2.00	17.50	15.20	35.00	134.00
7. Mackerel	2.00	6.25	9.00	23.00	34.00
8. Seer fishes	4.00	19.00	28.90	58.00	146.00
9. Tunnies	2.00	10.00	13.45	30.00	25.00
10. White Baits	2.00	5.00	5.85	15.00	20.00
11. Barracudas	2.00	11.25	15.20	30.00	43.00

* 1 US\$ = INR 44.81

The wholesale price of high quality fishes like sharks, pomfrets and seerfish increased from an average price of Rs.3 in 1973-74 to Rs.116 in 2003. The wholesale price of low quality fishes like rays and oil sardine, which fetched hardly one rupee in 1973-74, has witnessed a steady increase recording Rs.19 and Rs.21 respectively in 2003.

Table III: Retail Price Behaviour of Selected Varieties of Marine Fish in India (1973-74 to 2003)
(Value in INR* / Kg)

NAME OF FISH	1973-74	1984-85	1989-90	1993-94	2003
1. Sharks	2.50	17.00	17.00	31.00	88.00
2. Rays	2.00	10.00	10.75	15.00	31.00
3. Catfishes	2.50	11.00	16.50	30.00	40.00
4. Oil sardine	2.00	6.70	10.00	16.00	48.00
5. Ribbon fishes	2.50	8.50	10.00	19.00	33.00
6. Pomfrets	2.50	22.80	29.50	40.00	205.00
7. Mackerel	3.00	9.85	12.50	25.00	48.00
8. Seer fishes	9.00	27.00	35.50	66.00	195.00
9. Tunnies	3.00	16.50	18.50	39.00	39.00
10. White Baits	3.00	8.00	9.00	18.00	30.00
11. Barracudas	2.50	15.35	21.00	35.00	65.00

* 1 US\$ = INR 44.81

A proportionate increasing trend is visible in the retail price behaviour also (Table III). On an average, the increase in the retail price of high quality fishes (sharks, pomfrets and seerfish) was 40 per cent higher than the wholesale prices in 2003, where as, the average retail price of low quality fishes like rays and oil sardine recorded an increase of 100 per cent over the same period.

The increase in fish prices at the international level and subsequent increase in domestic prices for almost all varieties are higher than any other food grains or livestock products. Increase in price level led to the intensification of targeted fishing, adopting the latest technologies. Frequent changes in technology resulted in the marginalisation of less equipped and non-mechanised fisher folk.

Policies should follow market rather than markets follow policies. About 85 per cent of catch is currently channeled to the internal marketing system and the rest for exports. Cooperative marketing should be strengthened, since hardly 5 per cent of the fish in the internal marketing system is marketed by cooperatives and the rest is through private marketing agencies and traders. Utilisation of idle capacity of processing plants for internal marketing should be intensified.

Marketing Margins & Problems in Fish Trade

Fish marketing involves all functions from catching to final disposal. Marketing studies at all India level indicate that the fishermen's share in consumers' rupee ranges from 30 to 70% for different species/groups of marine fish (Table IV). Marketing costs including transportation range from 6 to 13 %, wholesalers receive 5 to 32 % and the retailers 14 to 47 % of the consumers' rupee for different species/groups of marine fish. It can be observed that middlemen create disadvantages to both fishermen and the consumers. Fishermen's associations can take-up fishing and selling the catch directly to the consumer which will benefit them and the consumer by eliminating the middlemen

Table IV: Share of Consumers' Rupee for Different Varieties of Marine Fish (2005)

(Per cent)

Name of fish	Fishermen	Handling and Transportation	wholesalers	Retailers
Seer fish	70	5	12	13
Pomfrets	64	7	7	22
Barracuda	60	10	15	15
Tuna	54	8	20	18
Sharks	60	8	22	10
Catfish	60	10	10	20
Mackerel	55	9	11	25
Sardines	33	12	23	32
Ribbon fish	50	10	12	28
Rays	47	13	22	28
While Bait	52	12	20	16
Lizard fish	55	12	15	18
Goat fish	57	11	16	14
Threadfins	55	9	17	19
Croakers	48	11	14	27
Silver belly	30	15	8	47
Big jawed jumper	55	10	9	26
Mulletts	51	9	17	33
Half and Full beaks	65	9	10	16
Cephalopods	68	10	5	17

The traditional fish marketing systems which are largely informal, concentrated on subsistence based transactions, cater to the rural/local markets; suffer from problems concerning the supply chains including lack of funds for production, procurement and marketing activities ([5] Sathiadhas and Panikkar, 1988). Monetisation of transactions on the beach/landing centers are mostly controlled by the auctioneers/traders/moneylenders who happen to lend towards the expenses for conducting a trip, thereby

seizing sizeable proportion of the income of the fishermen. In the event of disability to find finance requirement for one cycle of operation cannot be retrieved from previous trip results in borrowal from informal sources: ending up in a loss due to forced sale at landing centers. While in the modern marketing systems which caters to export and urban centers, the issues take dimensions of elongated and proliferated market chains, incorrect market intelligence and powerful market intermediaries dominating the market. The monopolies of the traders who control the markets have kept the producers and consumers out of the scenario; a situation created out of absence of intervention of government or cooperatives. The declining fish catches and international legislations regarding seafood exports have potentially serious consequences on livelihoods of poor fishermen ([6] V. Salagrama, 2004).

Fresh fish, once inaccessible to distant locations till a few years ago are now easily available due to the vast improvements in handling technologies coupled with advanced transportation facilities and consequent market penetration. However, the infrastructure for fish marketing in India is still principally oriented towards the export market. A marketing channel involving only the essential intermediaries such as exporter cum processor and foreign buyer is the most suitable in export marketing system.

Fisheries Co-operatives- Most Apposite Alternative

In spite of ever increasing demand and high price of marine fish both in internal and external markets, the influence of intermediaries in the marketing process could not be challenged. Co-operatives are organizations functioning for the upliftment of the weaker sections of the community by promoting economic progress and social justice. It functions on the principles of equality and justice governed by democratic management. Fishery Co-operatives in India follows a four tier structure of governance with Fish Co-op Fed at national Level, State Level Fishermen Co-operative Federations at state level, and District Fishermen Co-operative Societies at district level and Primary Fishermen Co-operative Societies at village level.

Fishery co-operatives in India functions with the objectives of providing a better market position, controlling the prices and costs of inputs on the one hand and providing better prices for the output on the other hand by avoiding too many middlemen. It also helps to provide greater adaptability to market conditions including terminal markets through induction of professional management. The risk of the producer members of the society is transferred by the cooperatives via its storage, transport and procurement activities. Cooperatives also organize members to increase their abilities and power to deal with other institutions/organizations on an equal footing.

Thus, it can be said that fishermen's co-operatives on one hand strive to strengthen the economic independence of its members by raising the production and productivity of fish and on the other hand develops an organized system of marketing and distribution of fish ensuring a fair price for the producer.

Marketing through fishermen cooperatives have been undertaken by various state governments in India, but could achieve limited rate of success in states like Gujarat, Maharashtra and few pockets of other maritime states. Studies carried out indicate that intervention of cooperative marketing could increase the fishermen's share in consumers' rupee to the range of 60 to 80 %. Hence to protect the interests of both producers and consumers it is essential to introduce and expand the cooperative fish marketing system throughout the country. In the absence of regulated markets catering to fish trade in the domestic marketing scenario, cooperative marketing can revitalize the existent system of malpractices which favour middlemen. Moreover product diversification and value addition are of increased importance in international markets ([7] Sathiadhas et. al, 1997).

Promotion of diversified value added products not only accelerate out forex earnings in exports, but also provide a multiplier effect on employment front especially weaker sections and women folk ([8] Sathiadhas and Femeena Hassan, 2002) An additional export of almost 1 lakh tonnes of value added products in our marine products could easily corner about US\$ 334.75 million of forex earnings and generate regular employment opportunity for about 35,000 fisherfolk. Fishermen cooperatives can equip

themselves by undertaking value addition and processing thereby providing gainful employment in the coastal areas in addition to catering to international market requirements. In Kanyakumari region of Tamil Nadu, a substantial quantity of fish trade is taken by fishermen cooperatives. On the basis of the investigations carried out in this region during the year 2005, the comparative scenario of marketing margins has been worked out. The producer's share in consumer's rupee in private and cooperative marketing channels is given in Table V. It is quite evident from the figures that the cooperatives could fetch more share to producers than ordinary private marketing channels. While in the private trade the producers share in consumers' rupee varied between 30 to 70 per cent for different varieties of fishes, the cooperatives could provide 60 to 80 per cent.

Table V: Producers Share in Private Vs Cooperative Marketing Channels (2005)

Name of Fish	Producers share in consumers rupee (percent)	
	Private	Cooperative
Seer Fishes	70	80
Pomfrets	64	75
Mackerel	55	75
Ribbon Fishes	50	70
Tunnies	54	77
Catfishes	60	80
Barracudas	60	78
Silverbellies	30	60
Lizard Fishes	55	70
Goat Fishes	57	72
White baits	52	70
Threadfin breams	51	68
Threadfins	55	75

Fisheries cooperatives can not only boost up activities on marketing front, but also provide financial support on the production front. This is on lines with the principle of "Linking of credit with marketing". Previously it was stated that fishermen are finding it difficult to find funds for operational expenses for conducting a fishing trip from the earnings of the previous trip and are forced to borrow from the moneylenders or traders which ultimately results in forced sale of the catch. This is disadvantageous to the fishers and a solution can be offered from cooperatives by supplying hassle free low interest working capital loans on the condition that the catch of the trip will be marketed through the society. This arrangement can prove extremely beneficial to fishermen by relieving them from the debt burden and fetching reasonable price for the produce.

The major thrust of the co-operative sector today is towards supporting production through supply of necessary inputs, providing post-harvest support facilities, and facilitating domestic trade. However this should be extended to cater to export markets also. However, apart from the above thrust areas, the involvement of cooperatives in Market Information System (MIS) is equally important. This emphasises upon the need for the cooperatives to set up a comprehensive computerized information system, especially to disseminate information of prices prevailing in domestic and export markets and guide the producers in their decision regarding their operations in accordance with the domestic and international market conditions. The extended network of computer-cum-telecommunication would help in setting up a comprehensive information system. So far, not much has been achieved in this direction and there is practically a vacuum in this regard. However, in the present milieu, there is every possibility of India reaping the benefit of being a member nation with World Trade Organization (WTO), especially with

respect to MIS encompassing linkages between the producing and forwarding agencies, and also between terminal and importing markets.

CONCLUSION & SUGGESTIONS

The New Economic Policies (NEP) not only have posed great challenges before the cooperatives, they have also provided immense opportunities for expansion and diversification of their business operations relating to agriculture and fisheries, particularly in respect of providing gainful employment and for increasing income level. The withdrawal of the Government regulations from many spheres of economic and business activities has enabled the use of cooperatives as an institutional set up for implementing the programmes relating to socio-economic development. It is also believed that in the existing situation in India there is virtually no alternative to the cooperatives to serve and protect the interests of those who are prone to exploitation in the market-driven economy and that cooperatives will continue to have their relevance under the economic reforms.

There is scope for the establishment of fisheries co-operative societies in unserved areas where necessary inputs may be supplied to fishermen on credit basis on easy terms. Extension services on the lines of agricultural extension may be provided to those fishermen who have very little knowledge of fishing and marketing. Liberal credit facilities to borrowers (fishermen) at reasonable rates of interest with the provision of long term repayable period or linking of credit with marketing can save the fishermen from the clutches of money lenders. Diversification of activities, scientific fund management, proper marketing facilities through MIS, removal of middlemen, proper research and development may be undertaken immediately. There is need to encourage and motivate the fishermen to form Self Help Groups, which help them in meeting the day to day expenses of smaller amount. Adequate training may be provided to the fishermen, which should cover not only the production aspects of fishes but also the other interrelated aspects Cooperatives can ensure adequate help to fishermen for the construction of retail outlets to market their fishes including small iceboxes, transportation and other related facilities and provide empowerment of fishermen to take appropriate decisions.

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ENDNOTES

ⁱ Exchange Rate as on 2nd May 2006, 1 US \$=44.81 INR

ⁱⁱ National Accounts Statistics, Government of India, Ministry of Statistics and Programme Implementation. Accessed on 20 February 2006, <http://mospi.nic.in/>