MARINE FISH MARKETING STUDY

INDO - DANISH FISHERIES PROJECT

T A D R I

Sponsored by

GOVERNMENT OF KARNATAKA

A N D

DANISH INTERNATIONAL DEVELOPMENT AGENCY

INSTITUTE OF SOCIAL STUDIES TRUST

HEAD OFFICE:

JIGYASA, No.5, Deendayal Upadhya Marg,
SMM Theatre Crafts Building
NEW DELHI - 110 002

BRANCH OFFICE:

THARANGA, 10th Cross
Rajmahal Vilas Extension
BANGALORE - 560 080

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ACKNOWLEDGEMENTS

The study is in response to an invitation from Government of Karnataka and DANIDA. We are grateful to them for funding the study.

The research team composed of Mr. Madhav Gowda, Mr. Narayan Prasad, Mr. Anandaraj and a few local investigators - Mr. Vasanth Setty, Mr. Aravind Setty, Mr. Nagesh, Mr. Gangadhar and Mr. Eshwar. Our thanks are also due to Ms. Shashi Rajagopal, ISST, for her help at all stages of the study.

We acknowledge with gratitude the guidance provided by Dr. K.S.Krishnaswamy and Mrs. Devaki Jain.

We would like to express our thanks to all the Project Officials, Officials of the Department of Fisheries, and to our respondents for extending their cooperation in conducting the study.

RITA MOULIK

A REPORT ON MARKETING STUDY - INDO-DANISH FISHERIES PROJECT, TADRI, NORTH KANARA

CONTENTS

CHAPTER I

INTRODUCTION

1. BACKGROUND:

Karnataka is one of the important maritime states in India. With the current annual production of 1,68,046 million tons, Karnataka ranks fifth in India in terms of fish production. Fishing is an important activity in the coastal areas of North and South Kanara which has 300 Kms coastline. There are about 147 fishing villages all along the coast. The fishing population is estimated at about 1,12,900 in 1980 with about 25,000 active fishermen.*

As in the neighbouring states, fishing occupies an important place in the economy of coastal areas of North and South Kanara. It provides a major avenue of employment for both men and women living in these areas, besides being an important source of food and protein. The major employment activities that people are engaged in are: (a) actual catching of fish, (b) making and repairing of fishing crafts and gears, (c) processing of fish and, (d) finally, marketing of fish.

Like in other maritime states, in Karnataka too mechanization of fishing craft was initiated by Government in the first five year plan with the objective of increasing fish

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* Source: Statistical Bulletin of Fisheries, 1984-85, issued by the Directorate of Fisheries, Government of Karnataka.

production in terms of quality and quantity and to improving the socio-economic conditions of small fisher-folk. However, initially, mechanisation centered around mainly prawn fishing due to the excellent growth of export demand. Till 1975-76, by and large trawlers were promoted for prawn fishing. However, since 1975-76, the mechanization programme in the State took a new turn with the introduction of purse-seiners. Later on, this was followed by the introduction of gillnet and other motorised boats. In encouraging mechanization, Government played an important role by providing various incentives such as subsidy, arrangement for easy availability of institutional finance and training of fishermen.

The number of mechanized boats in North and South Kanara has grown from 4 in 1960 to 2844 in 1984. As much as 92 per cent of the total landing of fish in 1984-85 was from mechanized boats.[1]

It is pertinent to note that the rapid expansion of purse-seine boats is accompanied by a rapid decline of the 'Rampani boats', the traditional mode of production.[2] About 160 rampanies were operating in Karnataka in 1976, which declined to 35 in 1979 and 20 in 1981. At present, even these are not

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1. Source: Government of Karnataka, Statistical Bulletin of Fisheries, 1984-85, issued by Directorate of Fisheries, Bangalore.

2. Rampani is a shore seine of exceptionally large-size operated by 80 to 100 people. Rampanies are owned on group basis, i.e. each individual owns about 8 to 10 pieces of rampani net and about 100 to 150 people get together to form a group.

operated. The complete replacement of rampanies by purse-seiners has resulted in a total shift from the traditional sector to the modern sector. The community mode of production has been totally routed and replaced by a system in which traditional fishermen are largely reduced to wage labourers.[1] In a bid to retain the community ownership of rampanies in the modern sector of purse-seine industry, the Government of Karnataka introduced "Rampani Scheme" to encourage traditional rampani groups to own purse-seine boats. Under this scheme, 6 purse-seines were distributed to a group of 24 to 48 fishermen belonging to rampani community in North Karnataka.

Besides the change in the character of male employment, rapid growth of mechanization has brought about several other changes in the structure of fishing industry. It has resulted in increased volume of production, greater diversity in catch composition and emergence of various financial institutions to back-up changes not only in the production system but also in the marketing infrastructure.

In this process of transition in fishing technology its impact on the small fishermen raises serious questions. It was observed that this development in Karnataka has mainly benefitted the affluent fishermen and has bypassed certain

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1. See George; "Fishing Gears of Karnataka", CIFT Bulletin No. 6 (Cochin: Central Institute of Fisheries Technology, 1982).

'pockets' along the coast of North Kanara where Tadri a good-natural harbour with large underutilized development potential is situated.[1]

It is against this background that the Indo-Danish-Fisheries Project at Tadri in North Kanara was conceived with an objective of involving many of the poor fisher-folk to become partners in the development which is already ongoing elsewhere along the coast.

2. OBJECTIVES:

The broad objectives of this study are to examine comprehensively the existing trade of fish catches landed in the project area, and thereafter recommend improvements in the marketing system and determine the marketing potential in order to increase the economic status and welfare of the fisher-folk. Following are the specific objectives of the study:

(i) To furnish a description and analysis of the existing trade of the fish catches landed in the project area with special reference to the following:

- The existing channels for sale of fish and its impact on retail prices.
- The price spread and profits at each level.

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1. Indo-Danish Fisheries Project-Tadri, Mission report on the Integrated Community Development Fisheries Project at Tadri in North Kanara District, Karnataka, September, 1980.

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- Consumption patterns.
- A general description of different traders operating in various landing centres.
- The role of existing institutions in marketing of fish.

(ii) In the light of above analysis to determine the marketing potential of the catches from Tadri, i.e. local trade, trade within the district, trade within the state and in other states.

- The possibilities of increasing the prices of luxury fish and mackerel for the benefit of the fishermen, i.e. fish for the upper and middle income class.
- The possibilities of marketing cheap fish (trash fish and sardines for human consumption) for the lower income classes.
- The possibilities of increasing the marketing activities of fish vendors and other petty traders.
- Assessing the marketing aspects of local processing by target group members operating machinery either individually or in groups (such machinery

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could be small hand-operated machines producing traditional fish meal from dried fish).

- The possibilities of continued landings and marketing of fish from the small coastal villages within the project area.

- The marketing potential of the State Corporation; the amount of fish which it will be able to market; which categories of consumers will be supplied etc.

(iii) Finally, from the analysis of (i) and (ii), to make recommendations on the actions to be taken in the project area to support:

(a) The fishing families in their exchange activities.

(b) Various categories of peddlars and merchants and agents in order to promote the project objectives of increased marketing of cheap proteins, increased prices for the catches landed by the fishermen, increased possibilities for the women of the fishing families handling fish in small scale, and finally a better utilization of the landed catches through innovations in processing.

INVESTIGATION:

The work for the marketing study was started in December A visit to the project area was undertaken in December

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1984, to obtain a general idea of the project scope, landing centres, fishing community and the marketing practices. This opportunity was also utilized to have detailed discussions with the Principal Marketing Organizations viz. North Kanara District Co-operative Marketing Federation, Tadri Co-operative Society and the Karnataka Government, Department of Fisheries in order to get a first picture of the present structure of marketing of fish caught in the project area. Simultaneously, secondary data relating to fishing industry in Karnataka as well as other maritime states were collected from various sources to obtain an overall picture of the fishing industry in India.

During the preliminary visit to the four major landing centres viz. Tadri, Keni, Belikere and Kumta, it was observed that after each haul, the crew of the mechanized boats sort out the entire catch into 3 broad categories; exportable varieties, fish for local domestic purposes and fish for industrial uses (manure and fish meal). The catch was brought to the shore at the auction shed in these different lots. Auctions were conducted by the Primary Co-operative societies only at Tadri and Belikeri landing centres, whereas, in Kumta and Keni, the lots were sold directly to the private traders.

The total landings were purchased by private traders and their agents, who dominate the scene at the landing centre

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and differ from each other in several respects like quantity handled, profit earned, ownership pattern etc. The various categories of fresh fish traders operating at the landing centres were:

(a) Commission Agents: These are fresh fish purchasers who operate on others' behalf at the landing centres and send it to consuming centres within the state on the basis of commission received.

(b) Whole-salers: These are fresh fish traders who undertake the assembling, packing and transportation of fish for sale in various consuming centres within the state as well as in other states. They handle a much larger quantity of fish than the commission agents.

(c) Dry fish processors: These are individuals who undertake the processing of fresh fish to give it a dry form. They purchase fish in large quantities and process it at open beaches near the landing centre. These processed fish are then sent to various consuming centres within the state and other states.

(d) Retailers and Vendors: Fish retailing system in general, consisted of small independent operators. Retailing and vending of fish in the project area are done only by women. They generally purchase small quantities of fish ranging from 15 to 30 kgs.

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In the presence of a large number of middle men and traders engaged in the marketing activity, the profit and share of the actual producers of fish is apparently entirely determined by market. It is against this background that the methodology of the study has been designed.

4. METHODOLOGY:

On the basis of the preliminary observations, a selection of landing centres, market centres and sample respondents were made as described below:

4.1 Selection of the Landing Centres:

As mentioned earlier, there are four major landing centres in the project area - viz. Keni, Belikeri, Kumta and Tadri. It was decided to select all these four landing centres to obtain supply and utilization pattern data. All the four landing centres were included in the study because they varied considerably in respect of total landings, composition of catch, utilization pattern and types of gear used. Moreover, due to the variation in composition of catch, the traders or fish merchants operating in these centres were also of different categories in terms of their mode of operation, profits and commission.

Four investigators were engaged to maintain a daily register at each of the above four landing centres in the project area to collect the following information with the help of a questionnaire:

(i) Daily total catch and catch composition.

(ii) Types of gear used.

(iii) Total number of boats landed according to type.

(iv) Selling price for each species.

(v) Sold to whom - commission agents, wholesalers, dry fish merchants, petty traders, etc.

(vi) Utilization pattern-

- quantity used in fresh form and dry form
- quantity consumed locally, within the state, outside the state and export.

The investigators were appointed from 1st January 1985 at the four landing centres to record the daily catch. However, due to rapid decline in fish catch from February onwards, it was decided to discontinue the maintenance record on daily catch. Since it was important to get the size of fish catch during the peak season, field work was undertaken again during the peak season i.e. September-October 1985. Moreover, it was felt that seasonal variations of catch might have an effect on the market prices of fish and on the share of various categories of persons handling fish right from the fisherman to the consumers.

4.2 Distribution of sample respondents:

In the overall process of fish marketing the channels of distribution of fish or intermediaries have a very important role to play from two view points:

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(1) Providing desired quality of fish to the consumers at reasonable price, and

(2) Providing fair prices to fisher-folk for their produce.

The major objective of this part of the study was to understand the prevailing system in the four landing centres of the project area.

The sample size of different categories of respondents, handling fish from the producers i.e. the boat-owners to final consumers were selected from all the four landing centres to have maximum coverage of the marketing system. The sample size was based on the field data generated during the first phase of the study. It was found that the figures provided by the Department of Fisheries on the numbers of mechanized boats operating at the four landing centres were quite different from our own field data. The actual numbers of boats operating were far less than the official figures (for details see Chapter II). Details on the sample respondents selected at each of the four landing centres and the actual numbers operating are presented in Table 1. The sample respondents were selected at random. However, their availability and cooperation during interviews were also the determining factors for the ultimate sample size.

Due to non-cooperation of boat owners, wholesalers and the commission agents, data could not be collected from the

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Table 1: Distribution of Sample Respondents in Four Landing Centres

Sl No.	Categories of Sample	Landing Centres				Allocated Sample Size	Actually drawn (Total)
		Kumta	Tadri	Keni	Belikeri		
I.	Boat-owners						
1.	Trawler Owners	-	2	-	2	10	4
2.	Purse-seine Owners	-	2	-	2	8	4
3.	Gill-net Owners	1	1	2	-	8	4
II.	Intermediaries						
1.	Commission Agents	2	2	3	1	10	8
2.	Wholesalers	2	4	-	2	10	8
3.	Dry fish merchants	-	3	1	1	8	5
4.	Retailers and Vendors	3	2	3	2	10	10

desired number of respondents as planned. Moreover, during analysis, a few questionnaires on the boat-owners, commission agents and wholesalers had to be discarded because of unrealistic information given. Thus, the sample sizes of different categories of respondents actually drawn were less than the allocated sample size.

Indepth case studies were conducted with the different categories of respondents on the following specific aspects:

(1) Economics of boat operation - fixed and variable costs, working capital requirements, depreciation, total yearly catch, profit analysis etc.

(2) Intermediaries: Yearly transaction of fish, profit structure, cost analysis, risk etc.

(3) Estimate the price spread for different marketing channels.

4.3 Selection of Marketing Centres:

Marketing centres here means the consuming centres where fish from the four landing centres of project areas are sold. During preliminary survey, it was observed that the majority of fish from the four landing centres selected in the project area were sent to consuming centres within the state as well as outside the state. The major consuming centres outside Karnataka was Bombay and within the State Hubli-Dharwar, Sirsi, and Belgaum. In order to study the price spread and demand of fish wholesale markets at Bombay, Hubli-Dharwar, Sirsi and Poona were visited and field enquiries conducted on trading volumes, wholesale and retail prices, marketing costs, etc.

4.3 Selection of Marketing Organizations:

In the landing centres the auction of catches is conducted either by North Kanara District Co-operative Marketing Federation or Primary Co-operatives. During the first phase of data collection, it was found that marketing of fish in Keni was done

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through Federation whereas, the catches in Tadri, Kumta and Belikeri were marketed through Primary Co-operatives. Thus an assessment of the role of co-operatives and Federation in the marketing of fish were done through indepth case studies of these two organizations.

4.5 Organization of the Report:

The report consists of seven chapters. Chapter II focuses on the infrastructural facilities and the supply situation whereas Chapter III deals with the current demand of the project area fish. Chapter IV reviews the present supporting institutional facilities for marketing of fish. This is followed by an analysis of economics of boat operation and price spread in Chapter V. The status of fisherfolk in the project area based on observations of the team during field work is presented in Chapter VI. Finally, the last Chapter contains the conclusion and recommendations.

CHAPTER II

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SUPPLY AND INFRASTRUCTURAL FACILITIES

The production of fish and the infrastructural facilities available at the landing centre are two important aspects in the marketing of fish. It has been observed that many a time due to inadequate marketing and landing and berthing facilities the crafts belonging to a particular area land their catch at other landing centres with comparatively better facilities. This phenomena affects the supply situation of a particular area and also deprives the local people of consuming certain species of fish. In this part of the report, an attempt is made to analyse the supply situation and the infrastructural facilities available at each of the four sample landing centres of the project area.

2. INFRASTRUCTURAL FACILITIES:

2.1 TADRI LANDING CENTRE:

Tadri is a well-sheltered natural harbour and the largest landing centre in the project area. It has all the necessary civic facilities such as drinking water, electricity, post and telegraph services, bank facility and local transportation. It is well connected by roads to all the parts of the State, but not connected by railways.

2.1.1 Supply Facilities:

At the time of field survey, a full-fledged fishery harbour was being constructed. After completion of this harbour,

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it will provide concentration of all the fishing activities including marketing. At present, there are no boat building yards at Tadri although there are 10 boat building yards in North Kanara District. Tadri has neither an ice-plant nor a freezing plant. The ice plant closest to Tadri Landing Centre is at a distance of 9 kms. situated in Madangere. The fish traders or merchants usually buy ice from Madangere or Keni which is at a distance of 25 kms.

2.1.2 Modes of Transport:

The landings at Tadri are supplied to the inland districts of Karnataka and other States through roadways. Transportation to small distances are mostly done by head-loads whereas long distances are covered by trucks, vans and buses.

2.1.3 Distribution of Crafts and Gears:

The data available for spatial distribution of various types of crafts and gears in Tadri were quite confusing. Different sources reported different numbers of mechanized craft. The sources were: (a) the Government Department of Fisheries, Karwar, (b) Tadri Co-operative Society. However, an attempt was made to take into consideration both the above sources as well as the field data generated for study. Accordingly, at present, the number of crafts owned by the Tadri fishermen are as follows:

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Number of mechanized Crafts:

a) Purse-seine	:	7
b) Trawlers	:	44
c) Gill-net	:	6

Besides the above boats, a large number of mechanized boats from other areas also land their catch at Tadri Landing Centre. Their numbers are as follows:

		1984-85
a) Purse-seine	:	33
b) Trawlers	:	236
c) Gill-net	:	nil

Discussions with Tadri Cooperative officials and fishermen revealed that there are about 50 traditional boats operating in the area engaged in marine as well as river fishing. However, most of them operate only during monsoon when the mechanized boats are not engaged in fishing.

2.1.4 Purchasers of Fish:

Based on the field data, the numbers and categories of purchasers of fresh fish at the Landing Centre are given below:

a) Commission agents	:	10
b) Wholesalers	:	4
c) Retailers & Vendors	:	30
d) Dry fish sellers	:	30

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2.1.5 Institutional Support:

The Tadri fishermen's cooperative society situated close to the Tadri Landing Centre provides diesel at fixed rate to all the boat owners of the area. Besides, it runs a fair price shop and a retail shop for spare parts for the mechanized boats. The Cooperative organises the auction. The boat owners pay commission to the cooperative for the marketing services provided. Role of the cooperative society at Tadri will be dealt in greater detail in the later part of the report (Chapter IV).

2.2 KENI LANDING CENTRE:

Keni is one of the major landing centres of gill-net boats not only in the project area but in the whole of North Kanara District. The characteristics of gill-net fish landing is that the fishes are large-sized and highly priced consisting of two or three varieties like seer, shark, cat fish etc.

2.2.1 Civic Facilities:

Keni is serviced by a high school and a college situated at Ankola. There is a public health clinic, post office, a fair price shop and a branch of commercial and urban co-operative bank. Water supply in Keni is through wells. The nearest town is Ankola situated at a distance of 6 kms.

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2.2.2 Supply Facilities:

Landing and berthing facilities for gill-net boats in Keni were found to be inadequate. Fishes are landed in open beaches and due to scattered landing all along the beach, marketing of fish also takes place at various points where the boats are berthed. The approach roads to the landing centre is also not developed due to which large sized vehicles are unable to come to the landing centre. The fish from the landing centre are assembled in Ankola either by a three wheeler vehicle or by women. Women usually carry headloads of fish to Ankola by covering the 6 kms. distance on foot. These women are either retailers selling fish at Ankola market or employed by the Commission agent as wage labourers.

There are no freezers nor processing plants at Keni. The nearest ice plant from the Keni Landing Centre is in Ankola at a distance of 6 kms.

2.2.3 Distribution of Crafts and Gears:

According to the data available from the Department of Fisheries in 1984-85, the fishermen of Keni owned 8 purse-seiners, 37 trawlers and 106 gill-netters. However, at present, the purse-seiners and trawlers land their catch at either Tadri or Belikeri as these landing centres have comparatively better Landing facilities than Keni.

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2.2.4 Fish Marketing Agents:

Based on the field data, the number of various categories of purchasers involved in the marketing of fish in Keni are given below:

a) Commission agents	:	8
b) Wholesalers	:	3
c) Retailer and Vendors	:	40
d) Dry fish merchants	:	15

2.2.5 Institutional Support:

Unfortunately, for sale of fish the fishermen of Keni are totally dependent upon the whims and demands of the traders. There is no cooperative nor any other institution like the other landing centres to decide on the prices of fish based on auction. Till February-March 1985, the North Kanara District Cooperative Marketing Federation was involved in the auctioneering of fish. Since then, they have pulled out from Keni and the fishermen directly sell their catch to the traders. As a result, the fishermen get much lower price for fish compared to other landing centres. For example, selling price of seer fish at Keni in September 1985 was Rs.1.50 to Rs.2 per kg. whereas in Tadri it was sold for Rs.4 to Rs.5 per kg.

As mentioned earlier, that according to Department of Fisheries, 106 gill-netters are supposed to be operating at

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Keni, whereas our field data indicates that on an average 60 gill-netters were found to be operating daily in the month of January 1985 and 20 during September-October 1985. The decline in the number of gill-net boats landing their catch at Keni could be very likely due to unorganized marketing system at Keni Landing Centre and the fishermen receiving low value for the catch. It could be possible that the gill-net boats land at other nearby landing centres for better price realization. This is a serious problem at present and needs immediate attention of the authorities.

2.3 BELIKERI LANDING CENTRE:

Belikeri has all the necessary civic facilities such as drinking water, electricity, post and telegraph services, bank facilities and local transportation. It is well connected by roads to all the major towns of the State. There is a middle school, aganwadi and a public health unit in Belikeri.

2.3.1 Supply Facilities:

Belikeri has neither an ice plant nor a freezing plant. The ice plant closest to Belikeri landing centre is at a distance of 10 kms. situated in Ankola. The fish traders and merchants usually buy ice from Ankola before coming to the landing centre. The facilities for auctioneering of fish too seemed to be inadequate. The landing area for fish is so small that at a time the catch of only one boat can be handled whereas the

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other boats have to wait in queue. It is all the more time consuming if more than 2 purse-seiners land their catch at a time. Since the boat owners do not make use of ice for keeping the fish fresh, there are chances of fish getting spoilt.

2.3.2 Distribution of Crafts and Gears:

According to the data available from Department of Fisheries, Karwar, in 1984-85, the fishermen of Belikeri owned 4 purse-seine boats, 8 trawlers and 29 gill-net boats. During field investigation, it was observed that 3 to 4 purse-seiners were operating in the month of September-October 1985, but the trawler boats were not operating at all due to non-availability of prawns. During September-October 1985, gill-net catch was not recorded in the daily register for Belikeri. It was gathered from the Cooperative officials and the fishermen that the Gill-net catch was landed either in villages along the coast or at Karwar.

2.3.3 Fish Marketing Agents:

Based on the field data, the number of various categories of purchasers of fish in Belikeri are given below:

a) Commission agent	:	4
b) Wholesaler	:	2
c) Retailers	:	20
d) Dry fish sellers	:	30

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2.3.4 Institutional Support:

The Belikeri fishermen's cooperative society situated at Belikeri landing centre runs a fair price shop and supplies diesel to boat owners besides helping the fishermen in auctioneering of fish. The auction of fish was taken by the Primary Cooperative society very recently that is 1982-83 onwards.

2.4 KUMTA LANDING CENTRE:

Kumta Landing Centre has all the civic facilities like drinking water, electricity, metalled roads, post and telegraph services, etc. It is well connected to major towns in Karnataka by roads. However, the berthing facilities in Kumta Landing Centre was found to be very inadequate. It is scattered all along the beach. Thus, fish is sold at different points. In fact, during field survey, it was observed that the purse-seine boats landed their catch far away from the landing centre at various places and were brought to the shores or near the landing centre by small traditional boats. However, the gill-net boats landed at one place, but the berthing facility was found to be overcrowded.

2.4.1 Distribution of Crafts and Gears:

Different sources reported different numbers of mechanized boats actually operating in Kumta landing Centre. According to Department of Fisheries, Government of Karnataka, the fishermen of Kumta taluka own 3 purse-seiners, 180 trawlers and 57 gill-netters. However, during field survey in the month of

September-October, only 9 gill-netters were operating. Due to decline in prawn catch the trawlers did not operate. It was difficult to obtain the data on purse-seiners as they never landed in Kumta Landing Centre. According to the information gathered from fishermen, 3 purse-seiners were operating and landed their catch at Tadri Landing Centre.

2.4.2 Purchasers of Fish:

Based on the field data, the various categories of purchasers of fresh fish operating in Kumta were as follows:

a) Commission agents	:	7
b) Wholesalers	:	4
c) Retailers	:	70
d) Dry fish sellers	:	5

2.4.3 Institutional Support:

Kumta has a fishermen cooperative society which was essentially set up to provide loan to fishermen for purchase of boats, supply of diesel at subsidised rate, yearly credit facilities to boat owners for maintenance of boats and auctioneering of fish. However, during field survey, it was observed that Cooperative was totally defunct. During the sale of fish the cooperative officials were found to be absent at the landing centre. An attempt was made to interview the cooperative officials but they denied meeting and discussions with

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the research team. The fishermen reported that the cooperative was not functioning at all. As a result, a very disorganised system of marketing of fish prevailed at Kumta landing centre.

2.5 SUPPLY TRENDS:

The supply of marine fish depends upon factors such as resource potential, level of current exploitation as well as the fishing technology used. A review of past trends in total landings and the level of technology of production are described below for each of the four sample landing centres based on the secondary data.

2.5.1 TADRI LANDING CENTRE:

To study the supply situation at Tadri, an attempt is made to analyse the past trends in the production of marine fish and the technology used. The total fish production in Tadri over the last 10 years is shown in Table 2.1. It can be observed that the total production in 1974-75 and 1983-84 are more or less the same. The peak production was in between 1979-80 and 1980-81. Since then, the catch started declining. However, Tadri landings constitute the largest share in terms of quantity of total catch in the project area.

Trends in the output of mechanized and non-mechanized boats show that at present mechanized sector is the major producer of the total marine fish output in Tadri, i.e. about

Table 2.1: Fish Catch at Tadri Landing Centre

(Quantity - M. Tonnes)

Year	Purse-seine		Trawlers		Gill-net		Traditional Boats		Total
	Nos. operating	Qty.	Nos. operating	Qty.	Nos. operating	Qty.	Nos. operating	Qty.	
1974-75	-	-	-	-	-	-	-	2929 (100)	2929 (100)
1975-76	NA	150 (3)	267	3139 (75)	-	-	NA	904 (22)	4193 (100)
1976-77	NA	2 (.10)	409	1235.50 (42)	-	-	NA	1656.50 (57)	2894 (100)
1977-78	1	36 (1)	557	2252 (45)	-	-	NA	2679.40 (54)	4967.40 (100)
1978-79	3	440 (11)	253	2828 (71)	-	-	NA	695.70 (18)	3965.70 (100)
1979-80	4	1122 (17)	566	3052.20 (44)	-	-	NA	2700.80 (39)	6875 (100)
1980-81	39	1691.20 (32)	440	1983.70 (38)	-	-	NA	1583.50 (30)	5258.40 (100)
1981-82	144	3115.70 (69)	367	977.40 (22)	15	40.8 (1)	NA	351.90 (8)	4485.80 (100)
1982-83	29	454.50 (19.34)	574	1635.80 (69.32)	12	31.50 (1.34)	NA	227.30 (10)	2349.10 (100)
1983-84	64	791.50 (36)	442	1133.40 (53)	46	24.30 (1)	NA	225.40 (10)	2174.60 (100)
1984-85	40	687.60 (22)	236	2280 (72.38)	5	19.50 (0.62)	NA	156.60 (5)	3143.70 (100)

Source: (1) For quantity of catch: Dept.of Fisheries, North Kanara District, Karwar, Government of Karnataka.

(2) For number of boats operating : Meenugarar Sahakari Sangha Ltd., Tadri, North Kanara.

Note: Figures in parentheses indicate percentage to total catch.

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95 per cent. The share of traditional boats in the total landing have gradually declined over the years and at present accounts for only 5 per cent.

The extent of change over to mechanized fishing is reflected forcefully in the statistics of total fish catch in the years 1979-80 and 1980-81. In 1979-80, there was an increase of fish production by 173 per cent over the previous year which commensurates with the increase in the number of mechanized boats in the same year by 144 per cent (113 in number). However, since then, the total landings have declined inspite of increase in the number of mechanized boats which is a matter of considerable concern.

Another important feature within the mechanized fishing is that the purse-seine catch in 1981-82 all of a sudden rose up by 184 per cent over the previous year. This could be due to addition of 105 purse-seine boats in the same year to the existing fleet. However, in the following years, the catch declined drastically. In order to assess the effect of this trend on the income of the fishermen, average annual catch per boat was worked out (see Table 2.2). The average annual catch per boat has declined from 1979-80 onwards. It has declined from 280 M. tonnes in 1979-80 to 17 M. tonnes in 1984-85. This phenomena has affected the purse-seine boat owners adversely by lowering their annual income substantially. The indications are that the supply situation is becoming increasingly difficult.

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Table 2.2: Average Annual Catch Per Boat (Purse-Seine) 1977-78 to 1984-85 in Tadri

Year	Total Annual Catch (M. tonnes)	Purse-Seine boats (No.)	Average Annual catch per boat (M. tonnes)
1977-78	36	1	36
1978-79	440	3	147
1979-80	1122	4	280
1980-81	1691.20	39	43
1981-82	3115.70	144	21
1982-83	454.50	29	16
1983-84	791.50	64	12
1984-85	687.60	40	17

Source: for quantity of fish: Department of Fisheries, North Kanara District, Karwar, Government of Karnataka.

for number of boats : Meenugarar Sahakari Sangha Ltd., Tadri, North Kanara.

To sum up, two important features emerge from the supply data of Tadri. Firstly, that the increase in the number of mechanized craft has definitely not increased the production. It has only reduced the traditional boat owners as wage labourers in mechanized boats. Secondly, within the mechanized sector, the average catch per boat has declined drastically which has adversely affected the boat owners economically.

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2.5.2 KENI LANDING CENTRE:

In Keni Landing Centre, mainly the Gill-net boats land their catches. Even today the two most important sources of supply of fish are traditional boats and Gill net boats. The traditional boats land their catch in various villages along the beach. The Gill net boats were introduced very recently in 1980-81. Till recently, that is upto 1981-82, the purse-seine boats also landed fish at Keni, but due to inadequacy of berthing facilities and poor market facilities they shifted to other centres. They land their catch either in Belikeri or Tadri. Same was the case with trawlers. However, unlike Tadri, two very important phenomena can be observed from Table 2.3 regarding Keni landings. Firstly, the major share of catch is from traditional boats and secondly, the total quantity of fish supply has more or less remained the same with very less fluctuation. This could be due to lesser degree of mechanization than Tadri.

The supply from Keni constitutes about 13 to 20 per cent of the total fish production in the project area. However, in terms of quality fish it ranks 'first'. The data on growth of gill net boats since its inception in 1980-81 for Keni could not be obtained from any source.

The fishing season in Keni generally starts from 15th August, but due to unsuitable weather in 1985, the gill

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Table 2.3: Type-wise Fish Catch at Keni Landing Centre

(Quantity - M. tonnes)

Year	By Purse-seine	By Trawler	By Gill-net	Rampani	Tradi-tional	Total
1974-75	-	219 (16)	-	462 (34)	679 (50)	1360 (100)
1975-76	-	141 (21)	-	264 (39)	265 (40)	670 (100)
1976-77	-	105 (18)	-	224 (37)	273 (45)	602 (100)
1977-78	-	263 (29)	-	186 (20)	464.30 (51)	913 (100)
1978-79	147 (20)	6 (1)	-	14 (2)	547.60 (77)	715 (100)
1979-80	136 (18)	142 (20)	-	106 (15)	345.60 (47)	730 (100)
1980-81	37.9 (5)	-	83.4 (12)	29.0 (4)	567.70 (79)	718 (100)
1981-82	19.8 (2)	29.3 (3)	323.4 (32)	-	642.0 (63)	1014 (100)
1982-83	-	43.9 (5)	322.10 (35)	-	557.20 (60)	923 (100)
1983-84	-	-	504.90 (45)	-	606.30 (55)	1111 (100)
1984-85	-	-	NA	-	NA	NA

Source: Department of Fisheries, North Kanara District, Karwar, Government of Karnataka.

net boats actually went out for fishing from 15th September onwards that too very few in number. The regular fishing started from the first week of October. It was observed that the catch was of very low quantity during first half of October. However, by the end of October, substantial catch was recorded.

The catch of quality fish by gill net boats in Keni has increased since 1980-81 by more than 600 per cent in 1984-85, whereas the landings by traditional boats have more or less remained constant. However, the Rampani operation has totally disappeared from the scene with the introduction of gill-net boats in 1980-81 (see Table 2.3).

At present, the two types of crafts, that is, traditional and gill-net are the main source of supply of fish in that area, with almost equal share in the total catch. An important question that arises in this situation is whether to speed up the mechanization programme as elsewhere and increase the number of gill-net boats operating in Keni or just restrict the number of mechanized boats to its present number. At present, the equal share of mechanized and traditional sector in the total catch seems to be an ideal arrangement. Our field experience in Tadri shows that the traditional forms of fishing organisations are badly affected by mechanization without increase in supply and the traditional fishermen are largely reduced to wage labourers.

2.5.3 Belikeri Landing Centre:

The composition of total catch in Belikeri is varied as all the three types of mechanized boats and traditional boats operate in Belikeri during various fishing seasons. However, the yearly total catch over the last 10 years reveals a very interesting phenomena on the supply aspect (see Table 2.4). Firstly, the total catch has more or less remained constant

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Table 2.4: Type-wise Fish Catch at Belikeri Landing Centre

(Quantity - M.tonnes)

Year	By Purse-seine	By Trawler	By Gill-net	Rampani	Tradition-al boats	Total
1974-75	-	35 (6)	-	-	525 (94)	559 (100)
1975-76	-	30 (7)	-	-	413 (93)	443 (100)
1976-77	-	43 (10)	-	-	379 (90)	422 (100)
1977-78	-	20 (3)	-	-	679 (97)	699 (100)
1978-79	-	16 (4)	-	-	440 (96)	456 (100)
1979-80	-	20 (5)	-	-	478 (95)	502 (100)
1980-81	-	49.2 (12)	19.8 (5)	-	347.80 (83)	417 (100)
1981-82	30.3 (8)	92.1 (24)	117.8 (30)	-	149.70 (38)	390 (100)
1982-83	11.6 (4)	120 (39)	57.9 (19)	-	118.70 (38)	308 (100)
1983-84	185.10 (42)	157.40 (36)	33.70 (7)	-	66.60 (15)	443 (100)
1984-85	73.6 (17)	145.60 (35)	98.40 (23)	-	105.20 (25)	422 (100)

Source: Dept.of Fisheries, North Kanara District, Karwar, Government of Karnataka.

over the years except in 1977-78. There was an increase of 165 per cent over the previous year. Secondly, the share of traditional sector in overall catch has substantially decreased over the years from 94 per cent in 1974-75 to 25 per cent in 1984-85. Thirdly, the growth in mechanization has not in any way altered the supply situation of total catch. In spite of mechanized fishing since 1980-81, the total landings have remained constant with very little fluctuation.

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In this context, the need for mechanization to improve the supply situation is really questionable. It seems that the mechanization has benefitted only few fishermen in the area and has alienated a major segment of fishermen engaged in traditional mode of fishing.

2.5.4 KUMTA LANDING CENTRE:

The hypothesis that mechanisation does not necessarily augment the supply or production of fish is further established from the total catch data of Kumta Landing Centre. (see Table 2.5). It can be observed that in 1979-80, the total catch increased by 539 per cent over the previous year and the total supply was from traditional mode of production. However, since 1981-82, the share of traditional boats in the total catch declined gradually with the introduction of gill-net boats. Nevertheless, the total production remained more or less same upto 3 years (1981-1984) and decreased by 175 per cent in 1984-85. Moreover, the gill-net catch also declined in 1984-85. To conclude, it seems that adding more number of gill-net boats has not necessarily increased the supply of fish. It has been rather a change-over from traditional mode to mechanized mode of production benefitting only a small segment of fishermen.

To sum up, the infrastructural facilities for landing and berthing of boats were found to be inadequate at the three

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Table 2.5: Type-wise Fish Catch at Kumta Landing Centre

(Quantity - M. tonnes)

Year	By Purse-seine	By Trawler	By Gillnet	By Rampani	Traditional boats	Total
1974-75	-	-	-	-	397 (100)	397 (100)
1975-76	-	-	-	-	NA	NA
1976-77	-	-	-	-	468 (100)	468 (100)
1977-78	-	-	-	16 (14)	368 (86)	428 (100)
1978-79	-	-	-	-	428 (100)	428 (100)
1979-80	-	-	-	-	2308 (100)	2308 (100)
1980-81	-	-	-	-	2741 (100)	2741 (100)
1981-82	-	-	37.0 (2)	-	1665.5 (98)	1703 (100)
1982-83	-	-	487.50 (25)	-	1501 (75)	1989 (100)
1983-84	-	-	375 (23)	-	1243 (77)	1618 (100)
1984-85	-	-	291 (32)	-	632 (68)	923 (100)

Source: Dept. of Fisheries, North Kanara District, Karwar, Government of Karnataka.

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landing centres of the project area, viz. Keni, Belikeri and Kumta. As a result, some of the mechanized boats of these areas land their catch at either Tadri or Karwar landing centres. This phenomena has deprived the local people of consuming and processing certain species of fishes.

Ice Plants situated at distance of 7 to 10 kms. away from the landing centres have prevented generous use of ice which is an absolute necessity to maintain the quality of fishes.

Inspite of mechanization, the supply of fish has more or less remained constant. It has been more of a change-over from traditional mode of fishing to mechanized fishing benefitting only a segment of fishermen and alienating others reducing them to wage labour.

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CHAPTER III

CONSUMPTION AND DEMAND PATTERN

In this part of the report, an attempt is made to study the consumption and demand pattern of fish landed in the project area. Keeping in view the efforts of IDFP to accelerate mechanization and possibly increase supply of fish, it is necessary to guage into the current demand pattern of fish in local, within the state, outside the state and export market. To estimate the current consumption and demand pattern it was felt important to study the following three major areas:

(a) Composition of catch in the project area

(b) Consumption in various user-forms

(c) Physical flow of fishes.

3.1.1 COMPOSITION OF CATCH:

The four major landing centres viz. Keni, Tadri, Kumta and Belikeri in the project area vary considerably in their quantity of total landings as well as composition of catch because of different types of crafts used. Daily catch records were maintained in all the above four landing centres for the month of January, February, September and October 1985. Only mechanized boats land their catch at the above landing centres whereas, the traditional boats have decentralised landing in various villages situated along the beach. Thus, primary data was based mainly on mechanized boat catch. Composition of catch for each of the landing centres are presented in Table 3.1.

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3.1.2 PURSE-SEINE CATCH:

The peak fishing season for purse-seine boats is between the months of September & January. The purse-seine catch is composed of mackerel, sardines, pomfret and small-sized fishes of different varieties. Purse-seine boats operate at 2 landing centres in the project area viz. Tadri and Belikeri. During January 1985, it was found that purse-seine boats recorded very low catch. Very few purse-seines went out for fishing and by the end of January, majority of the purse-seine boats had stopped fishing in Belikeri and Tadri. However, with the start of fishing season in October, mackerel - a high priced quality fish was the major catch in Tadri constituting 54 to 63 per cent of the total landing followed by sardines. In Belikeri, during October 1985, about 90 per cent of the total landings consisted of mackerel (see Table 3.1). Mackerel is much in demand locally as well as by the consumers of other states and within the state.

3.1.3 TRAWLER CATCH:

The trawler catch is composed mainly of various grades or sizes of prawns and mixed variety of small sized fishes. Trawler catch was recorded only during January and February. In the months of September-October, trawler boats did not operate as prawns were not available. During season, that is,

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January-February 1985, prawns constituted 65 to 78 per cent of total landings in Tadri, whereas, in Belikeri, it was 26 to 50 per cent (see Table 3.1).

3.1.4 GILL-NET CATCH:

As mentioned earlier, Keni is one of the biggest landing centres for gill-netters in the project area. Kumta is also a gill-net landing centre but comparatively smaller than Keni. The gill-net catch comprises of seer fish, cat-fish, shark and pomfret. These are quality fishes and move very fast in the market. During October 1985, more than 78 per cent of the total landings in Keni comprised of seer fish compared to 89 per cent in Kumta. Of the various varieties of gill-net catch seer fish fetches higher price and is more in demand locally as well as in city market centres within the state (see table 3.1). October to December is the peak season for gill-net fishing.

3.2 USER-FORMS

The utilization pattern of fish in various forms were found to be highly dependent on two factors. Firstly, composition of catch at different landing centres due to different types of gears used. Secondly, the fishing season for different varieties of fish i.e. January and February are the peak season for prawn and off season for fish. Due

Table 3.1: Composition of Catch in the Project Area During January-February & September-October 1985

(Quantity in Tonnes)

Name of the Landing Centre	Months	Purse-seine boat catch				Gill-net boat catch						Trawler catch			Total value in lakhs of Rs.
		Mackerel	Sardine	Pomfret	Small mixed variety	Seer fish	Catfish	Shark fish	Pomfret-black & white	Tuna fish	Other varieties	Prawns	Other small mixed varieties	Total catch	
TADRI	January	-	-	-	40 (22.35)	-	1.86 (1.04)	-	0.60 (0.33)	-	44.69 (25.18)	70.61 (40.00)	19.69 (11.10)	177.45 (100)	12.13
	February	-	-	-	20 (19)	-	0.12 (0.11)	-	0.13 (0.12)	-	19.32 (18.30)	45.80 (43.47)	20.00 (19.00)	105.68 (100)	8.64
	September	183.76 (54)	61.78 (18.10)	22.74 (6.65)	71.09 (20.64)	.72 (0.20)	-	.14 (0.04)	.045 (0.01)	-	1.20 (0.36)	-	-	341.47 (100)	5.74
	October	525.77 (63)	203.80 (24.03)	-	76.57 (9.12)	28.58 (3.41)	.009 (.0001)	1.00 (0.12)	.007 (0.0008)	1.21 (0.14)	2.34 (0.30)	-	-	839.28 (100)	11.24
KENI	January	-	-	-	-	12.00 (23.00)	35.00 (66.50)	5.00 (9.50	-	-	1.15 (1.00	-	-	53.15 (100)	2.57
	February	-	-	-	-	8.21 (26.00)	21.30 (65.78)	2.00 (6.22)	-	-	.62 (2.00)	-	-	32.13 (100)	1.78
	September	-	-	-	-	29.87 (36.30)	5.56 (20.60)	6.46 (24)	3.53 (13.10)	-	1.59 (6.00)	-	-	27 (100)	1.26
	October	-	-	-	-	29.86 (78.20)	8.40 (5.06)	18.63 (11.24)	6.74 (4.08)	-	2.36 (1.42)	-	-	166 (100)	7.74

Table 3.1 (continued)

BELIKERI	January	-	-	-	20.00 (54.96)	-	-	-	-	-	-	8.30 (23.00)	8.00 (22.04)	36.30 (100)	1.22
	February	-	-	-	-	-	-	-	-	-	-	7.14 (27.00)	19.32 (73.00)	26.46 (100)	1.00
	September	55.35 (47.90)	7.00 (6.00)	18.60 (16.10)	34.69 (30.0)	-	-	-	-	-	-	-	-	115.64 (100)	2.14
	October	337.53 (70.00)	5.00 (1.03)	-	141.20 (29)	-	-	-	-	-	-	-	-	483.73 (100)	5.52
KUMTA	January	-	-	-	-	4.30 (31.82)	1.18 (8.73)	2.13 (15.76)	0.40 (2.96)	-	5.41 (40.73)	-	-	13.42 (100)	0.66
	February	-	-	-	-	3.01 (42.22)	1.00 (14.02)	-	-	-	3.12 (43.76)			7.13 (100)	0.47
	September	-	-	-	-	4.24 (20.73)	.71 (3.50)	4.50 (22)	6.15 (30.06)	-	4.85 (23.71)	-	-	20.45 (100)	.69
	October	-	-	-	-	70.44 (89.91)	.18 (0.23)	.18 (0.23)	3.06 (4.00)	-	4.41 (5.63)	-	-	78.27 (100)	3.54

Source: Primary Data

Note: Figures in parenthesis indicate percentage to total catch.

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to these factors, the utilization form of fish in Tadri and Belikeri are more or less similar and different from Keni and Kumta where the main supply of quality fish is by gill-net boats.

The important forms of utilization of marine fish in the project area are:

a) Fresh fish

b) Frozen fish

c) Dry fish edible variety

d) Dry fish non-edible

e) Curing.

The utilization form and physical flow of fishes are described below for each of the four landing centres.

3.2.1 TADRI LANDING CENTRE:

In Tadri during the months of January-February, the major form of utilization was frozen fish (about 40 per cent) as the major harvest during this period were prawns. These were purchased by the processing companies for export. Out of the other 60 per cent of the landings, about 20 per cent were used for drying for edible purposes and 24 to 28 per cent for drying in non-edible form, whereas, only 10 per cent were utilized in fresh form (see Table 3.2). A high percentage for dry fish utilization was due to the fact that a

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substantial portion of the landings during this period were small sized mixed varieties or trash fishes besides prawn caught by the trawler boats.

However, the pattern of utilization was found to be quite different during September-October 1985. A major portion of the catch was utilized either in fresh or cured form (see Table 3.2). This again reflects on the composition of catch. During these two months, about 54 to 63 per cent of the total landings by purse-seine boats were mackerel, a high priced quality fish much in demand locally as well as in the consumer centres within the state and other states. However, during September-October 1985, there was a glut of mackerel in Tadri and no buyers for it. This was so because very few wholesalers or commission agents were present at the landing centre to market fish to far off consuming centres. As a result, the fishermen received very low prices for mackerel. Interviews with the fish traders revealed that an equally good harvest of mackerel along the Goa coast had attracted middlemen who supply fish to Bombay consuming centres.

Due to glut, the fish prices went down and the dry fish merchants of Tadri bought mackerels in lots for curing, reduction and drying. Besides this, incidents of dumping mackerel and sardine catch in the sea were reported by purse-seine owners and the labourers as the quality of fish had deteriorated.

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According to fishermen, the occasional glut during peak season is a common phenomena. Reportedly, in 1984 there was glut of sardines. In such situations, the fish prices go down to uneconomic levels affecting the fishermen. There seems to be an urgent need to provide cold storage or freezing facilities at the landing centre so that the excess landings could be procured to meet the demand of consumers during off-season. Moreover, the fishermen will particularly benefit by such facilities as they will fetch better price for their produce during peak season.

Table 3.2: Utilization Pattern of Marine Fish Landing in Tadri Landing Centre for the Months of January, February, September and October 1985

(Quantity in Tons)

Months	Marketing Fresh	Dry Edible	Dry non-Edible	Freezing	Curing	Total Landings
January	20.60 (11.60)	36.30 (20.40)	49.55 (28)	71 (40)	Nil	177.45
February	10.87 (10.30)	22.75 (21.53)	26.26 (24.70)	45.80 (43.47)	Nil	105.68
September	193.47 (56.70)	16.35 (5)	12.00 (3.51)	Nil	119.65 (35.10)	341.47
October	271.88 (32.40)	162.00 (19.30)	136.00 (16.20)	Nil	269.40 (32.10)	839.28

Source: Primary Data.

3.2.2 BELIKERI LANDING CENTRE:

The utilization pattern of fish in Belikeri was found to be similar to Tadri as the type of fishing craft used at these two landing centres are same. During January-February,

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the trawler boat catch were prawns and trash fishes, which were used either in frozen or dried form. Of the total landings 23 to 27 per cent were prawns which were purchased by processing companies for export. Whereas, a major share of the catch - 53 and 64 per cent in the months of January and February respectively were used in dry, non-edible form for chicken-feed and manure (see Table 3.3). However, during this period, fish were not used in fresh form as these small mixed variety of fishes command very low consumer preference.

The utilization pattern was found to be very different during September-October 1985. A major portion of the catch (69 to 77 per cent) was utilized in fresh form as it consisted of mackerel, whereas 16 to 22 per cent were used for drying in edible form and 6 to 8 per cent non-edible form (Table 3.3).

Table 3.3: Utilization Pattern of Marine Fish Landing in Belikeri Centre for the Months of January, February, September and October 1985

(Quantity in Tonnes)

Months	Marketing Fresh	Dry Edible	Dry Non-Edible	Freezing	Curing	Total Landing
January	Nil	8.60 (23.70)	19.40 (53.30)	8.30 (23)	Nil	36.30
February	Nil	2.32 (8.76)	17.00 (64.24)	7.14 (27)	Nil	26.46
September	80.49 (69.57)	25.52 (22.10)	9.63 (8.33)	Nil	Nil	115.64
October	377.98 (77.90)	77.73 (16.10)	28.02 (6)	Nil	Nil	483.73

Source: Primary Data.

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3.2.3 KUMTA AND KENI:

As mentioned earlier, Keni and Kumta are gill-net landing centres and the catch consistes of seer, shark, pomfret and cat-fish. Being quality fish more than 80 per cent in Kumta and more than 90 per cent in Keni are used in fresh form. The next important form of use is salt drying for edible purpose. For dry-edible form, shark fish and cat-fish are generally used. In Keni, non-edible dry user-form does not exist, whereas in Kumta about 3 to 4 per cent of the total landings are used for non-edible dry form.

Table 3.4: Utilization Pattern of Marine Fish Landing in Kumta and Keni Landing Centres for the Months of January-February and September-October 1985

(Quantity in M.Tons)

Sl. No.	Landing Centres	Months	Marketing Fresh	Dry Edible	Dry Non-Edible	Freezing	Curing	Total Landings
I.	Kumta	January	11.20 (83.40)	1.74 (13)	0.48 (3.60)	Nil	Nil	13.42
		February	6.3 (88.36)	0.83 (11.64)	Nil	Nil	Nil	7.13
		September	18.60 (90.94)	1.75 (8.56)	0.10 (0.50)	Nil	Nil	20.45
		October	66.96 (85.40)	8.30 (10.60)	3.01 (4)	Nil	Nil	78.27
II.	Keni	January	52.25 (98.30)	0.90 (1.70)	Nil	Nil	Nil	53.15
		February	31.81 (99.00)	0.32 (1.00)	Nil	Nil	Nil	32.13
		September	24.39 (90.30)	2.61 (9.70)	Nil	Nil	Nil	27
		October	157.46 (94.86)	8.54 (5.14)	Nil	Nil	Nil	166

Source: Primary Data.

Note: Figures in parenthesis indicate percentages to total catch.

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3.3 PHYSICAL FLOW AND DEMAND PATTERN:

Looking at the physical flow of fish, it was found that the fish from the project area landing centres flows to various consumer centres within the state and to other states through the wholesalers and commission agents depending upon the demand from these areas. There are four distinct demand centres for the project area fish: local, within the state, outside the state and export.

The local consumption of fresh fish increases with the increase in supply of fish during peak season except prawns which are exclusively kept for export. The reason being that the women purchase fish in comparatively larger quantities during peak season either for selling in the retail market or for drying which could be used during lean season. During lean season, that is, January-February, due to poor harvest, the physical flow of fish in local areas of Tadri, Keni and Kumta were found to be comparatively lower, whereas, in Belikeri, it was nil (see diagrams 1 to 4). During this period, the local people consume dry fish which is processed during peak season and stored for household consumption. However, during lean season, the fish harvest at Tadri consisted of small sized mixed varieties of fish which commands very low consumer value as fresh fish. These are dried and processed mainly for industrial uses like manure, chicken feed, etc. and sent to dry fish markets within the state and to other states.

The demand for project area fishes in various inland consumer centres within the State is restricted only to few

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varieties of fish like seer, mackerel and sardines (see Diagrams 3 and 4). A major part of the landing consisting of these varieties of fish are sent to places like Belgaum, Sirsi, Hubli, and Dharwar. During lean season (January-February), it was observed that due to poor harvest, the demand for quality fish in the consumer centres within the State remains unmet and comparatively much lesser quantity of total landings were sent out.

Regarding flow of fish to consuming centres outside the State, it was observed that the demand for project area fish were mainly from two consuming centres, i.e. Bombay and Kerala. However, the demand from these States were restricted only to mackerel and sardines. About 26 per cent and 15 per cent of the total landings of Tadri and Belikeri respectively were sent to these States during the month of October 1985. During off-season of sardines and mackerel no other varieties of fish were sent (see Diagrams 1 and 2).

The export market was found to be restricted only to prawns. The total harvest of prawns from the project area were purchased by the processing companies for export (see Diagram 2).

The demand pattern and physical flow of dry fish was found to be very different from fresh fish form. The two types of dry fish forms: Edible and non-edible have to distinct demand centres. Besides, being consumed locally the dry edible fish of Tadri, Kumta, Keni and Belikeri goes to Karwar, Sirsi, Belgaum, Mangalore and Poona markets. About 2 years back, dried oil sardines and mackerel of Tadri use to flow to Bombay dry fish market. However, a survey of Bombay dry fish market revealed that at present it has been stopped because of poor quality (for details see Chapter 4, page 84). A similar trend was observed

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during field survey of Poona dry fish market. The Poona dry fish wholesalers revealed that from the project area, dried seer fish of Keni was only accepted and in demand (see Appendix IV). During market surveys, it was found that the edible fish, dried by the small scale processors that is women are comparatively more preferred than the fish dried by large scale processors and traders because of its good quality (see Chapter 4 for details). On the whole, dry edible fish of the project area was in demand only in the interstate consuming centres except for seer fish of Keni which is in great demand in Poona market.

On the other hand, dry non-edible fish from the project area goes to Hyderabad and Vijayawada to the fish meal plants. According to the dry fish processors at Tadri, the demand is always more than they can supply.

To sum up, in fresh fish, the outside demand was found to be restricted only to few popular varieties like seer, mackerel and sardines, whereas, the local demand were for the above varieties as well as other varieties of fish during the off-season of these quality fishes. On the other hand, low demand for small sized varieties (trash fish) leads to concentration of landings and thus lower prices received by producers. It not only leads to poor economics of boat operation but also diverts fish from human consumption to other industrial uses. Occasional gluts at landing centres of quality fishes during peak season needs special attention so that the producers are not at a loss. Alternatives of supply in lean season at the landing centres and if possible at consumer centres need special long-term planning to bridge the demand and supply gap.

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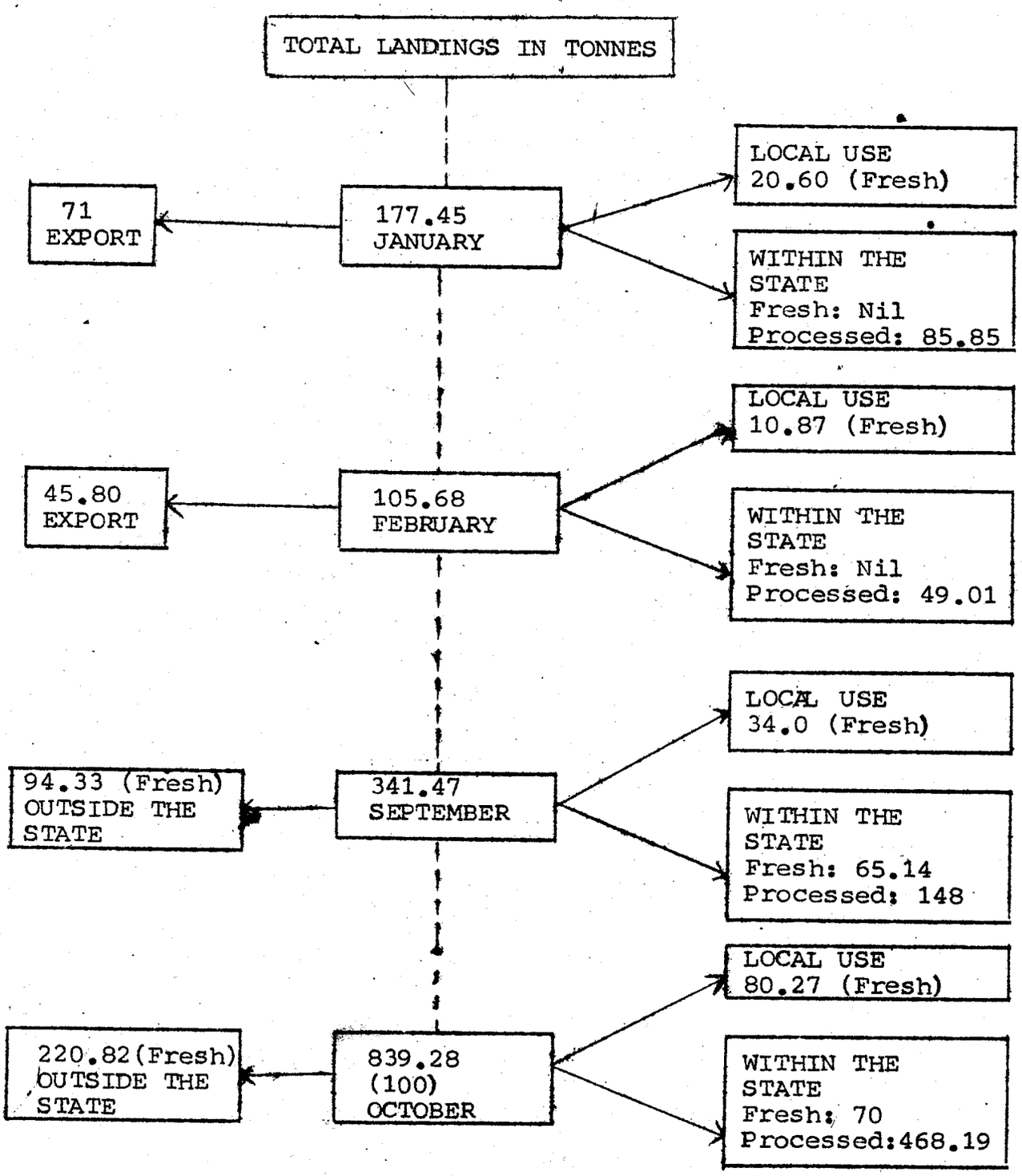
DIAGRAM 1

PHYSICAL FLOW OF FRESH FISH FROM TADRI LANDING CENTRE (1985)



Source: Primary Data.

DIAGRAM 2

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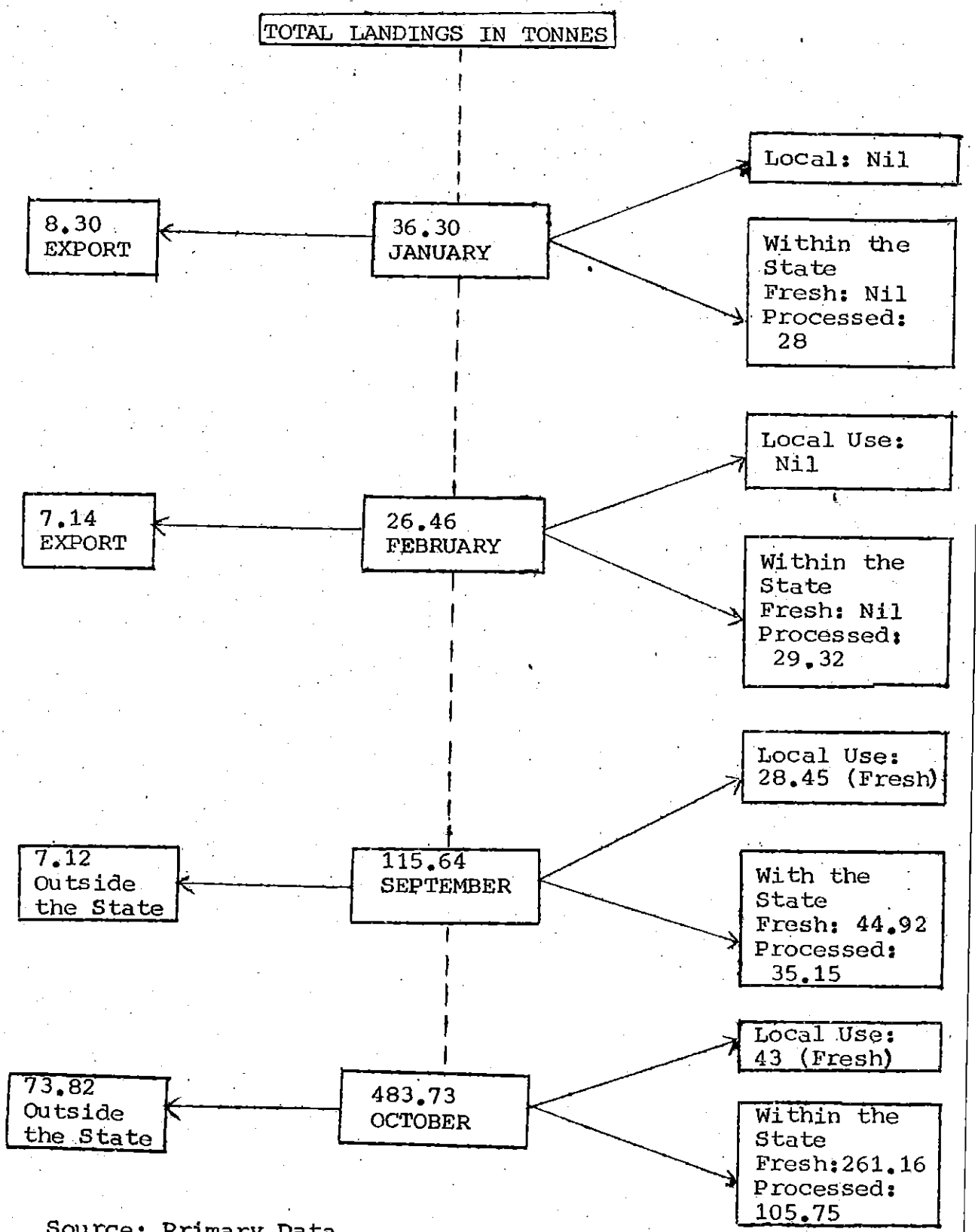
PHYSICAL FLOW OF FRESH FISH FROM BELIKERI LANDING CENTRE

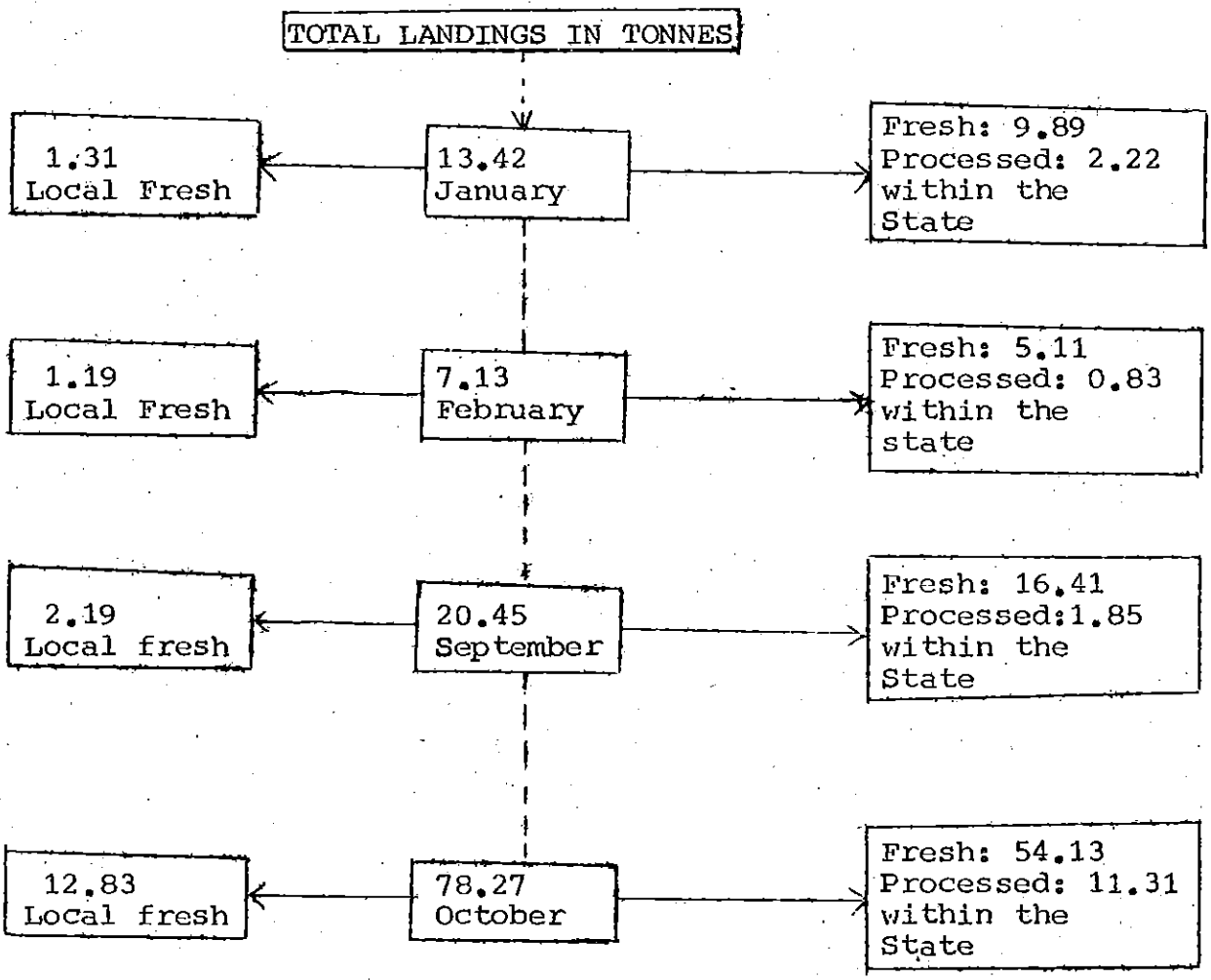


Source: Primary Data.

51

DIAGRAM 3

FLOW OF FRESH FISH FROM KUMTA LANDING CENTRE



Source: Primary Data.

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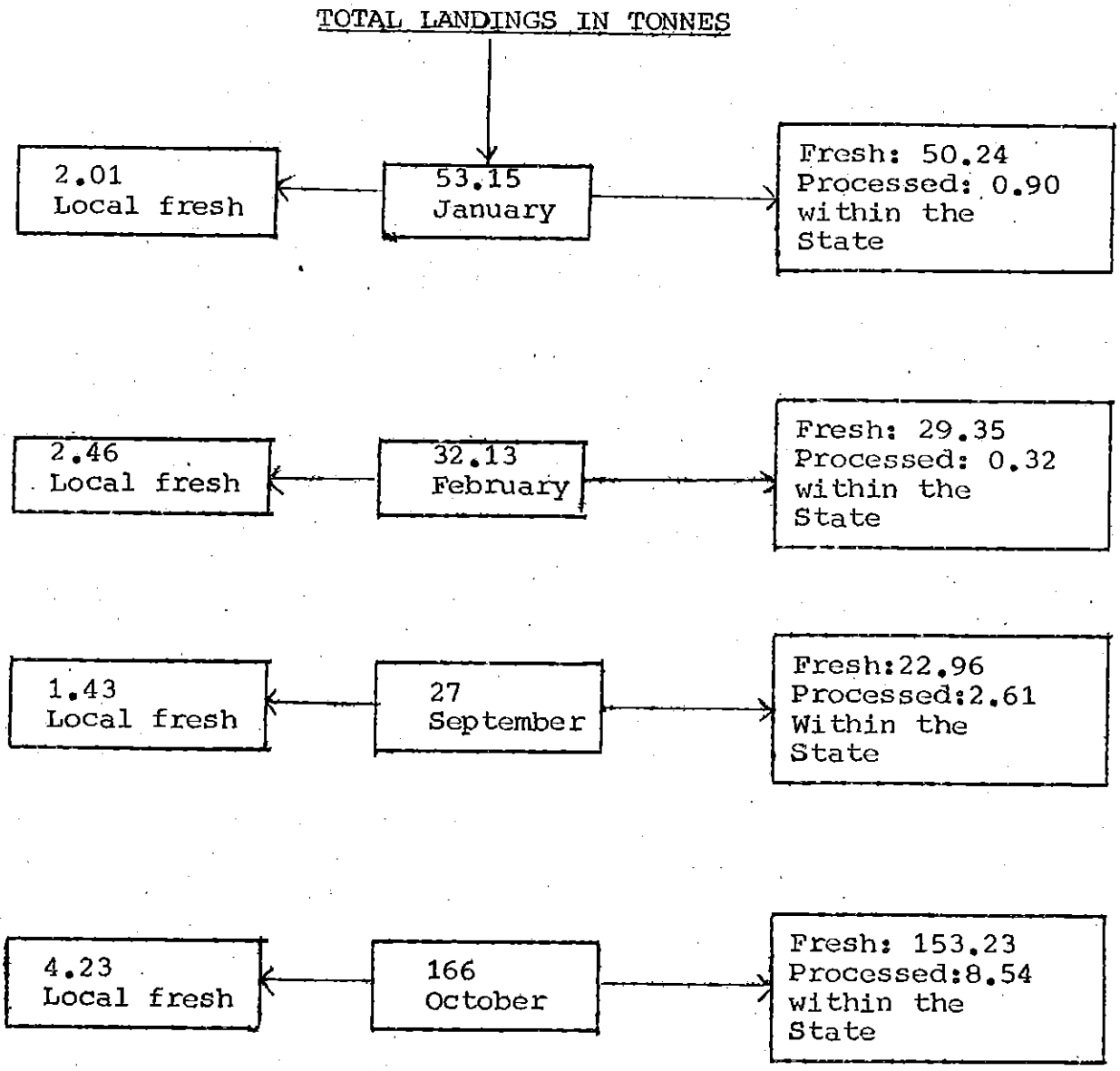
DIAGRAM 4

FLOW OF FRESH FISH FROM KENI LANDING CENTRE



Source: Primary Data.

CHAPTER IV

SUPPORTING INSTITUTIONAL SYSTEM FOR MARKETING OF FISH

In this section, an attempt has been made to analyse the existing supporting institutions in the project area either public or private who are involved in various support activities like supply of crafts and gears, diesel and fuel oil for boats, providing marketing facilities, etc. An indepth case study was conducted of each of these institutions in the project area to understand their role and involvement in various market related activities. Following are the case studies of these situations:

4.1 North Kanara District Co-operative Marketing Federation:

In North Kanara, there are two tiers in the fisheries co-operatives. The District Fish Marketing Federation at the higher level and the primary fishermen co-operative societies at the village level. Both these organizations are of great importance to this study as they are directly involved in marketing activities besides others in the project area.

The District Co-operative Marketing Federation in Karwar was registered in 1957 with an objective, to supply and provide financial assistance to fishermen and fisheries, Co-operative societies, freezing and export of prawns, canning

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and marketing of fish. It provides these facilities to both members as well as non-members.

There are 3 classes of members of the Federation: (1) Government, 'A' class; (2) Primary Fisheries Co-operative Societies,'B' class and (3) Individual Fishermen, 'C' class.

Shares (As on 30.6.1984)

	No.of members	Amount
'A' Class - State Government	1	Rs. 8,20,300
'B' Class - Fisheries Co-operative Societies	22	16,080
'C' Class - Individual members	1781	5,46,650
		Rs.13,83,030

The management of Federation vests with the Board of Directors consisting of following:

1. Representatives of Fisheries Co-op.Societies	6
2. Representatives of Individual members	4
3. Financing Agency Nominee	1
4. Government nominee	4
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The Federation is financed by the Agricultural Refinance Corporation. It had supplied 100 trawlers to groups of 4-5 trained fishermen on hire purchase system to the tune of Rs.43.50 lakhs. This medium term loan of Rs.43.50 lakhs

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provided by ARC was to be repaid in 8 annual instalments from 1969-70 to 1977-78, from out of the total catches surrendered by the boat owners. However, the Federation could not repay the instalments in due time and as on 30-6-1984 A.R.C. loan of Rs.30.66 lakhs were outstanding. The reasons given by the Manager for poor recovery was - frequent fish famines, fall in prices of prawns etc.

Besides supplying diesel and fuel, the Federation has a service and repair station at Honavar, Karwar and Tadri. The Federation had undertaken freezing and processing of prawns in 1970 in the Indo-Norweigian project at Karwar on lease basis, but due to heavy losses this unit was closed down in January 1977.

Under A.R.C. Scheme, the Federation had set up a fish canning plant in 1972-73, but due to poor marketing facilities or rather low demand the production had to be discontinued. It was gathered from the officials that the market feasibility study for such product had never been undertaken, prior to setting up the canning plant. Because of readily available loan and the whims of few top officials the canning plant was set up. However, now the unit has been recommissioned and given on lease to M/s.Food International, Ankola, for a period of 10 years.

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The major achievement of the Federation seems to be on the marketing front. The Federation has taken up marketing activities of fish catches landed by the A.R.C. financed boats as well as other mechanized boats in Karwar, Keni, Honavar and Alvekodi centres on commission basis and claims to get the fishermen attractice prices for their produce.

The marketing of fish catches through the Federation has also facilitated the financing institutions to recover the loan advanced to the boats. The Federation organises the auction of fish, stability of prices for prawns at least for a fortnight and licensing of traders who could bid in such auctions. The mechanized boats land their catch in the Federation marketing shed after sorting it out into grades. A representative of the Federation is present there to measure the catches according to grades. He auctions it to the traders and merchants who are also present at the time of landing. The traders are required to deposit 10 per cent of the total value of fish purchased with the Federation. Only those traders who have deposited money with the Federation are eligible to purchase fish.

The traders buy the fish through the Federation on credit. They are required to pay back the amount within a fortnight of purchase. However, during the field survey, it was found that recovery from the traders were very poor. The

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Federation had yet to recover Rs.10 lakhs from the fish traders. On the other hand, the Federation charges the boat owners 3½ per cent of total value of fishes sold through them. Of this 3½ per cent, half per cent is given to the boat owners union and the rest is taken by the Federation for the marketing services provided.

Besides these, the Federation also pays daily maintenance cost to each of the boat owners on the spot after every operation or haul. The maintenance cost includes diesel, labour charges, food for the crew etc. The amount paid for daily maintenance cost differs for each type of craft. The trawler owners are paid Rs.400/- to Rs.500/-, purse-seine boat owners are paid Rs.700/- and the gill-net owners, Rs.80/- to Rs.100/-. The Federation settles the account with the boat owners fortnightly. The maintenance cost paid daily and the loan taken for the purchase of boat are deducted from the total value of fish sold and the rest are paid to the boat owners. At times, when the catch is of very low quantity the boat owners are paid Rs.100/- to Rs.200/- only for maintenance. In the same way, accounts are settled with the traders fortnightly. This system of paying to the boat-owners continue even if the Federation does not receive regular payments from the traders. Thus, the boat-owners are not affected and their income is ensured.

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The price of prawns are fixed fortnightly by the price committee consisting of processing and freezing plant owners. As there are no government processing units, the members of the committee are only from the private sector and they dictate the prices according to their convenience.

In the project area, the marketing activities of gill-net boats of Keni Landing Centre was done by Federation. However, during second phase of field survey, it was found that Federation had pulled out of Keni since March 1985. According to Federation officials, the reason for pulling out of Keni was poor recovery from the traders. As a result, the fishermen of Keni are left at the mercy of traders. The prices received for their produce from traders are comparatively much less than other landing centres. The system of auctioneering introduced by the Federation is not prevalent anymore. Thus, the fishermen of Keni at present are badly affected economically.

4.2 Primary Fishermen Co-operative Societies:

The primary fishermen Co-operative Societies function at the village level. There are 10 primary fishermen co-operative societies in the project area in ten different villages. However, from the point of view of marketing of fish and other supporting activities to fisherfolk, at

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present, only Tadri Co-operative Society is actively involved. Very recently, Belikeri Co-operative Society has also taken up auctioneering of fishes landed at Belikeri Landing Centre. In Kumta, the fishermen and the traders reported that the co-operative society was not functioning at all. During field survey, it was observed that the co-operative officials were not present at the landing centre during the sale of fish. . Further, to investigate this matter attempts were made to have discussions with co-operative officials, but they refused to meet the research team. The fourth landing centre of the sample 'Keni', has no co-operative society. As indicated earlier, till recently, Federation was engaged in the auctioneering of fishes landed at Keni landing Centre, but now the Federation has pulled out from there. In order to understand the role and involvement of primary co-operative societies an indepth case study was done of Tadri Co-operative Society.

4.2.1 'Tadri Primary Fishermens Co-operative Society:

Tadri Society was established in the year 1951 by Mr.Moodangi a well known person in that area. To start with a share amount of Rs.500/- were collected from people of Kagal, Agnashini, Nushi Kote, Gokarna, Morbe, Kimani, Hoskatta, Modangi and Tadri villages. In the initial stages, Tadri Co-operative Society received guidance and support from the Department of Fisheries. The major objective of the society

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was to provide support and assistance to fishermen by supplying diesel, providing financial assistance to purchase mechanized boats, spare parts, yearly boat maintenance loan and marketing of fish.

There are 3 categories of members of the co-operative society:

	No.of members
'A' Class - Fishermen by birth or active fishermen	654
'B' Class - Government nominee	1
'C' Class - Sympathizers or Associate Members	225
Total members	880

The 'C' class category of members include, fish traders and merchants. They have only one voting power which means that only one member in this category can vote who represents them and is a member of the board. However, he is not eligible to hold any position in the board.

So far, the society has advanced Rs.15,33,457 to 17 'A' class members for the purchase of Trawler boats. Of these, 11 boat owners are paying back the loan money regularly whereas, 6 of them are very irregular.

The society owns 4 purse-seine boats which was purchased in 1979-80 for Rs.24 lakhs on loan from State Government under NCDC Scheme. A subsidy of Rs.4.80 lakhs were provided by

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the State Government. Societies share of repayment was Rs.13.20 lakhs, of which Rs.2.38 lakhs are already repaid. These boats are used by 'A' Class members of the society that is 25 fishermen members per boat. 70 per cent value of total catches are paid to the society and the rest 30 per cent is shared by the members. According to Co-operative officials, the 4 purse-seine boats are given to deserving fishermen and the group is changed every year. However, it was observed that the same groups were continuing for the last 3 years. On enquiry, it was found that the other fishermen did not come forward because the average catch per boat was declining and it was not a profitable proposition. They preferred to work as wage labourers in trawler boats so that their income is ensured.

Society provides diesel at fixed rate to all boat owners which has helped the fishermen as the nearest diesel station is situated at a distance of 25 kms. Society also runs a retail shop consisting of spare parts for all kind of mechanized boats, nets and other fisheries requisites.

A fair price ration shop is run by the Society to serve the members where articles of daily requirements are sold. Society owns a mini-truck for the transport of fish. It is hired by the members whenever needed.

Main sources of income of the society is through commission earned by way of sale of fish and prawns auctioned

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at the Tadri Landing Centre. Society claims to get the fishermen attractive prices for their produce. The co-operative organizes the auction of fish and licensing of traders who could bid in such auctions. The mechanized boat land their catches in the co-operative marketing shed after sorting it out into grades. A representative of the co-operative is present there to measure the catches according to grades. He auctions it to the traders and merchants who are also present at the time of landing. The traders are required to deposit 10 per cent of the total value of fish purchased with the co-operative. Only those traders who have deposited money with the co-operative are eligible or have licence to purchase fishes.

The traders purchase the fish through the co-operative on credit. They are required to pay back the purchase amount to the co-operative society within a fortnight of purchase. However, during the field survey, it was found that recovery from the traders were very poor. The co-operative society had yet to recover Rs.7 lakhs from the fish traders.

On the other hand, the co-operative collects commission from the boat-owners for the marketing services provided. The rate of commission charged by the co-operative are different for different kinds of mechanized boats. The purse-seine and gill-net boat owners are charged 5 per cent of the total value of fishes sold through co-operative whereas for

the trawler owners it is 3½ per cent. Of this commission collected from the boat owners the co-operative gives away half per cent to the boat owners union and the rest is kept by the co-operative for the marketing services provided.

Besides the above mentioned activity, the co-operative pays daily maintenance cost to each of the boat owners on the spot after every operation or haul. The maintenance cost includes diesel cost, labour charges, food for the crew etc. The amount paid for daily maintenance differs for each type of craft. The trawler owners are paid Rs.400/- to Rs.500/-, purse-seine owners Rs.700/- and gill-net owners Rs.80/- to Rs.100/-. The Co-operative settles the account with the boat owners fortnightly. The maintenance cost paid daily and the loan taken for the purchase of boat are deducted from the total value of fish sold and the rest are paid to the boat owners. This system of paying to the boat owners continues even if the Co-operative does not receive payments from the traders regularly. Thus, the boat owners are not affected and their income is ensured.

Interview with the co-operative officials revealed that there are about 15 mechanized boats who do not market their produce through Co-operative society as they have fixed customers. In this way, they also avoid paying commission to the Co-operative.

The profit and loss account of the Tadri Co-operative Society for 1980-81 to 1984-85 is given in Appendix-I. From 1978-79 to 1980-81 the Co-operative society

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made losses. However, since 1981-82, it has been making marginal profits. In 1984-85, the net profit was at the tune of Rs.44,000/-. According to the officials, the losses are mainly due to two reasons: Firstly, due to the outstanding loans of boat and gears. The recovery of loans were poor and the co-operative is unable to trace few trawler boats that were financed by them. The repayment of loans were linked with the marketing of fish. It was observed that the trawler boats sold their catch directly to the agents of processing houses rather than marketing through co-operative to avoid paying the commission and repayment of loan. It was gathered that the traders finance the boat owners considerably by giving working capital and off-season maintenance loan. In the absence of alternative sources, the fishermen were dependent on traders. This had led to the development of a "bonding system". The traders are always eager to finance the fishermen, so that they can exercise control and have sole rights on their catch. This has led to the fishermen avoiding the co-operative for marketing and repaying the loans.

The second reason for Co-operative making losses was again due to the outstanding loans from the traders. As mentioned earlier, the traders purchase fish through Co-operative on credit. The recovery from the traders are very poor.

It seems that the Co-operative has not benefitted the fisherfolk as much as it was set for. One of the initial

objectives of the Co-operative was to provide working capital loan to the boat owners which has never been implemented. On the other hand, Co-operative has helped the middlemen and traders by providing working capital loan to purchase fish.

The role of Co-operative in the project area seems to be essentially organizing the auction of fishes, stabilising prawn prices for at least a fortnight and licensing of the traders who bid for such auctions rather than eliminating the middlemen and directly being involved in the marketing of fish.

4.2.2 Private Institutions:

As mentioned earlier, there are different categories of private traders or intermediaries operating at the landing centres in the project area mainly engaged in market support activities. They differ from each other in several respects like type of ownership, volume handled, functions and profit structure. These intermediaries are engaged in various functions like purchasing, packing, preserving and transporting fish from the landing centres to the consumers in desired form, time and place. Among the private traders, there is a clear cut distinction in the marketing activities of prawn, fresh fish and dry fish. The role and involvement of the private institutions in the market related activities of prawn and fish are separately discussed below:

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4.2.3 Marketing of Prawns:

As stated earlier in the report that the prawns are auctioned in the project area through Co-operatives. The marketing of prawns are very different from other types of marine fish. It is mainly exported to foreign countries. The freezers and processing plant owners are the main purchasers of prawns, who export them at a very high price. Table 4.1 reveals some very interesting findings on the quantity and value of prawns exported from Tadri. In 1984-85 and 1983-84, the quantity of prawns exported from Tadri constitutes about 1.35 and 8 per cent respectively of the total marine production, whereas, in terms of value, it constitutes about 44 and 70 per cent respectively. This shows the high price value of prawns in export market.

The pricing system of prawns as stated earlier are fixed fortnightly in advance for Karwar District by the price committee, constituted by Federation. It has a fixed price system at least for a fortnight. The prices of prawns in the month of January 1985 according to sizes were as follows:

Grade 1 (Tiger prawns)	Rs.50/- to 60/- per kg.
Grade 2	Rs.20/- to 40/- per kg.
Grade 3	Rs.10/- to 15/- per kg.
Grade 4	Below Rs.10/- per kg.

Table 4.1: Marine Fish Products Exported in Quantity and Value From Tadri

Year	Quantity of Total marine fish production in tonnes	Quantity of prawns exported in tonnes	Value of Total fish production (Rs.in lakhs)	Value of prawn exported (Rs. in lakhs)
1976-77	2544.62	427.78 (17)	46.00	25.28 (55)
1977-78	1661.15	1071.30 (64)	52.55	46.70 (89)
1978-79	1778.59	158.43 (9.00)	58.74	42.54 (72.42)
1979-80	8880.35	502.40 (5.66)	116.42	32.66 (28.10)
1980-81	13613	381.00 (3)	165.39	33.10 (20)
1981-82	6852.53	629.30 (9.18)	312.00	44.00 (14)
1982-83	3215.44	843.00 (26)	165.34	103.11 (62.36)
1983-84	9490.20	742.24 (7.82)	77.28	54.00 (70)
1984-85	8867.96	120.20 (1.35)	156.81	69.34 (44.22)

Source: Department of Fisheries, Karwar District, Government of Karnataka.

Note: Figures in brackets denote percentage to total quantity and value.

Grade 3 and 4 constitutes the major portion of the total catch. The fishermen sell their catch to the agents of the processor/exporter through Tadri Co-operative Society. However, about 15 or more trawler boats sell their catch directly to the agents and not through the Co-operative. This

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is because the freezer owners provide through their agents considerable amounts ranging from Rs.10 to Rs.20 thousand for working capital, repairs, maintenance etc. every year to the boat owners with a condition that the boat owner would sell all his catch to the freezer owner. As there are no alternative sources of getting funds, the fishermen readily agree to such a contract. This has led to the development of a 'bonding system'. In order to have adequate supplies the freezer owners are always eager to finance the boat operations and help the fishermen during lean season, so that they can have sole rights over the catch and exercise control. Besides, the loan given by these companies are interest-free in terms of money. However, the agents deduct the loan amount every month in instalments and the boat owners are paid Rs.500 daily as maintenance cost for diesel, food, wages to the labourers etc. At the end of the month, accounts are settled and the boat owners are paid after deducting the loan money and daily maintenance cost. At times, when the fishermen are unable to clear-off the loan money during a catch season, it is carried forward. This has resulted not only in the fishermen ignoring the Co-operative for marketing but also in their inability to repay the Co-operative loans.

The agents purchasing prawns at the landing centres are of two categories. One category of agents are employees of the processing companies and are paid monthly salary by the company, whereas the other category of agents, operate

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privately and are paid commission on the total quantity of prawns supplied to the processing companies. Commission paid depends upon the grades and sizes of prawns. For tiger prawns (A grade) it is Rs.2 to Rs.3 per kg for B grade Rs.1.50 per kg, C grade 80 paise and small varieties 75 paise per kg. The economics of operation of 3 commission agents are given in Table 4.2. The data is based on the information provided by the agents themselves.

Table 4.2: Economics of Operation of Prawn Commission Agents for the Year 1984-85

Sl. No.	Particulars	Number of Commission Agents		
		1	2	3
1.	Area of Operation	Tadri LC	Belikeri LC	Tadri LC
2.	Quantity handled in kgs.			
	Grade 'A'	1,700	850	1,370
	Grade 'B'	9,000	6,400	6,900
	Grade 'C'	25,000	19,000	24,000
	Small sized	32,000	27,000	29,600
3.	Total quantity	67,700	60,900	63,270
4.	Commission received (in rupees)			
	Grade 'A'	5,100	2,550	4,110
	Grade 'B'	13,500	9,600	10,350
	Grade 'C'	20,000	15,200	19,200
	Small sized	24,000	20,250	22,200
	Total Commission received	62,600	47,600	55,860
5.	Operating cost	Nil	Nil	Nil
6.	Net Profit (1984-85)	62,600	47,600	55,860

Source: Primary Data.

During field survey data was collected from 75 commission agents, but due to doubts on reliability, data of 2 commission agents were deleted. It seems that the business of prawn commission agents are quite profitable (see Table 4.2). On an average, the yearly income is about Rs.55,000. An important observation that needs to be mentioned here is that all the 5 commission agents interviewed were involved in some other major activity besides doing the job of commission agents. This was like a side business for many. They were either owners of prawn culture farms, mechanized boats or dry fish merchants. Their investment in the business of commission agent was nil. The cost of labour, ice and transport were all borne by the processing companies. However, there seemed to exist a very high competition among the prawn commission agents to 'capture' trawler boats which meant paying advance money to the trawler owners so that they are bonded to these agents. The agents who had developed good relations and contacts with the trawler owners over a long period of time had advantage over the others.

4.2.4 Private Trade of Fresh Fish:

The landings of fresh fish in the project area are also marketed by the private traders. The fresh fish traders can be broadly classified into 3 types: (a) Fresh fish merchants (b) Dry fish merchants or processors and (c) Retailers and vendors. Some of the merchants do the business in two or more forms of fish. The process of marketing involves collecting

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fish, packing, transporting and finally reaching it to the consumers in desired form. Due to these complexities, the number of intermediaries also increase. These intermediaries differ from each other in several respects, including type of ownership, quantity handled, profit structure and functions. During field work in depth case studies were conducted of various categories of private traders engaged in marketing of fresh fish. The role and involvement of each of these categories in market related activities are described below:

1. COMMISSION AGENTS (Purchase)

The system of purchasing fish by private traders on the basis of commission received is a very common practice in Keni and to some extent in Kumta. In fact, majority of the landings in Keni are purchased by commission agents. There are 8 commission agents operating in Keni, 7 in Kumta, 4 in Belikeri and 10 in Tadri as reported by the Co-operative society. However, during field survey, it was observed that the commission agents only operated at Keni and Kumta. The field survey team were not able to contact any commission agent in Tadri and Belikeri during auction of fish at the landing centre. An important feature regarding purchase of fish by commission agents is that they buy only quality fish caught by gill-net boats and send them mainly to Hubli-Dharwar, Belgaum and Sirsi consumer markets within the State.

In the whole operation of purchasing and sending fish the commission agents do not bear any cost. The packing

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and transportation costs are paid by the traders of the consuming centre fish markets. Initially, the commission agents need to invest some money to purchase fish at the landing centre. However, within 2 to 4 days of sending fish to the traders of consuming centres, they receive back the amount invested for purchase along with the commission. There seems to be a great risk involved in the whole operation. For example, during field survey, it was found that in Keni, 2 commission agents had neither received the money invested for purchasing fish nor the commission from the traders of Hubli-Dharwar for more than 8 months. They were no more in the business as they did not have enough working capital to invest all over again. The reason given by the trader was that they were unable to sell the fish because it had deteriorated.

The rate of commission in Keni and Kumta is uniform. For 100 kgs of seer fish, the commission earned is Rs.30. However, yearly income through this business depends upon the quantity of fish handled (see Table 4.3) by a particular agent. Some of them have good contacts with traders of more than one consumer centre markets and so they are able to send large quantities of fishes compared to the others. Moreover, the commission agents with large working capital and contacts with big wholesalers of consuming centres advance working capital loan to the gill-net boat owners ranging from Rs.3000 to Rs.15,000 in order to have control over the total catch of

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the boat. In the absence of Co-operative or Federation for auction of fishes, the fishermen of Keni are totally dependent on the price dictated by the Commission agents. The purchase price of seer fish in Keni was found to be comparatively lower than Tadri or Kumta.

Table 4.3: Economics of Operation of Fish Commission Agents in 1984-85

Sl. No.	Particulars	Number of Commission Agents				
		1	2	3	4	5
1.	Area of Operation	Kumta LC	Kumta LC	Keni LC	Keni LC	Keni LC
2.	Quantity handled in kgs in 1984-85	60,000	44,000	80,000	63,000	70,000
3.	Commission received Rs.30 per 100 kg.	18,000	13,200	24,000	18,900	21,000
4.	Operating cost	Nil	Nil	Nil	Nil	Nil
5.	Net Profit (1984-85)	18,000	13,200	24,000	18,900	21,000

Source: Primary Data.

2. WHOLESALER (Purchase)

These are fresh fish merchants who undertake the assembling activity, packing, transportation of fish and despatch to various consuming centres. They either buy directly from fishermen or through Co-operatives. They send fish to various consuming centres through another commission

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agent/wholesaler, who acts as a middleman for that particular consuming centre. For our presentation convenience, they will be called as wholesaler consuming centres (WCC). The wholesalers purchase fish either in weight (through co-operatives) or in lot and numbers (when brought directly from fishermen). Each wholesaler has more or less fixed purchasers in various consuming centres within the state as well as other states. In order to have sole rights over the catch of a particular boat the wholesalers advance working capital loan to the boat owners ranging from Rs.3000 to Rs.15,000. In this way they have 'bonded boats' and fish from such boats are given to the concerned wholesaler.

In February 1985, during the study of Bombay wholesale fish market where Tadri mackerel and oil sardines arrive through Karwar wholesale purchaser an interesting system of money lending was noted (for details on Bombay market, see Appendix II). The wholesaler Bombay Market (WCC) revealed that to ensure continuous supply of fish especially mackerel and oil sardines he advances loan ranging from Rs.2000 to Rs.1,00,000 to the wholesale purchaser of Tadri. The wholesale purchaser in turn advances loan to the boat owners. Advancing interest free loan at opportunity cost seems to be institutionalised all along the chain. Due to this system, the fishermen are perennially indebted to the middlemen who besides controlling the sale and marketing of their produce, also undervalue the price of their catch in return for advancing financial help to them at times of need.

Table 4.4: Economics of Operation of Wholesalers in the Project Area in 1984-85

Sl. No.	Particulars	1	2	3	4	5	6	7	8
1.	Area of Operation	Tadri-Bombay	Tadri-Manga-lore-Hubli	Tadri-Bombay-Kerala	Kumta-Sirsi-Hubli	Kumta-Sirsi-Hubli	Belikeri-Karwar-Belgaum	Belikeri-Hubli-Belgaum	Tadri-Bombay
2.	Total quantity handled in kgs. (1984-85)	30,250	45,000	50,000	25,000	20,000	26,000	25,000	35,000
	i) Mackerel (kgs.)	30,250	32,000	33,750	-	-	21,000	25,000	30,000
	ii) Sardine (kgs.)	-	13,000	16,250	-	-	5,000	-	-
	iii) Seer fish (kgs.)	-	-	-	20,000	20,000	-	-	-
	iv) Mixed variety (kgs.) (Shark and pomfret)	-	-	-	5,000	-	-	-	-
3.	Total purchase value in Rs.	51,423	64,150	69,562.50	95,000	80,000	43,900	47,500	54,750
	i) Mackerel value/kg.(Rs.)	1.70	1.70	1.70	-	-	1.90	1.90	1.70
	ii) Sardine value/kg.(Rs.)	-	0.75	0.75	-	-	0.80	-	0.75
	iii) Seer fish value/kg.(Rs.)	-	-	-	4	4	-	-	-
	iv) Mixed variety/kg.(Rs.)	-	-	-	3	-	-	-	-
4.	Operating costs	6,970	8,240	9,160	2,987	2,376	3,000	3,200	8,064
5.	Total sale value (in Rs.)	1,51,250	1,86,000	1,67,500	1,90,000	1,60,000	94,000	1,25,000	1,60,000
	i) Mackerel sales value/kg.(Rs.)	5	5	4	-	-	4	5	5
	ii) Sardine sales value/kg.(Rs.)	-	2	2	-	-	2	-	2
	iii) Seer fish value/kg.(Rs.)	-	-	-	6	8	-	-	-
	iv) Mixed varieties/kg.(Rs.)	-	-	-	6	-	-	-	-
6.	Net Profit (in Rs.)	92,855	1,13,610	88,777.50	92,013	77,624	47,100	74,300	97,186

Source: Primary Data.

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The economics of operation of wholesalers are presented in Table 4.4. It can be observed that the business of wholesalers are quite profitable compared to the commission agents. The quantity of fish handled by them are also comparatively high. The operating costs incurred by the wholesalers include labour charges, ice, transport, corporation tax as well as commission (at the rate of 5 per cent) taken by the wholesaler of the consumer market centres for selling the fish at that particular market to either retailers or semi-wholesalers (see Table 4.4). The net profit of the wholesalers depend upon the quantity of fish handled. However, it ranges from 75 to 90 thousand per annum.

The Co-operative provides working capital to the whole-salers for the purchase of fish. The wholesalers availing financial help from Co-operative need to deposit Rs.8 to 10 thousand in the Cooperative initially and repay the working capital loan within a period of 10 days of purchasing fish.

3. RETAILERS

The fish retailing system in general constitutes of small and independent operators. There are generally two types of retailers in the project area: 1) Those who sell in organized fish markets like Ankola and Kumta, and 2) Vendors - those who are engaged in door to door selling. These two types of retailers purchase fish from various sources. Some of them purchase from the fishermen either directly or in auction organized by the Co-operatives, whereas, the other retailers

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sell the catch of their own family boats. However, the retailers and vendors of the consuming centres more than 50 kms away from landing centre in the project area purchase fish from the middlemen i.e., either wholesaler or commission agents. The major bulk of the fish consumption are purchased through retailers both in the project area as well as outstation. The job of retailing and vending in the project area are done only by women. The women retailers of the project area suffer various hardships. Transport is one of their main problems. They are refused by the conductor to carry fish by buses on the ground that it causes discomfort to other passengers. Most of the retailers end up walking on foot to the nearest retail market which could be 2 to 6 kms. Except Ankola, the other retail markets have no facilities for women to sell fish. They usually sit on the roadside and sell fish. At times, when the catch arrives late, they are unable to sell all the fish, so the next day it is dried. However, prices of dried fish is comparatively lower.

The daily profit of a retailer selling fish caught by their own boat was obviously much higher than the retailers purchasing fish (see Table 4.5). Operating cost for few retailers included transport cost and market charges (only for retailers selling in Ankola). The transport cost constitutes 13 to 14 per cent of the daily income which seems to be quite a substantial amount. In Table 4.5, the daily income

Table 4.5: Daily Performance of an Average Fresh Fish Retailer During September-October 1985

Sl. No.	Particulars	Number of Retailers of Fresh Fish									
		1	2	3	4	5	6	7	8	9	10
1.	Area of Operation	Ankola	Ankola	Ankola	Kumta	Kumta	Kumta	Belikeri	Belikeri	Gokarna	Gokarna
2.	Quantity handled (kgs.)	20	30	16	25	20	20	30	25	60	50
3.	Species	Seer, Shark	Macke-rel, Sar-dine	Seer fish	Seer, Shark	Seer fish	Seer, Cat-fish	Sardine, Silver fish	Sardine, Silver fish	Seer, Cat-fish, Shark	Seer, Cat fish Shark
4.	Purchase value (Rs.)	NA	NA	32	NA	NA	60	24	20	NA	NA
5.	Purchase value per kg. (Rs.)	NA	NA	2	NA	NA	2	0.80	0.80	NA	NA
6.	Sales value (Rs.)	60	60	64	100	80	80	60	50	180	150
7.	Sales value per kg. (Rs.)	3	2.00	4	4	4	4	2	-	3	3
8.	Operating cost (Rs.)	0.75	7.75	7.75	-	-	-	4.00	3.50	14	15
9.	Net Profit (Rs.)	59.25	52.25	31.25	75	60	20	32	26.50	166	135

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of a retailer is presented rather than yearly income. This was done so because yearly data of total quantity of fish handled created doubts of reliability. It was difficult for women retailers to provide yearly accounts as they did not keep any record. Moreover, most of them reported that they are engaged in selling fish 20 days in a month for 8 months in a year. The average daily income of retailers who sold purchased fish ranged from Rs.20 to Rs.30, whereas, for the others who sold the catch of their own boat ranged from Rs.50 to Rs.70.

4.2.5 MARKETING OF DRY-FISH:

As stated earlier in the report that the consumption of dry fish is the second largest form of utilisation of marine fish after fresh fish. The season for drying fish is from September to February during the peak season as the price of fish available for drying during this period is cheaper due to rich haul.

Dried fish are of two different varieties: (a) Edible and (b) Non-edible-for manure and chicken feed. For both the varieties, the system of marketing is the same. There are two district channels in the marketing of dry fish.

a) Processors: These are individuals who undertake the processing of fresh fish to give it a dry fish form. There are about 30 large scale and medium scale dry fish processors,

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in Tadri. Besides these large scale processors, a large number of women are engaged in drying fish. However, the women dry fish in a very small scale. The method of drying also differs between the two groups. The merchants use more of salt on the fresh fish and dry them under the sun either on sand or coir mats. The women usually split the fresh fish and apply less salt before drying. This is known as 'Archappa' or half-salt drying. Price fetched for half salt dried fish is higher, but it is more time consuming and is done in a small scale.

b) Middlemen: There are two ways of marketing dry fish in the project area. Women of Keni and Tadri sell dry fish in the weekly markets of Ankola and Karwar where the wholesale activity of dry fish takes place. The large and medium scale processors of Tadri and Belikeri are also wholesalers of dry fish. The major bulk of dry edible fish goes to Mangalore, Belgaum and Sirsi wholesalers who in turn sell it to the retailers and wholesalers of different consuming centres within the State and other States. The bulk of dry fish for chicken-feed and manure goes to Hyderabad, Vijayawada, and Mysore. From Karwar wholesale market, the dry fish is supplied to Hubli-Dharwar, Sirsi and Belgaum markets. The traders from consuming centres within the State and other States visit Tadri landing Centre and pick up the dry fish. The transport and packaging cost are borne by the traders.

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As noted earlier that a substantial portion of the mechanized catch in the project area consists of fish that have very low consumer demand as fresh fish. Hence, these varieties of fish fetch lower prices at the landing centres. High concentration of 'trash fish' has attracted the dry fish merchants of Mangalore who process fish on a large scale for manure and chicken feed. During the months of August and September, these traders migrate to Tadri landing centre. They are also share holders of Tadri Primary Co-operative Society. Thus, the working capital to purchase fish in bulk is also provided by the Tadri Co-operative Society. However, they are required to pay back the loan money within 10 days of purchase of fish. These traders take advantage of the supply situation. They usually buy fish in bulk on days when the landings are of high quantity and prices are low. Besides they also take advantage of the quality of landings. At times, when the quality of fishes have deteriorated, they purchase it in bulk for wet curing paying less price to the boat owners as these fish can not be consumed in fresh form.

Table 4.6 presents the economics of dry fish operation in the project area. As mentioned earlier, in the methodology of the study, it was planned to conduct case studies of ten dry fish sellers, but due to non-cooperation,

Table 4.6: Economics of Dry Fish Operation in the Project Area for 1984-85

Sl. No.	Particulars	Number of Dry Fish Merchants				
		1	2	3	4	5
1.	Area of Operation	Tadri	Tadri	Gokarna	Belikeri	Keni
2.	Quantity handled (kgs.)	45,000	65,000	2500 pcs. of mackerel	60,000	20,000
	Edible (kgs.)	20,000	-	2500	60,000	-
	Non-edible (kgs.)	25,000	65,000	-	-	-
3.	Purchase value (Rs.)	39,500	32,500	500	60,000	60,000
	Edible purchase/kg.(Rs.)	1.10	-	0.20/pc.	1.00	3/pc.
	Non-edible purchase /kg.(Rs.)	0.70	0.50	-	-	-
4.	Cost incurred to process	3,500	3,940	210	3,206	575
5.	Total selling price (Rs.)	77,500	97,500	1250	1,20,000	1,20,000
	Edible (Rs.)	40,000	-	-	-	-
	Non-edible (Rs.)	37,500	-	-	-	-
6.	Selling price:					
	Edible/kg.(Rs.)	2	-	0.50	2	Rs.6/pc.
	Non-edible/kg.(Rs.)	1.50	1.50	-	-	-
7.	Net Profit	34,500	61,060	540	56,794	59,425

Source: Primary Data.

Pc.: Transaction in pieces.

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the number were limited to eight. However, on the analysis of case study, grave doubts developed on reliability. Thus judgement had to exercise wherever data provided by the dry fish traders was considered doubtful and few case studies were deleted.

The dry fish merchants usually employ 6 to 12 labourers per day. About 50 per cent of the total labour employed are women. However, the women are paid only Rs.7 whereas the men get Rs.10 per day. Moreover, these men labourers are brought along with them from Mangalore and live with them on the beach where the fish are being dried.

The net profit of dry fish merchants depends on the quantity of fish they handle (Table 4.6). The cost incurred to process includes labour charges, salt and packing material. The transport cost of sending dry fishes to consuming centres are borne by the purchasers who often visit these drying sheds in the project area. The cases 3 and 5 on dry fish processors are of women (see Table 4.6). They are from Tadri and Keni respectively. Women at Tadri, dry fish in small scale and sell them in Gokarna market, whereas in Keni, during peak season one finds many women engaged in drying shark fish. It seems to be quite a profitable business (Table 4.6) and more so if the fish is available from own family boats. These dry fish are sold by the women of Keni to the traders of Maharashtra. These traders often visit Keni and pick up the dry fish. The packaging and transport costs are borne by these traders (see Appendix IV).

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During field work in Bombay, the Bombay dry fish wholesale market was visited to estimate the demand of dry fish of Tadri in Bombay. It was found that very small quantity of dry fish mainly mackerel and seer fish was purchased from weekly Karwar dry fish market. Dry oil sardines were purchased from Tadri in the past but at present, it has been stopped because: a) The dry fish of Tadri contains sand and are not edible, and b) They are not dried properly, so gives a bad odour (see Appendix II). Tadri dry fish of small varieties are mainly used for chicken feed and fish meal. Due to the presence of sand, the dry fish of Tadri are not accepted by the export authorities for exports to Ceylon. The practice of drying fish on sand near the harbour in Tadri is a common practice which is not only unhygienic but contains sand particles, thus lowering its demand in national as well as international markets.

To sum up, it seems that the extensive market of fish is served by a host of private traders who vary in terms of quantity of fish handled and profit structure. The wholesale trade was found to be more profitable than the trade of fishes based on commission. However, there seems to be an institutionalised system of advancing interest free loan to the boat owners at opportunity cost all along the chain to ensure supply of fish. Due to this system, the fishermen are perennially indepted to the middle men who besides controlling the sale and market of their produce, also undervalue the price of their catch in return for advancing working capital and off-season maintenance loan.

CHAPTER V

ECONOMICS OF BOAT OPERATION

This part of the report deals with the economics of different types of mechanized boats operating in the project area. Keeping in view the IDFP objectives to introduce mechanized boats, it was felt necessary to analyse the various cost, working capital requirement, gross and net returns and source of finance of the existing boats in the project area. Further, an attempt is made to determine the share of fishermen in the consumer rupee by studying the price spread which denotes costs and margins of various intermediaries involved in the marketing of fish.

5.1 ECONOMICS OF BOAT OPERATION:

The ownership of mechanized boats are on partnership basis. A gill-net boat has 4 partners, trawlers 4 to 6 and purse-seine boats has 20 to 25 partners. The partners are chosen in such a way that they belong either to the same village or to the same caste so that inter-caste or inter-village rivalry can be avoided. The main catch of a trawler are prawns whereas, for gill-net large sized quality fishes and purse-seine catch consists of mackerel, sardines and other mixed variety of small fishes. However, an important feature was observed that during lean season of fish, the gill-net and purse-seine boats were also used for trawling by using trawler nets. The production and economics of different types of crafts are given below:

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5.1.1 TRAWLER BOATS:

The ownership pattern of trawler boats in the project area is of two types: (1) Individual ownership and (2) Collective ownership. Further, in some boats, the status of owners are as workers, whereas, in other boats, the owner or owners totally depend on employed workers. The individual ownership was found to be much less frequent. The number of labourers employed ranged from 4 to 6. In cases, where the owners themselves go out for fishing then less number of labourers were employed. The general pattern observed was that the trawler owners employed 4 to 6 crew. The crew members get 30 per cent of the value of total catch as their share or salary. The rest 70 per cent is shared among the boat owners. The various expenditure like food, fuel, maintenance and repair of boats are incurred by the owners. Table 5.1 presents the economics of trawler boat operation. It can be observed that the crew salaries constitute a major component of annual fixed costs followed by repair and maintenance. The net return ranges from 24 to 33 thousand rupees per annum. In Table 5.1, the case studies numbers (1) and (2) have 4 to 6 crew members and 30 per cent of the value of total catch is paid to them as salaries. However, in cases (3) and (4), the hired crew are one and two respectively. In such a situation, each crew is paid a salary of Rs.5,000 per annum or per season. The working capital requirement of trawlers boats before the

Table 5.1: Data on Economics of Trawler Boats for the Year 1984-85

Sl. No.	Particulars	Number of Trawler Boats			
		1	2	3	4
1.	Area of Operation	Tadri	Tadri	Belikeri	Belikeri
2.	Year of Purchase	1979	1980	1984	1981
3.	Source of Finance	KDCC Bank	Syn.Bank	Syn. Bank	Syn. Bank
4.	Total Investment (Rs.)	1,45,000	1,54,000	1,75,000	1,62,000
	Engine	80,000	82,000	91,000	84,000
	Hull	55,000	61,000	70,000	65,000
	Net & Others	10,000	11,000	14,000	13,000
5.	Size of the crew	4	6	1	2
6.	Annual Gross Returns (Rs.)	1,57,690	1,38,099	1,16,360	1,31,000
7.	Annual Variable Cost (Rs.)	40,800	43,300	33,750	39,500
	Fuel	32,000	32,000	24,000	28,800
	Mobil oil	2,800	2,800	2,250	2,700
	Food for crew	6,000	8,500	7,500	8,000
8.	Annual Fixed Costs (Rs.)	75,318	78,954	37,500	10,000
	Crew Salaries	47,307	41,429	5,000	10,000
	Repair & Maintenance	13,000	9,125	8,500	10,000
	Insurance	3,011	2,400	4,000	4,000
	Repayment of loan	12,000	8,000	20,000	24,000
9.	Depreciation and Interest* (Rs.)	8,561	10,119	17,500	11,809
10.	Total Expenditure (Rs.)	1,12,679			
11.	Net Return (Rs.)	33,011	23,726	27,610	31,691

Source: Primary Data.

Note*: Depreciation Amount for 1984-85 is calculated on the depreciated value of total capital investment at 10 per cent annual, starting from the year of purchase.

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fishing season starts is around 8 to 13 thousand rupees for repair and maintenance of the boat. Besides this, the trawler owners themselves need money for off-season maintenance. They also advance money to crew members for off-season maintenance.

5.1.2 PURSE-SEINERS:

The total investment on purse-seine boats is substantially higher than trawlers and gill-netters. The cost of purse-seine boats has also increased over the years. The average gross return of purse-seiners are much higher than the gill-net and trawler boats (see Table 5.2). A major portion of variable cost is accounted for fuel and mobil oil.

The average crew size of a purse-seiner is 24. The crew is not paid any fixed wages but 30 per cent of the value of total catch goes to them. All operating and maintenance costs are borne by the boat owners. Due to large crew size and high repair and maintenance cost, the operation cost of purse-seiners is much higher than trawler and gill-net boats. The net return ranges from seventy to eighty thousand rupees (see Table 4.2).

The working capital requirements of purse-seiners seems to be very high about 16 to 25 thousand rupees. Besides this, the purse-seine owners need off-season maintenance money for themselves as well as the crew for non-fishing months.

Table 5.2: Data on Economics of Purse-Seine Boats for the Year 1984-85

Sl. No.	Particulars	Number of Purse-Seine Boats			
		1	2	3	4
1.	Area of Operation	Tadri	Tadri	Belikeri	Belikeri
2.	Year of Purchase	1978	1981	1979	1981
3.	Source of Finance	Karnataka Bank	Syn.Bank	Syn.Bank	Syn.Bank
4.	Total Investment (Rs.)	3,87,000	4,75,000	4,00,000	4,75,000
	Engine	1,20,000	1,50,000	1,25,000	1,50,000
	Hull	1,42,000	1,50,000	1,50,000	1,50,000
	Net	1,25,000	1,75,000	1,25,000	1,75,000
5.	Size of crew	25	24	24	25
6.	Annual Gross Return (Rs.)	4,30,000	4,73,437	4,75,000	4,38,000
7.	Annual Variable Cost (Rs.)	1,13,000	1,28,100	1,22,700	1,18,000
	Fuel	80,000	87,400	87,900	80,000
	Mobil Oil	3,000	5,700	4,800	3,000
	Food for crew	30,000	35,000	30,000	35,000
8.	Annual Fixed Cost (Rs.)	2,47,200	2,33,231	2,43,700	2,11,600
	Crew Salaries	1,29,000	1,42,031	1,42,500	1,19,400
	Repair & Maintenance	22,000	15,000	25,000	16,000
	Insurance	15,000	15,000	15,000	15,000
	Repayment of loan	61,200	61,200	61,200	61,200
9.	Depreciation & Interest* (Rs.)	20,566	34,627	26,244	34,627
10.	Total Expenditure (Rs.)	3,62,656	3,85,958	3,92,644	3,64,227
11.	Net Return (Rs.)	87,844	77,479	82,356	73,773

Source: Primary Data.

Note*: Depreciation amount for 1984-85 is calculated on the depreciated value of total capital investment at 10 per cent annually, starting from the year of purchase.

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5.1.3 GILL-NET BOATS:

The total investment on a gill-net boat is much less compared to trawler and purse-seine boats. The ownership of gill-net boats are of two types: a) individual and (b) collective ownership. In collective ownership, it was observed that usually 4 partners own a gill-net boat. A very interesting phenomena was observed during field survey that the crew hired are not paid salaries. They bring along their own nets and catch fish with it as well as help the owner in catching fish with his net. Thus, the fishes caught by the nets belonging to the crew is taken by them instead of wages and the sale from the catch of the owners net is retained to the owner. The timings for gill-net fishing is such that food is neither cooked in the boat nor provided to the crew. In the absence of food cost and crew salary, the operational cost of gill-net boats is much less compared to trawler and purse-seine boats. Fuel expenditure constitutes the major part of variable cost (see Table 5.3). Net return of gill-net boat ranges from 55 to 70 thousand rupees. The net return is much higher than trawlers and more or less same as purse-seine boats.

The working capital requirement before the fishing season for repairs and maintenance of boat is about 4 to 7 thousand rupees.

Table 5.3: Data on Economics of Gill-Net Boat for the Year 1984-85

Sl. No.	Particulars	Number of Gill-net boats			
		1	2	3	4
1.	Area of Operation	Keni	Keni	Tadri	Kumta
2.	Year of purchase	1982	1982	1981	1980
3.	Source of Finance	Syndicate Bank	Syndicate Bank	Syndicate Bank	Syndicate Bank
4.	Total Investment (Rs.)	37,000	37,000	35,000	35,000
	Engine	15,000	15,000	14,000	14,000
	Hull	11,000	12,000	11,000	11,000
	Net and Others	11,000	10,000	10,000	10,000
5.	Size of the crew	4 (all Partners)	3 (Individual owner)	4 (Partners)	4 (Partners)
6.	Annual Gross Return (Rs.)	95,000	96,000	78,000	88,000
7.	Annual Variable Cost (Rs.)	13,000	15,000	13,400	17,500
	Fuel	10,000	12,000	10,400	14,000
	Mobil oil	3,000	3,000	3,000	3,500
	Food for crew	Nil	Nil	Nil	Nil
8.	Annual Fixed Cost (Rs.)	7,500	9,500	6,600	6,400
	Crew Salaries	Nil	Nil	Nil	Nil
	Repair & Maintenance	5,000	7,000	4,000	3,800
	Insurance	Nil	Nil	Nil	Nil
	Repayment of loan	2,500	2,500	2,600	2,600
9.	Depreciation & Interest* (Rs.)	2,997	2,997	2,551	2,296
10.	Total Expenditure (Rs.)	25,497	30,497	22,551	26,196
11.	Net Return (Rs.)	71,503	68,503	55,449	61,804

Source: Primary Data.

Note*: Depreciation amount for 1984-85 is calculated on the depreciated value of total capital investment at 10 per cent annual starting from the year of purchase.

Table 5.3: Data on Economics of Gill-Net Boat for the Year 1984-85

Sl. No.	Particulars	Number of Gill-net boats			
		1	2	3	4
1.	Area of Operation	Keni	Keni	Tadri	Kumta
2.	Year of purchase	1982	1982	1981	1980
3.	Source of Finance	Syndicate Bank	Syndicate Bank	Syndicate Bank	Syndicate Bank
4.	Total Investment (Rs.)	37,000	37,000	35,000	35,000
	Engine	15,000	15,000	14,000	14,000
	Hull	11,000	12,000	11,000	11,000
	Net and Others	11,000	10,000	10,000	10,000
5.	Size of the crew	4 (all Partners)	3 (Individual owner)	4 (Partners)	4 (Partners)
6.	Annual Gross Return (Rs.)	95,000	96,000	78,000	88,000
7.	Annual Variable Cost (Rs.)	13,000	15,000	13,400	17,500
	Fuel	10,000	12,000	10,400	14,000
	Mobil oil	3,000	3,000	3,000	3,500
	Food for crew	Nil	Nil	Nil	Nil
8.	Annual Fixed Cost (Rs.)	7,500	9,500	6,600	6,400
	Crew Salaries	Nil	Nil	Nil	Nil
	Repair & Maintenance	5,000	7,000	4,000	3,800
	Insurance	Nil	Nil	Nil	Nil
	Repayment of loan	2,500	2,500	2,600	2,600
9.	Depreciation & Interest* (Rs.)	2,997	2,997	2,551	2,296
10.	Total Expenditure (Rs.)	25,497	30,497	22,551	26,196
11.	Net Return (Rs.)	71,503	68,503	55,449	61,804

Source: Primary Data.

Note*: Depreciation amount for 1984-85 is calculated on the depreciated value of total capital investment at 10 per cent annual starting from the year of purchase.

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5.1.4 SOURCE OF FINANCE:

All the mechanized boats in the sample were financed by Banks. However, only 75 per cent of the total investment is financed by banks and the other 25 per cent that is the seed money was to be raised by the boat owners. The seed money in the case of trawlers and purse-seine boats were quite high and this was provided by the fish traders and processing plant owners. Besides providing the seed money these private institutions also advance loan for the yearly working capital requirement of the boats before the fishing season starts and give money for off-season maintenance to the owners.

These loans are interest-free, but at opportunity cost. In the absence of any other formal institution extending finance the boat owners obtained this money from trade sources.

5.2 PRICE SPREAD:

To study the price spread and the share of fishermen in the consumer rupee price data was collected from various consumer market centres like Hubli, Dharwar, Sirsi, Belgaum, and Bombay as well as the landing centres.

The share of fishermen was found to be comparatively higher when the physical flow of fishes were within the state than outside the state.

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Table 5.4: Price spread of Marketing Fresh Fish from the Landing Centres to Consumer Centres within the State during September-October 1985

Sl. No.	Variety of Fish	Quantity	Consumer Price in Rs.	Fishermen's share (selling price in Rs.)	All costs in Rs.	Profit by Middle men (traders in Rs.)
1.	Mackerel	1 Ton	5,000 (100)	1,700 (34)	631 (12.62)	2,669 (53.38)
2.	Sardines	1 Ton	3,000 (100)	750 (25)	600 (20)	1,650 (55)
3.	Seer	1 Ton	8,000 (100)	4,000 (50)	600 (7.50)	3,400 (42.50)

Source: Primary Data.

Note: Figures in parenthesis indicate percentage share in consumer price.

Further, within the state the share of fishermen was highest (50 per cent) in case of seer fish and lower in the case of Sardines and mackerel fish (see Table 5.4). During September-October 1985, there was a glut of mackerel in Tadri Landing Centre. As a result, mackerel selling prices had gone down. This could be the reason for the low share of fishermen in the consumer price of mackerel. In case of mackerel and sardines, much of the larger part of the price paid by the consumers in urban centres is appropriated by middlemen. The costs incurred by the middlemen traders include, packaging, ice and transport.

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The share of fishermen was found to be much lower in the case of fish sold in consumer centres of other states (see Table 5.5). In this case, fish passed through three hands before reaching the consumer. Fishermen's realization was 28.33 per cent in mackerel fish and 15 per cent in sardines. Overall costs in this system was also found to be higher constituting about 32 per cent. The major cost incurred was on transport of fish from the landing centres to far off consuming centres. Keeping in view that a major part of Tadri landings are sent to consumer centres of other states the low share of fishermen is a serious problem which needs due consideration. Overall, it was found that fishermen's share in consumer rupee was highest in seer fish sold to consumer centres within the state.

Table 5.5: Price Spread of Marketing Fresh Fish from Landing Centres to Consumer Centres Outside the State During September October 1985

Sl. No.	Variety of fish	Quantity	Consumer Price in Rs.	Fishermen's share (selling price in Rs.)	All Costs in Rs.	Profit by middlemen (traders) in Rs.
1.	Mackerel	1 Ton	6,000 (100)	1,700 (28.33)	1,950 (32.50)	2,350 (39.17)
2.	Sardines	1 Ton	5,000 (100)	750 (15.00)	1,600 (32.00)	2,650 (53.00)

Source: Primary Data.

Note: Figures in parentheses denote percentages share in consumer price.

CHAPTER VI

STATUS OF FISHER FOLK

So far, in the report, issues related directly to marketing like production, demand, supporting system, etc. in the project area were discussed, which either directly or indirectly affect the life of fisher folk. Keeping in view the major objective of IDFP to improve the economic and social conditions of the people in the project area - an attempt is made here to analyse the effect of various practices, systems and institutions discussed earlier on the status and involvement of the fishing community at large. As there are no secondary data available on labour force participation, occupational structure, etc. this part of the report is based on observations during marketing field survey, interviews with traditional and mechanized boat owners, labourers in the mechanized boats, Co-operative officials and the report on 'Fisher women of Tadri' - a socio-economic survey conducted by ISST.

6.1 Till 1962-63, the total production of fishes in the project area was only from traditional boats. From 1964 onwards trawler boats were introduced to raise the output and export of marine fishes due to the attraction and growth of the export market. Further, mechanized fishing crafts like purse-seines, gill-net and motorized boats were introduced in substantial numbers. Since 1960, the number of mechanized boats in North Kanara has grown from 3 to 1272 in 1984.

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This major change in the technology of marine fishing was initiated with twin objectives - to enhance fish production and to improve thereby the socio-economic conditions of the fishing community. The question then is whether or not the change over in the mode of production has fulfiled the above stated objectives for which it was set. Further, in what ways the change in the mode of production has affected the socio-economic and working conditions of the fisher folk. Keeping in view the IDFP objective, it is extremely necessary to identify in detail as to how the livelihood and life styles of the fisherfolk have been affected by the new technology and organization of catching, processing and marketing of fish.

6.2 The rapid increase in the number of mechanized boats in the project area was due to easy availability of institutional credit on liberal terms and introduction of subsidy coupled with high profitability of investment on mechanized boats in the initial period. However, the mechanization programme seemed to have benefitted only a small segment of the fishing population. The report on 'Fisher-women of Tadri' reveals that out of total sample of the fishing households surveyed in the project area, only 21 per cent households owned a mechanized boat.[1] It was also found that highest number of trawlers and purse-seiners

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1. 'Fisher-women of Tadri' - A Socio-Economic Survey, Page 34, ISST, 1985.

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were owned by the Harikant and Konkan Karve who are considered to be superior to all other fishing castes. Of the total number of Ambiga households interviewed, only one household owned a purseine. Ambigas are considered to be the lowest in caste hierarchy. Thus, uneven distribution of mechanized boats has created greater disparities in income and ownership of fishing assets.

6.3 The analysis on the production of fishes over the years has revealed (Chapter 2) that mechanization of fishing craft did not contribute for increased production. It has merely been a change-over from traditional mode of production to mechanized mode affecting many fishermen in this process. Initially, with the introduction of trawlers there were some increase in prawn landings, but introduction of purse-seine on the other hand did not lead to increase in the quantity of catch. A large segment of fishermen owning traditional boats are at present employed on wage labour in the mechanized boats. In fact, the traditional mode of fishing has been almost routed in Tadri and to a substantial extent in other areas. Interview with fishermen revealed that the mechanized boat fish in the in-shore waters rather than off-shore. This has led to decrease in resources in the in-shore waters which is the area of fishing of traditional boats. This has many a time led to conflicts between the two groups.

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6.4 Another important change in the post-mechanization period was a shift in the marketing activity. Due to better berthing facilities the mechanized boats landed in few developed landing centres. As a result, the number of fish traders operating in the village previously declined and increased in the mechanized landing centres. At present, the lower volume of catch in the village landing centres attract very few traders and the traditional fishermen usually get by-passed and often are at disadvantage. On the other hand, glut of fishes were observed during peak season at the large landing centres. In this process, in both the landing centres, the price realization of the fishermen was adversely affected.

6.5 Centralized landing and marketing activity has affected the women in many ways. A large number of women from fishing households are engaged in fish allied activities such as selling fish in the market, vending, drying, loading and unloading of fish etc. In pre-mechanization period, they got fish easily from boats landing either in or near their villages. At present, the landing centres are 5 to 20 kms. away from their villages, so they have to travel all the way to the landing centres to get fish. This takes up quite a bit of their time which could have been spent otherwise in other economic activities. At times, boats land late in the afternoon which means that after selling fish by the time they reach home it is quite late in the night. Shift

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in the location of landing centre has specially affected women who were engaged in drying fish. Previously, they bought fish in large quantities from boats landing near their village and dried them in the open space in front of their houses. At present, they buy fish in small quantities from the landing centres depending upon their capacity to carry it back home. The activity of drying fish in large scale by women is at present replaced by the dry fish merchants of Mangalore at Tadri Landing Centre.

Further, with shift in location of landing, mode of transport has become an important factor for the women. Shorter distances are easily covered on foot, but for longer distances more than 2 kms. transport is needed. The only transport available are buses and occasionally tempo. However, the bus conductor refuses to allow them to take fish in the bus on the grounds that it causes discomfort to other passengers. Moreover, it is expensive to travel every day by hired vehicles. Interviews with women retailers and vendors revealed that transport was one of their major problems. In order to fetch better prices the fish needs to be sold within 4 hours to 6 hours of the catch. The use of ice for preservation is not practised at all by the women retailers and vendors. Moreover, ice is not available at the landing centres.

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After mechanization, net making and repairing activities has been taken up by a substantial number of women specially from Muslim community, who have the advantage of working at home. The wages paid are very low for net making compared to other fish allied activities. Moreover, it is very tidious and time consuming work. It usually takes three months for an individual to weave a trawl net. The wages paid for weaving one trawl net is Rs.400 to Rs.450.[1]

6.6 The consumption of fish by fishing households have not changed over the years.[2] Inspite of increased prices and decreased and centralized landings, the households consume the same quantity of fish as before. In the earlier part of the report (Chapter 2), it was observed that increased landings during peak season resulted in increased local consumption of fish. This was the pattern because the women purchase fish in comparatively large quantities during peak season either for selling in the retail market or for drying which could be used during off-season.

It comes out sharply from our observations that the new technology of fishing has brought about many changes in the life style of the fisher folk in the area. It has altered the character of employment, alienated small active fishermen and created disparities in income. Moreover, the fishing operation at present is dominated by a host of private traders and their agents who have the largest share of income in the whole process.

1. Fisher-women in Tadri - A Socio-Economic Survey, Page 59, 1985.
2. Same as 1.

CHAPTER VII

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CONCLUSIONS AND RECOMMENDATIONS

The main thrust of the report has been on studying and evaluating the existing fish marketing system in the project area with special emphasis on improving the quality of life and socio-economic conditions of the fisher-folk. Based on the variety of information generated from the micro-level data and secondary data the conclusions are summarized below:

7.1 The berthing and landing facilities were found to be inadequate at the four major landing centres in the project area. However, Tadri Landing Centre was found to be comparatively better than the rest (Chapter 2). As a result, the mechanized boats of other areas like Kumta and Keni land their catch at Tadri. This system of centralized landing is likely to continue in future after the construction of Tadri Landing Centre is completed. This pattern of landing has deprived the local people of Kumta and Keni of consuming certain fish varieties caught by trawler and purse-seine boats. Moreover, the women-folk of Keni and Kumta engaged in fish processing have been adversely affected by restricting themselves to process only gill-net catch.

7.2 The non-availability of ice at the landing centres has adversely affected the traders as well as the boat owners. The concept of using ice during haul to keep fish

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in good condition was totally lacking among the boat owners. It was observed that one of the reasons for large quantities of mackerel being used for wet curing was that the quality of fish had deteriorated and could not be consumed in fresh form. Besides, incidents of dumping mackerel and sardine catch in the sea were reported by purse-seine owners and labourers (see Chapter 3).

The survey of far off consuming centres had also revealed that the poor quality of fish fetched lower price in the consumer centres (see Appendix II). Hence, production of more and more fish itself will not bring the desired benefits unless steps are taken to improve the landing of fish.

7.3 Inspite of high rate of growth in mechanized boats, the volume of catch has remained more or less constant. It has been more of a changeover from traditional mode of production to mechanized fishing, benefitting only a segment of fishermen and alienating others. Moreover, fishing in the in-shore waters by mechanized boats has caused scarcity of fishes in this region which is, in fact, the area of fishing by traditional boats. This has often led to conflicts between the two groups of fishermen. It was also observed that the average catch per boat (purse-seine) has substantially decreased over the years which has affected the boat owners economically.

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7.4 The demand was found to be concentrated for the high and medium priced quality fish. Of fresh fish, the outside demand was for few popular varieties like seer fish, sardines and mackerels. A major part of quality fish were sent to consumer market centres of other states followed by within the state. Low demand for small mixed varieties of fish (Trash fish) led to concentration of landings and thus lower price received by the producers. Moreover, glut of quality fish during peak season due to absence of middlemen and traders caused lowering of prices. It has not only led to poor economics of boat operation but has diverted fish from human consumption to other industrial uses. On the other hand, a large portion of demand in the far-off consuming centres was reported to remain unmet during lean season.

7.5 High concentration of fish varieties which have low consumer preference has attracted dry fish merchants of Mangalore who settle down temporarily at Tadri Landing Centre and are engaged in the trade of dry fish for industrial uses. An important finding warranting emphasis is that, drying fish in large scale by the traders of other districts is a recent phenomena. Previously, this activity was done by a large number of women. However, the women dried fish in their respective villages where the traditional boats landed the catch. With the shift in location due to mechanization this activity was taken up by male

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traders for the simple reason that the women did not prefer to move to Tadri Landing Centre. At present, women dry fish in small quantities. Besides, they are engaged in vending or selling fish in the retail market or working as a wage labourer at the landing centre and fish drying yards.

7.6 Besides affecting the women-folk, who are engaged in fish marketing activities, the shift in the location of landing from decentralized to centralized has brought about other changes in the marketing organization. The number of middlemen or traders operating previously in the villages have declined and increased in the mechanized landing centres. At present, the lower volume of catch in the village landing centres attract very few traders. As a result, the traditional fishermen usually get by-passed and often are at disadvantage. On the other hand, due to glut of fish in the mechanized landing centre in peak season, the fishermen's price realization has been adversely affected.

7.7 Fishermen's share in the consumer rupee was found to be comparatively more when the physical flow of fish was within the state than out of state. However, much of the larger part of high price paid for fish by consumers in the urban centres was appropriated by middlemen (see Chapter 5).

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7.8 The process of drying edible fish needs considerable improvement. Due to poor quality of dry edible sardines, its value in the internal and export market has decreased. With major haul of sardines during peak season, and a substantial number of processors engaged in this activity, the technology of drying needs marked improvement (for details see Chapter 4).

7.9 The present role of primary Co-operatives in the project area are essentially organizing the auction of fish, maintaining stability of prawn prices at least for a fortnight and licensing of the traders who bid for such auctions, rather than eliminating the middlemen and fetching better prices for fishermen. In the absence of alternative source, the fishermen take loan from the traders for working capital requirement and off-season maintenance.

Due to this system of taking interest-free loan at opportunity cost, the fishermen are perennially indebted to the middlemen who besides controlling the sale and marketing of their produce, also undervalue the price of their catch in return for advancing financial help to them at times of need. This has led to the development of bonding system.

RECOMMENDATIONS: 106

Keeping in view the two major objectives of IDFP: a) Strengthening the on-going process of fishing, fish processing and marketing in the project area, and b) To improve the socio-economic conditions of the traditional fisher folk, following are the recommendations based on the findings of the study:

7.10 Under the project, it is planned to distribute gill-netters. The Government of Karnataka has already taken the decision not to add further purse-seiners and trawlers operating in the state. However, looking at the supply situation in the project area, it is quite clear that adding more numbers of gill-netters will not alter or augment the supply situation. Our field data as well as secondary data indicate a declining trend in the annual catch per boat partly due to uncontrolled exploitation of marine fisheries. Unless an oceanographic survey is done to identify the fishing grounds and estimate the future potential resources in the project area waters, no boats should be added to the existing fleet. The immediate need is to put the existing mechanized boats to better use rather than introducing new boats.

7.11 There is an urgent need for decentralization of mechanized landings so that the benefits could be equally

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shared by the whole fishing community rather than a segment of population in the project area. It is recommended that instead of adding mechanized boats to the existing fleet the infrastructural facilities like berthing and landing at small landing centres should be improved.

Further, providing landing facilities will help women peddlers of the villages in and around landing centres. They will not have to travel all the way to the major landing centres for purchasing fish. In the absence of proper transport facilities the women of these villages will benefit not only by saving transport expenses and time but will get better price realization for fish due to its freshness.

However, if the landing facilities are dispersed, it is quite likely that the fishermen of these villages will still continue to land their catch at Tadri or other major landing centres because of available marketing and other facilities. In this situation, when the landings are dispersed, other related infrastructural facilities such as marketing, transport, supply of salt, diesel and ice, processing and finance for boat operations will have to be provided. In the absence of the above facilities, it is unlikely that the present system of centralized landing and its adverse effects will change. From organizational point of view, the Primary Co-operatives already existing

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in these areas will have to play a major role in providing these facilities to the fishing community. Programmes to benefit fisher-folk will have to be formulated in consultation with the local communities.

7.12 At present, the marketing scene is dominated by the wholesale traders and commission agents. These traders besides controlling the sale and market of fish also undervalue the price of the catch in return for advancing working capital and off-season maintenance loan to the fishermen, Elimination of traders seems to be out of question as our field experience in Tadri shows that due to the presence of fewer number of traders there has been glut of fish in the landing centre and the price realization of fishermen were comparatively low. However, instead of eliminating the traders, it is essential to curb their price-fixing and financial powers if the income of boat-owners are to be raised. To break the monopoly of traders, the Primary Co-operative Society should undertake the function of providing working capital and off-season maintenance loan. It is absolutely necessary to totally reorganize the present structure of Primary Co-operative Societies so that they are able to cater to the needs of fisher-folk. Given under the prevailing situation, this is the only feasible alternative. The Primary Co-operative Societies at the dispersed landing centres in the project area will have to function on the following lines:

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1. Improved loan policy in order to meet the Working Capital requirements of the boat owners in the project area. This will make the fishermen less dependent on the middlemen for the sale of their produce as well as put them in a better bargaining position.

2. Auction system should be made compulsory by law at all the landing centres.

3. The Co-operative must also meet the financial requirements i.e. the working capital requirement of women retailers and Vendors in the project area.

4. At decentralized landing centres, the Primary Co-operatives must provide diesel, salt and ice to the fishermen, women retailers and vendors.

5. Lastly, to perform all the above stated functions, Co-operative should have a 'market committee' which will consist of trained, capable and skilled people. The Committee will have the following functions:

a. Ensure that the fisherfolk get better price realization for their produce.

b. Stabilizing prices of prawns and fish at regular intervals to ensure that the fishermen get better price for their produce.

c. Keep strict observance on the various market activities and regulations that is to be followed by fishermen and traders.

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d. If possible, it can also legally enforce the compulsory auction system.

7.13 Under the project, it is planned to construct a large ice factory at Tadri. This will benefit only the fisherfolk residing at Tadri or nearby areas. However, it is necessary that the output of this factory be made available to other landing and market centres. A provision must be made to supply ice to the vendors, retailers and fishermen at the decentralized landing centres through the Primary Co-operative Societies.

7.14 It is strongly recommended that the landing centres should have cold storage facilities. Keeping in view the glut situation and lowering of prices of fish during peak season, there seems to be an immediate need for cold storage facility so that, 1) Occasional gluts could be relieved and the fish prices do not go down to uneconomic levels and 2) Better price realization for the fishermen during peak season.

7.15 The Fish Marketing Federation should take up the auction of fishes at Keni which has been discontinued recently so that the fishermen of Keni get better prices for their produce and continue to land their catch in Keni. If the Federation is not in a position to provide services, then a Primary Co-operative Society should be set up at Keni along the guidelines suggested earlier.

7.16 As noted earlier, high concentration of trash fish at the landing centres commanding very low value as fresh fish are used for industrial purposes. It may be possible to utilize much of these fish for human consumption through better methods of handling and value added processing. It is recommended that the women folk of the project area take up the activity of processing which will create additional employment opportunities. This will mean:

1) Alternative methods of processing like protein concentrates, oil extraction, fish pickle, use of fish wastes etc. need to be introduced.

2) Training for women in the alternative technology of processing. In this regard, help could be obtained from Fisheries Research Institute at Mangalore and Cochin.

3) Construction of additional fish curing and sun drying facilities, and improving hygienic conditions and quality of the existing practices of drying fish.

4) Providing infrastructural facilities at the landing centres for women to store processed fish and equipments, since after the days work they prefer to go back to their respective villages.

5) Providing creche and canteen at the landing centres.

6) Finally, identifying markets for their products.

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The above activities could be accomplished either by training few women in initial stages to take up the work individually or through the existing 'Fisher Women's Co-operative Society' at Tadri. The 'Fisher Women's Co-operative Society' at Tadri was registered in 1985. but has not yet started functioning. The training of women in skilled jobs of processing could be undertaken by this Co-operative Society which aims to help women to better their economic standards. The 'Women's Co-operative Society' can provide working capital loan to the women vendors and processors to purchase fish as well as provide finance for the purchase of certain processing equipments. Moreover, certain equipments which are expensive can be owned by the co-operative and shared on a 'hire-rental' basis. Initial training of women to take up skilled jobs in fish-processing can also be considered by the project authority.

7.17 As mentioned earlier, in the absence of any institution, the fishermen avail the yearly working capital and off-season maintenance loan from the fish traders who besides exercising control on their catch also undervalue it. It is felt that the Commercial banks should be approached to help the fishermen with working capital which could be channelized through the existing Primary Co-operatives.

7.18 The Karnataka Government through Department of Fisheries must clearly specify the areas of operation of

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various types of boats and ensure its enforcement, all along the Karnataka sea coast so that the traditional fishermen are not at a disadvantage. This will force the mechanized boats not to fish in the in-shore waters which is the area of fishing of traditional boats.

7.19 Finally, collaboration with 'Karnataka Fisheries Development Corporation' should be explored by the project authorities. Besides providing marketing, cold storage and processing facilities, KFDC markets frozen fish and fish products in the hinterland areas of the State throughout the year. This is done by insulated fish vans. During peak season of fishing, various varieties of fish landed on the coast are purchased and either processed or frozen. These frozen form of fish are supplied to the consumers within the state through a distribution net-work called 'Cold Chain'. The Cold Chain has three important routes. One of the routes is Karwar - Hubli - Belgaum, which is closer to the project area. It could be possible for KFDC to extend this chain to Tadri if not all throughout the year, but at least during peak season. This might help to reduce the glut situation besides offering better price realization to the fishermen.

APPENDIX I

FISHERMEN'S CO-OPERATIVE SOCIETY LIMITED
TADRI P.O. (N. K.)

STATEMENT OF PROFIT AND LOSS ACCOUNT FOR 1980-81

EXPENDITURE			INCOME		
Interest on Loan and Commission		1,79,614-15	Profit from Business		66,080-84
Interim Loan for Boats	1,69,691-00		Interest on Loan of Members		3,42,028-46
Cash Credit	9,395-31		Society's Loan	12,173-61	
Bank Commission	327-78		Boat Loan	2,01,774-92	
Interest on Deposit by Members		5,931-53	Fish A/c.	1,891-83	
Interest on Government Loan		1,04,999-03	Interest on Loans		360-00
Building of Purse-seine Boats	96,604-71		Interest on Bank Deposit		9,896-47
Curing Yard	4,682-45		Dividend from Bank		1,989-38
Relief Loan	636-80		Other Income		4,919-26
Tools Loan	5,073-45		Rent		1,487-93
Gill-net Machine	1,026-80		Discount on Engines		3,000-00
	1,08,024-21		Allowance for Deputation		308-05
	3,025-18		Handling Charges on Fish Sales		2,12,017-71
Interest on Govt.Loan			Loss during the year ending 30-6-'81		21,170-19
Building Purse-seine Boat	83,770-74				
Fish Curing Yard	6,345-78				
	90,116-52				
Cancellation of previous a/c.-	87,091-34				
Interest for 80-81	3,025-18				
Salaries to Staff	1,14,078-15				
Less Receipts	1,718-10	1,14,078-15			
Bonus to Staff 8.33%		8,668-22			
T.A. D.A. of Members		5,728-95			
Postage, Telegram, Telephone	3,991-00				
Less Receipts	841-50	3,149-50			
Rent for Office - Electricity		5,793-01			
Office of Society	2,245-51				
Sea-house room	1,267-50				
Fish Curing Yard	2,280-00				

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APPENDIX I (contd.)

EXPENDITURE			INCOME
Tax to Panchayat for Fish Curing Yard		432-08	
Other Contingencies		12,303-25	
Contributions		250-00	
Audit Fee - 1979-80		83-80	
Handling charges to U.K. Karwar		28,436-54	
Handling Charges		42,367-36	
Mechanized Boat Union	21,113-11		
Other Co-Op.Societies	13,196-15		
Purse-seine Boats	8,058-10		
Legal Fee		541-00	
Insurance		4,483-00	
Stationery - Printing, Journals		7,323-55	
Fish Curing Yard and Drum Painting		1,530-19	
Union Fee		35-00	
Pension Contribution		1,418-00	
Leave Salary		1,435-00	
Depreciation Account		1,34,746-98	
Purse-Seine Boat	1,21,761-28		
Imarath	10,099-40		
Tools etc.	2,886-30		
TOTAL		5,63,268-29	5,63,

APPENDIX I (contd.)

FISHERMEN'S CO-OPERATIVE SOCIETY LIMITED
TADRI

PROFIT AND LOSS ACCOUNT FOR 1981-82

EXPENDITURE			INCOME	
1. Interest on Bank Loan & Commission		1,57,325-31	1. Profit from Sales	86,690-45
2. Interest on Deposit		5,730-48	2. Interest from Members	4,55,231-42
Interest	2,458-36		3. Interest on Bank Deposit	10,023-53
P.F. Staff	3,272-16		4. Deputation Allowance	600-00
3. Interest - Govt. Loan		1,22,358-41	5. Rent	2,071-00
4. Staff Salary		1,52,354-65	6. Telephone charges	1,332-40
5. T.A. D.A. Members		5,050-10	7. Other Receipts	16,010-59
6. Postage, Telegram, Telephone		5,440-50	8. Handling charges for fish sales	3,42,993-47
7. Rent Account		6,999-38	9. Salary receivable	29,880-00
a) Fishing Yard	2,280-50			
b) Office Rent	4,808-88			
c) House	415-50			
8. Tax - Panchayath		430-08		
9. Other Contingencies	16,887-53			
Less Receipts	60-00	16,947-53		
10. Contributions		1,518-50		
11. Handling Charges		55,380-54		
a) Mechanized boat Union	33,300-18			
b) U.K. Federation	2,060-88			
c) Purse-seine Boat	20,019-35			
d) Handling charges to U.K.		533-62		
12. Legal Advice		1,634-00		

APPENDIX I (contd.)

EXPENDITURE			INCOME
13. Insurance		5,111-00	
14. Stationery Printing etc.		12,347-91	
15. Fish Curing, Diesel, Repair, Painting		1,479-30	
16. Pension Contribution	1,942-00		
Leave Salary	2,037-50	4,979-50	
17. Commission on Fish Fund		68-28	
18. Advertisement		550-00	
19. Presents to Purse-seine boat people		1,802-00	
20. Special Function Fund		3,000-00	
21. Bonus payable to employees		10,955-28	
22. Depreciation Account		3,12,709-50	
a) Purse-seine boat bldg.	2,98,778-25		
b) Deadstock	2,744-85		
c) Construction	11,186-40		
23. PROFIT AS ON 30-6-1982		34,175-46	
TOTAL		9,17,881-49	9,17,881-49

ON BEHALF OF THE BOARD

Tadri
22.7.1982

R.V. NAIK
Superintendent of Fisheries

H.D. MOODANGI
Managing Director

M.N. LAKUMANE
Chairman

APPENDIX I (Contd.)

FISHERMEN'S CO-OPERATIVE SOCIETY LIMITED, TADRI

PROFIT AND LOSS ACCOUNT FOR 1982-83

EXPENDITURE			INCOME		
1. Interest and Commission		1,20,356-12	1. Profit from sales		1,02,780-64
a) Interim Profit - Bank	1,09,893-67		2. Loan to Members		2,11,122-90
b) Interest - on Cash Credit	10,003-70		a) Boats Interim	1,68,134-83	
c) Bank Commission	429-35		b) Other loans	13,177-08	
2. Interest on Loans		1,18,839-62	c) Int.on Bank Loan	10,056-21	
a) Relief loan	1,220-00		d) Dividend on Bank Deposit	6,424-10	
b) Tools Loan	3,732-88		e) Commission	3,416-42	
c) Fish Curing Yard	5,495-94		3. Salary Advance Rt.		4,559-12
d) Yamaha Engine	907-80		a) Leave Salary (ADF) Karwar	3,923-12	
e) Purse-seine boat Bldg.	1,07,483-00		b) Deputation Allowance	636-00	
3. Interest on Deposit		5,335-08	4. Telephone Charges	753-23	10,039-39
a) Membership Current Deposit	1,291-60		a) Admn.fee members	93-00	
b) Employees P.F.	4,043-48		b) Share fee Members	34-00	
4. Depreciation Account		2,58,586-62	c) Others	9,159-16	
a) Dead Stock	2,718-72		5. Handling Charges		4,39,133-46
b) Fish Curing Yard	7,278-20		a) Boats Handling	4,11,465-57	
c) Kavana	87-50		b) Purse-seine boat handling charge (receiving)	22,029-89	
d) Diesel Bunk	959-65		c) Purse-seine boat handling charges	5,638-00	
e) Library	22-80		6. Income from Society's Purse-seine boat		7,34,328-63
f) Purse-seine Bldg.	2,47,519-87				
5. Salaries		1,65,782-91			
a) Main Division	67,955-20				
b) Diesel Division	9,935-58				
c) Tools Division	7,083-00				
d) Kirani & Ration 9925-50 Less Rts. 161-00					
e) Purse-seine Dvn.	9,199-00				
f) Sale of fish	43,895-03				
g) Honorarium	17,950-00				

APPENDIX I (contd.)

	EXPENDITURE	INCOME
6. Travel Allowance - Committee		7,866-00
7. Postage, Telephone, Telegram		4,873-60
8. a) Office Rent, Lighting	7,860-55	
Less Receipts	125-00	
	7,735-55	
b) Office rent to be paid	445-50	
c) Insurance	6,487-00	14,668-05
9. Others		11,575-11
a) Contingency	9,937-80	
Less Receipts	588-29	
	9,349-51	
b) Cleaning	- 1,574-75	
Less Receipts	880-00	
	794-75	
c) Dead Stock Repairs	573-40	
d) Fish Curing Yard Repair	857-45	
10. a) Leave Salary	2,103-00	4,931-00
b) -do- payable	197-00	
c) Pension Contribution	2,407-00	
11. Stationery, Printing	13,801-20	
Less Receipts	2-50	13,798-20
12. Advertisement		125-00
13. Donation		1,675-00

APPENDIX I (contd.)

EXPENDITURE			INCOME	
14. Legal Advice		1,320-00		
15. Professional Tax		250-00		
16. Bonus		12,010-07		
17. Handling charges payable		51,615-86		
a) Mechanical Boat Union	44,310-61			
b) Other boats	7,305-25			
18. Expenditure on Purse-seine boats		6,76,774-26		
Amount payable for fish Sales HC		22,029-89		
19. PROFIT 1982-83		9,458-17		
TOTAL		15,01,964-14		15,01,964-14

ON BEHALF OF DIRECTORS

Tadri
26.7.1983

K.V. NAIK
Supdt.of Fisheries
O O D Secretary

H.D. MOODANGI
Managing Director

M.N. LAKUMANE
Chairman

APPENDIX I (contd.)

FISHERMEN'S CO-OPERATIVE SOCIETY LIMITED, TADRI, U.K.

STATEMENT OF PROFIT AND LOSS ACCOUNT OF THE SOCIETY FOR THE PERIOD 1983-84

EXPENDITURE			INCOME		
Bank Interest & Commission		77,345-19	Profit on Business		83,469-70
1. Boat - Interim	67,078-04		Interest on Loans to Members		1,64,043-43
2. Cash Credit (working)	10,267-15		1. Interim Boat	1,16,915-31	
Govt. Loan's interest		1,14,162-75	2. Loan of Society	5,113-32	
1. Relief Loan	1,220-00		3. Loan on Tools	8,667-31	
2. Loan on Tools	1,536-90		4. Relief Loan	124-48	
3. Fish Curing	5,191-75		5. Gill-net Loan	457-67	
4. Yamaha Engine	907-80		6. Suspense Fish	32,727-47	
5. I R D P	841-30		Reserve Fund - Interest		6,574-00
6. Purse-seine Boats	1,04,465-00		Bank Interest - Commn.	5,743-68	
Depreciation Account		2,56,410-56	Less Receipts	485-80	5,257-88
1. Fish Curing Yard	3,700-31		Telephone Charges		437-30
2. Mini Truck	16,107-40		Rent for Jack		516-50
3. Diesel Bunk and Deadstock	3,285-95		Membership Appn.fee	103-00	
4. Purse-seine Boat	2,33,316-90		Share fee	248-00	351-00
Interest on Deposits		6,406-58	Salaries		30,959-78
1. Current - Members	1,040-88		Hire of Truck		2,283-65
2. P.F. Staff	5,221-70		Handling Charges		61,025-15
3. Others	144-00		Fish Production		25,666-54
Staff Salaries		1,80,937-26			9,07,568-53
1. Head Office	84,408-99				
2. Diesel Division	12,296-64				
3. Kirani Division	10,881-32				
4. Tools Division	8,774-31				
5. Fish Sales Division	48,783-96				
6. Purse-seine Division	15,792-04				
Honorarium		20,400-00			

APPENDIX I (contd.)

EXPENDITURE			INCOME
:aff Salary	3,251-00		
ındling Charges	27,227-00		
ıare A/c.	2,03,952-16		
.ni Truck Expenditure		47,642-49	
Diesel Oil	22,830-16		
Tools	198-95		
Allowance	6,798-00		
Other Exp.	3,326-77		
Coolie	592-60		
Bank Interest	8,290-15		
Engine Repairs	3,709-66		
Road Tax	1,896-00		
gal Fee		150-00	
		15,06,292-10	
T PROFIT		12,856-32	
	TOTAL	15,19,148-46	15,19,148-46

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APPENDIX I (Contd.)

FISHERMEN'S CO-OPERATIVE SOCIETY LIMITED, TADRI

STATEMENT OF PROFIT AND LOSS ACCOUNT FOR THE YR.1984-85

EXPENDITURE			INCOME	
1. Interest from Bank & Commission		87,404-50	Profit from Sales	1,09,605-91
2. Interest on Govt.Loan		8,009-80	Interest on Loans to Members	1,84,101-20
3. Depreciation A/c.			Interest on Deposits in Bank & Dividend	14,958-16
a) On Stocks	11,365-12		Receipt from Phone calls	4,849-34
b) Dead Stock	3,326-65	14,691-77	Allowance for Deputations	530-00
4. Interest on Deposit		7,080-74	Appln.fee for Membership	109-00
5. Staff Salary		1,72,914-15	Membership Share Fee	474-00
6. Honorarium		26,400-00	For other Production Receipts	38,941-69
7. Allowance, and T.A. for Committee		6,923-75	Handling charges for sales of fish	3,50,153-27
8. Office Rent/Lighting		5,325-30	Hire from Mini-Truck	67,595-00
9. Other contingencies (Vehicle hire, coolie etc.)		24,498-27	Receipts from purse-seine boats	11,23,750-17
10. Postage, Telegram, Telephone		10,017-25		
11. Stationery, Printing Journals		10,344-00		
12. Contributions		1,456-00		
13. Advertisement		1,030-00		
14. Insurance (Staff & Stock)		499-85		
15. Tax to Panchayath		432-10		
16. Bonus to Staff		20,909-60		

APPENDIX I (contd.)

EXPENDITURE			INCOME
17. Sales Tax		1,026-00	
18. Handling Charges for Mechanized Boats Union		37,231-36	
19. Exp. on Mini-Truck	69,049-23		
Depreciation	24,161-10	93,210-36	
20. Purse-seine Boat Expenditure	8,37,416-87		
Interest payable	1,09,137-75		
Depreciation	30,919-15	12,55,673-77	
21. Professional Tax		250-00	
22. Legal Fee		395-00	
23. Deposits		65,000-00	
		18,51,235-54	
24. NET PROFIT		43,832-20	
TOTAL		18,95,067-74	18,95,067-74

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APPENDIX II

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CHATRAPATI SHIVAJI MARKET, BOMBAY

Bombay is one of the largest consuming centres in India. About 55 per cent of Bombay's total consumption is supplied from its own 20 landing centres and the rest 45 per cent is the inflow from other districts of Maharashtra and other States. Table 1 gives an estimate of Karnataka's share of supplies of fresh fish to Bombay.

Table 1 : Inflow of Fresh Fish in Bombay

Sl. No.	Arrivals	Quantity (M.T.)
1.	Bombay landings	57,565
2.	Inflow:	
	a) Maharashtra	
	Thana district	21,935
	Kolaba District	3,200
	b) Gujarat	6,800
	c) Karnataka	20,000
	Total arrivals:	1,09,500

Source: Marine Fish Marketing in India, 1984, Indian Institute of Management, Ahmedabad, Gujarat.

Chatrapati Shivaji Market in Bombay is one of the biggest wholesale markets where the fresh fish arrives

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from outstation in trucks early in the morning. Gates of the market are opened at 5.30 a.m. for auctioning. The Bombay Municipal Corporation, charges a fee at Rs.150 per truck. At times, when the truck arrives before 1 a.m., additional charge of Rs.50 is paid to Municipal Corporation for parking.

The market has 76 commission agents who handle the sale of fish for one or two landing centres. The commission agents get 5 to 7 per cent commission on the sale of fish. After the sale of fish, the commission agent deducts his commission charges and sends the rest of the amount to the sender through the person accompanying the truck either on the same day or within 48 hours of sale. The commission agent/wholesaler (purchase) at landing centres in Karwar and Tadri generally enquire about the prevailing sale prices of fishes in Bombay before sending fish, so that there is profit and no risk of making losses. During lean season when the inflow of fresh fish is either low or nil, the Bombay Commission agents get frozen fish from freezers and processing houses of various states. Sheshank sea food, Honnavar in Karnataka is a major supplier of frozen fish to Shivaji Market during monsoon.

The fish is auctioned by 'kodis' (one kodi = 22 fishes) and not by weight. Small fishes like oil sardines are auctioned by 'baskets' (1 basket - approx. 30 kg.). The Bombay C.A.'s dispose off the fish to various purchasers:

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a) Retailers/vendors; b) Bulk buyers; c) Other consuming centres. The retailers sell the fish in various retail fish markets in Bombay, whereas, the bulk buyers take it to sub-consuming centres like Poona, Nagpur etc. On order, the C.A. Bombay sends consignment of fishes either by roadways or railways to sub-consuming centres in Maharashtra and Gujarat (Ahmedabad). In fact, it was interesting to trace the marketing chain of 'oil sardines' coming all the way from Tadri area and then finally reaching Ahmedabad (Gujarat) retail market, via. Bombay. The longer the chain, more are the number of intermediaries.

The Bombay commission agents could not provide the details of quantity of arrival of fresh fish either from Tadri or Karwar region. They generally do not maintain records of region-wise arrival of fish, neither the Bombay Municipal Corporation had the data. It usually takes about 24 hours for the truck of fish load to arrive at Bombay from Tadri. However, it was observed at Tadri Landing Centre that due to poor landings in January, it took about 2-3 days to get enough supply of fishes to fill the truck. The truck remains at the landing centre for at least 2 days to get enough supply. The trucks do not leave for Bombay or other places till it is fully filled. Although the fish are kept in ice, even then the quality of fish deteriorates. We observed that the prices fetched for such fish were also comparatively lower.

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There seemed to be a lot of competition among the B.C.A.'s as the number of CA's operating under one roof in Bombay are 76. Due to this competition and for continuous supply of fish the B.C.A.'s advance loan ranging from Rs.15,000 to Rs.20,000 to the wholesale purchaser (sender) of fresh fish. This is to ensure that wholesalers from the landing centres supply fresh fish only to him and not to others. Same system of advancing loan is practised between the wholesale purchasers and the boat owners for the same reason.

Pricing of the fish for a particular day depends upon: a) Supply situation, b) Quality of fish. Generally, during peak season when the supply is more than the demand the selling prices are low, whereas during lean season it is high. Pricing also depends upon the quality of fish. On the same day, two different prices were observed for oil sardines. The price of sardines in fresh state were being sold at Rs. 130 per basket whereas the detericrated quality were sold for Rs.90 per basket.

Each truck contains approximately 180 baskets of sardines (30 kg. per basket). The cost of transport, ice, labour municipality charges are paid by the wholesale purchaser. Following break-up of costs give an idea of profit made by wholesale purchaser in Tadri and the commission earned by the Bombay Commission agent for 1 truck load of sardines during 1st week of February 1985.

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Purchase price of 1 truck of sardines in Tadri (Rs.30 per basket)	Rs. 5,400
Transport charges	Rs. 3,600
Ice	Rs. 160
Bombay Municipal Corporation Charges	Rs. 150
Commission earned by Bombay Commission Agent (at 5%)	Rs. 1,170
Total cost	Rs. 10,480
Selling price at Bombay wholesale market (at Rs.130 per basket)	Rs. 23,400
Cost price	Rs. 10,480
Profit	Rs. 12,920

However, according to the B.C.A. during peak season the selling price of sardines are Rs.115 per basket and thus profit is comparatively low. On the same day, Bombay retail markets were visited to observe the prices of oil sardines.

These retailers had purchased oil sardines from B.C. agents. The retail prices of oil sardines were Rs.8 per kg. i.e. about Rs.240 per basket, whereas they had purchased for Rs.130 per basket. The expenses incurred were Rs.10 for ice for 1 basket and railway fare. Thus, the consumers of Bombay were paying Rs.8 per kg. of oil sardines.

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APPENDIX III

HUBLI-DHARWAR MARKET:

Hubli-Dharwar, the twin city, gets fish from various landing centres in Karnataka. A considerable quantity of fish from Hubli-Dharwar goes to Poona, Hyderabad, Kolhapur etc. The fresh fish from coastal areas of Karnataka start arriving from 4 p.m. onwards. There is a good demand for mackerel, sardines and seer fish in this market. In fact, whatever arrives are immediately sold off. In order to have continued supply the wholesalers of Hubli-Dharwar market advance loan to the commission agents operating in the project area landing centres The loan ranges from Rs.20,000 to Rs.50,000. However, the wholesalers reported that the commission agents often send poor quality and damaged fish which fetches lower price in the market. The various middlemen involved in the marketing of fish at Hubli-Dharwar are, wholesalers, semi-wholesalers and retailers.

a) Wholesalers: The wholesalers stationed at Hubli-Dharwar have their commission agents (purchase) at all important landing centres in Karnataka. There are about 8 to 10 wholesalers at this market. The commission agents purchase fish at the landing centre on behalf of the wholesaler and sends them by road to Hubli-Dharwar. The transporation and

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other costs are paid by the wholesaler, whereas the commission agent at the landing centre gets a commission of 3 per cent.

This system of supply of fish is very common in Kumta and Keni landing Centres. There are about 8 wholesalers in Hubli-Dharwar. The wholesaler, then sells the fish in auction to the retailers and vendors besides sending it to sub-consuming centres like Poona, Hyderabad, etc.

b) Semi-wholesalers and Retailers: The semi-wholesalers buy fish in bulk from the wholesalers in auction and sell it to the retailers and vendors. Most of the semi-wholesalers are concentrated in Hubli market. There are about 15 semi-wholesalers in Hubli, and 50 to 60 retailers. The retailers are mainly muslim men.

PRICES OF FISH:

The wholesale selling price of three varieties of fish i.e. sardines, seer and mackerel at Hubli-Dharwar market are given in Table 1 along with the purchase price at the project area landing centres.

Table 1: Purchase and Selling price During October 1985

Sl. No.	Variety of Fish	Quantity in kg.	Purchase Price at the Project area landing centre (Rs.)	Wholesale Selling Price (Rs.)
1.	Seer Fish	1	4	8
2.	Sardines	1	0.80	2
3.	Mackerel	1	1.90	4

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APPENDIX IV

DRY FISH MARKET OF POONA

The dry fish market of Poona was visited to study the demand pattern of project area dry fish. Women of Keni are one of the main suppliers of dry fish to Poona market. Poona dry fish market has about 45 wholesalers of dry fish. These wholesalers have their commission agents at various landing centres along the Karnataka coast who purchase dry fish from women and send it in lots to Poona wholesaler. These commission agents are paid 5 per cent commission by the wholesalers.

According to the wholesalers, there exists a high demand for dry fish in Poona. In fact, the consumers do not mind paying higher price for good quality dry fish. Reportedly, about 60 tons of dry fish is received from Keni every month during peak season. However, the wholesalers did not disclose the purchase or selling price of dry fish inspite of repeated request.

Regarding quality of dry fish, the wholesalers revealed that they have stopped getting sardines from Belikeri as the quality was found to be poor. The complaint was that the fish is not dried properly, so gives bad odour. Moreover, the content of salt used for drying was also found to be higher.

Regarding dried seer fish of Keni, they felt the quality was O.K. but not as good compared to the quality of dry fish received from veravel in Gujarat. Thus, the selling prices of dried seer and shark fish of Keni were comparatively lower than the Gujarat dried fish. Unfortunately, the wholesalers did not reveal the purchase and selling prices of dried fish. However they reported that they are not able to meet the demand of consumers and would like to get larger quantities of dried shark and seer fish from Keni.

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