

PRELIMINARY REPORT
ON MARKETING STUDY

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

CONTENTS

CHAPTER 1	:	INTRODUCTION. . .	1
CHAPTER 2	:	MECHANISATION.	4
CHAPTER 3	:	SUPPLY SITUATION.	13
CHAPTER 4	:	INFRASTRUCTURAL FACILITIES IN THE PROJECT AREA.	25
CHAPTER 5	:	MARKETING AND DISTRIBUTION OF MARINE FISH.	34
CHAPTER 6	:	CONCLUSIONS.	60

LIST OF TABLES

<u>TABLE NO.</u>	<u>DESCRIPTION</u>	<u>PAGE - No.</u>
1.	Landing of Marine fish from mechanised and non-mechanised crafts in Karnataka during 1982-83 (In Tonnes)	6
2.	District-wise Growth of number of mechanised boats in Karnataka	7
3.	Growth of Mechanised boats in Karnataka - By type of boat	9
4.	Total landings and number of mechanised Craft in North Kanara during 1976-77 and 1983-84	10
5.	Marine fish production state-wise for 1960-1983 (Quantity in Tonnes)	14
6.	Statewise distribution of pelagic and demersal group of fishes during 1979-80	17
7.	Karnataka Purse - seine Statistics 1975-82	19
8.	Total landings in Tadri, Kumta and Keni areas and Uttara Kannada	21
9.	Composition of Catch at 4 Landing Centres in the project area in the month of January 1985	23
10.	Utilisation pattern of marine fish in Karnataka (1976-1983)	35

<u>TABLE No.</u>	<u>DESCRIPTION</u>	<u>PAGE - NO.</u>
11.	Utilisation Pattern of marine fish in the project area for the month of January 1985 (Quantity in Tonnes)	36
12.	Marine fish products exported in quantity and value in Karnataka	38
13.	Inflow of fresh fish in Bombay	49

G R A P H

Marine fish catch and growth of mechanised boats in Uttara Kannada from 1976 - 77 to 1983 - 84	11
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F I G U R E

Flow of fish (Both marine and Inland) in Hubli - Dharwar region 1978 - 79	55
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CHAPTER 1

INTRODUCTION

The present report contains only the preliminary observations on the marketing aspects of fish catches landed in the project area, Tadri. The main objective of the study is to examine comprehensively the existing trade of the 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 fisherfolk. The study concentrates on the following inter-related areas of marketing process:

- a) Demand for marine fish, local, district, state and other states
- b) Supply situation
- c) Infrastructure facilities for marketing
- d) Mode of fish marketing
- e) Economics of fish marketing operations.

Progress made so far

The field work for marketing study was started in January 1985. The ISST research team had detailed discussions with the principal marketing organisations in Karwar region viz. North Kanara District Co-operative Marketing Federation, Tadri Co-operative Society and the Karnataka Government Department of Fisheries. Besides these, interviews were held with

commission agents, petty traders, boat owners and wholesaler Purchaser at the landing centres as well as consuming centres to get a detailed information on the process and economics of marketing operations. In february 1985, the ISSF team visited Bombay, Hubli, Sirsi and Belgaum fish markets to assess the demand of fish from Tadri, pricing, cost structure, wastage and commission and profit structure. Interviews were held with the commission agents and the wholesalers who dealt with the Tadri fish agents. Simultaneously, four investigators were engaged to maintain a daily catch register at each of the four major landing centres in the project area i.e. Tadri, Keni, Kumta and Belikeri. The following information were collected at four landing centres with the help of daily register:

- 1 Daily total catch - species wise
- 2 Types of gear used
- 3 Ownership of boat - individual or group owners - number of persons in the group
- 4 Selling price according to species
- 5 Sold to whom - commission agents, wholesaler, petty traders etc.

However, due to rapid decline in fish catch from February onwards, it was decided to discontinue the maintenance of record on daily catch and collection of case studies.

Since it is important to get the size of fish catch during peak season, field work will have to be undertaken again during September-November 1985. Moreover, the marketing

study would be more purposeful and complete if the seasonal variations of catch are also included, as it might have an effect on the market prices of fish and on the share of various categories of persons handling fish right from the point of the fisherman upto the point of consumers. Thus, the present report is based on the secondary data available so far and the preliminary field observations. The final report is planned to be submitted by the end of 1985.

CHAPTER 2

MECHANISATION

The fish economy and the organisation of fishing industry largely depends upon the prevalent state of technology. The potential resources, supply and demand, marketing process and finally the economics of production can only be well understood in the context of the existing technological spectrum.

With independence, a meaningful move towards a modernised marine fishing industry was made in India, taking into account the vastness of its resources. The mechanisation programme was initiated with twin objectives - to enhance fish production and to improve thereby the socio-economic conditions of the fishermen.

The history of mechanisation of fishing boats in Karnataka dates back to 1957 when the State Government in collaboration with FAO experts, undertook the programme of mechanising indigenous crafts. Since then, the mechanisation process has been going on in various phases. The foremost change in technology of fishing in Karnataka is that, while in 1960-61 only 4 mechanised boats were operated, the number operated by fishermen in 1983 was 2844.

The extent of change-over to mechanised fishing is reflected forcefully in the statistics of fish catch. The mechanised sector of the state accounted for more than 85 per cent of the total landings in 1982-83 (See Table 1). It is quite clear that mechanised fishing has almost completely eclipsed the role of traditional craft, but in the absence of data on the number of traditional boats operating it is difficult to ascertain the extent or pace of displacement and its effect on the life of traditional boat owners.

It can be seen from Table 2 that growth of mechanisation was slow between 1960-61 and 1964-65. On the other hand, between 1965-66 and 1970-71, the growth was around 320%. There was again a set-back between 1970-71 and 1975-76. With the introduction of Purse-seiner boats around 1976-77, and gill netters in 1979 the number of mechanised crafts increased to 2844 in 1983-84. Till 1977 North Kanara accounted for 30 per cent of mechanised craft operating in which Karnataka gradually increased to 44 per cent in 1984. Table 3 gives the growth of mechanised boats according to type over the years. Out of 1930 trawlers in the State, 744 are operating in North Kanara, The district also has 108 purse-seiners of the total of 368 and 420 gill netters of the total 546 registered in the State. The proportion of

Table 1: LANDING OF MARINE FISH FROM MECHANISED AND NON-MECHANISED CRAFTS IN KARNATAKA DURING 1982-83 (In Tonnes)

Name of fish	Mechanised				Total	Non-mechanised	Grand Total
	Mechanised fishing		Power Propulsion				
	Purse-seins	Trawl net	Drift gill net	others			
Oil Sardines	33,274	464	-	-	33,738	1,763	35,501
Mackerel	4,300	324	5	-	4,630	674	5,304
Bombay-duck	-	-	-	-	-	-	-
Croakers	239	1,257	1	-	1,497	1,279	2,776
Perches	130	1,952	-	-	2,082	85	2,167
Pomfrets	1,216	601	347	2	2,166	1,044	3,210
Tunnies	928	-	273	-	1,201	1,042	2,243
Panacid Prawns	-	-	-	-	-	-	-
Non-Panacid Prawns	<u>25,634</u>	<u>28,598</u>	<u>1,297</u>	<u>1,173</u>	<u>56,702</u>	<u>12,333</u>	<u>69,035</u>
Total	<u>66,457</u>	<u>39,873</u>	<u>1,923</u>	<u>1,175</u>	<u>1,09,429</u>	<u>18,540</u>	<u>1,27,968</u>

Source: Marine Fisheries Information Service, CMFRI, No.52, August 1983, Cochin, India.

Table 2: DISTRICT-WISE GROWTH OF NUMBER OF MECHANISED BOATS IN KARNATAKA

Year	South Kanara	North Kanara	Total
1960-61	4(100)	-	4
1961-62	17(85)	3 (15)	20
1962-63	29(64)	17 (36)	46
1963-64	53(68)	24 (32)	77
1964-65	86(66)	44 (34)	130
1965-66	151(76)	62 (24)	213
1966-67	167(63)	100 (37)	267
1967-68	244(64)	141 (36)	385
1968-69	412(68)	192 (32)	604
1969-70	563(70)	244 (30)	807
1970-71	733(71)	308 (29)	1041
1971-72	753(70)	324 (30)	1077
1972-73	773(70)	338 (30)	1111
1973-74	795(69)	349 (31)	1144
1974-75	866(70)	366 (30)	1232
1975-76	935(70)	402 (30)	1337
1976-77	995(70)	443 (30)	1438
1977-78	1053(69)	491 (31)	1544
1978-79	1164(68)	561 (32)	1725
1979-80	1239(64)	708 (36)	1947
1980-81	1313(61)	872 (39)	2185
1981-82	1404(57)	1093 (43)	2497
1982-83	1526(55)	1261 (45)	2787
1983-84	1572(56)	1272 (44)	2844

Source: Department of Fisheries, Government of Karnataka, Bangalore.

Note: Figures in parenthesis are percentage share in State total.

gill netters operating in North Kanara is thus much higher i.e. about 76 per cent, that of trawlers (39 per cent) and purse-seiners (29 per cent). The maximum recent additions are in the category of gill-netters and purse-seiners.

In spite of rapid mechanisation, the catch statistics of North Kanara presents a very disappointing picture. Table 4 and Graph-1 indicates the extent of change-over to mechanised fishing since 1976 and the quantity of fish catch. The total fish landings in 1977-78 was more than double the previous year with the addition of 48 purse-seiners and there was further increase till 1979-80 with the addition of another 217 mechanised boats. However, since 1980-81 the total landings have been declining although the number of mechanised craft has increased by 46 per cent. A declining trend of total catch in North Kanara in spite of increase in the number of mechanised boat is a matter of considerable concern and needs to be further examined.

Table 3 : GROWTH OF MECHANISED BOATS IN KARNATAKA - BY
TYPE OF BOAT.

I. Shrimp Trawlers (In Nos.)

Year	South Kanara	North Kanara	Total
1960-61	4 (100)	-	4
1961-62	17 (85)	3 (15)	20
1962-63	29 (63)	17 (37)	46
1963-64	53 (69)	24 (31)	77
1964-65	86 (66)	44 (34)	130
1965-66	151 (71)	62 (29)	213
1966-67	167 (63)	100 (37)	267
1967-68	244 (63)	141 (37)	385
1968-69	412 (68)	192 (32)	604
1969-70	563 (70)	244 (30)	807
1970-71	733 (70)	308 (30)	1041
1971-72	753 (70)	324 (30)	1077
1972-73	773 (70)	338 (30)	1111
1973-74	795 (70)	349 (30)	1144
1974-75	866 (70)	366 (30)	1232
1975-76	935 (70)	400 (30)	1335
1976-77	976 (69)	431 (31)	1407
1977-78	1007 (68)	476 (32)	1483
1978-79	1074 (67)	521 (33)	1595
1979-80	1088 (62)	653 (38)	1741
1980-81	1091 (60)	742 (40)	1833
1981-82	1116 (60)	742 (40)	1858
1982-83	1170 (61)	743 (39)	1913
1983-84	1186 (61)	744 (39)	1930

II Purse-Seiners (In Nos.)

1975-76	-	2 (100)	2
1976-77	19 (61)	12 (39)	31
1977-78	46 (75)	15 (25)	61
1978-79	90 (69)	40 (31)	130
1979-80	127 (70)	55 (30)	182
1980-81	184 (74)	64 (26)	248
1981-82	229 (72)	91 (28)	320
1982-83	259 (71)	108 (29)	367
1983-84	260 (71)	108 (29)	368

III Gill Netters (In Nos.)

1979-80	24 (100)	-	24
1980-81	38 (37)	66 (63)	104
1981-82	59 (18)	260 (82)	319
1982-83	97 (19)	410 (81)	507
1983-84	126 (24)	420 (76)	546

NOTE: Figures in brackets indicate proportion to total.

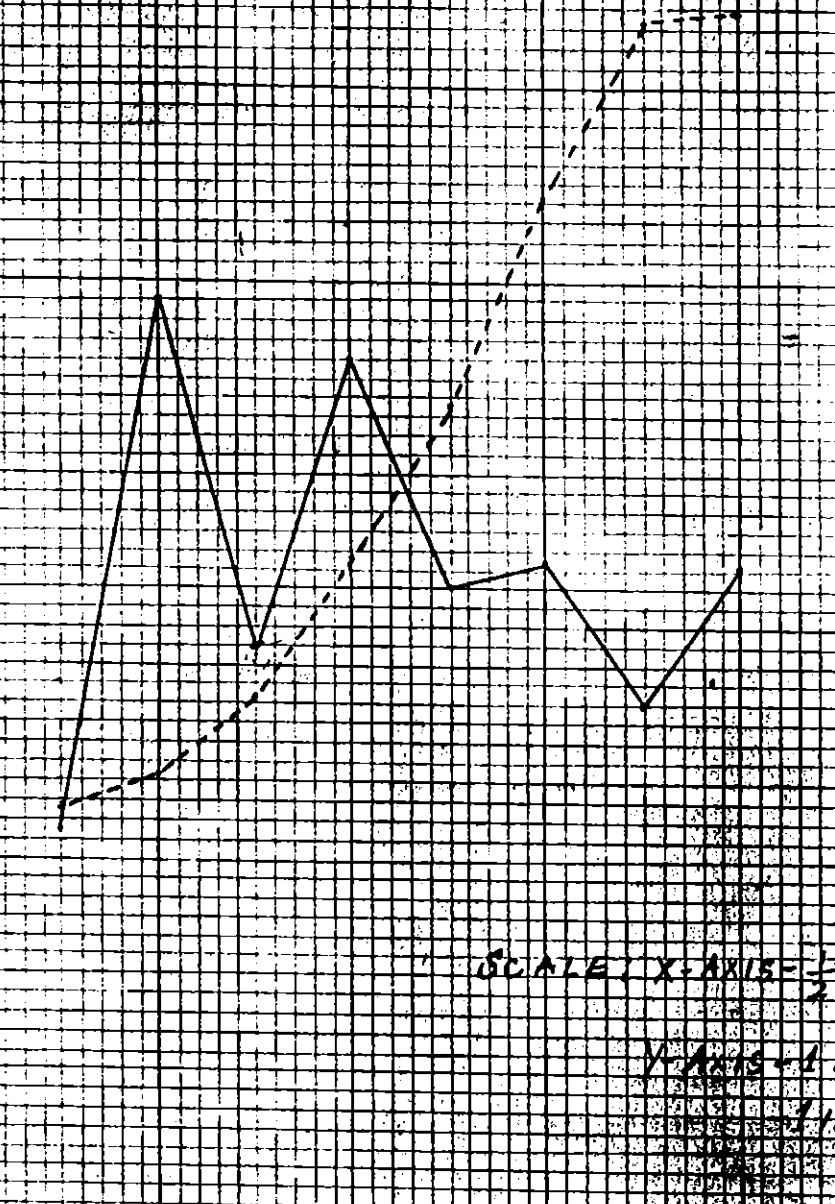
Table 4: TOTAL LANDINGS AND NUMBER OF MECHANISED CRAFT IN NORTH KANARA DURING 1976-77 AND 1983-84

Year	Number of Mechanised boats	Total landings (in tonnes)
1976-77	443	21592
1977-78	491	49291
1978-79	561	30942
1979-80	708	46148
1980-81	872	35258
1981-82	1093	35875
1982-83	1261	28001
1983-84	1272	35381

No statistics are available with regard to the spatial distribution of various types of crafts in the project area. However, an attempt will be made during the second phase of marketing study to collect data on the growth of mechanised boats at the 4 landing centres in the project area selected for the study.

GRAPH - 1
 MARINE FISH CATCH AND GROWTH OF MECHANISED
 BOATS IN UTARA KANNADA FROM 1976-77 TO
 1983-84.

(1300)
 (1200)
 (1100)
 (1000) 50
 (900)
 (800) 40
 (700)
 (600) 30
 (500)
 (400) 20
 (300)
 (200) 10
 (100)



SCALE | X-AXIS = $\frac{1}{2}$ INCH = 1 YEAR

Y-AXIS = 1 INCH = 10 TONS

1 INCH = 200 BOATS.

76-77 77-78 78-79 79-80 80-81 81-82 82-83 83-84
 → YEAR

INDEX: — Marine Catch
 - - - - - Mechanised boat

Figures in brackets on Y-axis indicate number of mechanised boat.

An important question that arises in this context is whether support systems like marketing and infrastructural facilities have been modified to suit mechanisation process, and whether this has created new dependencies, more alienation and exploitation of fishermen. Our field experience shows that traditional forms of organisation are badly affected by mechanisation of fishing operations. One example of this is impact of purse-seiner operations on the traditional community of ' *RAMPANI '. Due to indiscriminate operations of purse-seiners the 'rampani', a community mode of production, has been totally routed. It is now replaced by a system in which traditional fishermen are largely reduced to wage labourers. In view of this, the Government of Karnataka has introduced the 'Rampani Scheme', under which purse-seiner boats have been distributed to a group of 24 to 48 fishermen belonging to the 'rampani community'. Information on total number of boats distributed under this scheme was not available during the field visit. It is planned to further investigate this issue during the second phase of field study.

The question of adequacy of infrastructural facilities to handle the increase in output due to mechanisation will be dealt with in the later part of the report.

*RAMPANI - The rampani operation requires about 100 to 150 people. The rampanis 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 and form a rampani group.

CHAPTER 3

SUPPLY SITUATION

Trends in the production of marine fish, exploitation of resource potential and the utilization pattern are important aspects in the marketing system of marine fish.

3.1 Supplies: All India Trends

As a result of increasing fishing effort and mechanisation, there has been an upward trend in overall production of marine fishes in India. The marine fishery production of India increased from 0.58 million tonnes in 1950 to 1.16 million tonnes in 1971, with an average annual growth rate of about 5 per cent. Table 5 indicates the trend of marine fish production since 1960. It can be observed that there were considerable variations in the magnitude of production of marine fish. The contribution of the States on the West Coast to all India in 1982 was 69 per cent, whereas, in respect of the States on the East Coast, it was only 31 per cent. Kerala recorded the highest contribution, followed by Maharashtra, Tamil Nadu, Gujarat, Karnataka and Andhra Pradesh. The total production in 1960 was 8.78 lakh tonnes with a steady increase to about 1 million tonnes during 1970-72. Since 1973, the production shows a fluctuating trend between 1.2 and 1.4 million tonnes per year. This could be attributed to increased mechanisation which might have changed the composition of catch considerably.

Table 5: MARINE FISH PRODUCTION STATEWISE FOR 1960-1983 (Quantity in Tonnes)

Year	West Bengal & Orissa	Andhra Pradesh	Tamil Nadu & Pondicherry	Kerala	Karnataka	Maharashtra & Goa	Gujarat	Total
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1960	5720 (0.65)	56866 (6.48)	107913 (12.30)	346684 (39.50)	100591 (11.46)	131848 (15.02)	127982 (14.58)	877604
1961	9151 (1.34)	54966 (8.06)	123593 (18.12)	268624 (39.38)	18113 (2.66)	116285 (17.05)	91442 (13.40)	682174
1962	8387 (1.30)	60521 (9.40)	111622 (17.34)	192470 (29.89)	45218 (7.00)	127956 (19.87)	97827 (15.19)	643911
1963	11176 (1.70)	64913 (9.91)	109602 (16.74)	203242 (31.04)	39176 (5.98)	124587	102040 (15.58)	654737
1964	10642 (1.23)	71727 (8.35)	131309 (15.28)	317973 (37.00)	104218 (12.13)	130603 (15.20)	92881 (10.81)	859353
1965	12244 (1.5)	76477 (9.38)	106029 (13.01)	339173 (41.62)	68476 (8.40)	131904 (16.19)	80590 (9.89)	814893
1966	10041 (1.16)	80087 (9.26)	147541 (17.06)	346744 (40.10)	65630 (7.58)	134339 (15.54)	80339 (9.30)	864721
1967	18953 (2.23)	76054 (8.95)	132505 (15.59)	364129 (42.85)	49185 (5.79)	133302 (15.69)	75633 (8.90)	849761
1968	29932 (3.39)	77429 (8.76)	133075 (15.05)	345301 (39.06)	87822 (9.93)	123916 (14.02)	86585 (9.79)	884060
1969	22879 (2.51)	77526 (8.51)	161946 (17.77)	294787 (32.34)	75793 (8.32)	196279 (21.53)	82248 (9.02)	911458
1970	31403 (2.9)	74459 (6.87)	166140 (15.33)	392701 (36.23)	116936 (10.79)	213097 (19.66)	89027 (8.21)	1083763
1971	18032 (1.56)	84010 (7.25)	171073 (14.76)	445347 (38.42)	103724 (8.95)	255025 (22.00)	81889 (7.06)	1159100
1972	15330 (1.58)	84480 (8.72)	164133 (16.94)	295613 (30.52)	92676 (9.57)	240622 (24.84)	75846 (7.83)	968700

Table 5 (contd.)

(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
1973	22736 (1.87)	99544 (8.18)	191101 (15.71)	448269 (36.85)	91484 (7.52)	241246 (19.84)	121963 (10.03)	12163
1974	26092 (2.04)	158818 (12.41)	183411 (14.33)	420247 (32.83)	76263 (5.96)	269946 (21.09)	145309 (11.35)	12800
1975	45761 (3.23)	154638 (10.91)	229365 (16.18)	420836 (29.69)	87494 (6.17)	285790 (20.16)	193775 (13.67)	14176
1976	55734 (4.13)	131321 (9.73)	236201 (17.50)	331047 (24.53)	95283 (7.06)	328566 (24.35)	171294 (12.69)	13494
1977	21760 (1.73)	100756 (8.02)	212082 (16.89)	345037 (27.48)	97152 (7.74)	289183 (23.03)	189638 (15.10)	12556
1978	52524 (3.77)	81819 (5.87)	219727 (15.77)	37339 (26.79)	152860 (10.97)	311355 (23.34)	201929 (14.49)	13935
1979	62552 (4.58)	91426 (6.69)	245076 (17.94)	330509 (24.20)	126384 (9.25)	318714 (23.33)	191312 (14.01)	13659
1980	45472 (3.66)	116013 (9.33)	226784 (18.25)	279543 (22.49)	115322 (9.28)	256253 (20.62)	203494 (16.37)	12428
1981	60975 (4.31)	107786 (7.62)	245872 (17.37)	304808 (21.54)	162962 (11.51)	291364 (20.59)	241640 (17.07)	14154
1982	55934 (3.98)	126004 (8.95)	248938 (17.69)	348443 (24.76)	127968 (9.09)	303401 (21.56)	196437 (13.96)	14071

Source: Central Marine Fisheries Research Institute Bulletin, Cochin, India.

NOTE: Figures in brackets indicate percentage to total year-wise.

Trends: Species-wise

The marine fisheries in India are characterised by the presence of a large number of species. For determining the trends in production, the classification by Central Marine Research Institute, Cochin, are taken, which are as follows:

1 Pelagic Group:

This group comprises of chirocentrus, oil sardines, other sardines, Hilsa Ilisha, anchovies white baits, other clupeids, Harpodon nehereus, Hemir Hamphus, Belone, flying fish, ribbon fish, carangids, mackerel, seer fish, tunnies, sphyraena, Mirgil and Bregnaceros.

2 Demersal Group

Eels, elasmobranchs, cat fishes, lizard fishes, perches, red mullets, polynemiads, sciaenias, silver bellies, lactarius, pomfrets, soles, prawns, lobeters and cephalopods.

Table 6 indicates species-wise composition of total marine fish landings in India for 1979 and 1980. It can be seen that Kerala accounted for the highest catch of pelagic fishes followed by Tamil Nadu, Maharashtra, Gujarat and Karnataka. In Demersal fishes too, Kerala contributed the maximum share. However, Karnataka continental shelf is rich in Pelagic group of fishes.

Table 6: STATEWISE DISTRIBUTION OF PELAGIC AND DEMERSAL GROUP OF FISHES DURING 1979-80

Year 1979		(In Tonnes)		
Sl. No.	State	Pelagic	Demersal	Total
1	West Bengal	6,419	4,325	10,744
2	Orissa	23,133	28,675	51,808
3	Andhra Pradesh	42,049	49,377	91,426
4	Tamil Nadu	1,12,923	1,22,085	2,35,008
5	Pondicherry	5,795	4,273	10,068
6	Kerala	2,28,272	1,02,237	3,30,509
7	Karnataka	97,889	28,495	1,26,384
8	Goa	15,830	9,558	25,388
9	Maharashtra	1,07,224	1,86,102	2,93,326
10	Gujarat	1,04,476	86,836	1,91,312
11	Andamans	1,145	576	1,721
12	Lakshadweep	3,198	648	3,846
13	Private Trawlers	-	16,840	16,840
Total		<u>7,48,353</u>	<u>6,40,027</u>	<u>13,88,380</u>
Year 1980		(In Tonnes)		
1	West Bengal	3,139	2,958	6,097
2	Orissa	16,502	22,873	39,375
3	Andhra Pradesh	70,709	45,304	116,013
4	Tamil Nadu	99,992	1,17,402	217,394
5	Pondicherry	5,532	3,858	9,390
6	Kerala	147,821	131,722	279,543
7	Karnataka	87,290	28,032	115,322
8	Goa	12,046	12,444	24,490
9	Maharashtra	102,806	128,957	231,763
10	Gujarat	81,911	121,583	203,494
11	Andamans	1,211	592	1,803
12	Lakshadweep	2,156	753	2,909
13	Private Trawlers	-	2,244	2,244
		<u>631,115</u>	<u>618,722</u>	<u>12,49,837</u>

Source: Marine Fisheries Information Service, CMFRI:Cochin,
No. 32 October 1981.

Karnataka: Trends in Landing:

The production figures of India mentioned in Tables 5 and 6 reveal some very interesting findings regarding Karnataka fish landings. Karnataka's production share in the all-India production was characterized by two constant levels, one, at high level it was 12 per cent and at the low level it was fluctuating between 6 and 9 per cent. The production had steep peaks now and then. For example, peak production was in 1961 to 1964 and then again in 1970-71 and 1978. This could be due to considerable yearly variability in the abundance of fish stocks due to natural causes. Nevertheless, it can also be attributed to the increase in the number of mechanised boats. The mechanised boats were introduced in 1961 (4 in number) and by 1964 there were 130 mechanised boats. In 1970, 234 mechanised boats and in 1978 another 112 mechanised boats were added to existing fleet. However, it is interesting to note that from 1978 onwards, the yearly production of fish has more or less remained constant with very little fluctuation inspite of purse-seiner revolution in 1977 (In 1977 there were 31 purse-seiners and in 1983-84, it had increased to 368). This phenomenon has affected the purse-seiner boat owners adversely. The average annual catch per boat has declined from 1200 tonnes in 1975/76 to 347 tonnes in 1981-82, thus lowering their annual income substantially (See Table 7).

The indicators relating to the general health of fisheries sector have given ominous warnings and the imperative need for regulation has been stressed by Dr.E.G.Silas¹ and his colleagues at Central Marine Fisheries Research Institute, Cochin. The indications are that the supply situation is becoming increasingly difficult and the problems are accentuated by the increased rate of decline of catches of more valuable fishes.

Table 7: KARNATAKA PURSE-SEINE STATISTICS 1975-82

Year	Annual mackerel and sardine catch	Purse-seins catch (t)	Purse-seine boats (No.)	Average annual catch per boat (t)
1975-76	78,627	1,200	1	1,200
1976-77	63,775	10,000	15	666
1977-78	1,26,694	30,800	52	592
1978-79	1,66,995	1,11,788	171	654
1979-80	1,91,026	1,24,989	230	543
1980-81	1,60,703	96,320	260	370
1981-82	1,45,377	97,217	280	347

Source: FAO Fisheries Circular No.751, October 1982, FAO Publications.

The share of Karnataka in the total landings of the country varied from 2.64 per cent in 1961 to 9.10 per cent in 1982. Karnataka at present ranks Sixth in India in terms of annual

¹Purse-Seine Fishery-Imperative Need for Regulation by E.G. Silas et.al., Marine Fisheries, Information Service No.24, October 1980, CMFRI, Cochin, India.

production. The main species of marine fish landed in Karnataka are oil sardines, mackerel, seer fish, cat fish and silver bellies. The landings of oil sardines and mackerel had wide yearly fluctuations. However, availability of mackerel, a highly priced fish is on the decline. In 1978-79 landing of mackerel was 52133 tonnes, whereas in 1983-84 it was 3033 tonnes.

Fishery Resources in the Project Area, Tadri:

Tadri is situated in North Kanara and is a well sheltered natural harbour. The total landings in Tadri, Kumta and Keni (in the project area) are given in Table 8. The landing in these three centres together constitutes about 14 per cent of total landings in North Kanara, whereas, Tadri landings alone constitutes 6.1 per cent of the total landings of North Kanara. The main species landed at Tadri are oil sardines, cat fish, ribbon fish, shark, mackerel and prawns. Tadri landings have had wide yearly fluctuations (See Table 8). There was an increase of more than 70 per cent in 1977-78 and further increase till 1979. This could be due to the introduction of purse-seiners in 1977. However, there has been a setback in landings since 1980 and this could be due to decrease in supply situation because of over-fishing in off-shore waters by an increased number of mechanised boats. It is only an observation and with complete data it would be possible to derive concrete conclusions.

Table 8: TOTAL LANDINGS IN TADRI AREA, KUMTA AND KENI AREAS
(In million tonnes)

Year	Kenl	Kumta	Tadri	Uttara Kanara
1976-77	602	468	2894	21592
1977-78	913	428	4967	49291
1978-79	715	428	3965	30942
1979-80	730	2308	6875	46148
1980-81	718	274	5258	35258
1981-82	1014	1703	4496	35875
1982-83	878	1989	2351	28001
1983-84	1108	1608	2175	35381

Source: Government of Karnataka, Statistical Bulletin of Fisheries, 1983-84, Issued by Directorate of Fisheries, Bangalore.

Data on fish landing at Belikeri landing centre in the project area were not available. During the field trip it was found that the mechanised boats operating from Belikeri landing centre landed their catches at Karwar landing centre. The reason given by the purse-seiner owners was that the fishing grounds were closer to Karwar and the chances of fishes getting spoilt were higher if they came all the way to Belikeri. During field visits it was observed that the boat owners (purse-seiner) brought about 25 per cent of the total catch back to Belikeri, which consisted of oil sardines, other small fishes and trash-fish.

The fishes were not in good state and could only be used for drying and supplying to the fish meal plants. The 25 per cent catch was again shared by the 12 group owners of the purse-seiner.

At Keni, majority of the mechanised boats are gill netters with 7.5 HP and 9.8 HP engines. There are about 164 gill netters operating with the main catch being seer fish and cat fish. Total production at Keni was estimated to be 1108 M. tonnes in the year 1983-84 - an increase of about 84 per cent since 1976-77 (See Table 8). The increase in fish catch in Keni could be attributed to the introduction of gill netters in North Kanara (See Table 3). In 1980-81, North Kanara had 66 gill netters and by 1982-83 it had increased to 410 in number.

As stated earlier in the report a daily catch register was maintained at the 4 major landing centres. Table 9 throws light on the composition of total catch in each of the landing centres, in the project area for the month of January 1985.

Table 9: COMPOSITION OF CATCH AT 4 LANDING CENTRES IN THE PROJECT AREA IN THE MONTH OF JANUARY 1985.

Name of the landing centre	Total catch	Total value in lakhs of Rs.	Prawns	Seer fish	Cat fish	Shark fish	Pomfret black & white	Trash fish (mixed small fishes)	Others
Keni	53.15	2.57	-	12.00 (23)	35.00 (66.50)	5.00 (9.5)	-	-	1.15 (1.00)
Tadri	177.45	12.13	70.61 (39.54)	-	1.86 (1.04)	-	0.60 (0.33)	87.37 (49.00)	17.01 (10.09)
Kumta	13.42	0.66	-	4.30 (31.82)	1.18 (8.73)	2.13 (15.76)	0.40 (2.96)	-	5.41 (40.73)
Belikeri	36.30	1.22	8.30 (22.41)	-	-	-	-	28.00 (77.59)	-

Source: Field data.

Note: Figures in parenthesis indicate percentage to total catch.

After complete data collection, in the final report, it is proposed to correlate the yearly increase in the number of mechanised boats with the quantity of fish landed in the project area to get an estimate of increase or decrease in the average annual catch per boat and to ascertain the future availability of marine resources.

So far, no studies have been conducted on the 'potential' resources in the project area or if it has been conducted then ISST has not been made aware of it. According to secondary data on Purse-seiner catch (See Table 7) it is observed that average annual catch per boat has declined drastically. Regarding gill netters it is difficult to predict anything at this juncture, because it is a recent introduction. However, the number of gillnetters operating in North Kanara have increased from 66 to 420 in the last 4 years. Keeping in view the potential resources, there is an urgent need for planning and regulation before it is too late as its consequences both to the project and fisherfolk are serious.

CHAPTER 4

INFRASTRUCTURAL FACILITIES
IN THE PROJECT AREA

In this section, an attempt has been made to analyse the existing infrastructural facilities available in Tadri for the development of marine fisheries. These facilities include general civic facilities, supply facilities, institutional support, processing, transport and marketing.

4.1 Civic Facilities: Tadri is a natural harbour sheltered by hilly ranges all around. It 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 road to all parts of the state, but not connected by railways. There are no sewerage facilities as yet.

4.2 Supply Facilities: At the time of field survey a full-fledged fishery harbour was being constructed. After being constructed 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 no ice-plants nor freezing plants. The petty traders and the fish marketing agents usually buy ice from Ankola situated at a distance of 26 kilometers from Tadri.

In North Kanara, there are 7 ice plants with a production capacity of about 54 tonnes per day. There are about 6 ice plants-cum-fresh-fish storage and 5 freezing complexes which also have the ice plants, but the ice manufactured by them are used for their own plant and seldom supplied to the fishermen and fish merchants. In Tadri, there are no fish meal plants nor pulverizers. However, there are two fish-meal plants of wet reduction type in Karnataka and one reduction type. Both wet reduction plants are owned by Karnataka Fisheries Corporation and have capacity of 12 tonnes per day. The pulverizer is owned by a private entrepreneur.

4.3 Modes of Transport: The landings at Tadri are supplied to the inland districts of Karnataka and other states. The fish from Tadri are transported only by road. The transportation for small distances are mostly done by head-loads, three-wheelers and cycles, whereas for long distances for more than 30 kms. it is by roadways i.e. trucks and vans.

4.4 Institutional Support: There are a number of organisations in Karnataka who are actively involved in various support activities like supply of crafts and gears, supplying diesel and fuel oil, providing marketing facilities etc. Following are some of the organisations involved:

4.4.1 The Karnataka Government Department of Fisheries

has its divisional office at Karwar. The most important activity of this department has been implementation of plan schemes. The department played a very important role in the mechanisation of fishing crafts during all the five year plan period, by giving loan and subsidy to fishermen for purchasing craft.

4.4.2 Karnataka Fish Development Corporation: Besides, Government department there is a public limited autonomous organisation - 'The Karnataka Fisheries Development Corporation' with its headquarters at Mangalore. The main objective of the KFDC is to take up integrated development of fisheries in the State. The activities of KFDC are; fishing, training, processing, marketing and supply of fishery inputs. The Corporation is engaged in freezing of prawns and fishes for both domestic and export market. In the domestic market, KFDC is involved in marketing frozen fish through COLD CHAIN. This is a unique method of supplying fish to the consumers and only prevalent in Karnataka. It is done in two stages. At first the fishes are supplied to the bigger cold storages situated at important consuming centres, then these cold storages in turn, supply the frozen fish to retail, outlets which are provided with 200 kg. deep freezing cabinets. At present, there are about 38 retail outlets either run by the Corporation or private persons who are given commission on the total sales. The total sales of the Corporation

through the cold chain during 1978-79 were about 169 tonnes valued at Rs.8.44 lakhs. The fresh fish sale for the same year were about 64.30 tonnes valued at Rs.1.26 lakhs. In future, KFDC plans to market fish in the hinterland areas of the state especially at important places like Bangalore, Mysore, Bhadravati, Shimoga, Marcara, etc.,

The nearest ice cold storage and quick freezing plant run by Corporation from Tadri is at Karwar. Besides Marketing activity the Corporation supplies small mechanised boats on hire-purchase or outright purchase basis, assistance to rampani fishermen and supply of ice and cold storage facilities. However, the Corporation had been making losses since last 5 years.

4.4.3 North Kanara District Co-operative Marketing Federation

In North Kanara, there are two tiers in the fishery co-operatives. The District Fish Marketing Federation at the higher level and the primary fishermen co-operative societies at the village level. Both these organisations 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 servicing facilities to mechanised boats, supply of diesel, provide financial assistance to fishermen and fisheries Co-operative Societies, freezing and export of

prawns, canning 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)

	<u>No. of members</u>	<u>Amount</u>
'A' Class - State Government	1	Rs. 8,20,300
'B' Class - Fisheries Co-op. Societies	22	Rs. 16,080
'C' Class - Individual members 1781		Rs. 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

		15
		=====

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 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 30-6-84 A.R.C. loan of Rs 30.66 lakhs are 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-Norwegian 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 no study on market potential for such product had been undertaken. Because of readily available loan and 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.

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 ARC financed boats and as well as other mechanised boats in Karwar, Keni, Tadri, Honavar and Alvekodi centres on commission basis and claims to get the fishermen attractive prices for their produce. Since 1980-81, the marketing activities of fish catches at Tadri, Honavar and Alvekodi centres have been taken up by the local primary co-operative society.

The marketing of fish catches through the Federation and Co-operatives has also facilitated the financing institutions to recover the loan advanced to the boats. The Federation and Co-operative organises the auction of fish, stability of prices at least for a fortnight (for prawns) and licensing of traders who could bid in such auctions. The mechanised boats land their catches in the Federation or Co-operative marketing shed after sorting it out into grades. A representative of the Federation (Co-operative in case of Tadri) 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 or Co-operative. Only those traders who have deposited money with the co-operative are eligible to purchase fish.

The traders buy the fish through the Co-operative society or Federation on credit. They are required to pay back the 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 poor. The Federation had yet to recover Rs 10 lakhs and Tadri Co-operative Rs 7 lakhs from the fish traders. On the other hand, the Federation and the Co-operative charges the boat owners $3\frac{1}{2}$ per cent of total value of fishes sold through them. Of this $3\frac{1}{2}$ per cent, half per cent is given to the union and the rest is taken by the Federation or Co-operative for the marketing services provided.

Besides these the Co-operative and the Federation also pays daily maintenance cost to each of the boat-owners on the spot after every operation. The maintenance cost includes diesel, labour charges, food for the crew etc. The amount paid for daily maintenance cost differs for each type of the craft. The trawler owners are paid Rs 400 to Rs 500, purse-seiner owners are paid Rs 700 and the gill nett 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 the 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 or the Co-operative do not receive regular payments from the traders. Thus, the boat owners are not affected and their income is ensured.

The price of prawns are fixed fortnightly by the price committee consisting of processing and freezing plants 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.

Interview with the Federation and Co-operatives revealed that in Tadri alone there are about 15 trawlers who do not market their catch through the co-operative as they have fixed customers (processing plant owners). This way they also avoided paying commission to the co-operative. In Karwar, the exact number of trawlers marketing their fish directly to the processing plants are not known, but it is estimated to be around 20.

CHAPTER 5

MARKETING & DISTRIBUTION OF MARINE FISH

This part of the report deals with the various links and chains between the producer and the consumer like market infrastructure, price, spread, intermediaries and other support systems.

5.1 Utilization Pattern: To a great extent the marketing process depends upon the utilization forms of fish. The marketing system for dry edible fish is very different from that for fresh fish and prawns. Looking at the use flow of marine fishes in Karnataka, it is observed that (See Table 10) in 1982-83 about 53 per cent of the total fish landing was consumed fresh. The next important form for consumption was dry edible (curing) fish constituting about 25 per cent. However, this figure varies to some extent from year to year, but still, the percentage of fresh fish consumption remains the highest followed by dry edible and canning remains the lowest. The demand for canned fish is very low and it cannot compete with fresh fish. Moreover, the canned fishes are comparatively much higher priced. The canning industry mainly serves the internal markets in the eastern part of India.

Table 10: UTILIZATION PATTERN OF MARINE FISH IN KARNATAKA (1976-1983)
(In M.Ts.)

Sl. No.	Nature of Disposition	1976-77	1977-78	1978-79	1979-80	1980-81	1981-82	1982-83
1	Marketing fresh	43415 (69%)	67396 (53%)	61636 (37%)	86141 (45%)	91746 (57%)	70930 (49%)	54773 (52.63%)
2	Curing	11020 (18%)	35156 (28%)	61258 (36.7%)	68825 (36%)	27683 (17%)	25661 (18%)	25551 (24.55%)
3	Freezing	8350 (13%)	8999 (7%)	7575 (4.50%)	7135 (4%)	11037 (7%)	5623 (4%)	8679 (8.0%)
4	Reduction	-	5548 (4.4%)	23663 (14%)	24620 (12.9%)	16286 (10%)	17433 (12%)	6129 (6%)
5	Canning	-	665 (0.5%)	367 (0.22%)	364 (0.10%)	2387 (1.5%)	1573 (1%)	962 (1.10%)
6	Fish Manure	-	4253 (3.3%)	12596 (7.58%)	3941 (2%)	9421 (6.0%)	18865 (13%)	6515 (6.26%)
7	Miscellaneous	-	4309 (3.8%)	-	-	2143 (1.50%)	5292 (3%)	1446 (1.56%)
Total		62785	126726	166995	191026	160703	145377	104055

Source: Directorate of Fisheries Bulletin 1982-83, Bangalore, Karnataka.

The utilization pattern of fishes caught in the project area in the month of January 1985 are presented in Table 11. It is important to note here that the utilisation pattern for the month of January is not representative of the whole year, because during this period, the major part of the landings in Tadri and Belikeri were prawns. January is the peak season for prawns and an off-season for fish. Nevertheless, table 11 gives an idea of utilization pattern during lean season of fishing. In Tadri about 40 per cent of the total landings were prawns and were utilised in frozen form as they were purchased by the freezing and processing companies. Out of the rest 60 per cent of landings (fish) about 55 per cent are utilized fresh and 45 per cent for drying. A high percentage for dry fish utilization could be due to the fact that a major portion of landings were small mixed varieties or trash fishes.

Table 11: UTILIZATION PATTERN OF MARINE FISH IN THE PROJECT AREA FOR THE MONTH OF JANUARY 1985 (Quantity in Tonnes)

Sl.No.	Tadri	Belikeri	Kumta	Keni
1 Marketing fish	10.73	nil	11.20	52.25
2 Dry(Edible)	4.30	8.60	1.74	0.90
3 Freezing	70.61	8.30	nil	nil
4 Canning	nil	nil	nil	nil
5 Fish Manure (Dry)	4.44	19.40	0.48	nil
Total landings	177.45	36.30	13.42	53.15

Note: The prawns come under freezing as they are purchased by the freezing and processing companies.

In Belikeri again prawns formed 23 per cent of the total landings and were utilized in frozen form. The rest 53 per cent were used for chicken feed and manure and 24 per cent for dry edible. In Kumta and Keni the landings consisted of seer, shark, cat fish, pomfret, kands and karli. More than 90 per cent of the landings in these two centres were utilized in fresh form because of their quality. A major portion i.e. about more than 95 per cent of these fishes were sent to Hubli-Dharwar, Sirsi and Belgaum through the traders present at the landings centres.

In the next phase, of field work in September-November 1985 during the peak season of fishing it is proposed to study the utilization pattern and flow of fish in detail. As mentioned earlier different forms of utilization have different marketing systems. The important features of the marketing systems of the major use, flows of marine fishes are discussed below.

5.2 Marketing of Panacid Prawns: As stated earlier in the report that the prawns are marketed in project area through co-operatives. The marketing of prawns are very different from other types of marine fishes. It is mainly exported to foreign countries. The freezers and processing plant owners are the main purchasers of panacid prawns, who export them at very high price. Table 12 reveals some very interesting findings on the quantity and value of prawns exported from Karnataka. It reveals that in 1983-84 the quantity of prawns exported from Karnataka constitutes about 3 per cent of the

total marine production, whereas, in terms of value it constitutes about 44 to 70 per cent. This shows the high price value of panacid prawns in export market.

Table 12: MARINE FISH PRODUCTS EXPORTED IN QUANTITY AND VALUE IN KARNATAKA

Year	Quantity of total marine fish production in MTs	Quantity of prawns exported in MTs	Value of Total Fish (Rs in lakhs)	Value of Marine prawn exported (Rs. in lakhs)
1976-77	62785	3508 (5.60)	812.73	890.50
1977-78	126726	4689 (3.70)	1372.73	1184(86.25)
1978-79	166995	3860 (2.31)	1535.79	1415.24(92.19)
1979-80	191026	4436 (2.32)	2251.03	1742.05(77.40)
1980-81	160703	4408 (2.74)	2312.13	1143.92(49.50)
1981-82	145377	3432 (2.36)	2348.66	1301.99(55.44)
1982-83	104055	3738 (3.60)	2669.65	1566.86(63.44)
1983-84	104290	2830 (3.00)	2804.30	1207.85(43.10)

Source: Directorate of fisheries Bulletin 1983-84, Department of Fisheries, Karnataka.

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

The pricing system of prawns as stated earlier are fixed fortnightly in advance by the price board, headed 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 - Rs 60 per kg.
Grade 2	Rs 20 - Rs 40 per kg.
Grade 3	Rs 10 - Rs 15 per kg.
Grade 4	Below Rs 10 per kg.

Grade 3 and 4 constitutes the major portion of the total catch. The fishermen sell their catches to the agents of the processor/exporters through the co-operative. However, about 15 or more trawler boats (to be further investigated) sell their catch directly to the agents and not through the co-operatives. This 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. to every boat-owner, with a condition that the boat-owner will sell all his catches 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. However, the agents deduct

the loan amount every month in instalments and the boat owners are paid about 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 co-operatives 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 are paid on the basis of commission. Commission amount paid depends upon the grades and sizes of prawns. For tiger prawns it is Rs 2 per kg. and for medium size Rs 0.50 per kg. Some of the agents interviewed had income from other sources too, like owners of prawn culture farm and mechanised boat.

The freezer companies generally send their vans or trucks along with labour to more than one landing centres. The cost of transport, ice, labour and packing are paid by the companies. The prawns from Tadri goes to freezer-companies of Mangalore, Goa and Karwar.

5.3 Marketing of Fresh Fish:

After the hauling the crew of the mechanised boats sort out the entire catch into different species which can be broadly grouped into 3 types; exportable varieties, fish for domestic purpose and fish for fish meal and manure purposes. In these lots the catch is brought to the auction place and then sold to the merchants and traders through the Tadri Co-operative Society. The fresh fish merchants can be broadly divided into four types; (a) Fresh fish merchants (b) Dry fish (edible) merchants, (c) Fish-meal merchants and (d) Retailers and vendors. Some of the merchants do the business in two or more forms of fish. The whole process of marketing involves collecting fishes, packing, transporting and finally reaching it to the consumers at 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 and functions. During field work in January 1985, channels were identified through which marine fresh fish are supplied to the consumers. However, these findings need to be further checked in peak season, as the catch of fish during January 1985 was very low and it might be possible that there are other categories of merchants who visit the project area landing centres during peak, season.

1) Commission Agents (Purchase)

There are about 9 commission agents in Keni and 13 in Tađri landing centre operating through co-operative. The commission agents get a commission of 4 to 6 per cent depending upon the season. During peak season, when the haul is of large quantity the commission is around 4 per cent and in lean season 6 per cent. Two commission agents interviewed reported that they purchase fishes through the co-operative society, whereas the other two commission agents interviewed revealed that they undertake the auctioning of fish catch of only those boats for which they are authorised by way of advancing loans. The commission agents advance loan to the boat owners ranging from Rs 3000 to Rs 15,000. These agents are in turn paid this amount by the wholesalers at the consuming centres. The scale of operation also differs from agent to agent. Some of the commission agents interviewed are engaged in more than one or two business. The commission agents supply fish to Mangalore, Sirsi, Belgaum, Karwar and Hubli-Dharwar markets. The fishes are packed in boxes with ice and are sent by truck to all the markets within the State.

Following are the details of the transaction of one of the commission agents purchase in Keni sending seer fish to Hubli Dharwar.

Total Quantity of fishes sent during August-December 1984	1,12,500 Kg
Commission received during peak season (Rs 0.25 per kg)	Rs 28,125
Total Quantity of fishes sent during January-February 1985	275 kg
Commission received during lean season (Rs 1 per kg)	Rs 275

Expenses incurred:

Basket for packing	Rs 5,638
Ice	Rs 2,300
Labour charges	Rs 1,500
Gunny bags	Rs 1,700
Total Expenditure	Rs 11,138

Annual Income

Commission	Rs 28,400
-Expenditure	Rs 11,138

Income	Rs 17,262
	=====

Wholesaler (Purchase):

These are fresh fish merchants who undertake the assembling activity, packing, transportation of fish and dispatch to various consuming centres. They either buy directly from fishermen or through co-operatives or at times from commission agents. They sell the fish at different consuming centres through another commission agents/wholesalers, who act as middlemen 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). The wholesalers purchase/send fresh fish usually to Bombay and Goa. In order to have sole rights over the catch of a particular boat the wholesalers advance loan to the boat owners (purse-seiner's and gillnetter) ranging from Rs 3000 to Rs 15,000.

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. The wholesaler Bombay Market (WCC) revealed that to ensure continuous supply of fishes especially mackerel and oil sardines he advances loan of Rs 2000 to Rs 1,00,000 to the wholesale purchaser at Karwar. The wholesale

purchaser in turn advances loan to the boat owners. Advancing interest free loan seems to be institutionalised all along the chain. Due to this system, the fishermen are perennially indebted to the middle-men, 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.

Following are the details of the transaction of one of the wholesale purchaser interviewed in Tadri, who sends mackerel to Bombay wholesaler Consuming Centre. Last season, he sent 7 trucks of Mackerel to Bombay, with each truck containing 40 to 45,000 pieces of mackerel.

Purchase price	Rs	40,500
Truck hire charges	Rs	3,600
Ice 3 tons	Rs	1,500
Labour cost at Tadri	Rs	200
Labourers at Bombay	Rs	300
Corporation Tax at Bombay	Rs	150
Overnight parking charges at Bombay	Rs	500

Total amount spent	Rs	46,750
Profit (17,000 per truck for 7 trucks)	Rs	119,000

Profit		72,250

The purchase money was provided by Tadri Co-operative Society as loan with time period of 10 days to repay the loan.

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 organised fish markets like Ankola, Kumta, etc. 2) Vendors - those who are involved 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 through co-operatives and some of the retailers sell the catch of their own family boats. However, the retailers and vendors at 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 areas as well as outstation. The retailers in the project area are mostly women.

Following are the details of fish transaction of two retailers collected in February 1985.

Area of selling	-	Ankola fish market
Source of purchase	-	Own boat (non-mechanised)
Species of fish	-	Mackerel
Purchasing price	-	Nil
Total quantity bought to the market	-	350 pieces
Time taken to sell	-	3 hours
Selling price (Rs.1.50 per piece)	-	Rs 525

Cost Incurred:

Transport from Belanbar to Ankola	-	Rs 5.00
Ice	-	Rs 5.00

Total		Rs10.00
Profit for that day	-	Rs 525.00
	-	Rs 10.00

		Rs 515.00
		=====

It was revealed by the retailer that such large profits are not possible every day. It was after 3 months gap that she could get some mackerel to sell. Profit for that particular day was high firstly due to the species of fish i.e. mackerel is high priced fish and much in demand. Secondly, due to scarcity of mackerel in lean season it could be sold at Rs 1.50 per piece. The price of mackerel during peak season is only Rs 0.25 per piece.

Following are the details of fish transaction of a retailer living in Gokarna in February 1985.

Area of selling	-	Ankola fish market
Source of purchase	-	Gokarna Boat Owners
Species of fish	-	Dodi
Quantity purchased	-	2000 pieces
Purchase price	-	Rs 400
Transport cost	-	Rs 3
Ice	-	Rs 10
Selling price (Rs.1 for 4 pieces)	-	Rs 500
Profit for that day-		Rs 87 =====

The retailer reported due to lean season and high demand of fish, she was able to make profit of Rs 87.

5.3 Physical Flow:

As stated earlier in the report, that marine fishes from Tadri area are sent by commission agents/wholesalers to consuming centres within the State and other States. The exact quantity of fish moving out of project areas to various consuming centres are not known. However, some idea can be obtained on specie-wise flow of fish. Sardines and mackerel are usually sent to Bombay, whereas seer fish and other varieties are sent to Sirsi, Dharwar, Hubli and Belgaum.

In order to get an idea of the price spread and various inter-mediaries involved in the marketing of project area fishes, few major consuming centre markets were visited. Following are the observations:

5.3.1 Chatrapati Shivaji Market, Bombay:

Bombay is one of the largest consuming centres in India. About 55 per cent of the total Bombay's consumption is supplied from its own 20 landing centres and the rest 45 per cent is inflow from other districts of Maharashtra and other States. Table 12 gives an estimate of Karnataka's share of supplies of fresh fish to Bombay.

Table 13: INFLOW OF FRESH FISH IN BOMBAY

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

	Total arrivals	1,09,500 M.T. =====

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

Chatrapati Shivaji Market in Bombay is one of the biggest wholesale market where the fish arrives 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. In cases, 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 is either low or nil, the Bombay Commission agents get frozen fishes 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 kq.). The Bombay C.A.'s dispose off the fish to various purchasers: 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 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 fishes are kept in ice, even then the state of fish deteriorates. The prices fetched for such fishes are also low in the Bombay market.

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 practiced 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 fishes. 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 oil sardines in fresh state were being sold for higher prices than the ones which had started deteriorating.

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.

Purchase price of 1 truck of sardines in Tadri	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.

An estimate of profit or commission of all the intermediaries for 1 basket (30 kg) of sardines works out to be as follows:

i) Boat owners receive	Rs 30
ii) Profit of the wholesale purchaser	Rs 72
iii) Commission earned by the Bombay Commission agent	Rs 6.50
iv) Profit of the retailers at the consuming centre	Rs 98

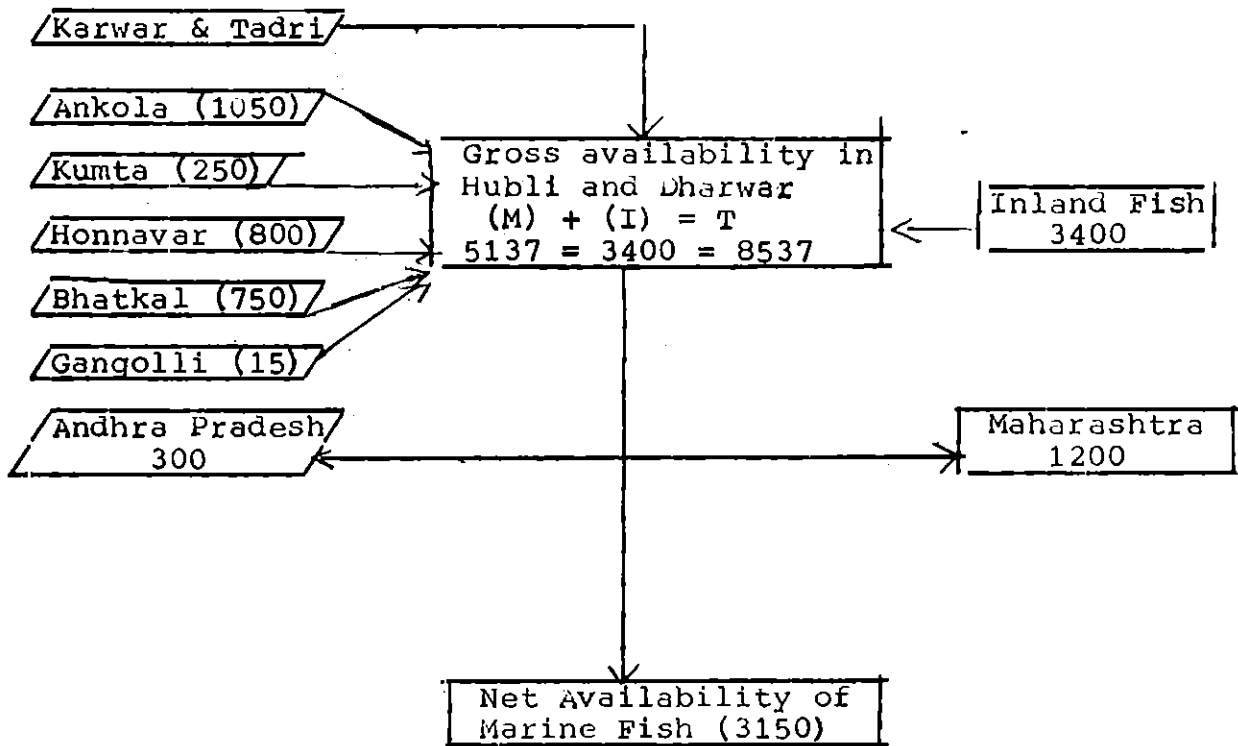
Thus the fishermen at Tadri gets Rs 1 for 1 kg. of sardines which is finally sold through various intermediaries for Rs 8 per kg.

5.3.2. Hubli-Dharwar Market:

Hubli-Dharwar, the twin city, gets fish from various landing centres in Karnataka. Figure 2 gives an estimate of total inflow of fish at this place. A considerable quantity of fish from Hubli-Dharwar goes to Poona, Hyderabad, Kolhapur etc.

FIGURE 1

FLOW OF FISH (BOTH MARINE
AND INLAND) IN HUBLI-DHARWAR
REGION 1978-79



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

In fact, seer fish from Keni is in great demand in Poona. It is sent to Poona by the middlemen in Poona who buy seer fish from the commission agents in Tadri. 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. The commission agents purchase fish at the landing centres on behalf of the wholesaler and sends them by road to Hubli-Dharwar. The transportation and other costs are paid by the wholesaler, whereas the commission agent at the landing centre gets a commission of 7 per cent.

This system of supply of fish is very common in Tadri, 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: 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.

c) Retailers and Vendors: The retailers and vendors from different fish markets purchase fish either from the wholesaler or semi-wholesalers. There are about 125 retailers and 43 vendors operating in the city.

Field visits were also made to Sirsi and Belgaur fish markets where the fishes are supplied from Keni and Kumta landing centres. However, due to very poor catch of fishes during February enough data could not be obtained.

5.4. Marketing of Dry-Fish:

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

During field visit to Tadri in January 1985 there were only three dry fish merchants operating out of about 30 to 35 (as reported) involved in this business due to meagre catch. However, certain observations are presented in this report based on the interviews of dry fish merchants at Tadri.

Dried fish are of two different varieties: a) Edible, b) Manure and Chicken feed. For both the varieties the system of marketing is same. There are two distinct 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 30-35 large scale and medium scale dry fish processors in Tadri. Besides these merchants, a large number of fishermen household members are engaged in drying fish. The household members (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 fishermen household members usually split the fresh fish and apply less salt before drying. This is known as 'Archappe' 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 distinct channels of marketing of dry fish. The household members usually sell dry fish in the weekly markets of Ankola and Karwar where the wholesale activities of dry fish takes place. The large and medium scale processors at Tadri are also wholesalers of dry fish. The major bulk of dry edible fish is sent to Mangalore wholesalers who in turn sell it to the retailers in Mangalore and wholesalers at different consuming centres within the State and other States. The bulk of dry fish for chicken-feed and manure are sent to Hyderabad, Vijayawada and Mysore. From Karwar market also, the dry fish is supplied to Hubli-Dharwar, Sirsi, and Belgaum. Following are the economics of dry fish operation of a small scale (edible variety) processor in Tadri for a season (1984-85).

Total quantity of fish dried 10 tons	=	10,000 kg.
Purchase price (Rs 15 for 25 kg)	=	Rs 6,000
Cost - labour for 9 months	=	Rs 1,700

Total costs		Rs 7,700
Selling price at Rs 100 for 20 kg (Dry quantity of fish 5333 kg)	=	Rs26,665
Total cost	=	Rs 7,700

Annual Profit		Rs 18,965
		=====

The women of the fishermen household sell dry fish at the rate of Rs 130 to Rs 140 for a bundle of 20 kg.

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 surmai was received from weekly Karwar dry fish market. Dry oil sardines were also received from Tadri in the past but at present it has been stopped due to: a) Dry fish of Tadri contains sand and are not edible, b) not dried properly, so gives a bad odour. Tadri dry fish of small varieties are mainly used for chicken feed and fish meal. Due to 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 market.

CHAPTER 6

CONCLUSION

The present report is mere observations with very limited data, nevertheless, some very important observations have been noted in the interdependence of production and marketing and its influence on the development of fisheries sector as a whole which definitely needs further indepth investigation especially in the area of price spread, during the 2nd phase of the study.

6.1 In spite of high rate of growth in mechanised boats the marine fish catches have more or less remained stagnant since 1977-78 which had led to decrease in catch per boat or per unit of effort. This trend can be attributed to a combination of factors such as yearly variations in the abundance of fish stocks due to oceanographic changes, over-use of destructive gear and over-fishing by mechanised boat operators in the off-shore waters.

6.2 The major share, say over 85 per cent of the total landings in Karnataka is from mechanised sector. The high growth rate of mechanised fishing has totally routed the community mode of production the 'rampons' and replaced it by a system of organisation in which traditional fishermen are largely reduced to wage labourers.

6.3 The major bulk of the fish trade involves intervention of middlemen of various categories who exist all over the country despite their malpractices in trade. The longer the chain of intermediaries between the producers

and the consumers, the higher is the cost of incidental components and proportionately less is the share of producers.

6.4 During off-season the fishermen suffer for want of finance to maintain their family as well as repair of boats. In the absence of alternative sources to get funds, fishermen borrow money from the middlemen on a condition that the catches will be surrendered to the middlemen. This system is institutionalised at all levels from the fishermen producer to the wholesalers at the consuming centres. As a result, the fishermen accept whatever prices are offered by the middlemen and are unable to repay loans to the co-operative societies which were obtained for purchasing boat.

6.5 The fishermen involved with fishing operations of panacid prawns have contributed a major share in the foreign exchange earnings. However, they themselves have become bonded labourers to petty traders and the private processing houses.

6.6 The 'cold chain' prevalent only in Karnataka has a great potential in future keeping in view the landings of large quantities of pelagic fishes during peak season. These could be frozen and supplied to consumers within the State during scarcity of fish. This will also enable the fishermen to secure better prices for fishes during

peak season when the haul is of large quantity and demand is low. The infrastructure and possibilities of having a cold chain in the project area needs to be examined.

6.7 Quality control needs special mention keeping in view the transportation of fish from Tadri landing centre to the far-off consuming centres. During peak season the time gap between landing of fishes and purchase by the consumers varies between 10 to 24 hours, whereas in lean season it is 24 to 36 hours. Moreover, the trucks used for transportation of fish are not insulated road vans to meet the expanding marketing activity needs to be examined.

6.8 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 oil sardines and other sardines during peak season in Karnataka, and a substantial number of processors engaged in this activity the technology of drying needs marked improvement.