

PRESENT STATUS AND ROLE OF SMALL-SCALE FISHERIES OF INDIA

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INTRODUCTION

India has a coast line of 6100 km and fishing is one of the oldest professions practised by a large section of people living along the coastal areas. About 2000 fishing villages are spread over along the coast line and over 0.32 million active fishermen are engaged in small-scale fisheries, employing indigenous crafts and gear, adopting traditional methods. Prior to the introduction of mechanisation in the fifties, the entire marine fish production in the country was by the small-scale sector. At present, the contribution from this sector is estimated at about 65% of the total marine fish landings in India and 0.5% of the Gross National Product (GNP). The indigenous crafts and gear deployed by this sector represent one of the largest collective private investment in the fishing industry.

The small-scale sector is essentially rural and the fishermen belong to the economically weaker section of the society living in social isolation in remote villages. This sector was largely ignored till the dawn of Independence. In recent years, the term 'integrated rural development' has gained general acceptance by poli-

ticians, planners, administrators and scientists. This aims at promotional activities in areas such as agriculture, livestock, fisheries, cottage industries etc. with the ultimate object of achieving a fuller utilisation of available human and natural resources resulting in a better quality of life for the rural population.

Nearly 100 million people in the country are reported to be chronically malnourished and poor. India's total population is expected to touch 1000 million mark by 2000 A. D. and the food grain requirement alone would be of the tune of 220 million tonnes. Since land is definitely going to be a limiting factor in increasing food production, we have to turn to fisheries as the source from which the immense protein-calorie requirement has to be met. Capture combined with culture fisheries has to become the principal alternative.

Although, considerable progress in development of fisheries has been achieved during the last three decades, the problems of small-scale fisheries concerning the methods of operation, ineffective craft, low production rate, marketing of the catch, procurement of fishing implements,

conservative nature of the fishermen and their reluctance to adopt new techniques and methods of fishing require immediate attention. It is here that the scientists have a vital role to play in achieving the rural transformation through professional scientific skill. The important step is to prepare a balance sheet of assets and liabilities of the small-scale fisheries sector, the analysis of which will help to identify the developmental opportunities that exist and the bottlenecks to be removed.

FISHING CRAFTS

Table 1 shows the statewise break up of the coast line, fishing villages, active fishermen, indigenous crafts and fish landing centres. There are about 17 principal types of indigenous crafts, falling under 6 broad categories based on their construction, found suitable by experience for the surf conditions in different areas. They are:

1. Plank-built boats of north-west coast
2. Dugout canoes of south-west coast.
3. Plank-built boats of south-east coast.
4. Catamarans of Coromandel coast
5. Plank-built boats of Andhra coast
6. Plank-built boats of north-east coast

All of them use oars and sails for propulsion.

The traditional plankbuilt boats of North-west coast are one of the best types of indigenous crafts and compare well with the modern craft involving naval architecture and design. They vary in size ranging 12-15 m in length.

The most important feature of these crafts is the long bow and the rather abrupt and round stern. The bow shape and profile varies from place to place giving the boat specific features such as 'Satpati' type, 'Bassein' type, 'Machwas' etc. They are generally built of teak frame and planking with subsidiary upper strakes of mango wood to reduce costs. They carry a single mast and a great press of sail. These are free-board boats low in waist without deck or accommodation for crew or nets.

As the name implies, the dugout canoe of the south-west coast is made by scooping out a large log of wood, keeping the keel portion thicker than the sides. The average life of a dugout canoe is estimated to be 10 years. They are predominantly used in Kerala and southern parts of Karnataka. Fewer numbers are found in Gujarat and Maharashtra. Outrigger canoes are prevalent in Karnataka. The outrigger is formed by two curved poles and a float. The poles are laid across the waist of the boat and extended 1.5 to 2 m on one side of the boat to give stability. In North Karnataka a layer of planks is stitched to the dugout canoe to increase its size and capacity.

Catamaran is a keel-less craft formed by lashing together several curved logs and shaped like a canoe. The logs may be lashed together either by ropes or by wooden pegs. There are local modifications of the catamaran such as Orissa and Ganjam type, Visakhapatnam type, Coromandal type, boat-catamaran and raft. The latter two

TABLE 1. *Statewise information on coastline, fishing villages, active fishermen, Indigenous crafts and fish landing centres.*

State	Coast-line (Km)	Fishing villages	Active fishermen	Indigenous crafts	Fish landing centres
Gujarat	1500	179	22,518	4,197	108
Maharashtra	600	299	41,539	8,288	173
Goa	110	40	4,067	1,118	40
Karnataka	270	145	21,740	6,248	95
Kerala	600	268	80,898	21,718	223
Tamil Nadu & Pondicherry	960	395	72,105	32,268	395
Andhra Pradesh	670	408	64,592	25,976	280
Orissa & West Bengal	1080	179	15,076	6,667	51

are found along southern Tamil Nadu and Kerala. They vary in size extending up to 8 m in length. The boat-catamaran is a large catamaran composed of three logs semi-permanently secured by cross pieces at either end in such a way that the side logs rise higher than the upper surface of the central one. Thus a longitudinal hollow is formed similar to the depression in the boats.

Masula boat is a non-rigid craft which is constructed with planks without frames or ribs so as to withstand the severe knocking from the surf. There are various patterns such as 'bar' in Orissa, 'Daduga' or 'Paduga' on the Andhra Coast. A variant with ribs inside has been developed in some parts of Andhra Pradesh. These boats are up to 8 m in length, although they are generally smaller. The 'Nava' is another important craft of Andhra Pradesh which is a keelless sail boat, strong enough to land with full load on sandy beaches, even in surf. The Tuticorin type of carvel boat is about 11 m in length. The 'dinghi' and 'nauka' are well-designed boats of West Bengal and Orissa ranging up to 13 m in length.

'Mas odies' are traditional crafts about 9.75 to 12.2 m in length with a beam of 2.13 to 2.74

m, peculiar to Minicoy. They are streamlined and keeled for windward sailing. These boats are provided with 14-18 oars, according to the size and are engaged in pole and line fishing

Table 2 shows the salient features of some of the important indigenous fishing crafts. The different types of non-mechanised crafts at present are estimated at 106,480 in coastal small-scale fisheries. The first estimate made in 1951 was 69,915 indigenous crafts, which shows a considerable increase in three decades.

FISHING GEAR

There are a number of gears indigenously developed by the fishermen for exploiting different fisheries in the coastal areas, to suit local conditions. Broadly, the gear employed in small-scale fisheries can be grouped under 8 principal categories which may have local modifications. There are 1) fixed nets, 2) seine nets, 3) cast nets, 4) scoop nets, 5) drift nets, 6) traps, 7) hook and line, and 8) miscellaneous appliances like fish spears, harpoons, etc.

Among the fixed nets, 'Dol' is the most popular gear of the north-west coast. It is a large

TABLE 2. *Salient features of important indigenous inshore fishing crafts of India.*

Crafts	Size (Meters)	Construction	Life time (Years)	Propulsion	Crew
Catamaran	L: 4-7 W: 0.7-1.4	2-5 logs tied together in a raft fashion.	10	Manual	2-4
Dugout boats	L: 3.6-10 W: 0.5-1.25 D: 0.45-0.7	Hollowing out single log of wood	10	Manual	2-3
Dugout canoe, Flat bottom	L: 9.5-5.4 6.6 W: 1.6; 0.9-1.3 D: 0.7; 0.5-0.6	Hollowing out a single log of wood	10	Manual	
Plank-built boats	L: 6-14 W: 0.9-3.3 D: 0.6-1.0	Wooden Planks stitched or nailed to form a rigid frame	10	Manual (Some are mechanised)	7-12

L - Length; W - Width; D - Depth. Source: 'Indian Fisheries 1947-1977'

conical bag net which is fixed to wooden pikes driven in the sea bottom or to thick moored ropes using floats and sinkers. All types of fish and prawns which have the habit of moving inshore with the tidal current are liable to be caught in this gear. This method of capture is most common in Gujarat and Maharashtra.

Seines are mainly of two types, viz. 1) shore seines and 2) boat seines. Shore seines are common along the south-west and south-east coasts of India. The shore seines of east coast are invariably with bags and scare lines which drive the fish into the bag. The biggest shore seine popularly called 'Rampan' is a wall-like net operated in South Konkan and Karnataka regions. The 'Rampan' is mostly used to catch mackerel and sardine which strike the coast in huge shoals. Boat seines are conical nets with or without wings and are mostly operated in the Kerala, Tamil Nadu and Andhra coasts. They are either single-boat type or two-boat type.

Gill nets and entangling nets are single walled nets which may be of the set or drift

type. Drift nets are of considerable importance in catching most of the prime varieties of fish. Their operation involves the drifting of the boat as well as the net along with the current. The fish while moving about are either gilled or entangled. A bottom-set drift net is characteristic of Gujarat and Maharashtra coasts for catching pomfrets and 'Dara'. On the coasts of Karnataka and Kerala the drift nets are of the surface type mainly meant for shoaling fishes. Surface drift nets are also used on the east coast for catching lesser sardines. Similar nets with larger mesh are used mainly for catching seerfish and catfish.

Hook and line fishing consists of four types, viz. hand lines, long lines; pole and line, trolling lines. Long line fishing is the most important commercial gear in this category. It consists of a very long horizontal main line with vertical branches spread at uniform intervals, each branch bearing a series of baited hooks. Pole and line is mostly used for tuna, and trolling lines for seerfish in Minicoy.

Table 3 shows the salient features of important

TABLE 3. Salient features of the important indigenous fishing gears.

Gear	Size (length in metre)	Mesh size (cm)
<i>Fixed Nets</i>		
a) 'Dol'	12-200	1-at Cod end; 4-12 near mouth
b) Ghaja	5	1-at Cod end
c) Bagnet of E. coast	13-7-35	0.5 10 at Cod end; 4 10 at mouth
d) Stake nets	12-30	1 2 at Cod end.
<i>Seine Nets</i>		
i) Boat Seines		
a) Kollivala	73	1 at Cod end 2 at mouth
b) Thanguvala	50-65	2 at Cod end
c) Boat seine of E. Coast	22-26	1 at Cod end 9 at mouth
d) Madivala	49	2 at Cod end
ii) Shore Seines		
a) Rampan	200-600	1.2 to 5
b) Yendi	80-150	1.2 to 5
c) Kanebavalla	316	0.8 at Cod end.
d) Korubalai	9	1.0
e) Bari	5 5	1.0
f) Karavalai	317	1-2 at the centre
g) Alivivala	364-634	1.2
h) Drag Nets	3.6-18.3	0.6 - 1.2
<i>Cast Nets</i>	2.5-6 in radius	1.2
<i>Scoop Nets</i>	9.10 square	0.2 at Cod end
<i>Drift Nets</i>		
a) Kantha bala	48-125	5-6
b) Pattavala	216-270	3.0
<i>Traps</i>	0.5-1.8 high	
<i>Longline & Head line</i>	Several hooks of 1-3 numbers	

Source : Indian Fisheries 1947 - 1979

ant gears used in small-scale fisheries. The different types of nets in use are estimated at 738,984 numbers.

The catch composition from the small-scale

sector is shown in table 4. Oil sardines, lesser sardines, mackerel, Bomby-duck and shrimp are the principal fisheries, together accounting for nearly 62% of the catch. The three major fisheries mainly come from the west coast.

TABLE 4. *The 5 year mean (1972-1976) of the marine fish landings in India and the approximate catch landed by the small-scale sector by indigenous crafts and gears (in tonnes).*

Name of fish	5 year Mean All India Marine catch	%	Catch landed by the small scale sector	%
1 Elasmobranch	56210	4.24	28105	3.21
2 Eels	5309	0.40	265	0.03
3 Cat fishes	131658	9.93	52663	6.02
4 <i>Chirocentrus</i>	10485	0.79	2621	0.30
5a Oil Sardine	145367	10.97	145367	16.62
b Other Sardines	191567	14.45	138886	15.58
6a <i>Harpodon nehereus</i>	72756	5.50	72758	8.32
b <i>Saurida and saurus</i>	8158	0.61	4079	0.47
7 <i>Hemiramphus</i> and <i>Belone</i>	1910	0.14	287	0.03
8 Flying fish	2448	0.18	2203	0.25
9 Perches	25477	0.92	12739	1.46
10 Red mullets	4871	0.38	2486	0.28
11 Polynemids	11169	0.84	5585	0.64
12 Sciaenids	82195	6.20	41093	4.70
13 Ribbon fish	55499	4.10	27750	3.17
14 Carangids	28654	2.16	14327	1.64
15 <i>Leiognathus</i> and gazza	44023	3.32	26414	3.02
16 <i>Lactarius</i>	10835	0.82	1086	0.12
17 Pomfrets	25170	1.90	22653	2.59
18 Mackerel	70571	5.32	70571	8.07
19 Seer fish	20273	1.53	12164	1.39
20 Tunnies	10298	0.78	5149	0.59
21 <i>Sphyraena</i>	3076	0.23	154	0.02
22 <i>Mugil</i>	3074	0.23	1844	0.20
23 <i>Bregmaceros</i>	2599	0.19	2599	0.30
24 Soles	13156	1.00	13156	1.50
25a Penaeid Prawns	111418	8.86	58190	6.71
b Non-penaeids	72713	5.49	58170	6.65
c Lobsters	2641	0.20	264	0.03
d Crabs and other crustaceans	17239	1.30	13791	1.58
26 Cephalopods	5022	0.38	100	0.01
27 Miscellaneous	73588	5.55	36794	4.20
	13,25,541	100.00	8,74,832 (65.9%)	100.00

Source : CMFRI, Cochin.

COST-BENEFIT ANALYSIS

Small-scale fisheries is an enterprise created, manned and managed by fishermen from time immemorial. It is an enterprise producing food for the society and the principal source of income of the participants. Based on 1973-74 estimates, the contribution from this sector to the GNP was 0.5%, the GNP being Rs.5,21,930 million. In a commercial enterprise, it is easy to assess the costs and benefits that can be quantified in terms of money. The inputs in case of small-scale fisheries are:

1. Cost of the craft
2. Cost of the gear
3. Labour
4. Maintenance, and
5. Depreciation on capital.

The benefits are:

1. Value of the output and
2. Value of by-products and shadow benefits.

In the present analysis only direct benefits relating to the value of the output, *i.e.* catch only is taken, as the by-products or shadow benefits are marginal. So also only direct costs are considered here. Since depreciation is taken into account, the capital costs do not figure in. However, the estimated capital costs are shown in Table 5.

Direct costs

Under this, wages, maintenance cost and depreciation charges are included. Wages are calculated at Rs.8 per fishing day for 365 fishing days a year engaging 0.32 million fishermen. For maintenance, Rs. 50 per catamaran and Rs 200 for all other types of crafts, Rs 100 for all the gear are taken for calculations. To determine depreciation, the life of the craft is taken as 10 years and the life of a net as 3 years and a straight line depreciation at 10% for crafts and 33.33% for gear is provided.

Direct benefit

Estimating the landed value of the marine fish production at about Rs. 360 crores, the share of the small-scale fisheries sector at 60% production would amount to Rs.216 crores.

Net gain - Rs. 216 crores - 157.41 crores
- Rs.58.59 crores.

The capital investment in the small-scale sector is estimated at Rs.201 crores, the indigenous crafts accounting for about Rs. 53.24 crores of instrument and the gear for about Rs. 147.80 crores. Keeping in view the large number of fishermen involved in the venture, it will be seen that the profits earned by the fishermen are only marginal (Rs. 58.59 crores). Thus the net annual income of individual fishermen works out to Rs 1817 or Rs.151 per month, excluding his wages.

No interest on the capital investment is included in the present estimate, the wages and

A. Labour: Rs.8.00 x 365 x 3,22,532	- Rs. 94,18 crores.
B. Maintenance:	
1) Catamaran - 58,392 x Rs.50	- Rs. 29,19,600
Other types - 48,088 x Rs.200	- Rs. 96,17,600
	- Rs. 1,25,37,200 or
	- Rs. 1.25 crores or
2) Gear - 7,38,984 x Rs. 100	- Rs. 7,38,98,400 or
	- Rs. 7.39 crores
	<u>- Rs. 8.64 crores</u>
	Total of B
C. Depreciation:	
Crafts 10% of Rs. 53.24 crores	- Rs. 5.32 crores
Gear 33.33% of Rs. 147.80 crores	- Rs.49.27 crores
	<u>- Rs.54.59 crores</u>
	Total of C
Total recurring expenditure (A + B + C)	- Rs.157,41 crores.

maintenance costs are kept at low level and a very reasonable price taken for the produce.

It may not be out of context to point out here that the small-scale fisheries need considerable governmental support if the industry has to survive. Both agriculture and fisheries and food producing ventures. The farmer today enjoys considerable public support in the form of irrigation facilities, land legislation and financial support such as easy loans for procurement of inputs like fertilisers, seeds and pump sets. Besides, the farmer gets the benefit of price support and warehousing facilities for his produce. Contrary to this, fishermen produce food with a very high content of protein and fat without much public support, financial aid or price support. The fluctuation in the price of his produce is very wide and he suffers on either account. The prawns are the only commodity which gives a good return in view of export value. But they form barely 7-8% of the catch. It may also be pointed out that the landed price of fish has not shown any appreciable increase as compared to all other agricultural commodities while cost of inputs like timber for boats, different types of twine for gear are all the time on the increase. The small-scale fishermen cannot afford to store his produce, being highly perishable. Therefore there is a strong case to provide some sort of price support to the fishermen as an incentive.

The inshore area usually harvested by the small-scale sector is being fished by the mechanised boats also. The artisanal fishermen need some protection to be able to fish in the traditional zone without competition from the powered boats. Otherwise the small-scale sector which contributes almost 65% of the total marine catch is likely to wither out in course of time in view of the competition it is facing from the organised sector.

For more than 100 years, India has been exporting to neighbouring South-East Asian countries fish and prawns cured and sundried. During the last three decades, with the new technology of processing shrimp by quick freezing and canning, and with the growing demand for this commodity, the export earnings have increased. The growth of exports from Rs.24.5 million in 1950 to Rs. 1797.4 million in 1977 is really spectacular and deserves every encouragement.

MECHANISATION OF FISHING CRAFTS

During the first three Five-Year Plan periods and the following three Annual Plans, the main emphasis in marine fisheries development was on the mechanisation of existing fishing crafts and introduction of new mechanised fishing boats. The programme of mechanisation has been the most significant aspect of development towards increasing fish production. The progressive total number of mechanised boats by the end of each Plan period was as follows:

Pre-Plan Period	...	13
First Plan	...	863
Second Plan	...	1298
Third Plan	...	3045
Three Annual Plans	...	6458
Fourth Plan	...	10613
1977	...	13352

Credit for the use of mechanised vessels goes to the private sector. The first attempt to convert a 22-ft sailing craft into a mechanised vessel with the installation of 22 BHP engine was made by the then Burmah-Shell Oil Storage and Distribution Co. of India Ltd., around 1933 in Bombay. The boat was named "Shelmari" and placed under the control of the Department of Industries, Bombay, to demonstrate to the fishermen the possibility of similar conversion of their own vessel with advantage. Credit for the capture of fish by power propelled vessels on a large scale goes to the fishing village of Satpati near Bombay. The lead given by Satpati was followed by neighbouring villages which made rapid strides in this direction.

The implementation of craft mechanisation programme can be broadly divided into a base and four developmental phases. The 'base' was provided by the country crafts in which engines were installed in the first instance. In many of the maritime states in India, there is a general dearth of indigenous fishing boat types which could take a motor. A survey undertaken showed that Machwas, Satpati and Versove type boats of the N. W. region, Tuticorin type boats of S. E. coast, Navas of Andhra, Chot and Batchari boats of the N. E. coast were suitable for mechanisation. The mechanisation of the existing crafts first started in Maharashtra and was subsequently followed by other states. In Tamil Nadu, a few Tuticorin type boats were mechan-

ised on an experimental basis; however this was not readily accepted by the fishermen and the scheme was discontinued. In Andhra Pradesh, the trials of motorisation of Nava has shown encouraging results but it was found necessary to modify the design. Since majority of traditional crafts were considered unsuitable for mechanisation, the question of improvements has still remained unsolved.

The next logical step was to evolve a suitable small open motor boat as a beach landing craft. The initial attempt in this line was made in Kerala with the help of the Indo-Norwegian project. Subsequently naval architects of FAO in India had designed and fabricated prototypes and conducted experiments in Tamil Nadu and Andhra Pradesh. As the landing and hauling of this motorised beach craft still required elaborate arrangements, expert opinion and usage did not favour their introduction as a substitute for canoe or catamaran in India. Attention was subsequently paid to designing suitable craft to facilitate the operation of traditional fishing gear and the result was the famous 'pablo' boat for gill netting.

Fishing nets prior to 1955, were all made from cotton and hemp twine and coir ropes. They easily absorb moisture, thus becoming heavy for fishing operations. Their durability was also short and were susceptible to decay, thus making gear preservation an essential feature. In the last 20 years, the twines of synthetic fibres have progressively replaced the natural fibres in the fabrication of gear. The former has several advantages over the natural ones besides having improved catching efficiency. Initially the synthetic fibres had to be imported but now they are being manufactured in India. Nylon (polyamide) is very useful for gillnets and polyethylene and polypropylene are used for the fabrication of parts of bag nets.

FINANCIAL ASSISTANCE

The first and the foremost need of the fisheries sector is finance and loans are the commonest form of assistance. Prior to the commencement of the Second Five-Year Plan, the entire finance was met from the middlemen and money lenders. Public sector finance in the form of subsidy and soft loans, considering fishing as an industry, was first initiated during the Second

Plan. Introduction of improved craft and gear was implemented through subsidy and loans issued by Government to fishermen and their co-operative organisations. The grant of subsidy and loan was of a uniform pattern throughout the country while the working details of the schemes varied from state to state. While some states supplied marine diesel engines on subsidy and loan basis to be fitted into indigenous crafts other states issued completed boats of modern design fitted with engines which helped in the development of ancillary industries such as boat building yards. Subsidy and loan assistance was also extended to new material for fishing gear. Till the end of Third Plan, practically all developmental schemes were mainly financed through the outlays provided in the public sector and the only institutional financing available to the industry was from the co-operative banks to the co-operative societies. The approach adopted by the Government at the beginning of the Fourth Plan was to transfer the liability for meeting loan requirements from Plan schemes to the financial institutions like Agricultural Refinance Development Corporation and banks. The ARDC provided financing facilities for giving medium and long-term loans to fishermen co-operative societies through the co-operative banks. The commercial banks started advancing medium and short-term loans but favoured private enterprises and the fishermen did not get any benefits. The total finance from public financial institutions made available to the fisheries sector is of the order of Rs. 14.42 crores as on 30th June, 1978, out of a total of Rs. 1049.32 crores made available to the agricultural sector as a whole. Thus the share of the fisheries sector is just 1.4% which appears to be insignificant. The major part of this finance has gone to the corporate sector.

The present situation in case of finance to small-scale fisheries is not encouraging and it is high time that financing institutions thought of assisting the small-scale fisheries. The basic structure of economic organisation in marine fishing industry in India, at the production level, comprises mainly of non-mechanised crafts which is characterised by inherent economic uncertainty because of the high degree of risk involved and the high investment structure in proportion to its economic profitability. In view of these economic constraints, loans, subsidies and other incentive supports are a must for the small-scale fisheries sector.

Even to-day the economic condition of the fishermen is pitiable. They borrow money from the middlemen for their essential needs. While taking these loans, they are compelled to sell their catch to the middlemen at rates dictated by him. The loan accounts are manipulated and at the end of the season they always find themselves deeper in debt. As a result, they remain in the clutches of money lenders. In many cases, they have to surrender boats and nets to the middlemen and work as their employees. These middlemen do not like to become active entrepreneurs striving for the promotion of the industry. They just finance and leave the business of operating the boats to the crew. Being deeply in debt, the fishermen find no point in improving their industry, because whatever gains it might bring, would be appropriated by the middlemen. Thus finance by middlemen has become detrimental to the development of small-scale sector. The fishery co-operatives have a very important role in ameliorating the socio-economic condition of the fishermen, in increasing fish production and proper marketing.

FISHERIES COOPERATIVES

The promotion of fisheries co-operatives is an important part of Government plans to improve the economy and social welfare of fishermen. This, in turn, calls for a significant improvement in the participation of the fisherman himself.

Sustained attempts to promote fishery co-operatives were made in the Five-Year Plans. Based on the need for marketing of the catches, marketing unions and regional marketing societies / federations were also organised in some of the states, although in most of the cases, the primary societies themselves undertook the marketing operations as well. In recent years apex federations of the fishery co-operatives have been set up in a few states to improve organisational set up of primary co-operatives. There are about 5,000 societies including six apex societies in the country with a membership of 5.3 lakhs and a total paid-up share capital of Rs. 3.6 crores, the Government share being Rs. 2.24 crores. However, of these 5,000

fisheries Co-operatives Societies, about two-thirds are reported defunct or dormant. A large section of fishermen are still outside the co-operative fold and it is necessary to bring them within it. This will help in the flow of income generated by fishing operations to them. Moreover, the co-operatives could become viable and purposeful and can handle multi-purpose functions like credit, production, storage, marketing and other services as a package scheme.

Evidently strengthening of the management aspect of fishery co-operatives deserves priority. The poor performance of co-operatives is due to absence of genuine co-operative leadership, lack of financial resources, competent management personnel and growth of vested interests. Generally instances have been noticed where co-operative leadership comes from closed groups of economically, socially and politically dominating sections. It is this peculiar environment that has restricted the growth of co-operatives and so long as this situation continues, successful co-operatives will be only a mirage.

The important need of the hour is proper management of small-scale fisheries with definite objectives. This will help in evaluating the achievements at regular intervals. Qualified management, proper supervision and guidance by Government agencies will have a very important role to play, in order that the objectives laid down for the welfare of the small fishermen could be achieved in the shortest possible time, and the enterprise could be put on an even keel.

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