CHAPTER VI

IMPACT OF FISHERIES CO-OPERATIVE IN KERALA

Indian Fisheries sector is expected to play a significant role in providing protein – rich nutritious food to the majority of Indian people. Considering the likely growth in demand, there is a remarkable scope for promotion of the fisheries production in the Co-operative sector. A Co-operative, by its definition, is an organization designed for the economically weaker sections of the society. The success of co-operatives depends largely on vigilant membership, qualified and trained management and the democratic character of the institution. It was the aim of fisheries Co-operative to solve socio-economic problems of fishermen and bring them to the forefront of society.

Balanced economic development should aim at the creation of an egalitarian society, based on growth with social justice. The Co-operative form of organizations readily lends itself to fulfilling these objectives. It provides an institutional structure where by the weaker

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sections of society and the small producers are brought into the main stream of development, and are capable to share the fruits of economic development ensuring distributive justice. It also has the merit of combining freedom and opportunity for the small man with the benefit of large – scale management and organization. Co-operation envisages institutionalization of the principle and impulse of mutual aid. Co-operation is, most often advanced as the form of organization for bringing about the desired socio – economic changes in the context of the existing situations in the country. It was with this goal that fishermen Co-operatives were organized in Kerala. It enabled the fishermen to develop an institutional structure through which they can avail financial and technical assistance to increase the catch of fish and gain a bargaining power for securing a better price and thus improve their economic condition. The fishery co-operative movement in India gained momentum only after independence. Over the years, the fishery co-operative structure continued to grow into multifunctional units. Till February 1980, there was no National Federation of fishery co-operatives in the country. After the formation of FISHCOPFED there has been a perceptible improvement in the growth of fishery co-operative structure in the

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3 Sing Bernala, Surjith (art.), Indian Agricultural Co-operative Congress, Trivandrum, – 1977.
country. The membership of National Federation is open to state level Federations, regional / district level federations, National Co-operative Development Corporation or NCDC, and Government of India\(^4\).

It is the moral duty of intellectuals in the society to prepare the downtrodden people to come to the forefront\(^5\). If the co-operatives came under the control of politics, it becomes a part of the Government. In such a situation the governing power does not get into the hands of the people. A co-operative always should become a part of society and should create an opportunity for the lower people to govern themselves\(^6\). This is the basic principle of every co-operative.

In Kerala, the fisheries Department has evolved several schemes for development of fisheries through the Co-operatives in early seventies. The projects included, to augment fish production, to link production with storage, processing facilities, to undertake export of prawn and other fish products. However, this did not prove successful. Lacunae in the preparation of projects, laxity on the

\(^4\) Koli, P.A., (art), FISHCOOPS, FISHCOPFED, New Delhi, October-December, 2000,p.102
\(^5\) Mathew, Earthayil, Dr., KeralaMysaThozhilali Prasthanam, Kottayam, P. 125
\(^6\) Gramsi, Antonio, Prison Note Books, London, 971, P. 478
part of managerial personnel, and absence of enlightened leadership from within and lack of comprehensive efforts to involve the fishermen in the working of the societies have been the main reasons for the failure of fishermen Co-operatives. Added to these, there was the problem of dearth of working capital\textsuperscript{7}.

The mechanization of fishing has definitely led to reduction of physical efforts and drudgery in day to day fishing operations. The reduction in strain is expected to have a positive impact on the health and quality of life of fishermen. The new technology has also provided the artisanal fishermen access to outer seas\textsuperscript{8}. Although, they do not travel great distance on a regular basis, it has made possible for them to move rapidly and harvest shoals at greater distances and with greater speed. Technology upgradation was expected to give rise to substantial additional employment for artisanal fishermen by increasing the ability of fishermen to seek out good catches during lean season and by enabling them to spend longer hours at sea. There seems to be a high level of dissatisfaction among the people with regard to the quality of technical advice and repair and maintenance facilities. The major thrust of Matsyafed’s

\textsuperscript{7} S. Krishnakumar, Strategy and action program for a massive thrust in fisheries development, Government of Kerala, 1984, P. 90
\textsuperscript{8} Ibid
involvement and activity since its inception had been on providing
craft and gear on credit so as to enable the member fishermen to have
access to modern fishing technology and thereby to better fishing
spots. But it is very rare that the poorest of the fishermen get
institutional credit when they actually need it most. The co-
operatives face a number of organizational and management
problems which need to be resolved expeditiously. At the state
level, there is a need for transforming the Matsya Fed into a truly co-
operative organization and for co-ordination of its activities with
those of the South Indian Federation of Fishermen Societies or SIFFS.
Both of these organizations need to focus their efforts at regulating
and coordinating the exploitation of marine fisheries and managing
their own sustainable yield basis.

The Resuscitative committee of 1975 found that, the credit
societies which were organized with the main objective of catering to
the credit needs of fishermen could not make any impact mainly due
to the reluctance on the part of financing institutions to advance the
required funds. There is also a lack of linkage of credit advanced

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9 Giriappa, S, Op. cit., P. 113
with marketing. On the whole these societies are not economically viable.

The producer societies were registered with the objective of providing the fishermen with mechanized boats so as to enhance the employment opportunities and also to increase production. But due to defective planning in the organization and functioning and mismanagement of the entire mechanization schemes these societies also could not come up to the mark.

Even though 1940 mechanized boats were supplied to the fishermen till the end of 1977 – 78 through the MUCS on hire purchase basis, the fishermen were unable to reap the benefits of mechanization since they were not provided with the necessary working capital or fishing gear\textsuperscript{11}. The entire benefits of increased production thus accrued to the middlemen and money lenders - rather than to the fishermen.

The Co-operative societies organized in the past have not been built in a broad base. In the past the fishermen Co-operative Societies neither made profit nor did they give any service to fishermen. An important principle of co-operation is democratic control. It is here

\textsuperscript{11} S. Krishna Kumar, Strategy and action program for a massive thrust fisheries development, Government of Kerala, 1984, p.90.
that the fishermen co-operative societies have miserably failed to
develop internal leadership. By and large the fishermen members of a
society were too illiterate to manage the affairs of the society
properly.

MatsyaFed’s Flood Relief Assistance Programme led to
immediate relief to flood affected fishermen, increased production of
fish, progressive marketing mechanism and encouraging higher
returns to flood affected fishermen\textsuperscript{12}. The program also helped to
gain employment to fisherwomen in flood affected areas and arrange
transportation facilities. Under the scheme all the fisherwomen
utilizing these bus services will be provided with bank loans of 1,000
rupees each at differential rate of interest as working capital. Besides,
employment generation there fisher women will be benefited directly
from and this would serve as an effective alternative to gainful
employment in the fisheries village where the employment problem
is worsening day by day. As a result of the implementation of
Reservoir Fisheries Development Project with World Bank
Assistance, production increased and sale of inland fish went up
from 87 tonnes to 1,444 tonnes within a short period\textsuperscript{13}. The project, in

\textsuperscript{12} Kerala State Gazetteer, 1986., P. 157
\textsuperscript{13} Ibid., P. 158
addition, would stimulate employment in hatchery construction, boat building, net making and fish marketing. Matsya Fed’s Nutrifish project with assistance from Norway Development Agency helped to gain an internal rate of return of about 35%. Expansion of Deep Sea Fishing Sector Wing Project enabled the state to expand its existing deep sea sector wing in Vishakhapatnam from 4 vessels to 6. The organization is also in advanced stages of negotiation with a foreign company for Joint Venture Collaboration in Deep Sea Sector. The control of other markets especially secondary wholesale markets is also necessary to safeguard the interests of both the fishermen and the consuming public. A regulated marketing system will streamline the transactions at various levels in fish marketing and also improve the social infrastructure necessary for fish marketing to hygienic standards\(^\text{14}\).

There had been in the past no attempt to educate and train the fishermen members of the society and to promote the principles of mutual self - help and thrift among them\(^\text{15}\). It can be seen that none of the accepted principles of co-operation has been translated into practice in the past and naturally the fishery co-operative societies

\(^{14}\) Kerala State Gazetteer,1986, P. 159

have miserably failed. Co-operation, thus, has not been a living dynamic force contributing to the normal, intellectual and economic regeneration of fishermen, bringing new life and hope to them.\textsuperscript{16}

Number of educated fishermen is high in Kerala.\textsuperscript{17} Literacy movement in Kerala affects the literacy rate of fisherfolk. One of the most important defects of the movement in the fisheries sector was that too much emphasis was laid on credit for the fishermen either in cash or in the form of mechanized boats and nets. Government’s fisheries policy, in the initial years of planning focused on increasing fish production. Accordingly, the emphasis on the development programs in the sector was on increasing the extractive capacity, through mechanization of vessels, for which concession and subsidized credits were provided. It was assumed that the benefits of increased fish production and the new employment opportunities from modernization would trickle down and reach the fisher folk in the traditional sector\textsuperscript{18}.

But this did not happen. In fact, the socio economic condition of the traditional fisher folk deteriorated in spite of increase in fish

\textsuperscript{16} Marine Fisheries Census, Government of India, 2005, P. 13
\textsuperscript{17} Socio-Techno-Economic Survey of fisher folk in Kerala, Department of Fisheries, Government of Kerala, 2004, P. 9
\textsuperscript{18} Ramachandran Nair, G & Rajan, J.B, Dr., op.cit. P. 11
production. The movement was not proceeded and supported by a massive educational programme and also the societies were depending upon an unrealistic credit system. No attempt was made at debt redemption of the fishermen before starting a co-operative project. Long term credit to cover all the needs of the fishermen was not made available. Mismanagement became the most important cause for the failure of the co-operative societies. The men in charge of these societies had selfish interests and made reckless advances without keep proper accounts.

But in the late 1970's Government responded to the situation by implementing assistance programmes to upgrade small scale fisheries. Even though the programmes were successful in the initial years, this could not be sustained. As more and more fishermen motorized their crafts, fishing pressure increased on the limited resources and output began to stagnate. This combined with increase in the cost of operations reversed the initial advantages of motorization.  

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From 1984, the fishery co-operative in Kerala gained a new momentum. Their mission was to improve the per capita income of producer fishermen through interventions in credit technology, marketing and capacity building and bring them into the main stream of society\(^{20}\). The activities of fishermen co-operatives have two dimensions; they are the sociological dimension i.e. the dimension of a village co-operative as a people’s organization and the economic Dimension – as a business organization, although these two cannot be separated. If a cooperative fails as a people’s organization, it will most certainly fail as a business organization.\(^{21}\)

Matsyafed’s activities are successful. We have to analyse the role of Matsyafed in the developmental activities. This scheme is implemented mainly by providing credit, supplying craft and gear. It is essential to equip the traditional fishermen with sufficient input support to raise their earning capacity. The exploitation of traditional fishermen can be controlled only through the provision of fishing inputs to them. The input assistance was started in 1988. About more than 25 percent of the sample fishermen brought under the coverage of financial assistance of Matsyafed within a period of 7 years, is a


\(^{21}\) www.jstor.org
good achievement through the implementation of Phase I, II, & III of the Integrated Fisheries Development Project of NCDC\textsuperscript{22}.

The Scheme provides 25\% subsidy for loan from bank or financial institutions for the purchase of fishing inputs by fishermen. Subsidy of Rs. 10000/- to engines below 10 HP for the motorization of country crafts. Matsyaifed provide subsidy of Rs. 6000/- per craft powered by OBMs below 10 HP for the purchase of suitable components of fishing gear for fishermen. The rate of interest charged by Matsyaifed on the input loans to the fishermen is 14 ½ percent per annum. This is providing a very favourable situation to the labourer fishermen group to become owners of the fishing inputs. In this respect, the service rendered by the Matsyaifed is a very commendable one. The period of repayment of loan assistance is 2 to 3 years. Deep sea fishing is another package under Kerala mission project of Indian President and the project outlay is Rs. 488 lakhs for units having 1000 fishermen. Value addition phases I and II scheme provides for infrastructure facilities for pre – processing near the landing centres.

\textsuperscript{22} Rajan, Dr. J.B, op. cit., P. 179
The implementation of the Integrated Project for Fisheries Development in the villages, drawn up from below, will tend to improve the quality of life of the fishermen and others in the coastal villages of the state\textsuperscript{23}. With the supply of adequate fishing gear envisaged in the project proposal, the fishermen would be able to have year round fishing operations. With better facilities for handling processing, preservation and auctioning of fish offered through the village societies, the fishermen will be able to get a higher price for their fish.\textsuperscript{24} Accordingly 20\% increase in price would be reasonable for fishermen\textsuperscript{25}. The IFDP Project will be making cash surpluses from the first year itself. Over the years, the non beneficiary fishermen will also bring their fish for public auction through the societies.

4617 families of fishermen will be benefitted directly from the project and 330 small scale fish distributors and their families will be benefitted through the marketing program of the project. The project will also lead to indirect employment through activities like

\textsuperscript{23} Integrated Fisheries Development Project, Government of Kerala, P. 26
\textsuperscript{24} Kerala State Gazetteer, 1986, P. 154.
\textsuperscript{25} Rajan, J, Dr., The fishing economy of Kerala,2000, p.179.
auctioning and marketing of fish, transportation and handling of fishery requisites\textsuperscript{26}.

The infrastructural facilities envisaged in the project villages will provide facilities for the beneficiary groups as well as others for better handling, processing and distribution of fish. The extension services along with Vidya Kendrams proposed at the District level will usher in a new awakening among the artisanal fishermen in imbibing the advantages of modernization both in fishing, fish processing, marketing and general outlook. The artisanal sector which had been neglected over the years will be assured of integrated organizational support including adequate credit and grant under the project. Within the introduction of the system of auction sale of fish by the primary producer themselves, it has become possible to eliminate middlemen and to encourage saving habit among the fishermen. Welfare activities were successfully launched among fishermen.

The auctioneers appointed by the primary co-operatives sell the fish and remit the money with the societies\textsuperscript{27}. The fishermen can collect the auction amount from the societies immediately after

\textsuperscript{26} Ibid.
\textsuperscript{27} Report of task force on Fish Processing and marketing, Government of Kerala, 2008, P.9
auction fresh fish points, directly operated by Matsya Fed in Cochin and Kottayam. This shows a tremendous potential for the fish marketing. A single outlet in Cochin could sell about Rs. 40 Lakhs worth of fresh fish in a year. Matsyafed is also providing 45 fish kiosks under the Tsunami Emergency Assistance Program or TEAP for marketing fresh fish\textsuperscript{28}. About 30 vehicles for fish marketing are being distributed to fisher women vendors to take fish to the residential areas to sell fish directly to the customers in hygienic and clean environment.

Matsyafed is giving fish vending loans to fisher women to get into fish vending to have better distribution of fish in the interior areas. The freezing plant at Cochin has a daily freezing capacity of about 600 tonnes. It collects raw material directly from fishermen or through societies and carries out freezing and export. The major focus of the plant is on the tuna resource which is emerging as the new item in the seafood industry of the country. Matsyafed is also implementing a project of value addition project by providing a facility at major landing centres to clean and dress fresh fish and sell it in the convenient consumer packets\textsuperscript{29}. All equipment as well as the

\textsuperscript{28} Ibid., P. 10
\textsuperscript{29} Report of task force on fish processing and marketing, Government of Kerala, P. 10
other facilities are provided to a group of fishermen so that they will be able to get a better value for their product by producing convenient products and is being operationalised in all coastal districts.

The activation of the fishermen welfare societies in districts like Trivandrum under the first phase of the NCDC project has brought in an effective system of public auction of fish under the auspices of the village society\textsuperscript{30}. The system has opened up a new marketing system capable of ensuring the fishermen a bank price for their fish and at the same time help easy recovery of credits.

IFDP has a favourable financial internal rate of return. It works out to over 50\%. The project will help to promote the operational efficiency of the artisanal sector in the selected villages. Supply of motorized craft and gear would widen the reach of fishermen both in terms of distance and fishing season. Introduction to adequate gear will enable the fishermen to exploit the resources better. The Cooperativisation of production, processing and primary sale of fish under the impact of the three tier system of village society, regional

\textsuperscript{30} Ibid., p.25
co-operative and apex federation will free the fishermen from exploitation by middlemen.

Among the 9 districts bordering the Arabian Sea coast, Thiruvananthapuram district occupies a predominant position in Kerala Fisheries. It has the highest percentage of marine fishermen, ie, 21.3 percent of the state’s fishermen population\textsuperscript{31}. Thiruvananthapuram District accounts for 13.2 percent of coastline and 10.7 percent of continental shelf area of the state. The continental shelf of Thiruvananthapuram is so narrow that it makes the inshore sea steep, slopped and surf-ridden. It has sandy sub-stratum due to the lakh of muddy inflow into sea. The coast line of Thiruvananthapuram is regular sandy beach except in Kovalam and Vizhinjam. Compelled by the oceanographic features, the fishermen of Thiruvananthapuram developed highly skilled fishing methods. The district has the largest number of fishing crafts in the state. As a part of the fisheries Township Project in Vizhinjam Matsyafed constructed house for the fishermen in Tennorkonam and Pulloorkonam. It was carried out by Matsyafed up to 1998. Then this project was taken up by self governing agencies.

\textsuperscript{31} Rajan, Dr. J.B., op. cit, P. 42.
On the initiative of the Department of Fisheries, fishermen co-operative societies were formed in reservoir communities in the late 1980’s to provide gainful employment to young men of the socially backward society\textsuperscript{32}. In 1993, the five reservoir co-operatives had a total membership of 331 fishermen, while 216 members belonged to scheduled castes, which was about 65%, 115 belonged to schedule tribes which found about 35%. All these co-operatives are not functioning actively because the income is irregular, seasonal, uncertain and inadequate\textsuperscript{33}.

The economic fortunes of fishing communities are integrally linked to the quantum and the composition of catch. Income levels show considerable improvements both at the state and the district levels. The traditional fishermen through the primary societies will be encouraged to take up simple technologies related to fish processing and the products thus obtained will be marketed internally as well as externally\textsuperscript{34}. Under the lump sum grant scheme, deserving children are able to tide over the financial hurdles in completing their education. The community peeling centres managed by Matsyafed, provide employment to about 200

\textsuperscript{32} Socio-Economic Baseline Survey of Five Reservoir Fishing Communities, op. cit, P. 55
\textsuperscript{33} Socio economic baseline survey of five Reservoir fishing communities, op.cit, P.55
\textsuperscript{34} Kerala State Gazetteer, 1986, P. 160
fisherwomen. It is to be noted that, the value of output both from marine sector and inland sector increased from 1970 to 1990. Combined value of output in 1970 was Rs. 295 million and the next Year, it increased to Rs. 931/ million. In 1999 the fish capture in Kerala was worth Rs. 19682 million\(^{35}\).

The data shows that the fishermen who were participated in Matsyafed activities or their beneficiaries, is more concerned about the benefits of education which indirectly indicates that their economic position is conductive to give their children more education\(^{36}\). The facilities provided at home to children will determine the continuous stay of fishermen children at school as well as the result of their studies. Proper food, provision of lamp light and sufficient time is the minimum essential facilities required at home for studies. However it is seen that there is variation between beneficiary group and even beneficiary group households regarding the provision of minimum facilities. 23.38 percent of beneficiary group households provide minimum facilities to their children whereas the non beneficiary group households are providing facilities to their children for studies than that of the non beneficiary


\(^{36}\) Rajan, Dr.J.B., Op. cit., P. 169
group. Both per capita state domestic product and per fisherman fishery sector product have increased substantially over the years.

During the period 1970 – 1985, the overall economic growth was slow. During 1990’s, when the state economy was doing reasonably well, there was initially a narrowing of the gap between the per capita income of the state and the per fisherman income of the fishery sector\(^{37}\). However the gap widened in 2000. Contribution of Fishery sector to net domestic product increased. Average monthly income increased especially among co-operative fishermen than the fishermen outside the circle.

The occupational profile status of the total employed extracted from socio - techno economic survey of the Department of fisheries in 2004, shows that more than 90 percent are working in fishing and allied activities and only around 5 percent are engaged in works other than fishing. The professional employees among the fisherfolk even not added up to one percent of the total employed\(^{38}\).

Standard of living improved due to the impact of co-operative. There has taken place a marked improvement in the levels of literacy


of fish workers during 1971 – 1991, from 55 percent to 81 percent. The gap between the literacy level of workers in general and that of fish workers which had been 23 percentage points in 1971, declined to 18 percentage points in 1981 and 13 percentage points in 1991\textsuperscript{39}.

Non availability of drinking water has been highlighted as an unresolved problem. Only 46 person have own ways of water. An improvement related to housing is the increase in the proportion of electrified houses. From a mere 10 percent in 1981, it was 90 percent\textsuperscript{40} in 2004. Between 1980 and 1990 the share of households among the fisher folk with no land has more than halved, from 16 to 7 percent. The land holdings are very small. Even in 1990, as many as two-thirds of the households owning land possessed less than 10 cents each.

The coastal areas are experiencing acute shortage of drainage facilities in the rainy season. This is one of the main reasons for the proliferation of mosquitoes and flies and this causes the spread of contagious diseases like cholera, chickenpox and amoebic dysentery along the coastal region. It is seen that the members belonging to the beneficiary group show a more active participation in the socio-

\textsuperscript{39} Ibid.
\textsuperscript{40} Kerala Human Development Report, Planning Commission, New Delhi, 2005, p.370
cultural programme than those in non-beneficiary group\textsuperscript{41}. Promotion of co-operative management of marine fisheries calls for substantial extension of education activity in order to create among the member fishermen, a shared awareness of problems, action alternatives and opportunity cost of discriminate fishing\textsuperscript{42}.

It is to be ensured that the Matsyafed must make arrangement for the collection of data relating to beach level in order to make a quantitative assessment of the economic benefits and the role of intermediaries in the sale of catch. The Matsyafed should formulate a long term perspective plan of market intervention process for the purpose of pouring a fleet of refrigerated trucks to collect fish from beaches and transport it to either a central storage point or the nearest wholesale market for resale\textsuperscript{43}. Matsyafed should institute insurance coverage to all the equipment supplied to the fishermen in order to compensate the damage caused to the implements at sea, especially during the monsoon season and must start spare part

\textsuperscript{41} Sing, Katar., (art), Role of Fisheries in Rural Development, Giriappa.S.,(edit),Op.cit, P. 102
\textsuperscript{42} Rajan, Dr. J.B., Op. cit., P. 176
\textsuperscript{43} Ibid., P. 240
shops for making available spare parts at reasonable prices to the fishermen\textsuperscript{44}.

The population density in the state in 2001 was 819 persons per square kilometer. In 1980 the population density of coastal fishing village tract had been 4070, in 1990 the corresponding figure was 4392. The primary reason for high density is the desire of the fishermen to stay close to the sea. In 1980, the fishing villages had as many thatched huts, 48 percent compared to 24 percent, as the state as a whole\textsuperscript{45}. The data for 1980 and 1990, however, indicate a certain degree of improvement in the housing conditions and other basic facilities of the fisher folk. Nearly 95 percent of the fishing households have become owners of their houses. The number of households with electricity connection has more than doubled from 10 to 26 percent; those with latrines increased from 5 to 15 percent and most importantly more than one – half of the total had easy access to water in 1990 compared to only a third in 1980. Between 1964 and 1980 the annual average amount of state support for housing, sanitation and health had been Rs. 1.28 million, Rs. 6.66 million in 1981 – 85 and Rs. 12.45 million in 1986 and 1998. With the

\textsuperscript{44} Kerala State Gazetteer, 1986, p.157

\textsuperscript{45} Kerala Human Development Report, Planning Commission, New Delhi, 2005, P. 372
Governments support Matsyafed is doing a commendable job. A survey in Thiruvananthapuram, Thrissur and Malappuram shows that, the fisher folk households are making attempts to improve their housing conditions\textsuperscript{46}.

Despite changes, the overall location of marine fishing households close to the sea and the high tide line, makes their houses vulnerable, due to high tides during monsoon. The percentage distribution of possession of land among fisher folk increased from yearly. There is likely to have taken place some improvement in the conditions of health of the fishing communities, particularly of the marine fishers due to the improvement in their income enhanced, literacy levels, housing conditions and amenities such as water supply and sanitation. Newspapers have reported in 2003 and 2004 of the return of Cholera, Malaria, Dengue fever and TB to the coastal tract of Kerala. Micro level studies in the coastal urban fishing areas of Thiruvananthapuram district have highlighted morbidity patterns – of high levels of asthma, diarrhea and fever related to their poor environmental conditions.

\textsuperscript{46} Kerala State Gazetteer, 1986,p.157
The changes that have taken place in the fish economy of Kerala, particularly in the post - 1980 period, have contributed positively to improvement in their incomes and quality of life\textsuperscript{47}. During the pre - 1980s, both incomes and quality of life and had been for lower than the all - Kerala standards\textsuperscript{48}. However, during 1980s', there was a significant improvement in both. Fishing communities can and are slowly catching up with the rest of the population of Kerala. The 2004 scenario indicates, that if their real incomes are to be improved on a sustained basis and their quality of life is to be raised to fairly high levels, more radical institutional and organizational changes need to be made both in their fishing sector activities and in the physical and social ambience\textsuperscript{49}.

There should be collaboration between departments responsible for fisheries and co-operation. In most countries co-operatives are incorporated under a special law. In a few countries the law for fishery co-operatives differs from that for agricultural consumers, industrial production or housing co-operatives\textsuperscript{50}. There is scope for a good deal of general education of women in the fishing

\textsuperscript{47} Rajan, Dr. J.B., Op. cit
\textsuperscript{48} Economic Review, Kerala, 2002, P. 112
\textsuperscript{49} Rajan, J.B, Dr, op.cit.,p.178/#Nair, Mini.,(art), Proceedings of the first Kerala Science Congress, Cochin, p.90
\textsuperscript{50} Digby, M, The Organisation of Fishermen Co-operatives, Oxford, 1973, P. 147
villages, in social as well as in co-operative skills, and of urban consumers in the choice and preparation of fish, especially in unfamiliar processed forms. The execution of a plan of fishery development through co-operation is not likely to be easy or rapid. It calls for a delicate balance between widespread basic education and practical achievement\textsuperscript{51}. In order to reduce maintenance and repair costs the fishermen must be given training in the proper handling of outboard motors and small scale repairs.\textsuperscript{52} It remains to see which model or combination of models is most appropriate to any country being considered.

\textsuperscript{51} Ibid., P. 148
\textsuperscript{52} Nair, Mini, (art), Proceedings of the First Kerala Science Congress, Cochin, 1989, P. 137