CHAPTER II

REVIEW OF LITERATURE

2.0 INTRODUCTION

Any research study should make a critical review of literature. Therefore, earlier studies were concentrated which focused light on the socio-economic conditions of the fishermen and the problem related to them. The studies made by the researchers have been of great help to pursue the present research study. The significance of earlier studies on this selected research study is very high as it brings the clear idea about the previous studies and the new study we have to make in the present research work. The review we make here will bring to the lime-light the scope and significance of the present research study. The review of literature is made here with the help of relevant research studies which are closely related to the selected topic on the fishing community in Kanyakumari District:

2.1 SOCIO – ECONOMIC CONDITIONS

Theodore Panayotou, (1985) has edited a book on “Small-scale fisheries in Asia: Socio-Economic Analysis and Policy”. This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada. Governments of developing countries in Asia and elsewhere face a unique
opportunity of upgrading their depressed coastal fisheries with a view to take advantage of their enlarged ocean resources. This work is a partial response to the resulting need for a better understanding of the constraints and opportunities facing small scale fisheries. It contains 27 articles, on small scale capture and culture fisheries from five Asian countries, namely Bangladesh, Malaysia, Phillipines, SriLanka and Thailand. These articles were based on original field work. The subjects covered were socio-economic conditions, productivity and economic efficiency, cost structure and profitability, marketing, social and institutional constraints and government programmes. The author concluded that the scope for further fisheries development was strictly limited by the size of the resources. The success of any fisheries development scheme would be determined by the effectiveness of management schemes taken concurrently with development of controls on entry into the fishery. Improvement in resources productivity and in living standards could come about only if fishery related interventions are complemented by rural development on a broader resource base.

In his article, “Socio-Economic Aspects of Motorisation of Traditional Crafts”, Nishad Y.P (1987) has clearly analysed the need for mechanisation programme on Gujarat, Kerala and Tamil Nadu and also the factors affecting mechanisation of fishing crafts.
As Nishad says, institutional credit and subsidy are the two major factors responsible for the mechanisation of fishing crafts.

**Pitchaiah N et al (1987)** have made a study on “Socio-Economic Conditions of Fishermen: in Vadarevu Village”. In this study, they reveal that illiteracy is one of the primary reasons for their being exploited by the middlemen. They suggested that special coverage should be given to the fishermen is not even sufficient to meet the basic necessities. Again they have to take loans and advances from the fish dealers. Majority of the fishermen experienced days when they did not have anything to eat. Almost all the fishermen, with an expectation of a few, are habituated to taking alcohol and smoking and fall into debt. The role of commercial banks is not significant in extending a helping hand to the fishermen. The bank’s insistence on security and other procedural formalities places hurdles in the way of fishermen in obtaining loans.

Thus, the poor fishermen approach the village money lenders and borrow at exorbitant rates for the purchase of new crafts, gears and also to meet their expenses during the lean season and thereby fall into the 'debt trap'.

**Ranga Rao V. (1987)** analysed the “Performance of the Fishing Sector in India”. He has given some of the pressing
problems and ways to tackle them. The author examined the fishing problems along with the following lines.

1. Entry of deep sea fishing trawlers in the inshore region, affected the small fishermen.

2. Infra-structure development in fisheries were lacking very much.

3. Marketing facilities were least provided and even where those existed were unorganized.

4. Review of mechanisation programme and evaluation of different subsidy projects in each state and to take necessary steps in the state where saturation was attained.

The author pleaded that Co-operative organisation is the most suitable particularly for fisheries development. He concluded that the worst sufferers in the race were the traditional fishermen who stand to lose on many counts. The organisation of Co-operatives on a large scale is a suitable remedy for all the ills.

Sathiadhas R and Panikkar K. K. P (1989)\textsuperscript{5} have made a study on "Socio-Economic Status of Marine Fishermen along Madras Coast". In their study they concluded that in Pudumanikuppam the fishermen are not only engaged in active fishing but also involved in diversified fishery related activities. Among the active fishing but also involved in mechanised fishing as
wage earners. Further both mechanised and traditional fishermen at Pudumanikuppam realize better income due to comparatively higher prices for their catch. The role of Co-operative societies and commercial banks in supplying credit is found to be negligible. They observed that price of catamaran logs has been fast escalating in recent years and the catamaran fishermen who are only at subsistence level of operation find it difficult to replace the old logs with new ones. For the investment in fishing equipments and for household expenditure to tide over the lean season, the fishermen are not getting reasonable price for their produce due to inadequate infrastructure facilities in landing centre. They also say that the conflicts between mechanised boats. Since the employment pressure on traditional fishery sector is on the increase, most of the fishermen are under-employed. Hence it is imperative to create alternate employment opportunities in coastal area to absorb the excess man power in the fishery sector.

Sehara D. B. S and Karbhari J. P (1991)⁶ in their study “Socio – Economics of Trawl Fishery in Saurashtra” reveal that some of the trawler owners have got loan from National Co-operative Development corporation under group financing scheme. Also, a number of fishermen have availed loan from different nationalized banks for mechanisation. The rest of the fishermen took
loan from fish traders, friends and relatives. The fish traders do not charge interest but buy the catch at a lower than the prevailing market rate. The fishermen Co-operative Societies are not involved in fish marketing and their main role is to supply fuel and fishing implements. All the economic efficiency measures, show that trawl operation at the study area was profitable during the study period (1987-88).

Baran P (1992)\(^7\) in his study on “On the Political Economy of Backwardness, Political Economy of Development and Underdevelopment” reveals that the technical changes in the labour process in the marine fisheries of Kerala have led to the deprivation and marginalization of the real fishermen and finally the collapse of the traditional marine fishery sector due to its integration with metro pol. The new superimposed technology also brought in its wake certain work changes as it created a new class of technically trained labour who work on 'sharing of proceeds basis' mostly coming from outside the fishermen community.

Punaiah Choudary (1992)\(^8\) has made a study on “Fishing Companies, Booming Public Interest” While dealing with the problems and prospects of deep sea fishing, he has dwelled at length on the need for kindling among the public on the fishing
industry as a prelude for accelerating the pace of growth of mechanisation.

Panikkar K. K. P and Sathiadhas R (1993)\textsuperscript{9} have made a study on "The structural change in Karnataka Marine Fishery And its Socio-Economic Implications". By mid-seventies mechanised crafts and gears have paved the way for a structural change in the socio-economic scenario of Karnataka fishery. Together with the increased tempo of purse-seine operation, the total landings of the state had also increased. It has paved the way for the development of auxiliary industries such as ice factories, processing units boat building yards and net making factories. Hence the introduction of purse-seining has created more employment opportunities and this has benefited those who are in and around the urban landing centres, rather than unemployed rampant fishermen in the farflung villages. However large scale motorization of country craft which started in mid-eighties has resulted in the revival of traditional fishing with the increased tempo of gill-net operation and the emergence of new gears like mattubala. Thus the village landing centres, after remaining idle for about a decade have become busy again. Together with this, the increased number of trawlers, during this period slightly reduced the dominance of purse-seiners. It is expected that the ring-seine with its advantage of lower level of
investment requirements, as compared to purse-seine, would replace purse-seine within two to three years. Due to these developments in the production sector, the fish marketing system of the state has also developed to an appreciable level, mainly with the introduction of Co-operative system in the sector.

Thomson K.T et al (1993)\textsuperscript{10} have made a study on "The Socio Economic Conditions of The Estuarine Set Bagnet Fisherfolk in Bangladesh". Their study reveals that there is a high degree of poverty among them. There is also a high degree of inequality in the distribution of household incomes. It is estimated that about 39% of the household are below the poverty line. Lack of proper craft gear combinations to take up fishing as an economically viable occupation round the year may be the major reason for the high incidence of poverty among fisher folk. Natural disasters, low catch rates and lack of sufficient supplementary income-generating activities also contribute to this sad state of affairs.

Kurien (1994)\textsuperscript{11} in his thesis entitled "Technology Diffusion in Marine Fisheries: The Concrete Socio-Economic and Ecological Interaction – A Study of the Diffusion of Motorised Plywood Boats along the Lower Southwest Coast of India" views that the vertical integration of the modern capitalist fishery technology into a
traditional fishery sector has created a wedge between them. The modern technology pushed back the traditional sector. As a result, the modern sector is poised for a perpetual growth at the cost of the other sectors in the industry. But the benefits of technological advances are misappropriated by a few ‘neo fishermen’ by marginalising and depriving the majority of the traditional fishermen, who originally were closely linked with this sector and its artifacts.

Robert Hall and Abul Kashim (1994)\textsuperscript{12} has made a study on “Chandi Boat Motorization Project in Bhola, Bangladesh and their Impacts”. Their study reveals that the initial capital costs of the categories (non-motorized, Japanese engine, Chinese engine) are quite different, the non-motorized being the cheapest and the Bay of Bangal Programme craft the most expensive. The Chinese motorized craft show consistently healthy, profitability. Non-motorized craft and motorized craft with Japanese engines appear less profitable in general. The motorized chandi has been shown to be adequately profitable, even after additional capital costs. Indigenous motorization with Chinese irrigation engines has been shown to be cost-effective and thus more profitable. It will, therefore, continue to play the leading role in motorization of the artisanal fishing fleet.
Sathiadhas R et al (1994)\textsuperscript{13} has been made an study on "Traditional fishermen in Low Income Trap – A case study in Thanjavur coast of Tamil Nadu". They reveal, in their study, that the absence of land ownership and inadequate earnings as well as loan facilities is the factor responsible for the poor housing facilities along the coastal belt. The literacy rate is also very poor. Due to overall poverty of marine fishermen families, many children of school going age are also involved in fishing or fishery related activities. The study further indicates that the traditional fishermen do not possess sufficient fishing equipments for efficient operation throughout the year. Lack of different types of resource-specific gears, which suit to different seasons, leads to a large scale underemployment and low income. The availability of credit facilities in these villages is very poor. Lack of marketing infrastructure facilities is another factor responsible for lesser returns to fishermen. The spending priorities attached with education and medical purposes are very low clearly revealing the social and economic backwardness of fishermen families. Finally they concluded that extensive and comprehensive development programmes for the entire coastal belt is required to improve the socio-economic conditions of marine fishermen.
Costanza R and Patten B.C (1995)\textsuperscript{14} in their article "Defining and Predicting Sustainability" state that due to over capitalization of the fishery industry in the mechanised as well as the motorised sector, production efficiency in these sectors in the state was poised for a fall leading to stagnation in the long run. The productivity of human-made capital is increasingly limited by the decreasing supply of complementary natural capital. Thus, the capitalist accumulation process requires modes of social regulation which justify and legitimize materially unsustainable forms of exploitation.

Ali S. M (1996)\textsuperscript{15} has made a study on "Marine Fisheries Economics and Development in India – A case study of Orissa". The study reveals that the fishery Co-operatives have not been successful in improving the living conditions of the fisher folk. It also reveals that lack of proper technologies and institutional marketing frame work, absence of effective organizational set-up and inadequate financial provisions in the five-year plans have hindered the rapid growth of the marine fisheries of the state.

Giriappa S (1997)\textsuperscript{16} has made a study on "Performance of Mechanised and Non-mechanised Boats". He states that the mechanised boats account for bulk of the catch, the value per boat catch has increased significantly after 1990-91. Whereas for the
non-mechanised boats the value has come down owing to catch of low value fish varieties, deep sea fishing is yet to break grounds and future policy for the mechanised boats seems product diversification and long distancing and year-round fish catch. Since non-mechanised boats would not have these advantages territorialisation and limiting the seasons would have to be adopted.

**Jagdish Maske, P et al (1997)** have made a study on “Estimated Marine Fish Landings in North-West Coast of India by the year 2000”. The study reveals that some fisheries show high prospects, but the question arises that in a Nation like India where marine fishery is dependent on many species, would it be possible to exploit some selected fisheries only without damaging others.

**Lazarus S (1997)** has made a study on “Environmental Problems of the Coast of Kanyakumari District”. His study indicates that mining for sand is another environmental threat the coastal region of this district is facing now. Due to mining, the fishermen are losing their beach area which is used for keeping their fishing crafts and gears. Mining causes sea erosion which in turn destroys the huts which are situated very near to the sea shore. If this situation continues, coastal fisheries will continue to decline, thousands of fish workers will lose their jobs and living areas. Coastal
communities and low-income consumers will suffer disproportionately.

John Kurien (1998)\textsuperscript{19} has made a study on “Small-scale fisheries in the context of Globalisation”. His study reveals that the fishermen started to realize that there was no direct correlation between use of motors and enhanced fish harvest. Some of the fishermen, use of motors led to the total displacement of the use of the sails and Oars. Fishermen have got “locked in” on the motors and “deskilled” in relation to the use of renewable energy technology perfected over the centuries. The sole implication of motorization was rising investment and higher recurring costs of fishing without commensurate returns. With the Out Board Motors needing to be replaced every two years, an increasingly fewer number of fishermen were able to set aside sufficient funds from their earnings in order to make the new investment. Indebtedness on this account began to rise. In the end the real beneficiaries of this “Propulsion Revolution” were the financiers and fish merchants.

Senthilathiban R and Selvaraj P (1998)\textsuperscript{20}, in their study “Focusing on Fishing Households” arrived at the conclusion that poor education, abundance of middlemen, unemployment and unemployment during off-season, low social status, less returns and
continued poor economic conditions are the causes for the low socio-economic conditions of fishing labourers. Low fish production is the basic reason to all these problems.

Raj A.D.S (1999)\textsuperscript{21} has made a study on "Waters of Our Coast Present and future". In this study he reveals that the priority need of 30 hamlets is for drinking water, 23 facing health problems, 18 are with medical aid problems, 13 with domestic water shortage and 12 with acute shortage of housing area. In the overall analysis, for 77% of the coastal population, drinking water is the most pressing issue.

Raj A.D.S and Vareethiah Konstantine (1999)\textsuperscript{22} have made a study on "Coastal water - Population and Remedies". In their study they reveal that the water resources and supply to the coast are inadequate as well as polluted. Most of these resources are encroached and at various stages of disintegration.

Shajahan S (1999)\textsuperscript{23} has made a study on "Integrated Marine Fishermen Development Project – Kerala Experience" He views that 31% of the beneficiaries of the project borrowed money also from money lenders. The majority of the respondents utilized this fund for clearing the debts and for acquiring fishing assets. Whole-salers were playing a crucial role in making up the deficit in the supply of
fish in Kerala. The marketing practice in the state evolved over a long period of time has taken deep roots in both primary and wholesale marketing of fish. In the absence of facilities of storage and effective means to intervene in the wholesale markets, there is no way to ensure fair returns to fishermen. It is evident that the most important needs of fishermen are credit facilities and marketing.

Muthiah C et al (2000)²⁴ studied on "Marine Fish – Famine in Karnataka with Particular Reference to Udupi District during 1998-99" They express that short-term, long-term and cyclic fluctuations in marine fish landings are common features and are governed by a complex of biotic and abiotic factors and the exact causes for these variations are largely unknown. It can be treated as one such short-term fluctuation and hence the year cannot be considered as fish famine.

Narayanakumar R et al (2000)²⁵ in their article "Economics of Different Marine Fishing Crafts in Tamil Nadu" say that the marine fishery sector of India has grown from subsistence level to that of an industry mainly through the introduction of mechanised crafts and the subsequent developments in the craft-gear technologies. Though the overall landings have increased, a low catch per unit effort and the increased cost of fishing have left some units to run on
loss. Thus it is imperative to study the economic performance of various fishing units to help in judicial allocation of resources and to suggest suitable policy prescriptions. Hence, the economics of major fishing units was studied in Ramanathapuram district of Tamil Nadu which reveals that the motorized and mechanised crafts earned net profit, while the traditional crafts incurred net loss. Despite higher investment, the mechanised crafts were found more efficient as indicated by different criteria of economic viability.

Ramachandra Bhatta et al (2000) have made a study on “An Economic Analysis of Fishing Operations in coastal Karnataka”. The study examines the impact of introduction of deep sea fishing technologies on its economic viability of small-scale fishing. It shows that in terms of profitability, small fishing units operating in less than 50 metre depth zones generate much higher employment, though deep sea vessels have higher absolute levels of profit and internal rate of return. Further, small-scale fishing gears were found to be more susceptible to loss of revenue from fish production and/or increased operating costs than deep-sea vessels, indicating the eventual decline of some of the traditional gears. The negative revenue impact of higher supply is more for larger vessels compared with smaller vessels, as shown by the inverse demand
function. The standard deviation, as a measure of risk, represents lower risk for share-seines compared with trawlers.

The study made by Ganesh Keremene B. and Naik B.K (2001)\(^27\) entitled “SWOT Analysis - Indian Fishing Industry” reveals that the fishing industry has generated and strengthened a large number of ancillary industries and it will continue to strengthen then. The fishing industry of India has made several strides in the commercial sector, and will continue to move forward in the coming decades. In this context, it is imperative that the objectives of food security supply, income and employment generation and export earnings are also planned to move apace.

Joseph Durai A and Srinivasan R (2002)\(^28\) have made a study on “Status of Fisheries Development in Tamil Nadu - Significant Aspects”. Their study indicates that the welfare measure for people is the opportunity to keep themselves busy. In the long-run welfare measures cannot be self-sustaining. The appropriate mix between infra-structure development and welfare measures must be kept under constant review. At any given time even in the absence of subsidies, infrastructure development is likely to confer different advantages to different sections of the society over a time
period. Without infrastructure improvement the condition of the poor cannot be improved.

2.2 IMPACT OF MECHANIZATION

As Chidambaram C (1989)\textsuperscript{29} expresses in his study "Fisheries Policy, Modernisation and the Traditional Communities" that foreign collaboration could be encouraged to accelerate the process of growth in the fishing industry. He adds the facilities should be offered for the import of deep sea fishing vessels. The views of Chidambaram have been upheld by Arora who has done a lot of work on the integrated growth of deep sea fishing vessels in India.

Ibrahim P (1991)\textsuperscript{30} in his study "Mechanisation and Fish Output Kerala Experience" divided the post mechanised period into three phases depending upon the nature of impact of mechanisation on fish output. In the first phase (1954-1968) the growth was due to traditional sector. In the second phase (1969-1975) mechanisation contributed positively to the growth fish production tended to stagnate or even decline. The most important reason for the limited impact on, and the decline in fish output is the exclusive concern of the mechanised sector with export-oriented prawn fishery which
rigidly circumscribed the area of its operation, set serious limits to
effective fishing time, stultified the range of species caught, upset
marine, ecology and caused resources depletion, thus virtually
defeating all the major objectives with which mechanisation was
introduced.

Pramanik S.K (1993)\(^{31}\) has made a study on "Fishermen
Community of Coastal Villages in West Bengal". His study reveals
that their cultural and religious beliefs influence their fishing
techniques, and the techniques along with the changes in them,
affect their beliefs. But behind all the facets of heir lives looms large
the stark fact of their appalling poverty.

Sam Bennet P and Arumugham G (1993)\(^{32}\) have made a
study on "Impact of Motorization on The Traditional Fishery at
Tuticorin". An important change in the traditional fishermen started
motorizing their crafts. The advantage of motorization, in modern
era, overwhelmed and every month many traditional fishermen fitted
their crafts with machines for propulsion. With the passing of years
the momentum increased in Tuticorin. Generous loans were granted
by commercial banks for the purchase of motors and those who
could offer used their own resources. In their study they deal with
the total fish catch of various gears. As more and more traditional
fishing boats were motorized, the number of non-motorized boats
engaged in fishing steadily decreased. Total quantity of fish caught both by motorised and non-motorized units put together also showed fluctuating trend till 1989 and since then steadily decreased. They state that one reason for decrease in fish catch after motorization of traditional crafts is the intensive fishing carried out by motorized units in the inshore areas traditionally fished by non-motorized fishing units. It is also possible that sufficient recruitment is not taking place in the fishing grounds to give an encouraging trend in the motorised fishery. As there is a no going back on motorization, the earnest hope of fishermen is that the downward trend in catch will be reversed in the near future.

Conner Bailey (1994) (33) has made a study on “Employment Labour Productivity and Income in Small Scale Fisheries of South and East Asia”. His study reveals that in many parts of the region there has been a net growth in the numbers employed in the fisheries, notwithstanding the problems associated with overexploitation of the resources. At the same time, despite years of developmental and technological assistance, fisheries productivity in the region as a whole has if anything declined; the gains obtained by some fishermen have been enjoyed at the expense of others.

Sathyadas R (1997) (34) has made a study on “The Impact of Motorization on Catamarans along Tirunelveli and Kanyakumari
Coasts. The study reveals that the Gross and net earnings of motorized units increased due to higher catches of cuttle fish. However he has pointed out that there is not much difference in catch where wind blows favourably most part of the year enabling the non-motorised units to operate equally effectively.

Gendy G.E (1998)\textsuperscript{35} has made a study on "The Performance of Selected Small Fishing Craft on the East Coast of India". The study points out that factors like dependence on fisheries, availability of cash in a community, low opportunity cost of capital and labour, and access to Beach Landing Craft [BLC] determine the acceptance of, or resistance to, these fishing craft in a specific area. Also major influencing factors. In the BLC all conditions were fulfilled, the best economic performance was achieved despite the technical problems initially faced. In terms of internal rate of return and benefit costs ratio, non-motorized traditional craft show a better overall economic performance than the BLC. The economic performance of the BLC and motorized traditional craft are similar at each location in the absence of major technical problems with the engines. BLC generate higher earnings for their owners of their owners of other fishing craft when depreciation costs are not taken into account. When the latter is deduced, their earnings drops considerably and even become negative.
Thippaiah P (1998)\textsuperscript{36} has written an article on "Effects of Mechanisation on Marine Fisheries in Karnataka". He states that due to increased mechanisation the majority of the fishermen who were mostly self employed earlier are now labourers in the mechanised boats and are earning a very meager income.

Yohannan T.M et al (1999)\textsuperscript{37} have made a study on "Marine Fisheries in Kerala". In their study they reveal that the traditional sector dominated the fishery till 1983 and thereafter it declined with the fact development of motorised sector, but the mechanised sector maintained its contribution. In 1994 the contribution by mechanised sector increased and pushing down the contribution by the motorised sector to the second place. The traditional sector suffered further decline. In 1996 the motorised, mechanised sectors increased to 51\%, 44\% and the traditional sector contributed 5\% respectively.

Munireddy R et al (2001)\textsuperscript{38} have made a study on "Potential Prospects for Indian Fishers Exports to ECC Countries". Their study expresses the European Economic Community [EEC] has been continued to be second largest importer of fish from India. Japan is the largest importer of fishery products from India. India earned Rs. 5,100,00 crore foreign exchange from fisheries exports.
Diversification of markets and diversification of fisheries products would be the first step towards the promotion of fisheries exports from India.

2.3 EMPLOYMENT

Ibrahim P and Stanley D' Silva (1997) wrote an article on "Comparative Economics of the Mechanised and Motorised Techniques". They state that the three techniques (craft-gear combinations) were in operation in the study are; the odam-boat, seine combination thoni-gillnet combination (both belonging to the motorised variety and the motorised variety) and the trawler (mechanised boat). They point out that, in terms of weight of fish landed per man hour of effort odam boat seine combination comes first, thoni gillnet second and trawler third. The value of catch per man hour was the highest in thoni-gillnet and lowest in odam-boat seine, trawler remaining in between. The net profit rate varied from 13% to 24% in the two motorised traditional techniques while it remained boats neither produce the biggest output nor make the largest profit. They also points out that highest labour productivity was recorded by thoni gillnet and highest capital productivity by odam-boat seine combinations. In either case trawler held an intermediate position. This indicates that the operation efficiency of traditional crafts is better as compared to the mechanised boats.
Finally they concluded that all the techniques were operating at a profit, though profit rates varied considerably among themselves irrespective of the differences in technology collective pattern of ownership was found to offer better returns to the actual producers of fish. This may partly explain the current tendency among the fishing enterprises of the are to organize themselves under collective ownership.

Kuruvila A.C (1997)\(^{40}\) has studied on "The Ownership Pattern of Fishing Assets and Its impact on Earnings and Employment in the Fishing Sector of India". He identified that a owner household provides additional employment for eight persons in the fishing community. He inferred that the low cost craft-gear combinations give a better earning than high cost combinations.

Rashid M.A (1999)\(^{41}\) has made a study on "Share system of Distributing Earning From Small-Scale Marine Fishing in South East Coastal Area of Bangladesh". His study reveals that in Bangladesh, majority of boats are run by non-sea going owners. To run the fishing operations they usually employ a skipper and crewmen. Sharing net profit between the boat owner and the crew members is the most dominant remunerating practice in the marine fisheries. Income from gillnet and long line fishing operators is based on a
share of catch. The running costs are deducted from the gross revenue and the proceeds are shared on the basis of predetermined 31%, 31% for the boat, net and the crew. The long line is based on same system of catch. But only the head majhi gets 2 shares while all others are entitled to get 1 share. Setbag net remuneration is based on a fixed cash-wage for the season.

Rajasenan D (2001)\(^{42}\) has made a study on “Technology and Labour Process in Marine Fishery”. This study exposes that the process of modernizing of fishery industry through the induction of technology changed the labour process by converting the immediate producers into wage earners and also the deprivation and marginalization of the real fishermen. The fisher’s response political as well as technological created an environmental conducive to regaining the lost control of the labour process. This shows that though fisheries development helps in generating and harvesting revenues within a new structure, it is also influenced by labour market institutes and the prevailing stage of economic development.

2.4 PRODUCTION

Sathyadhas R et al (1994)\(^{43}\) have made a study on “Marine Fish Marketing in India”. The study reveals that fish marketing in India is characterised by monopsony and oligopsony conditions and
hence, the fishermen are unable to get maximum advantage of high price prevalent in the market. The fish marketing in India is gradually transforming from traditional to modern system. Inspite of this involvement of a large number of middlemen affects the interests of both the fishermen and consumers.

**Cui Lifeng** (1995) made a study on “China Develops New Fish Marketing System”. In his study he reveals that before 1979, China Consistently followed the centrally planned management policy in fish marketing. The practice proved that such fish marketing system had a negative impact on the production. China made headways in the fisheries sector with its new reforms. The old centrally planned system of marketing is replaced by an open-market system, paving the way for new developments in the fisheries sector.

**Muktha Shet M** (1995) has made a study on “Socio-Economic Conditions of Fishermen on Dakshina Kannada”. The study reveals that the small boat owners have been negatively affected by still Competition from big mechanised boats. Since price of fish is determined by the big mechanised boats they not only a smaller fish catch but also a lower unit price. For the big boat owners low unit prices are compensated by larger fish catch.
Technology on the whole has benefited most of the fishermen directly or indirectly. A smaller section of the non-mechanised sector has not been benefited from mechanisation due to problems of small size, traditionally very little referencing and also due to households having a lower number of active fishermen.

Subramani S (1998)\(^{46}\) has made a study on “Comparative Catch Trend by Traditional and Motorised Craft at Arangam-kuppam near Madras”. The study reveals that motorised craft brought higher returns than the traditional ones of the pre-motorisation period. The increase in the landings by different gears to be noted by the powered craft was not reflected in the catch per unit estimates of various gears as compared to the non-motorised country crafts. The study also reveals that there was not much difference in the species composition of fish landed by both types of crafts due to the fact that the gear operated by them fished in the same ground.

Kamal Kumar Datta, S. S. et al (1999)\(^{47}\), in their article “Productivity, Profitability and Income Distribution in Capture Fishery-A study of the Orissa Coast”. reveal that the non-mechanised units experienced low net returns. But in relation to the capital investment as well as operating cost net returns of non-mechanised units were higher than that of mechanised units.
Correlation analysis was employed to determine correlation between profitability and socio-economic factors. Gross returns were considered as indicators of profit because annual fishing days and gross returns of all types of units was observed to be backward bending, that is, fishing income decrease with increasing fishing days.

Shiyani R.L and Ranparias P.V (2000) wrote the article "Income Inequality Among the Fishermen of Saurashtra Region of Gujarat". In the article, they reveal that there existed disparity in income among the fishermen of the study area. Relatively higher income disparity was observed in Mangrol Centre, followed by the other centre. The income inequality was comparatively higher in OBM unit than that of trawl unit, which needs greater attention to the policy makers. The concept of "Co-operative fishing" instead of "Competitive fishing" should be promoted for minimizing the income inequalities. They also suggested that the state Government should take necessary steps to enforce rules demarcating different fishing grounds for different craft gear combinations, which will help maintaining socio-economic balance instead of creating socio-economic conflicts among fishermen.
Guledgudda S.S et al (2003) have made a study on "Production and Export Performance and Plan Allocations: Review of Fishery Sector in India". The study reveals that the unit value of the marine output was high, the export earnings realized from fishery sector is very high. The share of fishery sector in total country's export and agricultural exports earnings showed a steady increasing and decreasing trend over a period of time.

2.5 FINANCIAL ASSISTANCE

Eugine T (1990) in his article "Credit Labour and Marketing Relation on Traditional Marine Fish Economy of Colachel" says that the heterogeneous money lenders, combining the lending and marketing activities with regard to traditional marine fishermen have acquired actual control over most of the catches through their lending practices. Thus, the inter linked credit, labour and marketing system is used as a means for appropriating the surplus value produced by the fishermen by their hard labour, keeping them under the thumb of the oppressive forces exercised by the money lenders from whom the traditional marine fishermen borrow perennially. They are therefore heavily indebted.

Md. Harun Ali (1990) has made a study on "Fishermen's Co-operatives in Bangladesh". He reveals that the failure of Co-
operatives in undertaking the marketing of fish is the main reason for the dominant role of private agencies in fish trade. He also reveals that the fishery Co-operatives have failed to provide necessary services and facilities to the fishermen community with the result that the fishermen continue to depend on middlemen. Since Co-operatives area recognized as ideal institutions in extending the necessary services to the fishermen community. As the primary societies are not viable they should be reorganized and revitalized. The failure of the institutional agencies in meeting the credit needs of fishermen forces them to heavily depend on the non-institutional sources.

Thanulingom N and Sr. Caroline (1990) have made a study on “Services of Fishermen Co-operative Society” in Chidambaranar district. The authors say that the society acts according to its principles. It helps the fishermen to apply modern techniques of fishing. The society is rendering all services to its members in accordance with its bylaws. It encourages thrift and savings habit among the members. The standard of living of the fishermen has increased because of the society. The social relationship of fishermen has increased because of the society. Even though the majority of members have given negative
responses, the attitude of members towards the services rendered by the society is unfavourable.

Panda D (1993)\textsuperscript{53} in his study "The Fishery Co-operative Movement in Orissa" states that the studies conducted on Socio-economic life of fishermen revealed that the fishermen have low per capita income, mounting indebtedness, inadequate possession of fishing crafts and gears, poor social and educational standards. All these factors are responsible for their low economic conditions and their exploitation by middlemen. Hence the Primary Fishermen Co-operative Societies (PFCS) are formed in the estate with the following objectives in view:

a) To help members in marketing their catch;

b) To make direct on subsidised purchase of fishing crafts and gears for supply to members either on scale or on hire;

c) To procure loans from available sources for the benefit of members;

d) To encourage the members to adopt modern methods and know-how for fishing;

e) To grant loans to members on security of movable and immovable properties and;
f) To engage in all such activities necessary for improving the economic status of members and bringing co-ordination among them for common interest.

Sathiadhas R and G. Venkataram (1993) have made a study on "Indebtedness and Utilisation of Fisheries Credit in Sakthikulangara and Neendakara, Kerala – A case study". They reveal that majority of the fishermen of our coastal villages continue to be poor even though higher income has been generated among them by way of modernisation of fishing crafts and gears, mechanisation of indigenous boats and introduction of synthetic nets. The credit facilities that have been extended to them under the successive five year plans steadily increased. However, this has not resulted in any significant improvement in the standard of living of majority of fishermen who continue to be indebt and in the grip of money lenders. Introduction of mechanised boats has been a great advance in the fisheries sector. This has led to the development of infrastructure facilities in this area like establishment of ice factories, cold storage plants and workshops for the repair of mechanised boats. The investment made here in this sector is far higher than in most of the other fishing centres and hence credit plays a vital role in their economy. The fisher-men in many cases find it difficult to obtain credit from the formal capital market as they are unable to
fulfill the conditions imposed by it before extending credit facilities. The majority of the credit needs are met by the money lenders at higher rate of interest. This is specially seen in the case of fishermen belonging to the lower income group. The role of Co-operative societies in extending credit to fishermen is quite limited. Hence institutional agencies should play a greater role in meeting the credit requirements of the fishermen of this area with particular reference to the lower income groups. They are unable to avail the credit facilities from institutional agencies to a greater extent as they are not in a position to fulfill the terms and conditions laid by them for extending loans. So relaxation in the conditions should be thought of so that they can also avail the facilities to a higher extent.

Asghar Zain V. P and Srinivasan N (2000) have made a study on “An Appraisal of Fishermen’s Co-operatives in Kerala”. The study reveals that the Kerala State Co-operative Federation for fisheries development plays an important role in co-operating the activities of various fishermen’s co-operatives at the primary level. It encourages motorization of country crafts, popularization of new generation fishing crafts, conversion of fish into value added products, setting up of cold storage chains, and other allied activities. There is a tremendous growth of credit for motorisation, mechanizations are for efficient marketing. The main implication of
the study is that if the entire fisher folk actively participate and sell their catch through this network, this may be one of the ways by which the fishermen can be pulled out from the low income trap.

Jayakumar P.N and Ananth P.N (2000)\textsuperscript{56} have made a study on “The Trend and Growth of Fisheries Co-operatives in Tamil Nadu”. Tamil Nadu is noted as the pioneering state in India in the introduction of Co-operative movement. At present, there are 886 fisheries Co-operatives which includes both fishermen Co-operatives 775 and fisher women C-operatives 111 with a membership roll of 3.35 lakhs and 34,372 respectively. The study reveals that there is a steady and even growth of fisheries Co-operatives over the years. But the growth is not found to be tremendous.

Ramesh R.S and Hanamashetti J. S (2000)\textsuperscript{57} have made a study on “Role and Performance of Fisheries Co-operatives in Karnataka”. The State of Karnataka has been paying increasing attention to the development of fisheries during the successive plan periods. The performance indicators reveal that there has been a steady increase in the membership of fisheries societies for the last 3 decades. The marketing activities of fisheries co-operative which comprise of outright purchase, procurement, pooling, supply of
fisheries requisites and maintenance of distribution outlets, storage etc. The general trend reveals that majority of societies are doing marketing activities satisfactorily. The total volume of business transaction of a society has direct bearing on the determination of the viability of the co-operatives. As such, the volume of turnover per society has recorded 4.2% growth over the years. The volume of business turnover per society has increased considerably. A greater proportion of loan was advanced exclusively for fisheries production. Further, the credit advance for marketing found to be high implying greater volume of marketing business. The total out standings has steadily increased over the years. However, the over dues have remained more or less stable.

Pazhani K (2002)\textsuperscript{58} has made a study on “Non-Governmental Organization and Socio-Economic uplift of fishermen”. He states that the objective of the KDFSF is to help the socio economic upliftment of the fishermen who are at the last rung of the social ladder. Moreover, it extends financial help to the needy fishermen only after knowing fully about them through fishermen sangams and also linking credit with marketing. This system is free from exploitation and paves the way for proper recovery of loans. Further, in the marketing chain too the role of middlemen is avoided and the fishermen are able to reap the full benefit through remunerative
prices. The fishing equipments selling unit and also the outboard engines service stations function with service motive and if at all they earn a minimum profit that too is used for the development of member fishermen.

Ramachandra Bhatta, K et al (2003) have made a study on "Marine Fish Production in Karnataka, Trends and Composition". They argue that not only has there been a falling trend in production, but also a change in species composition resulting in the decline of hitherto commercially important fish as well as those consumed by local communities. It suggests that this decline is not just a seasonal fluctuation but an indication of fish famine in terms of both production and accessibility.

2.6 DEEP SEA FISHING

Devaraj M (1995) has made a study on "Deep Sea Fishing in Indian Waters". The study reveals that commercial fishing activities beyond 100m depth is highly restricted due to various constraints like inadequate flow of finance for procurement of vessels and development of shore infrastructure, processing and marketing facilities, target interest in exploitation and lack of skilled manpower. It is necessary to limit deep-sea areas to cover the region beyond 150m depth zone.
2.7 EXPORTS

Chandrasekara C.H.M.T (1994) has made a study on "Fisheries Co-operatives in Asian Countries". His study reveals that in India, number of successful fisheries co-operatives function in the states of Kerala, Gujarat and Maharashtra. They successfully control marketing, eliminating the middlemen. However, taken as a whole, the impact on the lives of fishermen through the co-operative activities is only marginal. Like the co-operatives, mechanization also started late in Bangladesh and has shown comparatively slow progress. Only a few societies have been successful and projects stated late in Bangladesh and have shown comparatively slowly progress. Only a few societies have been successful and projects stated with foreign assistance continue as a major attraction in the fisheries sector.

Anjani Kumar and Praduman Kumar (2003) in their article "Food Safety Measures: Implications for Fisheries Sector in India" have shown that the compliance with food safety measures is a costly proposition for the developing countries like India. It has also affected the export competitiveness adversely. The net social gain to the society is negative. However, food and Health safety concerns are vital and exporting countries have to comply with to
promote export efforts should be made to bring down the high compliance cost by bringing more efficiency in utilizing HACCP process in the country. Further, maintaining high quality food and fish should be propagated as a strategy to stay ahead of other competing countries in world market. However, bringing all the small producers who are scattered throughout the rural/coastal areas to HACCP processing plants will remain a major challenge.

Shyam Salim and Ojha S.N (2004) have made a study on “Commodity Diversification and Geographic Concentration of Indian Sea Food Exports”. using the Gini-Hirschmann index. They suggest that there has been dynamism in export in commodities as well as markets from the traditions one commodity (shrimp) – one country (Japan) framework there has been considerable improvement in the commodity diversification and the geographic concentration on comparing the two different time periods. Modern approaches for diversification through value addition and collaborations with international firms may be explored in the fisheries export.

2.8 MANAGEMENT

Philip Appleyard (1986) has made a study on, "Fisheries Development 2000". This study reveals that in examining the various pre-investment activities (exploring fishing and resource
surveys) that will increase the world catch, it is evident that there will be need to a very substantial investment in fishing vessels, processing, and distribution and marketing systems. It will be necessary to help existing fishermen through various extension services and a grass root education process as they provide a reservoir of manpower for the extension of fisheries.

Varambally K.V.M (1998) in his study on “Marine Fisheries in Coastal Karnataka - The Need for Appropriate Management” reveals that the mechnisation programme in the estate brought more than 80 percent of the fishermen population within its fold. But the mechanised sector at present is facing several constraints, which run as follows:

(i) The number of separating mechanised boats has been overcrowded in the coast of Karnataka. This has adversely affected the economic operation levels of these boats, that is, it reduces the fish catch.

(ii) The marine fishery resource is a common property and is accessible to all. But the cost of production to exploit the resource varies directly with the distance of the fishing ground from the shore. This has resulted in indiscriminate exploitation of marine resources very close to shore.
(iii) The absence of clear cut demarcation for potential fishing area for traditional crafts and mechanised crafts results in unhealthy disputes and clashes among operating fishermen.

(iv) The operation of mechanised boats has become uneconomical due to decrease in per boat catch on one hand and increase in cost of operation on other. This has resulted in reduced cost of operation on the other. This has resulted in reduced cash accruals for repayment of loans borrowed from banks and other financial institutions. Financial institutions find it extremely difficult to recover the loan amount advanced to mechanised sector.

In his book "Marine Resource Management: Conflict and Regulation in the Fisheries of the Coramandal Coast" Maarten Bavinck (2001) attempted to understand how conflicts over natural resources develop and how they are resolved or perpetuated. The study has examined there manifestations of tenurial claims and the resulting condition of legal pluralism in the common inshore sea along the Coramandal Coast of Tamil Nadu. First, it analyses the age-old territorial claims and fishery regulations of the artisanal fishing community, by focusing on one particular
village in Chinglepet district. This is followed by an examination of
the more recent rule system of the trawler owners operating from
Royapuram harbour of north Madras. Finally, in response to the
increasing conflicts between the two parties, the study reviews the
legal conventions of the state of Tamil Nadu. The development of
these three legal systems, their own bases and realms of legitimacy
form the basis of the study.

He points out how disparate the various tenure systems are in
operation and the difficulty of bringing them together. There is a
need to explore the possibility for a co-management strategy which
involves the alignment of state and of fishermen's tenure system
towards a common set of goals for improvement of marine resource
management.

2.9 MARKETING

Subha Rao N (1988) has expressed in the book
"Mechanisation and Marine Fishermen - A Case Study of
Visakhapatnam" the mechanization of marine fishing in the
Visakhapatnam region of Andhra Pradesh on the east coast and its
impact on the marine fish production and on the socio-economic
conditions of the fishermen. He reveals that the mechanised boats,
reported relatively higher profits as against traditional boats when
operational costs alone have been taken into consideration. The
traditional boats exhibit more economic viability than the mechanised boats, since the percentage rate of return is related to capital investment I much higher case of these. The pattern of employment of fishermen in traditional sector depends largely upon the size and type of boats and nets. The new technology in fisheries by stimulating growth in fish production is expected to yield increased incomes thereby bettering the levels of consumption. Though majority of the households in the mechanized sector are also I an object state of poverty, they are better off at least to some extent when compared with the traditional operators.

Sathyadhas R et al (1994) have made a study on “Marine Fish Marketing in India”. They state that fish marketing in India is characterized by monopsony and oligopsony conditions and hence, the fishermen are unable to get maximum advantage of high price prevalent in the markets. There is a continuous increase in demand and price of fish both in domestic and export markets. The increase in fish prices is comparatively higher than the increase I prices of food grains and other livestock products. The fishermen got higher share for those varieties which were having high consumer preference. The fish marketing in India is gradually transforming from traditional to modern system. Inspite of this, the involvement of
a large number of middlemen affects the interests of both the fishermen and consumers.

Debdutt Behura and Durga Charan Pradhan (1998) have made a study on “Co-integration and Market Integration – An Application to the Marine Fish Markets in Orissa” to find out whether marine fish markets in the state are integrated to bring about efficiency in the market system. The study reveals that marine fish markets in the state are assumed to be not integrated. This is mainly attributed to poor infrastructural facilities at landing centres as well as at the terminal secondary markets. The poor market integration observed in this case reveals that marine fish markets in the state are quite uncompetitive.

Pazhani K (2001) has made a study on “Marine Fisheries Finance in Kanyakumari District - An Economic Study”. The study reveals that the numbers of working days, investment and labour employed significantly influence the income from the Catamaran sector ['C' sector]. In the Motorized Catamaran sector ['MC' sector] and Motorized Vallam sector ['MV' sector], the level of investment and number of working days and labour employed are significant in influencing income from fishing. Labour cost works out to more than 60 percent of the production cost in 'C' sector. Fuel cost has
influenced total production cost in the other sectors of the fishing industry. The percentage of net return per craft shows a decreasing trend from ‘C’ sector to ‘MB’ sector, but high fuel and maintenance in the other sectors except ‘C’ sector. Money lenders and fish traders were playing a significant role in the credit market structure by contributing 61 percent of the total loans advanced by different agencies followed by banks and friends and relatives. An important factor, which causes much financial loss to the fishermen, is the conflict between the traditional and mechanised craft operators over the issue of fishing in inshore water. The secured loans borrowed from banks by mechanised boat owners shows a higher rate of repayment where as unsecured loans borrowed from money lenders show only 20 percent repayment.

Many researchers have already studied the various aspects of fishing in various other areas. The studies which have been already studied covered the socio-economic conditions of fishermen, impact of mechanization, production, marketing, fishermen cooperative societies and financial assistance to the fishermen. But, no one has studied the comparative welfare conditions of catamaran fishermen and mechanised fishermen in Kanyakumari District. This has actually created a fresh avenue for making a fresh and exclusive research study. As such, the detailed review made here on the
related areas has clearly made the base for the scope, significance, methodology and use of the present research study.

References