CHAPTER II

REVIEW OF LITERATURE

A review of earlier studies on fisheries is necessary to enable the researcher to gather a panoramic view about the sector and to gauge the unknown and unexplored areas for conducting indepth studies. The earlier studies made on different aspects of fisheries are briefly reviewed here.

(i) Studies on Marine Fisheries Development

Durairaj' (1981) in his research study, "Marine Fishing Industry in Thanjavur District" analysed the distribution of income, level of borrowings and the annual average return per craft of both the catamaran and mechanised sectors, among various groups of fishermen. The major findings of the study are: (i) The distribution of income in the workers groups was more equitable than owner-worker groups, (ii) The annual average net return per craft in catamaran sector was more than that of the mechanised sector, (iii) The workers in the mechanised sector could get a higher income than an owner-worker in the catamaran sector, (iv) The high cost of fuel and lubrication was the main cause for low return per craft in the mechanised sector. The author had also identified the following research gaps and suggested that further research could be undertaken on these lines, and they are: (i) Inter-district study on the impact of mechanisation of the fishing industry on production, income and employment, (ii) The financing of the fishing industry, (iii) The study of linkage effects of the fishing industry on other allied activities, and (iv) Cost-benefit analysis of marine fishing.
Sivayya and Ratinam\(^2\) (1982) in their study on, "The Impact of the Activities of Andhra Pradesh Fisheries Corporation on Traditional Fishermen" presented the socio-economic conditions of fishermen and analysed the role of the corporation in uplifting them. They found that the impact of the corporation had been only marginal.

In "Fisheries Development in India: Some Aspects of Policy Management " edited by Srivastava\(^3\) et al., (1983) it has been pointed out that fisheries is a potential employment generating sector and a source of animal protein at low prices. The authors have analysed the different aspects of fisheries development such as demand, supply, marketing infrastructure, investment opportunities, technology and organisation. They also have focused on the inter-relationships between fish production, marketing and organisation.

Subba Rao\(^4\) (1986) in his study titled "Economics of Fisheries" pointed out that the insufficient financial resources allotted to the fisheries sector and the number of schemes proposed in five-year plans, majority of them were not completed in the respective plans are the reasons for the low production of fish in India. The author also found that fishermen refuse to adopt new techniques because of their illiteracy and conservatism and there was lack of coordination among the agencies connected with the implementation of different fisheries programmes which also adds to the misery of the sector.

Dharmaraj\(^5\) and others of Central Marine Fisheries Research Institute (Central Marine Fisheries Research Institute) (1987) in "An Appraisal of Marine Fisheries in Tamil Nadu and Pondicherry" have given data on the number of fishing villages, landing centres, population, craft and gear particulars and on exploited marine fishery resources in Tamilnadu.
Durairaj, (1990) in another paper titled "Some Issues in Marine Fisheries Development in India", has pointed out the factors that hampered the marine fisheries development. They are: (i) the low quantity of the catch, (ii) the absence of surveys on identification and information regarding different fish shoals with abundant fish resources in different parts of India, (iii) lack of strong and reliable database in marine fisheries, (iv) mechanisation of the marine sector and its impact on small fishermen, (v) the absence of proper marketing system for marine fish, and (vi) the high rate of fishermen reeling under insurmountable debts and exploitation by money lenders.

James, (1990) in his research work on "Marine Fisheries not Fully Tapped" analysed the total marine potential and the average production in the mechanised and traditional sector. The author indicated that the coastal area has been more or less fished at optimum level. However, the potential in off-shore and deep sea fishing has not been fully tapped, which can be remedied by establishing joint ventures with countries with expertise and experience in high sea fishing.

Mohapatra, (1990) in his paper, "Fisheries Extension Approaches and Experiences in India with Reference to the State of Orissa" outlined the importance of strengthening fisheries extension, input-output management, and extension methods, for the development of fishermen.

Kathiha et al, (1990) in their research work "Marketing Efficiency: A Case Study of Allahabad Fish Market (U.P)" have made a comparative study of the operational and pricing efficiency in fish marketing. The study found that the consumer price leaves a high profit margin to retailers and suggested that the fishermen should be assured of some remunerative minimum prices at least for important commercial fish varieties.
Rajan\textsuperscript{10} (1990) in his article "Credit and Capital Structure of Small Scale Fishing Units in Kerala" studied the extent to which fishermen depend on credit for investment in fishing units and also the association between the magnitude of investment and borrowings. The study has analysed the capital structure and the debt equity ratio and also examined the correlation between investment and debt and concluded that the investment in the small scale fisheries was heterogeneous and the loans provided by the organised sector were insufficient.

Shukla" (1990) in his paper "Undertake Fishery Mahayagna" outlined the basic characteristics of the Indian fishery sector and stated that the contribution of Indian fisheries to world fisheries was just three per cent even though investment to employment ratio was very high. According to the author necessary provisions are to be made with regard to infrastructural, technological, financial, managerial and policy strategy and other such inputs. A suitable national fishery policy has also to be evolved.

Sunil Kumar Mohamed\textsuperscript{12} et. al., (1990) in their study titled "Imperative Need for Regulation of Marine Fisheries in India" have identified reasons for imposing regulations like provision of safety, avoidance of conflict, uneconomic fishing etc. They have stated that general types of fishery regulations are to be adopted. They have also listed the factors influencing regulatory measures and the methods for enforcing the regulations.

Varambally\textsuperscript{13} (1990) in his paper "Indian Marine Fisheries not for Nutrition Alone" traced the growth in marine fisheries industry in India. The author has explained the contribution of this industry in offering employment opportunities, generating incomes, providing nutritious diet to the people and enhancing foreign exchange earnings through exports. The author has assessed
that the marine fisheries production has only trebled between 1950-51 and 1987-88, though there were possibilities of faster growth. The study has also highlighted some of the problems encountered by the marine fishing sector. The author has recommended acceleration in the process of deep sea fishing and encouragement of brackish water shrimp culture.

Chidambaran\textsuperscript{14} et al., (1990) in their study "Marine fish Marketing in Tiruchendur Area in Tamilnadu" have analysed the nature of marine fish supplies and the various marketing problems of the fishermen. The study has suggested that the fishermen should be educated about the benefits they may receive from co-operative societies.

Varambally\textsuperscript{15} (1990) in his paper, "Exports Potential of Marine Products" reviewed the export performance of the marine products in India during 1981-1988. The following are the useful suggestive measures put forward by the author for accelerating export of marine products. The exporters have to adopt a new marketing strategy to promote Indian marine products in other countries; understand the changing customers preferences and scan the global market to identify our strength, weakness, opportunity and threat to our marine exports in international markets.

Mary Chaudry\textsuperscript{16} (1991) in her study "Fishes - India-The land and the people" viewed at the biological and scientific aspects of fish as the determining factors for fisheries development in India. The author has studied its place in the animal kingdom, its remote origin and history and its peculiar structural features which are special adaptations for its life in water. The author has also identified the common Indian fish, fishing crafts and gear suitable for marine and inland fishing. The study has also described the various methods
adopted for the preservation of fish such as drying, smoking, canning and the more modern methods of preserving a highly perishable commodity.

Srivastava, et al., (1991) in their comprehensive study on "Fishery Sector of India" thoroughly examined the various aspects of the fishery sector consisting of marine, brackish water and inland fisheries, the present constraints and future prospects of the fishery sector, specifically commercial marketing, processing of fishery products and operation of deep sea vessels. They also discussed the policy support, investment opportunities and estimated the financial assistance requirements of the fishery industry over the next five years. The study is highly useful for policy makers, researchers, students of the fishery sector and all those involved in fisheries.

Chhaya, et al., (1991) in their paper "Economic viability of Trawlers, Gillnetters and Dugouts with Outboard Motors" have estimated the total cost and net profit per trip of a trawler, a gillnetter and a dugout with outboard motors. The study has revealed the cost benefit relationship of fishing and the ability of the fishermen to repay, if loan was extended to the craft owners. This study has found out that the gillnetter with inboard motor was more profitable than the other two types viz. dugout with outboard motors and trawlers.

Shah (1991) in his study "Action Plan to Boost Exports of Indian Marine Products" has analysed the present position of marine product export and also compared the growth of Marine Fisheries Exports for a period of 8 years from 1980-88 with six other countries around the Indian sub-continent. During this period, exports in India had gone up only by 197 per cent while it was up by 816 per cent in the Philippines. The study has outlined the various measures needed, such as government's financial assistance for processors and export promoters and facilities of cold storage and adequate transportation.
Ibrahim\(^{20}\) (1992) in his paper, "Fisheries Development in India" has assessed the socio-economic impact of the introduction of mechanised techniques of production into a traditional and labour intensive sector which employs indigenous and conservational technology and pointed out the pitfalls of a strategy of development through technological upgradation without due care to protect the socio-economic interests of traditional fishermen.

Francis Cherunilam\(^{21}\) (1993) in his work, "Fisheries: Global Perspective and Indian Development" has observed that a number of developing countries have made a great leap forward, but their position in the international market for seafood has been on the downslide. The author has also made an attempt to study India's fisheries development in general and the marine products export in particular against the background of the global development and concluded that: (i) the international market for seafood will continue to grow and expand in the foreseeable future, (ii) the competition will further intensify, (iii) the seafood market will become more innovative and technically sophisticated, (iv) consumers are becoming more health quality and price - conscious and convenience -oriented, and (v) several constraints have affected the development of the fisheries industry in India.

Sheik Mohamed\(^{22}\) (1993) in his study on, "Fisheries Industry in Pudukkottai District", had the following objectives in view: (i) To study the productivity and production trend of fish in Pudukkottai District, (ii) To analyse the fish production function for mechanised crafts, (iii) To explore the condition and extent of marketing offish, (iv) To examine the financial aspects of fisheries and to assess the cost benefit ratio of various sizes of crafts, and (v) To understand the socio-economic conditions of fishermen.
The study has brought out the following conclusions. (i) There was a good scope for the development of marine fisheries in the district, (ii) Transportation of fish to reach the markets was a problem, (iii) Country crafts were considered to be economically more efficient than other fishing crafts, (iv) The relationship between income, consumption and debt levels was found to be significant.

Giriappa\textsuperscript{23} (1994) in his paper "Role of Fisheries in Rural Development" has revealed that fisheries management has to be improved by developing and adhering to the ecosystem conservation principle called unit management wherein all associated species, relevant habitats and spread-outs and necessitated areas are jointly managed. Regulation of catch, entry of vessels, development of endogenous technology for management and provision of marketing and other infrastructure to both capture and artisanal fishermen would improve sustainability of fisheries and pollution control of the coastal areas. Losses in catch, storage and transport have to be minimised. Improving aquaculture technology would sustain fisheries so as to supplement agriculture and biodiversity.

(ii) Studies on Fisheries Resource Management

Srivastava\textsuperscript{24}, et al., (1982) have analysed the main issues and inter-relationship existing in the management of marine fisheries. Their study on "Management of Marine Fishing Industry" has brought out the key role played by the fisheries industry in generating employment and income for the weaker sections in backward areas and has concluded that proper management of marine fishing industry helped in uplifting the standard of living of weaker sections.
Rao (1983) in his paper on "Fishery Economics and Management in India" has given an account of fishery resources, cost, earnings of fishing boats, fish marketing and management. The socio-economic conditions of fishermen and the role of co-operative societies have been reviewed. The author has advocated the formation of co-operative societies which help the fishermen in acquiring fishing boats, marketing fish and repaying loans.

"Production and Marketing Management of Marine Fisheries in Tamilnadu" a comprehensive study covering the cost of fishing, various methods of production of fish and the effects of technology on fishing has been carried out by Sathiadas (1992) with the following objectives: (i) To examine the recent developments in fishing techniques, production trend and variation in the composition of marine fish catch over the years, (ii) To evaluate the costs and earnings of the different craft-gear combinations in marine fishing operations, (iii) To study the marine fish marketing problems, to determine price spread of different varieties and to assess the share of fishermen and middlemen in the consumer's rupee, (iv) To suggest management measures to enhance the level of production and to increase the profitability of different types of fishing units and to improve marketing efficiency of marine fishery resources, and (v) To make a brief evaluation of government policy and recommend changes.

The major findings of the study are: (i) The marketing margins received by middlemen for most of the varieties of fish are high; (ii) The prices in landing centres, wholesale and retail markets were found to be highly correlated for most of the fish varieties; (iii) Indigenous low cost fishing units cannot survive in the long run and mechanisation is the only remedy for optimizing the marine fish production; (iv) Fishermen are unable to select the most appropriate technology, mainly because of the financial constraints; (v)
The lesser the number of intermediaries in the fish marketing chain the higher the share of fishermen in the consumer's rupee.

Korakandy\textsuperscript{27} (1996) in his study titled "Economics of Fisheries Management - A Critique in Third World Perspective" outlined the multiple objectives of fisheries development, viz., enhancement of food supply, employment, national income, foreign exchange earnings, regional development etc. The study has concluded that the global theories of fishery management floated by the Food and Agriculture Organization has made it virtually impossible to fulfil the various national objectives of the developing countries to expand their fisheries management to the Exclusive Economic Zone.

(iii) Studies on Marine Fishing and Fishermen

Selvaraj\textsuperscript{28} (1975) in his study, "Small Fishermen in Tamilnadu" has found out that the socio-economic status of fishermen who are using indigenous boats is low, as measured by low income, low productivity, low savings and a high dependency ratio. Under such conditions labour absorption faces severe constraints. The study has also made fruitful recommendations related to education, production and the marketing of fish to improve the status of small fishermen in the country.

Sehara et al., (1983) in their study titled, "An Evaluation of Fishermen Economy in Maharashtra and Gujarat - A Case Study" have studied the general socio-economic conditions of fishermen in these two states and analysed the rate of literacy, the size of the family, the number of earning members, the number of annual fishing days, income and expenditure and the savings pattern of each family. The major findings of the study are: (i)
Illiteracy was high in all villages, (ii) The size of the family varied from 7 to 8, (iii) The earning members of different categories were 40 to 59 per cent, (iv) The number of annual fishing days ranged from 200 to 244, (v) The quarterly fishing expenditure and income were the highest in the post monsoon season and the lowest during the monsoon, (vi) Around 54 per cent of the total income in Maharashtra and around 58 per cent in Gujarat were obtained from actual fishery, (vii) Nearly 62.84 per cent of fishermen were indebted in Maharashtra and 57.78 per cent in Gujarat.

Babaji (1985) in his research project "Development of Marine Fisheries - A Study of Socio-economic, Production, Marketing and Consumption Characteristics of Marine Fishery Sector in Visakapatnam" has analysed the economy of the fisheries sector with reference to the socio-economic profile of traditional fishermen as well as mechanised boat owners. The study has also analysed the fish consumption pattern of people in Visakapatnam and concluded that inspite of government's help continuously for the past 30 years, little has been done to improve the status of traditional fishermen. It has been observed that fish marketing continued to be on primitive lines and it is in an extremely unorganised state and fishermen cooperatives are inactive.

Srivastava, et al. (1986) in their paper on "Impact of Mechanization on Small Fishermen" have stated that the marine fisheries sector has experienced rapid changes and moved to highly complex and capital-intensive technologies. Keeping in view the interests of small fishermen, the authors have highlighted the following problems: (i) Disadvantages occur due to competition from mechanized boats, particularly those fishing in shallow waters, (ii) Dominance of non-fishermen households who are presumed to have invested in mechanised boats as an economic strategy aimed at rapid
enrichment in the fishing sector, (iii) Unemployment or underemployment in fisheries prevails because of the labour displacement due to mechanisation of fishing craft and (iv) Unfavourable assets and income distribution and mechanisation.

Sathiadas et al. (1989) in their work, "Socio-Economic Status of Marine Fishermen along Madras Coast" analysed and compared the socio-economic status of fishermen of traditional fishing in two villages in the Madras coast. It is found that the average annual income and per capita income are higher in the village where mechanised fishing is done and diversified fishery activities resulted from mechanisation and better infrastructure facilities which are the factors responsible for higher income at the mechanised fishing centres.

Rosaleena Shanthy et al., (1990) have conducted a study on "Socio-Economic Conditions of Small Fishermen" in 6 coastal villages in Tamilnadu arrived at the following conclusions: (i) Variation in the use of fishing craft has resulted in wide disparities in the distribution of income caused by variation in total catches and their composition, (ii) Among the different categories of fishermen, the owners of the mechanised boats could be placed at a higher socio-economic level while the traditional fishermen were poor, and (iii) The government should subsidise the fuel cost of the mechanised fishermen and that the zone of operation, should be clearly marked for mechanised and non-mechanised crafts.
(iv) Studies on Marine Fisheries and Mechanisation

Sathiadas\textsuperscript{34} (1982) in his research paper, "Mechanisation of Indigenous Crafts with Outboard Motors in Tamil Nadu - An Impact Study" has pointed out that it is clue to motorisation that the employment opportunity has doubled. Motorised catamarans require three to five persons instead of only two or three persons for the country crafts.

John Kurien\textsuperscript{35} (1982) in his study "Technological Change in Fishing - its Impact on Fishermen" has pointed out the over-all inadequacy of the support system intended to facilitate a beneficial mechanisation scheme. The income of the workers in mechanised boats as well as their levels of living are found to be better than those operating the non-mechanised crafts. The study highlighted the following facts: (a) There was an increase in physical output of fish in Kerala at the rate of 3.65 per cent during the last two decades ending 1976, (b) The working fishermen have not reaped the full benefits, and the bulk of the surplus accrued to private entrepreneurs, (c) The value of output increased phenomenally and 90 per cent of the increase is attributable to price changes alone, and (d) The benefits of increased output accrued mainly to the mechanised sector.

Subba Rao\textsuperscript{36} (1983) in his article "Mechanisation and Its Effects" has discussed the socio economic characteristics of fishing households, the social aspects of organisation and the cost and returns of fishing boats. The author has observed that even though the cost of mechanization was high, the benefits were more than proportionate.
Krishnarajan\textsuperscript{37}, et al., (1988) in their research paper "Sub-sector Analysis - Mechanisation of Marine Fishing" have assessed the effect of mechanization of country crafts on total fish production. The author recommended that provision of a liberal subsidy for the acquisition of crafts and gear and outboard motors and the government's policy should be oriented towards the upliftment of small fishermen.

Sathiadas\textsuperscript{38} (1989) in his paper on "Comparative Economic Efficiency of Sail Boats Operating Different Gears in Tamil Nadu" has studied the present status of the utilisation of wind energy for fishing operations by sail boats using three different types of gear at Tuticorin. The author has developed the key economic indicators of efficiency like input-output efficiency, capital efficiency and break even for cost and revenues. The study reveals that non-mechanised sail boats operating gill nets are found to be economically more efficient than other types of units.

Sathiadas\textsuperscript{39}, et al., (1990) in their paper on "Costs and Earnings of Trawlers Operating at Turicorin Fisheries Harbour (Tamilnadu)" have studied the cost benefit relationship of three types of trawlers of sizes 8.5M, 9.0M and 9.5M. The initial investment on fisheries harbour, fixed cost, operating costs and returns are analysed. The study has also applied various key economic indicators for these types of trawlers and revealed that the capital turnover ratio, rate of return to capital and pay back period are better for smaller boats (8.5M and 9.0M). But in terms of labour productivity, wages, quantum of catch, gross revenue and net profit, the bigger sized boats (9.5M-10M) are comparatively more efficient.
Thippaiah\textsuperscript{40} (1990) in his study, "Effects of Mechanisation on Marine Fisheries in Karnataka" has pointed out the adverse effects of mechanisation on the marine fishing industry in the state and suggested that the Fishing Regulation Act of 1986 in Karnataka state should be implemented effectively to improve the techno socio-economic conditions of the fishermen community.

(v) Studies on Marine Fisheries and Fisherwomen

Karuna Anbarasan's\textsuperscript{41} (1981) research paper on, "Development of Small-Scale Fisheries : Factors that Influence the Role and Status of Fisherwomen", concluded that though fisherwomen share with men in the activities of fish distribution and marketing, fish processing, curing, preserving and other allied tasks, their status is enhanced, only within the family.

Leela Gulati's\textsuperscript{42} (1983) study on, "Fishing Technology and Women in Kerala" has brought out the following facts: (i) The younger generation of fishermen are quite familiar with both traditional as well as mechanised fishing. (ii) The use of ice in preservation and other technological changes and the discovery of major prawn grounds, have improved the opportunities for employment and income generation, and (iii) New and better paying work opportunities have opened up for fisherwomen in trading and processing of marine products and net-making.

Varambally\textsuperscript{43} (1989) has conducted a "Sample Survey of Fisherwomen of Dakshina Kannada District" and identified the various problems confronted by the fisherwomen in marketing of fish. The problems of women retail sellers are (a) non-availability of ice, (b) lack of transportation, (c) lack of marketing yards, and (d) lack of finance. The main recommendations of the study are: (i) Co-operative institutions should
strengthen their hold in marketing of fish, (ii) Fisherwomen's co-operative societies should encourage the habit of daily savings, (iii) In remote areas, fish market yards have to be constructed by the government, and (iv) Literacy among the fisherwomen is absolutely necessary to spread general awareness among them.

Kalaimathi\textsuperscript{44} (1990) in her research work, "Socio-Economic Status of Sempatavar Fisherwomen in Mettur Dam (Salem District)" revealed that the conditions of women workers in the fishing industry are deplorable and effective economic measures have to be taken to improve their situation. Women in this area do not have an equal status with their male counterparts. The government and the voluntary organisations should strive to improve economic and social status of women.

Shanthi\textsuperscript{45}, et al., (1990.) in their paper on, "The Role of Fisherwomen in Fishing Industry: A Case Study of Women Fisherfolk in Selected Areas of Madras" have observed that fisherwomen are caught up in a vicious circle of poverty. Each day they borrow money for their business, earn a poor income by selling fish in the market. Fisherwomen and not the men feed and care for the family.

Krishna Srinath\textsuperscript{46} (1990) in her study, "Decision Making by Marine Fisherwomen" pointed out that the role now played by women in decision making is significantly smaller. In fishing villages, in the area of food, health and clothing, women have active participation but all other decisions are male oriented.
Salim Sultan (1991) in his research paper, "Role of Women in Fisheries" explained the importance of women employed in fisheries, identified certain areas for employment of women and also suggested training methods to impart knowledge. The study concluded that a proper plan for the induction of women in the fisheries sector under various schemes should be drawn up at the central level and communicated to the State Fisheries Departments for adoption and fisherwomen's co-operative societies are to be given a boost.

Vijayakhader et al., (1994) in their study on, "Role of Women in Fish Production and Processing Technology in Guntur District" revealed that the socio-economic structure of small scale fisheries in India is very complex and there are many factors which influence the participation of women in fishery related activities. Prawn peeling, fish curing, drying and marketing, net making, fishing in the canals and clam shell collection are the major areas of women's participation. The study indicated that the fisherwomen must be educated on small family norms and also recommended that,(i) Technologies have to be developed in which women could be associated for processing low cost fish into value added products like dry fish, fish pickles, fish cutlet, fish soup powder and fish flakes etc. which have great demand in Indian and foreign markets, (ii) Co-operatives should be organized for women engaged in the processing and trading of fish and training should be given in improved handling and processing techniques and (iii). Properly trained and educated women should be deployed as linkworkers to effectively implement new technology through motivation and development of entire human relationship and in liaison with different agencies.
It is clear that earlier studies relate to production, marketing, mechanization, and financial aspects of fisheries. A comprehensive study covering all these aspects has not been attempted. No study has been made so far on any aspect of fishery in South Arcot district of Tamilnadu state. Hence, the present study is an attempt to give focus on the importance of the socio-economic status and living conditions of fisherfolk by taking into account income, expenditure, assets and liabilities of fishing households with or without ownership of various types of fishing crafts and gear in this newly developing industry.

Definition of the Concepts

A definition of each and every concept used in the present study provides a conceptual background and also delineates the scope and ambit of the study.

(i) Fishery: Fishery can be defined as a stock or stocks of fish and the enterprises that have the potential of exploiting them \(^{49}\).

(ii) Fishermen: The word "Fishermen" refers to that category of persons belong to the fishing community only.

(iii) Active Fishermen: Persons who earn their main source of livelihood from fishing and fishing related activities.

(iv) Fishing crafts: They form the backbone of the fishing industry. The majority of fishing households make use of non-mechanised fishing crafts or vessels which include catamaran, plank built boats or vallams and dugout canoes or thonies or kannas. The catamarans are used in the Coromondal coast and Gulf of Mannar coast
The country crafts could be mechanised by fitting out-board engine motors (OBM or OBE) or in-board engine motors (IBM or IBE). Apart from these there are other types of mechanised crafts found in South Arcot district. They are: Fibre Reinforced Plastic Boat (FRB), Motorised Boat, Launch, Kottiya and Trawler. They are used for transporting bulk catch of fish, meant for export, organic and inorganic chemicals, fertilizers, pesticides and insecticides.

(v) Fishing gears: Gears are nets used in fishing operation. There are different kinds of gear used to catch different varieties of fish, with different sizes. Gears to be used, differ from one season to another depending on fish variety.

(vi) Fishery household: It refers to an identifiable, nuclear or joint family in which at least one member is engaged in marine fishing activity.

(vii) Status of the fishing household: The term status refers to the position or the distinction. In the society, the fishing households position has been expressed in terms of the socio-economic indicators such as their income, expenditure, assets and liabilities etc. of an individual or a family.50

(viii) Living condition of the fishing households: The living conditions of the fisherfolk have been expressed in terms of the housing facility, infrastructural facilities, normal assets and money assets, expenditures on food and non-food items.

(ix) Sex Composition

(a) Adult male / female : All males / females persons who have completed 21 years of age.

(b) Adolescent male / female: All males / females who are in the age group of 14 -21 years.
(c) Children: All males / females who have not completed 14 years of age i.e below 14 years. 

(x) Educational Status

(a) Illiterate: Persons who cannot read and write in their mother tongue or in the local language.

(b) Literate: Persons who are able to read and write in their local language with or without formal education.

(c) School Level: Persons who have completed school education and also persons who are attending school.

(d) College Level: Persons who have completed college education and also the persons who are attending college.

(xi) Fishing activity: This includes only catching of fish by fishermen from the sea and transporting it to the landing centre. It is undertaken by men.

(xii) Fishing related activity

(a) For Men: Fishermen involve in boat building, purchasing wood for boat construction, boat repairing and net repairing.

(b) For Women: Womenfolk in fishing households engage themselves in sorting, curing, processing, icing and boat cleaning, auctioning fish and collecting their husband's due for having rented out fishing crafts and gear.
(xiii) Other activity

(a) For Men: Fishermen sometimes work as coolies in the construction of building works, and in the loading and unloading of goods in the port.

(b) For Women: Fishervwomen sometimes involve themselves in selling food items, running petty shop, selling dress materials, acting as chit agents and making coir and shell decorative items.52

(xiv) Craft Ownership Status: Marine sector fishing households have been classified under different identifiable status on the basis of fishing crafts and gear combinations possessed by them. They have been categorised as follows:

(a) Mechanised Craft Owners (MCO): MCO are owning mechanised crafts and suitable gear in the sample fishing households.

(b) Non- Mechanised Craft Owners (NMCO): NMCO are owning / sharing traditional or country crafts and suitable gear in the sample fishing households.

(c) No Craft Owners or Labour Class (NCO/LC): Sample fishing households, owning a cheap variety of fishing gears. They do not own fishing crafts.53

(xv) Total income of the fishing households: It consists of the aggregate of money receipts to the members of the household. It includes three sources:

(a) income from fishing activity,

(b) income from fishing related activity and

(c) income from other activity. The annual total income of the fishing households is contributed by adult male, female and also by the adolescent male and female.
(xvi) Total expenditure of the fishing households: The total annual expenses incurred by all the members in the sample fishing households on food and non-food items. Annual household expenditure includes two items:

(a) Food expenditure: It includes expenses on food items.

(b) Non-food expenditure: It consists of items such as expenditure on education, medicine, transport, electricity, entertainment, gambling, liquor, expenses on social activities, maintenance of house and maintenance of fishing equipments and expenditure due to loan repayments.

(xvii) Total liabilities of the fishing households: The liabilities are loans or borrowings taken by the sample fishing households for the purchase of fishing crafts and gear, for the purpose of consumption expenditure and for other purposes.

The sources of borrowing are both formal and informal: Formal sources include institutions like nationalised banks, and co-operative credit society. Informal sources include to friends, relatives and traders.

(xviii) Total assets of the fishing households: They include items on which the sample households have invested money. They consist of household durables, equipments in the form of fishing crafts and gear to earn their livelihood and savings. Total assets have been classified as follows:

(a) Normal assets: Investment in the form of furniture, radio, television, clocks, vessels and modern household appliances.

(b) Conventional assets: They are in the form of land, buildings, gold jewels etc.
(c) Non-conventional assets: They are in the form of livestock, transport accessories etc.
(d) Real assets: They include investment on fishing crafts and gear etc.
(e) Money assets: They are in the form of bank deposits, LIC policy, deposits in the Co-operatives, loans given to the friends, relatives and contributions to chit funds.

(xix) Total Cost on Fishing: This denotes the amount of money expenditure incurred by the fisherfolk on the various items entering into the fishing activity. They are:

(i) Overhead Costs: They are incurred even if there is no fishing. They include the payment of interest on loans and money outlays on the maintenance of fishing equipments.
(ii) Operational Costs: This refers to the cost that depends upon the number of trips made on fishing. As the number of trips and distance is more, the money outlays on fuel, expenditure on ice, food and wages are more and vice versa.

(xx) Net Income: It is calculated by subtracting the total costs towards fishing from the gross income.

(xxi) Classification of fisherwomen: The women are being classified as follows:

(a) Housewife only: Women engage themselves in doing household activities like, cooking, caring for the family members, fetching water, washing clothes and vessels etc. and also in assisting their husband in cleaning the fish catch.
(b) Housewife, Self-employed: Fisherwomen who are involved in collecting owner's share, selling food items, dress materials etc.,
(c) Housewife, Self-employed and Wage-earners: Fisherwomen engaged in purchasing and selling fresh fish and dry fish in the market, sorting, curing and processing of fresh fish and also in supplying the given quantity of dry fish to the agents.

Last two types (b & c) have been categorised as "Employed Women".

(xxii) Decision making: It is a mental process, based on conscious reasoning. It is further explained as the process by which an evaluation of the meaning and consequences of alternative line of conduct is made.

In this study, the concept of decision making is used as an action taken in the household management, purchase and sale of fishing crafts and gear and the various issues\(^57\).
Notes and References


53. Opp. Cit. 41.


