Chapter - I

INTRODUCTION AND DESIGN OF THE STUDY

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1.1 INTRODUCTION

Kanniyakumari district is surrounded by the sea on three sides. It has a long coastline measuring about 61 km. It is one of the highly literate districts in the whole of India, and it is blessed with a good climate. Though it abounds in natural resources, it is an industrially backward district. There is no large scale industry in the district. It has only medium, small scale and cottage industries. These industries provide employment opportunities and income only to a limited number of people. Most of the people in the district depend mainly on agriculture, weaving and fishing for their livelihood.¹ Fishnet industry, therefore, has become one of the main small scale industries, generating considerable income and employment.

Fishnet making by hand has been flourishing cottage industry in the coastal villages of Kanniyakumari district for many centuries. Earlier cotton yarn was used as the raw material to manufacture fishnet. The invention of synthetic fibres (nylon) in the twentieth century dramatically revolutionised the pattern of fishnet production into a fully mechanised industry. As nylon has many comparative advantages over cotton yarn, there is great demand for fishnets manufactured from synthetic fibres, both within and outside the district. The growth of the fishnet industry

depends on the demand for nylon fishnets. Therefore, it may be surmised that fishing and fishnet industry are inseparably interrelated.

Two-thirds of the globe is covered by seawater. The sea is not only the store house of water. It contains enormous useful resources like food, raw materials for industries, medicines and other valuable commodities like pearls. The sea is a good supplier of food. Fish is an important part of diet for millions of people throughout the world. The term ‘fishing’ refers to the landing of all types of marine and fresh water fauna. Fish is the most significant resource of the sea, and fishing is one of the most familiar economic activities associated with the sea.3

As elsewhere in the world, in India, too, fish is one of the important food items for millions of people. In India, fish hold a potential solution to the food problem. Significantly, India is one of the important and main fishing nations of the world. Eventhough it has a long coast length of 5100 k.m., the fishing industry in India has not developed to its optimum level. Unbroken coastal line, traditional, antiquated and outdated methods used by the fishermen, the financial inability of the poor fishermen to invest in modern fishing crafts, inclement climate and lack of adequate cold

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3 Ibid
storage facilities are the main reasons for the underdevelopment of fishing industry in India.\(^4\) However, at present the traditional way of fishing is slowly and steadily giving way to modern methods of fishing.

Providing for mechanisation of fishing crafts, training centres for fishermen, cold storage facility and proper quality control for fishing products are the important steps taken by the Government of India to improve fish catching.\(^5\) India is both an exporter and importer of fish. India exports dried fish to Sri Lanka, and dried prawns to Burma, and canned fish and prawns to West Germany, France and other European countries.\(^6\)

Modern fishing has passed through three main technological developments. Mechanisation, began during the later period of the nineteenth century, with the use of steam propulsion for fishing vessels. This was followed by steam winches. In the second stage, electronic Eco-sounding and Eco-ranging equipment were introduced in fishing vessels. The third stage was the invention of synthetic fibre. The invention of synthetic fibre totally revolutionised the fishing industry. Fishnets made of synthetic fibre quickly replaced the traditional cotton fishnets. Close on the heels of the invention of

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\(^4\) Ibid, p. 6.11  
\(^5\) Ibid, p. 6.12  
\(^6\) Ibid
synthetic fibre, Kolkata, Mumbai, Cochin, Chennai and Kanniyakumari witnessed the first establishment of mechanised fishnet industry. Sea fish has many uses. Fish is used as food, raw material for several manufacturing units, and it is therefore a trading commodity. Consequently, both government and private entrepreneurs want to increase the quantity of fish catch. So they soon quickened the manufacture of nylon fishnets and mechanised boats. This shift, naturally, had an adverse impact on the continuance of the traditional cotton fishnet making and traditional fishing crafts like Kattumaram, Vallam and Thoni.

As far as Kanniyakumari District is concerned, Mr. Abdul Majeed of Manavalakurichi was the pioneer in the transitional period. He started the first nylon fishnet industry at Manavalakurichi in 1975. Realising the prospects and scope of the nylon fishnet industry, Mr. M.C. Balan, Mr. Pon Robert Singh, Mr. Stalin, Mr. Nanjil Vincent, Mr. Kumaresan and some others ventured into this business with enthusiasm.⁷ The introduction of engine boats as substitutes for the old fishing crafts, and the introduction of nylon fishnet completely replaced the old cotton fishnets. The production of nylon fishnets on a large scale by using specialised net making machines adversely affected the existing handmade cotton fishnet industry. Hundreds of persons, who

⁷ Information collected from the District Industries Centre, Konam, Nagercoil.
were making cotton fishnets in the coastal villages of the district as a cottage industry were thrown out of employment. In the initial period, there was a lot of protest from the traditional fishnet-makers against the nylon net-manufacturing industry. However, as the nylon fishnets enjoyed a lot of comparative advantages over hand-made cotton fishnet with regard to cost, quality and durability, the fishnet production, within a period of 10 to 15 years, completely shifted to mechanised nylon fishnet production. During the period the present study was in progress, there were about 109 mechanised nylon fishnet manufacturing factories in Kanniyakumari District. Of them, sixty per cent are concentrated in and around Ananthanadarkudy and Konam, and the rest of the fishnet factories are located in other places in the district. The availability of cheap land and labour, the presence of shrewd entrepreneurs to invest sufficient capital in the industry, conducive climate, large scale demand for nylon fishnets, together with the encouragement given by the government in the form of subsidy are the important factors for the development and concentration of fishnet factories in Kanniyakumari District. At present, Kanniyakumari district stands first in fishnet production in the whole of India.\textsuperscript{8} Naturally an analytical study of fishnet

\textsuperscript{8} Information provided by Mr. Kumaresan, Treasurer, All India Fishnet Industry Association
industry in Kanniyakumari District assumes immense value and importance from many angles.

1.2 STATEMENT OF THE PROBLEM

Fishing is one of the oldest and largest industries in the world. This is true in the case of India also. Fishing industry gives employment and income to crores of people. Fish play a significant role in solving the food problem of the world. As food, fish is very nutritious and harmless. The demand for fish is increasing year by year along with the increasing population. Fishing and fishnet industry are interlinked. When there is an increase in the demand for fish, automatically and simultaneously there is an increasing demand for fishnets also. As India is blessed with a long coastal line and cheap labour, India can start numerous new fishnet factories along the coastal villages and can produce fishnets at a competitive price. But so far neither the government nor the native entrepreneurs have taken the initiative to start new fishnet industries with modern technology. If it is done, fishnet factories can generate considerable employment. By exporting nylon fishnets to other countries, the country can earn a lot of foreign exchange. As almost every country has a sea boundary, nylon fishnets can be exported almost to all countries. Because of such promise, fishing and fishnet industries are significance from many angles.
Kanniyakumari district has a long coastal line on three sides. Among all the districts of Tamilnadu, this District has the largest fishermen population. Almost 90% of the people consume fish as a regular item in their daily food. The geographical situation, suitable climate, availability of skilled manpower resource and availability of medium scale entrepreneurs, are really encouraging factors to start fishnet factories in large number throughout the district. By doing so, the fishnet industry will definitely generate new employment opportunities in the district and thereby will accelerate the economic development of the district. So the researcher firmly believes that the fishnet industry could be the panacea to cure the economic evils like unemployment, low income and industrial underdevelopment of the district. Hence the researcher has selected this topic “A study on fishnet industry in Kanniyakumari District” for an in depth study.

1.3 OBJECTIVES OF THE STUDY

The following are the objectives of the present study

i. To study the growth and development of the fishnet industry in Kanniyakumari district.

ii. To study the production process of fishnet and to analyse the marketing problems faced by the fishnet industry.
iii. To study the problems of fishnet industry in the field of production and marketing.

iv. To study the various welfare measures provided to the workers in the fishnet industry.

1.4 SCOPE OF THE STUDY

This study tries to analyse the production of fishnets and the marketing techniques adopted by the entrepreneurs to market the fishnets. It also suggests ways and means to overcome the inadequacies if any found in the field of production and marketing of fishnets. It analyses further the means to improve the wage structure, the welfare measures extended to the workers and employment opportunities for the people in the district. This study will help the fishnet industry to develop into a promising and profitable one in the district.

1.5 REVIEW OF PREVIOUS STUDIES

There are no previous studies available on the fishnet industry. However, a good number of studies have been made on some related topics like fishing craft, fish landing and fishing seasons. So a review of earlier studies of these related topics is presented here.

The study entitled "Impact of Mechanisation on small fishermen" was a part of the work done by the Centre for
Management in Agriculture (CMA), Indian Institute of Management, Ahmedabad. The study is unique in the sense that for the first time fishing villages and the impact of mechanisation are studied in depth. The study provides insights into the problems of small fishermen in the process of technological changes.\(^9\)

The study entitled “Impact of technological changes in fishing on fishermen” by Kurien and Mathew, shows that there are wide regional variations in the species-mix of the marine resource in the country. The nutritive value of all species of fish is almost the same but there are different types of market demand and prices for various species. There is a direct impact of mechanisation of fish production in quantitative as well as qualitative nature.

The study entitled “Mechanisation of Indigenous crafts with out-board motors in Tamil Nadu” by Sathiyadhas examined the impact of the mechanisation of indigenous crafts with out-board motors in Tamil Nadu. His major finding is that there is not much difference in the total catch of motorised and non-motorised Kattamarams in Tirunelveli District. Due to motorisation, employment opportunity is doubled since the motorised

Kattamarams require three to five persons instead of only two for the non-motorised units.\(^\text{10}\)

Sreenivasan (1981) worked on the “Economics of Various Types of Fishing Crafts Operated in Tamil Nadu”. The return per unit investment of non-powered boats was estimated to be twice that of powered boats. The traditional fishing crafts categories generated almost seven times the direct employment provided by the mechanised boat categories. It was suggested that the additional income and employment could be obtained by making all fishing requisites like, fishing nets, fish processing, transport, marketing and use of bycatch to raise the village poultry units.

Bindhyachal Sine et al., (1987) analysed the economics of the fish landings of mechanised and non-mechanised crafts in Vizakapatinam of the Andhra coast. The samples of mechanised and traditional units were studied to estimate the factor of fish production. The returns were estimated by taking into consideration fixed and variable costs. The mechanised crafts were found to provide more employment opportunities for more fishermen.

Selvaraj (1988) identified the fishing seasons for important species of fish groups and estimated the economics of different craft categories in selected coastal fishing villages of Kanniyakumari district of Tamil Nadu. He formulated strategies for the development of the fisheries sector for the betterment of the fisherfolk in the district.

Senthilathiban and Selvaraj (1988) carried out the financial statement analyses for different fishing crafts operated in the fishing villages of Tirunelveli district. The highest solvency ratio was worked out for the mechanised boats and the lowest for Vallam with outboard engine. The sufficiently positive net worth for all the craft categories showed that their occupation was sound and that the business was in an adequately solvent condition.

Annamalai and Kandoran (1990) estimated the economics of motorised traditional crafts. The cost of fitting an outboard motor was as substantial as the cost of acquiring a new fishing craft. Besides, there arose the requirement of a few more types of low-cost gear after motorisation. The costs and returns data for the motorised traditional crafts were analysed and more than half of these fishing trips reported inadequate gross returns even to meet the fuel cost. The introduction of engine had necessitated the
requirement of fuel for every trip and the survival of fishing units was found to depend on the financial capacity of fishermen.

Pazhani and Jesi Isabella (1997) conducted a study in which they attempted to highlight the financial status of fishermen households. They did so by analysing the source of credit, repayment, assets and liabilities and also the credit utilisation behaviour of fishermen. Further, they also worked out the outstanding debt per household in the Kattumaram and motorised Kattumaram sectors. The study, thus, brought out the reasons for the poor repayment of loans.

Day (1979) studied the needs of fisheries development in Sri Lanka, India, Bangladesh, Pakistan and South Yemen. Improvement in handling, distribution and marketing of fish; strengthening of the infrastructural facilities, cold storage and extension services were found to be the urgent needs of fishermen for their socio-economic improvement.

John Kurien (1981) analysed the causes for the poverty among fishermen. According to his report, inequality in the asset holdings among them, exploitation by market intermediaries and the habit of excessive spending during high catch seasons are the three main reasons for poverty among the fishing households.
Tendel (1981) studied the operational constraints of artisanal fishermen along the Karnataka coast. The use of purse seines and trawl nets were reported to have caused serious damages to the economy of fishermen, particularly those depending on shore-based operations for their livelihood. He concluded that improvement in the traditional gears would help the fisherman overcome the operational difficulties.

The previous studies enabled the researcher to formulate his study in the present form. It is hoped that the study will be valuable contribution to the existing body of knowledge.

1.6 PERIOD OF STUDY

The period of study covers the ten years from 1991-2000.

1.7 OPERATIONAL DEFINITION OF THE CONCEPTS

1.7.1 Fishery

Fishery is a general term, covering the capture of a wide variety of marine and fresh water animals for direct use as food and as derivatives used for various non-dietary purposes.

1.7.2 Fishing

Fishing is the art or practice of catching fish which is carried on from generation to generation as a hereditary profession with all the members of the family taking part in it in varying degrees.
1.7.3 Fisherman

A fisherman is one whose primary occupation is marine fishing and who receives more than 50% of his annual income from fishing.

1.7.4 Fishing Ground

It is a term commonly applied to an area in which fishing is carried on. Fishing grounds are also referred to as continental shelves. It is subdivided into inshore area (from 20 metres to 80 metres) and deep-sea area (beyond 80 metres).

1.7.5 Fishing Season

Fishing goes on all through the year. But from the standpoint of catches, the year may be divided into two seasons namely the ‘active’ and the ‘slack’. The seasons may also vary from place to place. In Kanniyakumari district, the active season extends from July to December when fish is caught in plenty. The slack season is from January to June.

1.7.6 Wadge Bank

Wadge bank is a fertile fishing ground where rich marine biological diversity occurs. Wadge bank may also be defined as a place of marine environment, where there is rich availability of fish food, organisms. The water depth of this region is low. The physical features of seawater like under-water current, tides and
waves have comparatively less impact on the fish and animals of this region. Fish select this region for feeding and breeding purposes. Throughout the maritime countries of the world, there are about twenty such wadge banks. Of these, one is situated near Kanniyakumari on the coastline of Kanniyakumari district on the eastward as well as on the westward region about 30 km. long. Here representatives of the fish species of the three seas – the Arabian Sea, the Bay of Bengal, and the Indian Ocean - occur. The wadge bank exploited also by vessels of other countries like Sri Lanka, Thailand, South Korea and Taiwan. In view of the bilateral agreement between India and Sri Lanka reached in 1974, the wadge bank has fallen within the territorial waters of India now.

1.8 HYPOTHESES OF THE STUDY

In order to identify the factors that influence the attitude of the workers towards the welfare measures implemented by the various fishnet industries, the following null hypotheses were framed.

i. There is no significant difference between the age of the respondents and their level of attitude towards welfare measures.

ii. There is no significant difference between the educational qualifications of the respondents and their level of attitude towards welfare measures.
iii. There is no significant difference between the work experience of the respondents and their level of attitude towards welfare measures.

iv. There is no significant difference between the income of the respondents and their level of attitude towards welfare measures.

v. There is no significant difference between the social status of the respondents and their level of attitude towards welfare measures.

vi. There is no significant difference between the level of expenditure of the respondents and their level of attitude towards welfare measures.

1.9 METHODOLOGY

In this study the data have been collected from primary sources. The investigator collected the necessary data and information from the respondents by means of an interview schedule. These data and highly valuable pieces of information have been systematically analysed, scrutinised and illustrated. The data collected from the records of the fishnet factories and the fisheries department are treated as secondary sources for this study.

1.10 CONSTRUCTION OF TOOLS

The researcher had discussions with well-informed and responsible officers, technicians, bank officers and entrepreneurs
connected with the fishnet industry, with the objective of designing the interview schedule. After collecting the relevant and necessary information, the researcher identified the variables for the study. The variables, thus identified by the researcher have been treated as the basic material for framing appropriate questions. The interview schedule was circulated among a few fellow researchers for their perusal and critical review. Afterwards, the researcher conducted a pre-test, and on the basis of the pre-test, some alterations were made in the interview schedule.

1.11 SAMPLE DESIGN

By using the random sample method, out of 109 registered fishnet factories in Kanyakumari district, 50 fishnet factories were selected as sample for this study. By adopting the same method, 200 workers were selected as sample out of the 2000 workers employed in the sample units.

1.12 FIELD WORK AND COLLECTION OF DATA

The researcher carried out the fieldwork of the study on his own. He collected the necessary data from both the workers and the employers of the fishnet units by using an interview schedule (Vide Appendix). The completed interview schedules were scrutinised by the researcher. Commissions and omissions were rectified by the researcher on the spot.
1.13 PROCESSING OF DATA

After the collection of data through the interview schedule, a thorough check up of the data was carried out. Then a master-table was prepared to consolidate the information. Afterwards, necessary classification tables were prepared for further analysis. The data were processed by using a computer.

1.14 FRAMEWORK OF ANALYSIS

The various data collected in respect of production and marketing of fishnets and employment potentiality of fishnet industry were analysed with the help of the following techniques:

- Percentage analysis has been used at the appropriate places to consolidate and convey the necessary information.

- To analyse the growth rate of fishnet industry in various aspects, the Compound Growth Rate has been calculated by using the following formula:

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\text{Compound Growth Rate} = (\text{Antilog of } b-1) \times 100
\]

- Factor Analysis has been used to analyse the problems of the fishnet industry. The Rotated Factor Matrix has been used to express the ratios between the variables and the related factors.
To analyse the factors influencing the attitude of the employees towards welfare measures, the **chi-square test** has been used.

1.15 LIMITATIONS OF THE STUDY

The economic activities of the fishnet industry in Kanniyakumari district are not transparent and, hence, the general public is not aware of the existence and activities of this industry. At the state, national and international levels, importance is given only to the fisheries industry and not to the fishnet industry. Even on the Internet, no information is available on this industry. Naturally enough, such a situation imposes an almost forbidding limitation on the researcher in collecting information on the industry in other parts of the country. So this study is limited to the fishnet industry in Kanniyakumari district. When the researcher approached the entrepreneurs, he found them generally unwilling to furnish the required information. The workers also were hesitant to give any information about the industry and about themselves due to the fear of employers’ anger and their own ignorance. The present researcher could find only limited literature on the subject. Moreover, there has been no previous study on fishnet industry. Even in government offices, like the Office of the Assistant Director of Fisheries, Nagercoil and the Directorate of Fisheries at Chennai, sufficient information is
not available on fishnet industry. In spite of all these hurdles, the researcher has taken sincere efforts to make the present study as a valuable contribution.

1.16 SCHEME OF THE REPORT

The present study is divided into six chapters.

The first chapter is Introduction and Design of the Study, and it presents the statement of the problem, the scope of the study, the objectives of the study, the period of the study, the methodology, the construction of tools, the hypotheses of the study, the operational definition of concepts of the study, the sample design, the fieldwork and the collection of data, the processing of data, the framework of analysis, the limitations of the study and the scheme of the report.

The second chapter deals with the profile of the Fishnet Industry in Kanniyakumari district.

The third chapter discusses the various aspects of production and marketing of fishnets.

The fourth chapter highlights the problems of fishnet industry.
The fifth chapter analyses the workers' attitude towards welfare measures of the fishnet industry.

The concluding chapter of the study presents the summary of the scholar's findings and his suggestions.