Chapter 3
METHODOLOGY

3.1 Introduction

The understanding of the concept of health and new emerging trends in the health scenario are great interest of study. The progressive understanding of health in relation to marginalised and subaltern groups like fisherfolk is of also great interest. But it is a matter of fact that the better health achievements of the State are not truly reflected in all sections of population. WHO sets certain parameters to reach out to the outliers groups in the society is a promising attempt to make health care more accessible to the large public. Thus the question of equity and equitable distribution of health resources is of great concern across the country. This chapter made an attempt to give an introduction to the research work. This chapter deals mainly with the methodology of the study which is both empirical as well as analytical one. The statement of the problem of the research is described in detail at the very outset. The researcher logically substantiates the objectives from the statement of the problem of the study. The hypotheses are formulated based on these objectives in order to establish cause-effect relationships that exist between the variables. The universe, unit and selection of sample population, design and chaptersisation of the study are dealt in this part.

3.2 Statement of the Problem

It is widely accepted that as in any other socio-economic indicators of development, health care system in the state of Kerala stands as a model of reference. Health is an essential component which helps an individual to lead a balanced living. Health is referred not only as well maintained physical condition but state of mind also. Defining health in terms of absence of health is an age old attempt. New perspective on health is that the spread of diseases is heavily influenced by the socioeconomic status of individuals, ethnic traditions or beliefs, and other cultural factors. There are obvious differences in patterns of health and illness across societies, over time, and within particular society types.
The health care delivery system today has undergone tremendous change, even over the relatively short span of time. People use health care services for many reasons: to cure illnesses and health conditions, to mend breaks and tears, to prevent or delay future health care problems, to reduce pain and increase quality of life, and sometimes merely to obtain information about their health status and prognosis. Health care utilization can be appropriate or inappropriate, of high or low quality, expensive or inexpensive. However, health care system has got tremendous influence over the health status of a society. There are many factors that determine the health care seeking behaviour of a population, type of health care they avail of and the timing of that care.

There are wide disparities regarding the health status of population within the nation, state and between different sections of population. Differences in the statistics itself show certain imbalances in the structure and administration of health care system. These problems are caused due to non availability of health care facilities, lack of reproductive and child health care, high morbidity, low education level, insufficient income from occupation, poverty at households, lack of implementation of health programmes to vulnerable and deprived population, lack of basic amenities, etc. These disparities reflect the level of equity and equality in social dimensions, economic dimensions and gender dimensions of existing social structure. The analysis of such disparities is important in discovering the factors and conditions producing these disparities and for drawing appropriate strategies to reduce the disparities.

The available statistical data reveals that in terms of the all-round health status, including health care behaviour, Kerala is in a far better position compared to many other states. Within the State, the health status of fishermen community is below and even below national average. The main focus of the study, therefore, is to address the issues related to health status, education, social position and standard of living which the fishermen community had been deprived of in the earlier phase of Kerala’s development. An improvement in these aspects is basic to the community because elementary education, freedom from ill health and descent way of living are necessary preconditions to dispense a community with capability to widen the choices and to lead the life they value. The present study attempts to explore the present status and relative position (when compared with general population) of the marine fishing community of Kerala in terms of health status, health care accessibility, educational
attainment, housing, sanitation and availability of drinking water, income, employment and risk and vulnerability.

There are a number of programmes related to health care, prevention and promotion designed and implemented by various agencies, both in Government and Non-Governmental sectors. They are uniformly and universally applied to the entire population, including the marine population. The fishermen community is treated as an outlier community in the central tendency of development of Kerala. Since they are said to be backward and marginalised, the researcher is interested in enquire about the socio-economic and health profile of fishing community. The role of religion and composition of population in a particular community need to be analysed since religious institutions play a vital role in the delivery and accessibility (awareness generation) among the population. The role of education in maintaining health status is important, because it may be treated as a major factor that would influence the awareness generation and dissemination regarding anything, especially health aspects. This awareness building is linked with the capability of individuals which is imparted through education process. Various aspects regarding health from inception to death needs special care and understanding. This includes understanding of social, psychological, environmental and societal factors of health, illness and quality of life, as well as the consequences of the health condition both for the individual and for society.

Fisher men community is said to be vulnerable to several diseases and social problems. They live very close to the sea and very close to one another without having infrastructure facilities essential for a decent living. The notion that healthy places rear healthy people becomes irrelevant. Communities and neighbourhood that ensures access to basic goods, that are socially cohesive, designed to promote good physical and psychological well being are absolutely absent among this group. The mere lack of this supporting system itself makes them dangerously vulnerable. The adverse working conditions, lack of safe drinking water or accessibility to water, mal-nutrition, poor housing conditions etc., expose individuals to a wide range of health hazards. The present study looks into the factors relating to health care services and functioning of health care systems among fisherfolk in Kerala.

The relevance of the study domain is growing as a consequence of increasing health inequalities, diseases (e.g. heart disease, diabetes, HIV/AIDS) and health costs. Among policy makers awareness of the impact of health (policy) and health promotion is increasingly
recognised in recent national and international policy documents. Since health is related to a
diversity of interrelated factors like housing, neighbourhood, work, education, lifestyles and
recreation, understanding these dimensions become vital in ensuring the healthy living of
society. Therefore the present study is expected to give glimpses about the health status of
fishing community to the policy makers and will throw light into the various aspects
associated with health care and health seeking behaviour of particular community.

Poor health outcomes are often worsened by the interaction between individuals and their
social and physical environment. Both access to health services and the quality of health
services can impact health. Lack of access, or limited access, to health services greatly
impacts an individual’s health status. The range of personal, social, economic, and
environmental factors that influence health status are known as determinants of health. The
interrelationship of these factors determine individual and population health. Determinants of
health reach beyond the boundaries of traditional health care and public health sectors;
sectors such as education, housing, transportation, agriculture, and environment can be
important allies in improving population health. Hence understanding a community in its
entirety will facilitate the probable interventions to change the scene in terms of health for,
health is not everything but everything else is nothing without good health. In sum, the study
attempts to know the seekers’ (fisherfolk) healthy living conditions, requirements, their
interest and priorities which are to be reflected in the planning and designing of health
programmes and health interventions of the providers (State). The attempts are also made to
probe into whether the fisherfolk vary or follow the same pattern of health status in all three
regions, rural-urban areas and; across Hindu, Christian and Muslim religions.

3.3 Concepts and Definitions

a. **Fisherfolk:** The population who live and earn their income from fishing and allied
activates. They are either marine or inland fisherfolk

*Operational definition:* A category of population where marine fishing is considered
as a way of life and denotes those who are directly or indirectly involved in fishing
and fish related activities to earn their daily living and their dependents
b. **Health Status:** The concept of health is complex and multi dimensional. Health status is defined as the composite index of the absence of morbidity, mortality, disability and presence of nutritional and immunisation status its analysis will bring out the health situation of the community.

*Operational definition:* Health status is understood as the reflection of these indicators - morbidity, mortality, disability and nutrition in relation to their living conditions. Health status index is made on the basis of giving weight ages to these indicators.

c. **Health care:** It implies more than ‘medical care’. It embraces a multitude of “services provided to individuals or communities by agents of the health services or professions, for the purpose of promoting, maintaining, monitoring, or restoring health.

*Operational definition:* Health care means different provisions either from government or private to cater to the health requirements of the population.

d. **Health Care Services:** Programmes offered to improve the health status of the population in terms of morbidity and mortality reduction, increased life expectancy, decrease in population growth, improvement in nutritional status, provision of basic sanitation. The health care services are to be comprehensive, accessible, and acceptable, provide scope for community participation and available at a cost that community can afford.

*Operational definition:* The different health care services or programmes distributed among the fisherfolk through government machineries like Anganwadi, Sub Centres, PHC, CHC Government dispensaries and hospitals, Private clinic and hospitals etc.

e. **Health Care System:** The systems of medicines Allopathy, Ayurveda, Homeopathy, Indigenous medicines and its institutions and centres of health services.

*Operational definition:* It is the machinery intended to deliver the health care services to the public. It operates in the context of the socio- economic and political framework of the country which is represented by five majors section or agencies – Public Health sector, Private sector, Indigenous systems of medicine, Voluntary health services and National health programmes.
f. **Dependency ratio:** The ratio of persons in the “dependent” ages (under 15 years plus 65 years or older) to those in the “economically productive” ages (15-64 years). This ratio is usually referred to as the total dependency ratio, while the first component of the numerator (children under age 15) is called child or young dependency ratio, and the second component (those aged 65 and over), old-age or old dependency ratio. (UN, World Population Policies Vol. III 1990). This book uses 60 years instead of 65 years in accordance with the pattern in Region. 

*Operational definition:* Those who are excluded from above 6 years and 60 years of age. The dependents constitute less than 15 years and those above 60 years.

g. **Region:** Even before the formation of the State, Kerala was politically known as Travancore, Cochin and Malabar. Kerala has 590 kilometres length and there are 14 districts. The geographical division of Kerala is into three regions namely South (Old Travancore), Central (Cochin) and North (Old Malabar). 

*Operational definition:* The word region is understood as South, Central and North regions on the basis of geographical division.

h. **Area:** As in the case of any other place, Kerala also possesses mainly two areas namely urban and rural. Rural is understood as part of land where more than 75 per cent of the population is engaged in the primary sector of production. Otherwise it is urban. 

*Operational Definition:* The area is understood as urban and rural following the civil division of the State.

i. **Religion:** There are mainly three religions found in the State and they are Hindus, Christians and Muslims. 

*Operational definition:* This study also considers the same meaning and three religions are Hindus, Christians and Muslims. All these three religions are also equally engaged in fishing.

j. **Household:** Household is the common habitat of the people living under the same roof and may or may not share common kitchen. A household can be either one family or more than one family.
Operational Definition: Household is the unit of study and having one or more families who are directly or indirectly engaged in fishing and earning their means of living.

3.4 Objectives of the Study

A. General Objective:
To study the health status and health care system among the fisherfolk in Kerala.

B. Specific Objectives:

1. To examine the demographic and socio-economic profile and health status of the fisherfolk in Kerala in relation to the state.
2. To find out the variations in health status indicators of the fisherfolk across regions, areas and religions; and to examine their associations with various socio-economic factors.
3. To construct and measure household level Health Status Index of the fisherfolk and; identify its major determinants and quantify the magnitude of each determinant upon the index.
4. To review the various health care systems and services; and their utilization among the fisherfolk in Kerala.
5. To examine the role and effectiveness of various health programme interventions among the fisherfolk in Kerala.
6. To evolve an alternative model of health care strategies and interventions for the fisherfolk in Kerala.

3.5 The Variables

The health status of a population is the reflection of its socio-economic conditions. It is the composite index of morbidity, mortality, disability and normal nutritional status. Health is also conditioned by prevailing social attitudes and norms of the society. Health status is determined by factors such as level of income, sanitation, living standards of people, water supply, education, personal hygiene, health consciousness, their accessibility and utilisation of medical facilities. In general we may state that the indicators are from two sources namely:
demographic trends and access to health services. The following are considered in the study to understand the health status and health care system of the fisher folk in Kerala:

a. Demographic profile,  
b. Educational level  
c. Occupational pattern,  
d. Consumption pattern,  
e. Basic amenities,  
f. Savings and liabilities,  
g. Basic health Profile  
h. Women’s reproductive health  
i. Incidence of Illness and treatment  
j. Health awareness and attitude  
k. Availability, accessibility and affordability of health care,  
l. Utilization of the health facilities,  
m. Status of women.

Of these, Education, Occupation, Region, Religion, Asset Base, Savings and Liabilities, Consumption Pattern are considered as the independent variables and also used for the comparative analysis of the dependent variables such as basic health profile, incidence of illness and treatment, reproductive health (women), health awareness and attitude, etc.

3.6 Hypothesis

The present study hypothesizes:

1. There are regions, areas and religions wise variations in the socio economic indicators namely, completed level of education, occupation, monthly income, ownership of fishing equipment among the fisher folk in Kerala.
2. There are regions, areas and religions wise variations in the health status indicators namely, age at marriage, number of birth, number of death, causes of death, disability, household monthly expenditure among the fisher folk in Kerala.
3. There are regions, areas and religions wise variations in the household level health status index among the fisher folk in Kerala.
4. Household size, education, income, availability of health care facilities and utilisation of health care facilities causes the variations in the household level health status index of the fisherfolk.

5. There are regions, areas and religions wise variations in the preference and practice of health care systems among fisherfolk in Kerala.

3.7 Universe of the Study

The fisherfolk in Kerala are either marine or inland fisherfolk. The marine fisher folk are those households who depend directly or indirectly on fishing from the sea and allied activities for their living. They are known as the active fishermen household, while the inactive group has turned to other source of living. The universe of the study consists of all the active marine fishermen households of Kerala coast.

3.8 Unit of Analysis

Each marine fisherfolk household is the unit of analysis and the female member in the household is the respondent in the interview.

3.9 Sampling Design

There are 222 marine fishing villages in Kerala spread out inthe three regions - South, Central and North. The sample has been drawn with consideration to three regions – South, Central and North; two areas-urban and rural; and three religions- Hindus, Christians and Muslims.

Sample size and selection was carried out through the following steps:

Step I: Three regions – South, Central and North have been identified to give adequate representation to all fisherfolk in Kerala. Trivandrum District from the South, Ernakulam and Thrissur from the Central and Kannur from the North Regions are selected for further stages of sampling.

Step II: From each region, urban and rural divide has been made to give representation to fisherfolk from both the areas.
Step III: From each rural and urban areas, villages have been selected by judgment sampling with an intention to give representation to three religions.

Step IV: From villages a statistical minimum of 30 households (See Hogg and Tanis, 2005,’Probability and Statistical Inferences’) belonging to one particular religion are selected. From the list of the head of households, 30 households were selected at random, giving equal opportunity to each and every household in the list to get selected in the sample.

Figure 5.1 displays the sample design and selection of region, area and villages. Now as for the sample division from each village, 30 households were selected adding up to 90 households from one area. A total of 180 households from both areas- urban and rural- in a region is selected. Thus the total sample size of the study is 540 households. (i.e,30 (statistical minimum households) x 3 (religions) x 2 (areas) x3 (regions) = 540).

3.10 Data Collection

Both the quantitative and qualitative methods are adopted for this study. The quantitative methods include the primary sample survey and the qualitative methods included FGDs (Focus Group Discussions), case study, observation and key informants interviews. Secondary data are also used in the appropriate contexts. FGD was conducted in one of the villages, Poonthura, in the Southern region. The Community Health Centre at Poonthura in the Trivandrum Corporation is identified as the case study of the health intervention programme - NRHM.

3.11 Instruments for Data Collection

A detailed interview schedule was constructed in order to gather data pertaining to each of the objectives. This was pretested and modified; a pilot study was undertaken on a small sample of 10 households from each region to assess the feasibility and it was finalized after rectifying the problems identified in the pilot study.

Separate formats were developed to gather data from FGD and Key Informant Interviews. All the data gathering instruments are included in the Appendix.
3.12 Pilot study

The pilot study was conducted in all regions, areas and religions of the study area. In each region 10 households were studied and necessary corrections were made in the interview schedule and FGD instrument.

3.13 Data Analysis

The data analysis was done using the Statistical Package for Social Sciences (IBM SPSS Statistics 19.0).

Tables and graphic illustrations such as pie diagram, bar diagrams are also used for presentations. Percentage analysis was done for the socio demographic data, Descriptive statistics like frequency tables and diagrams were also used to present the data.

Suitable statistical tests like Chi-square test, t-test, ANOVA were used to test the hypotheses and to generalise the results of the study. Causality analysis (Multiple Regression Analysis) was undertaken to identify the determinants of health status.

3.14 Relevance and Limitations of the Study

The present study covers the region, area and religion wise health status and health care of the fisher folk in terms of the sample villages of the three regions. It also resorts to an analysis of dependent and independent variables mentioned above. The health intervention analysis is done in one of the coastal villages its the Community Health Centre– Poonthura where all three religious groups approach for their health needs, as a case study.

The study has its relevance in the context of the deprivation of the fisher folk, who are sandwiched between the privatized-market oriented health provision and the fisheries crisis. In other words, while the globalized competitive market forces penetrate into the traditional subsistence sectors like fishery with the massive and destructive technologies that make the subsistence of the traditional communities like fisher folk more vulnerable, the health care system has become more costly on account of increasing privatization. If a way out is
masterminded by the joint participation of Government agencies, non-governmental agencies, community platforms, and other institutions and agencies concerned, there could be a better and more effective provision of health care. At the theoretical level, the present study doesn’t go into the evolution of globalization and its impact on the traditional sectors, as the focus of the present study is more on the status of the health of the fisher folk, which is however, aggravated by the privatization of the health care that pose severe deprivation for the social group, which are already in a precarious position on account of the fishery crisis.

The limitations of the study include:

- The selection of the sample population is not in proportion to the size of the religion of each region. In order to adhere to the statistical test, the statistical minimum 30 household is selected from each religious group.
- It should also be noted that as the religious composition in the sample is in equal proportions, say 90 families from each area and 180 households from each region, irrespective of the actual composition of the religious background of the fisher folk in the sample district/villages, reflects the relative pattern of the socio-economic life of the fisher folk in the sample locations concerned.
- There is an ambiguity of the words ‘fishermen’ and ‘fishing community’. There is government published list of fishermen through the Fishermen Welfare Board. There are certain lacunae in the list. There are people who belong to fishing community by caste and live in the coastal area. Though they are not active fishermen, they retain the title as fishermen in order to get the benefits. Once upon a time their fore fathers were fishermen. Since there are many welfare schemes for the fishermen, these people too are in the list. Hence the official list is faulty and not resorted to in this study.
- In each village, all active fishermen households were listed by the researcher and applied random method giving equal opportunity to each and every household. Hence the size of the religious groups varies from one another and the number of samples equal but not in proportion.
- The respondents are mainly the female member of the household and their educational backwardness and very submissive nature to their husbands and other male members in the households reflect in their responses regarding the reproductive health, social status of women etc.
• Though there are documents and reports related to the health interventions of the government, in the name of privacy and confidentiality of the nature of the documents, the government officials non-cooperation attitude is also another limitation of the study.

3.15 Chapter Scheme

The thesis is comprised of eight chapters:

The First Chapter introduces the core subject of the study. The Second Chapter reviews the relevant literature on the health status and health care system which determine health status of the fisherfolk and also examines the general demographic, socio economic, educational, occupational, health and status of women profile of the fisherfolk in Kerala.

The Third Chapter elaborates the methodology of the present study, while the Fourth Chapter substantiates the theoretical and conceptual frame of the study.

The Fifth Chapter analyses the profile of the sample households in terms of the demographic, educational, employment and income, consumption, savings and insurance, assets and liabilities, basic amenities. The Sixth Chapter presents the health variables such as birth, death, disabilities, life styles, women’s reproductive health, incidence of illness and treatment, determinants of health status of the sample fisherfolk in Kerala.

The Seventh Chapter analyses the health awareness and attitude, health practices and availability, accessibility and affordability of health care facilities and programme interventions in health care etc. The Eighth Chapter summarizes the important findings and observations of the core chapters and proceeds to suggest an alternative model of health care strategies and interventions for the fisherfolk in Kerala.