Chapter - 4
Socio-Economic Profile

4.1 Introduction

Socio comes from social, and refers to various demographic and social conditions, such as the age structure, racial composition, sex ratio, marriage and divorce rates, and so on. Economic refers to the economic conditions, such as income, expenditure, unemployment rates, savings rates, and so on. Social scientists use socioeconomic as an umbrella term to cover a wide variety of interrelated social and economic factors that might tend to explain an observed phenomenon, event or set of events. Therefore socioeconomic status is a combination of economic and sociological measures of a family’s economic and social position in relation to others, based on income, education, and occupation. In all the sociological investigations certain variables pertaining to socio-economic background are compared to provide the sociological differentiation of the respondents. Socioeconomic environment refers to a wide range of interrelated and diverse aspects and variables relating to or involving a combination of social and economic factors. These aspects and variables can, in general, be categorized into economic, demographic, public services, fiscal and social categories. The social aspects involve community life as well as social and cultural attitude and values. Community services are related to housing and requirements for public services such as water, sanitation, communications, police and fire protection facilities, solid waste disposal as well as health and educational services. The demographic aspect includes population growth structures, distribution and density. Economic factors include general characteristics, structures and change various economic activities and employment.

Demographic characteristics are the primary factors to analyse socio-economic conditions. Since gathering every available statistic was impractical, only key demographic indicators were selected during the study. This may include size of the population, family size, occupations, etc. Economic profiles of the people who live in the area, types of employment activity are important element of socio-economic conditions. Answer to questions like, what are the principal ways people make their livings, and what is the share of each activity in the priority area or sector’s overall economy can help in the economic analysis. Similarly a social analysis reveals complex relationships among different groups and, focusing on assets and livelihoods, it asks how people perceive, act on and negotiate their interests.

A socioeconomic assessment is a way to learn about the social, cultural, economic and political conditions of stakeholders of a society which includes individuals, groups, communities and
organizations. This socioeconomic study is intended to assess the prevailing socioeconomic conditions of fishermen in the study site. This includes provision of a baseline study and to an extent study the existing state of the study site. Socioeconomic conditions are usually hard to identify and assess, as they are related to the human beings and their characteristics, which usually differ widely within the same community and from one community to another. Furthermore, as socioeconomic assessment deals with dynamic variables, no comprehensive list of areas of concern could be developed to fit socioeconomic assessment in all cases. However, a number of broad sets of socioeconomic impacts could be developed which may include economic impacts, demography; employment, health, and community resources including political, social, economic and cultural conditions.

For a socioeconomic study to be organized and conducted properly, it should be systematic, and have minimum bias, and allow for consistent comparison and reasoned judgment. For all this to be accomplished, a well-planned, very precise and logical work methodology was developed within the research criteria for the socioeconomic assessment. The development of these criteria was based on the list of socioeconomic impacts and indicators. Specific features of each study site were taken into account while listing all possible impact areas. As there were large numbers of potential impacts in a study site, socioeconomic impacts were scoped to focus on the most important impacts, both direct, and indirect.

Socioeconomic conditions in Chilika can be affected by the natural environment with its various ecosystems which provides continuous supplies of goods including fish, salt, and services including sustaining bio-diversity, water quality maintenance, transportation, and tourism. 7Socioeconomic structures in Chilika may have a positive or negative impact on the various human activities conducted in the area resulting to, the environment and its ecosystem. This in turn, means that the stability of environment and the community welfare in these areas are highly interdependent. Therefore the study of socio-economic situation of the fishermen, who are dependent on the lake has great importance.

The current study deals with fishing, a source of livelihood in and around Chilika Lake. It is a sociological study to find out survival strategies and alternate livelihood options of fishermen community in Odisha in general and in Khurda, Ganjam & Puri district in particular. It covers the socio-economic background and life style of the respondents with specific focus on their personal characters such as age, religion, mother tongue, education, traditional occupation and tradition depth of occupation, marital status, dwelling status, type of family and size of family, monthly family income, family members engaged in fishing, poverty level, and educating
children. Considerable amount of fieldwork with different fishermen groups required adoption of the right approaches during the research. It was important to an extent to recognize and understand the fishermen's perceptions, their relationships, realities and the structures within which they exist as the ultimate objective was not only to obtain the required data and information but also to involve them in the assessment process. The socioeconomic impact assessment also highlighted possible relationships between assessed socioeconomic variables and the environmental quality in the study site. In addition, the areas of concern (issues and opportunities) of socioeconomic structure of the study site were also identified during the research.

4.2 Age

Age refers to a time-point in the life span between birth and death covered by a person. It is usually measured in full year and months. Acquisition by the individual of a new set of duties, rights, obligations and privileges, change of status and the society's reorganization of the individual are related to his/her age and experience. Ageing is an important part of all human societies reflecting the biological changes that occur and its impact also reflects cultural and societal beings conventions.

Age is also one of the main criteria to understand an individual's status in the society. Biologically, age indicates physical and mental wellbeing. However, sociologically age is an important factor that not only determines one's social status, but also economic status of the household. This study has attempted to map out the age of the fishermen living around Chilika.

The study reflects that out of the total 450, fishermen studied, 04 i.e. 0.9% belong to the age group 01 - 14 years, 90, i.e. 20.0% belong to the age group 15 - 30, 230, i.e. 51.1% belong to the age group 31- 45 years, 94 i.e. 20.9% belong to the age group 46 - 60 and the age of the remaining 32, i.e. 7.1% is above 60 years. As the distribution revealed maximum of the respondents i.e. 51.1% belong to the age group 31-45 years and the least of them i.e. 0.9% belong to the age group 1-14 years.

The study thus reveals that most of the people belonging to the age group 31 to 45 are involved in fishing, whereas comparatively involvement of the younger age group population between the age-group 1-14 yrs and 15-30 yrs is quite less so far as fishing as an occupation in the communities around Chilika is concerned. This may be due to the hazardous nature of job and stressful life, the male earning members of the fishermen family die at an early age. The ones who manage to survive quit the fishery work after the age of sixty.
It is also true that there is no scope of alternate livelihood or mode of occupation for earning for old aged fishermen (above 50) who leave fishing and thus have to stay at home, this leads to a situation of financial destitution in majority of the cases. The fishermen often invest their earnings in strengthening their family’s future by educating children or managing their house and hardly have any savings. In such situations social protection can provide secure incomes for people in old age and it will have long term benefits too. CDA should therefore collaborate and work closely with some of the organisations who work on social protection, and ensure old aged pensions for the fishermen. This will not only ensure governments upholding the rights of older fishermen for a secure income, but will also enable older people to voice their own demands.

4.3 Religion

Religion can be defined as a set of beliefs concerning the cause, nature, and purpose of the universe, especially when considered as the creation of a superhuman agency or agencies, usually involving devotional and ritual observances, and often containing a moral code governing the conduct of human affairs (http://dictionary.reference.com/browse/religion). Emile Durkheim defines religion as “A unified system of beliefs and practices, relating to the things sacred, that is to say, things set apart and forbidden, beliefs and practices which unite all those who adhere to it, into a single moral community called church.” The Elementary Forms of the Religious Life, published by French sociologist Émile Durkheim in 1912, is a book that analyzes religion as a social phenomenon. Durkheim attributes the development of religion to the emotional security attained through communal living. According to Durkheim, early humans associated such feelings not only with one another, but with objects in their environment. This belief of Durkheim, led to the ascription of human sentiments and superhuman powers to these objects. The essence of religion, Durkheim finds, is the concept of the sacred, that being the only phenomenon which unites all religions. "A religion," writes Durkheim, "is a unified system of beliefs and practices relative to sacred things, that is to say, things set apart and forbidden - beliefs and practices which unite into a single moral community called a Church, all those who adhere to them. Throughout its history, Indian culture has greatly been influenced by religion. India being a secular country, the Constitution of India also declares the right to freedom of religion as a fundamental right and gives equal respect to all the religions. The religions of India are celebrations of shared emotion that bring people together. People from different religions and cultures of India, unite in a common chord of brotherhood and amity in this fascinating and
Odisha is a diverse land. The major religions followed in India and Odisha are Hinduism, Islam and Christianity along with the other minor ones such as Shikhism, Buddhism, and Jainism etc.

Hinduism is the oldest religion in the world and is world's third largest religion after Christianity and Islam. Hinduism is also known as "Sanatan Dharma" or the everlasting religion. Apart from Hinduism, Islam is another prominent religion in India. Though India's contact with Islam had begun much earlier, the real push came in the 8th century when the province of Sindh was conquered. Christianity is another prominent religion in India. There is a general scholarly consensus that Christianity was rooted in India by the 3rd century AD.

Religion heavily influences people's concept of the natural order. It plays a key role in the lives of people in India, Odisha and so also in the lives of the fishermen living in the Chilika region. During the research it was tried to gain a better understanding of the religious roots of fishermen's attitudes towards fisheries and fisheries management. Understanding the religious basis for many of the opinions held by fishermen can help to understand the role of religion in fisheries management, and can also facilitate the socio-economic management process to livelihood issues. In a broader context, understanding how religion influences people's values and behavior is very important for environmental conservation in general. Thus an attempt is made to present the profile of religious affiliation of the fishermen at Chilika.

Out of 450 respondents 443 i.e. 98.4% follow Hinduism and 07 i.e. 1.6% are from the Islam community, and no fishermen are affiliated to Christianity or any other religions. The study thus shows that majority of the fishermen are Hindus and very few are Muslims. As can be seen from the census results India is a Hindu dominated country. Overall in India, 80% of the populations are Hindus and at the same time in the state of Odisha Hindu population is 94%, who are spread across the state. Thus it is obvious that the villages adjacent to Chilika have a thick Hindu population. Since there is a group of population from the same religion, a common culture and traditions can be observed. There is also a similarity in the nature of business, style of managing families and common customs. The bonding is usually strong and people come forward to help each other during stress.

Through the course of interviewing fishermen, it became clear that Hindu ethics play a significant role in shaping fishermen's attitudes towards fishery. Fishermen in Chilika hold strong Hindu beliefs which influence their attitudes towards fishery, and therefore affect how the fishery is managed. In public meetings of fishermen community, socio-economic discussions frequently turn into religiously charged arguments. Science-minded young fishermen often withdraw from or dismiss the religious arguments, thus shutting off communication with a large portion of the
old aged fishermen. In most of the cases the fishermen's disagreement to manage the fishery resources in Chilika is based on powerful and sincerely held religious beliefs. It is a strong belief amongst the fishermen that Goddess Kalijai provides fish for the sole purpose of being harvested by fishermen. There is a common belief among the fishermen that they serve as agents of the water and its resources. Appealing to Hindu organizations, by framing ecological conservation as a moral and ethical issue as well as economic issue, can help mobilize many people and greatly help the cause. Over the past decade there has been a movement among religious groups to take on environmental issues. The lake's environment conservation could benefit greatly from engaging religious organizations.

During preliminary discussion with local NGO officials, the researcher got to know that the fishermen are trained enough on natural disaster and they strictly follow the safety guidelines while fishing. However, while cross-verifying the facts through discussions and interactions, the local priest informed that majority of the fishermen follow their strong religious beliefs while going for fishing. From the religious point of view the fishermen strongly believe that Maa Kalijai, the local deity, decides their birth and death and the fishermen as well as the non-fishermen from the villages dare to go in the lake for fishing even during high wind, because they are sure that their destiny is decided by holy Maa (Maa Kalijai). Most of them strongly believe that they never suffer and even survive because of her. This was further supported by the elderly fishermen while close interactions. Here the triangulation method was used to get the fact.

Tourism of Chilika provides the tourists with experience that stay with them for the rest of their life. The Lake is dotted with a host of islands. Kalijai Island, Breakfast Island, Nalabana (island of reeds), Honeymoon Island, Parikud Island, Birds Island, etc. are some of the interesting spots around the lake. The atmosphere is serene and undisturbed amidst the blue expanse of water on one side and an evergreen range of hills on the other. The island of Kalijai is famous as a centre of religious worship due to the temple of Goddess Kalijai where a big fair is held on the occasion of Makar Sankranti that falls on January 14th every year. Lot of Hindu tourists who come for Jagannath Darshan also visit Chilika.

As the study reflects there are a large number of Hindu fishermen in the area, thus, government should try and promote religious tourism in the area, which will give scope of having alternate livelihood options for the older fishermen, who do not get to work after their late 50s. They should be promoted to work as tourist guide by using their rich experience and vast knowledge about the history of Chilika as well as all the neighboring tourist spots. They can really be resourceful for the tourists, who come for worshipping Kalijai. At the same time, some Hindu
tourist spots can be developed around satapada, which can further be promoted for the fishermen, who can get into tourist business as an alternate livelihood options.

4.4 Caste/Group

Caste is a form of social stratification characterized by endogamy, hereditary transmission of a style of life which often includes an occupation, ritual status in a hierarchy, and customary social interaction and exclusion based on cultural notions of purity and pollution (Scott, John; Marshall, Gordon (2005). Indian caste system describes a system of social stratification and restrictions. There are three major religions having their own caste/sects in India i.e. Hinduism, Islam and Christianity. Hinduism having 6400 (Mohanty, 2010) sub-castes is divided into four broad castes and outcaste social groups i.e. General Caste, Scheduled Castes (SC), Scheduled Tribes (ST) and Other Backward Classes (OBCs)/Socially and Educationally Backward Classes (SEBCs). General Caste includes Brahmins and Karanas. Scheduled Caste, first coined by Simon Commission in 1928, and recognized in the Government of India Act, 1935, is referred to as Exterior Caste in census 1931 and the Depressed Classes by the British. Dr. B. R. Ambedkar referred it as economically, socially and religiously exploited group of lower castes suffering from untouchability. The Government of India Act, 1935 listed out or scheduled a few of these castes as the most inferior ones which required some special attention. This list of castes was designated as Scheduled Castes.

Article 366 (25) of the Constitution says that Scheduled Tribes are the tribes or tribal communities or parts of or groups within such tribes or tribal communities which the Indian President may specify by public notification under Article 342 (1). (Shankar Rao, 2006). The Central Government of India classifies citizens belonging to some castes excluding Scheduled Caste (SC), Scheduled Tribe (ST) as Other Backward Class (OBC). This classification is based on their social and economic condition. The SEBC category consists of the socially and economically backward class of people who can be given specially facilities by the state Governments for their upliftment. The caste system is also found among Muslims and Christians. Nazmal Karim has made reference to four castes among the Muslims which are hierarchically arranged into Syed, Sheik, Mughal and Pathan. Syeds are descendants of the family of Prophet Mohammad through His daughter. They are of Arab origin. Sheiks are not the descendants of the prophet but are the first generation converts. Mughals were of Turki origin, but adopted this designation to distinguish themselves from the Ottoman rulers of Turkey. Pathans were of Afghan origin, though many of them, not even remotely connected with Afghanistan, claimed this status. Christianity is divided into two sects, i.e. Catholics and
Protestants. Catholics are the high ranked Christians and the Protestants are at the lower rung of the Christian religious hierarchy.

Silva and Hettihewage (2001) focus on poverty, social exclusion and the impact of selected legal measures against caste discrimination in South Asia. They analyze how the lowest caste is looked at in terms of how they are affected by their position in society and discuss the issues involved with the reservation system in trying to help the untouchables get out of poverty. Based on their analysis, they conclude (p. 69) that even though the caste system primarily encompasses a value system applicable to ritual domain and social relations, it also determines the relative worth and level of dignity of human beings, affecting their overall position including their livelihood security, freedom, and adaptation to a modern market economy.

Rose (1967) discusses the effects of various sociological factors such as joint family, caste system and Hindu religious values on economic development in India. He also provides possible solutions for increasing economic efficiency. Kar (2007) wrote an article on religion and the roots of India's caste system for the *New York Times*, in which he reported on the origins of the caste system. He discussed what the Hindu scriptures say about caste as well as what the caste system actually turned out to be. The Gita, which is one of the Hindu scriptures, states that caste is not determined by birth but by behavior. However, today people's castes are determined as soon as they are born signifying an outside influence on the modern day caste system. The caste system that was established in India forced many people who belong to the lower castes into poverty. There are approximately 180 million to 220 million people who are considered to be in the lowest caste in India (Ninian, 2008). These lower castes or Dalits (broken people) are essentially shunned from society (Thekaekara, 2005). It is not that they have earned such isolation, they experience absolute exclusion from the cradle to the grave (Thekaekara, 2005).

Caste assigns the ascribed social status to its members and opens occupational prospects for the members. It assigns the individual a social rank and it's accompanying ascribed rights and obligations. Interestingly while trying to understand the castes of fishermen; it was revealed that the fishermen consider that there are seven castes in the area, which are shown in the following table. So the researcher has divided the respondents into the below sub-castes/ groups and has attempted to know their caste background to determine their achieved social position in accordance to their occupation, i.e. fishery.
Table 4.1: Caste of Fishermen in Chilika

<table>
<thead>
<tr>
<th>Caste/ Block</th>
<th>Ganjam</th>
<th>Khallikote</th>
<th>Chilika</th>
<th>Tangi</th>
<th>Banpur</th>
<th>Krushnaprasad</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Keuta</td>
<td>17</td>
<td>31</td>
<td>108</td>
<td>37</td>
<td>0</td>
<td>64</td>
<td>257</td>
</tr>
<tr>
<td>Kandara</td>
<td>38</td>
<td>14</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>7</td>
<td>60</td>
</tr>
<tr>
<td>Tiara</td>
<td>0</td>
<td>0</td>
<td>23</td>
<td>0</td>
<td>15</td>
<td>6</td>
<td>44</td>
</tr>
<tr>
<td>Nolia</td>
<td>5</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>21</td>
<td>26</td>
</tr>
<tr>
<td>Niar</td>
<td>0</td>
<td>0</td>
<td>5</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>6</td>
</tr>
<tr>
<td>Karita</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
<td>4</td>
</tr>
<tr>
<td>Khatia</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>4</td>
<td>0</td>
<td>4</td>
<td>14</td>
</tr>
<tr>
<td>Refugee</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>16</td>
<td>0</td>
<td>0</td>
<td>16</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>0</td>
<td>24</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>26</td>
</tr>
<tr>
<td>Total</td>
<td>60</td>
<td>45</td>
<td>165</td>
<td>60</td>
<td>15</td>
<td>105</td>
<td>450</td>
</tr>
</tbody>
</table>

From the analysis, it is evident that Keuta are the most dominant class among fishermen. Kandara and Tiara are the other dominant class, which operate in Chilika. All these sub-caste belongs to Schedule Caste (SC) group.

The Keuta caste fish in deep Chilika with the help of cast nets and they dominate the fishing community. Kandara, at the same time, fish in shallow areas in Chilika. People of this community use dhaudi, tata to catch fish spawn and prawn. Interestingly Tiara fish in shallow areas in Chilika. They use baja, tata for catching fish and prawn juveniles. These people do not use nets. However, during the Focus Group Discussion, it was informed that now-a-days none of the caste follows any specific method for fishing and fishermen keep on changing their methods for catching the maximum. Thus it is evident that the caste system has a major bearing in terms of fish catch and has a direct bearing on the income.

4.5 Mother Tongue

Language plays a significant role to contribute towards achieving the Millennium Development Goals, which includes addressing issues like poverty, gender inequality, HIV/AIDS and maternal and child health.

Language is succinctly defined in our glossary as a "human system of communication that uses arbitrary signals, such as voice sounds, gestures, or written symbols. Language is a part of human life and is the most important means of communication. Mother tongue is the language, a person has learned from birth or within the critical period, or that a person speaks the best and so is often the basis for sociolinguistic identity. In some countries, the term mother tongue refers to the language of one's ethnic group rather than one's first language. The mother tongue of a child is part of its personal, social and cultural identity and has a direct relation with his/her
education. Early education in the mother tongue improves the lives of children and their communities. Children who receive a strong educational foundation in their mother tongue are in the best position to move forward with confidence, to learn other languages, and to make a contribution to their societies' future. The importance of mother tongue has been emphasised at several forums on Language, Education and the Millennium Development Goals (MDGs), as they are a key factor for education and the success of other development efforts. One way to achieve equity in education opportunities and the "Goal of Education for All", as well as to counter linguistic and cultural loss is to deliver early childhood education and primary education through mother tongue languages.

The first language of a child is part of their personal, social and cultural identity. Another impact of the first language is that it brings about the reflection and learning of successful social patterns of acting and speaking. It is basically responsible for differentiating the linguistic competence of acting. The mother tongue is an indispensable instrument for the development of the intellectual, moral and physical aspects of education. It is a subject taught and by which other subjects can be tackled, understood and communicated. Clarity of thought and expression is only possible when one has a certain command over the language. Weakness in any other subject means weakness in that particular subject only, but weakness in the mother tongue results to paralysis of all thought and the power of expression.

From 1881 Census onward, the question on mother-tongue was included in the census though it was put to the enumerators differently in different censuses. In the censuses of 1881, 1931, 1941 and 1951, the question was 'Mother-tongue'. The mother-tongue was defined as the language first spoken by the individual from the cradle. In 1891 Census, the question was 'Parent tongue' which had been defined as the language spoken by the parent of the individual. In 1901 Census, 'Parent tongue' was replaced by 'Language ordinarily used'. In 1911 the question was 'language ordinarily spoken in the household'. In 1921 the question was simply 'Language ordinarily used'. The question on Mother tongue was repeated from census to census from 1931 to 1971. In 1971 Census, the mother-tongue was defined as "language spoken in childhood by the person's mother to the person. As per census of India, the language spoken in Orissa is Oriya with total 33 million speakers, whereas Hindi is the most spoken language with (250 – 420 million people speaking in Hindi).

Oriya is the mother tongue of the people of Odisha and so also is hypothetically thought to be the mother tongue of the people living in the Chilika region. But some migrated fishermen from West Bengal and Andhra Pradesh also speak Bengali, Telgu. Mother tongue decides the social,
cultural, economic and political relationships; therefore without analysis of mother tongue, socio-economic analysis is not complete. So the researcher has attempted to know the mother tongue of the respondents in this study.

During the study, it was observed that out of 450 respondents, the mother tongue of 409 i.e. 90.9% is Oriya, that of 16 i.e. 3.6% is Bengali and that of 25, i.e. 5.6% is Telgu and the mother tongue of none of them is Hindi. So the mother tongue of the most of them i.e. 90.9% is Oriya.

It is observed that the mother tongue of the respondents is mostly Oriya. It is because: maximum numbers of fishermen are native of Odisha and the mother tongue of Odisha is Oriya. Mother tongue of none of them is Hindi, as there was no one from the Hindi speaking states.

Language is a medium of communication. Common language helps in making transaction easier. People can easily interact with each other and share their feelings. Different languages sometimes create differences between people. It is therefore anticipated that same language, has helped the fishermen to have, better communication resulting to stronger relationship.

While there are many factors involved in delivering quality basic education, language plays the key role in effective communication and understanding in the classroom. Use of a familiar language as a medium of teaching facilitates in better understanding of the subject. Students can more efficiently learn to read when the medium of the teaching is of a known language, as they can employ psycholinguistic guessing strategies; likewise, students can communicate through writing as soon as they understand the rules of the orthographic (or other written) system of their language. Therefore Oriya being the mother tongue, government should ensure that the teaching materials in the schools are in mother tongue, i.e. Oriya.

4.6 Education

Education can be defined as a wealth of knowledge acquired by an individual after studying a particular subject or experiencing life lessons that provide an understanding of something. The importance of education is recognized for growing in all aspects. Even with, other things remaining constant, education fits the right qualified person at the right place. Education in the largest sense is an asset or experience that has a formative effect on the mind, character or physical ability of an individual. Technically education is the process by which society deliberately transmits its accumulated knowledge, skills and values across generations. It is the most vital instrument for the development of human resource.

Education in India is constrained by socio-economic conditions of the people, their attitudes, values and culture. During the pre-British period, education was linked to the socio-religious
institutions reinforcing the patriarchal social structure. The Constitution of India (86th Amendment) Act, 2002 inserted Article 21A in the constitution providing for free and compulsory education for all children in the age group of 6-14 in an appropriate classroom in the vicinity of their neighborhood is a fundamental right in such manners as the state may, by law, determine.

Rabindranath Tagore viewed education as ‘a right which enables individuals and communities to act on reflection’. To what extent the present school education system enables students ‘to act on reflection’ is difficult to judge, and therefore, an analysis of Tagore’s view on education in contemporary India is much beyond the scope. Universal elementary education is not only a constitutional directive, but also a fundamental requirement for the well-being of individuals, and at the macro level, forms the basis of a well-functioning democracy. The Right of Children to Free and Compulsory Education Act (RTE), 2009, came into force from April 2010. The RTE Act provides for free and compulsory education to all children in the age group 6–14 years. With the enforcement of the RTE Act, education has become a fundamental right, and therefore, education has become an entitlement of every child. In India, education comes under the ‘concurrent list’.

Thus education, simply stated, is the process of gaining knowledge, learning forms of proper conduct and acquiring technical competency in a specific field. It involves cultivating the mind and instilling values that enables an individual to distinguish between the right and the wrong. It includes developing skills pertaining to a specific field and also aims at achieving overall development. Formal education starts with going to schools.

A school is an institution designed for teaching the students under the supervision of teachers (Nayak, 2012). Starting school is a major life transition. The ways in which this transition is managed, by everyone involved, can have a significant impact on children’s views of themselves, children’s interest and motivation to be at school, and on their future school success. As well, the child’s joining of school impacts upon families and family life, as adjustments are made to accommodate the demands of school, which has an economic impact on the HH also.

Under this heading the researcher has tried to understand three components from the point of view of education, i.e. educational level of respondents, Views on sending the children school and purpose of providing education to children.

Fishing communities are often remote, have lack of infrastructure and are also marginalized from governmental development initiatives (Allison, 2003). Children growing up in such places,
in common with other rural areas of developing countries are often deprived of education due to remote access to formal education, compared to the urban children (Meinert, 2003; Ansell, 2005; Lewin, 2007). The demands of the fishing industry, the strong occupational identities and incentives to remain in fishing are thought to negatively affect the educational outcomes of formal schooling in these contexts (Maddox, 2006). The definition of literacy has been 'ability both to read and write in any language'. Literacy has been described as the ability to read for knowledge and write coherently and think critically about the written word. Literacy can also include the ability to understand all forms of communication. For a fisherman it is important to be literate to manage his day to day work including measuring his catch, selling in correct price, dealing with money lenders, etc.

Fishing communities confront several issues that enable or constrain their life choices. Hence, a deeper, more nuanced appreciation of educational status is important for understanding not only the intergenerational transfer of poverty, but also the transference of poverty over the life course. Thus to the challenges they face due to illiteracy the educational status of the respondents has been inquired. For the convenience of our research, three kinds of groups were identified: illiterate, barely literate and highly literate. Illiterate are those, who cannot even write their name; and also cannot read properly. Barely literate are those, who can write their names and few words at least and can read the language. Highly literate are the persons, who can read and write properly. In terms of reading and writing only the local language i.e. Oriya was considered.

The data shows that there are respondents having different educational level, i.e., 3.6% are highly literate, 73.8% are barely literate and 22.7% of the respondents are illiterate. So most of the respondents fishing at the Chilika are barely literate and the least of them are highly literate.

This is definitely an issue and challenge for the growth of fishermen. It proves that currently, formal educational attainment in fishing communities is very low, a situation which may be common with other marginalised rural communities. It is essential to recognize that in poor rural fishing households, it is not possible to improve school attendance simply by implementing compulsory education and preventing children from doing paid and unpaid work, because they make an important contribution to household survival by helping their parents in fishing. In addition, children gain valuable life skills through informal learning opportunities whilst undertaking paid and unpaid work.

The concept of learning while earning should be operationalized through an integrated approach to meet the basic needs of the fishermen although current thinking on education and
development is shifting from the concept of basic needs to basic rights. This shift is necessitated by the fact that the fishermen of Chilika have the right to education and other basic needs. This right implies the exercise of duties and obligations not only by the right-holders (i.e. fishermen) but also by those who have the duty to create opportunities to facilitate exercise of the rights. Adult education and literacy programmes for the fishermen should be emphasized as a process, which should in turn recognize the centrality of the role of the learners in the learning and development processes. Literacy programmes can help the fishermen to develop their self-esteem by integrating the skills of literacy, numeracy, oral expression and problem-solving with the fishing activities.

Similarly the researcher also tried to understand the views of the fishermen on sending their children to school through the interview schedule. The official age in Government schools is 5-6 years and above. But schools run by Catholic Missionaries and other English medium schools have their own rules and children start schooling at the age of 3.5 years. Education in India is divided into preprimary, primary, middle (or intermediate), secondary (or high school), and higher levels. Primary school includes children of ages six to eleven, organized into classes one to five. Middle school pupils aged eleven through fourteen are organized into classes six through eight, and high school student's between age group of fourteen to seventeen are enrolled in classes nine through twelve. Various forms of private schooling are also common in the state. Several schools are strictly private, whereas others enjoy government grants-in-aid but are run privately. Schools run by church and missionary societies are common forms of private schools. Among India's Muslim population, the madrasa, a school attached to a mosque, plays an important role in education. Primary and middle school education is compulsory in the country. However, not more than 50% of children between the ages of six and fourteen actually attend the government schools, although a much higher percentages are enrolled. School attendance patterns for children vary from region to region and according to gender.

For fishermen, it is important to send their child to school, as this may help to ensure their long term livelihood and it can also ensure alternate livelihood in the crisis situation. After attaining the minimum qualification, the new generation can also opt for a new source of livelihood in addition to the family based business. Thus this study has attempted to find out if the respondents are sending their children to school.

The study reflects 89% respondents want to educate their children and 10.4% respondents do not want. Thus mostly the fishermen living around Chilika want to educate their children and the least of them do not want. The reasons behind the situation are discussed in the foregoing
disadvantage. It also lays the foundations for greater overall economic productivity, and the full use of new technologies for development. A system of compulsory schooling helps fight child labour. Educated and literate adults are more likely to be informed about sexual risks and better able to protect themselves from HIV/AIDS. The education of girl child is a powerful means of sustaining improved health and education in the long term. Children of educated mothers are significantly more likely to be enrolled in school. In addition, the education of women may also address entrenched cultural views about traditional female roles as they are empowered and equipped with skills which enable them to make full contribution to their communities. However, provision of quality education is possible only when proper infrastructure, along with qualified teachers, is put in place.

The researcher has tried to identify the purposes of children’s education from the point of view of the fishermen. The key parameters on which data has been collected are the reasons why fishermen want their children to be educated: improvement of social status, doing better in the traditional family fishing business, or to push the children into other occupations like Govt. service, services in private or corporate sector or trade and do business in other fields.

Maximum of the respondents i.e. 57.8% want to educate their children to push them into other occupations like Govt. service, services in private or corporate sector or trade and business other than fishing and the least of the i.e. 9.6% want their children to do the traditional occupation better, if they will be educated. 22.2% feel that education will help them to improve their status in society, whereas 10% had no answer.

Figure 4.1: Purpose of providing education to Children

<table>
<thead>
<tr>
<th>Purpose of providing education to children (%)</th>
<th>22.2</th>
<th>9.6</th>
<th>57.8</th>
<th>10.4</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improving Status in society</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Doing fishing better</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wish that children take job elsewhere</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not applicable</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
section. This shows that the fishermen are aware of the importance of education for their children. The children of fishermen those who are vulnerable to poverty, abuse, or exploitation, can be protected by ensuring quality education. Primary education for the children of fishermen can ensure their physical, emotional, social and intellectual growth. This will also ensure that the children know about the life skills that can enable them to prosper later in life. With the current situation in Chilika, which requires more community participation and effective governance, the new generation of educated fishermen will have better qualities of critical thinking skills, healthy living, resilience, and self-confidence.

Government should consider the use of positive incentives, especially with regard to school attendance to provide a more effective route to train the fishermen's children in several other areas. This implies implementation of child friendly schools with policies aimed to improve the quality of schools with better infrastructure and good learning materials. During interaction, some of the fishermen also suggested that there is a need for adjusting school schedules to accommodate possible seasonal fluctuations, as sometime the children also help their parents in some of their household work, including fishing. Government should also understand that since fisheries-related work is physically demanding and cannot therefore be learnt before a certain physical maturity is attained, there is a window of opportunity for utilizing the consecutive gap between the optimal times for cognitive development. This will ensure that the rest of the parents, who do not feel the importance of education for their children, will send them to school. This will also require some counseling by the trained teachers of the local villages.

Purpose of providing education to children was also studied in order to understand the motives of fishermen behind educating their children. Education gives an individual, better prospects of earning a living. It makes an individual self-sufficient. Education helps an individual develop as a resource and an asset for the society. It develops individuals who can contribute to wealth creation in the country. It's on the basis of education that an individual can pursue his dreams. Education helps a person to meet his career objectives and achieve economic growth and at the same time education develops resourceful human beings out of illiterate individuals. Education gives a sense of personal fulfillment. Education also helps an individual acquire a social skill, which enables him to interact with people around, maintain social relations and blend well with others in society. This ultimately gives an individual respected status in the society.

The economic growth is not the only reason why education is vital for an individual's well-being. Lack of education plays a critical role in underdevelopment. More broadly, education is a key tool for development, and an invaluable means of addressing structural inequality and
Although the literacy rate in villages continues to be low, the study reflects that many fishermen have begun to take an active interest in education and are sending their children to school. This is a positive sign as an educated society makes better progress. This also reflects that the fishermen are aware of the utility of education and are concerned about the future of their children.

The demands of the fishing industry, the strong occupational identities and incentives to remain in fishing, are thought to negatively affect the educational outcomes of formal schooling. However, the study shows a different picture altogether. Most of the fishermen have understood the importance of education. The main reason of sending their children is to get a job elsewhere. This proves that fishermen are aware of the current market situation and at the same time know that the decrease in fish catch will continue. Children’s education will open way to opportunities for employment for the next generation, as most of the educated youths may opt for a job rather than fishing. This will also decrease the pressure on the lake and on the other hand will ensure environmental sustainability. Those who would not opt for jobs elsewhere can also look for an alternate livelihood option in their village itself. Education and awareness will give the fishermen a better status in society as well as it will improve their lifestyle and social relation. It will also improve their business ability by bringing in innovation and advancement of technology in the fishing sector for better volume of fish catch and also their bargaining power to fetch better price in the market.

As the major objectives of the fishermen for sending their children to school is to ensure that their children get a job in a better place, it is important that there is quality education in place. In addition to malnutrition and the lack of proper early childhood care which are responsible for low learning levels, the situation is often made worse by scarcity of quality teachers in the rural areas. While the children of fishermen can opt for education, they need quality education to ensure better prospect in future. Care should also be taken to address the gender disparity in the classroom to ensure that both boys and girls are getting equal education. As per the norms regarding school infrastructure, according to the Act it is necessary that there should be at least one classroom for every teacher, the school building should have separate toilet facilities for boys and girls, safe drinking water facilities should be in place, there should be a separate kitchen to cook the mid-day meals, and the school should have playgrounds and boundary walls. Investment in education has an impact on all types of human development outcomes. CDA should therefore put more resources for educating the children of fishermen, which will help them opt for alternate livelihood options in future.
4.7 Traditional Occupation

Occupation refers to an activity that serves as one's regular source of livelihood. Occupation includes a regular activity performed in exchange for payment, especially as one's trade, occupation, or profession. This may also mean a position in which one is employed. Work organization refers to the institutional arrangement that govern the production, distribution and exchange of goods and services through use of knowledge, skill and resources under specified rules and principles. It organizes the essential relation among tools and principles, machines and premises, knowledge and energy resources and moreover the people that come together.

The Indian society is characterized by the dominance of a system, which not only influences the forms of social relations, but determines the form of division of labour. Almost every society professes to have a traditional occupation. Indian society is an example of the type with an exclusively high transmission of occupation from one generation to the other.

Occupation in Indian village reflects the base of the socio-economic culture prevalent in rural areas of the country. The major occupations in Indian villages are agriculture, fishing, weaving, cottage industry, handicrafts etc. Since the ancient period, agriculture is the predominant occupation in India which accounts to engage majority of the rural population. In the contemporary period, the evolution and advancement of various industrial and technological sectors in India have opened scope of new job opportunities for the Indian villagers. Most of the modern day Indian villages present a different scenario with villagers taking up the non-traditional occupations. They are involved in academics as teachers; truckers, clerks or getting engaged with various cottage industries.

Studies show that the traditional occupation scenarios in Indian villages are changing mainly due to the changing economic scenario of the villages. The invention of new technologies has encouraged the Indian villagers to take up new occupations. Apart from that, decline in the fertility of lands in many pockets has also forced many villagers to give up their traditional occupation of agriculture. Many of the villagers have migrated to the nearby urban areas in search for alternative occupation and sources of income and thus leaving traditional occupation behind. The researcher in this study has taken cultivation, wage laboring, household industry, fishing, trade and business, Govt. services, income from rent / interest/ dividend and any other occupations and has tried to know which of these occupations is 'being opted' by the respondents traditionally. However, it was ensured that all the respondents in some or other way are engaged in fishing activity.
This study shows that majority of respondents i.e. 94.6% are involved in fishing sector as their main income followed by daily-wage earner i.e. 2.4%, cultivation i.e. 2.2% and a negligible 0.2% in trade & business and 02% in others activity. Few old aged respondents informed that the fisheries of Chilika were part of the Zamindari estates of Khallikote, Parikud, Suna Bibi, Mirza Taher Baig and the Chaudhary families of Bhungarpur and the Khas mahal areas of Khurda, lying within the kingdoms of the Rajas of Parikud and Khallikote. The zamindars used to lease out the fisheries exclusively to the local fisher folk. The British also started a cooperative store in Balugaon in 1926 to provide fishing equipment to locals. After the abolition of zamindari in 1953, traditional fishing areas continued to be leased out to cooperatives of local fishermen.

The study reveals that maximum respondents have been traditionally engaged in fishing as their source of livelihood; income from household; industry, Govt. services and rent/interest/dividend is nil. As revealed during the research, while maximum number of population gets involved on an open access system, it starts losing its importance. While fishing is the main occupation of the respondents; it is anticipated that with the course of time the fishing resources will start decreasing; and there will be a pressure on the traditional fishermen to switch over to new occupations, leaving behind the traditional occupation.

A female officer of Chilika Development Authority informed that the women are not allowed to go for fishing in the sea due to superstitious belief that women are inauspicious, yet they are involved in various other activities related to fishery business. During the FGD in the field it was confirmed that there is a common religious and traditional opinion of the fishermen that if women go for fishing, there is possibility of inadequate fishing or mishaps like boat may crash. This process of cross validation is called as methodological triangulation in social research.

Queen of natural beauty, Chilika, the largest brackish water lake in Asia is a great attraction for the tourists for fishing, bird watching and boating. Kalijai Island, Honeymoon Island, Breakfast Island, Birds Island, Nalabana (Island of Reeds), Parikud Island, is some of the important and interesting spots inside the lake. Therefore tourism should be developed as one of the major occupations in Chilika. Villages in and around Chilika are endowed with natural beauty. Each village has a rich traditional and cultural heritage. This attracts tourists from all over the world every year. The fishermen should be encouraged to get involved in various tourism related occupations. The villagers can work as tourist guides or run different kinds of business, including boats, shops, selling pearl and even provide accommodation facilities for the tourists to earn their livelihoods.
Similarly traditional depth of the occupation was studied to understand the traditional livelihood pattern of fishers and its impact. Fishing in Chilika is life and livelihoods for the fishermen. The lagoon has a long history of sustainable fishing. Fishermen in Chilika have been into fishing business for generations. The traditional sector of fishing comprises enterprises and individuals associated with fisheries resources from which indigenous people derive products in accordance with their traditions.

The term generation derived from the Latin *generāre*, meaning "to beget", (Dictionary.reference.com) also known as procreation in biological sciences, is the act of producing offspring. In a more general sense, it can also refer to the act of creating something inanimate such as ideas, sound, electrical generation using technology or cryptographic code generation. Rapidity of social change in youth was crucial to the formation of generations, and that not every generation would come to see itself as distinct. The most important contributing factors to the change in mentality are the change in the economic structure of society. Because of the rapid social and economic change, young men particularly were less beholden to their fathers and family authority than they had been. Greater social and economic mobility allowed them to flout their authority to a much greater extent than had traditionally been possible. Additionally, the skills and wisdom of fathers were often less valuable than they had been due to technological and social change.

To understand the links between livelihoods and issues of poverty and vulnerability, one needs to analyse the traditional livelihood pattern of fishers and whether they have changed over time with changes in their asset base. These changes in turn can be accounted for by the vulnerability context in which fishers live and work, as well as by the policies, institutions and processes that influence this context. During the research, it was therefore tried to ascertain for how many generations the fishermen have come into the fishing business.

The study shows that 85% of the respondents are continuing with fishing occupation for last four or more generations, 6.9% for three generations, 6% for two generations and 2.2% for their current generation only. So maximum of them are doing fishing business for last 4 or more generations and the least of them are opting the occupation for one generation only.
Table 4.2: Generations into fishing occupation.

<table>
<thead>
<tr>
<th>Traditional depth of the occupation</th>
<th>Frequency</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 generation</td>
<td>10</td>
<td>2.2</td>
</tr>
<tr>
<td>2 generations</td>
<td>27</td>
<td>6</td>
</tr>
<tr>
<td>3 generations</td>
<td>31</td>
<td>6.9</td>
</tr>
<tr>
<td>4 or more generations</td>
<td>382</td>
<td>84.9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>450</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

This proves that fishing is the most prevalent and vital occupation for the people living in the Chilika region. With the emphasis of modern fisheries development some traditional activities carried out by artisan fish workers have been taken over by new groups, while others have been rendered redundant. However, this is not true in case of fishermen of Chilika. They continue to follow the traditional approach of fishing as an occupation. This may also be due to inadequate alternate livelihood options available to the fishermen.

For the fishermen, earnings from fishing business leave very little surplus beyond their subsistence needs. Even households that generate some surplus use it up quickly during lean periods or spend it on repairs of boats and houses or for festivals. The fishermen those who depend only on fishing get into debt trap soon after they lose their savings. It is therefore important that government plays a more vital role to sensitise the fishermen on the alternate livelihoods. This should be discussed in line with the depleting fishing resources and environmental degradation. Fishermen of Chilika, who are educated and are still fishing, can be supported with loans and subsidies for establishing small sector industries. It is also true that fishers were quick to adopt new technologies when required and at the same time new technologies have considerably eased operations. Therefore the government should initiate actions to establish new business techniques for the traditional fishermen.

4.8 Type of fishing business

Everyone has a role to play to generate their livelihood. Mostly the works help in getting wealth. These occupations that generate income contribute to the well-being of the society and community. Through their daily activities, people create advancement and accomplishment for the system to which they belong. The fishing industry includes multiple activities that generate other income generating occupations like culturing, processing, preserving, storing, transporting, marketing or selling fish or fish products. The earning from fishing business also depends on the
number of family members engaged in fishing as well as the nature of the property. Under the broad heading of fishing business, the researcher has studied three aspects, i.e. nature of fishing business, family members engaged in fishing and about the views of fishermen on inheriting fishing rights from.

Fishing in Odisha is almost entirely carried out by men, while women’s role is confined largely to post-harvest or other shore-based activities. Tietze (1985: 80) distinguishes five functions in the division of the traditional fishing economy: production, i.e. catching fish; processing; marketing; finance and credit; and manufacture of the means of production, e.g. boatbuilding, engine repair and net making. In some cases, these functions are interwoven and performed by the same category of people; in others, they are separate and performed by different specialized groups, depending on the stage of development of particular communities. While production activities are largely carried out by traditional fishing communities, which are generally caste-based, shore-based activities are pursued and even dominated by people of non-fishing castes. An attempt was therefore made during the study to understand which are the fishing activities, the fishermen are involved in.

Based on the interview schedule, the respondents can be divided into four broad categories on the basis of the fishing activities they are engaged in. While 42.5% fishermen are involved in catching fish, 54% are involved in both catching and selling fish. Only 3% fishermen are involved in selling and 2% involved in liasioning including facilitating the process, in terms of catching, selling, and processing.

This implies that the fishermen who catch fish are also involved in direct or indirect marketing of the fish. It is important to notice that while fish catch takes a lot of time, selling the same is also not an easy job, unless there is an existing system in place. This proves that those who lack the capacity to invest continue with simple labour-oriented methods despite the existence of more efficient means of production and processing. Using inappropriate or improper means of fish handling and processing methods in spite of the existence of alternatives is a direct outcome of a low capacity to invest. As selling fish is not a very tough job and does not require much physical labor, this can be done by the older fishermen which will keep them engaged and also give some earning.

As fishing is a common occupation, government should ensure some restrictions for the fishermen, inorder to ensure increase in fish catch and safety of environment. For auto recruitment of juveniles and migration of fish from the Bay of Bengal to the lagoon, the sensitive areas such as outer channel, Magarmukh channel, Pa’ur canal should be prescribed as no
fishing zone and use of any type of nets and Khanda in these areas need to be strictly prohibited. Strict implementation / enforcement of the existing legal provisions of Odisha Marine Fisheries Regulation Act (OMFRA) should also be ensured.

4.9 Marital Status

Marriage is a socio-religious union or legal contract generally between and also among people of generally opposite sex and occasionally the same sex to satisfy religious, ancestral and biological needs of the parties (Nayak, 2012). It is an institution in which interpersonal relationships, usually intimate and sexual, are acknowledged in a variety of ways, depending on the culture or subculture in which it is found. Such a union, is often formalized via a wedding ceremony, may also be called matrimony. In Indian society marriage has been looked upon as a religious sacrament. Its performance is necessarily not only to gain the worldly bliss but also to achieve the important religious goals. The anthropological handbook "Notes and Queries" (1951) defines marriage as "A union between a man and a woman such that children born to the woman are the recognized legitimate offsprings of both partners."

A person's marital status indicates whether the person is married or not. In the simplest sense, the possible answers are "unmarried", "married", "divorced", "and widowed" (widow or widower). While anyone who is not married is technically called "unmarried" in legal terms, it is often seen as desirable to include these other items. In some cases, knowing that people are divorced-widowed is more useful than simply knowing that they are unmarried. People marry for many reasons, including one or more of the following: legal, social, emotional, economic and spiritual. These might include family obligations, the legal establishment of a nuclear family unit, and the legal protection of children and public declaration of commitment. The act of marriage usually creates normative or legal obligations between the individuals involved. In some societies these obligations also extend to certain family members of the married persons. The dissolution of a marriage is known as divorce.

In the census, information on 'Marital Status' was collected for the first time in 1881. From 1881 to 1931 censuses, the population was classified into married, unmarried, widowed or widower. No information was collected regarding 'divorce'. Divorced persons were entered as widowers from 1901 to 1931. It was only in 1941 census that the divorced persons were recorded separately. In 1951 Census, the marital status of the persons was recorded as unmarried, married, widowed and divorced. No change in the definition of marital status was made in 1961 census except that the term 'unmarried' was replaced by 'never married'. Since 1971 Census the marital status of a person was recorded under the heads of never married, married,
widowed and separated or divorced. As marital status is one of the vital determinants of the social status, it has been inquired into in this study to determine the social status of the respondents.

The distribution shows that 86.4% of the respondents are married and 13.6% are unmarried and none of them are widower and divorced.

During group or one to one interactions the fishermen informed that women have very less contribution in income generation, they are primarily involved only in household work or small tasks like making dry fish. On the contrary, during group or one to one interactions the fishing women, some of the smart and outspoken females informed that the women play a vital role in negotiation and fixing the selling rate for the dry fish marketing not only for within & outside the state but also for outside the country. They even informed that the selling of fish, preserved dry salted fish eggs and small fish which are sold in several parts of Odisha, West Bengal and even in Burma is handled exclusively by women which fetch a good amount of money. However, they also informed that these tasks cannot be done by all the women, only the educated and smart women can do it. Thus they tried to prove that women in fishing families do play a vital role in giving shape to family's income, which is underestimated by men. This important fact would not have been revealed unless the researcher would not have gone deep into it matter using the interactive approach and triangulation method.

In the lean fishing months of summer, when the lake shrinks, the dry bed is sometimes used for cultivating paddy or millet, which is usually done exclusively by fisherwomen. Between February and May, when tiger shrimp fingerlings are found close to the lake banks, the women collect the shrimps with mosquito nets. They catch the baby shrimps, which fetch them a good amount of money per day, this helps them contribute in strengthening the economic situation of their families.

As maximum numbers of fishermen are married, they get additional support from their wives in terms of generating extra income. This is a great wage-earning avenue during the lean seasons. Fishing is a seasonal business and thus the support during the lean period is considered as a huge support. It is also true that the fishing community has a strong bonding in terms of social, emotional, economic and spiritual. Marriages within the fishing community has created normative and legal obligations between the individuals, which has further supported their livelihoods.
In order to increase employment opportunities and enhance the quality of employment for the women of the fishermen families, adequate training of the youth, and skill formation is essential. Revitalising the vocational and technical education system in the area, therefore, is crucial in realizing the demographic dividend. This will not only improve employment ability and help in poverty reduction for the fishing families, but can also contribute substantially to the sustained economic success. Specific skill-based training taking into account the need of fishing families can be formulated in this regard. Lack of educational attainment is one of the important reasons for inadequate skill training. Therefore the fishing women, who are not educated, may require specific training as well as training materials for their own betterment.

4.10 Dwelling status

A dwelling is a house, a building or structure that is a place for habitation of human beings. In some contexts, it may mean the same as residence, home, abode, lodging or accommodation. The term 'house' in India covers the greatest diversity of dwellings. In the census of 1881, 'house' was defined as the dwelling place of one or more families with their servants, having a separate principal entrance from the public way. The same definition with slight modification continued till 1951. In 1961, census, 'House' was defined as a structure or part of a structure inhabited or vacant, or a dwelling, a shop, a shop-cum-dwelling or a place of business, workshop, school, with a separate main entrance. In 1971 census, 'House' was defined as a building or part of a building having a separate main entrance from the road or common courtyard or staircase etc. used or recognized as a separate unit. It may be inhabited or vacant. It may be used for a residential or non-residential purpose or both.

Here, the nature of dwelling is defined in terms of ownership, whether own house or rented or any other type. Own house means the house on which the householder has legal ownership. Houses in terms of ownership status in India and Odisha have been presented in the tables that follow. Those who stay in rented houses are to pay monthly rent. Rent refers to the periodic payment made for the hiring of somebody's belongings such as a house, machine or a farm for a period of time. David Ricardo, in his book “Principles of Political Economy and Taxation” (1817) defined rent as "That portion of the produce of the earth which is paid to the landlord for the use of original and indestructible powers of the soil". As per this study, rent is the money paid by the renter to the house owner for hiring the house for the purpose of staying as a householder. This is called as house rent. House rent varies depending on factors like location of the house, its size and quality. Own house in this case means the house owned legally by the respondents. As per census 2011, the types of houses owned by the people are as follows:
Table 4.3 Households by ownership status – India

<table>
<thead>
<tr>
<th>Total number of households</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned</td>
<td>86.6</td>
<td>94.7</td>
<td>69.2</td>
</tr>
<tr>
<td>Rented</td>
<td>11.1</td>
<td>3.4</td>
<td>27.5</td>
</tr>
<tr>
<td>Others</td>
<td>2.4</td>
<td>1.9</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Table 4.4 Households by ownership status – Odisha

<table>
<thead>
<tr>
<th>Total number of households</th>
<th>Total</th>
<th>Rural</th>
<th>Urban</th>
</tr>
</thead>
<tbody>
<tr>
<td>Owned</td>
<td>90.4</td>
<td>96.0</td>
<td>60.0</td>
</tr>
<tr>
<td>Rented</td>
<td>6.7</td>
<td>2.1</td>
<td>31.4</td>
</tr>
<tr>
<td>Others</td>
<td>3.0</td>
<td>1.9</td>
<td>8.6</td>
</tr>
</tbody>
</table>

Source: Census 2011

Home ownership gives a sense of stability and security. Here the researcher has taken rented shared house, rented independent house and own house as the parameters and has made a venture to find out how many fishermen are staying in what type of houses, to access the socio-economic condition of the respondents.

The study distributes the respondents into three categories on the basis of their dwelling status. Out of 450 respondents 2.2% live in rented shared houses, 0.7% in rented independent house and 97.1% live in their own houses.

Majority of the fishermen in and around the Chilika are staying in their own houses and very few of them are staying in rented independent houses. Whether to own or to rent a home is a matter of choice. However, it is a choice that is heavily constrained for a fisherman of Chilika. Some households cannot enter the ownership market because of low wealth or income or because of locational needs. It is fact for the fishermen that on the demand side, the constraints are household financial resources and income prospects, as well as the locational needs of household members. On the supply side, the major constraints must be arising from the differences in the housing offered on the rental and ownership markets. If a household wants to live in a single-family separate house, choices are mainly limited to the ownership market because few such units are offered for rent.

While the fishermen are staying in their own house, it should be now important to see, whether they have a good living condition. The fishermen specific scheme, though provides support for building houses, but do not have any provision for support on maintenance help in making repair work, which is a massive task. Thus it is proposed that CDA should make provision for some kind of support to fishermen for repairing the houses mostly before rainy season, as it fetches a good amount of money from their income.
Several researchers, academicians and tourists now-a-days come for the visit and stay with the families to understand the socio-economic situation. The fishermen can further promote this as an extra earning by keeping them in their house.

4.11 Family

Family is the most universal and fundamental part of all social institutions. Man gets his due recognition in the society through family and family gives social as well as customary recognition to marriage. Family is the longest surviving institution of India irrespective of the ages, transformations, religious and political views. Loyalty, integrity and unity are the three pillars upon which Indian families stand. From family, Indians learn the first letters of collectivism and sacrificing individualism for collective interest. A family, derived from Latin 'Familiare' is a group of people affiliated by consanguinity, affinity or co-residence. The Bureau of the Census defines a family as "A group of two or more persons related by blood, marriage or adoption and residing together; all such persons are considered as members of one family" (Winch and Mc Ginnis, 1953).

According to Betelie (1964), despite socio-economic and political changes, family life and family structure have remained as an integral part of Indian society with the 'spirit of family solidarity' as the sustaining power. 'Family' has long been seen as a social institution that unites individuals to work cooperatively in the bearing and rearing of children (Macionis and Plummer, 2008; p. 580). Ross (1961) found that many Indians went through changes in the type of family in which they lived in various sequences: large joint family, small joint family, nuclear family, and nuclear family with dependents. D'Souza (1972) argues that, the Indian family has been subjected to stress and strain, and despite resistance to change over the centuries, is slowly undergoing a process of change significantly.

Under the heading of "Family", the researcher has studied two components, i.e. Type of family and family size to understand the family structure in the studied area, which has a direct impact on the income.

The first component of the "family", which was studied, is type of family. In India, the family structure can be categorized into two types - Joint and Nuclear. An extended or joint or undivided family normally consists of many generations living under the same roof. All the male members are blood relatives and all the women are either mothers, wives, unmarried daughters, or widowed relatives, all bound by the common relationship. A family consisting of parents and their children is called a nuclear family.
In order to define and measure standard of living, it is necessary to describe, in a meaningful comparative way the family structure of fishermen. The particular family structure of fishermen has also probable consequences on the attitude and behaviour of the family members at the micro level. Depending on which factors are found to contribute more to the family income, the government can also design its intervention policies so as to achieve the maximum effects from a given level of public expenditure. The family type of the respondents is thus studied in detail.

The study reveals that majority of the respondents i.e. 68.2% stay in nuclear families and the least 31.8% live in and still maintain their traditional joint families. Indian joint family system is changing and today there is constant change towards a nuclear kind of family system. It is clear from the above table that there is predominance of nuclear family structure as against joint in the study area also.

The study proves that each of the fishermen has a family and none of them are staying in isolation. Though large families remain significant in fishermen’s community, it is no more a dominant component of their life. This research shows that the life of fishermen being stressful and hectic, they look for a more comfortable life at home. The nuclear family helps them to avoid stress and discomfort. It also encourages initiatives, independence and self-reliance among the fishermen.

The study proves that an important function of cultural transmission performed by the family is affected because the nuclear families are scattered cultures. The function of setting moral standards for the growing children and adolescents has been taken over to a large extent by the peer group culture, mass media or by commercial entertainment.

However, with the existence of such a large number of joint families, the study also proves that joint families are also favored by the fishermen, because the more numbers of family members give more labor hands which helps in more fishing. A high proportion of joint families could also possibly indicate the traditional nature of the activity the fishermen have and the lack of significant occupational mobility found among the fishermen as an alternate livelihood. Problems such as child neglect, behavior problems in children, indiscipline among the youth, alcoholism, drug addiction, neglect of the elderly, material disharmony may increase. There is a need therefore, to help the families to cope with the pressures and challenges of their life situation which are affected by the interacting forces to change in the economic, political, and cultural spheres.
As can be seen in fishing family, while the fathers remain out for most of the time, the mothers get engaged in household work. With the growing pressure on economy, teenagers do not get chance to share their emotions with their parents and become over-impulsive, which in turn makes them unable to control their frustration. Therefore they need emotional support in the schools with special care. The decrease of emotional bondage between parents and kids to a large extent may result a communication gap and therefore special training should be organized for the fishermen. At the same time, the community should be made to understand about the importance of crèche, where both parents remain away for livelihood, leaving behind their child.

Family size of the respondents was also studied through the interview schedule. In Indian census system, the household or family was first defined in 1872 as comprising of those who lived together and ordinarily cooked at the same hearth including their servants and visitors. In 1881 Census it was defined as comprising of all those persons who actually slept in the house or compound on the night of 17th February, 1881. From 1891 till 1941 the term 'family' was used in place of Household. From 1951 Census onwards again the concept of household was used in Indian Census. In 1971 Census, a household was defined as 'a group of people who commonly live together and would take their meals from a common kitchen unless the exigencies of work prevented any of them from doing so. People in a household may be related or unrelated or a mix of both. However, if a group of unrelated people live in a census house but do not take their meals from the common kitchen, then they are not considered to be from a common household. Each such individual is treated as a separate household. For census, the important link in finding out whether it is a household or not, is a common kitchen. There may be one member households, two member households or multi-member households. The household size as per census 2011 is given in the following table:

<table>
<thead>
<tr>
<th>India/ Odisha</th>
<th>Total No. of Households</th>
<th>1 member</th>
<th>2 members</th>
<th>3 members</th>
<th>4 members</th>
<th>5 members</th>
<th>6-8 members</th>
<th>9+ members</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>246,692,667</td>
<td>3.7</td>
<td>9.7</td>
<td>13.7</td>
<td>22.7</td>
<td>18.8</td>
<td>24.9</td>
<td>6.6</td>
</tr>
<tr>
<td>Odisha</td>
<td>9,661,085</td>
<td>4.2</td>
<td>11.9</td>
<td>16.8</td>
<td>23.8</td>
<td>19.1</td>
<td>20.9</td>
<td>3.3</td>
</tr>
</tbody>
</table>

**Source: Census 2011**

The National Family health survey (NFHS) has revealed a list of the States of India ranked in order of number of persons in each house. NFHS III is a large-scale, multi round survey conducted by the International Institute of Population Sciences (IIPS), Mumbai designated by
the Ministry of Health and Family Welfare (MOHFW), Government of India and was released on 11 October 2007. As per the study Odisha has an overall household size of 4.5, whereas Uttar Pradesh has 5.7, which is highest. The average for India is 4.8 with Tamil Nadu having the average of 3.5, which is the least. This shows a similarity between the census and NFHS III. As per census 2011 almost 43% HH come within 4 - 5 members.

Size of the family for the purpose of this research, refers the number of relations (by blood, marriage and adoption) residing in the household. The size of their families play a key role so far as their income is concerned. Bigger is the size of the family more is the number of members involved in fishing leading to more income. Family size of fishermen is thus influenced by multiple factors such as economic, socio-cultural, environmental and education. The choice of family size for a fisherman on the other hand determines the level of benefit or shortcoming the individual or family will enjoy. A smaller family size may be privy to better levels of education, incomes, health and economic life. The quality of life does not only pertain to economic standards of living; rather it has a much wider horizon. Most of the time the family size of fishermen affects their basic needs including food, clothing and shelter, primary health care and basic education, income and growth of the economy and savings, food and nutrition-quality and quantity, uses of land and urban public system, health, especially that of mother and child, etc.

Thus an attempt has been made in this study to unearth the family size of the respondents.

It was found that the number of family members in case of 24.0% of the respondents is 03, in case of 67.1% it is 4 to 6, in case of 7.8% it varies from 7 to 10 and the number of members of 1.1 respondents is more than 10. Thus the number of family members of maximum respondents varies from 4-6 and that of the least i.e. 1.1% is more than ten.

**Figure 4.2: Family Size**

<table>
<thead>
<tr>
<th>Size of the family (%)</th>
<th>up to 3 members</th>
<th>4 to 6 members</th>
<th>7 to 10 members</th>
<th>More than 10 members</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24</td>
<td>67.1</td>
<td>7.8</td>
<td>1.1</td>
</tr>
</tbody>
</table>
The small family size of the fishermen may be considered on the grounds of the ability to adequately cater for the needs of the family with a level of comfort and basic luxury. Implications of a small family size are the ability for one to enjoy the necessities of life. Large family size of a fisherman may lead to low levels of income resulting to poor education, health, welfare and economic status. To ensure a better social as well as economic standing, the fishermen prefer to choose a family size that would lessen the burden on the family as well as the individual members. However, with the growing numbers of small families and with severe economic burden, it may result in exploitation, deprivation and destitution of families and their individual members. This may also lead to violation of human rights within the family.

Some of the respondents from the larger families informed that there is a relationship between the size and the income of the family. The large families are found to be having the higher income. In the larger families, there are additional sources of income also. Though fishing is the main source of livelihood and income, some of the members of the larger families are found to be engaged in other business.

Professor Reuben Hill's theory of family stress was formulated after the Great Depression (1947, 1959, 1983; University of Minnesota) based on extensive observations of families who survived contrasted with those whose families did not. Given the economic conditions of families of today's high risk youth, his theory may have some currency for us. As Hill interviewed families who had lost their jobs and were living in extreme poverty, he looked for factors which contributed to family survival of these circumstances. From these qualitative data, Hill theorized that there are two complex variables which act to buffer the family from acute stressors and reduce the direct correlation between multiple stressors and family crisis. These were formulated into what he called his ABCX theory of family stress. The "B" variable refers to the complex of internal and external family resources and social support available to the family, i.e., the social connectedness within the family, as well as social connectedness outside the family. Hill theorized that social isolation would significantly increase the impact of the multiple stresses on the family functioning; in contrast, positive social supports would minimize the impact. Hill's "C" variable, the perception factor, was the second predictor of the extensiveness of the impact of stress on the family. This second complex factor referred to the shared family cognition and perceptions held about the stressors, e.g., the extent to which the family perceived the changes as a disaster vs. an opportunity.

The current study reflects that a combination of high stress with social isolation (the "B" variable) for families will result in many forms of dysfunctional family outcomes and therefore
should be addressed properly. If a family experiences multiple stressors and 1) they are socially isolated and emotionally disconnected to one another, and 2) they are depressed, hopeless, and disempowered, then they will be at increased risk for illness, accidents, child abuse and neglect, and substance abuse, delinquency and school failure (Belle, 1980). With a positive set of cognitions, an empowered attitude, and an active informal and formal support network, there would be a reduction in the likelihood that the stressful life experiences would result in a family crisis.

In 1992, India adopted a "National Plan of Action" for children, based on the recommendations of the World Summit of Children contained in the plan of action for Survival, Protection and Development of Children. The long-term goals of the National Housing Policy (1988) are eradication of house-lessens, improvement of the housing conditions of the inadequately housed, and provision of minimum level of basic services and amenities to all. The National Policy for Child Labour (1987), the National Youth Policy (1988), the National Policy on Education (1986) and the National Health Policy (1985) aim at specific services for select groups of individuals and implications for the family are implicit. Similarly all the major departments and Ministries have formulated welfare programmes for the families. It should be the duties of the local governments including PRI to ensure that all these schemes are being implemented properly and the results are realized. The human rights need to be applied to the family for enriching family life. Family responsibilities are as important as family rights to ensure family happiness.

There are natural humane and caring qualities in family relationships. These may be used and strengthened by promoting and protecting every individual's right for status, worth and dignity; equality and nondiscrimination; freedom and choices in family life; social security from family members; and protection from family abuse and violence. It is the responsibility of every fisherman, their family, fishing community and the state government to promote and protect these rights. Every fisherman has a responsibility to enrich family interactions and that should be realized by making them aware of their rights and duties. Though this is a difficult and time consuming task, but considering the growing difficult situations, this has to be ensured for healthy family life, which has a strong relationship with the livelihoods.

Family members engaged in fishing have a major impact on the overall family growth. This component was studied closely to understand the livelihood options for fishermen. The earning or capital in any form available with an individual or a family is neither fixed nor equal between individuals and families. The amount of capital available with individuals (households) is
awarded or acquired by family members. Individuals (households) differ in their income generating opportunities and access to the consumption smoothing channels. In other words all individuals (households) have different standards of living. In human context, a family is considered as a group of people affiliated by consanguinity, affinity, or co-residence. In a family every individual has a different role to play.

Different types of occupational engagement of individuals and varied no. of earning family members, contributes to the economic position of a family or an individual. With the income distribution on an aggregate some households satisfy their needs and enjoy smooth consumption where as some are “poor” in the sense that they do not have enough means to guarantee that their needs are always satisfied. In a fisherman's family, number of members engaged in fishing business decides the quality of their lives. More number of family members involved in fishing ensures additional income to a family and this leads to a better lifestyle. In number of cases the women of the fishermen family play a critical role in fishing related activities including selling and processing. This also ensures that male members who are engaged in fishing can spend more quality time in the lake.

During the research, an attempt is made to understand how many members from each fishermen family are engaged in the fishing activities. This will give an idea of the dependence of fishermen’s family on Chilika and of any alternate livelihood for the other family members. Over dependence on a single source may make the families vulnerable, as with the decrease of fish catch, it may put undue pressure on the whole family.

While in most of the families, only one or two people are engaged in fishing, in some cases six and above members of the family are also engaged in fishing activity. In 36% cases one member of the family is engaged in the fishing, while in 35.5% cases two members of the family are engaged in fishing. In 17% cases three members of the family are engaged in fishing and in 6% cases four members are engaged in fishing. Only in case of 4% cases five members and in case of 2% cases six members are engaged in fishing.

It was observed that in some families the members are slowly getting into other business. Most of the fishers who have opted for other sources of income work as unskilled labor, in neighboring villages or urban areas like Kolkata, West Bengal through the agents. Some fishers told that the youth are migrating as unskilled labor, and elderly people work in villages, since labor work is too hard for elder people. Non-fishery related business basically means agriculture business such as paddy cultivation and vegetable cultivation. With the variant number of family members involved in fishing activities, each family or individual have different economic status.
Thus for families or households which have low income resulting to low financial investments, the government should have schemes to provide social protection. Social protection scheme for the fishermen of Chilika can be in various forms including providing goods and services at low costs, regulating finances or providing social insurance schemes, disbursing direct social cash transfers. This is more important for the older fishermen, those who are skilled in fishing but have no other skills to take up any other job, this leave them with no alternate options other than staying back at home.

4.12 Monthly Family Income

At the most elementary level, the status of employment of family members and ownership of assets determine a household’s income, which to a very large extent determines the individual’s command over resources. There are a limited number of studies on household incomes in India because of limited data. Most of the literature on rural incomes and income diversification is based on micro-level village studies. There are no serial large-scale household surveys on income in India.

Secondly, there is no uniform definition of household income accepted and applied across the world. The monetary part of household incomes can be accounted for, but it is often difficult to value the non-monetary part of household incomes. There is no consensus on the treatment of different kinds of monetary and nonmonetary benefits received by households in the estimation of household incomes. It is also true that respondents tend to under-report incomes and those incomes from certain activities are comparatively more difficult to measure. The only nationwide surveys that have directly collected data on income are those of the National Council of Applied Economic Research (NCAER) and the attempts by National Sample Survey Organisation (NSSO).

Income is the amount of money received by an individual during a period of time in exchange of labor and services, from the sale of goods or property, or as profit from financial investments. It refers not only to the salaries and benefits received but also to receipts from any personal business, investments, dividends and other income. Monthly income is the earning per month.

Monthly family income is the sum total of the amount received from the earnings of all the earning members of a family per month. The income of the household is very significant variable as it determines the social class, social status, social aspiration and achievement of the people.

Monthly family income of the fishermen in the Chilika region means the total money a fisherman family receives from fishing and other sources if any in a month. An attempt has been made in
this study to find out the family income of the respondents to assess their economic condition and its impact on them and their families. It was difficult to obtain income data for self-employed households like fishermen. An accounting framework was used to estimate incomes of these households with a degree of accuracy.

Out of 450 respondents studied, the income of 3.3% respondents is below Rs. 2000/-, that of 24.9% is more than Rs.2000 and less than Rs.4000, of 52.9% it is more than Rs.4000 and less than Rs.6000, in case of 9.3% it is more than Rs.6000 and less than Rs.8000; in case of 6.0% it is more than Rs.8000 and less than Rs.10,000 and 3.6% of them have a family income of Rs.10,000/-& above.

The family income in most of the cases is Rs.4000 to Rs.6000 and in very few cases it is below Rs.2000/- With the high market price, it can be said that the fisher folk are by and large poor except a few who happen to be somewhat privileged of having some extra income from other sources also. This also proves that fishermen in and around Chilika though suffer from the problem of poor living standard, yet majority have a minimum level of sustainable subsistence. Their incomes are based on the fixed shares of the catch. The fishermen do not have any income when they do not go fishing. Low income combined with the number of dependents contributes to increased poverty.

In order to fully utilize the demographic dividend (increasing share of the working age population) it is important that the population in the working age group is productively employed. This is possible only if the working population is educated and acquires the requisite skills. Skill based education can be provided to the family members of the fishermen family, so that they can support in extra income. As an integral part of the National Skill Development Mission, the Prime Minister of India announced a four-fold increase in the skilled-manpower training capacity of the country on 15 August 2007. The Government of India has taken a number of initiatives for financing the training. CDA should take the support of this and can facilitate this to ensure there is an extra income for the fishing families. Number of WSHGs who are operating in the villages can be further trained to ensure that they fetch extra income for the family. This can be done with support of public-private partnership, and CDA should take extra effort to ensure this.

4.13 Poverty Level

Poverty is the state of lacking a certain amount of material possessions or money. As per the United Nations, fundamentally, poverty is a denial of choices and opportunities, a violation of human dignity. It means lack of basic capacity to participate effectively in society. It means not
having enough to feed and clothe a family, not having a school or clinic to go not having the land on which to grow one's food or a job to earn one's living, not having access to credit. It means insecurity, powerlessness and exclusion of individuals, households and communities. According to 2010 data from the United Nations Development Programme, an estimated 37.2% of Indians live below the country's national poverty line (Jay Mandal, "Poverty Reduction"). A recent report by the Oxford Poverty and Human Development Initiative (OPHI) states that 8 Indian states have more poor than 26 poorest African nations combined which totals to more than 410 million poor in the poorest African countries ('More poor in India than Africa". BBC News. 2010-07-13).

The Planning Commission as the Nodal agency in the Government of India for estimation of poverty has been estimating the number and percentage of poor at national and state levels. Since, March 1997 it has been using the Expert Group Method (Expert Group on Estimation of Proportion and Number of Poor) to estimate poverty. According to this method the estimates of poverty are made from the large sample survey data on household consumer expenditure conducted by the National Sample Survey Organization (NSSO) of the Ministry of Statistics and Programme Implementation. Based on the NSSO data, the poverty line is computed for two consumption distributions-the URP and the MRP. As per the URP, the poverty distribution is obtained from consumption data collected using 30-day recall period (also known as reference period) for all the items. As per the MRP, the poverty distribution is obtained from consumer expenditure data collected using 365-day recall period for five infrequently purchased non-food items, namely, clothing, footwear, durable goods, education and institutional medical expenses and 30-day recall period for the remaining items.

The poverty ratio at all-India is obtained as the weighted average of the state-wise poverty ratio. The URP and MRP based poverty distribution data for 2004-2005 have been obtained from the NSSO data on household consumer expenditure (NSS 61st Round), covering the period July 2004 to June 2005 [Report No. 508 (61/1.0/1)].

<table>
<thead>
<tr>
<th>Area Name</th>
<th>Time Period</th>
<th>MRP</th>
<th>URP</th>
</tr>
</thead>
<tbody>
<tr>
<td>India</td>
<td>1993-1994</td>
<td></td>
<td>36.00</td>
</tr>
<tr>
<td></td>
<td>1999-2000</td>
<td>26.10</td>
<td></td>
</tr>
<tr>
<td></td>
<td>2004-2005</td>
<td>21.80</td>
<td>27.50</td>
</tr>
</tbody>
</table>
The researcher has broadly taken two parameters i.e. Below Poverty Line (BPL) and Above Poverty Line (APL) to assess the poverty level of the respondents. Below poverty line is an economic benchmark and poverty threshold used by the government of India to indicate economic disadvantage and to identify individuals and households in need of government assistance and aid. On the other hand those who are not under Below Poverty Line can be considered as Above Poverty Level. It is determined using various parameters which vary from state to state and within states. The number of people below poverty line is determined at the national and the state level by the Planning Commission.

The study reflects that most of the respondents' families, i.e. 71% are BPL families and least of those i.e. 28.7% are APL families. The main findings from the survey prove that household incomes were under-reported in fishermen villages. This is the reason; there is a clear discrepancy between the monthly income and BPL categorization. Most of the fishermen as per the outcomes of this research are below poverty line. The BPL category of respondents (fishermen) can avail the schemes covering Self-employment, Housing and Small Value Individual Schemes across multiple Government Organizations.

At present, 35 kilograms of rice or wheat, as well as sugar and kerosene are provided at subsidized rates to BPL families. The BPL families are identified by the state governments and about 40 per cent of them receive an additional subsidy under the Antyodaya Anna Yojna, which entitles them to the same quantity of food grains, but at roughly half the price at which it is sold to the other BPL families. This should be ensured in the fishing villages. Similarly Janani Suraksha Yojana (JSY), an intervention under the purview of NRHM, aims at reducing maternal and neo-natal mortality by increasing institutional deliveries for Below Poverty Line (BPL) families. Under this scheme, the beneficiaries receive cash incentives immediately after the child birth. This can be ensured in the villages close to the lake, so that the fishermen wives can get some economic benefits. Similarly large number of schemes under various flagship schemes are there, which can be ensured for the fishermen of Chilika, which can support their livelihood.

Under the draft National Food Security Act, 2010 every identified Below Poverty Line (BPL) family will be entitled to receive 25 kilograms of food grains such as rice and/or wheat every
month from the Government at subsidized issue prices fixed from time to time. The above poverty line (APL) families are entitled to 35 kilograms of food grains.

4.14 Government provisions for Health Water and Sanitation

Water is a fundamental human need. Each person on earth requires at least 20 to 50 liters of clean, safe water a day for drinking, cooking, and simply keeping themselves clean. Some 1.8 million people die every year of diarrheal diseases like cholera. Tens of millions of others become seriously ill by being a host of water-related ailments most of which are easily preventable. The United Nations considers universal access to clean water a basic human right, and an essential step towards improving living standards worldwide. Water-poor communities are economically poor as well; their residents are trapped in an ongoing cycle of poverty. The state of drinking water supplies can be quantified by four important characteristics: quality, quantity, reliability, and cost. The World Health Organization (WHO) and various national agencies have drinking water quality standards that specify the acceptable microbial, chemical, and radiological characteristics of safe drinking water. Contamination can occur at the source of the water both at the surface and in the ground. Once the water is in the distribution system, there are additional opportunities for drinking water to be contaminated.

Epidemics can be defined as the occurrence of cases of disease in excess of what is usually expected for a given period of time. Epidemics are commonly known as outbreaks of acute infectious disease, such as measles, polio, and sore throat. Epidemic, outbreak, and cluster are closely related. While epidemic may be used to suggest problems that are geographically widespread, outbreak and cluster are reserved for problems that involve smaller numbers of people or are more sharply defined in terms of the area of occurrence. For example, an epidemic of influenza could involve an entire state or region, whereas an outbreak of gastroenteritis might be restricted to a nursing home, school, or day-care center. The term cluster may be used to refer to non-communicable disease.

Governments play the most critical role for the provision of safe drinking water as well as health support to the citizens. Thus, under this broad head "Government provisions for Health Water and Sanitation", the researcher has tried to understand, whether Government take adequate steps for providing clean and safe drinking water and preventive measure before the outbreak of epidemics.

While the lack of access to and availability of productive assets makes fishers poor, their poverty is reflected in their quality of life including housing and sanitation, clean drinking water and access to services. Drinking water is a common problem in most coastal villages, and the
terms of its access are often very tough for the poor. Water is usually obtained from open wells situated close to the village dump, the fish processing areas or the open areas that community members use as public latrines. The National Drinking Water Mission (NDWM), which was later renamed as Rajiv Gandhi National Drinking Water Mission (RGNDWM), introduced a number of innovative technologies but, as NIRD (1999a) points out, there are concerns over the long-term sustainability of these 'technical quick-fixes' given the absence of public participation, the decline of villages into the 'not covered' category because of poor water resource management, inadequate attention to operations and maintenance. A NIRD study (1999a: 67) that mapped poverty indicators for different states in India concluded that, in terms of housing, drinking water, water taps, electricity, toilets and primary schools Odisha tops the list as a laggard in all parameters.

Most of the time the fishermen's household lack drinking water supply. Clean drinking water is a basic need that should be essentially provided in the coastal areas. The State Government also has implemented various schemes for providing drinking water facilities to the fishermen in Odisha. Contaminated drinking water can seriously impact fishermen's livelihood, as it can spread disease. The researcher therefore tried to ascertain whether government has taken enough measure to supply drinking water in the area.

The study reflects rather a sorry figure. Almost 57% respondents feel that government has not taken any such measure for supplying clean and safe water in the locality, whereas 43% feel that government has taken enough steps to supply clean water in the area. This reflects that the fishermen are vulnerable to diseases in the absence of poor water quality. This will have an impact on their livelihood, as even a single day break from work can cause distress in the life of the fishing family.

While trying to understand the drinking water facilities in the village, the Panchayati Raj Representative from Balia village provided a rosy picture informing that being close to the lake the villagers never face any problem for drinking water. However, during interactions with the local women, some of them took the researcher to the bore well and insisted on drinking water. While tasting the water, the researcher realized that the taste was not so good, though it was difficult to understand the quality. The women informed that because of the Lake, they get water from a low level, but the quality of water is not good. This factor could be verified due to the use of triangulation method.

For years together the absolute practice of fetching water from ponds and open wells has been common in Chilika. Most of the time the fishermen face the health hazards of hookworm
infection, diarrhea and cholera by consuming poor quality of water. The ground water available in the shore area of the Chilika Lake is generally brackish in nature and is not suitable for drinking. So drinking water through sinking of tube wells should be provided by government to ensure that the fishermen get clean and safe water.

Disease and epidemics occur as a result of the interaction of three factors, agent, host, and environment. Agents cause the disease, hosts are susceptible to it, and environmental conditions permit host exposure to the agent. An understanding of the interaction between agent, host, and environment is crucial for the selection of the best approach to prevent or control the continuous spread of an epidemic. For infectious diseases, epidemics can occur when large numbers of susceptible persons are exposed to infectious agents in settings or under circumstances that permit the spread of the agent. Spread of an infectious disease depends primarily on the chain of transmission of an agent: a source of the agent, a route of exit from the host, a suitable mode of transmission between the susceptible host and the source, and a route of entry into another susceptible host. Modes of spread may involve direct physical contact between the infected host and the new host, or airborne spread, such as coughing or sneezing. Indirect transmission takes place through means such as contaminated water, food, or intravenous fluids; inanimate objects such as bedding, clothes, or surgical instruments; or a biological vector such as a mosquito or flea.

Chilika is currently going through a series of major transitions including urbanization, and climate change, which will present future challenges for disease control. The increase of close contact between people in the confined area could promote disease transmission. In addition, climate change could also spread infectious diseases, as rising temperatures affect global ecosystems and lead to more tropical diseases such as malaria and dengue fever expanding into temperate regions.

Chilika lagoon attracts over 10 lakh birds, mostly migratory ones during the winter season. The migratory birds come from far off places like Iran, China and beyond the Himalayas every year during winter to escape the severe cold in those countries. This also means that the area is susceptible to diseases like bird flu. During the recent past (Jan 2012) the state's first bird flu virus (H5N1) was detected from this area. In the wake of outbreak on bird flu in other countries, the state is expected to intensify surveillance and take precautionary measures. The authorities are also expected to caution the local people, through mass campaigns and different communication channels not to venture into the area and advise them not to consume the birds. During the rainy season, the fishermen of Chilika are also prone to other diseases like malaria,
measles, etc., as the fishermen spend their time in the lake. Government is expected to play a vital role in case of outbreak of any disease and take proactive steps for preventive measure before occurrence of epidemics.

Any outbreak can seriously affect the livelihood of the communities for a particular period. It proves true for the fishermen community, as they solely depend on catching fish and any such epidemic prohibit them to go in the lake. The researcher therefore tried to ascertain, whether the government takes enough measure, before the outbreaks or epidemics. This will help to understand fishermen's vulnerability to the outbreak and also its impact on their livelihoods. If government has taken enough steps to control such outbreaks, then the concern can be minimized.

The study reflects a poor standard of outbreak management by the government and clearly reflects the level of dis-satisfaction by the fishermen towards the government's apathy to control such situations. 92% feel that the government does not take any step to prevent or manage the outbreak or epidemics. Only 8% feel that the government takes enough steps to minimize the impact. This proves that the fishermen are vulnerable to some kind of specific diseases, which are unique to the region and therefore government should put more effort to study them and take necessary measures to control them. The apathy from government makes the fishermen vulnerable to all kinds of disease and ultimately their livelihood suffers.

The personal interactions with some of the fishermen also brought out a different story as against the story told by the local medical officer, who claimed that the fishermen maintain a healthy life and changing climate has hardly impacted their lives. On the contrary during the data collection, on asking specific question, some of the fishermen showed their feet, which had serious skin diseases. They informed that, these are common in the area and mostly happens during rainy season. Though they get medicines from the local health sub-center, government has never taken any step to control the disease. This further proved a poor standard of outbreak management by the government and clearly reflected the level of dis-satisfaction towards the government's apathy to control such situations. This factor could be brought out due to the use of triangulation.

Effective prevention and mitigation strategies at the state level which includes anticipating the magnitude of the impact of a pandemic or epidemic, link surveillance and response measures is required to respond to outbreak of diseases. It is suggested that clear operational procedures and responsibilities should be a priority in preventing and mitigating outbreaks. Moreover, quick
reactions and strong leadership by the government in collaboration with broad range of sectors should be the key factors.

Besides national government, international organizations also play a major role in providing information and services to help prevent diseases, especially among the poor fishermen. Businesses, governments, and international organizations all have important roles to play in minimizing the impact of epidemics. CDA should try and make a continuity plan as well as special contingency plans in the case of an outbreak. The continuity plan should identify necessary resources to continue business in the event of a disease outbreak, in terms of personnel, information, equipment, financial allocations, and accommodations.

It should also be the responsibility of the government to ensure financial assistance, including introducing social protection measures during any outbreak. Maximum efforts should be made to create awareness among the fishermen on the disease outbreak. Support of external international organisations, including World Health Organisation can be a great help in this regard.

4.15 Overview

This chapter discusses the socio economic profile of the fishermen in Chilka and various factors which contribute to make an impact on the socio economic status of the fishermen. The selection of the villages for the research has been done keeping in mind to have maximum respondents to be fishermen. Their income from household industry, Govt. services and rent / interest/ dividend is nil. Therefore tourism should be developed as one of the major occupations in Chilika. Villages in Chilika are endowed with natural beauty adjacent to Chilika. Each of the villages also has a rich tradition and cultural heritage.

The study reveals that most of the people belonging to the age group 31 to 45 are being involved in fishing and the number of the young people belonging to the group 1-14 is quite low. The study also reveals that due to hazardous nature of jobs and stressful life, the most of the earning members who are into fishing profession have a short life and die in a younger age. CDA should therefore work closely with some of the organisations who work on social protection, and ensure old aged pensions for the fishermen. This will not only ensure governments upholding the rights of older fishermen for a secure income, but will also enable older fishermen to voice their demands.

From the religion point of view, maximum numbers of fishermen are Hindus and the least of them are Muslims. Thus it is presumed that Hindu customs and rituals play a significant role in
shaping fishermen’s attitudes toward the fishery. In public meetings on fishermen community, socio-economic discussions frequently turn into religiously charged arguments. Interestingly, the fishermen have a strong belief in the community deity, Maa Kalijai, who is the most respected icon of Chilika. Taking this into view, Government should try and promote religious tourism in the area. The older fishermen having rich in experience and have a vast knowledge about the history of Chilika, who do not get to work in their late 50s, should be promoted to work as tourist guide. The research finds that because majority of the fishermen are native of Odisha, mother tongue of the maximum respondents is Odiya. Therefore, mother tongue based learning should be promoted in Chilika, which can otherwise improve the educational status of children.

From the education point of view the study reveals that formal educational attainment in fishing communities is very low, a situation which may be common with many other marginalized rural communities. And therefore, the concept of learning while earning should be operationalized through an integrated approach to meet the basic needs of the fishermen although current thinking on education and development is shifting from the concept of basic needs to basic rights. Literacy programmes can help the fishermen to develop their self-esteem by integrating the skills of literacy, numeracy, oral expression and problem-solving with the fishing activities. The study reveals that fishermen are aware of the importance of providing education to their children. Protection of the children of fishermen, who are vulnerable to poverty, abuse, or exploitation, can be ensured by providing quality education. Government should consider that whether the use of positive incentives, especially with regard to school attendance, may provide a more effective route to train the fishermen children in several other areas. Although literacy rates in villages continue to be low, the study reflects that many fishers have begun to take an active interest in education and are sending their children to school. This proves that fishermen are aware of the current market situation and at the same time know that the decrease in fish catch will continue. Children’s education will open a new window of opportunity for the next generation, as most of the educated youths may opt for a job rather than fishing. CDA should therefore put more resources for educating the children of fishermen, who can in turn take up alternate jobs in future.

Fishing is the most prevalent and vital occupations for the people living in Chilika, which they have inherited as an occupation from their forefathers. Fishermen who catch fish are also involved in direct or indirect marketing of the fish. Those who lack capacity to invest, continue with simple labour-oriented methods despite the existence of more efficient means of production.
and processing. The study observes that fishermen those who continue to fishing traditionally and lack investment capacity, get into debt trap soon. It is therefore important that government plays a more vital role to sensitize the fishermen on the alternate livelihoods. This should be discussed in line with the depleting fishing resources and environmental degradation. Fishermen of Chilika, who are educated and are still fishing, can be supported with loans and subsidies for establishing small sector industries. Government can assist the households in organizing social protection. Social protection scheme for the fishermen of Chilika can be in various forms like, providing goods and services at low costs, regulating financing or producing social insurance schemes, disbursing direct social cash transfers. This is more important for the older fishermen, those who have no alternate options other than staying back at their home.

All fishermen have a family and none of them stay in isolation. Similarly the study observed that the fishermen lead a social life and most of them are married and have a family life. Though joint families remain significant in fishermen's community, it is no more a dominant component of their life. Problems such as child neglect, behaviour problems in children, indiscipline among the youth, alcoholism, drug addiction, neglect of the elderly, material disharmony may increase. Therefore there is a need, to help the families to cope with the pressures and challenges of their life situation which are affected by the interacting forces to change in the economic, political, and cultural spheres. As most of the fishermen are married, they get additional support from their wives in terms of generating extra income. This is a great wage-earning avenue during the lean seasons. In order to increase employment opportunities and enhance the quality of employment for the women of the fishermen families, adequate training of the youth, and skill formation are essential. Revitalising the vocational and technical education system in the area, therefore, is crucial in realizing the demographic dividend. The small family size of the fishermen may be considered on the grounds of the ability to adequately cater for the needs of the family with a touch of some luxury. However, with the growing numbers of small families and with severe economic burden, it may result in exploitation, deprivation and destitution of families and their individual members. This may also lead to violation of human rights within the family. It should be the duty of the local governments including PRI to ensure that all the fishermen specific schemes are being implemented and their results are realized. The human rights need to be applied to the family for enriching family life. Family responsibilities are as important as family rights to ensure family happiness.

Most of the fishermen in and around the Chilika are staying in their own houses and the least of them are staying in rented independent houses. If a family wants to live as a nuclear family in a
separate house, choices are limited to the ownership market because few such units are offered for rent. While the fishermen are staying in their own house, it is important to ensure, whether they have a good living condition. CDA should provide some kind of support to fishermen for repairing the houses mostly before rainy season, as it fetches a good amount of money from their income.

The family income in case of the most of the respondents is between Rs.4000 to Rs. 6000 and in few cases it is below Rs.2000/-. With the high market price, it can be said that the fisher folk are by and large poor except a few who happen to be somewhat privileged of having some extra income from other sources also. In order to fully utilize the demographic dividend (increasing share of the working age population) it is important that the population in the working age group is productively employed. This is possible only if the working population is educated and acquires the requisite skills. Skill based education can be provided to the family members of the fishermen family, so that they can support in extra income. The main findings from the survey prove that household incomes were under-reported in fishermen villages. This is the reason; there is a clear discrepancy between the monthly income and BPL categorization. Large number of schemes under various flagship schemes are there, which should be ensured for the fishermen of Chilika; so that their lives and livelihoods are supported with.

In terms of supply of drinking water, 57% respondents feel that government has not taken any measure for supplying clean and safe water in the locality. This reflects that the fishermen are vulnerable to diseases. For years together the absolute practice of fetching water from ponds and open wells has been common in Chilika. So drinking water through sinking of more number of tube wells should be provided by government to ensure that the fishermen get the clean and safe water. The study also reflects a poor standard of outbreak management by government and clearly reflects the level of dissatisfaction by the fishermen towards the government’s apathy to control such situations. Majority of the fishermen feel that the government does not take any step to prevent or manage the outbreak or epidemics of diseases. It is suggested that clear operational procedures and responsibilities should be a priority of the government in preventing and mitigating outbreaks. It should also be the responsibility of the government to ensure financial assistance, including introducing social protection measures during any outbreak. Maximum energy should be involved to create awareness among the fishermen on the disease outbreak.