CHAPTER 5

SOCIO-ECONOMIC STUDY

5.1 Introduction

The oceans and coastal areas have played a key role in the development of human societies and communities since the dawn of civilization. Whereas, the forests, deserts and mountains on land masses have separated people and delayed or even prevented communication between cultures, the sea and particularly the coastal areas, have enabled contact even between very remote civilizations (Lundin and Linden, 1993). Oceans and coastal areas are of no less importance today. Most of the people in this planet inhabit the coastal areas of the continents. Furthermore, population growth in coastal areas is generally higher than inland, mainly due to migration from inland areas. Two-thirds of the entire world population is living within 60 km of the coasts of the continents (United Nations, 1985).

In order to identify the present status of the local community, a socio-economic survey has been conducted in the area in and around the Pulicat Lake. Considering the vast area of the study region, survey has been conducted in the selective villages representing all the regions. The data collected from the survey would also give an idea of socio-economic status, the people's reaction and their views on developmental activities.

5.2 Sampling Procedures

Socio-economic survey has been carried out in selected villages covering all parts of the lake which includes two islands viz., Irakkam and Venadu situated with in the Pulicat Lake. A team of research personnel divided into two groups visited different villages from the southern end to northern end. Socio-economic survey has been

conducted adopting random sampling technique. A well designed questionnaire (Annexure I) has been utilized for the survey.

Out of the 94 total number villages in and around the Pulicat lake, socio-economic survey has been conducted in 36 villages. Total number of households surveyed were 852, at an average of 24 households per village. The total population covered by 852 households is 3824. This includes 2198 adults and 1626 children, with an average family size of 5 members. Outcome of the survey are detailed in the following sections.

5.3 Results

5.3.1 Population

There are so many villages in and around Pulicat lagoon. About 94 villages are depending on the Pulicat lake in one way or other. Total population depending directly and indirectly around 1,00,000. Total number of house holds in these villages are about 20,000/-.

5.3.2 Literacy

The overall literacy of the population among the surveyed households was found to be about 30%. Out of which male and female literacy levels are 19% and 11% respectively. Survey indicates that their education level is elementary education. College level education in most of the villages is still out of reach of the common people. Women education remains neglected. None of the women were found to have university level education among the households surveyed.

5.3.3 Occupational Distribution

Fishing is the major economic activity in the region followed by agriculture. In addition to that shell mining, agri-labour, wood cutting, transportation, small business, money lending, vending, etc., are also being important sources of livelihood in many

villages. Almost in all the villages, children from the age of 10, involved in fishing along with adults.

5.3.4 Community

Four major communities are visible in the Pulicat lake region. The prominent group is Pattamavar/Pattakapu fisher people. The second prominent group is Mala (dalit) scheduled cast, the third group is Yanadi, scheduled tribe and the fourth largest group is Vanniyars/Pakanati Reddi, who has been evacuated from SHAR island into main land. Considerable presence of other backward castes and upper castes are also in the area. The smallest group is Muslims live in the small villages such as Nawab Peta in Vakadu Mandal of Andhra Pradesh and Jameelabad in Ponneri Taluk of Tamil Nadu and one or two families in very few of the other villages.

The dominant religion is Hindu in the study area and Muslims are in few villages. Christianity is just making its entry in the area. At present 0.02% people are converted Christians mostly from dalits and very few from fishermen community.

5.3.5 Income

The average annual income of the households is around Rs 8790/- and average annual expenditure per household is about Rs 9000/-. Therefore it seems that no scope for the local people for the future savings.

5.3.6 Assets

From the survey, it is found that for every 10 people one boat is available for fishing, either mechanized or non-mechanized. About 90% of the households having thatched roof houses. Remaining 10% are having either concrete or tiled or A.C. sheet roofing. 40% of the households having T.V./Radio in their home. Others watching T.V. in the Panchayat office.

5.3.7 Health Status

Overall health status of the community is very poor. Many villages do not have medical facilities. For emergency they have to go to nearby towns by traveling 10 to 20 Kms, i.e. Sullurpet and Gummidipoondi in North, Ponneri in the South. Proper drainage facilities are not available in all the villages surveyed. In most of the villages good quality of drinking water is not available. All the villages are depending only on poor quality well water. In the Pulicat village quality of well water is poor, therefore drinking water is brought from the islands situated across the lake adjoining Bay of Bengal through Bullock-carts.

5.3.8 Support Services

Nationalised Banks are providing loan for buying boats and nets to the fishermen. Government is providing loan under Integrated Rural Development Programme(IRDP) for the local community upto Rs 10,000/-. Apart from that all the villages in Tamil Nadu part are having their Fishermen Co-operative Societies. In which all the fishermen are members and they should pay the monthly subscription of Rs 45/- for 8 months. The state and central governments each will pay Rs 45/- per month for 8 months. At the end of the year during off-season members will get Rs 1080/-. This scheme is beneficial to the fishermen for their livelihood during off-season. In few villages in the southern part, fisherwomen are running their co-operative societies, through which they are providing employment to the rural women by means of doing some handicraft works.

Non-Governmental Organisations (NGOs) are actively functioning in this area and they are motivating the people for their betterment. CReNIEO & IFDP are working in the southern part and have their office at Pulicat village. In addition to that REEDS at Arambakkam, SEED, CAMEL and RDP at Sullurpet and MASSES at Gudur are the other NGOs actively functioning in the northern part. CReNIEO is currently running an English medium school at Pulicat with foreign aid. This has provided an opportunity to the rural people to send their children to the English medium school. Likewise in the

North at Arambakkam village REEDS has undertaken the work of planting mangroves in the Pulicat Lake with the help of Forest Department of the Andhra Pradesh.

5.3.9 Tourism

Tourism is in the low profile in the study region. Even though the region has a good potential, number of tourists visiting the Pulicat Bird Sanctuary is very meager. People are visiting to the places where there is an access such as Pulicat village in south and Arambakkam, Sullurpet and Attakanitippa in the north. Tourism in the present stage does not form part of the economy of the local community.

5.4 ISSUES IDENTIFIED DURING SOCIOECONOMIC SURVEY

Pulicat Lake is surrounded by 120 villages with two major island regions namely Venadu and Irakkam. Villages are belonging to Ponneri and Gummidipundi Taluk of Tamilnadu and Tada and Sulurpet Taluk of Andhrapradesh. A detailed demography of the fringing villages of the study region is collected from the statistical department and stored in Oracle database. Detailed demography of the major lake dependent villages are given below. In general the socioeconomoic survey indicates in peoples opinion there is reduction in fish catch per unit people. This may be due to the population pressure, advancement of fish catch mechanism, juvenile fishing etc. The anthropogenic influence is playing a secondary role for the reduction in bioresources of the lake.

Based on the socioeconomic survey in the surrounding regions of the lake we identified five major factors influence on the activity of the fisherman in the lake. They are 1) Population pressure due to resettlement from SHAR island 2) Influence of land based activity (Ennore port, NCTPS, Agriculture and Aquaculture) 3) Shell mining and processing 4) Bar mouth dynamism and 5) Island regions.

5.4.1 Population pressure

The peoples of Gunankuppam, Pulincherikuppam, Sp.kuppam, Tjirumalai nagar, Arangam, Lighthouse kuppam are living adjacent to each other in clustered manner. Gunankuppam and Lighthouse kuppam are native fisherman community while the others are shifted peoples after the construction of Sriharikota Rocket Launching station. Total population of the villages is around 7000 with an annual income of 10,000 Rs. Eduction of the people is upto elementary level. Their standard of living is normal with electricity and good water supply. Peoples own their own catamaran and mechansied boats for their fishing activity. They have padu system of fishing in the lake region. In this system, the individual villages are fixed for the area of operation inside the lake and duration of their activity is also restricted. This gives all the villagers equal amount of share on the resources availability of the lake. However, in recent years due to increase in the population of the villages, conflict between these village communities for the fish catching in the lake is increasing. In particular, the conflict between the native fisherman village Gunanakuppam and shifted village Arangankuppam are the very sensitive villages in this area. Same type of conflict also noticed at Arambakkam and Nochikuppam of the central part of the lake.

5.4.2 Influence of land based activities

The major identified land based activity is Satellite port at Ennore and North Chennai Thermal Power Plant. These two activities are placed at the southern end of Pulicat Lake. The major villages which are in direct influence of these activity is Kattupalli, Kalangi, Koraikuppam, Sattankuppam, Vairankuppam and Lighthousekuppam. These villages are on the sand bar, which acts as barrier between the lake and the ocean. As the barrier is very narrow with a minimum width of 120 m near Koraikuppam, it is being intense pressure of coastal erosion. During the past 15 years due to natural erosion, the shoreline in this area has been shifted towards west for about 500 meters. Due to the shifting of shoreline the village, huts of this village moved to west and

built their houses on the Buckingham Canal itself. Now after the construction of the port, the peoples of this region are expecting increase in the intensity of coastal erosion. Peoples are demanding resettlement from the government or to take-up initiation of preventive measures for controlling the coastal erosion. Total population of this region will be around 4000. No road connection to the villages of Koraikuppam and Sattankuppam. For transporting purposes peoples are depends on the private boats.

5.4.3 Shell mining and Shell processing

The villages in the central part of the lake are traditionally engaged in shell mining activity. The villagers of Sunnabukulam, Obasamudram, Kallur are engaged in these type of activity. They are collecting shells from the Irakkam and Venadu islands and near the old Arangam village on the eastern side in Sriharikota island. In these regions rich accumulation of bivalves (molluscans) are present in embedded sediments at a depth of 1 to 2 meters. These shells are mined and processed by crushing it into chips and sent for marketing. These shells are utilized in lime burning industries and for the poultry feeds. Recently this activity is banned by the Andhrapradesh and Tamilnadu government. According to them, the mining activity disturbs the birds movement in the lake and increases turbidity in the water column. But our study reports suggests that the this activity very much localized phenomena and is not having any major impact on the birds movement or ecology.

5.4.4 Bar mouth influence

The fish and prawn population of the back water lagoon is depends on the entrance channel of the Pulicat lake. There are around 20 villages near the bar mouth region on the landwards side. Major villages are Pulicat, Kottaikuppam, Jameelabath, Annamalaichery and Avirivakkam. The bar mouth shifts frequently its inlet channel shaper and direction. The velocity of water flow at the entrance channel is around 35 cm/s. Peoples of this region-facing problem for drinking water due to salt water intrusion. During the ssummer season the inlet channel (bar mouth) is very narrow to a width of

around 20 m minimizes the mixing mechanism of the water due to the tides. Hence the salinity of the lake water rises up and the ecology of the lake is benign disturbed interns restrict the fish population of the lake. Boat making is the main occupation for the villagers of Jameelabath. Major fish landing centre is available at Pulicat Town.

5.4.5 Island regions

There are two major islands present in the lake. The are Irakkam and Venadu are the two islands present at the central part of the lake. Populaiton density in these island villages are less. Venadu is connected by road from Sullurpet. But the Irakkam island is connected by the boats. Active agricuture is going on the fringes of the island. The central par t of the lake is dry sand with bushes. Apart from agriculture they are also actively engaged in fishing. Isalnd agricuture is under pressure during the monsoonal period. Due to the heavy rainfall, water level of the lake is increasing intern submerging the coastal agricultural fields. Now the peoples of these islands are slowly moving out and settling in the inland regions. The primary available school inIrakkam is dating back to 1915. The peoples of Venadu islands are facing problem from SHAR as well as WWF officials for conserving the birds of Pulicat. In total, there are six villages in the two panchayats of the island regions.

Total number of families living in Pulicat Lake and the active fishing community of this region with their fish catch are given in Figures 5.1- 5.5.

ANNEXURE: I

QUESTIONNAIRE FOR SOCIO - ECONOMIC SURVEY

1.GENERAL

1.1 Name of the Respondent :_____ Age :_____

Male/Female :_____ Education :_____

Relation with the Head of Family :_____

1.2 Head of the Family :_____

1.3 Village :_____ Taluk :_____

District :_____

1.4 Education of the Head of the Family :_____

1.5 Occupation : Primary :_____

Secondary :_____

1.6 Beneficiary of Lake/Sea :_____

1.7 Income :_____ /Annum

1.8 Marital Status : Married/Unmarried

2.DEMOGRAPHY

2.1 Religion :_____ Cast : SC/ST/OBC/OTHERS Community :_____

2.2 Type of the Family : Unitary/Jiont/Extended

2.3 Size of the family :

a. Total members :_____Nos.

b. Adult – Male :_____Nos. Female :_____Nos.

c. Children – Male :_____Nos. Female:_____Nos.

2.4 Education:

Level of Literacy	Number of	
	Adults	Children
	Male/Female	Male/Female
I. Illiterate II. Elementary School III. High School IV. Hsc V. Collage & above		

3. SOCIAL ASPECTS

3.1 **SHELTER**

Type of House

Kutcha or Pucca

Owned/Rental

Tenancy/any other

3.2 CONSUMED DURABLES

i. T.V.

ii. Radio/ Tape Recorder

iii. Mixer/ Grinder

iv. Bicycle/Two wheeler

v. Steel cupboard/ Furniture's

vi. Refrigerator

vii. Jewellery

viii. Fan

ix. Gas

x. Others

3.3 LIVESTOCK

i. Bullocks
ii. Cows
iii. Goats
iv. Poultry
v. Others

3.4 FISHING MACHINERY

i. Mechanised Boat
ii. Non-mechanized boat
iii. Catamaran
iv. Others

4. ECONOMIC ASPECTS

4.1 ANNUAL INVESTMENT

i. Fishing Nets
ii. Boat
iii. Boat hiring
iv. Fuel
v. Labours
vi. Others

4.2 ANNUAL INCOME

a. Own Boat
b. Leased Boat
c. Labourer
d. Agriculture

e. Other Employment

TOTAL Rs.

4.3 ANNUAL EXPENDITURE

Snacks/Tea

Food grains

Fuel

Boat maintenance

Bat Hiring

Fishing Net

Education

Medical

Festivals

Clothing

Electricity

Entertainment

Others

TOTAL Rs

4.4 QUANTITY OF FISH CATCH PER DAY

Season	Item of Fish/crab/prawn Qty
Premonsoon	1. 2. 3. 4.
Monsoon	1. 2. 3. 4.
Post Monsoon	1. 2. 3. 4.

4.5 CHANGES IN FISHING PATTERN/CATCHES

Pre-monsoon

Monsoon

Post Monsoon

Are you guided by Fisheries Dept regarding Fishing Methods / Techniques ?

yes/No

If yes, Details :_____

If you are not following, what is the reason :_____

4.6 Present prices for major fishes

1.
2.
3.
4.

5. AVAILABILITY OF INFORMATION REGARDING WEATHER

i. Are you always informed in advance about cyclones / rains ?

Yes/No

ii. How do you get information

iii. Difficulties faced by you in getting information

v. Are you facing any problems:

6. SUPPORT SERVICES

6.1Guidence from government officials

Fishing methods : Yes/No Details :_____

Market price details : Yes/No Details :_____

Training in Handicrafts : Yes/No Details :_____

Training for vocational Courses for self employment : Yes/No

Details :_____

Others

6.1.1 Guidance from NGO'S Yes/No

Details :_____

6.2 Do you implement the suggestions given by the Officials?

If not,

Reasons :_____

_____

6.3 Credit co-Operative Society :

Are you a member.? Yes/No

If Yes, state the benefits you get from the society?

_____

_____

If No, what is the reason?

_____

6.4 Banks

Indicate the difficulties faced in getting timely credit facilities from banks

_____

_____

7. HEALTH STATUS

Common Diseases :_____

Availability of medical facilities :Yes/No Details:_____

Availability of Primary Health Centre : Yes/No Details :_____

Govt/Private Hospitals : Yes/No Details :_____

8. AVAILABILITY OF COMMUNICATION FACILITIES

1.Telephone	Yes/No	Distance :_____
2.Wireless	Yes/No	Distance :_____
3.Transport facilities	Yes/No	Mode : Bus/Train/Auto/Ferry/Others

9. DRINKING WATER FACILITIES

Availability of Well Water/ Tap Water : Yes/No

Details :_____

10. Is there any dispute between TamilNadu and Andhra Fishermen

11.Are you think the developmental activities will bring economical upliftment to you in the area?

Yes/No How?

12.Problems to be faced in future due to developmental acrtivities:

13.Other relevant factors, if any:

Fig. 5.1 Fishing people classes of Pulicat lake surrounding villages (1999) AD

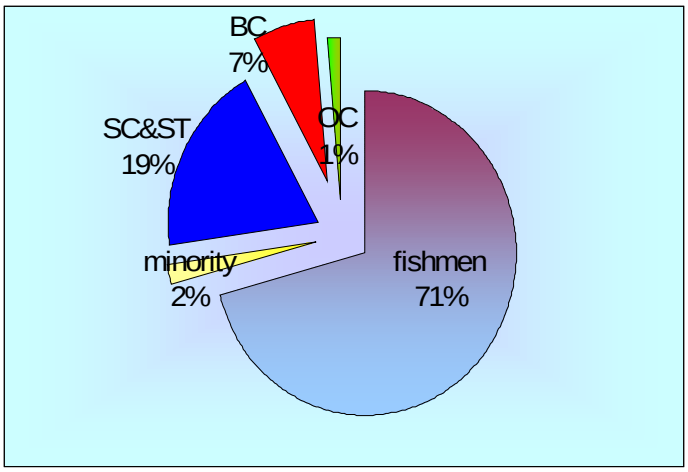

Fig. 5.2 Total and fishing families of Pulicat lake area

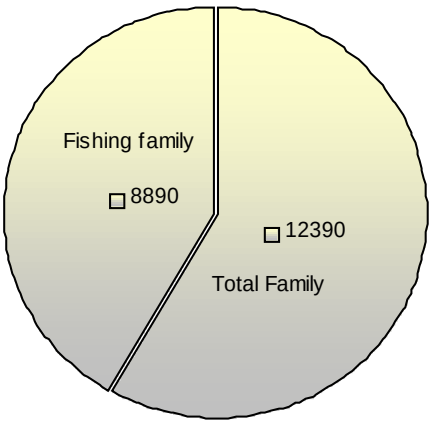
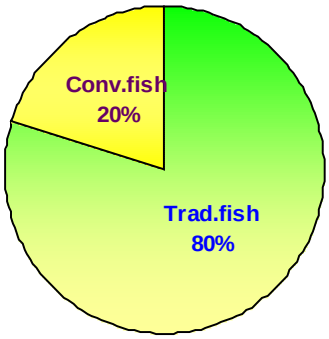
Fig. 5.4 Traditional fishing, and Converted to fishing families