



A STUDY ON PROFILE OF THE FISHERS OF KARANG ISLAND, MANIPUR

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Abstract:

A study on the livelihood status of the fishers of the Karang Island was conducted for the present research programme. Livelihood indicates the capabilities of assets and activities determining the gain by the community while living. The Karang is an island in the Loktak lake of Manipur, Moirang sub-division, Bishnupur district, about 50 km from Imphal. The study was carried out to understand the present status of the fishers in this island for this particular fishing community. The study also covered the problems faced by the fishers. The work is totally based on the field visit, interviews, discussions, questionnaires, etc. Fishing is the major source of income as situated in the heart of the Loktak Lake – the largest Freshwater Lake in the North-East. About 5% got Government jobs. 70% of the community worked as full time fisher without licence. Their fishing gears almost depended on traditional methods but 10% used motorised boats. They used fishing techniques based on different types of nets, traps, hooks and lines, spear, etc. Large sized family (7-10 members) occupied 50% of all households. 89% of houses were kutcha. Fishers in the middle age (31-40 yrs) dominantly performed fishery activities. Their monthly income ranged from Rs. 1000-10000 and above. The villagers were mostly in elementary level of education. Their health and sanitation is somewhat average. The study, so far, revealed that their socio-economic status is below average and income from fishing maintains their family. Transport and communication was performed through water route. Some commercial species caught are *Channa sp.*, *Cyprinus sp.*, *Labeo sp.*, *Cirrhinus mrigala*, *Amblypharyngodon mola*, *Puntius sp.*, *Ctenopharyngodon idella*, shrimps, etc. This study will help to make proper solutions and considerations for the welfare of the villagers. They need support from both Govt. and civil organisations so that they could establish their own society and improve the socio- economic conditions in particular and fishery in general. Organising extension programmes would help them to develop their self-confidence.

Key Words: traditional, socio-economic, livelihood, Karang Island, etc.

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Introduction:

Karang is an island of Manipur in Loktak lake – largest freshwater lake in the North East India in the Bishnupur district, Moirang sub-division about 50 km from Imphal. Loktak is considered to be the lifeline for the people of Manipur due to its importance in socio-economic and cultural life besides influencing the climate of the state (Tombi and Ramanda, 1994). A study based on the profile on the socio-economic status of the fishers especially women fishers was carried out to understand their present problem and to figure out their drawbacks so that new policy and programmes should be taken up for the welfare of these villagers. Studying livelihood status of an area would give a clear picture of the overall conditions regarding their occupation, literacy rate, participation in the society, roles, etc. Manipur is a state in which women's role is commendable. They maintain their family, earn money and take part in societal issues. Fishes are related in cultural and religious aspects in the state since time immemorial. About 90% of the people in the state are fish eaters (Ngasepam *et al.*, 2013).

Women have always been involved in various aspects socially, physically, economically, etc. Their role in the mankind is manifold from household activities to the social issues. According to United Nation's report women perform 2/3rd of the world's work, receive only 10% of the world's income and own only 1% of the total assets (Ashaletha *et al.*, 2002). Their contribution towards fishery and fishery related activities are countless. The role of women in fisheries encompasses social and economic tasks both within and outside the family (Sultana *et al.*, 2001). The role of women in the third world is categorised as motherhood role, labour in production role and community management role (Wangpattaya and Kittasangka, 2002). A study of subsistence fisheries in Samoa found that 18 percent of all village fishers were females, who harvest about 23% of the total weight of seafood (Lambeth *et al.*, 2001). A report of FAO, 2015 stated that men were the main fishers in Thailand but women themselves participated in fishing where there were no men in the family. Researchers



Karang island

compared women who were very active in artisanal fish capture with those involved in marketing in Nigeria (FAO, 2015). Women were engaged in a variety of fisheries-harvest activities, small-scale capture fisheries, gathering aquatic plants and animals, and aquaculture in Cambodia (Sopanha *et al.*, 2008). Sun-Ae, 2012 described how the women divers in Jeju Island and other parts of the Republic of Korea lack professional recognition as fishers. The fisheries sector in Uganda used to be dominated by men. But women were involved in fish processing and some owned boats and Symbolic steps to change perceptions on the traditional roles of men and women and pave the way towards gender equality. Women do not need to be in a women's only association (Nunan, 2006). It shows that women are becoming to take their responsibilities and knowing their rights and duties so that they can change their present status in the society.

Indian fishery is one of the major areas of India's food production which offers job opportunities to millions of skilled and unskilled rural people (Rizwana *et al.*, 2015). Women take major responsibilities in processing and preservation. The processing sector is highly dependent on women as women comprise more than 90% of work force in shrimp peeling and 70% in processing of other fish products (Kohli *et al.*, 1999). Women also play an indispensable role in maintaining the social and cultural foundation of fishing community in Kerala (Dhanya, 2013). In Tamilnadu, women engage themselves in seaweed collection in addition to the traditional jobs of fish curing, marketing, net making and prawn seed collection (Ashaletha *et al.*, 2002).

The contribution of women in the state is worthy not only in households but also in the society. Women play a significant role in agricultural and allied fields' development including crop production, livestock production, horticulture, post harvest operations, agro-forestry, fisheries, etc. in Manipur (Roma and Kanta, 2015). Manipuri women participated in all fishery related activities like fish catching, sorting, processing and preservation, marketing, net making and preparations, etc. though both gender take part in it. Rural people mainly involved in it as fishing activity is generally performed far from cities. Apart from fishery, the Manipuri women involve in other activities like agriculture, handloom and handicrafts, trade business, other small scale earning activities, etc.

Materials and Method:

The work is exclusively based on field visit to the island seasonally house to house. According to the convenience of the study, it is divided into five seasons namely summer, rainy, post monsoon, winter and spring season. The villagers were personally interviewed through questionnaire. The relevant data regarding fishing status, processing, education, health and sanitation, etc. are collected through interaction with the farmers. Fishery activities like fishing, sorting, processing, etc. are observed while performing involving these activities. Literature review is done through journals, books, articles, etc. for comparing those conditions of present status with this island and helps in comparison with different parts of the world.

Result and Discussion:

Fishing:

Fishing and fishery related activities are main occupation since the island is situated in the heart of Loktak lake. 70% of fishers caught as full-time fishers and the remaining other than 5% of licence holder worked as part-time. Most of the fishing techniques are based on indigenous knowledge. Traditional knowledge and wisdom of the local people is very important to document our heritage and India is a well known country for its traditional knowledge over the years (Patil *et al.*, 2014). Common indigenous fishing methods followed mainly by these people are net fishing about 50% of



El chingba (dip net)



Lang thaba (drag net)

the fishers like *el chingba* (dip net), *lang thaba* (drag net), traps locally known as *lu thumba*, spear fishing (about 5%) (*longna thinba*), hooks and lines (*khoi thaba*), *longthrai khonba* (scoop net), etc.

El chingba is done with the help of a kind of dip net made up of nylon, however, cotton is used in some areas (Mundy and Compton, 1991). The operation is performed only by the women fishers standing on a floating mass of vegetation known as *phumdi*. Sometimes, it is operated on small canoe, *Hinao* where there is clear water. A basket made from bamboo splits locally known as *Tungol* is used to store fishes while catching. Fishes like *Esomus sp.*, *Amblypharyngodon mola*, *Labeo sp.*, *Cyprinus carpio*,



shrimps etc. are caught. Different sieve sizes of gill nets are used according to the type of species. Nets are usually made up of nylon of white colour resulting in trapping the fishes easily (Choudhury, 1992). Traps mainly *tajeb*, a rectangular box of stripe woods is used for catching fishes like *Cyprinus carpio*, *Labeo rohita*, *Cirrhinus mrigala*, etc. Species like *Channa*, *Glossogobius giuris*, etc. are caught with the help of hooks and lines. Small fishes like shrimps are caught by *longthrai*. Spear fishing is also common here with small canoe to catch *Cyprinus carpio*, *Labeo rohita*, etc. Net fishing dominates here representing 50% of fishers and only 5% of that spear fishing method. *Phoom namba* is also another one of the most important techniques followed by these people from November to March. For this operation, they selected a place randomly seeing the convenience of the work to be performed. They made a circle of about 100 ft surrounded by *phoom* as ring bund (about 5 ft) by cutting piece by piece from surrounding at the surface and nets beneath the surface. Then, pieces of *phoodhis* are planted into the circular area along with aquatic plants like *Eichhornia crassipes*, *Zizania latifolia*, *Hydrilla verticillata*, *Leersia hexandra*, *Pistia stratiotis*, etc. and it was known as *Phoom thaba* or *machak thaba*. After 10-15 days, harvesting is done. *Phoom namba* was also studied by Nightingale *et al.*, 2013.

Processing, Preservation and Marketing of Fishes:

Processing and preservation is a very important step in fishery as fish readily starts putrefaction after its death. The fish based products changes the flavour and texture rapidly during storage after death. Hence, they need preservation or processing measure to avoid spillage (Gram and Huss, 1996 & Ghaly *et al.*, 2010). In North East India, fermentation is one of the oldest and most economical methods for producing and preserving food. The fermentation process causes enrichment and improvement of food through flavour, aroma and change in texture, preservation by producing organic acids, nutritional enrichment, reduction of endogenous toxins and reduction in the duration of cooking and thereby fuel requirement (Sarifuddin, 2016). But fermentation is not commonly followed by the fishers of this island besides having enough raw materials. The main reason may be due to the lack of technology, skilled and knowledge manpower.

Sun drying and smoking is the main processing techniques used by this community. Sun drying is the most ancient and cost effective method of fish processing all over the world (Chavan *et al.*, 2015 & Pramod, 2015) and not only the cheapest and easiest but also eco-friendly (Joshua and Basu, 2012). Sun drying losses some of nutrients like fibres, carbohydrates and essential amino acids but it is still used as one of the cheap methods (Kamruzzaman, 1992). Smoking is another fish preservation technique widely accepted in the state as well as this particular island. Smoking is a method of preserving fish which combines three effects; preservative value of smoke, drying and cooking (Asita and Campbell, 1990 & Clucas, 1982). The fishes to be smoked are washed thoroughly and are arranged into a sieve in a regular pattern with the help of a kiln made from locally available raw materials either mud or a tin-plate canister. Most of the species such as *Amblypharyngodon mola*, *Labeo rohita*, *Puntius sp.*, *Channa sp.*, *Cyprinus sp.*, *Cirrhinus mrigala*, *Glossogobius giuris*, etc. are generally



Leirang (kiln)



Smoked fishes



Sun-Drying



Fishes selling at Karang Port

smoked. Frying is also used for household purposes but not for sale. Another smoked fish product known as *Ngaphak*, is famous and very fond of the Manipuri people.

In Karang, marketing is done mainly by women. Fish marketing is generally undertaken by women and is a major domain of women in the retail trade sector (Waikhom *et al.*, 2015). Some sold fishes at a small market situated at port. They went to Ningthoukhong, Moirang, Bishnupur and *Khwairamband Bazar* at Imphal to sell their fresh and processed fishes. Firstly they went to Thanga through water route but they sailed directly with motor boats within half an hour for Ningthoukhong. Prices are different with different species in both smoked and fresh species. They face problems of transport due to dilapidated road or any uneven social issues such sudden bands, strikes, agitations, etc. The price list is given in table 1.

Table 1: Price list of the fishes

S.No	Name	Price		Availability
		Fresh	Smoked	
1	<i>Ctenopharyngodon idella</i>	Rs. 160-180/Kg	X	Occasionally
2	<i>Labeo rohita</i>	Rs. 180-200/Kg	Rs. 300-350/Kg	All the year
3	<i>Cyprinus carpio</i>	Rs. 150-170/Kg	Rs. 280-300/Kg	All the year
4	<i>Puntius sp.</i>	Rs. 25/100g	Rs. 50/100 piece	All the year
5	<i>Channa striata</i>	Rs. 250-300/Kg	X	Seasonally
6	<i>Channa striata</i> (fry)	Rs. 50/200g	X	Seasonally
7	<i>Channa punctata</i>	Rs. 20/200g	Rs. 100/250g	Occasionally
8	<i>Amblypharyngodon mola</i>	Rs. 30/100g	Rs. 60/100 piece	All the year
9	<i>Esomus danricus</i>	Rs. 30/100g	Rs. 60/100 piece	Seasonally
10	<i>Anabas testudineus</i>	Rs. 400-450/Kg	Rs. 1000-1050/Kg	Seasonally
11	<i>Glossogobius giuris</i>	Rs. 450/Kg	Rs. 100/300g	All the year
12	<i>Trichogaster sp.</i>	Rs. 30/100g	Rs. 60/100 piece	All the year
13	<i>Cirrhinus mrigala</i>	Rs. 180-200/Kg	Rs. 300-350/Kg	All the year
14	<i>Notopterus notopterus</i>	Rs. 30-35/250g	Rs. 100/250g	Seasonally

Age Structure:

Age structure of the present study is divided into five classes namely children (5-14 yrs), young (15-30 yrs), middle (31-40 yrs), old (41-60 yrs) and very old (60 yrs and above). The study found that the middle age group dominates in the fishery activities and it occupies 50% of total population, followed by young (27%), old (15%), very old (5%) and children (3%). Perumal *et al.*, 1992 also reported that most of the beneficiaries of the Fish Farmers Development Agency (FFDA) of Tamilnadu were under young age category (63.00%) followed

by middle (26.00%) and old age (11.00%) categories. Immanuel, 2004 in her study on linkages among research, extension and clientele systems in marine fisheries in Kerala revealed that 52.67 percent of the fishermen belonged to middle age group followed by old age group (27.33%) and young (20.00%) age group.

Family Size:

Family size is categorised into small (2-3 members), medium (4-6 members) and large (7-10). The study revealed that 50% of the total family had belonged to large size family followed by medium with 30% and that of small with 20%. Oloruntoba and Fakoya, 2003 in their study on socio-economic indicators of adult females in rural communities of Nigeria had found that 45% of the respondent had family size 6-10 followed by 34% of the respondent had family size less than 5, 17% had 11-15 family size, 3% had 16-20 family size and 1% had greater than 20 family size. Anon, 2005 in their study on the socio economic analysis of Nuvvulrevu village in Srikakulam district of Andhra Pradesh had found out that 38% of the fishermen had a family size of less than five and 62% had more than five.

Housing Status:

The housing status of this island is not so good. Kutchra houses belonged to 89%, semi pucca by 10% and 1% by pucca. Most of the houses are made from locally available raw materials such as mud, straw, wood, etc.

Income and its Sources:

The main income source of these people is fishing and fishery related activities and it comprise 70% of total income sources. Private sector involved 20%, Government job by 5% and others like trade, construction works, small business, etc. by 5%. Their monthly income varied from Rs. 1000-10,000 and above per month. 70% of the family belonged to the medium income group in the range of Rs. 5000-10,000 per month then followed by low income group ranging from Rs. 1,000-5,000 per month and high income with Rs. 10,000 and above per month.

Health and Sanitation:

Health and sanitation is the most important parameter to indicate the status of a community. Socio economic status is a quality index of a society. WHO, 2006 describes health as a state of complete physical, mental and social well being and not merely the absence of disease or infirmity. But, this island has not any Public Health Centre (PHC). They have to go at Thanga for emergency treatment through water route. Fortunately ASHA helps the women. George, 2008 refers sanitation as a necessity for healthy life. It is estimated that around five million people die on account of preventable diseases due to lack of sanitation and hygiene (Glieck, 2002). 65% owns kutchra latrines followed by 40% semi pucca and 5% pucca latrines. Sanitary latrines are important for healthy and well-being in life.

Education:

Education develops skill, personality, knowledge and courage to face problems in life. Sen, 1981 also described the capability and endowment of education utilizing social, political and economic opportunities. So, it forms a backbone to develop a society. It is most important for children as it opens up several doors to a lot of opportunities for better prospects in career growth. 50% of population are in elementary level of education. 30% occupies in illiterate followed by 10% in graduate and 10% in higher secondary level. But the growth of education is increasing in younger generations.

Electricity and drinking water

Electricity is important for the comfort of life. It has several applications in modern life and become an object in daily needs. Fortunately, the people of this island got electricity. Prepaid system is encouraging in the state. This island used surrounding water for drinking. No water supply plan is available. Safe drinking water is much necessary for well being as there are many water borne diseases that can harm human life.

Transport and Communication:

Transport and communication helps development of society and to solve the problem of unemployment. Since the study site is in island, water is the only route to communicate with the neighbouring villages. Motorised boats and traditional small canoes are operated here for passenger service around 1km distance of water. Rs. 10 is charged for each trip per head to reach Thanga. Then, they went others places with



Housing status

Washing & bathing



the help of vehicles available there like tata magic or bus. The owner of a small canoe is a great privilege for these people. All household activities such as bathing, cleaning utensils, clothing, washing, etc. are done in water with the help of a small canoe. Even children used boats easily. The overall socio-economic study is highlighted at table.2.

Table 2: Socio-Economic Profile of Karang Island

S.No	Feature	Category	%	S.No	Feature	Category	%
1	Fishing	Full-time	70	6	Age	Children (0-14 yrs)	03
		Part-time	25			Young (15-30 yrs)	29
		licence	05			Middle (31-40 yrs)	50
2	Crafts and gear	Traditional	70			Old (41-60 yrs)	15
		Motorised	10			Very old (60 yrs & above)	15
		No craft	20	7	Education	Elementary level	50
3	Nets, hooks and lines	Net fishing	50			Higher secondary	10
		Traps	30			Graduate	10
		Hooks and lines	15			Illiterate	30
		Spear fishing	05	8	Source of income	Fishing	70
4	Family size	Small (2-3 members)	20			Private	20
		Medium (4-6 members)	30			Government	05
		Large (7-10 members)	50			Other	05
5	Housing status	Kutchra	89	9	Monthly income (Rs./month)	Low (1,000-5,000)	20
		Semi-pucca	10			Medium (5001-10,000)	70
		Pucca	01			High (10,000 & above)	10
10	Sanitation	Kutchra	50	10	Sanitation	Kutchra	50
		Semi-pucca	45			Semi-pucca	45
		Pucca	05			Pucca	05

Conclusion:

The study reveals and suggests that the island needs the immediate attention for the support from Government and civil organisations for the improvement of the socio- economic conditions of the fisher community in particular and fishery in general. It is very much necessary to encourage and implement new programmes and policies like personal loan, extension programmes, etc. for the welfare of the fishers so that the problems of low production rate and decrease in fishing activity could be solved and increase output in the future. Transport and communication is also another important problem that needs to be developed.

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