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A.B.M Ashraful Hoque

Department of Fisheries and
Marine Science, Noakhali Science
and Technology University,
Noakhali-3814, Bangladesh.

Priyanka Rani Majumdar

Department of Fisheries and
Marine Science, Noakhali Science
and Technology University,
Noakhali-3814, Bangladesh.

Bhakta Supratim Sarker

Department of Fisheries and
Marine Science, Noakhali Science
and Technology University,
Noakhali-3814, Bangladesh.

Debasish Saha

PhD Research Student (MEXT
fellow), Graduate School of
Bioresources, Mie University,
Japan

Turia Chakma

Department of Fisheries and
Marine Science, Noakhali Science
and Technology University,
Noakhali-3814, Bangladesh

Correspondence:

Priyanka Rani Majumdar

Department of Fisheries and
Marine Science, Noakhali Science
and Technology University,
Noakhali-3814, Bangladesh

Fish consumption patterns with respect to socio- economics of indigenous (*Chakma*) people of Rangamati district in Bangladesh

A.B.M Ashraful Hoque, Priyanka Rani Majumdar, Bhakta Supratim Sarker, Debasish Saha, Turia Chakma

Abstract

This research work was conducted to get clear understanding about socio-economic condition and fish consumption patterns of indigenous (*Chakma*) people of five Upazilas of Rangamati district in Bangladesh from July to December, 2013. Data were collected through a questionnaire survey. The result showed that the indigenous people (*Chakma*) of studied areas were engaged in diversified professions viz. fisherman (24%), traditional farmer (8%), local businessman (24%), NGO worker (16%) government employee (20%) and others (8%). Their monthly income varied from BDT 5,000 to 30,000. They consumed different types of freshwater and marine fishes. Their average per capita per day fish consumption was 153 g. They consumed 25%, 16%, 13% and 11% of *Nappi* (traditional fermented fishery product of tribal community), dried fish, small fish (SIS) and large fish respectively per day. The present study revealed that monthly income was positively correlated with average large and small fish consumption and negatively with average dried fish and *Nappi* consumption.

Keywords: Indigenous people, *Chakma*, Socio-economic condition, Fish consumption.

1. Introduction

Bangladesh is a densely populated country of South East Asia that is enriched with different indigenous people for centuries. Bangladesh has 14, 97, 72, 364 peoples of which 15, 86, 141 indigenous peoples which is just 1.10 percent of the total population^[1]. Indigenous people mean such a group of people who are more or less organized in a region having a cultural unity and whose members feel that they are included in the same cultural unit.

According to^[2], "Indigenous peoples live in those particular geographical areas which are their ancestral territories and they have own identification, language, culture and economic status which are distinct from others." According to^[3], "Indigenous peoples in independent countries (are those) whose social, cultural and economic conditions distinguish them from other sections of the national community and whose status is regulated wholly or partially by their own customs or traditions or by special laws or regulations."

The indigenous peoples of Bangladesh refer to native ethnic peoples whose live in southeastern (Chittagong, Cox's Bazar and Barisal), northwestern (Rajshahi-Dinajpur), north-central (Mymensingh-Tangail) and northeastern (Greater Sylhet) regions of the country. In Bangladesh, the main terms that are used to indicate indigenous people are: '*Upojati*' (means 'sub-nation' and indicates the tribal people) and '*Adibashi*' (equivalent to the words 'indigenous' or 'aboriginals')^[4]. The word '*Adivashi*' is derived from the Sanskrit. '*Adi*' meaning original and '*Bashi*' means inhabitant. But about one third of the indigenous people live in the southeastern border region of Chittagong Hill Tracts (CHT). The total ethnic population group of Bangladesh is 27^[1]. Among all ethnic population, *Chakma*, also known as the *Changma* or *Chagmas* are the largest tribal group in Bangladesh which contained 4, 44, 748 people. They inhabit in the central and northern parts of the Chittagong Hill Tracts of Bangladesh with several other ethnic groups. More than 90 percent of them are concentrated in Rangamati and Khagrachhari districts. The Indigenous communities of Bangladesh have their distinctive ways of living. Most of the *Chakma* depend on nature for their livelihood and food. They have their own language, custom, culture, and confess Theravada Buddhism. Like their many distinctive ways of living, their fish consumption pattern may be differed.

They mainly depend on Kaptai Lake for their daily consumption of fish. Kaptai Lake is a man-made lake in south-eastern Bangladesh. It is located in the Kaptai Upazila under Rangamati District of Chittagong Division. Kaptai lake is enriched with diversified and many fish species. A total of 71 fish species including 5 exotic fishes and 2 species of prawn were recorded in Kaptai Lake [5]. The present study was carried out to determine the fish consumption patterns and socio-economic conditions of the indigenous (*Chakma*) people and the relationship between fish consumption patterns and socio-economic.

2. Materials and Methods

The selected study areas were five Upazilas named Rangamati Sadar Upazila, Kaptai, Bilaichori, Bhagaichori and Longodu of Rangamati district in Bangladesh. These areas were chosen for present study because most of the indigenous (*Chakma*) community of Rangamati district lives in these areas. The duration of the present study was July 2013 to December 2013.

2.1 Selection of the Target Groups

The target groups were selected from the indigenous (*Chakma*) community of studied areas whose belonging different professions such as fishermen, fish farmers, government job holders, farmers, businessmen etc. and different social classes. For the present study, the data were collected from the 50 randomly selected indigenous (*Chakma*) individuals from the target groups.

2.2 Data Collection Method

2.2.1 Primary sources

The primary data were assembled from randomly selected 50 indigenous (*Chakma*) people including fishermen, fish farmers, government job holders, farmers, businessmen etc. of five Upazilas of Rangamati district through well-managed questionnaire and personal interviewing.

2.2.2 Secondary sources

The secondary data were assembled from literature and publications, books, thesis paper, journals, Seminar Library, Central Library of Noakhali science and technology university for justification of the collected data through survey.

2.3 Collected parameters

For obtaining details information about the fish consumption of indigenous peoples (*Chakma*) of five Upazilas of Rangamati district, the data were collected through questionnaire based on following parameters {monthly income, types of fish easily consumed, amount of fish consumed per week (amount of large fish, amount of small fish, amount of dry fish, amount of fermented fish), days of fish consumed per week, main sources of fish, meal frequency, consumption pattern of large fish head, consumption pattern of SIS, cooking style}.

2.4 Data processing and analysis

All the Collected data obtained from the survey were accumulated, edited and finalized carefully and recorded. Finally, the processed data were analyzed by MS-Excel and SPSS 16.0 version and relevant tables and graphs were prepared according to the objective of the present study for understanding the data.

Data were presented mostly in the tabular form. The methodologies followed for the research were shown in Figure 1.

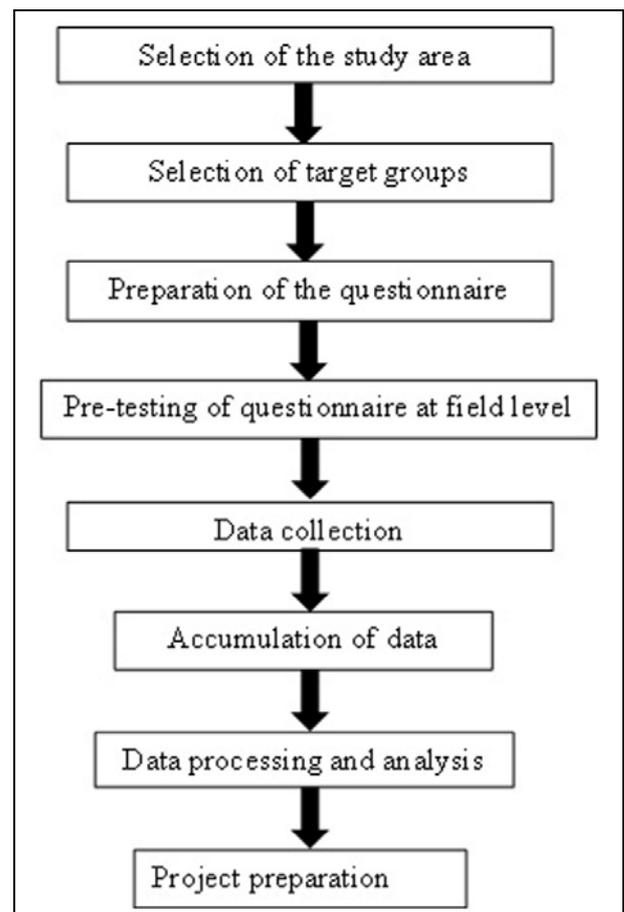


Fig 1: Methodology Followed for the Research

3. Results and Discussions

The survey of the present study was done at field level such as house, fishing place, market, field etc. of five Upazilas of Rangamati district at five upazila to know the consumption pattern of indigenous people (*Chakma*).

3.1 Socio economic status

3.1.1 Monthly income

The people of surveyed areas were involved in diversified profession from fisherman to farmer and landlord as well as businessmen to Government job holder. Monthly income varied widely from BDT 5000-30000 in the present study. Based on the level of annual income, the studied indigenous people were categorized into five groups. It was observed that about 45%, 27%, 14%, 7% and 7% of fishermen had annual income in the range of BDT 5000-10000, BDT 10000-15000, BDT 15000 to 20000, BDT 20000-25000 and BDT 25000-30000 respectively (Figure 2).

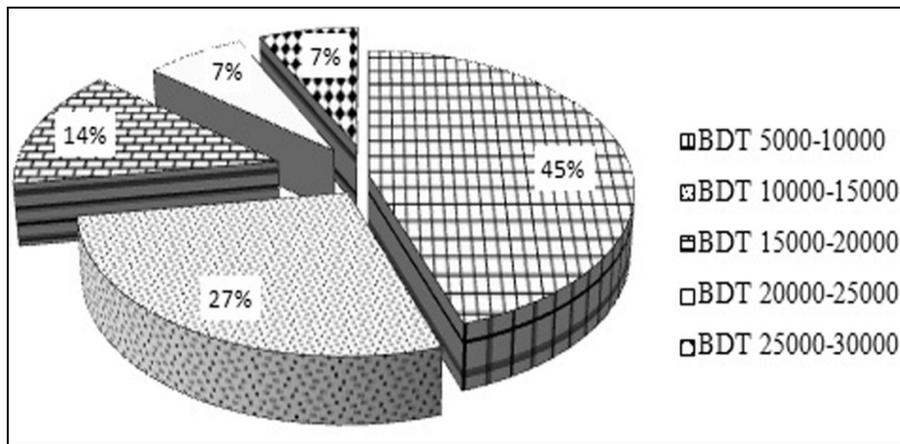


Fig 2: Monthly income of the indigenous people in survey areas

3.1.2 Age structure

From the present study, it was found that age of the respondents ranged from 15 to above 45 years which were categorized into three categories as young (15-30 years), middle aged (31-45 years) and old (>45 years) where the

highest (53%) was middle aged people and the lowest (15%) was young and remaining 32% was old people (Figure 3). According to Ali H, 2009 *et al* [6] most of the fish farmers in Mymensingh district belonged to age group 31-40 years which more or less similar with findings of the present study.

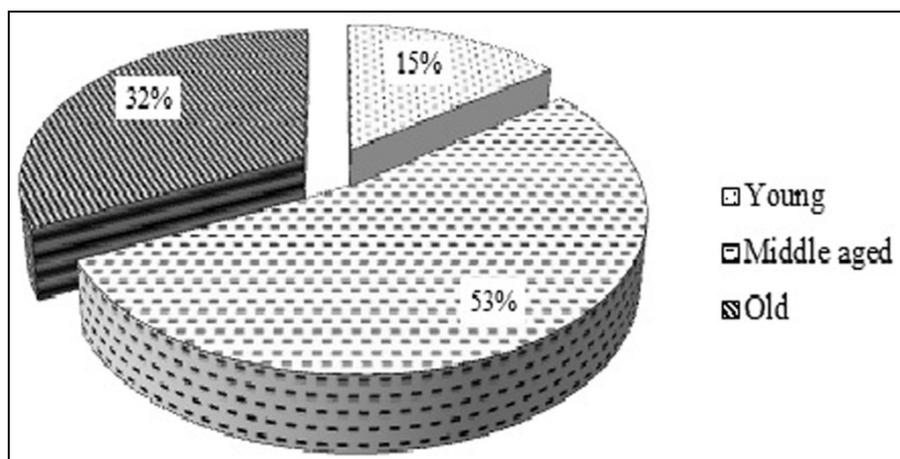


Fig 3: Age structure of the indigenous people in the study areas

3.1.3 Family type

From the present study, it was found that most of the family of

indigenous (*Chakma*) people was nuclear family (57%) and the rest 43% was joint family (Figure 4).

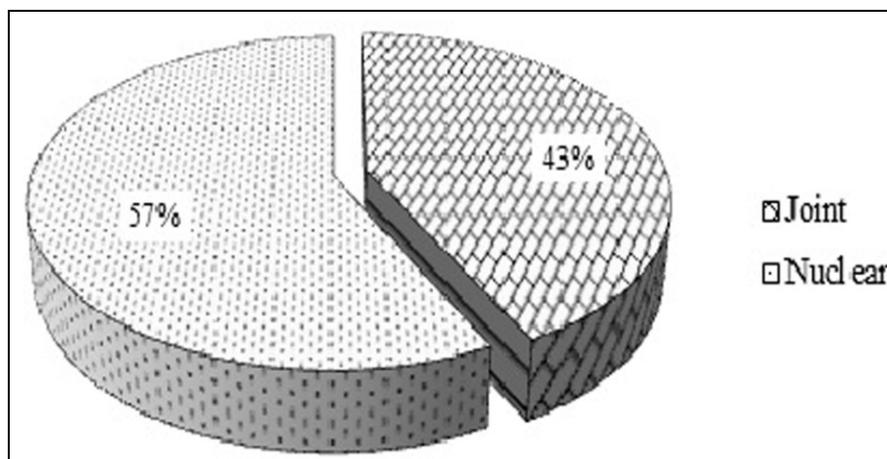


Fig 4: Family type of the indigenous people

3.1.4 Occupational status

From the present study, it was found that most of the people (24%) were engaged in fishing and local business (Hand loom) as their main occupation and others were in government job (20%), NGOs (16%), traditional farming (Jhum) (8%), and the remaining 8% were in others (boatman and occasional farmer)

(Figure 5). Jhum or Jhoom cultivation is a local name for slash and burn agriculture practiced by the tribal groups of Bangladesh. This system involves clearing a piece of land by setting fire or digging hill and using the area for growing crops of agricultural importance such as upland rice, vegetables or fruits.

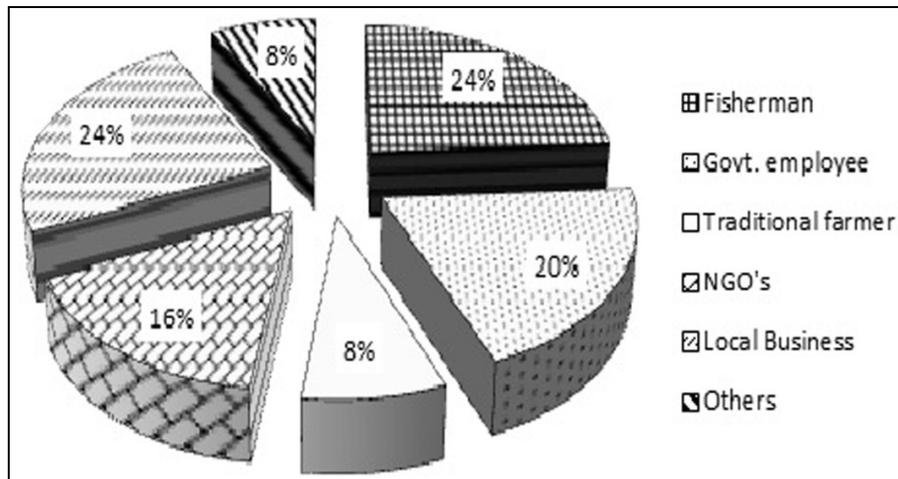


Fig 5: Occupational Status of surveyed areas

3.1.5 Educational status

There is a strong relationship between fish consumption and education. Education can help people to know about the nutrition value of fish and fishery product. On the other hand, education helps to develop conceptual skill. From the present

study, it was found that among the studied indigenous people 37% were well educated, 12% were illiterate, 18% were secondary, 24% were higher secondary level and the remaining 8% can sign only (Figure 6).

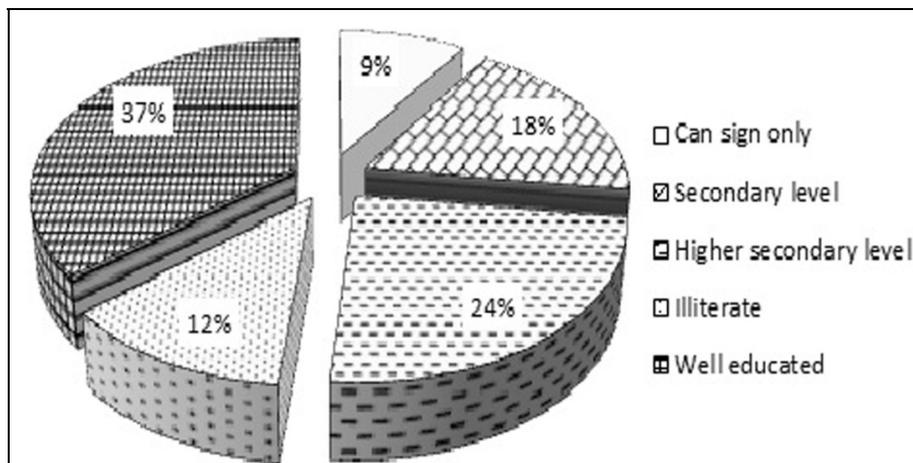


Fig 6: Educational status of the indigenous people in the study areas

3.2 Fish consumption

Almost most of people in the surveyed areas ate three meals per day. They usually consumed deferent types of fish such as Ganges River Sprat (*Corica soborna*), Mola carplet (*Amblypharyngodon mola*), Indian River Shad (*Gudusia chapra*), Barramundi (*Lates calcarifer*), Rohu (*Labeo rohita*), Catla (*Catla catla*), Tilapia (*Oreochromis mossambicus*), Kukur jeeb (*Cynoglossus cynoglossus*) etc. and some marine species such as Bombay duck (*Harpadon nehereus*), Marine shrimp, Gangetic Hairfin Anchovy (*Setipinna phasa*) etc. They also take some types of dry fish such as dried shrimp, Bombay duck (*Harpadon nehereus*), Milk shark (*Rhizoprionodon acutus*), Indian Thread fish (*Alectis indica*) etc. They also take some types of fresh and marine mollusks such as snail, crab and special traditional fermented food known as *Nappi*.

3.2.1 Average fish consumption of indigenous people (*Chakma*)

From the present study, it was found that the average per capita per day fish consumption of *Chakma* people in Rangamati was 153 g. The average per capita per day fish consumption of the total people of Bangladesh was 51.89 g^[7].

3.2.2 Fish consumption during peak and lean season

The main source of the species that consumed by indigenous *Chakma* people is Kaptai Lake. The management of Kaptai Lake was done by following two seasons – peak and lean season. At the peak fishing time, most of the fish species were available in the market and consumers get it easily. But at the lean season all types of fishing was banned by the authority named BFDC (Bangladesh Fisheries Development

Corporation). That’s why fish consumption patterns were rapidly influenced by these two seasons. From the present study, it was found that during peak and lean season the

average per capita per day fish consumption of *Chakma* people were 181 g and 126 g respectively (Figure 7).

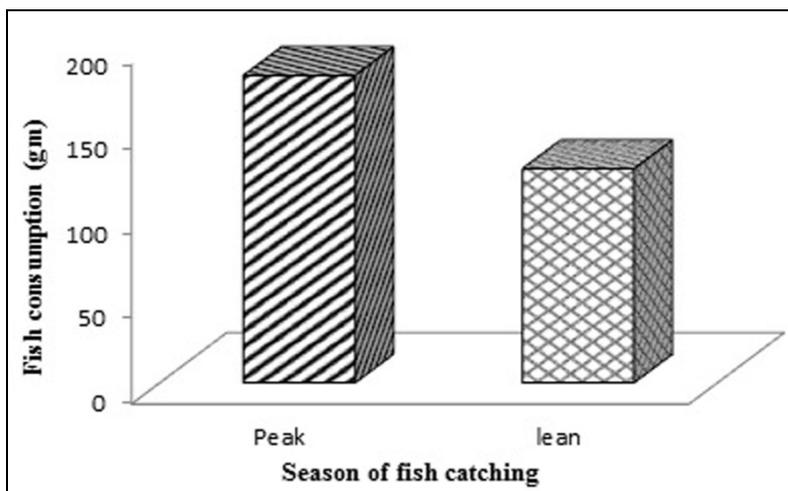


Fig 7: Fish consumption of the indigenous people during peak and lean season

3.2.3 Different fish and fisheries product consumption per day

From the present study, it was found that indigenous (*Chakma*) people of five Upazilas of Rangamati district consumed different fish and fisheries products per day. It was observed that indigenous (*Chakma*) people consumed 25%, 16%, 13%

and 11% of *Nappi*, dried fish, small fish (SIS) and large fish respectively per day (Figure 8). In the survey areas, *Nappi*, a fermented fish product which is made by made by most of the indigenous tribal community was taken almost every day with their general meal. The consumption of large fish was higher than small fish (SIS).

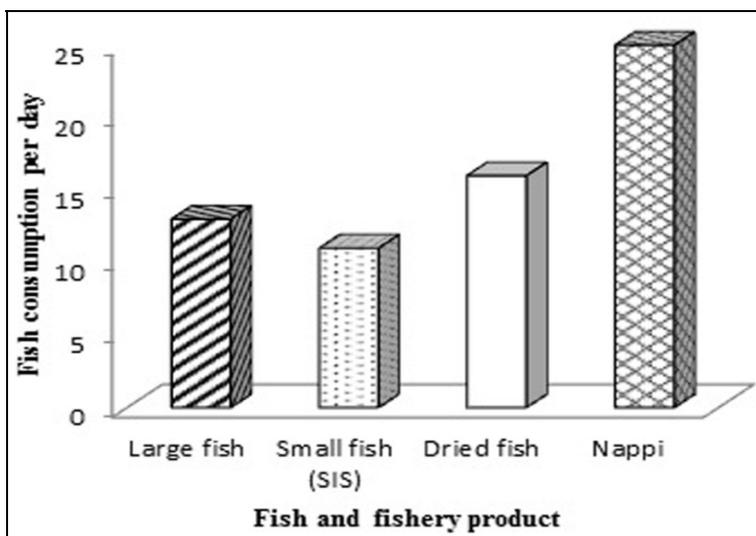


Fig 8: Different fish and fisheries product consumption (%) per day

3.2.4 Patterns of fish head consumption

Fish heads were the most demanded part (especially of big fish). From the present study, it was found that, the fish-heads were consumed by the head of the indigenous (*Chakma*)

family in the cases of 55% when a large fish was purchased or caught. Male child, female child and wife consumed fish-heads in the cases of 20%, 10% and 15% respectively (Figure 9).

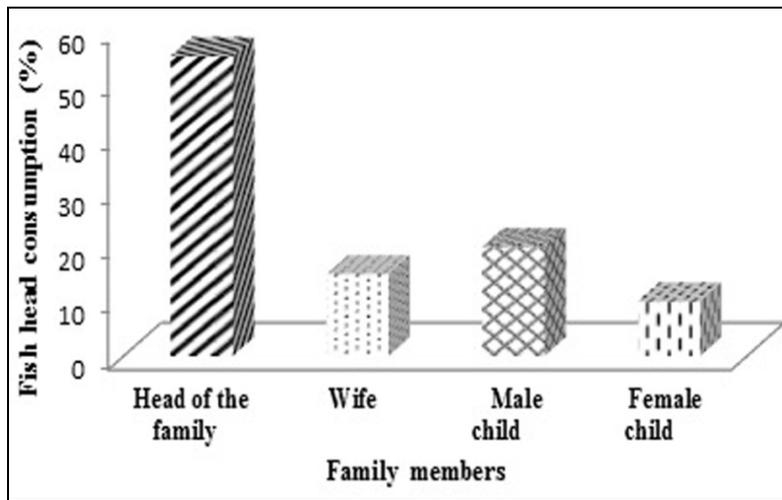


Fig 9: Fish head consumption of the indigenous people

3.2.5 Patterns of small fish (SIS) consumption

From the present study, it was observed that most of the indigenous (*Chakma*) people (70%) consumed SIS with head and spine and rest 30% people consumed SIS without spine.

SIS along with head and spine is a good source of vitamin A, iron, calcium and minerals, majority of indigenous (*Chakma*) people got those macro and micro elements by consuming SIS with head and spine (Figure 10).

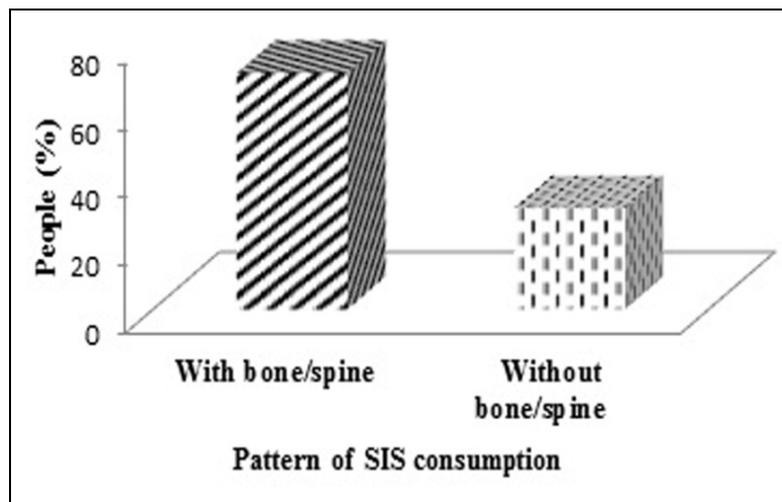


Fig 10: Pattern of SIS consumption of the indigenous people

3.3 Relation between monthly income and average fish consumption patterns

Monthly income is related with average fish consumption. The present study revealed that there is interesting relationship between monthly income and average fish consumption patterns of the indigenous (*Chakma*) people. The average consumption of large fish and small fish (SIS) was increased

and average consumption of dried fish and *Nappi* was decreased with increasing of monthly income. And with decreasing of monthly income, the average consumption of dried fish and *Nappi* was increased and consumption of large fish and small fish (SIS) was decreased (Table 1).

Table 1: Correlation between monthly income and average fish consumption (Pearson correlation method)

	Large fish		Small fish(SIS)		Dried fish (SIS)		Nappi	
	Peak	Lean	Peak	Lean	Peak	Lean	Peak	Lean
AFC1 (g)	82.23	49.26	75.42	55.38	11.28	9.20	12.45	12.22
Correlation value of AFC1 with Increasing Monthly income	0.377*	0.473**	0.469**	0.147**	-	-	-	-
Correlation value of AFC1 with decreasing Monthly income	-	-	-	-	0.343*	0.020	0.139	0.016

AFC1= Average Fish Consumption
 **Correlation is significant at the 0.01 level
 *Correlation is significant at the 0.05 level

4. Conclusion

The present study was conducted to know the fish consumption pattern of indigenous (*Chakma*) people of Rangamati district. The consumption pattern of indigenous people were not homogenous it vary with availability and income. The survey area is located near Kaptai Lake which is the main reason of availability and low price of fishes in this area. Kaptai Lake is the vast source of fresh water fish in Bangladesh. Although the survey areas were confined around the kaptai lake, there has a huge possibility to increase the production of Kaptai Lake. Kaptai Lake can meet up the demand of animal protein not only Rangamati but also in the whole country, if the production of Kaptai Lake will increase.

5. Acknowledgement

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6. References

1. Bangladesh Bureau of Statistics. Bangladesh Population Census 2011. Ministry of Planning, Dhaka, 2013.
2. The World Bank. Operational Directive-4.20: Indigenous Peoples. The World Bank Operational Manual 1991, 1-6.
3. International Labor Office. Eliminating discrimination against indigenous and tribal peoples in employment and occupation: A guide to ILO Convention No: 111. ILO, Geneva, 2007.
4. Roy RD. Country Technical Notes on Indigenous Peoples' Issues: Bangladesh, IFAD, Italy 2010.
5. Halder GC, Mazid MA, Haque KI, Huda S, Ahmed KK. A Review of the Fishing Fauna of Kaptai Reservoir. Bangladesh J Fish 1991; 14(1-2):127-135.
6. Ali H, Azad MAK, Anisuzzaman M, Chowdhury MMR, Hoque M, Sharful MI *et al*. Livelihood status of the fish farmers in some selected areas of Tarakanda upazila of Mymensingh district. J Agro for Environ 2009; 3(2):85-89.
7. DoF. National fish week compendium 2013. Department of Fisheries, Ministry of Fisheries and Livestock, the People's Republic of Bangladesh 2013, 130.