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## Socio-economic status of fishers from Subansiri River, Assam

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### Abstract

This study was carried out in Subansiri River, Assam from January 2014 to December 2014. Through this investigation, the socio-economic condition of fishers was analysed. A total sample of respondents was 346 fishers. Investigation on socio-economic status of fishers from Subansiri river revealed that out of 346 fishers 97.7% were literate, 83.8% married, 91.9% males fishers, 71.6% Hindu community fishers, 6.6% occasional fishers, 39.1% fishers belonged to age group between 26-35 years, 51.7% of fishers working as farmer for other earning apart from fishing, 87.6% fishers had kaccha ghar, 96.2% fishers didn't have good sanitation condition, 46.5% respondents caught upto 5 kg of fishes individually daily and 64.7% of fishers were flood affected. The ratio of male to female was 55.9: 44.1 and the average family size was 6.20 members. In the Subansiri River the fishing activities took place throughout the year during. There was usually less fishing during floods and late part of the winter season. The full-time fishers fished for 8 months and catch 1.2 – 3.5 kg per day. The 121 professional temporary fishers generally fished 2-4 months per year and were labourers, mechanics, a few businessmen and a few job holders. The fish catches ranged between 0.5 and 1.7 kg per person with an average catch of 99 kg per person per year. Basically, occasional fishers were non-fisher groups and fished for recreation. Such groups fished 2-10 times per year and caught 0.3-0.7 kg per day, with an average of 15 kg per person per year for consumption.

**Keywords:** Subansiri river, fishers, socio-economic, fishing activity

### 1. Introduction

Fishes are an important resource for humans worldwide, especially as food. It is man's most important single source of high-quality protein, providing ~16% of the animal protein consumed by the world's population, according to the Food and Agriculture Organisation of the United Nations [1]. Fish also has substantial social and economic importance. The FAO estimates the value of fish traded internationally to be US \$ 51 billion per annum [2]. Over 36 million people are employed directly through fishing and aquaculture [2] and as many as 200 million people derive direct and indirect income from fish. Traditionally people in the riverine environment prefer to settle down close to the river as it provides certain easy opportunities and facilities for sustenance. The floodplains are suitable for both cropping and livestock rearing. In the case of some African floodplains, farming and fishing are interlocking elements in livelihoods of floodplain communities and interestingly many of the households depend on both [3]. The river courses are used as transport routes and also natural fishing grounds. During summer, the river carries logs and other vegetal remains from its forested upper catchment and in winter as the water subsides sands and boulders get well exposed. These are extracted by some people to meet local demands.

The Subansiri River is the tributary of the mighty river Brahmaputra in the Indian states of Assam and Arunachal Pradesh and the Tibet Autonomous Region of China. River Subansiri originates in Tibet at an altitude of around 5340 m beyond the Great Himalayan Range (Central Himalayas) and after traversing about 442 km joins the Brahmaputra River. The river flows through narrow gorge in most part of its length and generally follows an easterly direction up to Siyum, and, thereafter it takes a south-easterly course upto its confluence with Kamla. Thereafter, it flows in a southerly direction upto Kherkatiasuti and flowing for another 60 km (approx.) in south-westerly direction it confluences with the mighty Brahmaputra River. So far, there are many reports on problems, potentiality, dimension and management of fish farming and social issues and importance of fish cultural practices of Assam [5-13]. But there is miserable information about socio-economic status of fishers from riverine areas of Assam except a few recent reports [14-17].

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Resources of Subansiri River plays important role in socio-economic status of fishers of Lakhimpur district of Assam. But there is no information on socio-economic status of fishers from Subansiri River. The present communication reveals the socio-economic condition of fishers from Subansiri River.

### Materials and Methods

The present study was carried out from January 2014 to December 2014.

**Table 1:** Physical status of Sampling sites of Subansiri River.

Location	Gasigoan	Gerukamukh	Saouldhowa ghat	Bhimparaghat	Khaboli ghat	Jamuguri ghat
Sites	Site-1	Site-2	Site-3	Site-4	Site-5	Site-6
Longitude	N27031/	N27017/	N27007/	N27006/	N26056/	N26049/
Latitude	E94013/	E 94016/	E94012/	E 94030/	94007/	E 93056/

### Data Collection Method

A total of 346 fishers from six different sampling sites were interviewed to investigate the socio economic status of fishers from Subansiri River. The fishers community residences were visited and individuals were also interviewed to obtain information on the fisher's socio-economic status. Self-prepared questionnaires were compiled and evaluated for the socio-economic status of the fishermen. The fishers were categorised as permanent or full-time, temporary or part-time, and occasional. The mean catch per day per fisherman and catch per fishers per year were also assessed.

The empirical socio-economic study aiming at serving specific purposes needs a variety of data - ranging from perceptual, demographic to socio-economic. The data for the study were collected from both primary and secondary sources. In order to collect data from the field two different survey schedules were designed: (i) village level survey schedule and (ii) household level survey schedule. The former was used mainly to collect relevant data in consultation with the village heads (*Gaonburha*) and Block Development Offices of the concerned villages. The later was used to collect required data from the households selected for the study.

### Results and Discussion

The result of investigation of socio-economic status of fishers from Subansiri River is given below -

#### 3.1 Educational status of fishers

**Table 2:** Educational status of fishers from Subansiri River.

Qualification	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Illiterate	05	02	01	00	00	00	08	02.3%
LP Passed	09	13	32	24	30	35	143	41.3%
Under metric	18	16	30	28	32	19	143	41.3%
Matriculation and above	02	06	08	14	12	10	52	15.1%

Investigation on educational status (Table-2) of fishers from Subansiri river revealed that out of 346 fishers, 2.3% were illiterate, lower primary passed and under metric fishers were 41.3% each and 15.1% fishers belonged to matriculation and above category.

**Study Area:** The study was carried out in Subansiri river located in Lakhimpur district of Assam, India. Lakhimpur district with a latitude of 27.35 (27° 21' 0 N) and a longitude of 94.25 (94° 15' 0 E), is an administrative region (second-order administrative division) located in the area / state of Assam in India. Sampling was assessed at Gasigaon, Gerukamukh, Saouldhuwaghat, Bhimparaghat, Khabolighat and Bodotighat of which two are in Arunachal Pradesh and four are in Assam to cover the areas of upper and lower reaches of the river. (Table-1).

#### 3.2 Marital status of fishers

**Table 3:** Marital status of fishers from Subansiri River.

Marital status	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Married	29	31	56	42	59	47	290	83.8%
Unmarried	05	06	15	24	15	17	56	16.2%

Studies on the marital status (Table - 3) of fishers from Subansiri river revealed that 83.8% fishers belonged to married and 16.2% belonged to the unmarried category. Table - 4 shows that fishers was dominated by males fishermen (91.9%) and only a few females (8.1%) were found involving in fishing from Subansiri river. 14 females fishers were recorded from site-4 of this river.

#### 3.3 Sex ratio of fishers

**Table 4:** Sex ratio of fishers from Subansiri River.

Sexes	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Male	31	37	67	52	69	62	318	91.9%
Female	03	00	04	14	05	02	28	08.1%

#### 3.4 Religious status of fishers

**Table 5:** Religious status of fishers from Subansiri River.

Religions	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Hindu	29	37	38	44	51	49	248	71.6%
Christian	05	00	00	00	00	00	05	01.4%
Muslim	00	00	27	22	23	15	87	25.1%
Buddhist	00	00	06	00	00	00	06	01.7%

Studies on religious status (Table-5) of fishers' shows that majority of fishers belonged to Hindu community. Out of the 346 respondents, 71.6% belonged to Hindu community and 25.1% belonged to Muslim community. Christian (1.4%) and Buddhist (1.7%) community were also constituted the fishers from Subansiri River in site-1 and site-6 respectively.

### 3.5 Classification of fishers

**Table 6:** Classification of fishers from Subansiri River.

Types fishers	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Full-time fishers	00	00	06	05	08	04	23	06.6%
Temporary fishers	15	17	31	20	18	20	121	35.0%
Occasional fishers	19	20	34	41	48	40	202	58.4%

Table - 6 shows the percentage of types of fishers from Subansiri River. The fishers from Subansiri River were of three types viz. full-time fishers, temporary fishers and occasional fishers. Full-time fishers (6.6%) are those who catch fishes for commercial purpose and fishing throughout the year. Full-time fishers belong to Missing, Kaibotya, Kachari Sonowal and community. Temporary fishers (35.0%) are those who catch fishes for their daily consumption and they belong to Hazong, Chitia, Konch etc. community. Occasional fishers (58.4%) are those who catch fishes in retreating monsoon and winter season for marketing and own consumption.

### 3.6 Age groups of fishers

**Table 7:** Age groups of fishers from Subansiri River.

Age groups	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
18 – 25 yrs	02	10	16	12	23	12	75	21.7%
26 – 35 yrs	10	15	27	28	27	28	135	39.1%
36 – 50 yrs	17	10	25	21	24	22	119	34.4%
50 and above	05	02	03	05	00	02	17	04.9%

Investigation on age group (Table-7) of fishers from Subansiri river shows that 21.7% fishers belonged to age group between 18-25 years, 39.1% fishers belonged to age group between 26-35 years, 34.4% fishers belonged to age group between 36-50 years and only 4.9% belonged to age group between 50 years and above.

### 3.7 Other income sources of fishers

**Table 8:** Other income sources of fishers from Subansiri River.

Other income sources	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Farmer	31	21	26	28	42	31	179	51.7%
Labour	03	16	45	38	32	33	167	48.3%

Table-8 shows percentage of other income sources of fishers from Subansiri River. It was found that 51.7% of fishers working as farmer for other earning apart from fishing and the remaining 48.3% fishers working as labour in sand, stone and wood collection work from this river. Farming of paddy in monsoon and *rabi* crop in retreating monsoon and winter is most common alternative income source for temporary and occasional fishers from Subansiri riverine area. Besides this, collection of sand, stone and wood from the river is another common alternative means of extra earning of fishers from this riverine area.

### 3.8 Housing status of fishers

**Table 9:** Housing status of fishers from Subansiri River.

Housing status	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Kacchaghar	29	35	67	48	65	59	303	87.6%
Pakkaghar	05	02	04	18	09	05	43	12.4%

Studies on Housing status (Table-9) of fishers from Subansiri river shows that 87.6% fishers had kaccha ghar and 12.4% fishers had pakka ghar. Table – 10 reveals that sanitation condition of fishers from Subansiri River. Out of 346 fishers only 3.8% fishers had pakka toilet and the rest 333 (96.2%) fishers didn't have good sanitation condition.

### 3.9 Sanitation condition of fishers

**Table 10:** Sanitation condition of fishers from Subansiri River.

Types of Toilets	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Kaccha Toilet	33	37	67	63	71	62	333	96.2%
Pakka Toilet	01	00	04	03	03	02	13	03.8%

### 3.10 Daily catches of fishes by fishers

**Table 11:** Daily catches of fishes by fishers from Subansiri River.

Amount of fishes	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
1 – 5 kg	17	19	27	30	37	31	161	46.5%
6 – 10 kg	10	13	21	26	28	22	120	34.9%
11 – 15 kg	05	05	26	10	07	08	51	14.7%
16 kg and above	02	00	28	00	02	03	14	04.04%

Survey on daily catches of fishes (Table-11) by fishers from Subansiri river shows that 46.5% respondents caught upto 5 kg of fishes individually daily. 34.9% fishers caught upto 10 kg individually daily, 14.7% respondents caught upto 15 kg individually and rest of 4.04% caught fishes above 15 kg.

### 3.11 Flood affected fishers

**Table 12:** Flood affected fishers from Subansiri River.

Sites	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Flood affected	00	00	48	56	62	58	224	64.7%
Not flood affected	34	37	23	10	12	06	122	35.3%

Socio-economic studies of fishers from Subansiri river reveals that 64.7% of fishers were flood affected and 35.3% did not affect by flood (Table-12). During this study, it was come to notice that some families of the fishers from Subansiri River were living on the embankments permanently and some families were living temporally on the embankment for the flood time.

### 3.12 - Fishing gears used by fishers

Table-13 shows the percentage of fishing gears used by fishers from Subansiri River. The investigation reveals that 28.03% fishers used encircling net, 28.90% fishers used

entangling net, 20.20% fishers used trawling net, 12.10% fishers used scooping net and 10.40% fishers used hook and line fishing.

**Table 13:** Fishing gears used by fishers from Subansiri River.

Fishing gears	No. of fishers						Total fishers	%
	S1	S2	S3	S4	S5	S6		
Encircling	09	11	22	18	20	17	97	28.03%
Entangling	08	09	21	20	24	18	100	28.90%
Trawling	08	07	14	12	16	13	70	20.20%
Scooping	05	04	09	09	08	07	42	12.10%
Hook & line fishing	04	05	05	07	06	09	36	10.40%

### 3.13 Total population of Fishers

**Table 14:** Total population of fishers from Subansiri River.

No. of fisher folk	Total Population	Population		Family size	Visiting School	
		Males	Females		Boys	Girls
346	2145	1198	947	6.20	431	318

The total population of 346 fishers households had 2145 people of which 1198 were males and 947 were females. The ratio of male to female was 55.9: 44.1 and the average family size was 6.20 members. The main fisher group in the downstream of Subansiri river belongs to Missing community, some to Kaibotya community and some to other communities like Sonowal, Kachari, Hazong, Konch, Kalita, Chutia and Miyan. There were 749 school age children (Boys-431 & Girls-318) out of the total population of 2145 fishers.

As the economy of the area is dominated by agriculture, the inhabitants have naturally developed a close linkage with the local water resources - the river and the wetlands. The floodplains of the river and the wetland fringes provide suitable lands for agriculture and livestock rearing. Most of these lands are, however, regularly inundated and sometimes crops are badly damaged. Moreover, bank erosion and shifting of river courses also assume serious dimension in places. In spite of all these, the people generally have a tendency to settle down near the river as it provides necessary facilities for washing, bathing etc. and some scope for economic activities like fishing, collecting logs, boating etc. Thus the people have their own response to the riverine environment and perceptions on the river in particular and the environment in general. It had been observed that the economic status of the people was fairly poor as they were not fully engaged in particular work specially in the business of fish, because of declining fish production in the beels due to anthropogenic pressure, floods and siltation which was in conformity with case study of socio-economic status of fishers in Jankhana village of Jorhat district of Assam of upper Brahmaputra river [2].

### Conclusion

The fishers from Subansiri river was not fully dependent on the river resources as only 6.6% of the fishers were fully engaged on fishing. The economic status of the fishers was fairly poor as they were also engaged in other income sources such as agricultural activities, working as labour in sand, stone and wood collection. This investigation revealed that most of the fishers from Subansiri River were flood affected and they used different kind of fishing gears during different seasons.

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