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Socio-economic status of fishermen of Assam: A descriptive Analysis

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Abstract
Fishery sector is an important source of income to a large number of population of Assam and also an important source of revenue for the state economy. Assam is blessed with enormous water resources (3.74 lakh hectares) comprising rivers, beels, derelict water bodies, reservoirs and pond/tank Any policy formulation should have a strong support of socio-economic status of the people to meet the need of the people. This study evaluates the socio-economic condition of fishermen in three districts of Assam namely Nagaon, Sibsagar and Cachar district with a sample of 415 fishermen. The study reveals that most of the fishermen are illiterate and have no proper training on modern fishing techniques. Other parameters of socio-economics status like education, income level, savings and expenditure etc. are also not satisfactory, and need the attention of the policy makers to address certain problems of the fishermen and to improve some basic parameter of socio-economic status of the fishing community of Assam to make it a vibrant sector in the contribution to the state economy.

Keywords: Literacy rate, sanitation facilities, saving and borrowing

1. Introduction
Assam is generally considered as one of the important North Eastern state, whose economy is predominantly an agrarian economy with more than 85% of the population living in rural areas. Fishery is an allied agriculture sector. It is a productive activity. This sector has been officially recognized as an allied agriculture sector in the state during the first five year plan 1951-1956 (Kalita, 2006)$_1$. The state's fishery sector has also made a consistent growth during the 11th plan period which has registered an average growth around 6.4%. The growth anticipated in the fishery sector is 7.14% in 2012-13 as compared to 6.78% estimated in 2011-12. Fish production in the state has reached a level of 243 thousand tonnes during 2011-12 which is 28% more than that during 2007-2008. (Economic Survey 2012-2013) [2]

The fishery resources of the state of Assam comprises of 205,000 hectare of river fisheries, 1713 hector of reservoirs, 41,949 hectare of ponds and tanks,100,815 hectare of beels, 5,017 hectare of forest fisheries and 39,240 hectare derelict water bodies or swamps. (Assam statistical Handbook 2011-12) [3]. The water bodies in the last 5 years have been expanding more due to adoption of individual fish culture of the people in the state. On the other hand, from the existing fisheries of the state, the government collects a sizeable amount of revenue by auction, leasing to various parties or cooperative societies.

Various studies of different scholars like Rahman (1994) [4], Hazarika, (1995) [5], Kalita (2010) [6] and Gupta (2014) [7] emphasized on the socio-economics development of the fishermen especially the educational level. Studies like Sathiadhas (1998) [8], Ravindranath, (2008) [9] discussed about the institutional changes in the management and marketing of fish and fish products and how those changes have impact the socio-economics status of the fishermen. Other studies like, Bailey (1994) [10], Gopal, (2001) [11], Kumar (2003) [12] Gogoi (2015) [13] and Khemraj Bunkar and *et al* (2017) [14] emphasis fishing sector as an import economic activity that have a huge potentially of employment generation in the economy. Some more studies like Pathak, (2000) [15] and Kalita, (2006) [16] highlighted the dependency of the fishermen on the informal sectors for financing their needs which ultimately lead them to debt burden. In reference to the above mentioned studies, this study intends to highlight the socio-economics status of the fishermen of Assam, where fishery sector have an important role to play in the state economy.

1.2 Objective of the study

In the fisheries, socio-economic status of fishermen plays a key role in productive activities. Socio-economic parameters such as gender of fish farmer, age, education, land holding, family size, institutional participation, sources of income, income-expenditure pattern, etc., were included. Studies on these variables attempt not only to explain the overall socio-economic conditions of fish farmers, but also to identify the factors constraining the realization of the full potential of the traditional fishery and the appropriate area for Government intervention (Sarma *et al*., 2005). This study intends to hold a descriptive analysis of the socio-economic status of the fishermen of Nagoan, Sibsagar and Chachar districts of Assam. The study highlights the various indicators of socio economic status like the (1) social indicator (age, education, caste community, gender etc.), (2) economic indicator (occupation, income, expenditure, savings, borrowings etc.) and (3) household infrastructure (types of house, water supply, sanitation facilities etc.)

1.3 Methodology

Both primary and secondary data will be used in this study. The primary data will be collected from fishery owners/share holders of three districts i.e. Sivasagar, Nagoan and Cachar districts of Assam. Secondary data will be collected from various sources, such as reports from the fishery department of the State Government of Assam, district gazetteer, census report, official records, newspapers, journals and various web sites. The proposed study is a descriptive study and tabular, percentage Method and bar diagram are used to analysis the data.

The table 1 below shows the details of sample selection for the study, the column 1 shows the districts selected for the study; column 2 and 3 shows the total number of beel and river fisheries respectively in the three districts, column 4 and 5 display the number of sample of beel and river fisheries for the study, which is selected by taking 30 percent of total beel and river fisheries respectively in each districts. The column number 6 shows the total fisheries selected as a sample for the study that 10, 16, 24 fisheries (both beel and river fisheries) from Sibsagar, Nagoan and Cachar district respectively. The total sample of fisheries comes to 50.

The selection of fishermen is done by taking 30 percent of the total fishermen in beel and river fisheries in the respective three districts. The column 7, 8 and 9 shows the total number of fishermen in beel fisheries, river fisheries and the grand total of fishermen (beel and river fishermen together) of all the three districts. The last column shows the sample of fishermen for the study that comes to 415, which is obtain by taking 30 percent of the grand total fishermen selected randomly from each of the three districts respectively (Sibsagar =159, Nagoan =111 and Cachar=145, the total sample comes to 415).

Table 1: Selection of Sample for the Study

Districts (1)	Registered beel fisheries (2)	Registered River fisheries (3)	Sample of beel fisheries (30% of total beel fisheries) (4)	Sample of river fisheries (30% of total river fisheries) (5)	Total sample of fisheries (6)	Total fishermen of the respective registered Beel fisheries (7)	Total fishermen of the respective registered river fisheries (8)	Total fishermen of the Beel and River fisheries found from (9)	Total sample of fishermen 30% of the total fishermen (10)
Sibsagar	23	9	7	3	10	105	420	525	159
Nagoan	40	12	12	4	16	192	176	368	111
Cachar	38	40	12	12	24	176	304	480	145
Total	101	61	31	19	50	473	900	1373	415

2. Social Indicators

2.1 Age of the respondents

The fishing jobs demand a good quantity of physical fitness which again depends on age, hence age is an important determinate in choosing a profession along with other factor like education, income etc. The survey have found that 20.96% fishermen are in the age group of 20- 30 years, 28.67% belongs to the age group 31-40 years, 29.15% belongs to 41-50 years, 15.66% belongs to 51-60 years and only 5.54% fishermen belongs to the age group 61-above. In the study indicates that majority of respondents (28.67%) and (29.15%) are in the age group 31-40 and 41-50 respectively. An analysis of district-wise classification of the highest number of respondents in different age group shows that of 33.10% respondents is under the age group 41-50 in the Cachar district. The 32.07% respondents in the Sivasagar district are found to be in the age group of 31-40 and 27.04% respondent are found the in the age group of 41-50 respectively. The data reveals that majority of the respondents in the three districts are in the age group of 31-40 and 41-50 years, as at this age they are physically strong and have to bear the financial burden of the family. The number of respondents gradually declines in all the districts with the increase in age, as the physical strength declines and also because the share of financial responsibility in the family decreases as children start earning

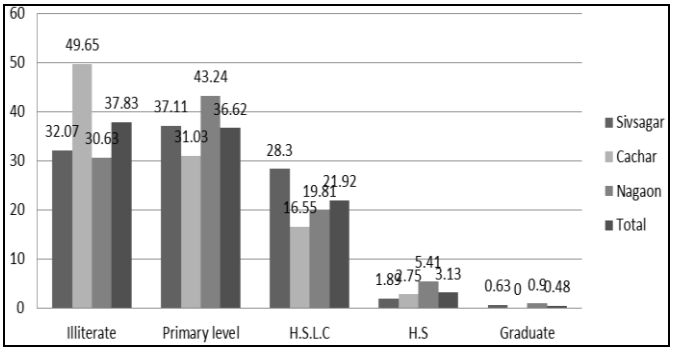
2.2 Religion, caste and community of the respondents

Looking at the religion of the respondent's shows that majority of the fisherman in Nagoan (79.28%) and Sibsagar (84.28%) is Hindu whereas in Cachar districts about 94.48 % of the fishermen are Muslim. Since ancient times some profession are dominated by some particular group of community in the society. Fishing was also such a profession which is mainly dominated by SC/ST community even in the present days. It is mainly scheduled caste and minority (Muslims) fishermen have been playing a dominant role in the fishery sector of the study area. The study have found that in the study area the fishing profession is dominated by the SC with 45.54% of respondents followed by minority group (Muslim) with a total of 44.57% of the total respondents. The participation of other community from ST and OBC is very negligible in all the districts, whereas no respondents have been found who belong to the general category. District wise distribution shows that in the district of Sibsagar and Nagoan the Koibartas community of belonging to Schedule caste is the dominate group in fishing community with (64.15%) and (73.87%) respectively in the two districts. In the district of Cachar the people from minority community (94.48%) are into the fishing profession the participation level of SC in Cachar district is very low compared to Sibsagar and Nagoan district. The number of respondents from ST and OBC is very low in all the three districts.

2.3 Education

Education is the most important factor of socio-economic development of the people in the society. The following diagram shows the educational status of the fishermen in the study area. The bar diagram (1) below reveals that in total majority of the respondents are illiterate (37.83%) and even if educated they are just up to primary level (36.62%). The percentage of respondents in the category of HSLC is only 23%. The number of respondents is decreases with the increases in education level.

A district wise analysis shows that in the district of Sibsagar and Nagaon the proportion of respondents is more in primary level of education (37.11%) and (43.24%) respectively as compared to the proportion of respondents in the illiterate group. But in the Cachar district the reverse have been seen nearly 50 percent of respondents are illiterate (49.6%) followed by 31.03 % of respondents are primary level of education and the number further declines as we move to higher level of education



***Source*:** Field study

Fig 1: Distribution of respondents according to their educational qualification

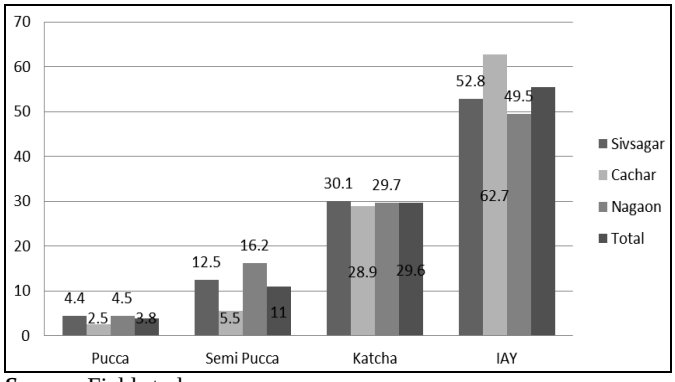
In the H.S.L.C level of education qualification, 28.30% respondents are found in the Sivasagar district and 19.81% and 16.55% in Nagaon and Cachar districts respectively. Above 5.41% respondents have been found in the higher secondary level of educational qualification in Nagaon district, 2.75% in Cachar and only 1.89% in Sivasagar district. The data also reveals that only 0.48% respondents are graduate fisherman. The educational level of the fishermen in all the districts was found be illiterate and below primary level. Most of them are from poor family background and their parents could not afford for higher education and many of them have taken up their father's profession at a very early age of their life.

3. Household Infrastructure

The household infrastructure is the basic component of the socio-economic development of a community as from the accommodation of the respondents the socio-economic status can be defined. In the study the household infrastructure such as housing types, toilet facilities and drinking water facilities of the respondents have been included. These accommodation facilities of the respondents in the study area have been analysis in the following.

3.1 Type of the house and source of drinking water

Four type of housing facility has been found among the respondents within the study area. The types are pucca, semi pucca, katcha and government sponsored scheme. The diagram (2) below shows a detail of the type of house in the three districts.



***Source*:** Field study

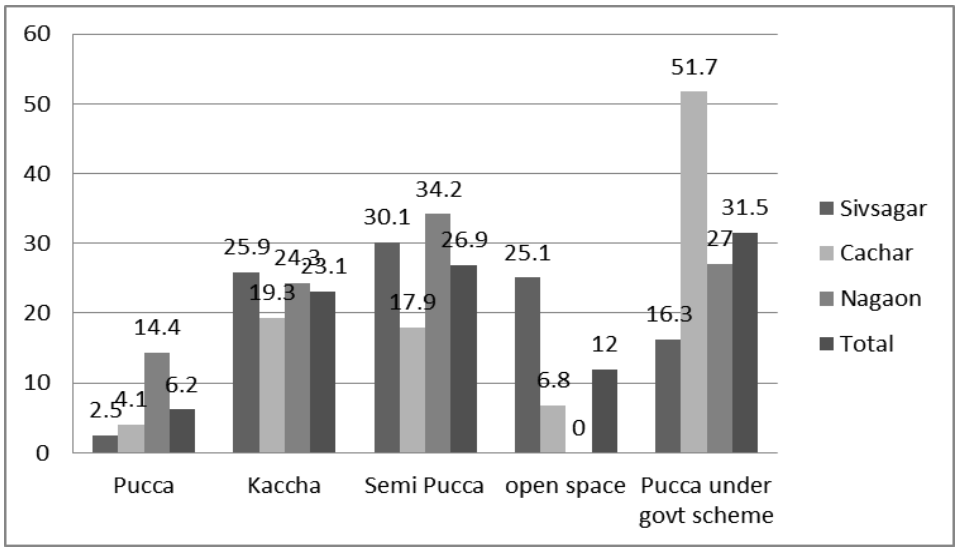
Fig 2: Distribution of Respondent according to the types of house

The above diagram shows that the nature of housing facility of the fishermen in the study area. About 55.42% fishermen having the pucca housing facility under the central government sponsored scheme Indria Awaas Yojana (IAY). In the study, it has been found that the 62.77% respondents having the IAY type of housing facility in the Cachar district. In Nagaon district it 49.55% and in Sibsagar district 52.83% respondents have avail IAY housing schemes. Looking at those fishermen who are unable to avail the IAY, majority of them live in kacca house made of bamboo and mud. In Sibsagar district 30 percent of the fishermen live in kacca house. In Nagoan and Cachar it has been found to be 29.7% and 28.9% respectively. The number of fishermen who could afford a pucca house is very few in all the three districts; it is less than 5% in all the districts. It have been noticed that in all the districts at least 50 percent of the fishermen are beneficiaries of IAY scheme.

With regard to drinking water it has been found that a large number of respondents (89.39%) in the study area uses the tube well as the main source of drinking water. In the study it has been found that in all the three districts the fishermen depends on tube well as the main source of drinking water. Majority of the respondent about (95.86%) in Cachar district uses the tube well as a source of drinking water, 76.73% respondents in Sivasagar district and 84.68% in Nagaon district. Are also depends on tube well for drinking water. Very negligible number of respondents depends on pond and river as the source of drinking water. The number of respondent depending on government water supply is also low in all the three districts; it is 22.1 % in Sibsagar, 10.82% in Nagoan district and only 4.41% in Cachar district, as the government water supply is not adequate to meet their full requirement, so they have to keep an alternative source also.

3.2 Type of Sanitation

Good sanitation facility is indispensable part of hygiene. The different types of sanitation found in the study area are pucca, katcha, semi pucca, open space and pucca sanitation under government scheme. A district wise distribution of respondents according to the various type of sanitation is given in the diagram (3) below.



***Source*:** Field study

Fig 3: Distribution of respondents according to the satination facility

The diagram reveals that the out of the total fishermen only 6.2% fishermen have pucca sanitation facility, 23.9 % have kacca sanitation, 26.9% have semi-pucca and 31.5 % have avail pucca sanitation under government scheme and 12 % are still depends on open space. A district wise distribution reveals that the Nagaon district have the highest percentage of pucca sanitation (14.4%) followed by Cachar and Sibsagar district (4.1%) and (2.5%) respectively.

The data relating to pucca sanitation under government schemes shows that 51.7% of respondents from Cachar district followed by Nagoan (27%) and Sibsagar (16.3%) are beneficiaries of this scheme. The bar diagram reveals that most of the respondents in all the three districts have kaccha / semi pucca sanitation. Some of the respondents are still dependent on open space and have no pucca/ kaccha private sanitation, nearly 25% of the respondents from Sibsagar districts use open space and about 7 % of the respondents from Cachar districts are dependent on open space, but no single respondents from Nagoan district have been found to use open space. A district wise analysis shows that Nagoan district has the highest number of respondent with private pucca sanitation and no respondents have been found to use open space, while Cachar districts shows a good picture with regards to availing of government scheme. Sibsagar district picture with regards to sanitation facility is not satisfactory, with the lowest number of respondents having private pucca sanitation and this disticts have the highest number of respondents who use open space. With regard to availing of government scheme for sanitation the beneficiaries from Sibsagar district is the lowest compared to other two districts.

4. Economic

The economic condition of the respondents are mainly studied on the basis of the parameters like occupation, income status, expenditure, saving pattern, purpose of saving and sources of finance or borrowing of the respondents in the study area.

4.1 Occupation

The occupation status of the respondents gives a picture of their economics status, as it is the occupation that determines the income level and income level is one of the important parameter of economics status. It has been found that majority of respondents depends solely on fishing as their main source of income and it have also been found that a good number of respondents take up fishing as their primary occupation but also have other source of income from small business, agriculture, daily wage earner.

Fishing is only the main occupation of the large number of the fishermen nearly 42.89% respondents depends on fishing as the only source of livelihood. The district wise occupational pattern of the respondents reveals 57.23% of respondent in Sibsagar are dependent only on fishing, 42.3% and 27.58% respondents in Nagoan and Cachar district respectively. Its shows that more than 55% of the respondents in Sibsagar district are solely dependent on fishing, the proportion of respondent depending only on fishing is comparatively low in Nagoan and Cachar districts. The data also reveals that majority of the respondents (60%) in Cachar district depends on fishing and other small business for their livelihood which is comparatively higher than the other two districts. And in Nagoan districts 35.14 % of the respondents have taken up both fishing and agriculture as their source of livelihood but their primary occupation is fishing, in all the three districts few respondents are also engaged as daily wage earner along with fishing procession. Among all the three district it have been seen that in Cachar district most of the respondents have secondary source of earning and only few of them are solely dependent on fishing only.

4.2 Income status

The income is the main factor of socio-economic development of the fishermen; it is an important determinant of the standard of living. The purchasing power of a family depends upon their income. The income of the fishermen differ within the districts and among the districts base on the time of involvement in the fishing, income from fishing is an uncertain, as a regular good number of catch cannot be ensured. Again many of the respondents have some secondary source of income, this also contribute to a variation in the income of the fishermen in the study area.

It has been found that the most of the respondents (64.58%) in the study area have an income of below 50000 (rupees in thousands). 20 percent earn an income between Rs.50001-80000. Nearly 8 percent respondents belong to the income group of Rs.80001-1,10,000,only 4.10 percent and 2.40 percent respondent earn an income of between 1,10,001-

1,40,000 and between 1,40,001-1,70,000 respectively. Less than one percent respondent earn an income of above 1, 70,000 annually. A district wise income level of the respondents reveals that in most of the respondents nearly 60 to 65 percent comes under the income group of less than 50,000 annually. It has been seen that a large number of fishermen are involved in the registered fishery then its capacity, it has been also stated by some of the respondents that some non-shareholder of the fisheries are also allowed to catch fish on payment of some extra money, such kind of activities have reduced the income of some fishermen in the study area.

4.3 Pattern of Expenditure

The patterns of annual expenditure of the fishers have been also analysis by taking the mean values of the income spend on various items like food education, clothing etc which is again expressed in percentage term. It has been observed that majority of the fishermen in all the three districts spend more than 60 percent of their income on food (table 2).

Table 2: Distribution of respondents in term of their annual expenditure in various items (in percentage)

Items	Sivsagar	Nagoan	Cachar	Total
Food	64.9	67.0	62.3	64.9
Clothing	7.0	9.0	4.6	7.0
Medical	1.4	1.8	1.3	1.5
Education	1.4	3.2	1.0	2.4
Festival	5.4	5.5	4.0	5.0
Transportation	3.3	2.9	3.2	3.9
Others	4.2	3.5	2.5	10.2

***Source*:** Primary Study

Next to food is the clothing followed by festival where the respondents make more expenditure compared to other items like education, medical etc. It has been observed that in all the districts the expenditure in education and medical is very low, it might be because as most of them are poor so they could meet only their basic need of food and clothing. With regards to medical and education the level of expenditure is less than 2 percent in all the districts, the respondents also admitted that they send their children to government school and they avail government hospital services which is free of cost, but at the same time they also admitted that they are not satisfy with the service provided nor do they could afford for better service by private sectors as those are costly.

The district-wise expenditure pattern of the respondents has been found that the respondents of Nagaon district have the highest spending on food, compared to other two districts of Sibsagar and Cachar. The fishers of Nagaon district are spending the 67.08% amount of money on food. The Sivasagar and Cachar districts are spending on food in the amount of money respectively 64.9% and 62.3%, one reason for this might be because the respondents of the Nagoan districts claims that they are not getting any benefits from the food security schemes of the government and have to purchase the foods at a market price which is higher than the ration price. It is seen that in the entire districts the expenditure in education and medical care is very marginal, as because the poor people do not term education and medical care as their basic needs. Next to food the respondents send more on clothing and festivals. This may be because the poor people value more on immediate satisfaction of consumption of goods like food, cloth, festival, than the value of those goods whose benefit will be derived in the future like expenditure on education and regular medical care.

4.4 Ability to save and Saving Pattern

It have been found in the study area about 91percent of the respondents are not in a position to save, as their income is low and expenditure is high to meet even the basic needs. Apart from ability to save, the pattern of saving of the respondents has been observed, which reflect that the respondents mostly save their money in banks and post office. A district wise analysis shows that that more respondents in Nagaon district about 11.7 percent are able to save compared to Sivsagar (9.4%) and Cachar districts (5.5%).

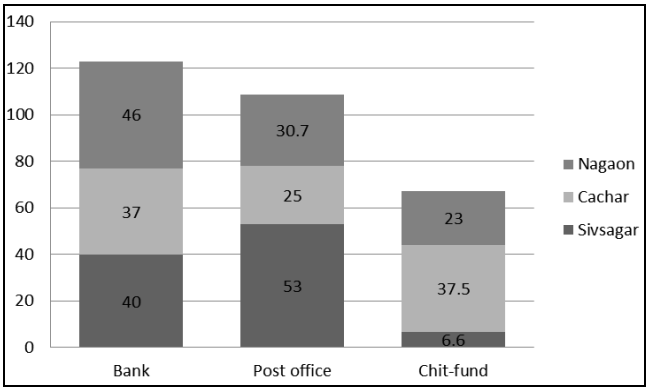


Fig 4: Distribution of respondents according to their mode of saving

A district wise analysis (diagram4) reveals that most of the respondents in Sibsagar district (53 percent) keep their saving with the post office, compared to respondents in Nagaon and Cachar districts where majority of the respondents keep their saving in banks. Apart from post office and banks some respondents also keep their money in chit-fund, most of the respondents (37.5 percent) in Cachar districts keeps their savings in chit-fund. Chit fund schemes may be organized by financial institutions, or informally among friends, relatives, or neighbours.

Among the three districts chit fund is common form of saving in Cachar district, one reason for selecting chit-fund as the mode of saving other than formal mode of saving like bank and post office in Cachar districts might be the low level of education of the respondents in Cachar district compared to other two districts. Nearly 50 percent of the respondents in Cachar district are illiterate and those who are literate 30 percent of them are only up to primary level of education, so lack of education might be a cause of selecting an informal mode of saving rather than a formal mode of saving.

4.5 Source of Finance

The study reveals that 328 respondents borrow from different sources. A district wise distribution of the respondents who borrow from various sources is given in the table below. Out of 328 respondents about 256 respondents (78 percent) borrow from informal sectors like money lender, fisher traders and friends and relatives (table 3). In all most all the districts majority of the fishermen borrow from informal sector, the highest is in Sivsagar district followed by Cachar district and Nagoan district. Among the fishermen borrowing from informal sectors most of them depends on fish traders to whom they supply their catches compared to other informal sources like money lender, friends and relatives, in Sivsagar district it is 67.6 percent followed by Cachar 51.6 percent and Nagoan 49.2 percent. Among the informal sources of borrowing the dependency of the fishermen on money lender

is least in all the districts. The formal sector of borrowing here is categorized as commercial bank and cooperative societies, it have been observed that majority of the fishermen in all the three districts borrow from cooperative societies and very few of them borrow from commercial banks, it shows that the banking habit of the fishermen in all the three districts are not so satisfactory, it might be because of their low literacy rate.

Table 3: District wise Sources of finance among the respondents

Sl. No	Sources of Finance	Districts						No. of Respondents	Total percentage
		Sivasagar		Nagaon		Cachar			
		No. of respondent	%	No of respondent	%	No. of respondent	%		
Informal Sector	Private money lender	11	10.7%	8	33.3%	12	13.1%	31	12.1%
	Fish trader	69	67.6%	31	49.2%	47	51.6%	147	57.4%
	Friends & relatives	22	21.5%	24	38.0%	32	35.1%	78	30.4%
	Total	102	100	63	100	91	100	256	100
Formal Sector	Commercial bank	8	33.3%	6	37.5%	08	25%	22	2.7%
	Cooperative Societies	16	66.6%	10	62.5%	24	75%	50	69%
	Total	24	100	16	100	32	100	72	100
	Grand Total (Informal +Formal)	126		79		123		328	

***Source*:** Primary Survey

5. Conclusion

It have been highly admitted by various studies that socio-economic characteristics pertaining to demography means of production and investment, income and expenditure of people living in a particular location strongly influence their response to technological changes and participation in development schemes. Economic growth and socioeconomic status are growing very rapidly with the help of various models given by planners. In spite of these, there are number of area, region, village etc. are having unbelievable socioeconomic status and not avail minimum basic needs for their living (Md Ismail 2013)16. The above analysis vividly indicates that the socio-economic status of the fishing community people of Assam is not satisfactory, especially in term of education, sanitation and banking habit. It reveals there is an urgent need to uplift the socio-economics status of the fishing community of Assam especially their literacy rate and banking habit, which is very low as most of them are till dependent on informal source of borrowing and get trap by debt burden that lead to deterioration of their economic status. The income from fishing is not certain always, so there prevail a gap between income and expenditure most of the time, there is a need of proper management body among the fishing community to ensure proper number of catch and certain amount of income for the marginalized fishermen.

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