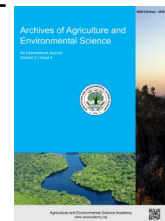This content is available online at AESA

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ORIGINAL RESEARCH ARTICLE

Livelihood pattern and food security of tribal people in a selected area of Bangladesh

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ABSTRACT

Asset's possession and food consumption level of tribal people in Bangladesh express their socioeconomic status. The study was conducted to analyze the socioeconomic characteristics, measure the livelihood assets, and determine the calorie intake level of the sample households. Primary data were collected through field survey using an interview schedule from 60 tribal households. Tabular analysis and capital asset pentagon from DFID livelihood framework were used for data analysis. Household consumption data were converted to per person per day calorie intake level. The major findings of the study were that about 41.67% of the respondents were being 15-29 years of age, 30% respondents' education was in the secondary level, average family size was 5.81, 40% of the respondents were occupied with agriculture as their primary occupation, average annual income and expenditure were Tk. 258560 (US$3015.28) and Tk. 242373.50 (US$2826.51), respectively. The livelihood assets were moderate. About 83.34% of the respondents belonged to the poor category and rest 16.67% of the respondents belonged to non-poor category. About 98.33% and 96.67% respondents suggested that, if job opportunity increases and ensure proper education; then their socioeconomic improvement will be faster. So, government and other organizations need to come forward to create more employment opportunity and education facilities for improving their livelihood pattern and food security status.

INTRODUCTION

Bangladesh has the biggest ethnic group, along with tribal people in northern and southeastern districts mainly. The Small Ethnic Minority Cultural Institute Act-2010 in Bangladesh recognizes 27 ethnic minorities. On the other hand, different rights-based organizations argue that more than 45 ethnic minorities lived in Bangladesh before Independence in 1971 (Barman and Neo, 2014). Ethnicity covers a wider variety of communities while tribe can be moderately a small set of people who follow forefather's customs and traditions, living under one acknowledged leader. Several ethnic groups can also be explained as the chronological evolution of tribal groups. The

variety of our culture due to the existence of tribal communities is giving additional dynamism to the state fabric of Bangladesh (Quader, 2014).

The tribal people perform a straightforward life and are generally independent make their own food and drink and wear dissimilar clothes (Ahmmed, 2006). They express physical or cultural characteristics that differentiate them from the prevailing most group, and they have a strong sagacity of group commonality (Schaefer, 1995). Indigenous people ought to feel proud of their indigenous identity (Bhuiyan, 2016). The livelihood of tribal people diverges from non-tribal people in Bangladesh. The livelihood is the dynamic term with respect to time and place; its meaning varies from place to place and

Mou Chhanda Saha *et al.* /*Arch. Agric. Environ. Sci.*, 6(4): 519-527 (2021)

520

depends upon availability of recourse in a particular geographical area, people, culture and practice. Livelihoods consist of the capabilities, assets and activities essential for a means of living. With historical and long-standing processes of land dispossession, tribal people, both in the hills and in the plain lands have had to adapt their livelihood strategies. Many of them relied on the right to use natural resources for their livings. In the research area, tribal people mostly carried out *Jhum* cultivation as their primary income source as very as few other agricultural systems available in this area. Besides the primary sources; agriculture, dairy, poultry, handicraft, fishery and goat rearing are their subsidiary sources of income. Nevertheless, the woodland gives them wood for fuel energy as well as untamed food for endurance (Chakma and Maitrot, 2016). In general, the livelihoods of tribal people have become more diversified, partly out of need, partly out of preference. Shortage of natural resources is one of the main outer driving forces following present livelihood changes. Furthermore, education brings about changes in views and values and thus livelihood preferences above all among the youth (Mikkelsen, 2014).

Like many other countries in Asia, tribal people in Bangladesh have over many years, lost access to their traditional land and forests and other common property resources on which they depend for food and livelihoods. The consequences have disproportionately higher levels of food insecurity suffered by such groups, many of which have also not benefited equitably from socio-economic development that cost them to lose admittance to their land, forests and common property possessions. Those socially marginalized faced greater barriers in gaining access to food, due to disadvantages with regard to knowledge, income-earning capacity and a variety of other factors. According to Rahman *et al.* (2016) *Garo* tribal people are significantly more food insecure compared to the national level food insecure data which was 25.6%, the *Garo* tribal who got microcredit the percentage was significantly high that was 80%. Barkat *et al.* (2009) used direct calorie intake method and found that about 62% of the households in the Chittagong Hill Tracts region, irrespective of ethnicity, live below the absolute poverty line while about

36% are hardcore poor. The poverty status of women in the region is of greater concern as 94% of them live below the absolute poverty line and about 85% below the hardcore poverty line (Barkat *et al.*, 2009). As a coping mechanism, food-insecure farmers met up their food demand scavenging uncultivated forest products collecting vegetables, fruits, roots and bamboo shoots (Nahar *et al.*, 2020).

The improvement of the tribal communities in Bangladesh is very important for the overall development of the country. Since the ancient time, many tribal communities have lived in Bangladesh. Tribal communities play a significant role in the Bangladesh economy by creating employment, generating additional income to take up self-employment on micro scales with a view to improving their living conditions. The tribal people face several risk factors and constraints in improving their livelihood. Schooling year, homestead area, farm land area, yearly household income, training, financial support received and apparent strategies to boost food security had a noteworthy affirmative impact on food security of the tribal people of the Naogoan district in Bangladesh (Sikder *et al.*, 2017). The tribal people are backward from non-tribal people for insufficient facilities to improve their living standard and food security. Most of them suffer from food insecurity. So, the study of socioeconomic issues, livelihood pattern and food security of tribal people in Bangladesh is essential to formulate the appropriate policy for the improvement of tribal community in Bangladesh. On the basis of these situations, answers of the following research questions were trying to find out through this study. What are the socioeconomic conditions of the tribal people? What are the livelihood patterns of the tribal households? What is the food consumption levels of tribal people? What is the the perception of the tribal households for improving their socioeconomic condition? The objectives of the study were to analyze the socioeconomic characteristics, measure the livelihood assets, determine the calorie intake level, and find out the perception of the tribal households for improving their socioeconomic condition.
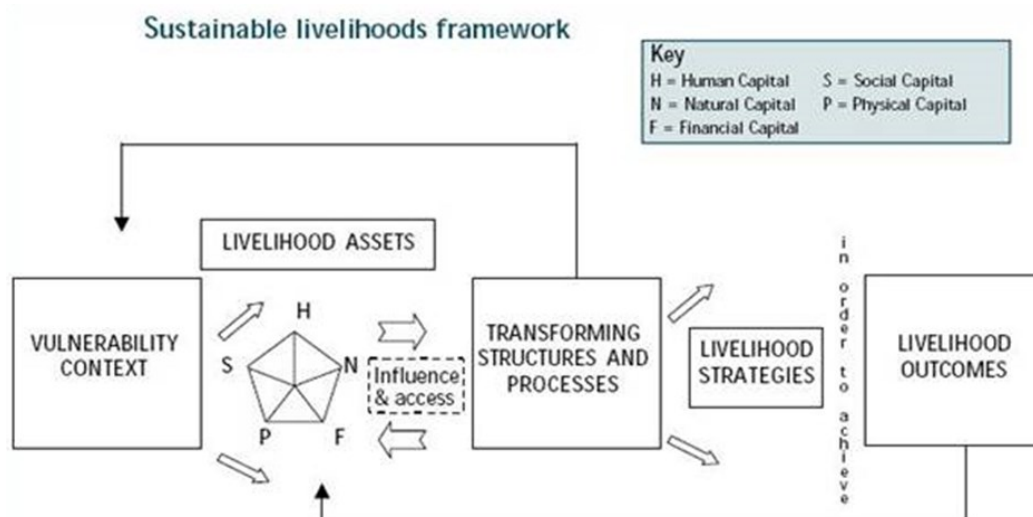

Figure 1. *DFID Sustainable Livelihoods Framework; Source: DFID (2000).*

MATERIALS AND METHODS

Jhenaigati upazila of Sherpur district in Bangladesh was selected purposively because of the availability of *Garo* tribal people and familiarity of the area. A sample of 60 households was selected. Data were collected through field survey using a semi-structured interview schedule. The time period of the data collection was January to March, 2020. Several Focus Group Discussions (FGDs) were also made. Data were presented mostly in tabular form, because it is simple in the calculation, widely used and easy to understand. Tabular analysis mainly based on some statistical measures like averages, percentages, etc. To measure the livelihood assets, the DFID sustainable livelihoods framework was used (Figure 1).

To determine the calorie intake level of the sample households, the food consumption data of tribal households of seven days were measured by the per person per day calorie intake level, each food item which was consumed by the family members of the sample households was converted through standard value of 100 gm of each food item. For the calculation, family members were defined as one adult male and one adult female was 1:1, the child whose age was below 5 years was considered as zero and 5-10 years old child was considered as half of an adult member.

RESULTS AND DISCUSSION

Socioeconomic characteristics of the sample households

Age: In this study, the age groups of the selected sample respondents were classified into three categories according to the working age classification of Bangladesh Bureau of Statistics (BBS, 2020). These categories include age between 15 to 29 years, age between 30-64 years and age of 65 years and above 65 years. Table 1 shows that 41.67 % respondents were15-29 years old, 23.33% respondents were between 30-64 years old and 35% respondents were 65 years and above. Age had a significant negative impact on their household food security (Sikder *et al.*, 2017). About 76% of the tribal people belonged to the middle-aged category (35 to 50 years) in the

Chapainawabganj district of Bangladesh (Afsar, 2019).

Education: The educational level is very important because it plays a significant role in efficient management practices and a successful production. Education levels were classified into five categories. Table 3 reveals that 16.67% respondents were illiterate, 20% respondents could sign only, 21.67% received primary education, 30% received secondary education and 11.66% respondents received above secondary education. Nahar *et al.* (2020) found that, more than 56% household heads had no formal schooling in the Chittagong Hill Tracts. Jannat *et al.* (2019) found that the majority (43.7%) of the tribal farmers had no education, whereas only 30% of the non-tribal farmers were illiterate in Bangladesh. About 32% of the tribal people belonged to the low literacy rate in the Chapainawabganj district of Bangladesh (Afsar, 2019).

Family size of the respondents: A family size has consisted of the people of all sex living together or taking meals from the same kitchen that is managed and headed by a single person. A family may include wife, husband, sons, daughters who are unmarried, father, mother, brother, sister and other relatives who live permanently. Any family member who employed outside, but received meal from the same kitchen and shares a portion or full income and expenditure with family head while present at home also included in the same family. Persons employed in the family as servants, caretaker, etc. must be excluded from the family. In this study the family size of respondents categorized into three groups: small family (consists of up to 3 members), medium family (consists of 4 to 6 members) and large family (consists of 7 and above members). Table 4 shows that the average about family size of the respondents was 5.81. Average small, medium and large family size was 2.67, 5.11 and 8.28, respectively. Nahar *et al.* (2020) noticed that the majority of the households (83%) in the Chittagong Hill Tracts has 3-6 members per family. Most of the tribal respondents' family size was small and medium (94%) in the Chapainawabganj district of Bangladesh (Afsar, 2019).

Table 1. Age distribution of the sample respondents.

Age group (years)	Number of respondents	Percentage (%)
15-29	25	41.67
30-64	14	23.33
65 and above 65	21	35
Total	60	100

Source: Field Survey, 2020.

Table 2. Categories of educational level.

Category	Years of schooling
Illiterate	No schooling
Literate	Can sign only
Primary education	1-5 years schooling
Secondary education	6-10 years schooling
Above secondary education	Above 10 years schooling

Source: Mustaree, 2010.

Table 3. Educational level of the respondents.

Education level	No. of Respondents	Percentage (%)
Illiterate	10	16.67
Can sign only	12	20
Primary	13	21.67
Secondary	18	30
Above secondary	7	11.66
Total	60	100

Source: Field Survey, 2020.

Table 4. Family size of the respondents.

Family Size	No. of households	Total members	Average family size
Small family (up to 3)	6	16	2.67
Medium family (4 to 6)	36	184	5.11
Large family (7 and above)	18	149	8.28
Total	60	349	5.81

Source: Field Survey, 2020.

Table 5. Occupational status of the respondents.

Occupation (Main)	No. of respondents	Percentage (%)
Agriculture	24	40
Day labour	13	21.67
Garments labour	2	3.33
NGO worker	6	10
Service	4	6.67
Others	11	18.33
Total	60	100

Source: Field Survey, 2020.

Table 6. Annual income and expenditure of the respondents.

Family Size	No. of Households	Percentage	Average Income (Tk.)	Average Expenditure (Tk.)
Small family (up to 3)	6	10	118340 (US$ 1380.06)	113570 (US$1324.43)
Medium family (4 to 6)	36	60	276370 (US$3222.97)	252340 (US$2942.74)
Large family (7 and above)	18	30	269680 (US$3144.96)	265375 (US$3094.75)
Total	60	100	258560 (US$3015.28)	242373.50 (US$2826.51)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Occupational status of the respondents: Occupation is one of the most important attributes of socioeconomic characteristics. The distribution of occupation varies greatly depending on how much respondents involved and what level of income they earned from their present occupation. It was observed that respondents involved in various kinds of occupation, such as agriculture, day labour, garment labours, NGO worker, service, etc. Table 5 shows that among the total respondents 40% respondents were occupied with agriculture. About 21.67% respondents were engaged as day labourers. Only about 3.34% respondents were garment workers. 10% respondents worked in an NGO. About 6.67% respondents were engaged in service and about 18.34% respondents were involved in another occupation. Toppo *et al.* (2016) carried out a study to depict the socioeconomic condition of tribal people. They found that among tribal people, 60.94% households are involved in agricultural day labour activities.

Distribution of the respondents based on their income and expenditure: Expenditure of farmers depends on their income. On the basis of their income, they adjusted their expenses. In the study area, the respondents spent their income for fulfilling the basic needs such as food, clothes, children's education, medicine, housing, purchasing production inputs, utilities, leasing or mortgaging lands, etc. Income earned from agricultural sectors like crop, livestock, fisheries, homestead gardening, forest and others were considered to be farm income in monetary value of the above-mentioned agricultural activities. Business, job, labour sale, etc. was also found as important earning activities of the respondents.

Table 6 shows that an average income and expenditure of the respondents were Tk. 258560 (US$3015.28) and Tk. 242373.50 (US$2826.51), respectively. For small family group the average annual income was Tk. 118340 (US$ 1380.06) and expenditure was Tk. 113570 (US$1324.43). At the same time the average annual income and expenditure were Tk. 276370 (US$3222.97) and Tk. 252340 (US$2942.74) for medium family and Tk. 269680 (US$3144.96) and Tk. 265375 (US$3094.75) large family, respectively. The highest proportion of the tribal respondents (85%) annual income was up to Tk. 60000 (US$ 699.71) in Chapainawabganj district of Bangladesh (Afsar, 2019)

Table 7. Distribution of household according to human assets (Rank 1-5; 1= Low, 2-3=Moderate and 4-5= Good).

Items	Low		Moderate		Good	
	No. of respondents	Percentage	No. of respondents	Percentage	No. of respondents	Percentage
Education	35	58.33	18	30	7	11.67
Health status	20	33.33	25	41.67	15	25
Skill and knowledge	39	65	13	21.67	8	13.33
Leadership	25	41.67	22	36.67	17	28.33

Source: Field Survey, 2020.

Table 8. Distribution of respondents according to natural assets.

Items	No. of respondents	Percentage	Average value (Tk.)
Land	42	70	15000000 (US$174927.11)
Trees and forest	4	6.67	320000 (US$3731.78)
Water and aquatic resources	5	8.33	120000 (US$1399.42)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Table 9. Distribution of respondents according to physical infrastructure.

Items	No. of respondents	Percentage	Average cost (Tk.)
Solar energy	24	40	24000 (US$279.88)
Electricity	42	70	490 (US$5.71)
Mobile phone	48	80	5100 (US$59.48)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Table 10. Distribution of respondents according to agricultural equipment.

Items	No. of respondents	Percentage	Average value (Tk.)
Deep tube well	24	40	20000 (US$233.24)
Shallow tube well	47	78.33	3000 (US$34.99)
Power tiller	6	10	48500 (US$565.60)
Harvester	6	10	22350 (US$260.64)
Weeder	9	15	3050 (US$35.57)
Axe	24	40	700 (US$8.16)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Livelihood patterns of the sample households

Livelihoods assets: In the 1990s, sustainable livelihood idea came in front in the Department for International Development poverty alleviation efforts. The guiding assumption of the DFID approach is that people pursue a range of livelihood outcomes by which they expect to improve their assets and to reduce their vulnerability. There are five types of assets that form the core of livelihood resources in the DFID sustainable livelihoods framework range. The model breaks access into the five capitals: (1) Human capital (2) Natural capital (3) Physical capital (4) Social capital, and (5) Financial capital.

Human assets: Human asset is an intangible asset or quality. It can be classified as the economic value of a worker's experience and skills. These assets include; education level, training, brainpower, skills, healthiness and other things employer value such as faithfulness and reliability. Acquiring these assets people can develop him and improve their living standard. Table 7 shows that education, health status, skill and knowledge and leadership were low 58.33%, 33.33%, 65% and 41.67% of the respondents, respectively.

Natural assets: Human beings are depending on natural assets.

This world is the stocks of natural assets such as; geology, soil, air, water and all living things. Natural assets are the assets of the natural environment. This consists of biological assets (produced or wild), land and water areas with their ecosystems, subsoil assets and air. Table 8 reveals that 70% respondents had landed and the average value was Tk. 15000000 (US$174927.11), 6.67% respondents had trees and forest and their average value was Tk. 320000 (US$3731.78) and 8.33% respondents had trees and forest and their average value was Tk.120000 (US$1399.42).

Physical assets: Physical assets are essential for our daily life. These assets are tangible and have identifiable physical presence. Physical asset consists of physical infrastructure, household elements, tools, equipment, agricultural inputs etc.

Physical infrastructure: Physical infrastructure under physical capital includes solar energy, electricity and the number of mobile. Table 9 shows that 40% respondents had solar energy, 70% respondents had electricity facility and 80% respondents had a mobile phone. The average value of solar energy and mobile was Tk.24000 (US$279.88) and Tk.5100 (US$59.48), respectively, and the average cost paid for electricity per month was Tk. 490 (US$5.71).

Table 11. Distribution of respondents according to household furniture.

Items	No. of respondents	Percentage	Average value (Tk.)
Chauki/khat	60	100	15000 (US$174.93)
Chair	55	91.67	750 (US$8.75)
Table	52	86.67	7000 (US$81.63)
Almirah	45	75	15000 (US$174.93)
Alna	48	80	750 (US$8.75)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Table 12. Distribution of respondents according to social assets (Rank 1-5; 1= Low, 2 3=Moderate and 4-5= Good).

Items	Moderate		Good	
	No. of respondents	Percentage	No. of respondents	Percentage
Network and communication	50	83.33	10	16.67
Formal and informal social relationship	39	65	21	35
Common rules and sanction	49	81.67	11	18.33

Source: Field Survey, 2020.

Table 13. Distribution of respondents according to financial assets.

Items	No. respondents	Percentage	Average value (Tk.)
Cash in hand	40	66.67	10000 (US$116.62)
Savings	25	41.67	48000 (US$559.77)
Poultry birds	52	86.67	500 (US$5.83)
Cow	12	20	50000 (US$583.09)
Goat	25	41.67	6700 (US$78.13)
Ducks	48	80	300 (US$3.50)

Note: Tk.85.75 =1US$; Source: Field Survey, 2020.

Agricultural equipment: Agricultural equipment under physical asset includes shallow tube well, deep tube well, weeder, harvester, yoke, ladder, power tiller, etc. Table 10 reveals that 40%, 78.33%, 10%, 10%, 15% and 40% of the respondents had a deep tube well, shallow tube well, power tiller, weeder, harvester, axe and their average value were Tk.20000(US$233.24), Tk.3000 (US$34.99), Tk. 48500 (US$565.60), Tk. 22350 (US$260.64), Tk. 3050 (US$35.57) and Tk.700 (US$8.16), respectively.

Household furniture: Household furniture includes chauki/khat, chair, table, almirah, showcase, television, bicycle, motorcycle etc. Table 11 shows that 100% of the respondents had chauki/ khat and average value of chauki/khat was about Tk.15000 (US$174.93). 91.67% of the respondents had chair and the average value of the chair was about Tk.750 (US$8.75), 86.67% of the respondents had table and average value of the table was about Tk.7000 (US$81.63), 75% of the respondents had almirah and average value of the almirah was about Tk.15000 (US$174.93), 48% of the respondents had alna and average value of the alna was about Tk. 750(US$8.75).

Social assets: Social asset is an attribute that has value only because of the social institutions governing society. Social asset involves with network and communicate (kinship and patronage), formal and informal social relationship, common rules and sanction, women empowerment, leadership etc. Social assets help people to work together and help each other to improve their community.
Table 12 reveals that 83.33% and 16.67% of the respondents said network and communication was moderately and good, respectively. About 65% and 35% of the respondents had formal and informal social relationship moderately and good, respec-

tively. 81.67% and 18.33% of the respondents said common rules and sanction was moderate and good, respectively.

Financial assets: A financial asset is fundamentally liquid assets that obtain their value from any contractual claim and major types, of which include cash or cash equivalent, savings, loans and receivable, etc. Financial assets are usually more liquid than other tangible assets, such as commodities or real estate. Table 13 shows that about 66.67% of the respondents had cash in hand, about 41.67% of the respondents had savings, about 86.67% of the respondents had poultry birds, 20 % of the respondents had cows, about 41.67% of the respondents had goat and 80% of the respondents had ducks and the average value was Tk. 10000 (US$116.62), Tk. 48000 (US$559.77), Tk. 500 (US$5.83), Tk. 50000 (US$583.09), Tk. 6700 (US$78.13) and Tk. 300 (US$3.50), respectively.

Calorie intake status of the sample households: Per person per day food intake is shown in Table 14. In the table it is seen that there is a column of the national average per person per day food intake and per person per day food intake of the respondents. The table reveals that there is a lack of the calorie intake of the respondents from the national average. Per person rice consumption level is 455.41 at household level which is lower than the national level of rice consumption. It was frequently observed that tribal people had to cut down their consumption expenditure because of poverty and ignorance. Most of the time they could not afford to buy nutritious food. Therefore, average food intake was decreased. Table 14 shows that the respondents consumed a poor quantity of protein and others food items. For this reason, they suffered from food insecurity status.

Table 14. Food intake per person per day.

Major food items	Per person per day food intake (gm/person/day)	National average per person per day food intake (gm/person/day)	Difference between national average (gm/person/day)
Rice	455.41	515.16	-59.75
Potato	36.21	96.45	-60.24
Vegetables	191.2	109.58	81.62
Pulses	12.24	9.86	2.38
Oil	15.51	5.75	9.76
Meat	18.04	23.24	-5.2
Egg	4.32	8.03	-3.71
Milk	15.56	21.64	-6.08
Fish	31.78	44.65	-12.87

Source: Author's estimation.

Table 15. Categories of people according to calorie intake.

Category	Calorie (K.cal)
Ultra poor	<1600
Hardcore poor	<1805
Absolute poor	<2122
Non-poor	>2122

Source: BER, 2020.

Table 16. Number and percentage of calorie intake per person per day.

Categories	No. of respondents	Per person per day average calorie intake (K. cal)
Ultra poor <1600	13 (21.67%)	1421.35
Hardcore poor 1600-1804	22 (36.67%)	1798.44
Absolute poor 1805-2122	15 (25%)	2041.68
Non-poor>2122	10 (16.66%)	2298.87

Source: Author's estimation.

Calorie intake: Calorie intake means the amount of energy consumed through food and beverage. A calorie is a unit of energy that is defined as the amount of heat energy required to raise the temperature of 1 gm of water by 1 degree centigrade. The energy in food as well as the energy produced, stored and utilized by living organisms is quantifying the calorie units. The calorie intake requirements vary according to age, nature of metabolism, physical activity etc. Generally, the recommended daily calorie intake is 2000 calories a day for a woman and 2500 calories for a man (Ismail, 2018). On the basis of the amount of food consumed by the respondents and their family members per capita calorie intake was measured. It was classified into the following four categories in Table 15.

Table 16 shows the percentage of calorie intake with respect to per person per day average calorie intake by the sample households. About 21.67% respondents belonged to the ultra poor category where per person per day calorie intake was 1421.35 K.cal. The percentage of respondents who belonged to the hardcore category poor was 36.67 and per person per day calorie intake was 1798.44 K.cal. The percentage of respondents who belonged to the absolute poor category was 25 and per person per day calorie intake was 2041.68 K.cal. About 16.67% respondents had an average per person per day calorie intake of 2298.87 K. cal and they belonged to non-poor category. Therefore, it can be concluded that most of the respondents belonged to the hardcore poor category. Most of the respondents had the sufficient income to access food, but they had less knowledge about the nutritional value of the food items and the utilization of the food adequately. That is why most of the respondents belonged to the hardcore poor category. Rahman *et al.* (2019) found that the calorie intake situation of the sample household members in Khagrachari district of Bangladesh indicated that about one-third of the household members were food secured but the rest majority members were food insecure. About 71% of the tribal households were moderately food secured, 21% household had food secured and 8% households were low food secured in Naogoan District of Bangladesh (Sikder *et al.*, 2017).

Perception of the tribal households for improving their socioeconomic condition: By analyzing their socioeconomic it is found that most of the respondents are dropped out during secondary education. They are lack of skill and knowledge. The livelihood status and food security situation of the tribal people are vulnerable. The tribal people face several risk factors and constraints in improving their livelihood. Most of them suffer from food insecurity problem. They think that some initiatives can improve their socioeconomic conditions. These are:

1) If proper education is provided, they can improve their socioeconomic conditions.

2) Job opportunities can also improve their socioeconomic conditions.
3) If they are providing proper health facilities, they can also improve their socioeconomic conditions.
4) Improved road and communication facilities can also improve their socioeconomic conditions.
5) Marketing facilities can also help them to improve their socioeconomic conditions.
6) By receiving more extension services, they can improve their socioeconomic conditions.
7) More recreation facilities can help them to improve their socioeconomic conditions.

Table 17 reveals that about 96.67% respondents suggested that proper education could be one of the main priorities. Out of 96.67%, 58.33%, 13.33%, 11.67% and 13.33% were first, second, third and fourth, respectively according to the priority given. About 98.33% respondents suggested that job opportunity could be one of the main priorities. Out of 98.33%, 66.67%, 15%, 10% and 6.67% were first, second, third and fourth, respectively according to the priority given. About 80% respondents suggested that improved road and communication facilities could be one of the main priorities. Out of 73%, 36.67%, 10%, 15% and 11.67% were first, second, third and fourth, respectively according to the priority given. About 55% respondents suggested that marketing facilities could be one of the main priorities. Out of 55%, 25%, 6.67%, 13.33% and 10% were first, second, third and fourth, respectively according to the priority given. About 51.66% respondents suggested that more extension services could be one of the main priorities. Out of 51.66%, 15%, 11.67%, 16.67% and 8.33% were first, second, third and fourth, respectively according to the priority given. About 30% respondents suggested that more recreation facilities could be one of the main priorities. Out of 30%, 8.33%, 5%, 6.67% and 10% were first, second, third and fourth, respectively according to the priority given. From the table it can be concluded that most of the respondents suggested that job opportunity could improve their socioeconomic conditions.

Table 17. Perception of households for improving their socioeconomic conditions.

Suggested initiatives	Number of times perception was ranked				
	First	Second	Third	Fourth	Total (n = 60)
Proper education	35 (58.33%)	8(13.33%)	7(11.67%)	8(13.33%)	58 (96.67%)
Job opportunity	40(66.67%)	9(15%)	6(10%)	4(6.67%)	59(98.33%)
Proper health facilities	27(45%)	7(11.67%)	8(13.33%)	6(10%)	48(80%)
Improved road and communication facilities	22(36.67%)	6(10%)	9(15%)	7(11.67%)	44(73%)
Marketing facilities	15(25%)	4(6.67%)	8(13.33%)	6(10%)	33(55%)
More extension services	9(15%)	7(11.67%)	10(16.67%)	5(8.33%)	31(51.66%)
More recreation facilities	5(8.33%)	3(5%)	4(6.67%)	6(10%)	18(30%)

Source: Field Survey, 2020: Figure within parentheses indicate percentages of total.

Appendix-A

List of calories of different food items.

Food items	Amount	Calorie
Rice	100 g	130
Potato	100 g	103
Ladies finger	100g	26
Leafy vegetables	100 g	23
Brinjal	100 g	25
Bottle guord	100g	14
Arums	100g	225
Fish	100g	96
Milk	100g	60
Egg	1 medium	74
Onion	100g	42
Poultry meat	100g	125
Pork	100g	247
Pulses (Masoor)	100g	68
Edible oil	100g	108

Source: WFP, 2009.

Conclusion

The present study was conducted to analyze the socioeconomic characteristics, measure the livelihood assets, determine the calorie intake level, and find out the perception of the tribal households for improving their socioeconomic condition in the Sherpur district of Bangladesh. This study confirmed that most of the respondents were in active age (Below 65 years), about half of the respondents' education level was secondary (10 years education), average family size of the respondents was 5.81. About 40% respondents were occupied with agriculture; an average income and expenditure of the respondents were Tk. 258560 (US$3015.28) and Tk. 242373.50 (US$2826.51), respectively. Most of the respondent's livelihood assets possession was low to moderate. About 83.34% of the respondents belonged to the poor category and rest 16.67% of the respondents belonged to non-poor category. About 98.33% and 96.67% respondents suggested that, if job opportunity increases and ensure proper education; then their socioeconomic improvement will be faster. On the basis of the findings, the following recommendations may be made for the development and empowerment of the tribal sectors: The government and concerned authority should take proper steps to increase socioeconomic condition, livelihood assets and food security of tribal households through ensuring proper education, creating employment opportunity, providing necessary health facilities, improving road and communication facilities, facilitating more extension services and creating more recreation facilities.

Conflict of interest

The authors declare that there is no conflict of interests regarding the publication of this paper.

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