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DEMOGRAPHY AND SOCIO-ECONOMIC STATUS OF THE PEOPLE IN THE SELECTED AREAS OF CHATTOGRAM HILL TRACTS OF BANGLADESH

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Abstract

The study aimed to explore the demographic and socio-economic status of the people living in the Chattogram Hill Tract (CHT). A cross sectional survey was conducted using a structured pre-testing questionnaire in 2000 selected households of the hill tract areas. The data were collected for the demographic and

socioeconomic information about the households; living conditions: safe water, sanitation and fuel use; land ownership and operation; income, expenditure and food consumption of the hilly people. It was revealed that, an average household size was 5.14 in the CHT. The percentage of male (50.7%) and female (49.7%) populations in the study areas were almost similar. The percentage of 01-15 year old people in the family was higher and the trends decreased linearly with the increases of age. The education level of people under class five was higher than all other education levels. Most of the people had their own homestead land territory, which was used for crop production. Some people were using rain water for drinking purpose without purifying practices. Most of the hilly people were living below poverty level and their mean annual income (BDT 191486.00) was lower than the average income of the people living in other parts of Bangladesh. In the CHT, the average calorie intake was 1951.5 kilocalorie/person/day. The main occupations of living for the CHT people were crop agriculture, livestock, poultry and fisheries. It was concluded that, in addition to agriculture, livestock and poultry rearing could be encouraged to uplift the hilly livelihoods.

Key word: Hill Tracts, Livestock, Poultry, Socio-economic.

Introduction

The Chittagong Hill Tracts (CHT) of Bangladesh are a mountainous, rugged terrain with the dense forests, lakes and falls which gave it a divergent, spectacular and unique beauty from the rest of Bangladesh (Chakma *et al.* 2019). The CHT comprises of three hill districts i.e., Rangamati, Khagrachari and Bandarban, bordering Myanmar on the southeast, the Indian state of Tripura on the north, Mizoram on the east and Chittagong district of Bangladesh on the west. The area of CHT is about 13, 184 km^2, which is approximately one-tenth of the total area of Bangladesh holding twelve ethnicities i.e., 11 indigenous and Bengalese (BBS, 2017). The CHT has a typical Agro-ecology, landscape, plant diversity and anthropology which are different from the plane parts of the country (Miah *et al.* 2012). The CHT has some unique germ plasms of crops and livestock and most of them are indigenous. The lifestyle and living conditions (food, language, behavior, religion, etc.) of the hilly people are also different (Masud, 2001). The lifestyle and living conditions are also different within the hilly people among ethnicities. There are some places in CHT which are very remote and modern civilized culture and communication do not reach there.

Literature related to socioeconomic status of the ethnic people in Bangladesh is scarce. Across the three CHT district, about 62% of the households are living below absolute poverty line (below 2, 122 kcal), while 36% are hardcore poor (below 1, 805 kcal) (ADB, 2011). On average, irrespective of ethnicities, the rural household income

is Tk. 66000.00 per year, while the same in rural Bangladesh is 1.28 times higher (ADB, 2011). It indicates that, the CHT region is suffering from both low income and poverty, especially among the rural population (ADB, 2011). The government of Bangladesh and different non-government organizations (NGOs) are working to improve their livelihood. As a result, the status of the hilly people is changing and their livelihood is increasing gradually.

A number of hilly people from different ethnic groups rear cattle, sheep, goat, gayal, pig and chickens for their livelihood (Karim and Mansor, 2011). However, their productivity is low because most of them are indigenous (Thapa and Rasul, 2005). However, information regarding demographic and socio-economic conditions of the hilly people is important to boost up their livelihoods through interventions. Therefore, an in depth survey was conducted to explore the demographic and socio-economic status of the hilly people.

Methodology

A cross-sectional survey was conducted in 2000 households at the four different upazilas (sub-disrict) of Chittagong Hill Tracts namely, Bandarban sadar, Naikhongchari, Khagrachari sadar and Panchari upazila from April 2017 to March 2018. A structured questionnaire containing both open and close ended questions was developed from an initial workshop followed by four farmers' group discussions at above mentioned four places with 25-30 participants under the supervision of the project investigators from Chittagong Veterinary and Animal Sciences University and other collaborative institutes of the project "Increasing livestock production in the Hills through better husbandry, health service and improving market access through value and supply chain management". The questionnaire contained questions about (i) the current demographic and socioeconomic conditions of the hill people: number of household members, age of households, gender, education and occupation; (ii) living conditions, safe water, sanitation and fuel use: ownership of the house, sources of water, methods of purifying drinking water, sanitation (latrine) facilities, sources of energy, sources of fuel for cooking; (iii) land ownership and operation: homestead land owned, agriculture/crop land owned, pond owned or part, mortgage-in, lease-in, share crop-in, jhum cultivation, grazing land, fallow land, number of hills/area, use of hills, how they got ownership of hill(s), sources and availability of irrigation; (iv) income and expenditure: yearly income from crop production, livestock rearing, fisheries, poultry rearing, business and others, and expenditure for food, fuel/electric,

travel, communication/mobile, cloth, children's education, health care, house building and maintenance, loan payment (instalment), livestock and poultry rearing, others; and (v) food consumption: from own production, purchase of crops and vegetables, purchase of meat, milk, eggs, daily food consumption per head etc.

The questionnaire was pre-tested and validated under the hill situation. Since the studied area was extremely hilly, the whole area was subdivided in four cluster that is, Bandarban sadar, Naikhongchari, Khagrachari sadar and Panchari sadar upazila. In baseline survey, four sample frames were developed for the mentioned four areas. Within each cluster, through a simple random sampling the investigators conducted interviews of 500 respondents by the help of research assistant. Thus, a total of 2000 farmers were interviewed from the studied area. Collected data were compiled and scrutinized in Microsoft Excel and analyzed using PROC GLM of SAS (SAS 2010) taking into account the effects of cluster in a survey data. The mean differences in the quantitative variables were compared by using ANOVA. Means showing significant differences ($P<0.05$) were separated by Duncan Multiple Range Test (DMRT). The significance of all the tests was set at the 5% level.

Results and Discussion

The total number of people and the number of people per household in the studied areas of the four upazilas of CHT districts of Bangladesh is presented in Fig. 1. The Fig. 1 indicated that, the population density of Naikhongchari upazila (sub-district) was comparatively higher than other three sub-district. Furthermore, the household size (5.70) was also higher in that area than the other studied areas (4.79 to 5.19). It was seen that the average household size in the studied areas was comparatively higher than the average household size (4.06) of Bangladesh (BBS, 2017).

The proportion of male and female people in the studied areas are presented in Fig. 2. It was seen that the overall percentage of male and female people from all the studied areas were similar and about 50% in each sex category. However, in the Khagrachari area, the percentage of male people was higher than the female. This could be due to the small number of households was surveyed.

The percentage of people in different age groups in the studied areas are shown in the Fig. 3. The Fig. 3 demonstrated that, the percentage of 01-15 years old people was higher than the people of other age groups. The percentage of less than one year old people (children) was very

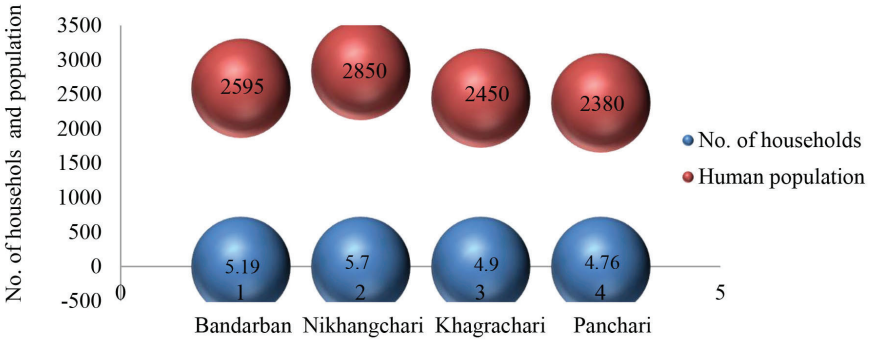

Fig. 1: Human population and the household size in the studied areas of the Chattogram Hill Tract districts

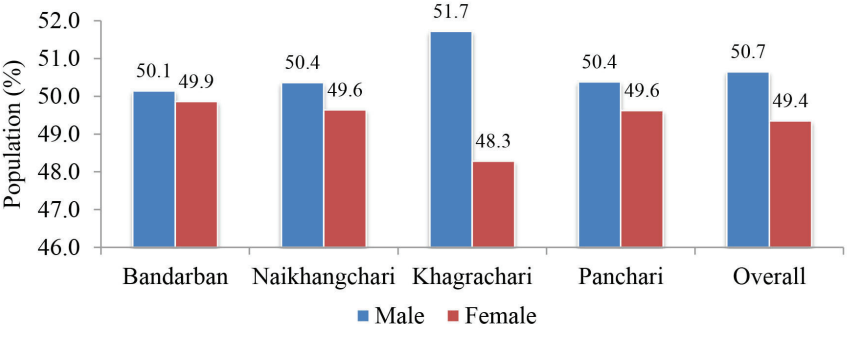

Fig. 2: Male and female population in the studied areas of the Chattogram Hill Tract districts

low. However, the percentage of the people of other groups gradually decreased with the increases of age, except in Bandarban sadar upazilla, where the percentage of elder people were proportionately higher. The larger number of people under the age of 14 years old than the people of the other age groups, which had a positive impact on the economy as these people could contribute to the GDP.

Farmer's level of education irrespective of sex is presented in Fig. 4. The Fig. 4 implied that, in all the upazila, people number under the class five levels of education was higher than all other education levels. In fact, in Bangladesh, children holding up to class five usually go to government primary school, registered primary school, non-formal primary education, madrasa, kindergarten and other community school. As a result, the number of illiterate people inflated as the age of people went up. Saha and Biswas (2015) reported similar results regarding the association of age and education level of people in Bangladesh.

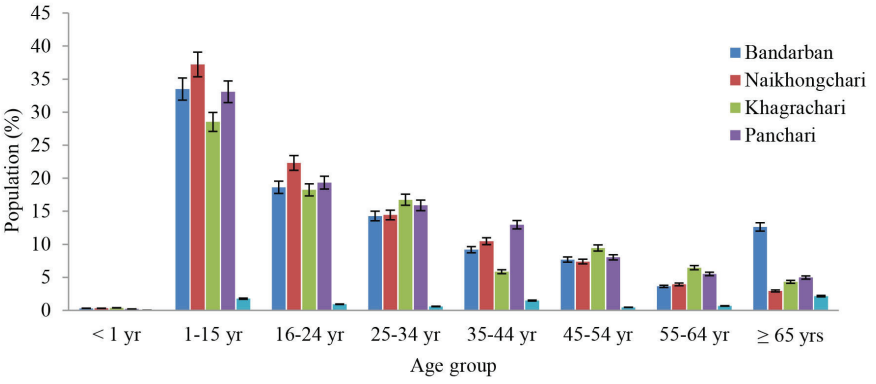

Fig. 3: Population under different age groups in the study areas of the Chattogram Hill Tract districts

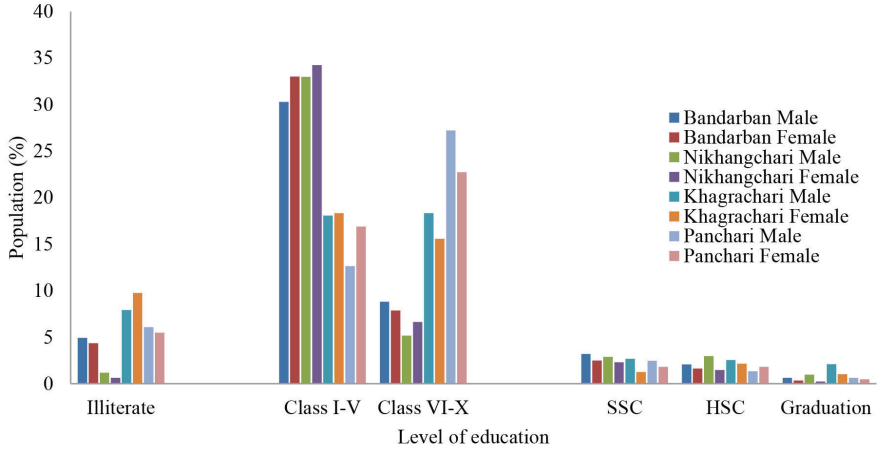

Fig. 4: Education level of the male and female population in the study areas of the Chattogram Hill Tract districts

The living condition, safe water use, sanitation and fuel use by the people in hilly areas are presented in Table 1. More than 90% of the people had their own houses, 2.5 % of them had rented house and 5.3% people were built their houses in other people's land. More percentage of people from Khagrachari sadar upazila used tube well as the sources of drinking water, but very minor percent of people from Bandarban used it as the source of drinking water. On the other hand, most of the people from Bandarban used river, rain and other sources of water as drinking purpose. The rain water was a good source of

drinking water for hilly people because it does not require further treatment. Most of the people in the studied areas do not use any water purifying technique, such as boiling, use of fitkiri (hydrated potassium aluminium sulfate), and use of purifying tablet in water. It was found that, most of the people used septic tank/slab latrine and pit latrine and very few of them were using hanging latrine. Approximately, 13 to 19% of the people from Naikhongchari and Bandarban upazila used bush/open place for their latrine purpose. Overall, from all the studied areas, the highest number of people used grid electricity, followed by lamp/hurricane and solar power. Similar observation were found by the other researchers (Hossain, 2013; Chowdhury *et al.*, 2014).

Total land ownership and operation of lands of the people in the studied areas of four sub district of CHT district is shown in Table 2. Own homestead land of people were significantly ($P < 0.05$) different from area to area. People from Naikhongchari owned more homestead land (19.1 decimal) than people of the other two areas (Bandarban and Khagrachari) but people from Panchari owned low homestead land. All kinds of land uses significantly ($P<0.05$) differed from area to area. However, the people from Bandarban showed higher land uses than other areas except mortgage and share crop cultivation (Naikhongchari) than other upazila. This current findings of land and hills rights and land uses were also concurred with the findings of Roy, (2002); Rasul *et al.*, (2004).

The number of hills per household, use and ownership of the hills and sources of irrigation in agricultural land is presented in Table 3. Number of hills per household varied from 1.2 to 2.24 in the studied areas of four upazilas of CHT district. Higher numbers of people use their hills for gardening and jhum cultivation purpose. However, the highest percentage of hills is still fallow in Bandarban sadar upazila than other upazilas. Similar pattern of hill uses was also obtained by Thapa and Rasul, (2005); Rahman *et al.* (2012).

The ownership of hills was paternal, maternal, lease from headman of area and government settlement (bondobosti) type. Sources of irrigation in the cultivation of land were river plus canal, deep tube well, rain water, etc. However, the highest percentage of people used river plus canal as a source of irrigation in Bandarban, Naikhongchari and Khagrachari upazila but the highest percentage of people from Panchari upazila used rain water for their crop production. Hills ownership pattern was also studied by Thapa and Rasul (2005), Bala *et al.* (2010) and they observed the same pattern of hill ownership.

Table 1: Living condition, safe water use, sanitation and fuel use by the people in hilly areas

Variable	*Co-variable*	*Upazila*			
		Bandarban % HHs (N)	*Naikhongchari % HHs (N)*	*Khagrachari % HHs (N)*	*Panchari % HHs (N)*
Ownership of house	Own	80.24 (440)	98.76 (206)	93.85 (206)	89.28 (151)
	Rented	6.42 (18)	1.21 (3)	1.11 (3)	1.09 (37)
	Others	13.33 (25)	0	5.03 (11)	2.85 (145)
Source of water	Tube well	11.21 (198)	64.46 (206)	82.21 (181)	75.42 (138)
	Ring well	4.41 (39)	19.22 (640)	12.33 (27)	15.80 (290)
	Pond	0.74 (4)	4.56 (148)	0.11 (1)	0.38 (7)
	River/canal	28.78 (120)	11.00 (355)	0.12 (1)	0.38 (7)
	Rainwater	15.12 (54)	0.10 (3)	0	6.38 (117)
	Others	39.77 (118)	0	5.32 (13)	1.63 (30)
Methods of purifying drinking water	Boiled	2.02 (10)	37.46 (908)	0.11 (2)	0.87 (14)
	Fitkiri/alum	0.56 (3)	0.60 (10)	0	0.19 (3)
	Purifying tablet	0	0.30 (8)	0	0.06 (1)
	Filter	3.88 (19)	7.6 (199)	7.00 (15)	4.84(77)
	Nothing	93.52 (491)	54.12 (142)	92.21 (196)	94.04 (149)
Sanitation (latrine) facilities	Slab latrine	49.91 (249)	74.84 (192)	28.41 (63)	66.25 (110)
	Pit latrine	29.33 (129)	11.76 (304)	70.37 (155)	33.75 (564)
	Hanging latrine	4.70 (23)	0.32 (7)	1.21 (3)	0
	Open/bush	19.11 (94)	13.13 (339)	0	0
Sources of energy (Electricity)	Grid electricity	64.81 (324)	27.63 (464)	63.82 (142)	31.74 (565)
	Lamp	18.78 (94)	28.26 (485)	25.37 (57)	33.09 (587)
	Candle	1.21 (6)	16.54 (233)	0	0
	Solar	14.80 (74)	27.57 (355)	10.68 (23)	34.84 (618)
	Biogas	0.21 (1)	0	0.08 (1)	0
	Others	0.19 (1)	0	0.11 (1)	0.34 (6)
Source of fuel for cooking (multiple)	Wood	78.75 (486)	46.32 (254)	44.21 (155)	39.37 (167)
	Bamboo	7.77 (48)	45.87 (252)	39.62 (165)	39.24 (169)
	Jute stick	0.21 (1)	0	0.54 (13)	0.18 (8)
	Cow dung	0.52 (3)	0.76 (46)	0.04 (7)	0.11 (5)
	Tree leaves	2.31 (14)	1.66 (91)	7.31 (44)	21.02 (906)
	Kerosene	0	0	0.11 (10)	0
	LP gas	4.35 (27)	3.11 (170)	1.89 (12)	0.069 (3)
	Bio gas	0.52 (3)	0.73 (39)	2.57 (23)	0
	Husk	0	0.88 (5)	0.04 (2)	0
	Peat coal	0	0	0	0
	Electricity	5.65 (35)	1.41 (78)	3.46 (30)	0
	Straw	0	0	0.31 (8)	0
	Others	0	0	0	0

Table 2: Total land ownership and land operation (mean) in the studied areas of four upazila at CHT districts

Description	*Upazila*				*[1]SEM*
	Bandarban	*Naikhongchari*	*Khagrachari*	*Panchari*	
Total land (including hills, decimal)	936.45[d]	548.78[c]	406.11[b]	318.11[a]	15.72
Homestead	11.73[b]	19.11[c]	12.57[b]	3.52[a]	1.21
Agriculture	188.47[b]	183.61[b]	99.22[a]	98.18[a]	12.33
Pond	70.76[b]	16.77[a]	45.80[ab]	37.69[ab]	18.02
Mortgage	28.89[a]	113.01[c]	66.71[b]	66.36[b]	9.61
Lease	119.58[c]	74.03[b]	84.04[b]	36.00[a]	17.54
Share crop	89.38[a]	132.16[b]	86.14[a]	75.71[a]	10.04
Jhum cultivation	242.54[c]	87.66[b]	64.41[b]	38.35[a]	12.51
Grazing land	120.78[b]	42.72[a]	59.77[ab]	32.07[a]	23.46
Fallow land	185.06[b]	54.25[a]	22.85[a]	25.21[a]	23.08
Others	27.92[b]	12.54[a]	15.21[ab]	7.17[a]	9.48

[abc]Means bearing different superscripts in the same row differ significantly (P<0.05); [1]SEM= Standard error of means.

The household income of the people in the studied area from different sources (e.g. agriculture, livestock, business and job) are presented in Fig. 5. More percentage of people's income was coming from agriculture followed by job and others. Livestock, fisheries and poultry sector contribute a very small percentage of income and thus, there are plenty of scope to increase the livestock, poultry and fisheries production. Similar trend of income of hilly peoples was reported by Jamaluddin *et al.* (2010), Bala *et al.* (2010) in their study.

Hilly people's household size, household income per year and calorie intake per person per day is presented in Table 3. Average household size was 5.1 and household income per year was 191, 486.0 taka and calorie intake per person per day was 1951.5 kilo calories. These figures indicated that the people of hilly areas are still below the poverty level in comparison to other parts of Bangladesh. Other sources of information (Shelley, 2000 and BBS, 2016) stated the same poverty level of hilly people.

Conclusion

From the above study it is seen that most of the people living in the Chittagong Hill Tracts in their own homestead land and they are solely depending on crop agriculture for their livelihood. The hilly people

Table 3: Number of hills per households, use and ownership (%) of the hills and sources of irrigation in the agricultural land

Hill information		*Bandarban % HHs (N)*	*Naikhongchari % HHs (N)*	*Khagrachari % HHs (N)*	*Panchari % HHs (N)*
No. of hills (Mean ± sd)		2.21±0.33 (175)	2.22±0.36 (169)	1.31±0.12 (81)	1.24±0.67 (120)
Use of hill (%)	Jhum cultivation	1.68 (3)	2.41 (4)	6.23 (5)	4.18 (5)
	Jhum & Gardening	16.55 (29)	7.11 (12)	9.85 (8)	17.59 (21)
	Gardening	20.00 (35)	35.46 (60)	64.23 (52)	45.02 (54)
	Fallow	61.66 (108)	52.71 (89)	19.77(16)	33.38 (40)
Ownership of hill (%)	Paternal	50.00 (88)	34.88 (59)	32.12 (26)	14.24 (17)
	Maternal	1.61 (3)	-	2.47 (2)	
	Purchase	7.22 (12)	13.58 (23)	21.03 (17)	10.76 (13)
	Headman (Lease in)	2.16 (4)	7.12 (12)	16.14 (13)	13.32 (16)
	Settlement (Bondobosti)	38.86 (68)	44.37 (75)	28.42 (23)	61.65 (74)
Sources of irrigation in agricultural land (%)	River + Canal	56.57 (30)	57.89 (81)	61.37 (27)	27.12 (16)
	Deep Tube well	20.61 (11)	13.62 (19)	27.31 (12)	17.04 (10)
	Pond	-	19.29 (27)	-	-
	Ringwell		2.12 (3)	-	-
	Rainwater (natural)	22.61 (12)	2.14 (3)	11.39 (5)	47.46 (28)
	Dam (Badth)	-	5.04 (7)		-

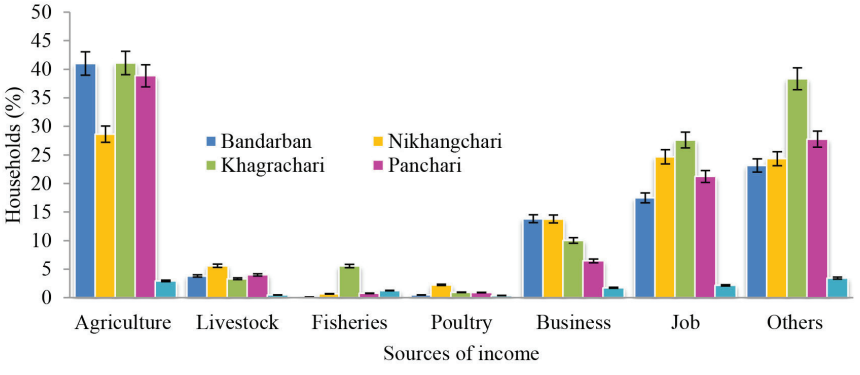

Fig. 5. Household income (%) from different souces in the study areas of the Chattogram Hill Tract district

Table 4: Household income and calorie intake of the household members in the study areas of the Chattogram Hill Tract district

Variable	*Upazila*				*Overall*
	Bandarban	*Naikhangchari*	*Khagrachari*	*Panchari*	
Households size (Mean±sd)	5.19 ±0.095	5.72±0.08	4.93 ±0.07	4.81 ±0.07	5.12 ±0.08
Household Income (BDT/yr)	190348.00	211000.00	190996.00	173600.00	191486.00
Calorie intake (kcal/d/head)	2031.91	1935.04	1955.23	1901.59	1951.54

drink non purifying water, they have low sanitary facilities and lack of electric facilities. Their lifestyle is poor with very low annual income and inadequate calorie intake in comparison to the people of plane land. Modern agriculture, livestock and poultry rearing could be uplifted the livelihoods of hilly people. In addition, local government and developmental organization can take initiative to boost up the hilly people's livelihood.

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