Socioeconomic and Health Profile of Chittagong Hill Tracts

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Executive Summary

Background: The Chittagong Hill Tracts (CHT) is a 13,000 square kilometre region of undulating hills covered by rain forest in the south-east of Bangladesh. Due to large scale immigration of Bangali the region has experienced a rapid population growth in the recent past. The region is inhabited by 11 major ethnic groups of Mongoloid stock and Bangalis. These ethnic groups (including Bangali) have social patterns and practices in some cases similar but in the other distinctly different from one another.

The political turbulence which lasted for a little more than two decades (1974-1996) in CHT have barred development organizations from taking any significant initiative directed towards the poor in the region. The signing of the Peace Agreement in 1997 created an environment for such ventures in the region. BRAC, in early 1998 initiated an integrated development program in CHT. The program intends to uplift the poor by improving their socioeconomic and health conditions.

At this juncture, this study was undertaken to help the planners and development organizations (including BRAC) to know the present state of the region. This knowledge along with one on historical background of the region is likely to help the development organisations in identifying the areas and section of the communities needing development intervention and in setting up effective development strategies for them. The study is also likely to help in understanding the achievement of development interventions by comparing the findings of this study with another one conducted at the end of the intervention period.

Methodology: The study focused on five major issues: sociodemography, education, economy, health, and environment. Data were collected at three levels – community or village, household and individual. The ethnic groups each having more than 20,000 people were observed in this study. Thus, the selected ethnic groups were Bangali, Chakma, Marma, Mro, and Tripura. Altogether 510 households from 30 villages were surveyed for each of the five groups. The villages were randomly selected from a list indicating the ethnic representation of the villages. Next, 17 households from each of the selected villages were randomly selected for household interviews. The member of the households with selected characteristics, e.g., pregnancy, were also interviewed. Drinking water used in 101 study villages from 5 sources were tested to know their quality.

A combination of instruments were used to collect data in this study – interview schedule, Rapid Rural Appraisal techniques, and case studies guided by a checklist. The fieldwork was conducted in May-July 1998. An integration of predominantly quantitative with qualitative approach has been used in this study. Both bivariate and multivariate analysis were done. The presence of association between the parameters was statistically tested.

Village: In terms of location, Marma followed by Bangali, Chakma, Tripura and Mro villages were in the best location to avail of the facilities at thana and union centres. The villages were not equally developed in terms of the facilities available therein. The educational institution, cooperative, market/shop, etc., were more prevalent in Bangali, Chakma, and Marma villages compared to those of the Mro and Tripura.

Household: The average number of households forming the villages in CHT were 54 for Bangali, 50 for Chakma, 42 for Marma, 39 for Tripuras, and 16 for Mro. On average Mro had 5.8, Chakma had 5.5, Bangali had 5.3, Tripura had 5.2, and Marma had 5.1 members in a household. Although family size did not differ much from national standard (5.6) in CHT it was observed that 27.1% of Bangali and 21.8% of Mro households had 8 or more members therein, respectively.

Individual: There were more males compared to females in all the groups. The Marmas had the highest number of female-headed households (9.8%) against Mros having the lowest (3.1%). The female-headed households were smaller than the male-headed for all the groups. The majority of the households (55%) were simple nuclear in type for all the groups. The demographic dependency ratio was 59.2 for Bangali, 47.9 for Chakma, 44.8 for Tripura, 42.2 for Marma, and 33.9 for Mro households.

The ethnic groups with median age ranging between 16-18 years were young in age. About 55% of the population from Bangali, Chakma, Marma, and Tripura were unmarried against 51% for Mro. Agricultural day labor was the most common occupation of Bangali male (9%) whereas it was self-employed agriculture in the case of other groups (55% including both genders).

Housing: The houses were built both on the raised platform as well as on the ground. About 99% of the houses of Bangali, 77% of Chakma, 31% of Marma, 0.4% of Mro, and 63% of Tripura were built on the ground. The average floor size of Mro housing was largest (701 square feet) and Tripura being smallest (316 square feet). The size of female-headed housings was smaller than that of male headed one in all groups.

Education

Educational institution: On average, the nearest primary, secondary and higher secondary schools were located 2.5, 5.7, and 16.3 miles away from the villages respectively. About 43%, 21%, and 6% of the villages had access to primary, secondary, and higher secondary schools respectively located in or within a mile away from the village. The children from 87% of Marma, 83% of Tripura, 82% of Bangali, 67% of Chakma, villages had access to these institutions located in or within a mile from the village, in contrast only 7% of children from Mro villages had access to the same.

Enrollment: The net enrollment rate of 6-10 year old children was 66% for Bangali, 53% for Chakma, 45% for Marma, 32% for Tripura, and 8% for Mro. The gross enrollment ratios in the case of same age group were 97% for Bangali, 83% for Marma, 65% for Chakma, 60% for Tripura and 16% for Mro. The net enrollment rates and gross enrollment ratios of boys were higher than those of girls in all groups with the exception of net enrollment of the Bangali children.

The net enrollment rate of 11-15 year old children was 61% for Bangali, 57% for Chakma, 57% for Marma, 43% for Tripura and 12% for Mro. The gross enrollment ratios of these age groups were 25% for Bangali, 50% for Chakma, 39% for Marma 24% for Tripura and 2% for Mro. The representation of boys in the school was higher than those of girls in all groups.

In general, the enrollment rate was less than 50% among the children who came from the household having food deficiency as against 70% of the children coming from the households with surplus food round the year.

Literacy: As a whole, the literacy rate among individuals aged seven or more years was 38% among male and 22% among female in the study villages. Group wise distribution indicated that 38% of Chakma, 30% of Marma and Bangali, 22% of Tripura, and 3% of Mro were literate.

The adult literacy rates were 42% for male and 20% for female. Amongst 11-12 years old children, 39% boys and 35% girls were literate. The group wise distribution of literacy rate of the same age groups were 50% for Chakma and Marma, 40% for Tripura, 28% for Bangali, and 5% for Mro. The literacy rate of household heads was 38% for Chakma, 34% for Bangali, 24% for Marma, 17% for Tripura, and 2% for Mro.

It was observed that no male and female from 48% and 66% of the households respectively could read or write. When different indicators were taken together the Chakmas were at the top of educational advancement followed by Bangali, Marma, Tripura and Mro.

Economy

Ownership of land: On average, Mro households owned 320 decimals, Marma 298 decimals, Chakmas 276 decimals, Tripura 150 decimals, and Bangali 139 decimals of land. The majority of Mro (82%), Tripura (85%) and Bangali (74%), Marma (75%), and Chakma (69%) households owned 1-500 decimals of land. The land-less households were most prevalent among Bangali (20%) followed by Chakma (15%), Tripura (8%), Marma (7%), and Mro households (0.2%).

In general, a small number of households owned major portion of land against the large number of households owning small portion of land belonging to the study villages. The concentration of land was most skewed in the case of Mro and Tripuras followed by Chakmas and Bangali. On the other hand, land was distributed most equitably among the Marma households.

Land holding and use: All the Mro households owned homestead land followed by Marma (90%), Tripura (89%), Bangali (79%) and Chakma (70%) households. Around 67% of Chakma households owned cultivable land followed by Marma (46%), Tripura (36%), Bangali (35%) and Mro (29%). On the other hand, about 60% Chakma, 52% Marma, 49% Mro, 34% Tripura, and 14% Bangali households owned orchards.

The households with fallow land ranged between 8-3% among the ethnic groups. About 98% of Mro, 80% of Chakma, 68% of Marma, 67% of Tripura, and 27% of Bangali households cultivated land. Some of these households cultivated in plain land, some in mountain slopes (*jhum*), and some again in both.

Trade-off between land owned and cultivated: About 70% of Mro, 36% of Tripura, 30% of Marma, and 19% of Chakma households did not own but cultivated land. Of those who owned cultivable land, on average Mro households cultivated 279 decimals, Tripura households cultivated 61 decimals more than the amount they owned. On the other hand, Bangali households

cultivated 54 decimals and Marma households cultivated 47 decimals less than the amount they owned. Whereas, Chakma households cultivated the same amount of land they owned. The landless section from each group except Bangali, did *jhum* cultivation.

Value of land: The value of per decimal land was highest for Marma households (Tk.821) and lowest for Tripura households (Tk.398). The value of per decimal cultivated land owned was highest for Marma (Tk.1,011) and lowest for Bangali (Tk.562) households. On the other hand, value of homestead land per decimal was highest for Chakma (Tk.824) and lowest for Tripura (Tk.342) households. There was a scarcity of cultivable land in the villages observed.

Production: The production in CHT included both agricultural and nonagricultural products. The major productions under these heads were cereal crop, cash crop, vegetables, fruits, poultry, livestock, cloth, cloths, and alcoholic beverage.

About 98% of Mro, 75% of Chakma, 71% of Marma, 69% of Tripura, and 35% of Bangali households cultivated rice. Of them, Marma households produced maximum amount of rice (41.3 maunds) against Bangali households producing the least (28.5 maunds). Corn, the other cereal, was mainly produced for home consumption and was not a widely cultivated crop in CHT.

About 84% Mro, 23% Marma, 22% Chakma, 12% Bangali and 9% Tripura households cultivated cash crops. Although variety of cash crops were grown, ginger and turmeric were the most outstanding cash crops grown by all groups.

The Mros had the highest number of vegetable growing households (86%) followed by Marma (35%), Chakma (22%), Tripura (16%), and Bengali (12%) households. Pumpkin and cucumber were most widely grown vegetables in the region. Per household yield of pumpkin and cucumber was highest for Mro but lowest for Tripura and Bangali respectively. About 35% of Chakma, 20% each of Tripura and Marma, 16% of Bangali, and 3% of Mro households grew fruits. Banana, jackfruit, pineapple, nut, watermelon, and mango were mostly grown in the region.

The highest number of Mro households (78%) followed by Chakma (62%), Marma (58%), Tripura (54%), and Bangali (32%) produced poultry. On the other hand, 77% of Mro households followed by 44% of Tripura, 35% of Marma, 34% of Chakma, and 28% of Bangali households produced livestock. Although 45% of the Mro households produced eggs, few from other groups produced egg and milk. The highest number of Chakma households produced milk (11%) as against lowest number of Tripura households (0.2%) among the groups.

The cloth, bamboo and cane products, and alcoholic beverage were major non-agricultural commodities produced in CHT. About 77% of Mro, and 68% of Tripura households as against 20% Chakma and 13% Marma households produced cloth/clothes. About 87% of Mro households produced bamboo and cane products for home consumption. The alcoholic beverage was widely produced by the tribal households for home consumption.

Exchange: The major commodities produced locally and sold were cereal, cash crops, vegetables, fruits, poultry, bamboo, and cane products.

About 22% Chakma, 12% Marma, 8% Tripura, 8% Bangali, and 4% Mro households sold rice they produced. The average amount of rice sold was highest for Bangali (31 maunds) and lowest for Chakma (15 maunds) households. About 66% of Mro households sold cash crops as against 20% of Chakma, 15% of Marma, 11% of Bengali, and 6% of Tripper households. Similarly, 58% Mro households sold vegetables as against 24% Marma, 17% Chakma, 12% Tripura and 6% Bangali households.

About 13% Mro, 9% Chakma, 7% Marma, and 6% Tripura and Bangali households sold pumpkin they produced. The Marma households sold largest amount of Pumpkin (18.2 maunds) agaisnt Bangali households selling the least (2.8 maunds) in a year. About 30% Mro households followed by 8% Marma, 6% Tripura, and 2% Chakma households sold cucumber. The Mro households sold the largest amount of cucumber (14.5 maunds) agaisnt Chakma household selling the least (3.4 maunds) in a year.

Income from sale: The yearly earning from exchange was highest in the case of Bangali (Tk.12,645) followed by Chakma (Tk.8,506), Marma (Tk.6,602), Mro (Tk.5,642), and Tripura (Tk.3,839). The commodities sold were not same for all the groups. Bangali and Mro households earned most by selling cash crops. In contrast, Tripura and Chakma earned most by selling fruits, Marma households earned by selling variety of commodities.

Place of exchange and types of buyers: The commodities were exchanged at the producers' home, place where produced, nearby markets, towns and on road sides. Of total transactions made by each of the groups, 82% by Tripura, 78% by Chakma, 67% by Bengali, 63% by Mro and 61% by Marma were made in nearby market: in contrast, 36% by Marma, 29% by Bengali, 27% by Mro, 18% by Tripura and 13% by Chakma were made at home or at the place where commodities were produced. The Mro was the only group to make transaction on road side (9.4%). Negligible number of households transacted in nearby town.

There was variation among the groups in terms of to whom and where transactions were made. Chakma, Marma, and Bangali, households made most transaction to wholesalers. In contrast, Mro and Tripura households made most of their transactions to individual buyers who bought for their own consumption.

The exchange at home, place where produced, and in the town increased but in the market decreased with the increase in economic vibrancy of the villages involved in transaction. In the low vibrant areas commodities were sold mainly to the retail buyers. The sale to the middleman and wholesalers increased and that to the retail buyers decreased with the increase in vibrancy of the area. The price of commodities sold in the nearby market was higher than that sold in the producers' home or production place.

The retail buyers purchased commodities mainly from the producers' home (55%) against 33% of the wholesale buyers purchasing commodities from the same place. The buyers in the bazaar were mainly whole-sellers and retail buyers. The wholesale buyers bought the produce and brought those to towns. The buyers on road-side were wholesale and retail buyers. The middlemen bought mainly from producers' home and local market.

Means of transportation: Depending on availability and cost, transports like motorized vehicle, boat, paddle-van, etc., was used to bring the commodities to the market for sale. Carrying all the way on foot was the most common form of transporting commodities to market by all groups. In occasions multiple means of transportation were used. Marmas used motorized vehicle and Chakmas used boats more frequently than any other groups.

Income generating activities: About 3.4 members from Mro, 2.5 from Marma, 2.3 from Chakma, 2.1 from Tripura, and 1.4 members from Bangali households were involved in income generating activities. Among those involved, about 49% from Chakma, 24% from Marma, 18% from Tripura, 10% from Bangali, and 5% from Mro were involved in more than one income generating activities.

The Mros had the highest proportion of females involved in income generating activities (46%) and Bangali the lowest (8%). The major income generating activities were *jhuming*, plain-land cultivation, non-agricultural activities, business, service, and livestock and poultry rearing.

Mro were mostly involved in *jhum* cultivation (86%) while Chakma were mostly involved in plain land cultivation (45%) among the ethnic groups. About 23% of Bangali were involved in non-agricultural unskilled work as against 11% of Tripuras and 4% of Marma and Chakma.

The Bangali had the highest representation in service (12%) and business (16%). On the other hand, Chakmas participated mostly in livestock and poultry rearing. The participation of other ethnic groups in these sections were absent or negligible.

Savings: About 60% of Bangali, 53% of Marma, 46% of Chakma, 42% of Tripura and, 19% of Mro households had savings. The average amount saved was highest for Bangali (Tk.4556) and lowest for Mro households (Tk.562). About 82% of total savings in the case of Mro as against 63%-65% for other groups were done in cash. Paddy/rice and *musti chaal* were other common forms of savings. The majority households of Bangali, Chakma, and Tripura saved as *musti chaal* whereas it was in the form of cash for Marma and Mro households.

The place used for saving (i.e., formal institution, local institution, own house, with others, mortgaged in, and traditional hideouts) varied among the groups. The major portion of total savings by Bangali, Tripura, and Chakma households were kept in own house. On the other hand, Marma and Mro households kept major portion of their savings with others.

The *jhum* cultivation, agricultural activity, business, other family income, and expenditure cut were the major source of savings. The source of savings for majority of Bangali households was agricultural activities as against business for Chakma and Marma, illegal trade for Mro, and service or pension for Tripura households.

Loan: Households borrowed from financial institutions, moneylenders, businessmen, relatives/friends, neighbors, etc. Among Marma, Chakma, and Bangali households the major portion of total loan was taken from formal financial institutions whereas it was from moneylenders in the case of Mro and Tripura households. On average, Bangali households borrowed most (Tk.6,949) followed by Mro (Tk.4,410), Marma (Tk.1,543), Chakma (Tk.715), and Tripura (Tk.437) households.

The major portion of total loan taken by Mro, Tripura, Chakma, and Marma households were spent on consumption. In contrast, Bangali households used major portion of their loan in production. The majority of Tripura, Marma, and Mro households used their loan in crop production. On the other hand, majority of Bangali households used loans in business.

Assets: On average, the market value of assets of Marma households was Tk.44,631, whereas that of Chakma was Tk.22,639, Mro was Tk.21,179, Tripura was Tk.18,415, and Bangali households was Tk.16,892. The assets possessed by these households were animals, birds, trees, and other productive and nonproductive assets.

The Bangalis had the highest value of other productive and non-productive assets (Tk.4,774 and Tk.3,603 respectively). The Mro had highest asset value for animal and bird (Tk.13,515 and 1,056 respectively). The asset value of tree was highest for Marmas. The value of trees owned by Marma was higher than the total value of asset owned by other groups.

The animal was the most common form of asset for Mro (64%), Tripura (42%), and Chakma (41%) households, whereas tree was the major asset for Marma (64%) and other productive asset for Bangali (28%) households.

The types of assets owned varied among and within the groups. The highest number of Marma households owned cow (48%) against Chakma households owning goat (24%). On the other hand, highest number of Mro households had pig (83%) and chicken (80%). Duck was owned by highest number of Bangali households (21%). The highest number of Marma households owned timber trees (36%).

Food security: The majority households in CHT could not meet the demand for food round the year. The Chakmas had the highest number of households (87.6%) which could not manage enough food against yearly requirement followed by Tripura (82.5%), Bangali (75.5%), Marma (68.1%), and Mro (45.7%) households. The proportion of household facing chronic food deficit, occasional food deficit or food surplus varied among groups. The Mros were most secured against food deficit. Although Chakmas had the highest number of households facing food deficit the crisis was most severe among the Tripuras.

Health

Use of water: Despite poor ownership of tube-wells by the households (3%), about 78% of Bangalis, 75% of Marmas, 51% of Chakmas, 21% of Tripuras, and 6% of Mro households had tube-wells within a mile from their home. About 61% of Bangali households followed by 32% Marma, 26% Chakma, 14% Tripura, and 3% Mro households used safe water for drinking.

The number using safe water for cooking, washing utensils, bathing, and washing hands before meal and after defecation varied among the groups. The education of the household head had a positive association with safe drinking water. The use of safe drinking water was lowest in the households where the heads were self-employed agricultural workers and highest in the case of non-agricultural workers.

Defecation: The adults from 43% households and children from 4% households observed to have used slab/pit latrines for defecation in the region. The proportion of households with adults using slab/pit latrines for defecation was highest amongst Chakma (82%), followed by Bangali (37%), Tripura (28%), Marma (15%), and Mro (0.2%) households.

It was observed that the use of slab/pit latrine increased with the increase of value of land, savings, food security of the households, and schooling of the household head. The households with heads working as laborer had less use of slab/pit latrine than the households with heads involved in other occupations. The use of slab/pit latrine increased with the closeness of the household to the health facilities.

Child immunization: The number of children, below 12 months, receiving diphtheria, pertussis and tetanus (DPT3), Bacilli Calmette-Guerin (BCG), and measles vaccines were less than the children aged 12-23 months receiving the same for all groups (DPT3 23% vs. 50%; BCG 53% vs. 59%; and measles 15% vs. 44%).

The average coverage of DPT3 of children for both the age groups were 48% for Bangali, 22% for Marma, 22% for Chakma, 19% for Tripura, and 8% for Mro. BCG vaccine was given to 72% Bangali, 48% Marma, 34% Chakma, 27% Tripura, and 17% Mro children. On the other hand, 39% Marma, 29% Bangali, 20% Chakma, 20% Tripura, and 9% Mro children of same age groups received measles vaccine.

About 54% of Bangali, 35% of Marma, 20% of Tripura, 17% of Chakma, and 11% of Mro children aged 12-23 months received full doses of all vaccines, given through the Expanded Programme on Immunization. The proportion of fully vaccinated children was lower amongst those under 12 months (22%) than those who were 12-23 months old (39%). This trend was uniform for all the groups observed.

The children of literate parents had a greater chance of being fully immunized. Children with fathers engaged in non-agricultural activities were more likely to be immunized than those who were involved in self-employed agricultural activities. The children of households with savings and self sufficient in food had a greater chance of being vaccinated. The mothers' involvement in

income generating activities were negatively associated with immunization of children, TT vaccination of mother, and maternal knowledge on childhood vaccines including their doses.

The 'irregular visit by vaccinator' was the most cited reasons for partial or nonimmunization of children by mothers (21.5%) when all the groups taken together. The 'child was under-aged' was the argument given by majority of Bangali mothers for not immunizing their children (25%). In the case of Chakma and Marma mothers, 'irregular visit of vaccinators' was the cause for failing to immunize their children (30% and 40% respectively). On the other hand, 'the lack of parental awareness' was the most cited reason for not immunizing children by Mro and Tripura mothers (66% and 41% respectively).

Maternal immunization: When all the groups taken together, 38% of the mothers with 0-23 months old children received second dose of TT. The rates were 60% for Bangali mothers against 17% for Chakma, 14% for Mro, 11% for Tripura, and 10% for Marma mothers. 'Not aware about TT' was the most cited reason for taking partial or no TT doses by 81% of Mro, 67% of Tripura, 32% of Chakma, 26% of Marma, and 20% of Bangali mothers. In contrast, 'providers did not visit' was the most cited reason for non-immunizing children by Marma mothers (37%).

The mothers who were literate, had educated husbands involved in non-agricultural work, and from households with savings and self sufficient in food were more likely to get two doses of TT immunization against tetanus. The full immunization of children and the receipt of two doses of TT by mothers increased with their proximity to health facilities

Mothers' knowledge on immunization: About 43% of the mothers knew about the age (i.e., 0-23 months) when children should be immunized. The proportion with knowledge was highest for Bangali (61%) and lowest for Tripura (9%) mothers. On the other hand, only 10% of mothers had correct knowledge on the condition under which women should receive TT vaccination. Only 9% of the mothers were aware of all the six childhood vaccine preventable diseases. About 32% of all mothers had knowledge on tetanus. The mothers with correct knowledge on vaccines were 9% for DPT, 24% for oral polio vaccine (OPV), 8% for BCG, and 26% for measles in the region.

Fertility regulation: Around 31% of the women observed were using family planning methods in the region. Use of contraceptives was less in those under 20 but increased with the age and then declined after crossing 40 years of age. Contraceptive prevalence was 38% among Chakma, 31% among Bangali, 27% among Marma, 18% among Tripura, and 4% among Mro married women. The use of contraceptive by women was positively associated with the years of schooling of the household head. The use of contraceptives increased with the increase in food security of the households.

The pill was the most common method adopted for contraception by women of all age, particularly those 20-29 years of age. Its use decreased with aging. Adoption of permanent methods was negligible among women under 30 and was highest among those over 40 years of age (24%). Women between 30-39 years of age used injection more frequently than any other age groups (14%). Most Chakma and the Mro women (85-95%) used oral pills for contraception.

Permanent methods and injection were more commonly used by Bangali (13% and 12%, respectively) and the Tripura (20% and 13%, respectively) women.

With the increase in the year of schooling of household head use of oral pills increased while a decline was noted in the use of injection and permanent methods. Injection was more frequently used by land-less or marginally land-less households compared to households having more than 50 decimals of land.

Community health workers, both government and non-government, were the major suppliers of contraceptives, especially in the case of Marma (91%) and the Mro (83%). Medicine store was the most important source for the same in the case of Chakma (40%) and Tripura (30%) while government health facilities were the most important source for Bangali (16%) and Tripura (19%) women.

Morbidity: In general, the prevalence of morbidity was greater among those who were less than 5 years and above 60 years of age (35% and 27%, respectively), among illiterates or those with less then 5 years of schooling (16-22%), among widow/widower (18-31%), and among households with female heads.

Morbidity was about 25 times higher among marital disrupted females than among the males of similar status. For both sexes, the prevalence of morbidity was highest in households headed by female engaged in domestic work (30%) compared to household heads with other occupations. The morbidity prevalence was highest among the Bangali (23%) followed by Tripura (19%), Marma (16%), Chakma (13%), and Mro (9%).

Morbidity profile indicated that malaria was disproportionately higher among Bangalis (21%) and Tripuras (12%) compared to other groups. Nightblindness was highly prevalent amongst 6-71 months old children. Its prevalence was highest among the Bangalis (3%) followed by Tripuras (2%), Marmas (2%), Chakmas (1%), and Mros (0.3%). It was higher amongst female (3%) than male (1%) in all groups.

Vitamin A capsule: About 75% of the children received vitamin A capsule (during the last six months recall period) with a marginal difference between genders. The vitamin A capsules were distributed at the doorsteps; as a result the rates were fairly high for all the groups. Lack of awareness was the most mentioned reason for not receiving VAC in the case of Mro (84%), Bangalis (66%), and Tripuras (62%) mothers. In contrast, service providers failure to visit home was the main reason for not receiving vitamin A capsule by Chakma (50%) and Marma (69%) mothers.

Year of schooling of both parents had positive association with intake of vitamin A capsule by the children. The children with parents engaged in self-employed agriculture had the lowest intake of capsule compared to other occupational groups. The children of parents engaged in *jhum* cultivation had lowest capsule intake for all groups. In general, the intake of capsule had a positive relation with the availability of health facilities to the households.

Diarrhea: The prevalence of diarrhea was slightly higher in women (7%) than men (6%) across the groups. Similarly its prevalence was higher among the children below 5 years of age (14%) for all groups. The prevalence of diarrhea was 10% among Bangali households but 4% amongst those of other groups. By all account, aver 82% of diarrhea episodes were given treatments, and 22% of the episodes were given packet ORS.

The prevalence of diarrhea decreased with the increase in the year of education of household head. Its prevalence was lowest among the members of the households with heads involved in non-agricultural activities compared to those involved in other activities. The household with no savings had a lower prevalence of diarrhea than with some savings.

Health-seeking behavior: About 14% of the sick population did not seek any treatment for illness, the proportion being a little greater among the females. About 58% of the sick from the Mro, more than 25% from Marma and Tripura, and 10% each from Bangali and Chakma did not seek health care at all.

Of those who sought health care, the home-remedies were used more frequently by the Mros (64%) than any other groups. Around 15% of the Bangalis sought care from the para-professionals, while unqualified allopaths were consulted more frequently by Tripuras, Chakmas and Marmas (60-70%). The qualified allopaths were resorted to in most cases by Bangali (27%).

Maternal health: More then 95% of the children were born in the husband's household. It was observed that 50-60% of the deliveries among Bangali, Mro and Tripura were attended by experienced elderly women of the households. On the other hand, the majority of the delivery among Chakma (60%) and Marma (48%) were attended by the untrained traditional birth attendants (*dais*).

Around 25% of the women sought antenatal care during their last pregnancy. The majority of pregnant Marma women (61%) sought antenatal care while none of the Mro women and a negligible proportion of Tripura women (2%) went for such care. Of those seeking antenatal care, all from Tripuras (100%) and 80% from Bangalis went to qualified allopaths as against 64% Chakmas, 5% Marmas, and none of the Mros.

Child nutrition: The mean mid-upper arm-circumference (MUAC) of the boys (150.8) was lower than that of girls (156.0). Up to three years of age, a greater proportion of female children was severely malnourished than the male, but it reversed after three. Bangalis (19%) followed by Mro (18%), Marma (12%), Tripura (11%) and Chakma (9%) had the highest proportion of malnourished children in their households. However, Bangalis had the highest mean MUAC (160 mm) followed by the Chakmas (mean MUAC 148 mm).

Water quality: About 22% of water sample, from various sources had pH value <6.5. The alkalinity was <400 mg/1 in case of all observations. Only 5% of the water samples had a higher level of ammonium nitrogen concentrations and the sources were chhara/spring and lake/canal. Arsenic contamination was found in 18.8% (3) of the tubewell water tested. Over 91% of the samples from different sources was polluted by fecal coliform bacteria – a major cause of diarrhea and dysentery. The phosphate and sulfate in drinking water were in an acceptable level.

Conclusion: The ethnic groups were not in the same level in terms of all parameters considered in this study. For example, the Mro households lagged behind all the groups in education, but they ranked first in terms of food security. This feature has made it difficult to give a comprehensive ranking of the group by taking all parameters considered in this study.

Recommendations

1. The development policies for CHT should be formulated and implemented by those who are competent for the job and dedicated to the cause of development of the region. It should be a policy to involve local people in the process as much as possible.
2. The development workers should gain confidence of the people who are to be developed before the implementation of development program in the region. In order to hasten the process of development confidence building and implementation of the policy must be carried out simultaneously but with caution.
3. Because of the differences among groups and they being at different stages of development the development intervention in some cases should not be uniform for all groups. Uniform policy of development intervention may be undertaken in the case of issues on which the groups have similarities. For example, primary schools may be opened in all villages as these are quite apart from one another in all cases.
4. The development strategies should be contextual to the region. The development workers should be given orientation training in local cultures and languages to make them more accommodative, sensitive and functional in their work.
5. The curricula used for education in the plain lands in some cases may not be relevant for children in the region. For example, the 'social studies' curricula need to be prepared in the light of social, cultural and historical experience of each of the groups in the region. The vernacular of the groups should have a place along with Bangla in the educational process in the region.
6. The non-formal education is likely to be more effective in the region. The teachers with required education may not be available for such schools in all villages; therefore, it would be required to train-up the people with lower education as teachers.
7. Adult literacy program may be introduced in order to raise the level of human capital of adults in the region. The process is likely to facilitate integration of people in other development process with a level of education as a prerequisite for participation to the process.
8. To increase agricultural production optimum use of such land should be targeted through multiple cropping and introduction of appropriate technologies. In implementing these policies care should be taken so that the ecological balance and bio-diversities in the region is not disturbed.
9. The income generating activities in most cases produced subsistence income in CHT. The economic opportunities therefore, may be extended and diversified so that higher economic return from such activities can help in meeting the needs in other aspects of the households.
10. The development organizations may start micro-finance program in the region allowing people to borrow for productive purposes. Before extension of micro credit the sectors which can provide opportunities for cash earning must be identified and the credit that would be provided should be linked with the investment only to the identified sectors.

11. The development of infrastructures is likely to open up the region more to the outside interactions and influences. Thus infrastructures should be developed as such so that it may not disturb the cultural practices which is desired to be preserved by the majority of the region.
12. A service delivery system suitable to the needs and problems of the region may be developed for them to increase the utilization rate. For example, to maximize geographical access, outreach service provisions may be developed. A mobile mechanism for service delivery for clusters of populations may be useful to address the problem of groups living in remote areas. Second, substantial provision of public health service activities integrated with credit-based employment and income generating interventions may be introduced in the region. This intervention may comprise Essential Service Package components of Government as implemented by the Rural Service Delivery Program of BRAC.

SUMMARY AND CONCLUSION

The studies conducted on CHT till now can be divided into three broad groups in terms of the period when they were conducted. The first studies carried out were anthropological descriptions of ethnic groups based on the first hand observations of officers working for the British Raj in the region. Such work started in late 18th century. The second phase of the studies were conducted after 1930; these were mainly anthropological and philological in nature. Of course, some studies on the economic problems and changing trends in the region were also done at this time. Finally, after the liberation of Bangladesh, studies on the politics and culture of the region have been carried out. All these studies based themselves on secondary information such as 'selections' from 19th century administrative reports and documents or anthropological techniques observing a small segment of the society.

The study in hand was thought to be different from past ones in two important ways. First, it adopted a survey method covering the extent required to provide a representative picture of the societies in the region. Second, the study compared the ethnic groups in terms of social, demographic, educational, economic, health, and environmental parameters. Thus estimated the relative status of the different ethnic groups in the region.

The review of politico-development history of CHT indicates that the development efforts taken in the past did not benefit, rather harmed the people of the region. Two factors can probably be accounted for this situation.

- Those who were in charge of setting up and implementing development policies came from outside the region: in most cases they were not competent enough and/or sincere in carrying out their responsibilities.
- The policies implemented in fact were designed as such to serve the interest of the group who were involved in policy formulation.

These factors, contrary to welcoming any development initiative, made the people of the region suspicious about any such effort initiated by the agencies from outside the region. These observations led us to propose two development strategies for the future.

- Development interventions should be well thought out to make them effective.
- Programs should be implemented sincerely so that the suspicions that cropped up over the years may be removed.

In order to meet these challenges, the development policies should be formulated and implemented through close participation of the people from the region.

The development effort should take account of the resources available at the village, household and individual levels, and the unique characteristics of each of these levels. Such a strategy is essential in formulating an effective development policy for the region. This section discusses elaborately the implications of the issues dealt with previously from a development perspective.

Sociodemography

Village

The villages inhabited by each of the ethnic groups displayed distinctly different trends in terms of their physical location and resources available therein. Bangali, Chakma, and Marma villages were located closer to urban centers compared to Mro and Tripura villages. The location of the former group of villages has placed them in a convenient position to take development ventures, particularly those that depend for their effectiveness on the facilities available in urban centers. The proximity to urban centers also put Bengalis, Chakmas, and Marmas in a better position to seek government services such as, health, education, post office, etc. Again, educational institutions, cooperatives, and market places were more prevalent in Bangali, Chakma, and Marma villages compared to Mro and Tripura villages. The presence of *haat/bazaar* within the Bangali, Chakma, and Marma villages or near these have also placed these villages in an advantageous position in opening up of economic ventures. The location of villages facilitating or hindering in harnessing the resources available outside and within villages is a factor that may profoundly affect the development of villages inhabited by different groups.

One popular and effective strategy in initiating development schemes for the poor by development organizations, including BRAC, is by organizing the poor into groups, popularly known as VOs. The average number of households forming a village, especially *Pahari* ones, indicates that it will be difficult to form a standard VO and/or follow target group approach in selecting members for the development of the poor. As an alternative to the target group approach, a VO may be formed by including the whole village in it. However, the policy does not appear to be an effective solution to the problem, as the villagers not being eligible or willing to be members will get included in and served by the organization. Also, it will be difficult to form a VO with members from several villages as, in most cases, villages are widely dispersed from each other. In such a context development programs may have to be flexible and should adopt a policy of forming VOs by reducing the standard size and by adopting a definition of target group appropriate to the region.

Households

Based on the characteristics of the heads, households in CHT can be divided into three: headman/*karbari*-headed households, male-headed households, and female-headed households. On the whole, the headman/*karbari*-headed households were sociodemographically and

economically better off than male-headed households, in turn the male-headed households were better off than female-headed households for all the ethnic groups (Appendix 17.1). The differential endowments have placed these households in an uneven position in harnessing the developmental inputs. More specifically, because of their higher education, economic power, and entrepreneurial capacity, the headman/*karbari*-headed households were in a better position to harness the advantages of development interventions compared to the other two types of households. Consequently, equal access to development resources by these households is likely to further widen the gaps between them and the other types.

The median age and the demographic dependency ratios of the households indicated that the burden of working members to support these households was considerably high. However, the situation might not be that bad since the majority of dependents, particularly children also participated in income generating activities, especially among the *Paharis*. Women were as a matter of culture burdened with more work than their male counterparts. The burden of work of women was further aggravated in CHT since the proportions of female to male, particularly in the working age group, in male-headed households were smaller for all the ethnic groups.

The self-employed agriculture laborer was most representative of the *Paharis* whereas Bangali males were often agricultural day laborers. Among the *Paharis*, where women participate widely in income generating activities but female-headed households were in destitution, in spite of they being small in size and having a lower dependency ratio. The development interventions need to pay particular attention to these households.

Education

As because there were fewer schools for the enrollment of children in school in the CHT compared to the rest of the country, only a small proportion of them were enrolled in school, especially among the Mros. Unless there is a drastic change in the participation rate in education, the ethnic groups are likely to fall further behind in education compared to those outside CHT and will face increasing difficulties in obtaining employment where education is needed.

The literacy rate in CHT lagged behind the national rate. It was the Chakmas, topped the list in literacy rates among the groups. However, it was the Bangalis who were in front line in respect to accessing educational institutions. The scenario implies that although Chakmas were in a better position in the past, Bangalis are now catching up with them. Based on the indicators considered the Chakmas ranked first in education followed by Bangalis, Marmas, Tripuras, and Mros.

Economy

Land ownership and cultivation

Land was distributed disproportionately among the ethnic groups both in terms of quantity owned, under possession, and under use. Bangalis had the highest percentage of landless households; their average amount of their landholding was also the lowest. On the other hand, Mros had almost no landless households but most had only homestead land. Orchards constituted the major share of land for all the ethnic groups except Bangalis. Any additional land that the *Paharis* cultivated over those they owned, was mainly *jhume* land. Almost all Mro households

participated in *jhum*. Also, a larger number of Tripuras were *jhuming* with a few of them cultivating plain-land. Although a substantial number of Chakma households were land-less they had the highest percentage of households owning cultivable land and had the lowest percentage engaged in *jhuming*. The land they cultivated was mainly plain-land. Marmas had the smallest number of land-less households with average holding second only to Mros. Marmas also had equal number of plain- and *jhum*-land cultivating households.

A few households owned the major portion of land whereas a major portion of the households owned a small portion of the total land – indicating that the land ownership was considerably skewed in the region. Since only a smaller number of Bangali households were engaged in farming, homestead land was the most valuable (in terms of price) of all types of land available to them. In contrast, cultivable land was valued most by the *Paharis* – indicating that there was a scarcity of cultivable land amongst the *Paharis*. In addition to amount of land owned, their location and productivity also varied among the groups. These factors determined what could be produced, what method could be used for production, and what amount would be produced. Land being a major resource and a main source of production in the region, it is likely that a good part of development intervention in future will be land related. Such development interventions should take these land-related factors into consideration in order to make interventions equally effective for all groups and sections.

Productivity and marketing

The agricultural goods were predominantly produced at the household level. Mros not only produced the most types of commodities but also produced the highest (yield) among the groups. However, their production was mainly for household consumption; the surplus, if any, was sold by the groups.

A larger number of Bangali, Chakma, and Marma households sold their commodities compared to Mro and Tripura households. Average cash flow from commodity sale was the highest for Bangali and lowest for Tripura and Mro households. One of the reasons why Mro and Tripura received lower prices for the commodities was that they mainly sold those at home or in the place of production where few buyers visited for the purchase. This was because Mros were remotely located and did not have any scope for bargaining with outside buyers who offered them lower price for their commodities. There was no market within their own village since all villagers produced the same commodities. A similar situation although not to the same extent was also true for Tripuras.

Marmas also exchange commodities at home or at the place of production but were able to bargain for a higher prices; as because their villages were closer to roads, bus stands, and market places. Although Chakmas did not live so close to the transportation facilities as the Marmas, they frequently visit markets by boats since most of their villages were located in the lake areas. The Marma and Chakma households, thus being in a favorable position had comparatively more income opportunities than other *Pahari* groups. In most cases, Bangalis were located closer to the market and were traders. This strategic location kept them informed about market prices. This made it easier for them to make a higher profit from the sale/purchase of agricultural products.

It appeared that the location of the ethnic groups to a great extent determined the price of the commodities they could command for their products. Thus location again have placed the

ethnic groups differentially in improving their economic status through sale of their commodities.

Factors other than ethnicity was also important in determining the price of commodities sold. Residing far away from town placed sellers in a disadvantageous position in updating themselves about market prices. Thus information asymmetry was one of the reasons for the presence of imperfect market in CHT. It was evident that Bangali buyers manipulated the market price. The *Paharis* were relatively more affected by such a manipulation. In a nutshell, the location of producer/buyer, imperfect market condition, and information asymmetry played important roles in determining the price of the commodities for the producers command. Any effort to help the producers in receiving fair price for the sale of their commodities should take account of these factors.

The study looked into several economic indicators which indicated the state of wellbeing of the ethnic groups – IGA, savings, assets, loans, and food security. The indicators are interrelated and in most cases can reciprocally affect each other.

Income Generating Activities

Farming was the main IGA for majorities from all the groups observed. Of those involved in farming, an overwhelming majority of Mros followed by Tripuras and Marmas were engaged in jhuming. The highest percentage of Bangalis followed by Tripuras, and Chakmas were engaged in nonfarming activities. These included small business, trade and service mainly.

A few Bangali households were involved in IGAs. On the other hand, the *Pahari* households participated mostly in *jhum* cultivation. Although a larger portion of these households, particularly in the case of the Mros, were involved in *jhuming*, the performance of these households in terms of saving and asset accumulation was poor. This was because the only economic activity available to these households was *jhum* cultivation. and most members of these households were underemployed as they shared work within themselves.

A good number of *Pahari* households were involved in multiple IGAs. These households were forced to take up multiple IGAs in succession to meet their needs, or perform multiple IGAs subsequently as these were of short duration and could be done one after another. Some parts of the region had the privilege to chose IGAs but others had no option but to do *jhuming*. The IGAs practiced did not yield same quantity of return – in most cases *jhum* did not leave any surplus after consumption. On the other hand, businesses, where Bangalis were predominantly engaged, offered them net profit and savings in many cases. The difference in the return from IGAs practices created economic disparities among the groups involved. The development interventions can further widen this disparity if the return from different IGAs along with the attachment of groups with those IGAs are not taken into consideration in development planning.

It appeared that the effective functioning of many IGAs depends on the development of infrastructure in the region. Considering this fact, the development infrastructures should be introduced in the region as such to facilitate easy access of the rural people with their commodities to the markets.

Savings

Although a good number of people were involved in IGAs only a few earned cash money. The major share of savings came from business. Bangali households had the highest amount of savings followed by Marma. Tripura. Chakma. and Mro households. The order held good only

when the huge savings of a small number of Mro households from inter border smuggling was not taken into consideration. A good number of Chakma, Marma, and Bangali households kept their savings in formal financial institutions while the majority of Tripura and Mro households doing the same at home as *musti chal*. The association of the former group with formal financial institutions not only provided them with an interest on the money they deposited but also placed them in a better position to avail loans for IGAs. The cash savings had higher flexibility in investment than in any other form, e.g., *musti chal*.

Assests

The total value of assets was highest for Marmas followed by Chakma, Mro, Tripura, and Bangali households. The value of trees owned by Marmas was more than the total asset value of any other group. This ranking of the ethnic groups in terms of their asset holding changed when the groups were viewed in terms of productive and nonproductive assets. The possession of productive asset gave households, from any group, an edge over those not having any asset or having nonproductive assets in changing their economic condition by using the same if they liked.

Loans

The number of households borrowing money from different sources was highest for Mros followed by Bangali, Marma, Tripura, and Chakma households. On the other hand, the average amount of loan was highest for Bangalis followed by Marma, Mro, Chakma, and Tripura households. The source from where loans were taken and its use could to an extent determine the economic wellbeing of the borrowers in the long run. Although well-off relatives or neighbors were the main sources of loans, in occasions it was from the moneylenders as well. The higher rate of interest charged by moneylenders was likely to put the borrowers eventually in economic hardship. The households borrowing from moneylenders did that finding no other choice when they were in dire need of the same.

Compared to other groups, more Marma and Bangali households invested loans productively. Bangalis used the major portion of their loans in crop production and businesses. Marmas also used loans in these sectors and also invested them on children's education as well. The investment in the former sectors was likely to produce a quicker return compared to the latter. In contrast, Mro and Tripura in most cases used loan for consumption purposes.

Food security

Majority households in CHT faced food crisis and a good number of them experiencing chronic food deficits. Tripura households were the most serious victims of food crises and Mro households the least affected. The food insecure households had fewer but larger loans. They cultivated smaller amount of land and also produced rice a little. The factors commonly responsible for ensuring food security were ownership of large amounts of cultivated land, more rice production, and greater involvement in nonfarming sectors.

In this perspective, it can be concluded that in terms of economic indicators, when taken together, Tripuras and Mros were at better positions amongst the groups. The ranking of Bangalis and Marmas was a little difficult to establish but it was evident that Marmas had the

highest value of total assets and better access to formal financial institutions than the other groups. The Chakmas held the middle position among the groups.

Health

The study has looked into a number of health related behaviors in the region. To a great extent, the correct application of these behaviors depends on the availability of relevant resources, i.e., tubewell, slab/pit latrines, vaccines, and Vitamin A capsules, which are usually supplied by the Government. Besides awareness, the desire to use the services and their quality may also determine the extent to which the services would be availed.

Use of water

The overall status in utilizing safe water for different purposes in CHT was lower than the national average. The proportion of people drinking safe water was highest among Bangalis and lowest among Mros. Only 3% of the households owned tubewell in CHT although it was a n important source of safe water. The poor record of ownership was mainly due to higher installation and maintenance costs. The groups living in dispersed and remote areas had no choice but to drink water from the unprotected sources.

Water quality

The water available from different sources was not safe. Water from *chharas*/springs and lakes/canals had potentially higher levels of PO_4 and NH_4, sufficient to change their biological characteristics and increase the level of toxicity, thus making it unsafe for drinking. There was a severe fecal coliform contamination of water from all sources which could cause endemic diarrhea and dysentery including other intestinal infections. The arsenic contamination of tubewell water, however, appeared to be a small problem in CHT compared to that in the rest of Bangladesh. In a nutshell, if the fecal coliform contamination problem is not addressed properly, the water-borne diseases will remain endemic to the population.

Sanitation

The use of slab/pit latrines, considered to be a safe place for defecation, was lower (43%) in CHT than the national standard, but it varied widely among the groups. Its use amongst the Chakmas was not only higher than any group in CHT but also throughout Bangladesh. Because they attached a higher value to their usefulness, because of their affordability, and the presence of friendly soil texture with which the latrines were built, Chakmas had more use of such latrines. However, this safe sanitation service was inaccessible to the majority in CHT, particularly to Mros. This was mainly because of their location in relatively inaccessible areas. To protect the people from environmental hazards, safe sanitation needs to be promoted in the region.

Immunization

The overall status of immunization coverage in CHT was lower than the national standard. Bangalis had the highest utilization of services as against Mros who had the lowest record among the groups. The proportion of children 0-11 months of age who have been fully immunized was lower than those 12-23 months of age for all the ethnic groups. About 38% of the mothers with 0-23 months old children received second dose of TT, with Bangalis being the highest and Marma being the lowest among the recipients. To enhance child survival and development, vis-à-vis to protect their rights, immunization services should be improved.

Vitamin A Capsules

About three-fourths of the children received VAC in CHT with no variations between sexes except in the case of Chakmas, where boys had a greater intake of VAC than girls. As a general rule, VAC is distributed at the households, a situation that promotes accessibility to capsules. The system should be strengthened and sustained to prevent night blindness, and promote child growth and development.

Fertility regulation

The contraceptive prevalence in the study population (about 23%) was far short of the national figure (49%). Indeed, the Mros were far behind the other groups. A trend consistent with one for the nation have been observed in the variations in using contraceptives at different ages, i.e., using temporary methods (e.g., pills) at a younger age and semi-permanent/permanent methods (e.g., injection and sterilization) at an older age. The poorer section of the study population more frequently used the permanent methods.

However, the reasons behind low coverage of public health resources (i.e., tubewell, slab/pit latrine), immunization, Vitamin A capsule, and utilization of family regulation devices in CHT were sought both in this and related studies. The reasons appears to be:

1. As a whole, the region had poor exposure to Western treatment facilities. The mothers, who were most important for immunization of their babies were not much aware about immunization. As a result, lack of awareness have led to poor utilization and compliance with the existing services.
2. The cultural dimensions, particularly belief systems, indigenous understanding of diseases and illness causation were also factors responsible for the low utilization of services by different ethnic groups. Culturally, some of the groups were not enthusiastic about availing these services.
3. The distant location of villages from various service delivery facilities made it often difficult to ensure efficient delivery of services to them. Similarly, the location of service centers and the timing of service delivery in these centers could at times create constraints for villagers who would like to avail health services. It was observed that the lowering of the distance of service delivery points maximizes the level of service utilization. Not surprisingly, the remote location of the Mro and the distant location of Marma and Tripura villages from service delivery points have resulted in lower utilization of services by these groups.
4. The culture of the national health infrastructures could also affect the utilization of the services. The efficiency in delivery style and communication skills of the providers affect provider-client relationships which in turn can influence the customers behavior in service utilization. Studies have indicated that the providers tend to be class-biased (conscious) by serving the well-off people and their own relatives more than the others. Poorer clients were

ill treated, some mothers spoken to condescendingly, or shouted at by providers, which humiliated and intimidated poorer clients. Similar biases, but on ethnic line might also have affected the service utilization in CHT.

The strategies that should be adopted to increase the health service/practice coverage should be sought in these reasons. It is believed that the arrangement of effective health service, removal of sociocultural barriers on the way of availing health services, promotion of health consciousness, and removal of prejudices obstructing that health practices through education could be some of the ways to ensure better preventive health practices in the region.

Nutrition

The overall prevalence of severe PEM (MUAC<125mm) in the study population appeared to be greater than the national average. The proportion of severe PEM was highest among under one-year old children and decreased with age. Bangali children had the highest mean MUAC but at the same time, they had the highest proportion of children with severe PEM. The low proportion of severe PEM among the Chakma children compared to those of other ethnic groups needs further investigation.

Morbidity

The study looked at morbidity patterns and measures taken for their cure in the region. Morbidity prevalence varied widely among the ethnic groups. Morbidity was greatest among Bangalis in CHT than that in the rural population in the rest of Bangladesh. On the other hand, morbidity was very low among the Mros and followers of *Crama*, compared to other ethnic and religious groups. The prevalence of morbidity was highest among women in all the groups. The variation in morbidity among ethnic and religious groups might be due to their cultural and religious practices which worked as preventive measures against certain diseases.

The most common illnesses in CHT were gastrointestinal diseases related to unsafe water and poor sanitation. The prevalence of diarrhea was slightly higher among females compared to males. A consistently higher prevalence of diarrhea was observed among under-five children but it was lower than the national standard. Bangalis had a higher prevalence of diarrhea than other groups. The nightblindness was more widespread amidst children of CHT than elsewhere in the nation. It was twice as high among the female children compared to their male counterparts. Bangalis had the highest prevalence of nightblindness and Mros the lowest. The higher rate of consumption of green-leafy vegetables might have worked to reduce nightblindness for the Mros.

It was assumed that poor intake of nutrition, food taboos and noxious living environment might be some of the factors responsible for higher prevalence of nightblindness and diarrhea among them.

Treatment

The care pattern of the sick is likely to throw some light on the course of action to be adopted in developing health facilities in the region. The majority of sick Mros did not resort to any treatment. This might be due to the fact that they felt that the illnesses were not severe enough to warrant treatment beyond home remedies, they might lacked access to 'modern' treatment facilities for financial reasons, or might have lived at a greater distance from the nearest health

facility. The groups used 'traditional' medicine (including 'faith healing') very sparingly. Although, the two relatively affluent ethnic groups, Bangalis and Chakmas, sought costly qualified practitioners more frequently. The predominant type of health care was from the unqualified allopath such as untrained pharmacists, market sellers, and roadside 'quacks'.

These practitioners rarely follow standard therapies. Rather, treatment tends to be a function of negotiation between patient and provider regarding what the patient or their families can afford. Medicines were usually sold per tablet, capsule or spoon (in the case of syrup) on the basis of what is described by a relative.

Most of the diarrhea patients seeking treatment resorted to allopathic treatment through local drug sellers. Cultural dimensions, belief-system, and easy accessibility might have motivated such patients to resort to allopathic treatments for diarrhea. However, in the case of over one-fifth of the diarrhea episodes packet saline/LGS were used. Less than a fifth of the women under study sought antenatal care during their last pregnancy. Of those who sought antenatal care, mostly visited qualified allopaths. Untrained but experienced women conducted most of the deliveries at home. It was apparent that the distance of health facilities from the Mro households/villages often prevented them from accessing 'modern' health care of any sort.

End talk and Recommendations

The ethnic groups may have age-old values and beliefs facilitating or hindering the implementation of development interventions. It is important to note too that the relationships between the ethnic groups have changed over time. Detailed understanding of the sociocultural dynamics within groups and the relationships among groups are needed so that the development strategies may be effectively formulated and implemented. The present study failed to do justice to these issues. It was believed that the seriousness of these issues deserves special attention: best can be done in a separate study.

The large-scale influx of Bangali into CHT in recent decades have changed the demographic, cultural, and religious composition of the region. The changes have created serious discontent among the indigenous people who had migrated to the region much earlier. The discontent had expressed itself in the form of demands for political rights and then turned into an arm conflict lasting over two decades. The conflict deprived the region from any serious development effort. Although the signing of the Peace Agreement has created an environment to an extent for such activities, yet a lot to be achieved in the way of materializing the Agreement and in maintaining peace and tranquility in the region. Rather than waiting for a condition ideal for development activities, it will be prudent to initiate effective development activities in CHT immediately. The lack of such activities will not only deprive the region from development but also make the region lag even further behind the rest of Bangladesh.

The development effort should be holistic in approach by integrating sociocultural with material development so that it may be regarded as progress. The ethnic groups of CHT are not only with different levels of endowments to take advantage of development avenues but also their sociocultural practices have made them differentially receptive to development opportunities. Therefore, in order to be successful the development initiatives should be tailored to the needs of each ethnic group. In addition to ethnicity, even development throughout the CHT should be a consideration in such enterprises. In order to support such initiatives information on the location of the ethnic groups and the status of the three districts in terms of

selected variables dealt with in preceding section are appended (Appendices 1.1 and 17.2). Although the district wise distribution was not based on a representative sample, it will be seen that the variations in the parameters in the table as a whole were influenced by the concentration of the ethnic groups with distinct characteristics in different parts of the region.

Based on the findings in the preceding sections, a list of broad recommendations is presented below.

1. The development policies for CHT should be formulated and implemented by those who are competent for the job and dedicated to the cause of the development of the region. It should be a matter of policy to involve local people in the process of policy formulation and implementation.
2. The development workers should gain the confidence of the local people. In order to hasten the process of development, confidence building and implementation of policies must be carried out simultaneously but with caution.
3. The development strategies should be contextual to the region. The development workers should be given orientation courses on local cultures and languages to make them more accommodative, sensitive, and functional in their work.
4. The curricula used for education in the plain lands may in some cases not be relevant for the children of the region. For example, the 'social studies' curricula for CHT need to be prepared in the light of social, cultural and historical experience of each of the groups of the region. The vernacular of the *Paharis* should have a place in the educational process set up in the region, particularly at the primary level.
5. The nonformal education is likely to be more effective in the region. Teachers with the right level of education may not be available for schools in all villages; therefore, it may become necessary to recruit people with lower education levels as teachers. Multi-group single room schooling might be cost effective in the present situation of small and distant villages.
6. Adult functional literacy programs may be introduced in order to raise the level of human capital in the region. The process is likely to facilitate their integration in the development processes having an educational prerequisite for participation.
7. To increase agricultural production, optimum use of these lands should be targeted through multiple cropping and introduction of appropriate technologies. In implementing these policies care should be taken so that the ecological balance and bio-diversities of the region are not disturbed.
8. Income generating activities in most cases produced only subsistence income in CHT. The economic opportunities, therefore, may be extended and diversified so that higher economic return from such activities can help in meeting the other needs of the households.
9. The development organizations may start micro-finance programs in the region allowing people to borrow for productive purposes. Before extension of micro credit, sectors which can provide opportunities for cash earning must be identified. The credit that would be provided should be linked with the investment only to the identified sectors.
10. Thus infrastructures should be developed as such so that they may facilitate easy access of rural people with their products to the markets in urban centers.
11. *Pahari* producers should be protected from the influence of imperfect markets created by Bangali traders. In order to ensure fair price to *Paharis*, the development organizations should ensure backward-forward linkages in their regions and outside.

12. Environment friendly safe water and latrines should be facilitated or constructed by involving the community. Second, communities should be trained in the use of ORT and the production and consumption of green leafy vegetables.
13. A health care service delivery system suitable to the needs and problems of the region may be developed to improve health care practices in the region. For example:
    - maximize geographical access, outreach service provisions may be developed. A mobile mechanism for service delivery for clusters of populations may be useful to address the problem of groups living in remote areas; and
    - substantial provision for public health service activities integrated with credit-based employment and income generating interventions may be introduced in the region. This intervention may comprise 'essential service package' components of the Government as envisaged under the Health and Population Sector Programs.

The study does not claim to be a comprehensive guideline for development initiatives in the CHT. Further studies (both qualitative and quantitative) should be done for better understanding of the ethnic groups, so as to contribute to their effective development. The studies may also be conducted to serve the specific need of a development program. As an academic pursuit studies may also be conducted to explain the association among the parameters as observed in this study.