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Building Resilience in the *Char* Area:

Baseline Findings of the *Char* Development Settlement Project (Phase IV)

Syeda Sitwat Shahed
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BRAC Research and Evaluation Division

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ACRONYMS

BDT	Bangladesh Taka
BWDB	Bangladesh Water Development Board
COSOP	Country Strategic Opportunities Paper
D	Decimal, 100 Decimal= 1 Acre, 250 Decimal= 1 Hectare
DAE	Department of Agricultural Extension
DPHE	Department of Public Health and Engineering
DUS	Dwip Unnayun Sangstha
EKN	Embassy of the Kingdom of the Netherlands
GoB	Government of Bangladesh
IFAD	International Fund for Agricultural Development
LGED	Local Government Engineering Department
LRP	Land Reclamation Project
MoL	Ministry of Land
SDI	Society for Development Initiatives
SSUS	Sagorika Samaj Unnayun Sangstha
TBA	Traditional Birth Attendant
WATSAN	Water and Sanitation Programme

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ABSTRACT

The geographical settings and circumstances of the *chars* make life both economically and socially challenging. Realising the necessity for advancing initiatives, *Char* Development and Settlement Project (CDSP) was initiated in 1994, of which the fourth phase of the project is currently undergoing. To assess the impact of the livelihood and social component offered under the integrated development activities of CDSP, we planned to collect two rounds of data on the demography and socioeconomic characteristics of the households. In 2012, shortly after the initiation of CDSP IV, baseline information was collected from a sample of 1,600 households from the intervention *chars* and 1,216 households from the non-intervention *chars*. We found that, over all, the living conditions in the *chars* are considerably under-developed in comparison to rest of the country. Settlers, who moved in here due to river erosions, are mostly illiterate and rely on farm based self-employment for living. They face high salinity in natural water and therefore, suffer from water borne diseases a lot. Asset ownership is concentrated heavily in land and land is not equally distributed. Residents rely heavily on informal sources of borrowing and the amount borrowed is mostly spent on consumption. *Char* dwellers are exposed to a multitude of vulnerabilities in terms of natural disasters; moreover, they are further exploited by non-natural devastations as well, such as death of primary earning member, poisoning of poultry/livestock, court case etc. These residents generally cope with these tragedies by borrowing/using their savings. Sometimes they also handle the losses through selling labour in advance or involving their children in income generating activities.

1. INTRODUCTION

A large segment of the population of Bangladesh, living in Southern parts, is exposed to annual flooding, river erosion and other impacts of climate change (i.e., recurring cyclones and seasonal storms). In addition to this, the enormous pressure of population is exacerbating the situation. Around 1590 square km of flood plains were eroded alone by the major rivers like the Jamuna, the Ganges and the Padma, rendering 1.6 million people homeless since 1973 (CEGIS 2009). Approximately, 15 to 20 million people are at risk from the effects of erosion (Feldman and Geisler 2011). The effect of river erosion is severest among the poor farmers and landless who have the least capacity to resist and recover from the environmental hazard (Greenberg 1986; Rogge and Elahi 1989).

However this is not the end of the story as this course of river erosion triggers another natural phenomena. It is seen that the rivers typically tend to overflow during moderate to heavy monsoons thus causing severe erosion along the river banks. The silt carried out further towards the coasts form new areas, locally called "*chars*[1]". The natural expansion of Noakhali district to the South is taking place by the continuous deposition of a huge amount of sediments from the Ganges, the Brahmaputra and the Meghna. This dynamic process, with continuing emergence, submergence and re-emergence of *char* lands over time was speeded up by the construction of two Meghna cross-dams in 1957 and 1964, the first by the irrigation department and the second by the than East Pakistan Water and Power Development Authority (Ahmed and Jenkins 1991).

In 1993 it was estimated that the total area covered by the *chars* in Bangladesh is 1,722 square km and the inventory of main river *char* lands estimated their area at 8,444 square km. or almost 6% of Bangladesh (Ministry of Irrigation, Water Development and Flood Control 1993). The *chars* are low-lying areas and the soil has relatively high salinity with low content of other mineral components (Hobley 2003). This particular type of soil composition in combination with the location, causes low fertility levels and is in an extremely dynamic physical environment (Chaudhury 2008).

Under the government regulations, the Forest Department takes care of the newly emerged *chars* for a period of time (approximately ten to fifteen years) with the objectives of accelerating accretion, stabilising the land, and protecting the mainland against storms and cyclones. However, in most cases the *chars* which are less likely to be flooded by sea water are occupied by the settlers migrating from the mainland before the end of this period, mostly the landless and those who were victims of river erosion.

[1] Typically the monsoon overflows rivers and carries significant amount of silt, and deposits a huge part of that in the shallow water along the coastal belt, predominantly in the south-eastern region. This sedimentation in the form of coastal *chars* leads to new land formation, locally called *"Char"*.

The geographical settings and circumstances of the *chars* make life neither convenient nor easy. Lack of infrastructure, isolation from mainland, disaster prone nature and powerlessness interlock the *char* dwellers into a downward spiral of poverty. Due to the lack of adequate institutional intervention this state of poverty trap has been seen to be quite persistent (Chowdhury 1988). So, the settlers literally start their life from scratch.

This paper aims to explore pre-intervention socioeconomic scenario at the intervened *chars* under fourth phase of "*Char* Development and Settlement Project" and its adjacent *chars*. It targets the alleviation of extreme poverty in the coastal areas of Bangladesh, in addition to looking into the dynamics of *char* life, which is different from that of any other livelihoods in Bangladesh. The remote location of the project and exposure to distinct physical and environmental characteristics instigated a dynamic economic and social livelihood structure. The following sections of this paper explores the challenges faced by the *char* dwellers, inception of the CDSP project and its description, data collection, baseline findings of the project and finally concluding remarks.

1.1 Challenges faced in the coastal region

At the time of emergence, the *chars* constitute extensive tracts of contiguous lands, without any physical structures, settlements, or boundary fences and markers. In a newly formed *char*, there is a progression from a cover of silt to natural vegetation to crop cultivation and finally human settlement, which takes 10-15 years. After the *chars* attain 'maturity', in some cases the Government of Bangladesh has taken an initiative to distribute *char* land to landless people, many of whom come from river eroded areas. Many *chars* have received large scale afforestation programmes carried out by the Forest Department and from the 1970s onwards, the Ministry of Land transferred thousands of hectares of *char* lands in Noakhali to this department for afforestation over 10-20 year periods (Adnan 2011, as cited in Rabbi et *al*. 2015).

Under this land distribution system, selected landless people receive joint ownership (both to husband and wife when applicable) of land where they have only possession rights but no selling rights. As soon as the *char* is ready for settlement the government makes sure of that each household is entitled to 1-1.5 acres (0.4 - 0.6 ha) of land in these *char* areas, and the Ministry of Land ensures the execution of this regulation.

Despite this state-led distribution process, the migrating landless peasants still find themselves in a vulnerable position which is being exploited by different forms of illegal power relations, due to the absence of direct supervision of state power in these remote regions. The *chars*, are in general, at a distance from the Noakhali District government office and due to the distinctive nature of the landscape (which consists of numerous islands linked to the mainland through rivers, rivulets and sea channels, sometimes covered by forests) have restricted common modes of transport. As a result, it is extremely difficult for the existing governing bodies and administration both to have effective control over these areas and to ensure basic living facilities like health, education and access to productive opportunities.

Moreover, continuous land formation and absence of government bodies provides scope for the existence of plundering power relations among the *char* dwellers (Adnan, 2013). The power brokers (*jotdars*) and *forest robbers (bana-dasyus)*, who with ancestral links in newly accredited *chars*, tend to support/patronise settlers and charge certain rents from people migrating there, treating them like unlawful residents. This type of autonomous (non-judicial) settlement leads to a situation in which the official process of land settlement cannot start with a clean slate. Settlers are already present in new *chars* with active control over land before the official process has even started.

It is not possible for landless farmers to settle in the new *chars* without the concurrence of a *bahini* leader or his brokers. In most of the *chars* when the settlers first came they found the whole area covered by bushes and jungles, and many beasts lived there. The arriving migrants had to negotiate the acquisition of a piece of land with the *bahini* leader. The *bahini* leader pressurised the poor migrants to cut the jungle for acquiring the land, and upon doing so, each received a small parcel of land. The migrants secured a shelter and protection for themselves and in return had to pay in terms of loyalty and money. Later on, their loyalty is reinforced into legal authority when the leaders get themselves elected to government positions such as Union *Parishad* Chairman. In this way, the illegal power of the *bahinis* is also transformed into legal power.

1.2 The inception of *Char* Development and Settlement Project (CDSP)

The fourth phase of the *Char* Development and Settlement Project (CDSP-IV), a multi-sector rural development project funded by IFAD, Government of Bangladesh and Government of the Kingdom of the Netherlands, is being implemented in five of these *chars* (Nangulia, Noler, Ziauddin, Caring and Urir char) in the southern part of Noakhali district, where approximately 30,000 households are residing. The project has social and livelihood components designed to be implemented by partner NGOs.

The project aims to support the livelihoods of settlers in recently emerged *chars* (newly accreted land). Settlers (valid for 80-90% of the households) migrated to *chars* for a number of reasons, mostly because people lost their original land and homesteads due to river erosion. When a new *char* becomes fit for cultivation, the river-eroded families from adjacent areas start migrating into the newly formed land for shelter and livelihood.

In 1980 the Land Reclamation Project (LRP) was launched to aid *char* development. To continue both planning and land development activities, the LRP was split into two separate components: the Meghna Estuary Study (MES), for water-based surveys and trials, and the *Char* Development and Settlement Project (CDSP), a land-based rural development project.

In its first phase (1994-1999), CDSP operated in three *chars*[2] and encompassed approximately 4,500 households. The subsequent phase, CDSP-II (1999-2005) was

[2] Char Baggar Dona II, Char Majid and Char Bhatirtek

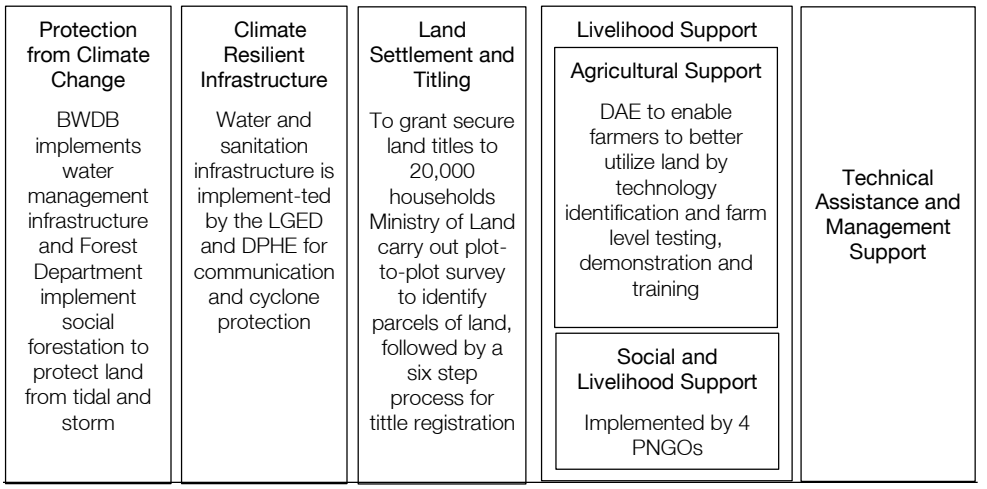
scaled up to include a larger project area comprising of nearly 9,000 households. CDSP III was launched soon afterwards (July 2005-December 2010). A total of 9,500 households received land titles during that period. Spanning over three decades, the CDSP developed nearly 46,000 hectares of *char* land and aided 24,000 households in acquiring land titles.[3]

The fourth phase of the project[4] launched in 2012 is expected to operate through 2016. The project is funded by the International Fund for Agricultural Development (IFAD), Embassy of the Kingdom of the Netherlands (EKN) and the Government of Bangladesh[5]. BRAC, along with other partner NGOs (Sagorika Samaj Unnayun Sangstha (SSUS), Society for Development Initiatives (SDI) and Dwip Unnayun Sngstha (DUS) are working alongside GoB and contribute to operational costs.

Elaborating on the previous phases, CDSP IV consists of different components that incorporates social and livelihood support (i.e. education, health, legal advisory, human rights etc.) with other support provided in the previous phases (i.e. microfinance, infrastructure, water and sanitation, etc.)

The current phase of the CDSP includes five activity components (See Figure 1).

Figure 1. Components of CDSP IV



The fourth component of CDSP IV, Social and Livelihood support, is being implemented by four NGOs[6] and hence is of particular importance to this study. The

[3] Here the term 'develop' refers to establishing infrastructure to promote economic and social activities in these *chars*.

[4] The total budget for this project is 89.2 million USD

[5] Bangladesh Water Development Board (BWDB), Local Government Engineering Department (LGED), Department of Agricultural Extension (DAE), Department of Public Health Engineering (DPHE), Ministry of Land and the Forest Department.

[6] BRAC, SSUS,SDI and DUS

overall objective of the *Char* Development and Settlement Project is to reduce poverty through improvement in economic situation and living conditions of people within the target region[7].

The component of social and livelihood support consists of the following components; a) Group Formation and Microfinance Programme, b) Health and Family Planning, c) Water and Sanitation, d) Legal Human Rights Programme, e) Disaster Management and Climate Change Programme, f) Agricultural and Value Chain Development Programme and, g) Training on Income Generating Activities (Farm and Non-Farm).

The Group Formation and Microfinance Programme is an extension of BRAC's existing microfinance operations. This includes formation of groups with all households from the *char* community and BRAC provides collateral-free small-size loans (from BDT 5,000) to group members at low interest. As part of the programme, the members are encouraged to save (on average 10-20 BDT[8] per month) in their account. According to the field officer, contrary to popular belief, the repayment rates among *char* dwellers are much higher than the national average. The Programme explains that this is largely due to the fact that the microfinance officials are the central point of contact for all CDSP operations. Due to the high magnitude of interactions with them, considerable trust is developed between the official and the *char* dwellers, which works positively in loan repayments and savings. Additionally, anecdotal evidence suggests seasonal trends in borrowing. BRAC CDSP senior regional manager stated:

> *"During August to November there is hardly any loan disbursement due to limited supply of 'mitha pani' (Fresh Water) which limits the scope of irrigation. As a result most of the household heads go out to the cities for other works (e.g. brick fields, etc.)."*

The *chars* lack safe sources of drinking water. It has been seen during the baseline period some *chars* had only one tubewell for 300 households. As one farmer from *char* Maksum Ul Hakim says;

> *"At this moment there is only one tubewell. Some of us have to walk 3 miles to collect water from this tubewell. Almost all the households dig a hole under the house to collect rain water. They drink the tubewell water but do rest of the work with the collected rain water"*

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[7] To achieve improved and more secure livelihoods in agriculture, provision of legal title to land and also to establish climate sustainable infrastructure, specific focus is given to (i) access to credit, (ii) extension with regard to economic activities, (iii) access to safe water, health, and sanitation facilities, (iv) access to education and legal aid services, and (v) important lessons on disaster management.
These objectives are in line with the International Fund for Agricultural Development (IFAD)'s Country Strategic Opportunities Paper (COSOP) goal of supporting the scaling up of successful innovative approaches to poverty reduction.

[8] The savings activity is mandatory and each Village Organizer member needs to save at least BDT 10. Upon saving up to BDT 6,000 of deposit, the VO member will get 5% interest on their deposit when they withdraw the money. For any deposit above 6,000, member will get 9% interest earned.

The water and sanitation programme (WATSAN) support under CDSP aims to ensure a safe source of water and safe latrine to each and every household and also improve sanitation and hygiene practice in the community[9]. Lack of adequate infrastructure and distance from the mainland limits the *char* dwellers' access to sufficient and timely health care facilities. CDSP provides education on health and nutrition, immunisation and family planning, in addition to basic curative facilities. The curative services are provided through paramedics called *Shasthya Shebikas* (female health workers), and trained traditional birth attendants (TBA)[10]. There is one paramedic[11] per branch and one Traditional Birth Attendant (TBA) employed for every 150 households. In addition to this, orientations on family planning and health for local leaders are held regularly.

To prevent exploitation, *char* dwellers are provided with training to increase social and legal awareness through courses entitled Human Rights and Legal Awareness (HRLS) spanning 3 weeks. Beyond training, the programme also provides a range of legal support when needed. An orientation meeting for the local elite is held on Legal and Human Rights awareness. International days like Women's Day, Children's Day and Human Rights Day are observed at the branch level. The staff also ensure marriage registrations and work to prevent child marriages.

The *char* regions are susceptible to natural disasters such as cyclone, seasonal storms, and flash flooding due to excessive rain. Regular meetings are held on disaster preparedness and mitigation under the auspices of the Disaster Management and Climate change component. An individual is typically selected from every neighbourhood and trained on disaster preparedness. This training includes

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[9] Programme officials identify the location where the tubewells are to be installed (typically 1 per 15-20 households) and follow up with the Department of Public Health and Engineering (DPHE) to confirm completion of the task. The households using a single tubewell then form the Tubewell Users Group (TUG). Among the TUG one or two households are selected based on the location of their household around the tubewell as the Care Taking Family (CTF). The CTF then goes through a training on how to take care of the tubewell and are taught methods to detect arsenic. A monthly meeting is held for every TUG. Based on the CTF and TUG's reports, faulty tubewells are repaired. They also ensure construction of platforms under every tubewell. Regarding sanitation, the programme confirms installation of a single pit latrine in every household. During the VO meeting people are trained on how to use a latrine. They are similarly trained to follow various hygienic practices such as wearing sandals when going to the latrine, washing hands after every time one uses the latrine, etc.

[10] The TBA's are voluntary workers who go through a 15-day mandatory training including hygienic delivery, comprising the 'three cleans' (hand-washing with soap, clean cord care, clean surface) and are equipped with a delivery kit box. The TBAs monitor all the pregnant women for 18 months preceding the due date and provide ante and post-natal care. In case of emergencies, they refer the patient to the *Upazila* Sadar hospital. The TBAs also sell basic medications such as oral rehydration packets, deworming tablets, micronutrient, iron tablets, medicine and contraceptives to the *char* dwellers. Furthermore, awareness meetings are held and also days like World heath Day is observed.

[11] The medical practitioner is in charge of one branch, which means all population within the perimeter of the office, this is approximately 1,200-2,000 people of all ages depending on the coverage of the branch. This medical practitioner is responsible for aiding in any emergency health situation and refers the patient to the nearest hospital if necessary.

knowledge on the significance of various warning signs, strategies to safeguard valuable assets, locations of disaster shelters and so forth. The selected group members also go through an annual refresher training. Regular meetings are held with the Union disaster committee. In addition to this, houses are strengthen and plinths are raised for mitigating the effects of natural disasters. The programme also observes Environment Day for raising awareness of the communities. The agriculture and value chain development programme aims to eliminate the middleman in marketing. Under this, seedling production and sales take place at a reasonable price for the farmers. Also, one of the farmers is chosen for demonstration and the rest of the farmers are trained while the demonstration plot cultivation takes place. Farmers are also trained on summer vegetables and fruit farming. The last component includes training on taking care of farm and non-farm income generating assets. Under this, beneficiaries with livestock, poultry and fisheries are trained on rearing. In addition to this other training specific to income generating work (i.e. bamboo cane work, food processing, tailoring) take place.

1.3 Targeting strategy and gender mainstreaming

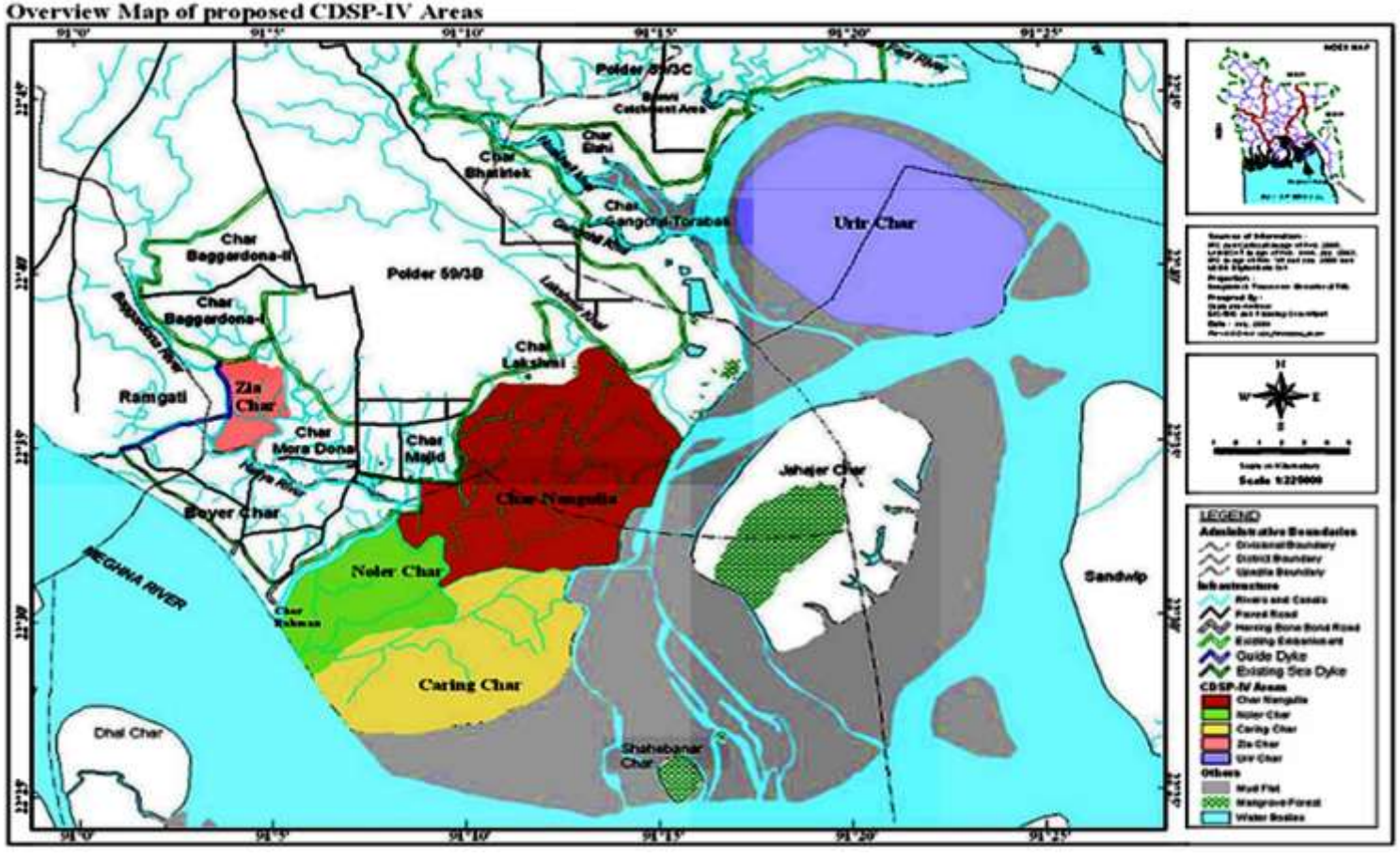
The fourth phase of CDSP spanning five years from December 2011 to February 2017, is implemented in five *chars* (Nangulia, Noler, Ziauddin, Caring and Urir char) in the Southern part of Noakhali district (see Figure 2) with an estimated 30,000 households which implies a total population of about 166,000 from 30,773 hectares of land. The entire population living in the selected *chars* are under the programme operation.

By selecting these newly emerged *chars*, the project has been able to reach a particularly poor and disadvantaged population. The vast majority (over 90%) of the population fall into IFAD's target group in terms of poverty levels (below the poverty line) or land ownership (landless, small and marginal farmers). Some project activities have been delivered to specifically targeted households, using some selection criteria[12].

The activities, which cover all households, almost entirely target women, with homestead agriculture, formation of women groups, microfinance, health and family planning, and human rights and awareness all being delivered to women's groups. The NGOs also formed women's tubewell user groups and trained women caretakers. The Landless Contracting Societies (LCSs) formed by LGED are women-led with at least 80% women members.

[12] (a) Land settlement–MoL criteria are that households getting land legally should be a family who depend on agriculture for their livelihood but have no agricultural land and not more than 10 decimals of homestead land. Land settlement policy gives priority to the following landless families: (i) Destitute/Freedom fighter family; (ii) Families who have lost all of their lands in river erosion; (iii) Widow and abandoned women with adult son; (iv) Families with no homestead and agricultural land; (v) Families who become landless due to land acquisition for development work, (b) Agricultural support is targeted to landless, small and marginal farmers (owning less than 2.5 acres of land, as per national land holding classifications). (c) Labour Contracting Societies (LCS) combining LGED, DPHE and BWDB select women who meet specific criteria. The Forest Department arranges for Social Forestry groups selecting both women and men.

Figure 2: Map of CDSP phase IV areas



2. RESEARCH OBJECTIVE

2.1 Conceptual framework and research objective

To assess the overall effect of multidimensional programme in greater detail, we structured the programme activities under the Conceptual Framework depicted in Figure 3. The theoretical framework structures the underlying research focus for assessing the attribution of the programme specifically on achieving poverty reduction. After identifying the key constraints in context of the *char* region, namingly financial services and health facilities, vulnerability due to natural disasters, and barriers in accessing justice, justified actions were taken accordingly to address these issues.

To address the limitation of financial service access, CDSP beneficiaries were given access to loan and savings facilities through BRAC Microfinance. Given easier accessibility, it is expected that all households seeking these facilities will improve their lot by utilizing the loans and savings. The *char* inhabitants were found to be in a poor health condition, which allowed the project to take action in providing a health support system. It is expected that there will be better output in terms of gaining more knowledge about good health practices and people will have access to health facilities, which will translate into outcome of better health status.

As crop production is largely hampered due to natural causes along with lack of modern teachnology, CDSP provided cash grants to beneficiaries for buying inputs and gave technical assistance for improving their production. Given this assistance to benefit the production process, accessibility to resources and information is expected to widen knowledge and so generate higher agricultural production.

In order to ensure fair justice, CDSP educates beneficiary women on human and legal rights, and activates social catalysts from village elites. If these actions succeed in creating legal awareness among the local community and improve access to justice by the poor, then it can be expected to reduce social vulnerability.

Natual disasters cause inhabitants to face vulnerability and, to make beneficiaries better prepared for such natural calamities, information dissemination tools and a communal system for disaster management are developed and training is given on disaster preparedness. This is expected to translate into better knowledge among the inhabitants to prevent and reduce vulnerability and loss due to such disasters. Considering all these outcomes, it is expected that the impact of the project will be to reduce poverty through economic development.

The core objective of the current research exercise is to assess the impact of the social and livelihood support under CDSP interventions. For this purpose, two rounds of panel data would be collected to analyse the pre and post programme situation. For the baseline survey, we plan to observe household level demographic and socio-economic scenario, with specific focus on:

a) Demographic attributes of the households including household characteristics, educational attainment, and gender-age distribution;

b) Households' economic condition, particularly regarding asset holding, occupational diversity and financial market participation;

c) Exploration of available health facilities and knowledge regarding health practices;

d) Exploration of social vulnerability in terms of food security, crisis coping, etc.

2.2 Data collection

For the pre-programme situation analysis the baseline survey was carried out in 2012 with a sample of 2,800 households where the treatment group consisted of 1,600 households (800 households from BRAC intervention households and 800 from intervention by other NGOs). Data for the survey were collected during September-October 2012, about six months after the interventions had begun to be implemented in the treated *chars*. Though conventionally, it is best to collect pre-intervention data prior to actual programme implementation however, in this situation, the survey work had to be delayed due to financial and administrative constraints. Given the state of under-development of this region, it is expected that data collected with-in a short interval after intervention was initiated would generate few, if any, social or economic change. However, this general consideration result one exception which has been explain in the result section.

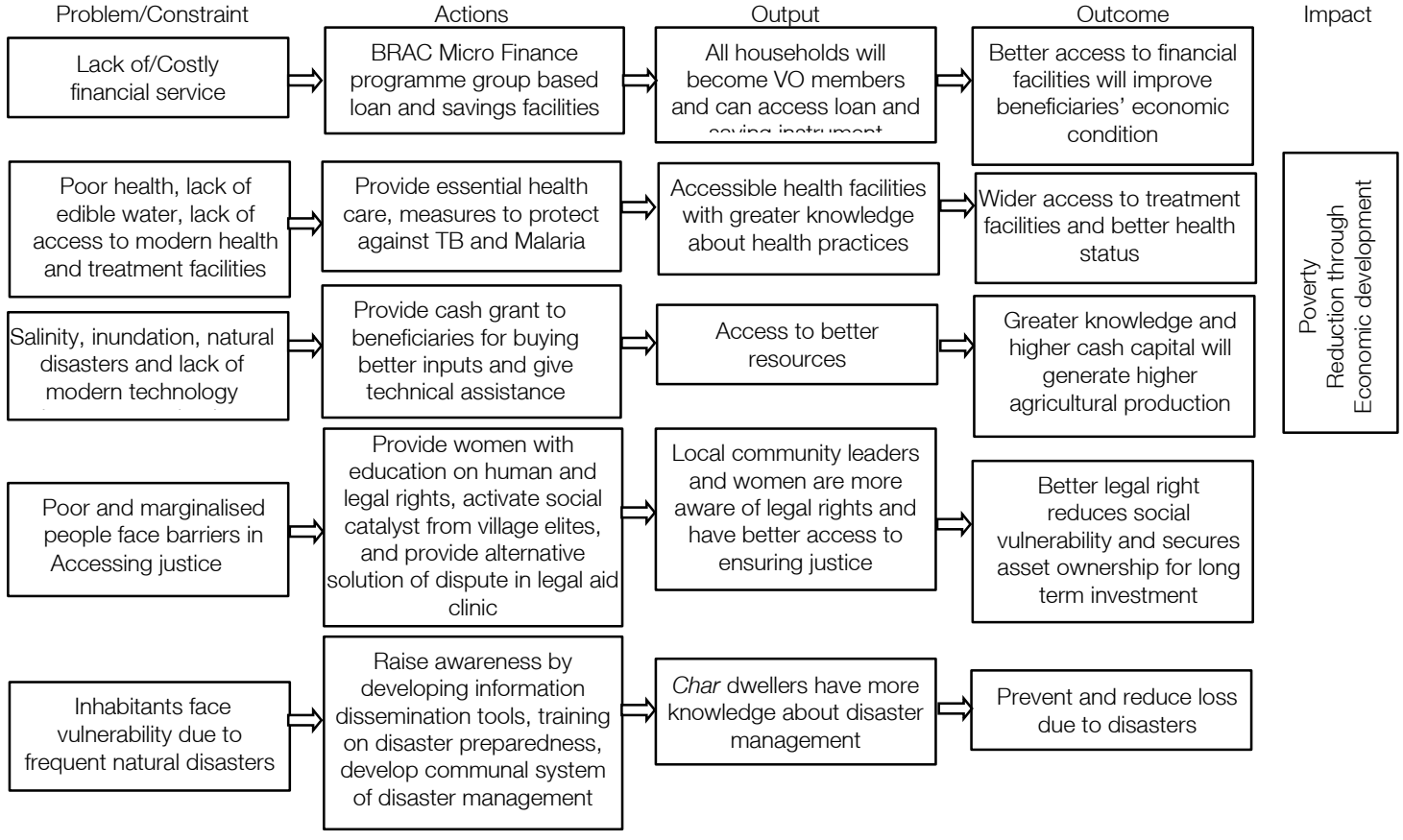
From each sample household, demographic and socioeconomic data were collected by interviewing an adult woman of the household. She was usually the wife of the head of the household or herself the head of the household. The questionnaire contained information on: basic demographics, education, migration, employment and income, health (birth, death, immunisation), financial market participation (for example, savings, loans etc.), food security (including a 3 day recall), chronic illness, hygiene practice, household assets (physical and financial), details on house structure, changes in the households' economic condition in the past three years, marriage details (during the past 3 years), awareness (health, nutrition, social issues etc. including self-perception on such issues), programme related questions, i.e., assets/training they received etc., crisis and disaster management, etc. (for all members of the household, if applicable).

Forty enumerators were recruited for the quantitative survey. Before beginning the actual survey, enumerators were rigorously trained in a seven day long extensive training session on the questionnaire, followed by field-testing, conducted by the short listed enumerators. Ten interviewing teams were deployed for the data collection. An interviewing team consisted of two female and two male enumerators supervised by a male supervisor. Each interviewer and supervisor, employed in the teams, had previous experience in carrying out household surveys and collecting anthropometric information.

2.3 Monitoring of data quality

During the data collection period, researchers and field operation staff from RED conducted regular and random spot checks to ensure quality of data. In addition to this, all the completed questionnaires were cross-checked by each team at the field-office and all corrective measures undertaken when and where necessary. The collected data were verified to address any inconsistency, wrong recordings and/or coding, while in the field. Questionnaires were further checked by a separate Data Management Section in BRAC head office before entering it in the database. Further and final checks were carried out to counter any errors that may have been missed earlier.

Figure 3. Theory of change for CDSP phase IV project (Component of social and livelihood support)



3. FINDINGS FROM THE BASELINE SURVEY

3.1 Background

3.1.1 Migration to chars

Most of the people living in *chars* migrated from the nearest districts or other part of the *chars*. From the sample, we can see that inhabitants have migrated in this region for a number of reasons (Table 1). We found that two major reasons for migrating to *char* region- one is erosion of rivers and the other land grabbing. However, the households under CDSP IV appears to migrate more due to erosion rather than land attack, where the reverse occurs for the households who receive no intervention. This contrast hints at substantial difference between characteristics of households under two regions. Additionally, Table 2 indicates that, households under treatment region reports to live in these *chars* longer than non-treated households.

Table 1. Migration situation

Migration Situation	Treatment (1)	Comparison (2)	Difference (2-1)
Never Migrated/Lived here (% of total sample)	0.19	33.32	33.04***
	Reason for Migration (% of migrants)		
River Erosion	75.25	28	-47.54***
Previous Land Grabbed by others	23.38	36.18	-12.73***
Landless	1.13	2.14	1.03***
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.1.2 Length of settlement in char area

The settlers from non-treated *chars* have remained in the region longer in comparison to residents from the treated *chars.* In the non-treated region, 15.09 % of the residents have been living there for more than 20 years whereas, in the treated region less than 1% of the inhabitants remained in the area for the same time period.

Table 2. Length of settlement

Length of settlement	Treatment (1)	Comparison (2)	Difference (2-1)
1-10 years	64.39	60.25	-4.14 ***
11-20 years	34.65	24.67	-9.98***
21-30 years	0.91	9.48	8.57***
Above 30 years	0.06	5.61	5.55***
N	1,600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.2 Demography and educational status

3.2.1 Household characteristics

Considering the size of the households, households in treated *chars* are bigger than those in the comparison area.

Table 3. Household characteristics

Indicators	Treatment (1)	Comparison (2)	Difference (2-1)
Household size (Mean)	5.51	5.25	-0.27***
Proportion of male members (%)	50.4	49.03	-1.38
Ratio of working age members	0.47	0.51	0.04***
N	8,818	6,385	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

The treatment area has a smaller working age (aged 16-64) population than that of the comparison area. Additionally, in both regions, about 50% of the total population is male (see Table 3).

3.2.2 Household composition

As shown in Table 4, 20% of households have six members and more than 30% of households have four, or less than four, members. The mean size is higher in the *char* areas compared to national mean household size (4.50)[13].

[13] Household Income and Expenditure Survey (HIES) 2010

Table 4. Size of households

Household size (number of members)	Treatment	Comparison
1	0.3	1.0
2	4.2	5.0
3	9.6	11.0
4	17.1	19.0
5	20.3	20.0
6	20.1	19.0
7	13.7	11.0
8	8.5	4.0
9+	6.2	8.0
N	1600	1216
Mean	5.51	5.25

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.2.3 Characteristics of household heads

Table 5. Household characteristics

Characteristics of household heads	Treatment (1)	Comparison (2)	Difference (2-1)
Sex of household head (Female) (%)	100	99.96	0.05
Average age of HH head (years)	36.42	34.94	-1.48**
Literacy rate of HH head (%)	27	21	-5.9***
Mean years of education for HH head	5.19	5.34	0.15

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Household heads from treatment and comparison households are fairly similar in terms of educational attainment: 27% of the treatment household heads reported to be literate compared with 21% of the comparison heads. However, their educational attainment is similar. On average, treatment household heads are older than non-treated heads.

3.2.4 Gender and age distribution

From Figure 4, the gender distribution of population in treated and comparison areas can be observed in age disaggregated form. Apparently the distribution across both male and female population is similar and the dependency ratio for male household members is 49.4 and 47.08 respectively, while for females, this ratio is 49.3 and 47.1 respectively.

Figure 4. Distribution of male and female population

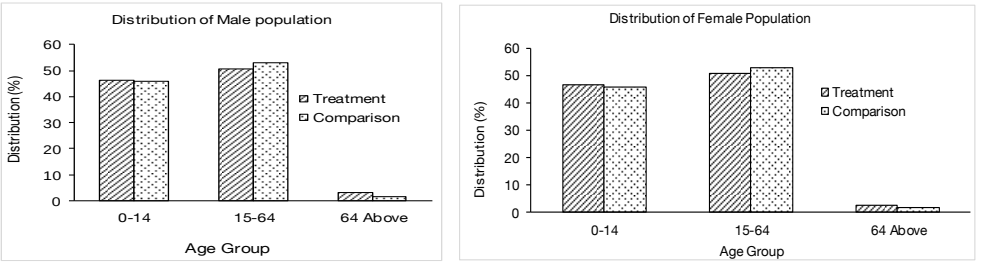
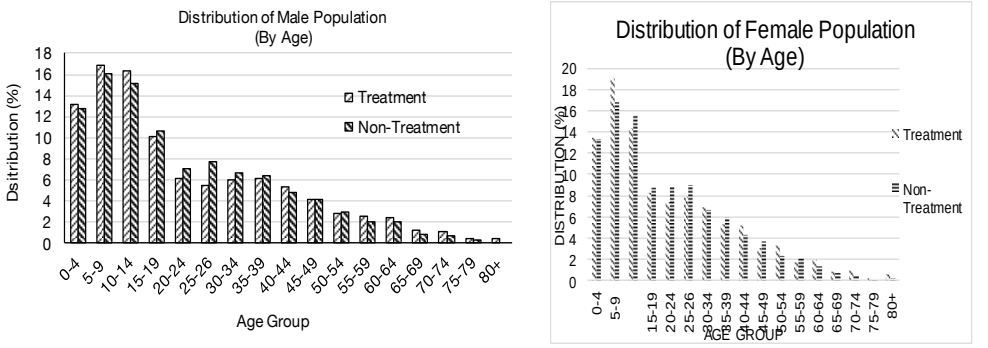


Figure 5 displays the sex-ratio variation by ages, which shows that more than 70% of people from both treatment and comparison areas belong to the under 30 age group cohort, which shows that there are more people in the younger than in the older age groups for both sexes. Half of the population in study area is in between the ages of 15 and 64 in both areas, and over half is under 15 years. The study population at the later age (65 or older) was only 2.77% in the treatment and 1.56% in the control which is relatively lower than the national average. National life expectancy is 69 years. The mean age in the treatment area is 24.8 years where the mean age in the control area is 24.1 years.

Figure 5. Age distribution of the *char* dwellers (male and female)



3.2.5 Marital status

Marital status in the treatment and non-treatment areas is almost similar. The distribution in Table 6 shows that almost 40% people of the study area have a conjugal life. 58.18% population in the treatment area and 57.16% in the control area are unmarried. This is explained since more than 55% of the study population in under the age of 15. The percentage of widows is little bit higher in the treatment area.

Table 6. Marital status in treatment area compared to control.

Marital status	Treatment (%)	Comparison (%)
Unmarried	57.16	58.18
Married	41.19	39.39
Divorced	0.1	0.16
Widowed	1.52	2
Separation	0.03	0.27
Total	8,818	6,385

3.2.6 Early marriage

Table 7. Early marriage

Early marriage	Treatment (1)	Comparison (2)	Difference (2-1)
Early marriage among boys (aged 18-20) (%)	2.94	7.27	4.33
N	34	344	
Early marriage among girls (aged 15-17) (%)	22	22.8	0.8
N	50	351	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

The prevalence of child marriage in Bangladesh is one of the highest in the world (UNFPA (2012). Early marriage, frequently carried out against the child's will, endangers their survival as well as cripples future development opportunities. In 2013, a survey found that 71% of the rural women aged 20-24 were married before the age of 18.[14] Despite being under developed relative to the rest of the country, the early marriage situation is significantly better in the *char* area. In the treatment region, 2.94% of the boys get married before the legal age whereas in the comparison region about 7.27% of the boys do so. Among the girls, prevalence of early marriage is about 22% on average across both regions.

3.2.7 NGO membership

Even though the programme expected to achieve full coverage, however, the entire population of the treatment region could not be covered yet under NGO operation as among the treatment households 94.8 % were participating in weekly group meetings.

Table 8. NGO membership

NGO membership	Treatment (1)	Comparison (2)	Difference (2-1)
Is a member of NGO	94.81	10.86	-83.96 ***
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

[14] http://plan-international.org/files/Asia/publications/national-survey-on-child-marriage-by-plan-bangladesh-and-icddr-b

On the other hand, in the comparison region, about 10.8 % of the households were participating in NGO activities even though implementation of CDSP was restricted to the treatment *chars* only. This suggests that control *chars* could be partly covered by other NGOs which are not Project NGOs of CDSP.

3.2.8 Education and literacy

Education, one of the key goals for the MDGs in 2015, is a sector in which Bangladesh has achieved considerable progress. In 2012, according to BANBEIS, net enrolment was 93.52% in general and 98.23% for females specifically[15] whereas, gross enrolment rate for male and female children is 101.3% and 107.6% respectively[16]. But the nationally representative data hides the geographic dispersion as the Report for 2012 shows that the enrolment rate from the 15 poorest districts in Bangladesh for children aged 6-10 years is 82.15% for males, and for females it is 85.23%[17].

As Table 9 shows, the *char* region is, in general lagging far behind in comparison to the national average. For primary school enrolment, 73.1% of the boys in the treatment region and 79.2% of boys from the comparison region are enrolled and this difference is statistically significant. For girls, in the treatment region 79.4% of the girls aged 6-10 years are enrolled, and in the comparison region 76.8% are enrolled.

Table 9. Children's school enrolment

Enrolment rate of boys and girls	Treatment (1)	Comparison (2)	Difference (2-1)
Currently going to school (boys) 6-10 year	73.1	79.2	6.01***
Currently going to school (girls) 6-10 year	79.1	76.8	-2.3
Currently going to school (boys) 11-15 year	51.5	64.2	12.7***
Currently going to school (girls) 11-15 year	59.6	72.8	15.9***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

For children aged 11-15 years, national poor rural area average enrolment for boys is approximately 65% whereas, in treatment *chars*, boy's enrolment rate is 51.5% and in comparison area 64.2%. For girls from treatment *chars*, 59.6% aged 11-15 years are

[15] http://www.banbeis.gov.bd/webnew/index.php?option=com_contentandview=articleandid=342

[16] http://www.banbeis.gov.bd/webnew/index.php?option=com_contentandview=articleandid=854:table-210-enrolment-rate-in-primary-education-2005-2012andcatid=130:primary-education-2012andItemid=222.

[17] Life and Livelihood of the Ultra Poor in Rural Bangladesh: Baseline Findings of CFPR-TUP Programme Phase III, in this report, researchers had reported enrolment rates for different target groups as well as for a non-targeted sample. The author took an un-weighted average to get a rough idea of enrolment from a broader dimension.

enrolled, whereas, from comparison *chars* 72.8% are enrolled. However, the gross enrolment rate for Bangladesh girls remains 74.13%. So, it seems that the difference with national statistics is quite large for the older years in the treatment areas.

Table 10. Literacy rate and years of education

Adult Literacy rate and Years of education	Treatment (1)	Comparison (2)	Difference (2-1)
Male literacy rate (%)	22.0	26.6	4.5 ***
Female literacy rate (%)	26.04	22.0	-4.0***
Years of education– Adult Male (Mean)	7.7	7.2	-0.5
Years of education– Adult Female (Mean)	5.32	5.82	0.5

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

The education aspect of the *char* area is understandably underdeveloped. The average rate of literacy for males of this region is significantly higher in the non-treated area than in the treatment area. Average adult literacy for males from 15 poorest districts in Bangladesh[18] is 36.19%, whereas, in the CDSP *chars*, only 22% of the adult males are literate. However, 26.6% of the males in non-CDSP *chars* are literate. For females, the literacy rate in CDSP area is almost the same as that of males but in the 15 poorest districts it is higher at around 35%. For adults above 21 years of age, the average number of years of education is almost the same between the CDSP and non-CDSP regions. For an adult male in the CDSP region, average education is up to class 2 whereas, for the 15 poorest districts in Bangladesh, the average education is up to class 3.[19]

3.3 Asset ownership

Now we focus on the asset ownership situation of the study areas. We focus on land (natural asset), and various form of business and non-business asset holdings.

3.3.1 Land ownership

On average treated households own 129.4 decimal (0.5176 ha) of land and non-treated households possess 128.9 decimal (0.5156 ha) of land. However, the ownership is not uniform across the two types of households e.g., 9.2% of the treated households are landless whereas, only 3.8% are landless within non-treated area. In contrast, more households in non-treated region possess up to 49 decimals of land in comparison to treated region. About 14.5% treated and 12.7% non-treated

[18] Life and Livelihood of the Ultra Poor in Rural Bangladesh: Baseline Findings of CFPR-TUP Programme Phase III

[19] Life and Livelihood of the Ultra Poor in Rural Bangladesh: Baseline Findings of CFPR-TUP Programme Phase III

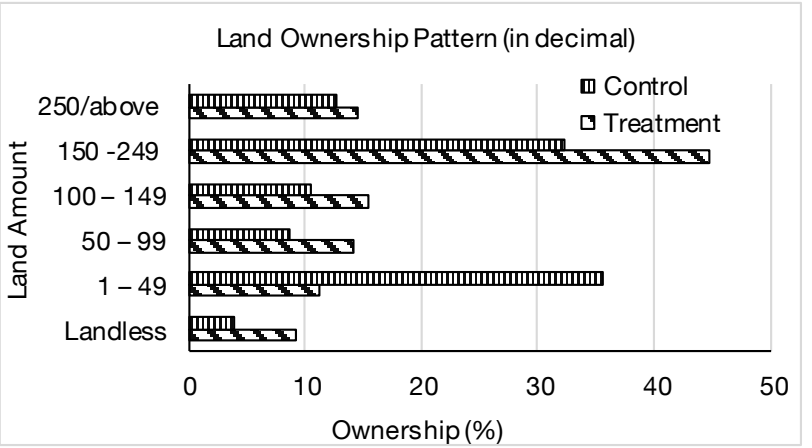
households own more than 250 decimals (above 1 hectare) of land therefore, the difference is not statistically significant (Table 11).

Table 11. Land possession

Possession of lands of all type (decimal)	Treatment 1)	Comparison (2)	Difference (2-1)
Landless	9.2	3.8	-5.342***
1 – 49	11.2	35.6	24.48***
50 – 99	14.2	8.7	-5.41***
100 – 149	15.4	10.4	-5.08***
150 -249	44.8	32.3	-12.49***
250/above	14.5	12.7	-1.79
Mean (decimal)	129.4	128.9	-0.5
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Figure 6. Land ownership[20]



3.3.2 Business and non-business asset ownership

As reported in Table 12, the *char* population has very limited access to various productive and non-productive assets. The only asset owned in double digits among the CDSP and non-CDSP households is poultry, where treated households own a higher number than the comparison households. However, both categories of households generate almost equal revenue from their poultry/livestock[21].

[20] 1 hectare=250 decimals.

[21] Treated households earn BDT137 and non-treated household earn BDT132 weekly from selling milk/egg/cow.

Among other bigger livestock, ownership of goats and cows are higher in treated than in non-treated households. About 8.5% of the CDSP households own a mobile phone whereas, about 9.27% does so in the comparison region. Other assets useful for income generation are very few, only 0.2% of the treated households possess van/rickshaw in the treated region whereas in the comparison area, 0.3% do so. Ownership of modern agricultural equipment is also limited. 1.24% of the CDSP households possess tractor/thresher/plough but 4.13% possess fish nets, whereas in comparison *char*s, possession of both assets is significantly lower.

Table 12. Business and non-business assets

Productive Asset (%)	Treatment 1)	Comparison (2)	Difference (2-1)
Cow/Buffalo	5.95	3.64	-2.30***
Goat/Sheep	5.95	3.64	-2.30***
Chicken/Hen	11.94	10.67	-1.27***
Shallow machine	0.03	0.07	0.04
Plough/Tractor/Thresher	1.24	0.20	-1.04***
Rickshaw/van	0.21	0.30	0.08
Poultry livestock shed	9.52	9.65	0.14
Shop	0.89	0.58	- 0.31***
Bicycle/Motor cycle	0.68	1.36	0.68***
Boat/Fish net	4.13	1.65	-2.48***
Mobile phone	8.47	9.27	0.80***
Tree	3.78	4.29	0.51*
Television/Radio	0.36	1.28	0.92***
Non-productive asset (%)			
Sewing machine/Solar	0.55	1.82	1.26***
Jewelry and Sari	19.38	20.49	1.11***
Furniture	29.7	32.4	2.7***
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

While, 0.55% of the treated households possess sewing/solar machine about 1.82% do so in the non-treated region. In both treated and non-treated *char*s, 19.8% and 20.5% households possess jewelry and *sari*. Ownership of household furniture is higher among the non-CDSP *char*s.

3.4 Financial market participation

3.4.1 Credit behaviour

There are 1,317 households (82%) in the treatment area and 412 households (33%) in the comparison area who took loan. Among them 63.02% households in the treatment and 35.19% households in comparison area have multiple credit access. It shows that there is more inequality in the availability of sourcing loans in the comparison area.

Although 12.60% in treatment and 15.29% in comparison have no loan during data collection time 65.76% households in treatment and 38.84% households in

comparison received loan less than BDT 10,000. 22.09% households in treatment and 45.24% households in comparison received loan more than BDT 10,000.

Figure 7. Size of credit

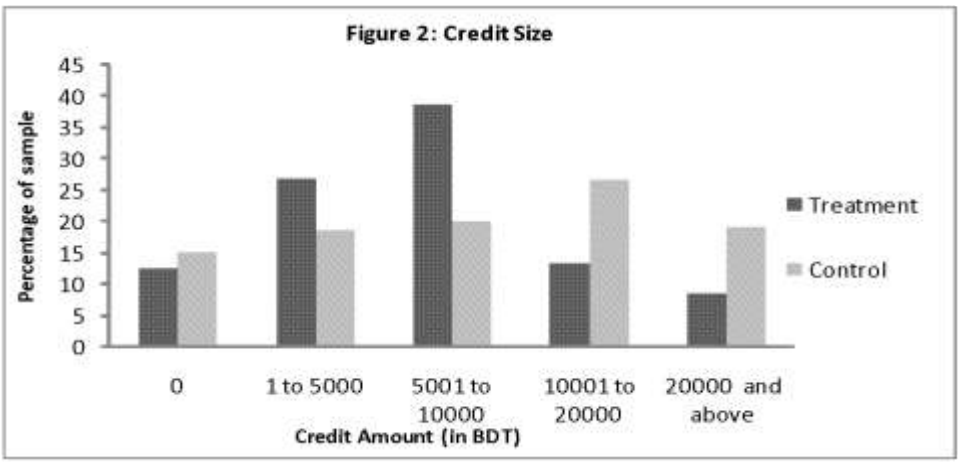


Table 13. Source of credit

	Treatment (1)	Comparison(2)	Difference (2-1)
Bank	0.08	0.34	0.26
Mohajon/shop keeper	22.63	42.18	19.55***
Friends and relatives	20.96	33.67	12.72***
BRAC	17.84	2.38	-15.46***
Other NGO	38.5	21.43	-17.07***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Though 17.8% of the treated households borrow from BRAC and 38.5% from other NGOs, however the remaining households rely equally on informal sources such as *mohajon*[22] and friends/relatives. In non-treated *char*s, the credit dependence towards BRAC is replaced with informal sources such as *mohajon* and relatives. The significant difference between BRAC borrowing is quite expected in this case because baseline information was collected after programme implementation had begun.

The purpose of taking loan is rather different in two areas. 58.09% households in treatment area and 31.13% households in the comparison area used their loan for a productive purpose. In the comparison area one fourth of people used loan for reconstructing and reinstalling their homestead for disaster management. On the other hand, one fourth of the people used the loan for consumption.

[22] Local money lender

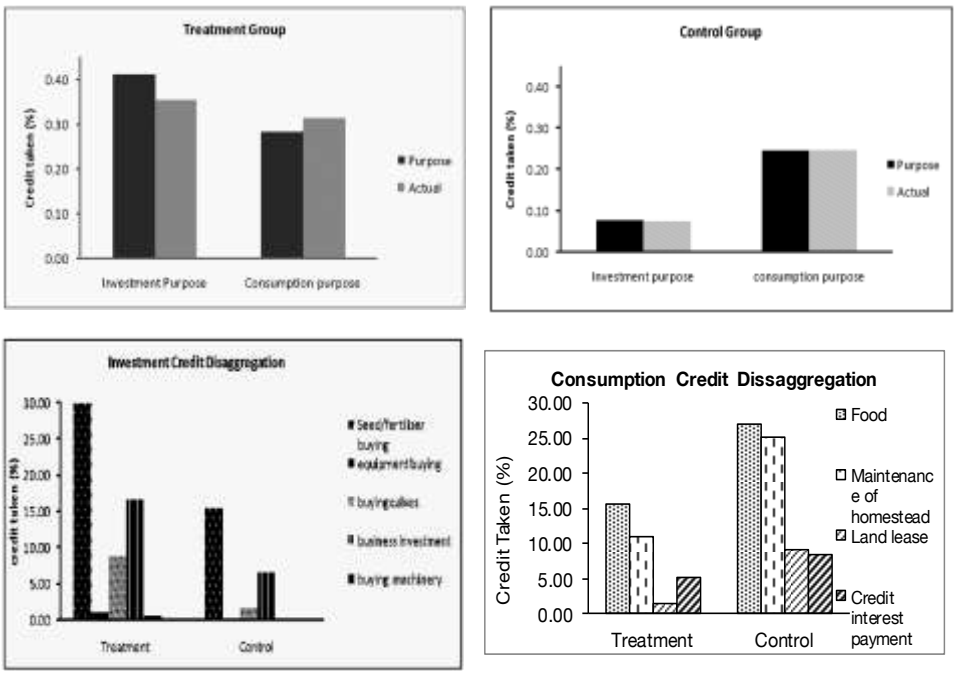
3.4.2 Use of credit taken

As Figure 7 depicts, CDSP beneficiaries tend to borrow more for investment purpose compared to non-CDSP *char*s, however their actual spending is significantly different. The CDSP beneficiaries invest less of what they actually borrow whereas for the non-CDSP households, this gap is not significant. Similar pattern is noticed for credit taken for consumption purpose as well. Treatment households take around 28% credit for consumption purpose; however they spend 31% of credit for consumption related purpose. But for the comparison households, borrowing and actual spending does not vary significantly.

Beneficiaries, who borrow for investment, tend to spend the largest proportion of credit taken for buying seed/fertilisers but among non-beneficiaries only 15.4% of credit taken is used for buying seeds. In treatment *char*s, a large proportion of credit taken goes for investing in new business but for the non-beneficiaries, business investment is significantly lower.

The households in the non-beneficiary area spend more for consumption purposes compared to CDSP households, the non-CDSP households spend about 27% of credit taken for acquiring food whereas only 15.6% of the CDSP households do so. Maintenance of homestead is another factor in consumption loans for the non-CDSP households, 25% of the credit is taken for maintaining/developing their households whereas for CDSP households, only 10.9% goes for this.

Figure 8. Use of credit



3.4.3 Savings

Lack of savings is one of the most prevailing characteristics of poverty. Across all countries, poor households find it difficult to save or even more, they face extreme hardship in sustaining their meagre savings for a long duration. Absence of formal savings mechanism aggravates this situation further.

CDSP has a built-in savings component in its interventions as beneficiaries are obliged to form a group/co-operative and make weekly contributions to save. Among treatment households about 98% are members of group organisations and on average their savings are about BDT 1,020 but in the non-CDSP region, although only 10.7% of the households have a group saving facility, still their average savings are about BDT 1,826. Although non-CDSP households participate in groups mainly to access loans easily, however the treated area households mostly wanted to participate because they think that participation enables them to have other advantages. A pattern of seasonality is observed, as people seek 60%-80% of their total demanded credit between June and November. Since the intervention area households cannot access a sufficient amount of credit, therefore they seek *dadan*[23] more frequently than the non-CDSP households. About 25.2% of the treated area households have borrowed under *dadan* in the last 6 months, whereas only 23.6% have done so in the non-CDSP region.

3.5 Income and employment

The study is intended to analyse the income and employment pattern of inhabitants of both the treatment and control group. To assess their overall livelihood condition, the two indicators we focus on are income and employment.

3.5.1 Value of income

It is found from Table 14, that the average monthly household income in the treatment and comparison areas are BDT 7,651 (USD 99) and BDT 9,006 (USD 117) respectively. The average income in the non-treatment area is significantly higher.

Table 14. Monthly income (in BDT)

Income	Treatment (1)	Comparison (2)	Difference (2-1)
0-2000	2.313	1.32	-0.1*
2001-5000	20.69	7.98	-12.71***
5001-10000	57.38	61.02	3.64*
10001-20000	17.5	25.66	8.16***
20000 above	2.13	4.03	1.91***
Mean	7651.3	9006.3	1354.97***
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

[23] Dadan refers to one kind of informal money borrowing mechanism through which borrower borrows from money lender by selling crop/labour in advance. Borrower borrows money prior to harvesting in lean season and after crop is harvested, borrower sells off his crop to the lender at fixed price.

Per capita monthly income[24] of households is also significantly different between the treatment and comparison *char*s. For the CDSP *char*s, per capita income for each household is BDT 1,473, whereas in non-CDSP *char*s, average per capita income per household is BDT 1, 860. Though, their per capital income is above the average income of upper poverty line for Chittagong division (1304.64 BDT)[25] however, the average figure masks inequality in income.

Table 15. Working days (Annual)

Working days (mean)	Treatment (1)	Comparison (2)	Difference (2-1)
Male	286.38	250.8	-35.59***
Female	291.85	252.34	-39.51***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

On average, males from CDSP region work more than those from non-treated *chars*. and same goes for females of treated region as well. However, the females in CDSP *char*s work significantly more than the non-CDSP *char*s.

3.5.2 Primary occupation of household head

Similar to other parts of rural Bangladesh, agriculture is the main occupation in this area. 58% people of treatment and 50% people of comparison areas are involved in agriculture as shown in Table 11. The rest of the people are involved in fishery, rickshaw pulling, small business and day labouring. The percentages in 'others' (25.9% and 22.5% for treatment and comparison respectively) explain that people of the areas are involved different types of income generating activities. The return from the income generating activities is lower than other parts of the country as the standard of living is lower.

Table 16. Nature of employment (Male)

Employment activities (Male)	Treatment (1)	Comparison(2)	Difference (2-1)
Farm self-employment	52.96	52.18	-0.79
Non-farm self-employment	9.92	7.87	-2.06
Farm wage employment	8	6.86	-1.15
Non-farm wage employment	0.28	0.03	-0.24
Salaried employment	1.63	1.61	2.3***
Business	6.24	6.72	0.48
Servant	0.29	0.06	-0.23
Begging/Unemployed	0.06	0.42	0.358***
N	3447	1682	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

[24] According to BBS, national per capita income in Bangladesh is BDT 71,071 (USD 923).
[25] http://www.bbs.gov.bd/WebTestApplication/userfiles/Image/LatestReports/HIES-10.pdf

Most people in *char* area are involved in farm based self-employment such as taking care of livestock, rearing poultry, fishing, fish cultivation, vegetable cultivation, leasing own land, tractor driving, leader of village etc. The working population in CDSP *char*s are also involved in non-farm wage earning activities such as tailoring of clothes, shoe cobbler, mechanic, deed writing, paper seller, religious leader, night guard, politics etc.

Table 17. Nature of employment (Women)

Employment Activities (Female)	Treatment (1)	Comparison(2)	Difference (2-1)
Farm self-employment	94.14	92.95	-1.19
Non-farm self-employment	0.3	0.1	-0.193
Farm wage employment	0.44	0.41	-0.034
Non-farm wage employment	1.73	2.76	1.03***
Salaried employment	1.11	1.12	0.02
Business	0.18	0.20	0.02
Housemaid	0.67	0.61	-0.08
Begging/Unemployed	0.07	0.61	0.434***
N	2730	986	

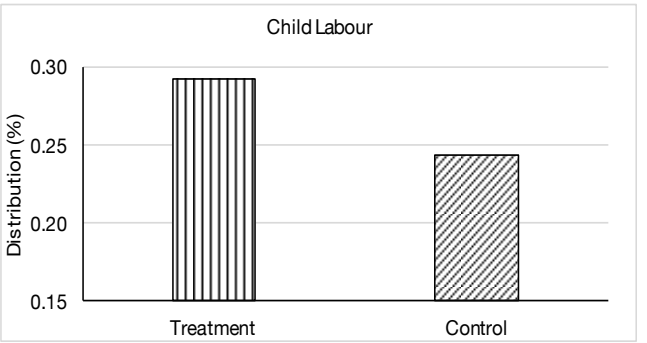
Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

For the females, highest concentration of occupation is in farm based self-employment. The remaining female population who were not involved in income generating activities was mostly involved in household chores (non-farm wage employment).

3.5.3 Child labour

The incidence of child labour is high in the CDSP region. In treatment *char*s, about 29% of children of school going age are engaged in income generating activities but in the non- CDSP region, less than 25% of the school age children are involved in earning activities.

Figure 9. Child labour



3.6 Health status

A 'human asset' is a measure of the economic value of an employee's skill set. This measure builds on the basic production input of labour measure where all labour is thought to be equal. The concept of human capital recognises that not all labour is equal and that the quality of employees can be improved by investing in them. The education, health status (food consumption), health seeking behaviour, experience and abilities of an employee have an economic value for employers and for the economy as a whole.

3.6.1 Food consumption and food intake

Table 18. Weekly food consumption

Days consumed	Treatment (%)	Comparison (%)	Days consumed	Treatment (%)	Comparison (%)
Rice			Pulse		
1-2	0.07	0.002	None	21.81	9.46
3-5	0.03	0	1-2	36.88	35.28
6-7	99	99.9	3-5	35.5	47.29
			6-7	5.81	7.89
Fish			Meat		
None	6.56	4.03	None	71.75	65.54
1-2	26.12	25.99	1-2	25.5	30.84
3-5	45.31	52.8	3-5	2.5	3.37
6-7	22	17.11	6-7	0.25	0.16
Milk			Fruit		
None	90.31	85.2	None	90.38	84.95
1-2	3.44	8.8	1-2	7.38	12.91
3-5	2.06	3.13	3-5	2.06	1.97
6-7	4.19	2.8	6-7	0.18	0.08
Vegetable					
None	5.5	10.61			
1-2	32.38	37.25			
3-5	54.75	45.39			

Char dwellers lack an adequate allowance of basic food consumption particularly animal protein. Weekly pattern of food consumption indicates that, in both treated and non-treated *chars* rice comprises to be the major food portion as 99% of the households ate rice 6-7 days in the last week.

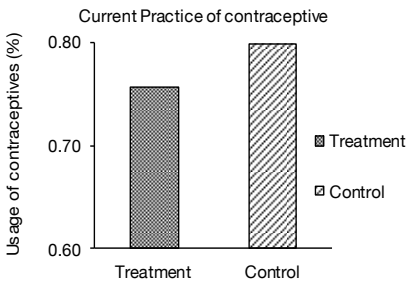
Apart from rice intake, about 35% households from both regions consumed pulse/lentil about 1-2 days a week. People in the *char*s consumed vegetables throughout the entire week. On the other hand, dwellers consume a very low amount of fish or animal protein. Very few households consume fish, meat, milk and fruits. About a quarter of the households from both regions consume fish in 1-2 days per week where 45.31% households in treatment and 52.8% households in comparison can obtain fish 3-5 days per week. Table 18 also describes that 90.3% households in treatment and

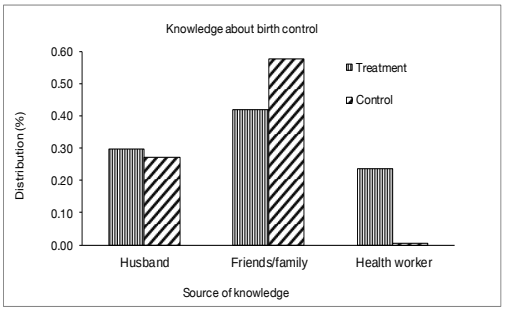
85.2% households in comparison areas rarely took milk and 90.8% households in treatment and 84.95% households in comparison region rarely took fruit. Only 4.19% households from treatment and 2.8% households in comparison took milk 6-7 days a week.

3.6.2 Health practices

During the baseline data collection, fertility of women did not vary significantly between the treated and non-treated regions, however the desire to have children is greater in the comparison area. At the baseline time period, the practice of contraceptive varied significantly between CDSP and non-CDSP regions. Among the beneficiaries, about 76% are practicing the usage of contraceptives, whereas, in the non-CDSP region about 79% do so.

Figure 10. Health practice





Those who are aware about birth control and its importance, have learned about it from different sources that include husbands, friends and family or health workers. In non-CDSP area, females are mostly aware of birth control practices through friends or their respective husbands, whereas in treatment region, females rely less on friend/family and are benefited more by the health worker.

3.6.3 Health seeking behaviour

Respondents of the sampled households were asked about the type of treatment sought as the first line care after the concerned household member fell ill. Responses from each respondent were grouped under five broad categories such as reported in Table 19. The first category, 'no medication' refers to the situation when the concerned person did not seek any form of medication/treatment. 'Self-treatment' refers to the situation when home treatment was given to the ailing person. Category of traditional medicine refers to the situation when practitioners such as *kabiraj/hakim* or faith healing, homeopathy etc. are consulted and treatment is provided based on conventional methods. Unqualified practitioners refer to untrained pharmacy salesmen or itinerant drug sellers. Tendency to seek advice from registered practitioners (MBBS doctors) is very low in both treatment and comparison region.

Proportion of household members for whom no treatment was sought ranges from 1.02% to 1.49% for the treated households and 0.98% to 2.87% for the non-treated households. About 97% of the sick members across both treated and non-treated households from all age groups had sought advice from unregistered practitioners and the difference across the two groups are not significant.

Table 19. Health seeking behaviour (across age)

	Treatment (%)				Comparison (%)			
	Age group (years)				Age group (years)			
Health seeking behaviour	Less than 5	5-14	15-49	Above 49	Less than 5	5-14	15-49	Above 49
No medication	1.45	1.02	1.49	1.13	2.87	1.64	0.98	1.76
Self-treatment	0.17	0.07	0.26	0	0	0.15	0	0
Traditional medicine	0.09	0.1	0	0	0	0.1	0.03	0
Unregistered practitioner	98.30	98.06	97.82	98.07	96.77	97.82	98.58	97.8
Registered practitioners	0	0.2	0.44	0.81	0.12	0.05	0.41	0.44
N	1175	2940	3894	621	834	2015	2949	454

Table 20. Health seeking behaviour (across gender)

	Treatment (%)			Comparison (%)		
By Gender	Male	Female	All	Male	Female	All
No medication	0.96	1.61	1.28	1.39	1.69	1.53
Self-treatment	0.11	0.23	0.17	0.06	0.03	0.05
Traditional medicine	0.04	0.05	0.05	0.03	0.07	0.05
Registered practitioner	0.29	0.39	0.34	0.18	0.36	0.27
Unregistered Practitioner	98.60	97.72	98.16	98.31	97.82	98.07
N	4484	4335	8819	3312	3072	6384

Similar to previous health seeking behaviour across different age groups, Table 20 indicates that, both male and female across treated and non-treated regions overwhelmingly depend on unregistered practitioners.

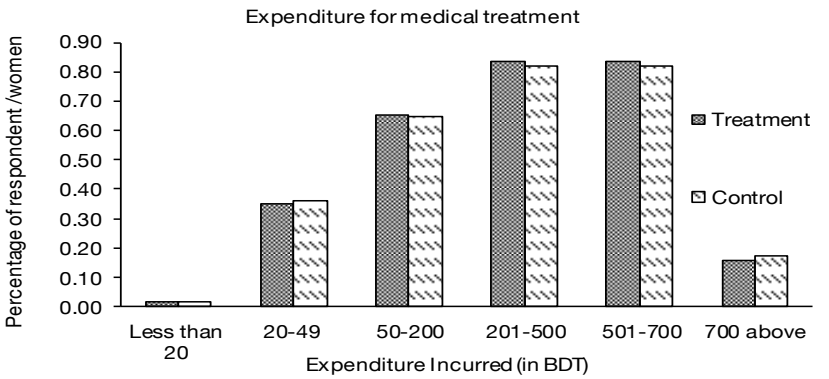
3.6.4 Treatment expenditure

In comparison to poorest 15 districts, the average cost of getting treatment (BDT. 349.99) is higher in the *char* region (BDT.616.3)[26] moreover, cost of treatment is higher for treated area than for those who are not intervened. Most households largely depend on unregistered treatment therefore, their average treatment expense is not

[26] Life and Livelihood of the Ultra Poor in Rural Bangladesh: Baseline Findings of CFPR-TUP Programme Phase III

substantial, as 65% of the households spend around BDT 200 and only 15% of the households spends more than BDT 700.

Figure 11. Treatment expenditure



3.6.5 Loss due to health condition

Table 21. Loss of income (last 15 days)

Income loss	Treatment(1)	Comparison (2)	Difference (2-1)
Average no. of working days lost	7.07	7.2	0.13
Treatment cost (% of 15 days income)	6.59	6.06	- 0.53
N	8706	6287	

Having a critical health condition, individuals may have to abstain from working regular hours, which could affect their regular earning activities. Observation shows that households might have needed to spend up to 6.6% of their income in last 15 days for treatment expenditure and, on average, they lost up to 7 working days / fortnight due to health condition.

3.7 Living conditions

3.7.1 Water and sanitation

As Table 22 describes, in CDSP *char*s, 95.53% of the households and in non-CDSP *chars* 54.44% people have access to safe drinking water. Treatment households have greater access to tubewells compared to comparison region as in the treatment area, one tubewell was installed for 15-20 households whereas in comparison *char*s, people have to walk 0.5 to 2.0 km 10 to 15 times daily to access their nearest tubewells.

Table 22. Source of drinking water

Source of drinking water	Treatment (1)	Comparison(2)	Difference (2-1)
Tubewell	96.13	63.52	-32.61***
River/Pond/Rainwater	3.87	36.48	32.61***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

The major reason for the improved water access for drinking in treated *char*s can be attributed to programme activities which was initiated prior to baseline data collection[27]. Among the non-treated households, 36.5% depend on river/pond/rainwater for drinking whereas only 3.8% do so in treatment region. Sometimes, especially during summer, people collect drinking water by digging holes 1.5 – 3.0 m deep.

On the contrary, *char* dwellers heavily rely on pond/river water for cooking (See table 23). This is surprising for treatment *chars* as they have easier access to wells. The plausible reason for this could be greater water requirement for cooking along with the perception that heating automatically destroys water bacteria.

Table 23. Cooking water source

Cooking water source	Treatment (1)	Comparison(2)	Difference (2-1)
Tubewell/well	5.13	1.41	-3.72***
Pond	94.72	86.26	-8.45***
Khal/River/Rainwater	0.16	12.33	12.17***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

In both the CDSP and non-CDSP regions, the practice of brushing teeth is not a common practice as only about 28.3% practice brushing teeth (See Table 24). In treatment *char*s 73.5% have their own latrine but in non-CDSP *char*s 86.7% do so. Sanitation facilities in the CDSP areas are not fully hygienic. Only 20.3% people in treatment area and 34% people in the comparison area use hygienic latrines.[28] In the treatment area, 43.3% of people use soap after using the toilet and 32.6% of people in the comparison area do so. In treatment and comparison areas, 46.45% and 62.93% people took iodized salt respectively.

[27] Due to adverse accessibility of safe drinking water in *char*, about 5-10% of the households in CDSP-IV phase had received deep tubewell through DPHE during CDSP-III project operation. Even after initiation of CDSP IV, about 20% households had already received tubewell.

[28] The relative situation regarding latrine usage is inverse to that of tubewell between the two regions despite NGO/government activities in treated area to have distributed latrines as well. The reason for high usage of tubewell and low usage of latrine is because latrine distribution was not as widespread as that of tubewell. Therefore, initiated intervention was not fully able to transpose the difference between two regions.

Table 24. Sanitation

	Treatment (1)	Comparison(2)	Difference (2-1)
Own latrine	73.5	86.86	13.37***
Hygienic latrine	20.3	34	13.8***
Soap	43.33	32.59	-10.76***
Iodized salt	46.45	62.93	15.48***
Paste and brush	28.3	28.269	-0.00036

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Regarding the spread of diseases due to water contamination, around 22% of the households, both in the treated and control areas are affected by water borne bacteria. Among them the prevalence of diarrhoea is comparatively higher than other water borne diseases.

Table 25. Disease due to water contamination

Any disease due to water contamination	Treatment (1)	Comparison(2)	Difference (2-1)
No disease	78.34	73.50	-4.84***
Major disease occurred			
Diarrhoea	60.90	49.84	-11.06***
Cholera	13.64	9.19	-4.45***
Other Diseases	7.0	38.0	31***

Note: Column 4 denotes the p-value based level of significance. Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.7.2 Housing condition

The housing condition improvement was significantly higher in the non-treated region as about 70% made some improvements in the non-treated region whereas, in the treated region only 56% did so.

The major housing changes made include change of roof and also adding new rooms though the average expense occurred was higher in the treatment region compared to non-treated region. The expense for improvements in housing was mostly funded from own household income as well as savings.

Table 26. Housing condition

Housing condition	Treatment (1)	Comparison(2)	Difference (2-1)
Made no improvements	43.31	30.46	-12.85
Made improvement			
Roof change	9.53	22.98	13.45***
New room	12.69	24.40	11.71***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Table 27. Expenditure and source of fund

	Treatment (1)	Comparison(2)	Difference (2-1)
Average expenditure incurred	17,120.21	15,179.20	-1,941.01
Source of fund			
Household income	25.38	36.40	11.02***
Saving	17.19	18.72	1.52**
Credit	14.12	14.03	-0.09

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.7.3 Homestead crop cultivation

Almost half of the people from treatment (48.56%) area cultivated in both seasons, while only 10.77% of households in the comparison area did so. In treatment, 83.12% households and 78.65% households in comparison area met their family demand for vegetables while 21.38% households from treatment and 16.67% households from comparison area sold additional vegetables after consumption (see table 28).

Table 28. Homestead crop cultivation

Cultivation season	Treatment (1)	Comparison(2)	Difference (2-1)
Only summer	4.69	0.41	-4.28***
Only winter	26.25	4.61	-21.64***
Both in winter and summer	48.56	10.77	-37.79***
Meet vegetable demand	83.18	78.65	-4.53
Sell vegetable after consumption	21.38	16.67	-4.72

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.8 Food security

The overall production and supply of food is not adequate in *char* areas. Table 29 shows that 61.13% households in treatment and 37.83% households in comparison areas sometimes could not afford food. In the treatment area, 47.19% households, and 19.98% households in the comparison area managed their daily food by incurring debt whereas 10.81% households in treatment and 9.38% households in comparison managed by minimising consumption. And 46.69% households in treatment and 25.58% households in comparison areas incurred debt for rice 1-3 times per week. Although 28.44% households in treatment and 15.54% households in comparison areas balanced their food, 46.69% households in treatment and 33.88% households in comparison told that they have a food deficit.

Table 29. Food security (Last one year)

	Treatment (1)	Comparison(2)	Difference (2-1)
Never faced hardship if procuring food	35.63	61.35	25.72***
Faces hardship			
Seldom[29]	61.13	37.83	-23.30***
Frequent	3.25	0.49	-2.43
Procurement of food			
Collection	7.63	7.98	0.66
Borrow	45.94	20.48	-25.46
Minimize consumption	10.81	9.38	-1.44
Other[30]	35.94	62.17	26.23***
Rice debt	41.06	63.65	
Seldom	46.69	25.58	-21.11***
Frequent	53.31	74.42	21.11***
Food supply			
Surplus	24.88	15.54	-9.33***
Balance	28.44	50.58	22.14***
Deficit	46.69	33.88	-12.81***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.9 Social awareness

The overall knowledge about law and human rights of the *char* dwellers are modest. As reported in Table 30, 41.75% respondents from treatment and 44.32% respondents from comparison know the legal age (male) for marriage where 68.19% households from treatment and 76.40% households from comparison area know the legal age (female) for marriage. An important point is that only 5.31% people from treatment and 9.13% people from comparison areas are aware of the punishment for taking dowry. About 33% respondents from treatment and 29.19% respondents from comparison *char*s have already paid a dowry for their daughter's marriage.

From treatment 85.13% respondents and from comparison 79.44% respondents felt that physical torture of a female is an offence whereas, 82.38% households from treatment and 78.78% households from comparison stated that physical torture to a child is an offence.

People of *char*s are aware of the eligible age for voting. Seventy per cent of the beneficiaries and 82.24% of respondents from comparison area know the eligible age for voting as a citizen.

[29] Those who could not manage to buy food seldom are those households who faced hardship for 20-30 days in a month or at most for 4 months in a year. Those households facing difficulty frequently are facing difficulty in accessing food for over 4 months in a year.

[30] Other method in which household manages to access food is gifts from others, selling of land etc.

Table 30. Human rights and legal education

	Treatment (1)	Comparison(2)	Difference (2-1)
Legal age for marriage (Male)	41.75	44.32	2.58
Legal age for marriage (Female)	68.19	76.40	7.96***
Punishment for dowry	5.31	9.13	3.82***
Use of dowry	33	29.19	-3.81***
Legal divorce for muslims	3.75	9.29	5.49***
Physical torture to female is an offence	85.13	79.44	-5.68***
Physical torture to child is an offence	82.38	78.78	-3.59***-
Voting age	70.69	82.24	11.55***-

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.10 Vulnerability

3.10.1 Access to public benefits

There is very limited scope for the *char* dwellers to get an access to public services. Very few people receive the old age allowance (2 people in treatment and 5 in comparison areas). One person had received a government Vulnerable Group Development (VGD) membership card and one person received a widow's allowance, both in the comparison area.

3.10.2 Incidents of crisis and disasters

As the study area is situated in the south-east coastal part of the country, it is considered highly prone to disasters. People always face different types of disaster, calamity and natural hazard. They struggled to live in these *char*s as their lives were regularly disrupted by sudden strong storm, cyclone, river erosion, flood and other forms of natural disaster.

3.10.3 Vulnerability faced by the households

From Table 31, the study found that almost one third of the household's houses had been badly damaged by natural disasters in both treatment and comparison areas. 6.2% households in treatment and 17.8% households in comparison group experienced crop damage due to natural disasters. Many households lost their livestock and poultry due to natural disaster.

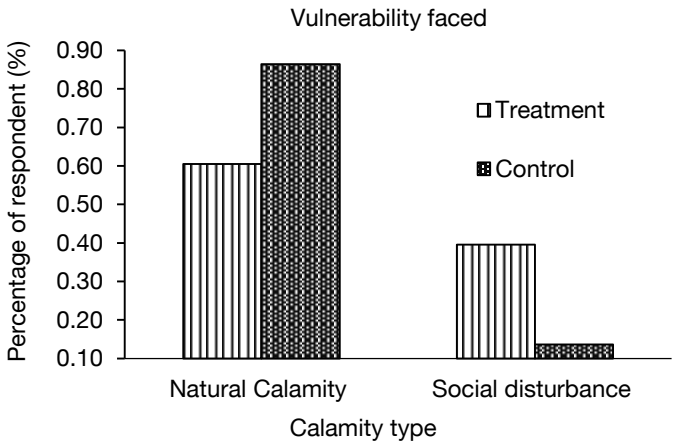
Table 31. Vulnerability

	Treatment (%)	Comparison (%)	Difference
House damaged deadly by natural disaster	28.9	38	9.12***
Crop destroyed by natural disaster	6.2	17.8	3.10***
Loss of poultry and livestock due to natural disaster	35.4	19	-5.08***
Loss of hen-duck/cow-goat/fish due to poisoning for local animosity	35.9	9.5	-15.04***
N	1600	1216	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

As Figure 11 shows, treatment *char*s face less vulnerability due to natural calamities (such as, damage of homestead due to disasters, crop damage, river erosion/cyclone, damage of livestock and poultry etc.) in comparison to the non-treated region. About 60% of the treated households face disaster related vulnerabilities whereas 86.4% of the non-treated households face vulnerabilities due to natural issues. In addition to natural vulnerability, *char* people are vulnerable also due to social reasons as well. Ill health of household member (earning member or not), death of earning member, death of poultry/livestock due to poisoning, departure of earning member from family, court case, theft/vandalism, obstacle to mobility etc. issues are also causing vulnerability. The assets and livestock of the *chars* dwellers are badly damaged by natural disasters. The study attempts to calculate the loss and finds that, on average the cost for recent house damage is BDT 10,758 in the treatment *char* and BDT 6,442 in the comparison area as shown in Table 32.

Figure 12. Type of vulnerability faced



In the comparison area, the recent loss due to crop damage was BDT 8,544, whereas, in the treated region the loss fell to BDT 4,862. The losses for livestock and poultry due to disaster are significantly higher for the treated area. These differences are probably due to very specific differences in the geography of the two areas.

Table 32. Incidence due to natural hazard

Incidence due to Natural hazard	Mean value of damage (BDT)		Difference (BDT)
	Treatment (1)	Comparison (2)	(2-1)
House damage	10,758	6,442	-4,316.02***
Crop destruction	4,862	8,544	3681.33**
Loss of poultry/livestock	3,301	1,319	-1982.85***
Poisoning of poultry/livestock	1,051	1,413	361.95

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

3.10.4 Coping mechanism

Most of the time people usually cope with the natural hazards by borrowing money from micro-finance institutions, relatives, local *mahajons,* well-wishers and friends. As reported in Table 33, 15.55% households in treatment area and 4.6% households in the comparison area coped with crisis by borrowing. The rest of the time people coped with the situation by minimizing family expenditure (8.28% in treatment and 11.94% in comparison), savings (6.64% in treatment and 9.88% in comparison), selling assets (5.79% in treatment and 1.42% in comparison), assistance from friends and family (2.23% in treatment and 4.26% in comparison) etc.

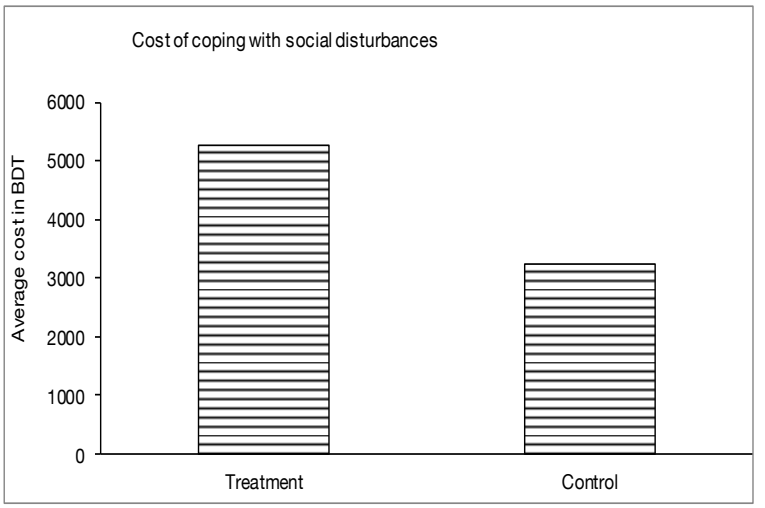
Table 33. Coping mechanism

	Treatment (1)	Comparison (2)	Difference (2-1)
Did nothing	65.94	70.60	4.67**
Borrow	15.55	4.62	-10.93***
Reduce household consumption	8.28	11.94	3.66***
Savings	6.64	9.88	3.24***
N	1280	779	

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%,5% and 10% level respectively.

Sometimes people also got involved in begging, selling labour in advance and sending their child to other families or places for earning. On average, the cost of copying with social disturbances is significantly higher for the treated *char*s compared to non-treated *char*s, probably because of more recent settlement in these areas.

Figure 13. Cost of coping with social disturbances



3.11 In-sights from *char* dwellers

Adversities of life have made some of the dwellers in the *char* locality cynical in their perception about life and this tendency is more in-built among the newer *chars* in comparison to older/non-treated *char*s.

Overall, individuals from the treatment region seem to be more pessimistic about their life prospects in future.

Figure 14. Self aspiration about life

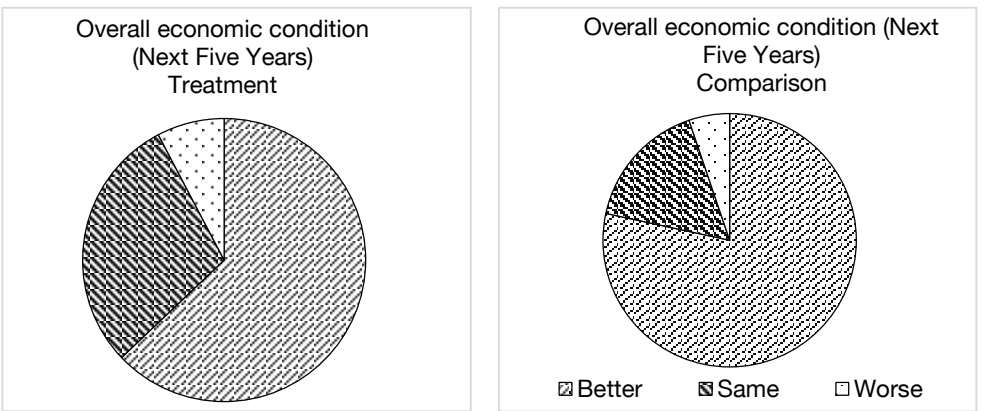


Table 34. Self perception about poverty over last three years

Self perception on poverty[31]	Treatment (%)	Comparison (%)	Difference
Worse/Same	53.5	53.9	0.04
Better	46.5	46.1	-0.04
Relative status			
Worse/Same	29.7	28.2	-1.5
Better	38.0	24.3	-13.7***

Note: Column 4 denotes the p-value based level of significance.
Here ***, **,* denotes significance at 1%, 5% and 10% level respectively.

Most of the *chars* dwellers thought that, their livelihood condition is either stagnant or became worsened in the last three years. As Table 34 shows, on average 53.5% households perceived that their livelihood conditions deteriorated during the last 3 years. The perceptions about relative economic conditions in the *chars* are almost similar in both areas. Almost 30% of households in the treatment area perceived that their relative economic condition is worse than that of others whereas, 28% of households in the comparison area think so. On the other hand, over 38% of households in treatment and over 24% of households in comparison areas perceived that their relative economic condition was better than that of others.

3.12 Gender relations among dwellers

To assess the gender relations among the surveyed population, we have observed the distribution of household chores across different household members. In order to understand decision making process within a family we have observed the contributions of husbands and wives, their joint contribution and also contributions by others. We have observed gender relations regarding involvement in income generating activities, cooking, cleaning, taking care of children and also washing and drying of clothes. Under each chore, there have been several reported reasons for the different relevant stakeholders to be involved. For example, in income generating activities, the emphasis has been given to providing for the family, taking main responsibility of the family, being head of the family, keeping the family happy and problems of having no income. Between treated and non-treated households, more husbands are involved in earning activities in the treated region than in the non-treated area and also other members' contribution is more significant in treatment *char*s in comparison to the non-treated region. For cooking, wives usually are the dominant player in both treated and non-treated area. For cleaning, again females/wives of the households are mainly responsible and they also recognise that it is important to keep the homestead clean.

[31] Here respondents were asked if their life had changed in the last 3 years.

Table 35. Gender relations: reasons for responsibility for different roles

Involvement in income generating activities	Treatment (%)				Comparison (%)			
	Husband	Wife	Jointly	Others	Husband	Wife	Jointly	Others
To provide for the family	58.33	5.95	6.48	29.23	91.16	0.68	0.89	7.27
Main responsibility of the male	86.17	0.57	0.09	13.17	93.29	0.00	0.00	6.71
Head of the family	96.86	1.05	0.00	2.09	96.45	0.98	0.98	1.59
To keep the family happy	42.13	4.80	1.87	51.20	97.23	0.00	0.66	2.10
No income	74.77	0.67	0.00	24.56	88.38	0.14	0.00	11.48
Cooking	Husband	Wife	Jointly	Others	Husband	Wife	Jointly	Others
Main responsibility of female	0.77	88.72	4.97	5.54	0.93	91.24	3.45	4.38
Need to eat	4.03	87.25	8.72		1.01	96.27	0.91	1.81
There is no one else to do it		89.35		10.65		98.67		1.33
Cleaning	Husband	Wife	Jointly	Others	Husband	Wife	Jointly	Others
Main responsibility of female	0.55	85.20	0.09	14.16	0.00	77.19	0.25	22.56
Refreshes mind	0.00	64.63	0.00	35.37	0.00	84.81		15.19
To keep the nature clean	6.31	93.69	0.00	0.00	0.00	85.40	0.00	14.60
Taking care of children	Husband	Wife	Jointly	Others	Husband	Wife	Jointly	Others
Main responsibility of female	0.33	90.12	2.95	5.29	1.06	95.93	1.18	1.83
For keeping healthy		88.79				93.02	6.52	0.46
Main responsibility of mother	1.71	93.72	3.46		0.90	96.75	1.01	1.34
Washing and drying clothes	Husband	Wife	Jointly	Others	Husband	Wife	Jointly	Others
Main responsibility of female	0.67	85.26	0.17	13.89		80.37	0.94	18.70
There is no one else to do it		94.66		5.34		100		

In the treated areas, the distribution of workload is slightly more symmetrically distributed between wives and other members of the household in comparison to the non-treated region. In the treated areas, the distribution of workload is more normally distributed between wives and other members of the household in comparison to the non-treated region where wives are mainly responsible.

3.12.1 Gender relations in educational access

Table 36. Gender relation (education)

	Treatment (%)			Comparison (%)		
Importance for education	Boy	Girl	Both	Boy	Girl	Both
Believe in equal education	3.07	1.23	95.04	4.81	3.87	90.32
Will work and support parents in future	86.12	7.33	3.86	58.46	5.51	31.62
For future support	57.38	23.85	14.59	34.33	16.17	49.50

In order to assess the gender perception about children's educational rights, we have also observed how people respond when they are asked about whether it is their son or daughter whose education is more important for them in future. About 95.04% of respondents in treatment areas mentioned that both children should get equal access as education is important, whereas, in the comparison area this was only 90.32%. Sons expected to provide more future support (86% in treatment and 58.5% in comparison areas) since parents' believe that sons will support them in old age.

3.12.2 Gender relations across nutritional intake

Table 37. Gender relations: principles through which food is allocated

	Treatment (%)				Comparison (%)			
Priority in nutritional food intake	Husband	Husband and wife	Son	Son and daughter	Husband	Husband and wife	Son	Son and daughter
Equal nutrition for both genders	2.91	30.60	3.23	60.3	3.88	44.60	1.25	45.9
Those who work more	83.5	0.46	7.43	1.82	83.8	1.40	12.2	0.00
To keep healthy	24.84	8.35	30.2	30.62	6.66	45.73	3.77	36.7
Because of old age	80.68	0.00	0.00		49.33	20.00		
Those who need more nutrition	10.35	28.21	7.08	40.98	3.31	28.01	9.74	48.4
Those with no income	84.11		5.43		78.74		11.8	3.94

When asked about access to nutritious food, respondents mentioned different households' principles in allocating better food, related to a number of factors. Sons and daughters are given equal access to nutritional intake in a comparatively higher proportion in the treated region in comparison to the non-treated region. Secondly, if need is a criterion, children are given priority as they need more energy to work and to keep healthy. Husbands are prioritised about 83% of the time when old-age and earning are factors.

3.12.3 Gender relation in providing treatment

Table 38. Gender relations (Health treatment)

	Treatment (%)				Comparison (%)			
Providing treatment	Husband	Husband and wife	Son	Son and daughter	Husband	Husband and wife	Son	Son and daughter
Equal treatment	4.89	13.22	12.7	63.4	6.49	33.71	2.62	54.4
Keep healthy	20.8	8.14	8.59	56.5	12.54	24.08	7.10	45.4
To retain happiness	12.2	3.98	14.5	62.1	17.08	27.55	4.27	48.9
No income	84.3		5.16	0.96	79.64	4.61	8.32	5.65
To avoid income loss	91.2	0.13	4.16	1.10	88.22	1.63	5.25	0.00

Similarly in providing medical treatment, gender relations can be assessed from respondents who mentioned different households' principles in allocating treatment. These can be observed across a number of factors such as providing treatment equally, keeping healthy, retaining happiness and also to avoid income loss. In CDSP *char*s, both sons and daughters are given priority for treatment because they both deserve equal treatment and the right to remain healthy, whereas, husbands are given priority in getting treatment to avoid reduced income.

4. CONCLUSION

Chars, formed through silt deposits as an extension to the existing geographic boundary of Bangladesh, pose a challenge for development activities. Poor people dwelling within the area neither possess legal rights nor have sustainable livelihood opportunities. Realising the necessity for advancement initiatives, CDSP Fourth Phase was initiated in the area focusing on improved climate protection, land entitlement, infrastructure and livelihood support. To assess the impact of such a multi-dimensional intervention, pre-intervention information was collected from a sample of households from both the intervention and non-intervention *char* regions.

After collection of quantitative data, several insights on the socioeconomic scnenario was drawn upon. A large part of the *char* residents settled here due to loss of ancestral land from river erosion. Average duration of their settlement is about ten years. The households under sample are mostly consisted of 5-6 members and comprises of equal share of male and female members. Age structure of the households is such that, the dependency burden is not more than 50%. Despite, the sample of population being young in age, incidence of early marriage particularly among girls is negligible.

In comparison to the 15 most poor districts, educational status at *char* as here primary/secondary school gross rate of enrolment in less than 80% for boys and girls. Similar situation was depicted for adult literacy. The economic status of the *char* region is infected with income inequality as income of half of the population falls below the upper poverty line. The reason for poverty can be attributed to over dependence on agriculture and agro-based economic activities as overwhelming majority concentrate on farm based self-employment for their living. Child labour is also a common phenomenon in this region.

In the *char*, an essential part of asset ownership consists of land and livestock/poultry. Ownership of land is not distributed equally. Participation in the financial market is quite strong and it is the treatment population who borrow more to invest. Credit taken for investment is largely spent to buy seed/fertiliser among the treated group. On the other hand, non-treated households hardly borrow for investment, rather they take credit to spend on food and maintaining their homestead. For seeking credit, *char* dwellers mostly depend on *mohajons*/friends.

The food security situation in the *char* area is not good as 30-64% of the households are regularly not able to procure enough food and only 16-25% of the people have surplus food available. Apart from crop cultivation, vegetable cultivation is also widely practiced. Homestead based cultivation of vegetables is observed in both treated and non-treated areas and people tend to sell vegetables at market after meeting consumption needs. Still, settlers have poor health conditions as they essentially live on rice/vegetables and hardly eat any animal protein, whereas, their aspiration to have more children further endangers future food availability. Nevertheless, family planning practice is prevalent in these remote regions and it is mostly community, friends and family who provide information about this.

The water and sanitation situation in the *char* area is poor as most people tend to rely mainly on tubewells for drinking water and these are situated far from their homesteads. Due to high salinity, water borne diseases are prevalent in this region. Treatment seeking behaviours of *char* settlers are largely centred on unregistered practitioners, therefore, treatment expenses are not substantial.

General understanding regarding human rights/law is moderate; it was observed that about 70% of the people are aware about the legal marriageable age for females and less than 10% are aware of dowry being a punishable offense.

Char dwellers are exposed to a multitude of vulnerabilities to natural disasters and high water salinity. Additionally, they are further exploited by non-natural devastation as well, such as death of primary earning member, poisoning of poultry/livestock, spurious court case etc. These residents generally cope with these tragedies by borrowing/using their savings. Sometimes they also handle the losses through selling labour in advance or involving their children in income generating activities.

Over all, the living conditions in the *char* is generally worse than that in the rest of the country and this has extensively influenced the perception of life of the *char* dwellers. They believe their life has not improved much in the past three years and many are not convinced of the future possibility of this improving.

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