ECONOMICS

Mid-Term Evaluation of BRAC-*Char* Development and Settlement Project (CDSP)-III: Livelihoods of Coastal *Char* Dwellers

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ABSTRACT

This study was undertaken to explore the socioeconomic status of coastal *char* (polder) dwellers as a benchmark estimates for the BRAC-CDSP-III (*Char* Development and Settlement Project). A survey was carried out on 795 households in July 2007 for this purpose. I investigated household demography, education, income and assets as key livelihood indicators of the *char* dwellers. Apart from this, the study tried to identify the factors affecting the well-being of the *char* households. I found that 78% of the respondents were poor. Disparity was observed between poor and non-poor in terms of different livelihood indicators. I considered per capita annual income as a proxy of household well-being that greatly influenced by household demography especially age of head, member to earner ratio, number of adult male and productive assets. Water and sanitation (WATSAN), education and human rights and legal education (HRLE) drew serious attention of pertinent authorities, as outreach of these services were found to be at suboptimal level.

INTRODUCTION

BACKGROUND

River erosion is a curse equally for landless and land owners living there while accretion of *char* (polder) is bliss for them. The *chars* are areas of new land formed through a continual process of erosion and deposition associated with the major rivers, which run through the country (Livelihoods connect, IDS 2008). Excessive population pressure on main land compels people especially the homeless in Bangladesh to migrate into a new land like polder though these areas are marked by extreme vulnerability. The *Char* Development and Settlement Project (CDSP) is designed to reduce this vulnerability and assist the *char* dwellers. CDSP has been implemented in three different phases. Before getting into CDSP-III it is worthwhile to discuss a bit about the background and evolving of the project into present shape.

The government sponsored interventions aimed at developing coastal *chars* started in the late 70s with the Land Reclamation Project (LRP). The experience of this project was applied in the first *Char* Development and Settlement Project (CDSP-I) that ran from 1994 to 1999. Both the government and the donors were interested to continue the project beyond interventions after embanking a *char*. As such, CDSP-II initiated in early 2000 aimed at supporting the unprotected lands. It was run up to 2005. The objective of CDSP-II was to improve the socioeconomic condition of the poorest in the coastal areas of southeastern Bangladesh. Following the Integrated Costal Zone Management (ICZM) and Integrated Water Resources Management (IWRM) approaches, CDSP-III was launched in 2005 for poverty alleviation and integration. This project site is located in Boyer *char*, which is an island between Hatiya upazila of Noakhali and Ramgoti upazila of Laxmipur districts.

Table 1. Evolving of CDSP-III

Name of project	Location of project	Project duration	Source of fund	Implementing organization
LRP	*Char* Baggar Dona-I, Noakhali	Late 1970s	Bangladesh, The Netherlands	BWDB, MoL
CDSP-I	*Char* Majid, *char* Batirtek, *char* Baggar Dona-II, Noakhali	1994-1999	Bangladesh, The Netherlands	BWDB, MoL, LGED
CDSP-II	Chittagong, Feni, Noakhali	1999-2005	Bangladesh, The Netherlands, WFP	BWDB, MoL, LGED, DAE, DPHE, BRAC, The Netherlands
CDSP-III	Boyer *char*, Noakhali	2005-2010	Bangladesh, The Netherlands, WFP	BWDB, MoL, LGED, DAE, DPHE, DoF, BRAC, The Netherlands

Source: CDSP website

The project is supposed to extend up to 2010. This project seeks to provide livelihood security to the settlers of coastal *char*. This is being done through constructing embankment and cyclone shelters, and ensuring improved environment for agriculture and non-agriculture opportunities. Table 1 shows the evolving of CDSP-III from LRP.

FUNCTIONING ORGANIZATIONS

The government of Bangladesh

The government of Bangladesh is basically responsible for hardware support or infrastructure development. Six government agencies are involved with responsibilities for materializing the project. Bangladesh Water Development Board (BWDB), the lead agency is responsible for constructing embankment, guide dyke-cum-rural road, closure, sluice gate and canal (re) excavation. Local Government and Engineering Department (LGED) is responsible for building rural roads, bridge/culverts, *pucca* roads, cyclone shelters, community ponds and bus stand (Annex 1). Ministry of land (MoL) is responsible for building houses for relocated households, distribution of *khas* land, allotment of land. Department of Public Health Engineering (DPHE) is responsible installing deep tubewells, sanitary latrine and public toilet. Department of Agricultural Extension (DAE) is responsible for organizing farmers' training, farmers' forum and demonstration of model farm. Department of Forest (DoF) is responsible for doing plantation programme.

NGOs

BRAC and five partner NGOs i.e. Dwip Unnayan Sangstha (DUS), Homeland Association for Social Improvement (HASI), Noakhali Rural Action Society (NRAS), Sagarika Samaj Unnayan Sangstha (SSUS), and Unnayan Parikalpanay Manush (UPOMA) have been working for the CDSP-III project in Boyer *char*. BRAC coordinates with the five partner NGOs and maintains liaison with different government agencies to share different activities of the projects.

Programme components

NGOs are mostly responsible for providing 'software' (probably 'livelihood support' is a better suited word) support to the *char* dwellers. They have been working with nine components (Annex 2). BRAC has a long-term working plan for reaching the *char* dwellers with those components (Fig.1). Each component has been briefly described here. *Group* is the primary platform to avail the project benefits by the beneficiaries through local NGOs. This group also works as a formal financial institution for the beneficiaries to save and take micro loan.

Figure 1. Number of beneficiaries brought (to be brought) under programme components
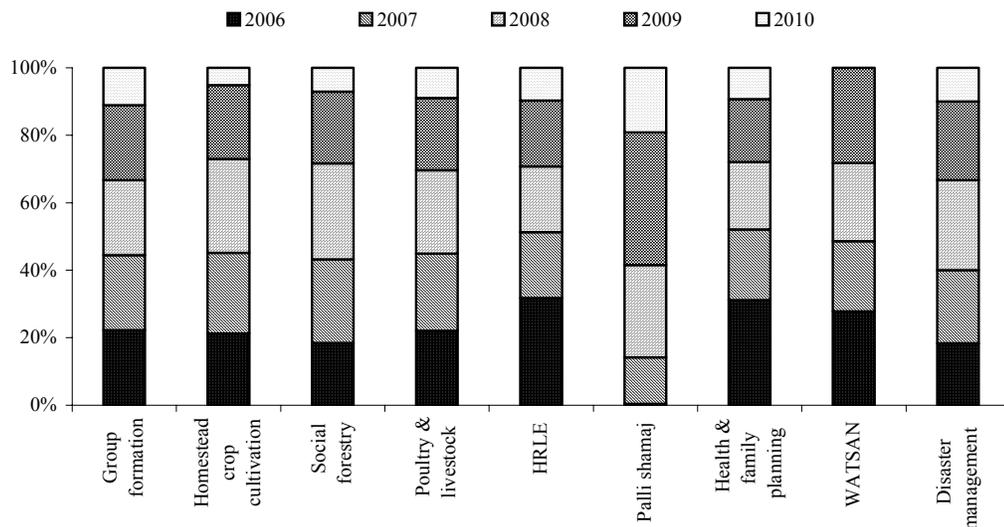
Homestead crop cultivation provides the ample opportunity for women to be involved in income generating activities and ensures supply of seasonal vegetables to meet household demand for micronutrients. Under the *social forestry* programme fruit and deep-rooted plants are distributed among the beneficiaries along with training and refreshers. Horticulture nursery owners grow various kinds of plants suitable for the *char*. *Poultry and livestock programme* provides modern technical know-how of cow, goat and poultry rearing through training and refreshers. Poultry worker visits the beneficiaries door to door for vaccination and treatment their poultry birds. *Human rights and legal education* (HRLE) programme initiated to aware the deprived women about human rights and basic laws. It should be mentioned here that HRLE *shebikas* (volunteers) receive month-long training to implement this component. Once they are trained, they teach seven basic human rights to the beneficiaries. *Palli samaj* is a strong social platform that works for power exercise in rural area, availing government benefits, ensuring usage of local resources, and preventing anti-social activities. Implementation of this component basically started from second year of project inception. Health and family planning programme provides basic primary health services through two key agents *Shastha Shebika* (health volunteers*)* and traditional birth attendants (TBA) to the community. In addition paramedics operate satellite and static clinic in *char* area. *Water and Sanitation* (WATSAN) programme ensures uninterrupted supply of pure drinking water and enhancing sanitary latrine coverage in *char* area. In this connection NGOs are basically involved for site selection for installing deep tubewells and sanitary latrines. Once feasible site selection is over Department of Public Health and Engineering (DPHE) installs Deep Tubewells (DTWs). DPHE already started distribution of sanitary latrines among the *char* dwellers through local NGOs. Under *disaster management* programme NGOs take activities to make the beneficiaries aware about how to take mitigating measures and to cope with natural calamities. Mike and megaphone are distributed under this component for warning the community people about cyclone. In addition BRAC launched education support programme (ESP) and tuberculosis (TB) programme in Boyer *char* with its own initiative.

While the people of Boyer *char* has been depriving from any kind of government facilities this project has been initiated to compensate some of those benefits for them. This *char* is yet to be brought under government administration though the polder became habitable over 15 years ago. Therefore, no safety net programme can be applied over there. In this circumstances government is providing alternative services to the *char* dwellers through CDSP-III programme. It is expected that Boyer *char* will be brought under the government administration once necessary administrative infrastructure is developed.

The Netherlands

The active participation of the government of the Netherlands for coastal *char* development is well recognized in Bangladesh. They have been working for three decades in Bangladesh. The government is financing through Royal Netherlands Embassy in Bangladesh for CDSP-III project. Around 80% of project cost is supposed to be contributed by the Netherlands, while the rest to be borne by the government of Bangladesh. A technical assistance (TA) team of RNE is working for providing technical support in connection with infrastructure development in *char* area e.g. bridge, culvert, embankment, DTW installation, and roads.

OBJECTIVE

The broad objective of this report is to explore the socioeconomic conditions of the coastal *char* dwellers towards the beginning of the project. Since systematic baseline survey was not conducted, this survey would be useful to compare with end line survey. Thus, the study aims to a) assess the poverty status of *char* people over time; b) know the household profile of *char* dwellers; c) investigate the occupational diversity of *char* dwellers; d) explore the access to

programme services by the beneficiaries; and e) and enquire the factors affecting the well-being of *char* dwellers.

THE DATA

The sample size was determined from the population census done by different partner NGOs of BRAC in 2005. It was intended to survey 800 households taking 10% from each NGO, which was further rounded up to have desired study population (Table 2). The households to be surveyed were randomly chosen from the population list. Each household was identified through member register kept with each NGO where location of the

Table 2. Sampling technique

NGOs	Population	Sample	Rounded up
SSUS	1,427	143	150
UPOMA	1,768	177	180
NRAS	1,653	165	170
DUS	1,475	148	150
HASI	1,392	139	150
Total	7,715	772	800

households was clearly stated. If the desired sampled household was not found by three visits next household from the list was chosen for survey. For unavoidable reason five households could not be surveyed. Thus, a total of 795 households were surveyed. The information was collected from beneficiary households through a structured questionnaire. The survey was conducted during 27 June to 27 July, 2007. Respondents were the main women of the surveyed households in *char* area. A questionnaire is appended at the annex 6.

LIMITATION OF THE STUDY

It would be useful to have a control group for the sake of evaluating the impact of the project on change of livelihood of *char* dwellers at the end of the project what was beyond the scope of this study. Because BRAC-CDSP-III had no master plan to cover beneficiaries in different time intervals through pre-selection. Other than this, continuous in-migration and out-migration was very common in *char* area and the project followed community approach in intervention. So, systematic impact assessment would not be possible through this study. Nonetheless, this study explored the gaps between poor and non-poor even in *char* area that left opportunity for concerned authority to minimize by the end of the project.

FINDINGS

POVERTY STATUS

Poverty status of *char* dwellers to be worthwhile at inception period of the project to see the change of that status at the end of the project by following a single yardstick. I followed Mark Schreiner's simple poverty scorecard for this purpose. Ten different indicators along with respective weights have been used for household poverty assessment (Annex 3). These are a set of easily observable indicators of poverty and could also be recalled/estimated for previous years. According to this measure, each and every household gets a score, which ranges from 0 to 100. Smaller score means greater poverty likelihood (probability of being poor) and vise versa. The household getting a score of less than 40 was considered to be the cut-off mark for identifying the poor households. However, I used two more cut-off marks e.g. les than or equal to 35, or 45 for this purpose instead of only one recommended threshold to avoid any biasness. In addition, appended cut-off marks might be useful to see the extent of poverty.

Table 3. Poverty status of *char* dwellers

Variables	*Char* land		National (Rural)
	2005	2007	2005
% of poor at cut-off poverty score <=35	69	62	25
% of poor at cut-off poverty score <=40	88	78	35
% of poor at cut-off poverty score <=45	96	89	44
Poverty likelihood (%)	60	59	38
Maximum poverty score	52	64	100
Minimum poverty score	7	3	0
Median poverty score	31	32	48
Coefficient of variation (%)	24	32	37
Standard deviation	8	10	18

A score (sum of scorecard points) is the same as a poverty likelihood (probability of being poor). But each score is associated with poverty likelihood via a simple Table (Annex 4). The households were categorized into four groups based on poverty likelihood. For instance, the households were considered as better-off whose poverty likelihood was less than 25% while this figure was greater than 75% for the poorest quartile. Figure 2 shows that poverty likelihood increased for all groups except one. It is interesting to note here that households with poverty likelihood more than 55% could not improve their socioeconomic status unlike the households with lower poverty likelihood. It implies that there should be minimum level of socioeconomic background for a group of *char* dwellers to escape from poverty.

Figure 2. Distribution of poverty likelihood by category among *char* dwellers
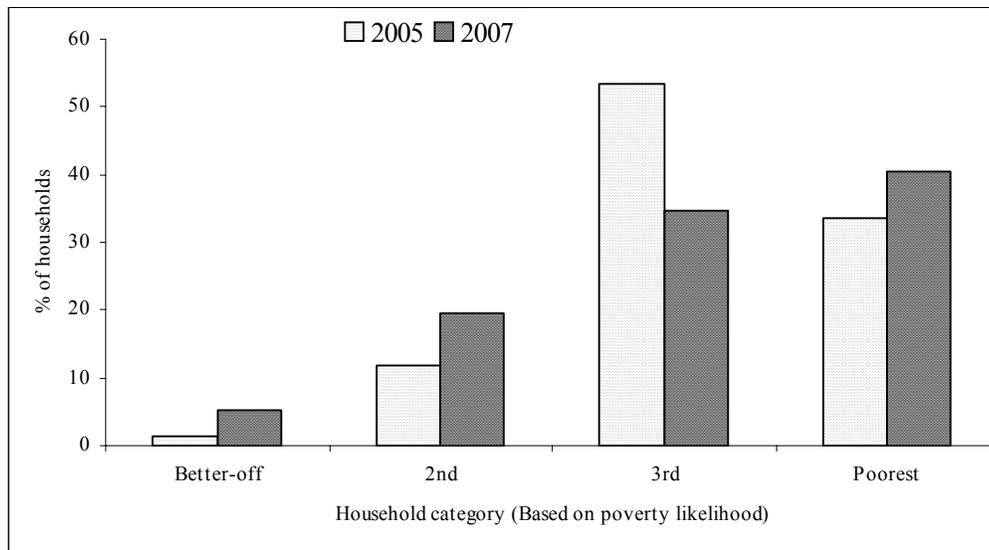
Table 3 shows that the poverty status of *char* dwellers seems to be improved over the years but this figure is still quiet unfavourable compared to main land irrespective of cut-off points. Poverty rate is one and half times higher in *char* land compared to main land. However, poverty rate varies from 62 to 89% in *char* area while this figure is 34 to 59% in main land across cut-off points. Thus, I found a clear disparity between people of *char* and main land in terms of deprivation. So, especial attention should be paid on *char* people for alleviation of poverty. On a closure inspection I found that variation in poverty score among *char* dwellers significantly increased over time, suggesting that heterogeneity was emerged in coastal *char*

area over time. Better-off socioeconomic background of the non-poor could have been driven for extending this gap, which has been discussed in the later section.

HOUSEHOLD PROFILE

It is worthwhile to look at the profile of the sampled households for getting an idea about socioeconomic condition of *char* dwellers. All households have been categorized into poor and non-poor based on poverty likelihood of the households. The cut-off mark for poverty likelihood was more than 50%. Overall result clearly explains the disparity between poor and non-poor households in *char* area. Household attributes have been briefly discussed below under demography, education, health, income and asset, financial market participation, food security, and vulnerability.

Demography

Overall female headship was found to be quite higher among *char* households compared to national level (BBS 2007). Female headship was found significantly higher in non-poor households representing women empowerment in better-off families. Overall number of household member exceeded the national estimate (ibid) that reflected higher population growth rate in *char* area. Poor households were enriched in larger household size coupled with lower earner compared to non-poor households that clearly explains the vulnerability of the poor households. Younger household heads were observed among the poor compared to non-poor. Split of household after early marriage is very common among the poor what could be the possible reason for this. Sex ratio within the household implied that *char* households were male dominated and there was no disparity between poor and non-poor in this regard. Overall sex ratio is 109, which was not far away from national data.

Education

Educational status of young members of households was explored to have an idea about state of education in a geographically separated area. Mean year of schooling of household members and net enrollment rate were used as a proxy for this purpose. The enrollment rate refers to percentage of children of a certain age group currently enrolled in any type of educational institution.

Overall education of household members by adult and young shows that members from poor households are less likely to be educated compared to non-poor household, which is not surprising. It is worthwhile to explore the extent of education of young children in terms of net enrollment rate both in primary (5-10 years old) and secondary (11-15 years old) levels. Both primary and secondary enrollment rates were quite lower in *char* area compared to national estimates. Educational gap was observed between poor and non-poor households. Because net primary and secondary school enrollment rates were found to be significantly higher among non-poor households compared to poor households.

Figure 3. Education status of children and institution of enrolled children

Legend:
- Never went to school
- Start schooling soon
- Stopped schooling
- School going children
- Primary
- Secondary
- Hafezi Madrasha

Enrollment status
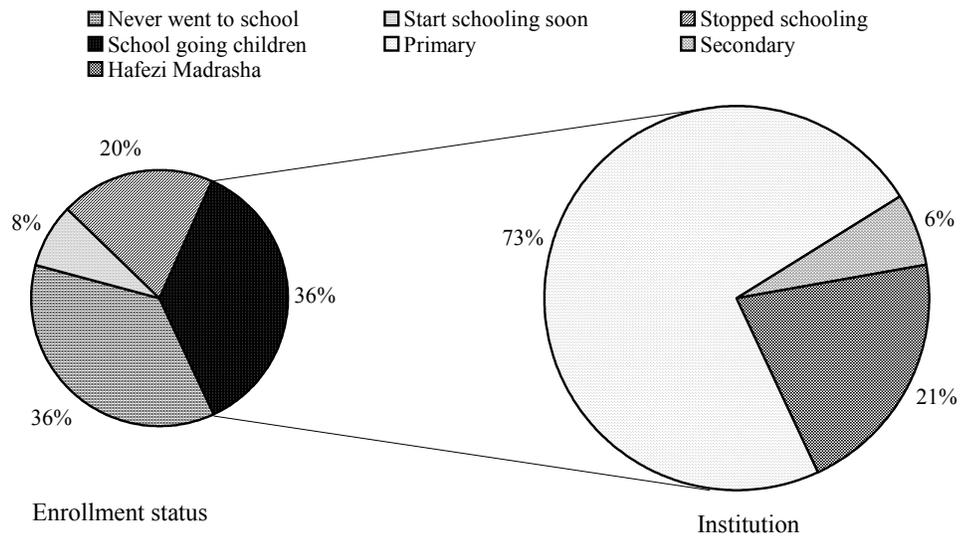
Institution

We were also interested to explore the institutional involvement of young children who were going to school. I found that 36% of 5 to 25 years old children were going to school. Figure 3 shows types of institutions (right hand side) and enrollment status (left hand side) of young children. Around three-fourth of school-going children enrolled in primary school either government or private while only 6% of school-going children enrolled in secondary school. I kept a separate group for religious studies called *hafezi madrasha* in which 21% of school going children enrolled what was much higher than national (rural) estimates i.e. 2% (BBS 2007). It is not surprising since people of Noakhali are very sanctimonious that drives the young generation to be involved in traditional religious studies.

Table 4. Household attributes of *char* dwellers at a glimpse

Attributes	Poor	Non-poor	t value	All
Demography				
Female headship (%)	9	14	1.96**	10
Household size (No.)	5.60	4.21	9.33***	5.26
Age of household head (year)	35	40	5.36***	36
Sex ratio	1.39	1.43	0.42	1.39
Earner to member ratio	0.39	0.54	8.48***	0.43
Education				
Mean year of schooling of adult (>=20)	1.13	1.45	2.598***	1.21
Mean year of schooling of young member (5-25)	1.27	2.35	9.151***	1.46
Maximum education score of household member[1]	2.74	3.44	2.92***	2.91
Net primary enrollment rate (%)	44	64	3.17***	45
Net secondary enrollment rate (%)	47	59	2.30**	49
Health				
Contraceptive prevalence rate among eligible couple (%)	79	76	0.54	78
Beneficiary ever took medical NGO clinic service (%)	72	77	1.53	73
Income and asset				
Number of earning source	2.35	2.17	2.15**	2.31
Per capita annual income (Tk)	5327	7794	5.86***	5939
Value of all asset (Tk)	23712	29836	3.20***	25230
Value of productive asset (Tk)	19214	25246	3.43***	20709
Financial market participation				
Household taking loan (%)	62	57	1.21	61
Household currently saving (%)	99	98	1.99**	99
Average size of loan (%)	3394	3397	0.01	3394
Average amount of savings (Tk)	716	719	0.10	717
Average number of loan taken	1.28	1.24	0.56	1.27
Unmet demand for loan (% of HH)	42	30	3.05***	39
Household taking *Dadon* (%)	23	22	0.31	23
Food security				
Chronic food deficit households (%)	61	56	1.12	60
Household ever borrowing rice (%)	81	75	1.91*	80
Household ever lending rice (%)	87	88	0.19	87
Extent of annual food security (1= unsecured….......4=secured)	2.91	3.03	1.89*	2.94
Extent of monthly food insecurity[2] (1= secured …..5= unsecured)	1.63	1.53	1.65	1.61
Extent of monthly food insecurity[3] (1= secured …..5= unsecured)	1.85	1.65	2.69***	1.80
Extent of monthly food insecurity[4] (1= secured …..5= unsecured)	1.66	1.51	2.74***	1.62
Vulnerability				
Household faced at least one crisis (%)	58	64	1.43	60
No. of crises among experienced	1.49	1.44	0.56	1.47
Household faced natural calamity (%)	27	30	1.00	28
Household faced social dispute (%)	8	16	3.52***	10
Household faced health shock (%)	37	32	1.38	36
Household faced lifecycle event (%)	2	3	1.19	2
Average poverty score	27.78	45.66	31.09***	32.21
n	598	197	-	795

[1](0= less than class one……13= masters and above); [2] based on managing enough food for household members; [3] based on managing only rice (with salt-chili-onion) for household members; [4] based on managing rice by borrowing for household members; *,** and *** signifies 10%, 5% and 1% level of significance respectively.

It was found that 20% of school-aged children stopped schooling due to various reasons. The highest dropout rate was observed in primary school (70%) followed by secondary school (17%) and from *hafezi madrasha* (13%). Higher retention rate in religious institutions reminds us once again about their traditional religious studies. Common reasons for stopping education were found to be increased educational expenses (33%), child labour (18%), distance of educational institution from home (17%), and children's apathy about school (8%). The government should pay immediate attention in this regard to set up adequate educational institutions in *char* area that might stop dropout from school.

Health

Contraceptive prevalence rate and access to NGO clinic service in *char* area were quite impressive. Even no disparity was observed between poor and non-poor in this ground. Contraceptive prevalence rate was quite high among the eligible couple in *char* area even exceeded national level (BBS 2007). So, it is expected that population growth rate might decline in *char* area once eligible couple become more aware about usage of contraceptive. *Shasthya shebikas* (SS) play a key role in disseminating birth spacing methods among eligible couple in *char* area. For instance over 80% of eligible women adopted contraceptive method who heard about this from SS while it was 59% for those who heard about contraceptives from their husbands.

Asset and income

Asset holdings were measured in monetary terms instead of frequency. Poor households had more productive asset than non-productive asset in terms of value (Table 4). Regarding nature of asset possession poor households of *char* area were not exceptional than that of main land. But overall *char* dwellers were economically vulnerable which was represented by lower value of productive asset of *char* dwellers i.e. BDT 20,709 than national level (BDT 23,166). Poultry and livestock were found to be the more common productive assets along with fishing net in coastal *char* area. There was clear disparity in asset holding between poor and non-poor households.

Average per capita annual income was much lower among *char* dwellers compared to national level i.e. BDT 14,955 (BBS 2007). Inequality was also observed in annual per capita income between poor and non-poor in *char* area. On the ground of per capita income economic status of non-poor in *char* area was more or less similar to the economic status of the people in main land. So, non-poor households of *char* area are comparable to the average households of main land. Number of income source was significantly higher among the poor households compared to non-poor while I got reverse picture in per capita annual income. Quality of work by the poor people could be the possible reason for this. The poor households might involve in different types of occupations that yield little income unlike non-poor households.

Financial market participation

Access to formal savings and microcredit services are long deserved demand of the poor. However, these products are available in *char* area since NGOs penetrated in Boyer *char* to extend their financial services along with non-financial services. It should be mentioned here that CDSP-III has no budget provision for providing loan to the beneficiaries. NGOs were using their own fund for providing loan to the poor. Savings practices were highly impressive among the *char* dwellers. Notable that there was no disparity observed between poor and non-poor in terms of savings practice with NGO. But amount of savings of *char* dwellers considerably lower (Tk. 717) than that of main land people of similar profile i.e.Tk.1,039 (Barua and Sulaiman 2007). Lower member to borrower ratio (61%) does not necessary mean lower demand for loan among *char* dwellers. Because our survey was conducted during mid-

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ashar to mid-s*raban* (27 June-27 July) when average demand for loan was lower (Figure 4). There was also unmet demand for loan among the *char* dwellers. This kind of supply side problem draws especial attention of the government for financing the local NGOs. If the government would provide soft loan to the *char* dwellers at a nominal price through NGOs they could meet their seasonal demand for loan. This may release the poor people of *char* from taking *dadon* (a high interest bearing informal loan) at their hardest time. Average amount of loan taken from NGOs in *char* area seemed to be lower (BDT 3,394) in second and onward cycles than that of national NGO like BRAC in the main land (BDT 5,000) in first cycle. It does not necessarily mean the poor credit worthiness of *char* people rather than greater flexibility and risk averse of local NGOs.

Figure 4. Seasonal demand for loan in *char* area
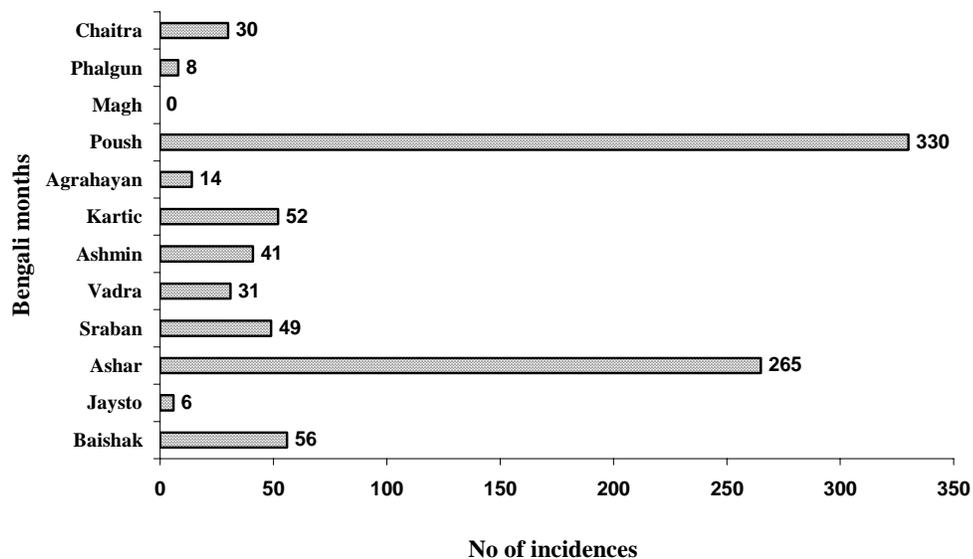
Food security

We explored the perception of respondents about annual food security for the members of their household. I used proxy variables to have the extent of food insecurity. For instant respondents ranked their households themselves chronic deficit, occasional deficit, equilibrium, or surplus based on annual income and food expenditure. Thus, I found three-fifth of the households were chronic food deficit and there was no disparity between poor and non-poor in this regard. So, according to their perception food deficit is common in *char* area. It is because that two or three crops are hardly possible due to salinity of the soil. Rice cultivation becomes possible during monsoon when monsoon rains are able to wash the salts out of the upper soil layer (Wilde 2000). In addition *boro* cropping with irrigation water pumped from sub-soil is not possible due to salinity. Rice borrowing and lending were found to be very common practice among the *char* dwellers reflecting their seasonal food insecurity. Annual food security index were measured using a score for each and every household based on extent of food insecurity i.e. one for least secured and four for most secured household. Average index shows that *char* households tend to be more food secured since they crossed average level (Table 4). Similarly, monthly food security index was also explored to see the extent of seasonal food security. Average monthly food security index shows seasonal food insecurity among *char* dwellers.

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Vulnerability

All types of unexpected events including social and natural that are hard to be managed by the poor are termed as vulnerability. Three-fifth of respondents experienced at least one crisis per annum. For having a clear idea I categorized all the crises into four groups – natural, social, health shocks and lifecycle events. Health shocks were found to be more frequently reported crisis for the *char* dwellers. Lack of adequate secondary healthcare services within *char* area coupled with poor road communication facilities could be the possible reason for this. Though primary healthcare services were available in *char* area but better health service from upazila or urban health centre could increase health cost. So, establishment of health infrastructure becomes emerging that draws government's attention. After all, health is a crucial component to achieve millennium development goals (MDG). Natural calamity was reportedly to be the second highest crisis of the *char* dwellers. It is interesting to note here that prevalence of social disputes was more common among non-poor compared to the poor that included divorce, polygamy, domestic violence, etc.

Poverty

Poverty likelihood of households shows the overall well-being status of *char* dwellers. Non-poor households were found to be significantly better-off than poor households based on this measure. So, crucial disparities should be minimized between poor and non-poor by taking timely measure by the responsible authorities.

ACCESS TO LAND

Khas land distribution policy of the government (a household is entitled to receive maximum two acres of land as per rule of 1987) became relaxed in CDSP-III project since a household is supposed to be entitled maximum 1.5 acre of land in Boyer *char*. This might due to ensure access to land by each and every household in *char* as well as reducing gap among *char* households in landholdings. Ministry of land (MoL) is responsible for distributing *khas* land among *char* dwellers. Table 5 shows that there is a clear inequality between poor and non-poor in terms of possessing cultivable land. On the contrary, the poor have more homestead land than non-poor. Average amount of total land holding was found to be 1.22 acres which gives ambiguous information about land distribution among *char* dwellers. So, I explored distribution of land among the *char* dwellers to have insightful information.

Table 5. Average amount of land occupied by the *char* dwellers (decimal)

Category of land	Poor	Non-poor	t value	Total
Homestead (including pond)	30	24	2.802***	28
Cultivable	91	101	2.257**	94
Total	121	125	0.767	122

Frequency distribution of land explored through the use of box plots. Instead of plotting actual values, the box plot shows the median, 25th percentile, 75th percentile, and values that are far removed from the rest. In figure 5, the thick lines near the middle of each box represent the median for each category of land. For instance median values of homestead, cultivable and total land were 20, 102 and 150 decimal respectively. The box area represents the range in which 50% of the respondents fall. Cases of values between 1.5 and 3 box-lengths from either edge of the box are called "outliers" and marked with the letter "0". The range of homestead and cultivable lands were 0-90, and 0-210 decimals respectively that led total land raged 0-280 decimals. Outliers were more common in homestead land holding compared to cultivable land, suggesting that few people occupied abrupt amount of homestead land while few people owned no land in *char* area.

Figure 5. Distribution of land among the *char* dwellers
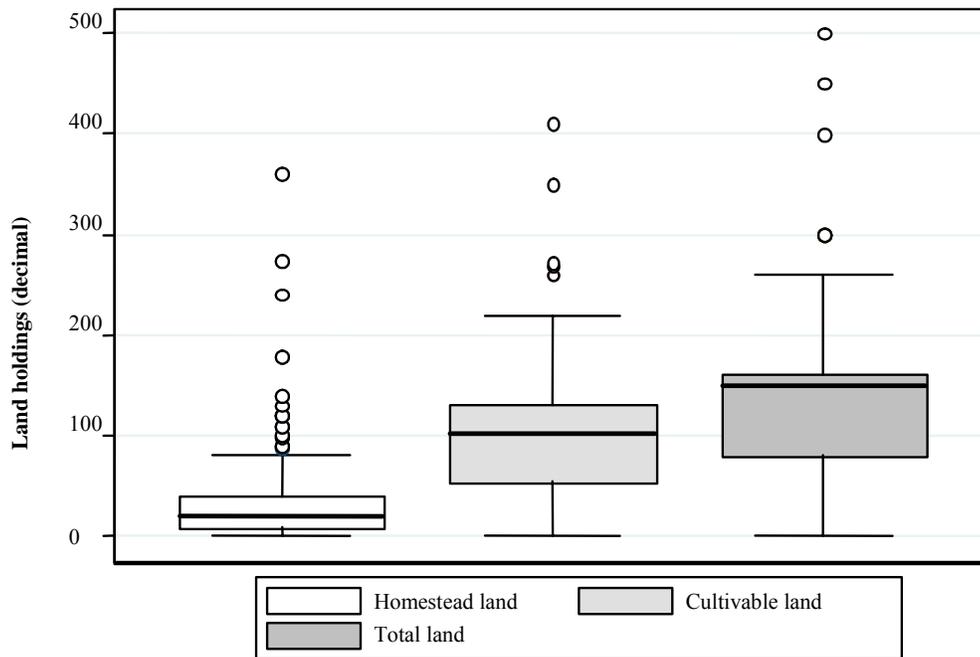
However, half of the respondents owned 75-to150 decimal of land while rest 50% of the respondents falls either of this range. Few households received more than 200 decimals of land. There might be two reasons for this. One, more than one possession right *(popularly known as daag* numbers) was reportedly given to the members of the same household showing different names as if they were independent unit of households. Two, well-off households might purchase land from those who migrated out from *char*. Some households who owned no land basically stay with their relatives. So, land distribution seems to be little skewed in *char* area that draws attention of the concerned authority.

Table 6. Distribution of respondents by type of land acquisition (%)

Respondents	Poor	Non-poor	t value	Total
Occupants	69	70	0.391	69
Purchased	23	27	0.991	24
Possession	3	2	1.025	3
Others/unspecified	5	2	2.207**	4

Table 6 shows that around 70% of respondent acquired their land through occupation while rest through purchase or possession purchase. There was no disparity between poor and non-poor by respondent categories of land acquisition. A little portion of the poor acquired land through informal process without keeping any records unlike non-poor people. So, the poor people might be cheated sometime if someone claims with formal documents of land.

Tenancy

Around 17% of the respondents owned no cultivable land. It was expected that functionally landless households would be the tenants. But our empirical evidence shows that 9% of functionally landless households were tenant operators in *char* area (Table 7). Around 17% of those households who had cultivable land might be owner-cum-tenant operators in *char* area. So, most of small farm holders were owner operators.

Table 7. Tenancy among *char* dwellers

Variables		Households having cultivable land (%)		Total (%)
		Yes	No	
Tenant households (%)	Yes	110 (17)	12 (9)	122 (15)
	No	551 (83)	122 (91)	667 (85)
Total (%)		661 (100)	134 (100)	795 (100)

OCCUPATIONAL PREFERENCES

Occupational preferences of *char* dwellers in the next five years were explored to have an idea about livelihood dynamics over the years. It might indicate the potential sectors to be developed for investment gauged by *char* dwellers in advance.

Figure 6. Preference of occupational diversity among *char* dwellers over time
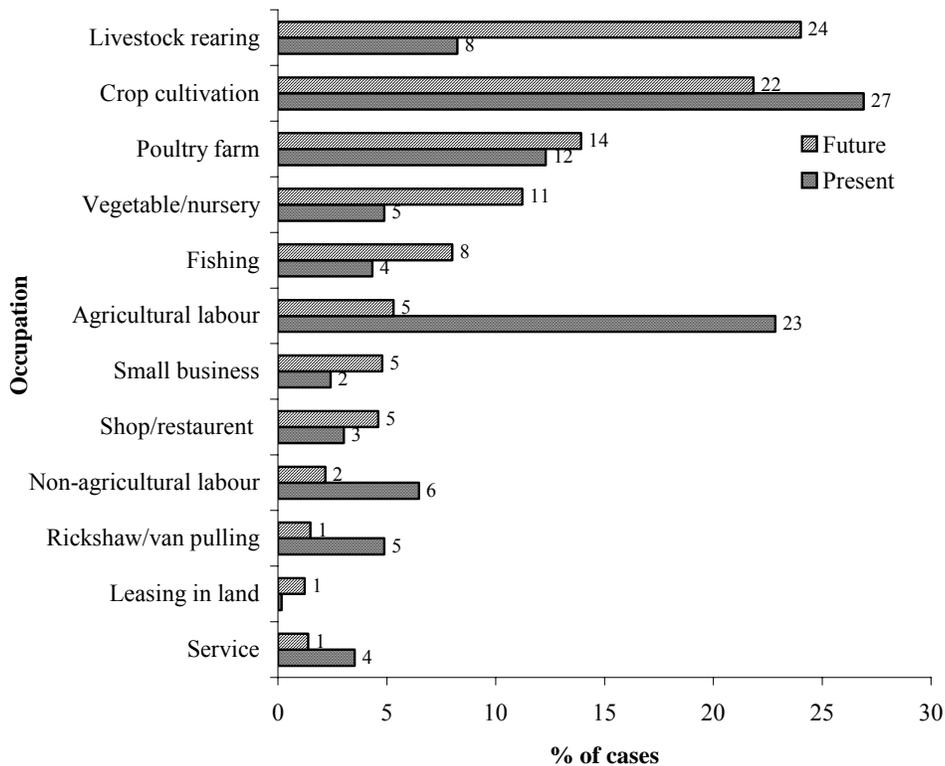
Figure 6 shows that occupation like livestock rearing, poultry farming, vegetables and nursery, fishing, and small business seem to be expanded in future. On the other hand, occupation like agricultural and non-agricultural labour, rickshaw or van pulling, and service seem to be squized in future. So, there is little change to be happened in future. It is difficult to

come up with a clear pathway of how this change will happen. But physical environment like soil salinity deters to produce more than one crop what might reduce demand for manual day labour in crop sector. On the contrary, availability of foddar crops as well as pasture in alluvial *char* land might encourage livestock rearers. In addition, availability of vaccination services for poultry and livestock under BRAC-CDSP-III project might encourage the *char* dwellers to rear more livestock and poultry. In addition they have access into financial services from formal microfinance institutions at local level for meeting their financial requirement.

Figure 7 shows that *char* dwellers were found to be optimistic about improving their economic status in the near future compared to their present position. Over 90% of the respondents expected their better economic status within the next five years including 34% highly ambitious respondents in this regard. Even I found no disparity between poor and non-poor regarding their positive aspiration. All *char* dwellers might expect a better economic environment in the near future.

Figure 7. Economic status of *char* dwellers within next five years compared to present (self-projected)

Economic status within next five years compared to present
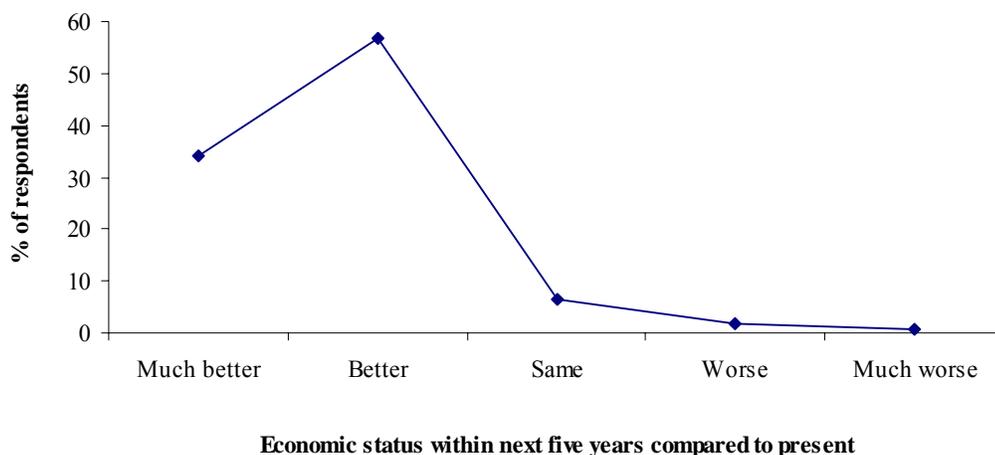
ACCESS TO PROGRAMME SERVICES

BRAC-CDSP-III project has been implemented through NGOs for providing software supports to the *char* dwellers. Broadly health, environment and capacity development supports are given to the beneficiaries. All *char* dwellers are expected to be mixed cultured as well as more unorganized since they migrated from different places. Most of *char* dwellers came from *Hatia* (53%) and *Ramgati* (45%), which are the two closest *upazilas* of Boyer *char*. Key reason for migration was found to be river erosion (93%). NGOs have taken practicable and timely steps under CDSP-III project for serving the migrated people in *char* area. They work with nine components that have been briefly discussed bellow.

Group formation and savings management

Group or widely known as *samity* is the basic platform for availing the project benefits by the *char* dwellers. Every woman has to be the member of this grassroots level institution. The beneficiary joins the *samity* for various reasons of which availing project benefits was found to be the key lure (68%) followed by borrowing (14%), being united (14%) and motivation (4%).

This implies that non-financial or in kind benefits of the project attracted the *char* dwellers compared to financial services. Around 6% of the respondents had multiple memberships with *Samities* that leaves little chance of leakage of project benefits. However, formation of group brought discipline among the respondents in the sense that 90% of them met weekly meeting on regular basis, which is the precondition of savings management. They could exchange their opinion on a certain issue along with depositing their small savings with *Samity* at the weekly forum. This kind of small group might be useful to strengthen the voices of the poor women against violation of basic rights.

Water and sanitation

Water and sanitation status were observed poor in *char* area in the sense that 76% of the respondents had their own latrine of which only 5% had sanitary latrine (Annex 5). So, sanitary latrine should be distributed among the *char* dwellers as soon as possible that might prevent water born diseases and reduce health cost. Eighty-five percent of the respondents used either soap or ash after defecation that representing hygiene practice among the adult member of the household. Over 85% of the respondent households used tubewell water for drinking while the rest used well, pond and river for drinking water. But it is encouraging that 97% of the respondents knew the different methods of purifying water while and 91% knew the names of water born diseases.

Health and family planning

The key health service providers were paramedics, *shastha shebikas* (health worker) and trained traditional birth attendants in *char* area. Around 99% of the respondents knew the *shastha shebikas* who visited the respondents at least once a month. The paramedics provided health services to the beneficiaries both in static and satellite clinics. I observed that 80% of the respondents ever received health services from static clinic (Annex 5). Contraceptive prevalence rate was found 76% among eligible couples, which should be enhanced to control population growth as well as save maternal health what will eventually meet the millennium development goal.

Palli shamaj

Palli shamaj is a social development institution in the grassroots level for reducing violation of human rights, dowry, divorce, and early marriage from the community. Over 80% of the respondents knew about *Palli shamaj* activities of which around 60% attended the meeting during last six months (Annex 5). *Palli shamaj* activities may yet to be implemented in a full swing in *char* area during survey. Despite all, 76% of those attendees who raised problems in *Palli shamaj* meeting succeeded to resolve. So, practice of power began even in *char* area through *Palli shamaj*.

Human rights and legal education

Legal knowledge of *char* dwellers on different issues seems to be poor to some extent. For instance, 85 and 59% of the respondents awarded about the marriage age for women and men respectively. Women respondents knew about their marriage age better. Dowry and divorce seem to be less important to the poor women since only 38 and 48% of the respondents knew about correct rule of punishment to exchange dowry and legal way of divorce respectively. Most of the beneficiaries got no legal education at the early phase of the project what could also be the possible reason for this. The perception of the respondents about human rights was also obscured. For instance, 92% and 63% of the respondents consented that unnecessary beating of a child and woman was the violation of human rights (Annex 5). Women are naturally sympathetic to the children what might lead them to be biased about children.

Sometimes women are habituated to be beaten by their husbands. Therefore, legal knowledge of poor women should be enriched to tackle both domestic and social violence even in *char* area.

Homestead crop cultivation

The idea of homestead crop cultivation emerged to involve the women in the economic activities even within their homestead area through kitchen gardening. Average size of homestead area was 28 decimal per household, which is much higher than it is in the mainland, where different kinds of seasonal vegetables can easily be cultivated. Both model farmer and general farmer received two and three day training respectively for materializing homestead crop cultivation project. General farmers basically followed the model farmers. Twenty-five percent of the respondents who owned more than 10 decimal of land received training on crop cultivation. Over 90% of the respondents who received training were distributed vegetable seeds. Around 97% of the respondents who received training cultivated vegetables either in *Kharif* (summer) or *Rabi* (winter) or both seasons. Seventy-seven percent of those respondents who grew vegetables consented that they could meet their household demand for vegetables. Over 30% of those respondents who grew vegetables consented that they could sell vegetables in the market (Annex 5). So, all the beneficiaries who have adequate homestead land should be trained and distributed seeds since vegetables have both nutritional and market value.

Social forestry

Social forestry draws much attention in modern time for protecting green forest especially in coastal *char* area. Only forestation could save the lives and wealth of *char* dwellers from devastating cyclone in coastal area. So, horticulture nursery owners grew variety of plants to meet demand for plants in *char* area. I found around 1% of the respondents were horticulture nursery owner. Nursery owners sold a portion (43%) of their plants to NGOs that were eventually distributed among the beneficiaries. Apart from that they sold nursery plants in the local market (43%), and to neighborhoods (14%). I found that 66% of the respondents except nursery owners were distributed seedlings of different fruits and wood trees. It was encouraging that average number of small and big trees were found 70 per household indicating forestation already began in *char* area (Annex 5). So, nursery plants should be distributed as early as possible to those who were yet to be received. Only forestation could minimize the extreme climate of coastal *char*.

Poultry and livestock programme

Poultry and livestock rearing are considered to be the secondary sources of income for the poorest of the poor. Change of occupational pattern of the respondents showed that poultry and livestock sectors could be highly potential in future. I found that 18% of the respondents who had poultry received training on improved method of poultry rearing. Similarly, only 9% of the respondents who had livestock received training on improved method of livestock rearing. Over 80% of the respondents knew the poultry workers. Over 60% of the respondents vaccinated their poultry (Annex 5). So, poultry and livestock programme should be more strengthened by keeping update the poultry workers and by providing training to the livestock rearers.

Disaster management

This component includes awareness building, seedling distribution, and distribution of information disseminating tools among the *char* dwellers. Around half of the respondents received training on disaster management while 48% got seedlings. Over 80% of the respondents would receive information about red signal in the sea through micking from the

mosque. It should be mentioned here that micke and megaphone were distributed in different mosques for disseminating cyclone information. Around 88% of the respondents knew proper way of taking necessary steps during strong cyclone in the sea. Around 89% of the respondents reported that there was a cyclone shelter around 2-3 kilometers of their house either under construction or built. So, disaster management programme was well organized in *char* area.

Capacity building training

We found that 69% of the respondents received at least one training. Some trainings are mutually exclusive e.g. SS, TBA, poultry worker, social forestry, *Palli shamaj*, and homestead crop cultivation. These kinds of trainings are basically given to social entrepreneurs who work as a catalyst for community development.

Figure 8. Training and refreshers received by beneficiary
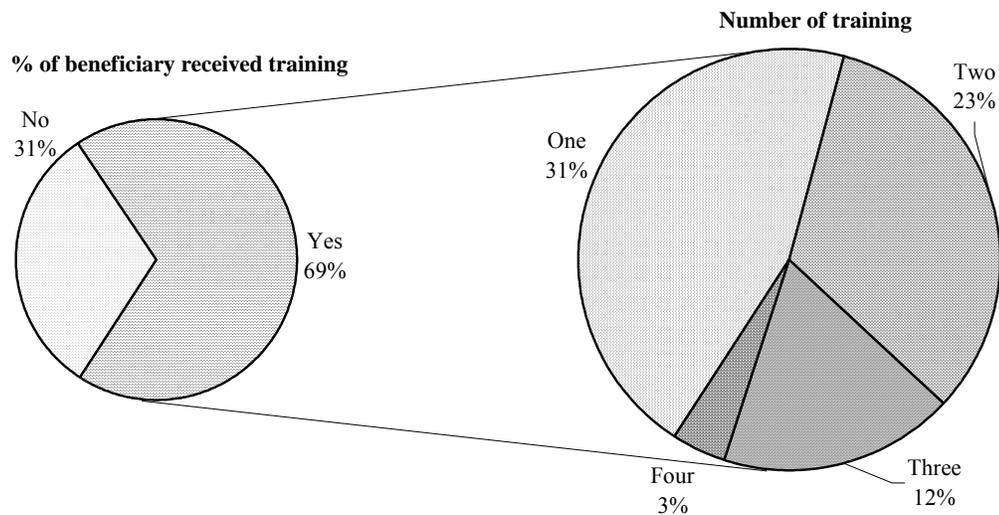
On the contrary, some trainings are not mutually exclusive e.g. disaster management, health and family planning, water and sanitation, and human rights and legal education. So, a beneficiary may receive at least four to five capacity building training. However, average number of training was 1.81 per beneficiary of those who received any capacity development training during survey. Distribution of training received by the beneficiaries are shown in Figure 8. Over 80% of trained beneficiaries received training within 1-2 years of their enrollment with NGOs. The more common initial training received by the beneficiaries were found to be homestead crop cultivation, horticulture nursery, goat rearing and disaster management. These trainings seemed to be useful in the sence that 60-80% of trained respondents ranked those trainings in the first position based on importance.

FACTORS AFFECTING THE HOUSEHOLD WELL-BEING

The empirical ordinary least squire (OLS) model postulates annual per capita income to be a function of productive asset along with household demographic, vulnerability, and migration of male adult. Per capita annual income has been considered as proxy of well-being of the household in the model. Regression results have been described below.

Demography

Overall demographic characteristics are highly associated with per capita annual income of the household member. Coefficients of age of the head and squired of age give us expected signs. It implies that per capita income increases up to a certain level and it declines after critical age of the household head (Table 9). The positive coefficient of female headship is significant that explaines female headship contributes to increase household income that eventually increases per capita income. Larger number of dependent members of the households significantly reduces per capita income. On the contrary, higher number of earner member per household is associated with greater per capita income which is understandable.

Productive asset

The coefficients of productive assets in the form of livestock and poultry are positive and significant. This implies that larger number of livestock and poultry contribute to increase per capita income through employeing household members in subsistance farming. It is interesting to note here that the coefficient of number of income source is negative and highly significant. It suggests that greater number of income sources does not necessarily increases the household income of the poorest in *char* area.

Table 9. Factors affecting well-being of the *char* dwellers: Usage of OSL model

Independent variables	Log of per capita income
Demography	
Age of household head	0.050 (2.66)***
Age of household head squired	-0.001(2.77)***
Female headship (yes=1, otherwise=0)	0.282 (2.88)***
Number of children	-0.187 (9.55)***
Number of earner	0.268 (6.35)***
Maximum education of household member	0.003 (-0.30)
Productive asset	
Number of income sources of the household	-0.282 (7.70)***
Number of livestock	0.027 (2.42)**
Number of poultry birds	0.006 (2.02)**
Log of amount of cultivable land	0.273 (-1.27)
Vulnerability	
Number of crises faced by household annually	-0.077 (2.16)**
Migration	
Migration of adult male (yes=1, 0= otherwise)	-0.113 (-1.63)
R-squired	0.25
Observations	661

Note: Robust t statistics in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1% level.

Multiple occupation of same member of the households might yield little income what could be the possible reason for this which is a common practice among the poor. The amount of cultivable land has insignificant relationship with per capita annual income. *char* dwellers might not get full benefit from cultivable land due to soil salinity as well as unfavourable agro ecological condition in *char* area.

Vulnerability

The extent of vulnerabilities represents the coping capability of unexpected events happened in the household. The coefficient of number of crises is significant and negatively associated with the per capita income. It explains that greater number of unexpected events significantly reduces household income. Poor people might sell their productive asset even primary source of income for coping crisis since they hardly keep additional money for this purpose.

CONCLUSION AND RECOMMENDATION

The benchmark estimates might be useful to take up timely steps for escaping the *char* people from poverty. Health, education and environment are striking issues that draw great attention of the pertinent authorities in this connection. To raise awareness on different health issues especially primary and maternity healthcare have been emerging even in a geographically separated area for achieving millennium development goal by 2015. Contraceptive prevalence rate should be increased among the eligible couple by educating them about long-term dreadful consequences of larger family size on socioeconomic condition of household rather than just promoting subsidized contraceptive medicine and device. A lower prevalence of sanitation rate (5%) might increase health expenses of the poor people through water born diseases. So, early distribution of sanitary latrine among the *char* dwellers could be useful. As I noticed young children were tend to be dropped out more from formal education compared to Islamic education. On the contrary, religious education might not be useful for getting better job in the competitive job market. The policy planner should take this kind of crucial matter seriously. It may be suggested that establishing adequate number of educational institutions especially primary, secondary and technical schools for young generation in *char* area could be useful to develop human capital even in isolated *char* area. Legal knowledge and perception of the women on human and basic rights seemed to be weak let alone practice that left scope for vulnerable women to be cheated. So, human rights and legal education along with social development programmes should be proactive and pragmatic for women empowerment. The mobility of women was also observed lower in the sense that only 7% of women respondents could move to big markets in *char* area without permission of senior members of the family but it was little relaxed (14%) when they went to health centre. Forestation is a great concern in coastal *char* area for protecting its people from cyclone. Plantation of deep-rooted cycas as well as fast growing trees through social forestation should be ensured as soon as possible as I found one-third of *char* dwellers were yet to be distributed seedlings during our survey. For reviving the economic activities among *char* people government should establish the basic infrastructure facilities like roads and connecting bridges between *char* and main land. Surplus lands should be retrieved and reallocate those among landless people of *char* area by proper monitoring. Government should take immediate step for rural financing through local NGOs since demand for microcredit was found to be unmet in *char* area.

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ANNEXURE

Annex 1. Activities of LGED under CDSP-III, as of June 2007

| Sl.no | Item of work | Number | | Achievement % |
		Target	Achievement	
1	Community ponds	50	18.5	37
2	Culverts	15	3	20
3	Cyclone shelters	20	5	25
4	Roads Kacha	51	26	51
5	DTW	600	138	23
7	Pit latrine	8500	935	11
8	Public Toilet	20	2	10

Annex 2. Details of programme components (primary data of CDSP-III office as of June 2007)

1. Group formation and savings management
- Group formed — 341
- Number of member enrolled — 8,021
- Number of borrower — 4,510
- Average savings in Tk. — 707

2. Health and family planning programme
- Number of shastha shebika trained for work — 60
- Number of traditional birth attendant training for work — 75
- Number of patient treated by medical assistants/paramedics — 21,653
- Number of permanent contraceptive method user — 315
- Number of temporary contraceptive method user — 3,396
- Number of mobile clinic service organized — 777

3. Human rights and legal education (HRLE)
- Number HRLE shabika trained for work — 20
- 30 day HRLE course completed — 129
- Number of HRLE course participant — 3,118

4. Palli shamaj
- Number of palli shamaj — 65
- Number of palli shamaj president received 6 day training — 50
- Number of member of palli shamaj committee — 975

5. Homestead crop cultivation
- Number model farmer received 3 day training — 475
- Number model farmer received 1 day refresher training — 338
- Number general farmer received 1 day training — 1824

6. Farmers' forum
- Number of farmers' forum formed — 25
- Number of member enrolled in farmers' forum — 750

7. Social forestry
- Number of nursery owner who received 6 days training — 50
- Number of one day refresher training held — 494
- Number of member who received 2 day homestead plantation training — 1,996
- Number of seedling produced by nursery owners — 574,350
- Number of seedling distributed among the beneficiaries — 30,744

8. Poultry and livestock programme
- Number of member received 1 day training on goat rearing — 300

(Continued...)

- Number of member received 3 day training on cow rearing	299
- Number of member received 1 day training on key rearing	1,496
- Number of member received 6 day training on poultry vaccination	50
- Number of vaccination dose used/pushed	198,395

9. Water and sanitation programme

- Number of 14-18 member deep tubewell user group formed	343
- Number members responsible for looking after deep tubewell	200
- Number of deep tubewell user group meeting held	475
- Number of deep tubewell installed	172
- Number of site selected for installation sanitary latrine	5,000

10. Disaster management

- Number of member received 3 day training on awareness building	1,900
- Number megaphone distributed	50
- Number of radio distributed	5
- Number of saline distributed	676,600
- Number of seedlings distributed among the beneficiaries	106,864

Annex 3. Mark Schreiner's poverty scorecard derived from HIES 2005

	Indicators	Attributes						Points
1.	What type of latrine do you have?		Open field	Pit *pucca*	Sanitary or water seal *pacca*			
			0	7	12			
2.	How many household members are 11 years old or younger	4 or more	3	2	1	0		
		0	7	12	17	26		
3.	Does any household member work for a daily wage?			Yes	No			
				0	7			
4.	How many living rooms does the house have (excluding ones used for business and kitchen)?		1	2 or 3	4 or more			
			0	3	9			
5.	Do all children ages 6 to 17 attend school in your household?		No	No children age 6 to 17	Yes			
			0	4	6			
6.	Does the household Own a TV set?			No	Yes			
				0	11			
7.	How many hectares of cultivable land does the household own?	Less than 0.34	0.34 to 0.99	1 to 1.99	2 or more			
		0	3	4	9			
8.	What is the main construction material of the walls of the house?	Hemp/hay/bamboo or mud brick	C.I. sheet/wood		Brick/cement			
		0	5		7			
9.	Does the household own any cattle?			No	Yes			
				0	9			
10.	Does the house have a separate kitchen?			No	Yes			
				0	4			
					Total point			

Source: Schreiner (2006)

Annex 4. Scores and corresponding poverty likelihoods

Score	Poverty likelihood for people with score in range (%)
0-4	93.00
5-9	94.60
10-14	94.60
15-19	89.80
19-24	76.00
25-29	76.70
30-34	59.40
35-40	51.40
41-44	38.30
45-49	26.20
50-54	14.30
55-59	5.70
60-64	5.10
65-69	6.70
70-74	1.90
75-79	3.70
80-84	0.30
85-89	0.00
90-94	0.00
95-100	0.00

Source. Schreiner (2006)

Annex 5. Project components

Variables	Value
Water and Sanitation	
Own latrine (% of household)	76
Sanitary latrine	5
Disposal of defecation (2-5 yr children)	
Sanitary latrine	2
Unsanitary latrine/pit	52
Open field	46
Usage of slipper during defecation	92
Washing hands with soap	85
Tubewell was the source of drinking water	86
Pond was the source of cooking water	91
Water born diseases	
Diarrhoea	63
Dysentery	11
Others (Jaundice, Typhoid, Cholera,)	26
Knew how to purify polluted water	97
Health and Family Planning (% of the respondents)	
Knew health worker	99
Health worker visited HH at least once a month	90
Knew about mobile clinic service	82
Knew about static clinic service	91
Ever took service from static clinic who knew	80
Average no. children of eligible couple	3.5
Eligible couple using contraceptive	76

(Continued..)

Palli Samaj (% of the respondents)	
Heard about palli samaj	93
Heard and knew about activities of palli shamaj	81
Knew the activities of palli shamaj and attended any meeting during last six month	69
Attended palli shamaj meeting and raised family/social problem	59
Raised problem and got solution	76
Human Rights and Legal Education (% of the respondents)	
Knew about correct age of marriage for men	59
Knew about correct age of marriage for women	85
Knew about punishment of exchanging dowry	38
Knew about correct process of divorce	48
Knew about proper age of voting for Bangladeshi Nationals	68
Knew about distribution of property among son and daughter in Muslim law	63
Knew about beating a woman for any reason is a violation of human right	63
Knew about beating a child for any reason is a violation of human rights	92
Average score of index of human rights and legal education (0= know nothing….8= know everything)	5.48
Homestead crop cultivation	
Homestead land (decimal)	15.47
Training received (% of the respondents)	23
Grew kitchen gardening before training (% of the respondents)	53
Learned new method of crop cultivation (% of the respondents)	96
Received seeds (% of the respondents)	36
Grow vegetables around homestead who received seed (%)	90
Could meet family demand for vegetables who grew (%)	77%
Could sell vegetables who grew (%)	32
Social forestry	
Nursery owner (% of the respondents)	1%
Annual investment for nursery (Tk.)	11159
Sale of nursery plants (%)	
Samity	43
Local market	43
Neighbourhood	14
Received nursery plants from samity (%)	66
No. of trees around homestead area	72
Poultry and livestock programme	
No. of poultry and livestock (average)	14
Received training on poultry rearing (%)	18
Vaccinated poultry during last six months (%)	62
Knew poultry worker (%)	85
No. of livestock (average)	2.55
Received training on livestock rearing (%)	9
Disaster management	
Received training on disaster management (%)	50
Received seedling for protecting houses from disaster	48
Could receive information about sea cyclone	
Radio	10
Micking from mosque	83
Red flag	8
Had cyclone centre around 2-3 Km from home (%)	89
Faced natural disaster (%)	26

**Mid-term Evaluation of CDSP-III,
June 2007**

ID NO [   ]

Name of interviewer _____ Date (DD/MM/YY) [   ][   ][   ]

Name of cross checker _____ Date (DD/MM/YY) [   ][   ][   ]

Name of
respondent _____ Line No. [   ]

Name of head _____ Line No. [   ]

VO admission date of members (DD/MM/YY) [   ][   ][   ] Member
No. [   ]

Name of VO _____ Code [   ]

**Implementing
organization** [1] SSUS [2] UPOMA [3] N-RAS [4] DUS [5] HASI

Q1. Poverty assessment

SL	Question		2007	2005
1	No. of children aged 11 or younger	Enter figure ………→		
2	No. of 6-17 ages children attending school	Yes [1]; no [0]; no children 6-17 ages [3];		
3	Ownership of TV	Yes [1]; No [0];		
4	Daily labour in the HH	Yes [1]; No [0];		
5	HH cultivable land (decimal)	Enter figure here…→		
6	HH homestead and cultivable land (dec)	Enter figure here…→		
7	No. of living room	One [1]; 2 or 3 [2]; 4 or more [3];		
8	Separate kitchen room	Yes [1]; No [0];		
9	Wall material of living room	Hemp/hay / bamboo or mud [1]; CI sheet/wood [2]; Brick/cement [3];		
10	Type of latrine	Open [1]; pit pacca [2]; water sealed sanitary [3];		

(Continued..)

(Continued..)

SL	Question		2007	2005
11	Male head/spouse highest education	None [1]; Class I-VI [2]; Class VII-SSC [3]; HSC and above [4];		
12	Household having livestock	Yes [1]; No [0];		
13	Household having bicycle	Yes [1]; No [0];		
14	Age of Household head/spouse	Less than 35 [1] ; 35-44 [2]; 45 or more [3]		
15	Age of female head/spouse	Less than 30 [1] ; 30-39 [2]; 40-49 [3]; 50 and above [4]		
16	Household leased in last year	Yes [1]; No [0];		
17	Source of water other than drinking water	Pond/river /well/falls [1] Tubewell [2]; Supply water [3]		
18	Household having tubewell	Yes [1]; No [0];		
19	Child immunization done	Yes [1]; No [0];		

Q2.   Training activities

Whether received training or refreshers? Yes [1];   no [0];

(If yes), name of training (according receive and importance)?

	Training code	Importance 1,2,3…
1st Training		
2nd Training		
3rd Training		
4th Training		
5th Training		
6th Training		

Training code

Group formation and savings collection [1]; SS training [2];   (TBA) training [3];
(HRLE) training [4]; Homestead Crop Cultivation [6]; Model farmer [7]; General farmer   [8];
Horticulture [9]; Homestead Plantation [10]; Goat rearing [11]; Cow rearing [12]; Key rearing [13];
Vaccination [14]; disaster management [15]

Q3. Household characteristics

Line No.	Name	[ ]- Relationship with respondent	[ ]- Marital status	[ ]- Age	[ ]-Sex Female [1] Male [2]	[ ] Highest class passed?	Only for 5-25 year old member		
							[ ]-Schooling status	(If ever went to school) What type of institution s/he attended?	Why not some other member not going to school/stopped schooling? (Check key reason if more than one)
	1	2	3	4	5	6	7	8	9
1									
2									
3									
4									
5									
6									
7									

Relationship code
Respondent [1] Husband [2]
Son/daughter [3]
Father/mother [4] Father (in law)/mother (in law) [5]
Brother/sister [6]
Husband's brother/sister [7]
Son's wife *l*Daughter's husband [8]
Brother's wife*l* Brother in law [9]
Sisiter in law *l*Sister in law's husband [10]
Grand son/daughter [11]
Grand father/mother [12]
Husband's grand father/mother [13]
Co-wife [14] Other (mention)

Marital status
Never married [1];
Divorced [2];
Currently married [3];
Seperated/
abandoned [4];
Widow[5]

Classe passed
Less than class one [0];
Class one [1]; Class two [2];
Class three [3];
Class four [4]; Class five [5];
Class six [6]; Class seven [7];
Class eight [8]; Class nine [9];
SCC*l*Dakhil [10]; HSC/Alim [11];
Bachelor [12]; Masters [13];
Diploma [14];
Quaran Hafez [15];

Schooling status
Never went [1];
Currently going school [2];
Stopped schooling [3];
Going to start schooling soon [4]

Type of institution
Kintergarten/pre-primary [1];
Govt. primary [2];
BRAC primary [3]; Private primary [4]; Madrasha (primary) [5]; Govt. high school [6]; Private high school [7];
Govt. college [8] Private college [9] Madrasha (secondary) [10]; University/degree college [11]; Hafezi madrasha [12]; Technical school/college [13];

Causes of stopping school
Completed education [1];
Distance [2]; cannot bear education expenses [3]; Institution did not admit [4]; Has to earn [5];
Has to do household work [6]; Apathy [7];
Disabled [8]; unsecured [9]; Social/religious pressure [10];
Too younger for schooling [11]; Married off [12]; Other (mention)

Q4. Business activities of HH members

Occupation of members (6 year and above) got involved last one year

Line no.	Line No of member	[ ] Occupation (See occupation code)	[ ] Place of work (See code of place)	[ ] How many days involved in this occupation last year	[ ]-Work pattern* Individual [1]; Jointly [2];	Income from this occupation during last one year (Tk)	Expenditure for this occupation last one year (Tk)
		1	2	3	4	5	6
1							
2	1						
3							
4							
5	2						
6							
7							
8	3						
9							
10							
11	4						
12							
13							
14	5						
15							
16							
17	6						
18							

Occupation code [1] Household work; [2] Agriculture (self); [3] Agriculture labour (others field); [4] Non-agriculture labour; [5] Manufacturing labour; [6] Livestock rearing; [7] Poultry rearing; [8] Kitchen gardening; [9] Fishing; [10] Rickshaw/van/bus/tempo driving; [11] Petty business; [12] Owner/servant of shop/hotel; [13] Skilled labour; [14] Community health worker; [15] Teacher/service; [16] Imam/prophet; [17] Student; [18] Begging; [19] Unemployed, seeking job; [20] Unemployed (not seeking job); [21] Share cropping; [22] Hawker Other (mention)

Place code: Boyer *char* [1]; Previous place from where s/he migrated [2]; Out of *char* but in Noakhali district [3] ; In other district [4]; Divisional city (Dhaka, chittagong, Sylhet) [5]; Abroad [6];   Don't know [99]

*Compare within household members

Programme components

Q5. Water and sanitation

1	Own latrine	Yes [1]; No [0]; Jointly [3]	
2	Latrine type	Sanitary [1]; Non-sanitary/ Open [2]	
3	Defecation of 2-5 children	Sanitary [1]; Pit [2] Open field [3]	
4	Using sandles/slippers by respeondent	Always [1]; Sometimes [2]; Never [3]; Having no slipper [4]	
5	Hand washing material after defecation	Ash [1]; Soap [2]; Only water [3];	
6	Source of drinking water	Tubewell [1]; Well [2]; Pond [3]; Canal [4]; River [5];	
7	Source of cooking/bathing water		
8	What are the water born disease	Diarrhoea [1]; Dysentery [2]; Indigestion [3]; Worm [4]; Jaundice [5]; Typhoid [6]; Cholera [7]; Don't know [99]	
9	Method of purifying water	Boil [1]; Medicine [2]; Filter [3]; Don't know [99];	

Q6. Health and family planning

1	Do you know Shastha Shebika (SS)	Yes [1]; No [0]; Self [2]	
2	Has SS visited during last one month	Yes [1]; No [0]; Self/family member [99]	
3	Do you know about mobile clinic facility	Yes [1]; No [0];	
4	Do you know about fixed clinic facility	Yes [1]; No [0];	
5	Have you ever taken service from fixed clinic	Yes [1]; No [0];	
6	No. of children	Enter figure here…→	
7	Age of youngest child	Enter figure here…→	
8	Do you currently married and less than 50	Yes [1]; No [0];	
9	(If yes) Are you using any contraceptive	Yes [1]; No [0];	
10	(If no) Is your husband using any contraceptive	Yes [1]; No [0];	
11	(If 9 or 10 yes) Type of method	Perpanent method [1]; Temporary method [2];	
12	Who advised you to use contraceptive	Husband [1]; Relative/neighbours [2]; Radio/TV [3]; Health worker [4]; Other (mention)	
13	How many baby do you want	Not applicable [99] Enter figure here…→	

Q7. Palli Shamaj

1	Have you heard name of palli shamaj	Yes [1]; No [0];	
2	Do you know about palli shamaj activities	Yes [1]; No [0];	
3	Have you attended palli shamaj meeting during last six month	Yes [1]; No [0];	
4	Have you raised any social/family problem in palli shamaj meeting	Yes [1]; No [0]; No domestic violence happened [2]	
5	(If yes) Did palli shamaj solve your problem	Yes [1]; No [0];	

Q8. Human rights and legal education

1	Marriage age for men	21 year [1]; Wrong/don't know [0]	
2	Marriage age for women	18 year [1], Wrong/don't know [0]	
3	Punishment of taking/giving dowry	1 - 5 imprisonment and 5000 Taka penalty [1]; Wrong/don't know [0]	
4	What is law of divorce	Inform local chairman through formal notice [1]; Wrong/don't know [0]	
5	Legal age for voting	18 year [1], Wrong/don't know [0]	
6	Wealth distribution among son and daughter in Muslim law	Son and daughter proportion is 2 and 1 respectively [1]; wrong/don't know [0] Not applicable [2];	
7	Is it a violence physical torturing a woman without any reason	Yes [1]; No [0];	
8	Is it a violence physical torturing a child without any reason	Yes [1]; No [0];	
9	Taking permission to go outside for shopping	Yes [1]; No [0];	
10	Taking permission to go outside for taking health service	Yes [1]; No [0];	

Q9. Homestead crop cultivation

1	Amount of land around homestead	Enter figure here…→	
2	Have you got training on homestead crop cultivation	2 day (general farmer) [1]; 3 day (model farmer)[2]; Did not receive training [0]	
3	Did you cultivate crop around homestead before receiving training	Yes [1]; No [0];	
4	Have you learned anything new from training	Yes [1]; No [0];	
5	How many times have you received vegetable seed	1 time [1]; 2 times [2]; 3 times [3]; Not yet got [0]	
6	In which season do you grow vegetable around homestead	Only summer [1]; Only winter [2]; Both summer and winter [3]; Not applicable [0];	
7	(If cultivated) Can you meet HH demand	Yes [1]; No [0];	
8	Do you sell vegetables in the market	Yes [1]; No [0];	

Q10.   Social forestry

1	Are you owner of a nursery	Yes [1]; No [0];	
2	(If yes) What is the annual investment for nursery (in Tk.)	Enter figure here…→	
3	What is the annual net return from nursery (excluding cost)	Enter figure here…→	
4	Who usually buy your nursery plant	Samity [1]; Local market [2]; Neighbour [3];	
5	Have you got nursery plant from samity	Yes [1]; No [0]; Not applicable [99];	
6	(If 1 is no) Have you got nursery plant from samity	Yes [1]; No [0];	
7	(If yes) How many plants	Enter figure here…→	
8	How many small and big trees do you have around your homestead	Enter figure here…→	

Q11.   Poultry and livestock programme

1	How many duck/hen do you have (enter '0' if don't have)	Enter figure here…→	
2	Have you received training on key rearing	Yes [1]; No [0];	
3	Have you vaccinated you poultry during last 6 month	Yes [1]; No [0]; Not applicable [99];	
4	Do you know poultry worker of your area	Yes [1]; No [0]; Self/family member [99]	
5	Has your poultry been died during last 6 month	Yes [1]; No [0];	
6	How many livestock do you have (enter 0 if don't have)	Enter figure here…→	
7	Have you received training on livestock rearing	Yes [1]; No [0];	

Q12. **Disaster management**

1	Have you received training on disaster management	Yes [1]; No [0];	
2	Have you received plants for disaster management	Yes [1]; No [0];	
3	How can you be informed in advance about signal for natural disaster in the sea	Radio [1]; Mosque [2]; Red flag [3];	
4	What do you do during cyclone in the sea	Putting valuables under ground [1]; Take shalter as soon as possible with children and livestock [2]; Don't know [3];	
5	Is there cycle shelter around 2-3 km of your home?	Yes [1]; No [0];	
6	Have you ever faced any natural disaster in this *char*	Yes [1]; No [0];	

Q13. **Group formation and savings management**

1	Did you join samity meeting last week	Yes [1]; No [0];	
2	Why did you join the samity	For borrowing [1]; Having different facilities [2]; To be united [3]; Motivated by neighbours [4];	
	Did you save before joining samity	Yes [1]; No [0];	
3	Do you save with samity	Yes [1]; No [0];	
4	Amount of savings	Enter figure here…→	
5	Are you repaying loan installment currently	Yes [1]; No [0];	
6	(If yes) Amount of loan	Enter figure here…→	
7	(If no) Did you repay loan installment before	Yes [1]; No [0];	
8	Do you have multiple membership right now	Yes [1]; No [0];	
9	No. of loan you have taken so far (enter 0 if took no loan)	Enter figure here…→	
10	Did you take loan before coming Boyer *char*	Yes [1]; No [0];	
11	Did you take Dadon with interest after coming Boyer *char*	Yes [1]; No [0];	
12	Have you taken Dadon during last six month	Yes [1]; No [0];	
13	In which month do you need loan		
14	Does samity meet your loan demand	Yes [1]; No [0];	

Q14. **Migration**

1	How long you been here in Boyer *char*	Enter figure here…→	
2	Where did you stay before coming Boyer *char*	Ramgati/Laxmipur [1]; Hatia/Noakhali [2]; Other (mention)	
3	Main reason for coming in Boyer *char*	River erosion [1]; Land occupying [2]; Other (mention)	
4	Has any HH male member (>10) migrated out for work during last one year	Yes [1]; No [0];	
5	(If yes) Does he remit	Yes [1]; No [0];	
6	(If yes) Through which channel	Come home [1]; Send through others [2]; Post/courier [3]; Other [4];	
7	Did you face any problem during migration of male member last one year	Yes [1]; No [0];	
8	(If yes) What problem		

Q15.   Land Holding

1	How have owned this homestead *char* land	Own occupied (have khatian) [1]; Own purchased (have khatian) [2]; Own purchase (Don't have khatian) [3]; Other (mention)	
2	Do you have *dawg* number for your land	Yes [1]; No [0];	
3	(If yes) amount of land based on *dawg* (decimal)	Enter figure here…→	
4	If own homestead can you sell it to others	Yes [1]; No [0];	
5	Do you cultivate lease land	Yes [1]; No [0];	

Q16.   Food security

1	Have managed at least two meals for all HH member last one year	Yes [1]; No [0];	
2	HH status considering annual income and food expenditure (self perception)	Always deficit [1]; Sometimes deficit [2]; No deficit no surplus [3]; Surplus [4]	
3	How many times did you not manage enough food last month	Never happened [1]; 1-3 times per month [2]; 1-2 times per week [3]; 3-4 times per week [4]; More than 5 times per week [5];	
4	How many times did you have to eat only boiled rice (with salt, onion and chili) last month	Never happened [1]; 1-3 times per month [2]; 1-2 times per week [3]; 3-4 times per week [4]; More than 5 times per week [5];	
5	How many times did you have to borrow rice last month	Never happened [1]; 1-3 times per month [2]; 1-2 times per week [3]; 3-4 times per week [4]; More than 5 times per week [5];	
6	Has this HH ever borrow rice for running family	Yes [1]; No [0];	
7	Has you HH lent out rice to others	Yes [1]; No [0];	

Q17.   Business and non-business asset of household

Business asset				Non-business asset			
Sl No.	Household asset	Number	Present Value (Tk)	Sl No.	Household asset	Number	Present Value (Tk)
1	Cow/buffalo			1	Radio/cassette		
2	Goat/ram			2	TV		
3	Hen/duck,			3	Mobile phone		
4	Swallow machine			4	Bicycle		
5	Plough			5	Motor cycle		
6	Tractor			6	Sewing machine		
7	Threshing machine			7	Chair		
8	Cow/poultry shed			8	Table		
9	Shop room			9	Cot		
10	Boat,			10	Sofa		
11	Fishing net,			11	Mosquito net		
12	Rickshaw/van/cart			12	Ornaments		
13	Tree (worth more than Tk. 100)			13	New shari for female head		
14	Other (mention)			14	Other (mention)		

Q18.   Vulnerability

Crisis event happened last one year

Sl. No.	Event	[ ]-Event happened during last one year Yes [1] No [0]	If yes, How many month ago	[ ]-How much money did you spend for this event	How did you cope with this crisis (may be multiple answer)
		1	2	3	4
1	HH severely damaged				
2	Illness of earner				
3	Illness of non-earner				
4	Crop damage due to natural calamity				
5	Death of earner				
6	Death of non-earner				
7	Marriage of HH member				
8	River erosion/cyclone				
9	Death of livestock by accident				
10	Death of livestock by incident				
11	Divorce				
12	Dispute case				
13	Robbery				
14	Dacoity				
15	Trafficking				
16	Fierce family quarrel				
17					

Coping strategy: Did nothing [0]; Saving household expenditure [1] ; Used previous savings [2] ;   Selling asset [3]; Sending children to work in others house [4];   Sending child for working [5]; Sending adult member to start work again [6];   Begging [7];   Borrowing [8];   Selling manual labour in advance [9];   Govt. relief [10]; Help from relative [11];   Other (mention)

Q19.   Aspirations

1	What would be the economic status of your household in the next five year?	Much better than present [1]; Better than present [2]; Same as present [3]; Worse than present [4]; Much worse than present [5]	
2	Do you have any plan to start new IGA in the nest five year?	Yes [1]; No [0];	
3	If yes, what kind of IGAs?	**Code:** [1] Household work; [2] Agriculture (self); [3] Agriculture labour (others field); [4] Non-agriculture labour; [5] Manufacturing labour; [6] Livestock rearing; [7] Poultry rearing; [8] Kitchen gardening; [9] Fishing; [10] Rickshaw/van/bus/tempo driving; [11] Petty business; [12] Owner/servant of shop/hotel; [13] Skilled labour; [14] Community health worker; [15] Teacher/service; [16] Imam/prophet; [17] Student; [18] Begging; [19] Unemployed, seeking job; [20] Unemployed (not seeking job); [21] Share cropping; [22] Hawker; Other (mention)	
4	Do you have plan to switch into main land?	Yes [1]; No[0];	
5	**(Give your opinion about this statement)** If luck does not favour, overall status would not be improved in stead of our best trial	Totally agreed [1]; Slightly agreed [2]; Neutral [3]; Slightly disagreed [4]; Totally disagreed [5];	
6	We present two statements before you. None of these is right or wrong. You have to opine which one is more applicable.	This kind of lifestyle is the result of our previous work [1]; Our lifestyle depends on our luck [2];	