Char Development and Settlement Project Phase IV
Bangladesh

Mid-term RIMS Survey Report

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Implementing Government Agencies:
- **Bangladesh Water Development Board (BWDB)**
- **Ministry of Land (MoL)**
- **Local Government Engineering Department (LGED)**
- **Department of Public Health Engineering (DPHE)**
- **Department of Agriculture Extension (DAE)**
- **Forest Department (FD)**

and NGOs

BETS **Euroconsult Mott MacDonald** **Socioconsult**

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1. Introduction

Char Development and Settlement Project phase IV, CDSP-IV, started on 1 March 2011 with the mobilization of TA team. The focus of the activities of CDSP IV is on the development of five new chars: 1. Char Nangulia, 2. Noler Char, 3. Caring Char, 4. Char Ziauddin and 5. Urir Char. The total extent of these chars is around 30,000 ha, with an estimated population of 155,000 in 28,000 households.

The overall objective of the project is to reduce poverty and hunger for poor people living on newly accreted chars, which would be achieved via improved and more secured livelihoods. The purpose is therefore, to improve and enhance the security of the livelihoods of the settlers in the project areas. This applies in particular for the 28,000 households in the CDSP IV project area. The objective and purpose will be achieved through producing and ensuring the following six outputs:

- Effective management of water resources, protection against tidal and storm surges, improved drainage;
- Climate resilient internal infrastructure of communication, markets, cyclone shelters, provision of potable water and hygienic sanitation;
- Provision of a legal title to land to the settlers;
- Improved livelihoods and household resilience;
- Institutional development in order to create an enabling institutional environment;
- Knowledge management through undertaking and disseminating surveys and studies and by learning from contribution to ICZM efforts.

2. Background

Measurement of prevalence of child malnutrition and an assets ownership index are mandatory for all IFAD projects. IFAD has a standard methodology for collection of this information involving a sample survey. The so called Result and Impact Management System (RIMS) is used by IFAD to report on its project level achievements using a comparable set of indicators of results. The RIMS will be used by the project management team to help improve project performance.

It is planned that impact assessment surveys would be conducted three times during the life of the project in order to measure changes over time: The Baseline Survey before the start of the project, the Mid Term Review Survey half way the project and the third and Final Survey at project completion.

The CDSP IV RIMS Baseline Survey was conducted by IFAD as part of the project design process to provide information on the poverty level in the project area in 2009.

In below chapters the results of the present Mid Term RIMS Survey are compared with the results of the RIMS Baseline Survey.

3. Objective of the Survey

The general objective of the survey is to assess to what extent the CDSP IV interventions have reduced malnutrition of children below five years old, how the household assets of the resource-poor households of the char areas have increased and how far their livelihood status has changed.

The specific objectives of the survey are:

- To assess to what extent CDSP IV has reached its target group of resource-poor households;
- To assess the impact of water management and agriculture extension activities on reduction of soil salinity, cropping intensity and increased agricultural productivity.
- To assess the impact of the communication network established by LGED;
- To assess the impact of the water and sanitation and health services provided by DPHE and partner NGOs;
- To assess the impact of NGOs' livelihood support activities on better livelihood status of char people.
- To assess the impact of the CDSP IV interventions to bring changes in farmers' agricultural practices, productivity and returns from their agriculture, fisheries and livestock systems and on their livelihood in general.

4. Survey Methodology

4.1 Sample Selection and Sampling Procedure

The mid-term RIMS survey has been carried out with a sample of 1080 households drawn from the five chars (i.e. Char Ziauddin, Char Nangulia, Noler Char, Caring Char and Urir Char). A two stage stratified random sampling has been applied for selecting the samples for conducting the field survey. In the 1st stage 36 (22%) Shomaj[1] have been selected randomly from 161 Shomaj of the five different chars. In the 2nd stage 1080 (4%) households have been selected randomly from these 36 Shomaj (i.e. 30 HHs from each Somaj). Table 4.1 shows the sample distribution of the survey. The present sampling design and sampling frame are almost similar to the baseline RIMS survey conducted in 2009. The only difference is in the sample size where, to cover the whole project area, two more chars (i.e. Char Ziauddin and Urir Char) have been included. So the size of the sample becomes 1080 instead of 900. During the analysis differences of results between three chars and all five chars were checked and ignorable differences were observed (see 4.4).

Table 4.1: Sample Distribution of the Survey

Name of Char	Total Area (ha)	Total Population	Total Shomaj	Sample Shomaj	% of Total Somaj	Total HH	Sample HH	% of Total HH
Char Ziauddin	1,943	11,000	12	3	25	2,000	90	5
Char Nangulia	8,990	67,000	82	18	22	12,000	540	5
Noler Char	2,690	33,000	32	8	25	6,000	240	4
Caring Char	3,000	16,800	15	4	27	3,249	120	4
Urir Char	10,300	11,000	20	3	15	2,000	90	5
Total/ average	**26,923**	**138,800**	**161**	**36**	**22**	**25,249**	**1,080**	**4**

4.2 The Questionnaire

All IFAD projects have to report on two key “anchor indicators”:

- reduced malnutrition as measured through the extent of stunting and wasting among children less than five years old and
- a composite asset index.

The baseline RIMS was conducted by Mitra and Associates (IFAD hired consulting firm) in 2009 using an expanded form of the questionnaire designed by IFAD to collect the data required to measure the anchor impact indicators. To enable comparison with the baseline data, the present RIMS questionnaire has been developed in line with the questionnaire used during the baseline survey

[1] The smallest geographical unit of a char.

2009, with some additional questions, to allow consistency with the annual outcome survey (see **Annex 1** for the questionnaire).

The mid-term RIMS survey questionnaire covered the following areas:

1. Household composition
2. Literacy (additional analysis showing literacy by age groups and gender)
3. Drinking water (source of water and distance)
4. Sanitation (type of latrine)
5. Housing (floor and roof type)
6. Land holdings (the number of households with homestead land, with cultivated land, and the average area for those households who have land)
7. Assets (disaggregated for current RIMS categories (bicycle, rickshaw/ van, boat, fan, and phone) and additional 25 types of assets, appropriate for char households)
8. Anthropometrics (height and weight of children from 0-59 months old)
9. Food security (number of months per year with food shortage)
10. Food quality (questions on number of times per month meat/ poultry, fish, eggs, milk are consumed)
11. Food self-sufficiency (number of months that households are able to meet its basic food needs from its own production)
12. Sales (annual value of sales by household of crops, vegetables, livestock, fish, handicrafts)
13. Sources of income (main and second sources of income of households)
14. Migration (number of people (m/f) from each household who travel out of the char area at some time each year to find work)
15. Number of years settled in current location (additional question).

4.3 Data Collection

Data for the survey were collected during the period 14 October – 13 November 2014. Household data were collected through the pre-designed questionnaire (see **Annex 1**) by fourteen enumerator teams (each team comprising one female and one male). Anthropometric data were collected by measuring the height and weight of each child aged 0-59 months in the household, if the children were available. A child's age, weight and height are combined to provide the three key indicators of nutritional status: weight for age, height for age and height for weight. Each team was

equipped with a digital weighing scale and a height measuring scale made by wood. The enumerators were trained properly (on October 12 and 13, 2014) before field data collection. To ensure the quality of field data a Survey Supervisor was hired, who supervised and coordinated the field data collection along with the M&E Officers of CDSP IV. The Survey Supervisor and M&E Officers randomly verified (15%) the filled up questionnaires through physical visits and all the data were checked and verified before data entry.

4.4 Data Entry and Analysis

The M&E unit of CDSP has developed a database using the MS Access application for data entry of the RIMS survey data. The developed data entry screen looks like the field questionnaire for easy entry and on screen data editing. Consistency checks and key stroke errors were also detected and corrected accordingly. All the collected data were processed and analysed in accordance with the objective of the study. The analysis was done using descriptive statistics like percentage, frequency distribution, mean and rank where appropriate. Except the anthropometric information, all data were

analysed using the MS Access application program. The anthropometric data were analysed using the statistical software STATA 12. Before analyzing the MS Access data were converted. In this report the comparison between baseline and mid-term results are shown, based on the total survey population. During the analysis differences of results between three chars and five chars were also checked and ignorable differences were observed. The following table shows the differences of some selective indicators:

Table 4.2: Comparison between the results of three chars and five chars

Indicator	Three chars (Nangulia, Noler Char and Caring Char)	All five chars of CDSP IV area	Difference	%
Monthly HH Income	8,751	9,112	361	3.96
Assets				
Almira/ Wardrobe	15.3	15.93	0.63	3.95
Trunk	53.44	53.8	0.36	0.67
Chair/ Table	58.9	59.54	0.64	1.07
Mobile Phone	87.2	87.87	0.67	0.76
Solar	29.4	31.11	1.71	5.50
Net	45	43.7	-1.3	-2.97
Anthropometric data				
Stunting/ Chronic malnutrition (height-for-age <2 SD), 95% confidence interval	52.70 (46-60)	52 (46-60)	0.70	1.4%
Wasting/ Acute malnutrition (weight-for-height <2 SD), 95% confidence interval	14.08 (10-19)	14 (10-19)	0.08	0.62%
Underweight (weight-for-age <2 SD), 95% confidence interval	43.10 (38-49)	43 (38-49)	0.10	0.38%

5. Characteristics of the survey population

Characteristics of the survey population are evaluated in terms of their age and sex composition, household composition and literacy skills.

5.1 Age, sex and household composition

The household population covered with the sample has been enumerated on *de jure* basis including the people who usually lived in a sample household at the time of the survey. The distribution of household members by age and sex are shown in Table 5.1.

Table 5.1: Distribution of household population by age and sex (%)

Age group	Baseline 2009				Mid-term survey 2014			
	Sex		Total	Sex ratio	Sex		Total	Sex ratio
	Male	Female			Male	Female		
<5 years	18.5	17.9	18.2	1.05	11.5	12.3	11.9	1.02
5-14	29.4	31.2	30.3	0.96	28.5	32.2	30.2	0.97
15-24	13.6	18.9	16.2	0.73	18.3	16.5	17.5	1.21
25-34	14.2	15.5	14.8	0.93	13.7	15.9	14.8	0.94
35-44	11.5	7.2	9.4	1.62	11.9	11.1	11.5	1.18
45-54	5.4	5	5.2	1.1	7.0	6.5	6.7	1.17
55-59	2.1	1.4	1.7	1.57	2.6	1.5	2.1	1.85
60-64	2.1	1	1.6	2.2	2.4	2.1	2.3	1.20
65 and above	3.2	2.1	2.6	2.25	4.2	1.9	3.1	2.41
Total	100	100	100	1.02	100	100	100	1.09
N	2,474	2,435	4,909		3,307	3,030	6,337	
Mean age (in years)	21.4	19.4	20.4		23.8	21.5	22.7	

6,337 People have been found to be living in the 1,080 sample households. The sex ratio (the number of males per female) is close to 1.09 which is slightly higher than the baseline ratio (1.02). The sex ratio varied by ages, showing relatively fewer males at ages below 30. The mean age of both male and female has increased compared to the baseline mean age. Persons aged 15-64 are defined as the “active” population, while those who are aged below 15 and above 64 are defined as “dependent” population. Based on this definition, the dependency ratio was 511 per 1000 active people during baseline survey 2009 and the present survey data shows a decreasing trend and it became 452 per 1000 active people.

Table 5.2: Distribution of households by sex of the head of household and household size

Characteristics	Baseline 2009		Mid-term survey 2014	
Sex of head of household	Number	Percent	Number	Percent
Male	851	94.6	1039	96
Female	49	5.4	41	4
Household members				
1	2	0.2	0	0
2	45	5.0	19	1.8
3	93	10.3	77	7.1
4	172	19.1	194	18.0
5	167	18.6	204	18.9
6	181	20.1	218	20.2
7	113	12.6	156	14.4
8	68	7.6	93	8.6
9+	59	6.6	119	11.0
Total	900	100	1080	100
Mean size	5.5		5.9	

Both baseline and present data show that most of the families are headed by males. Compared to the baseline survey female headed households became 4% from 5.5%. The average family size has increased from 5.5 to 5.9 with 47% and 54% of the households having 6 or more members during baseline and present survey respectively.

5.2 Literacy

The education of the members of the households ranges from simply being able to sign their names to graduate level. The baseline data and present data show that most of the people in the project area did not have formal education (refer to Table 5.3). Survey data (baseline and present) reveal that 1146 (36%) and 1785 (38%) households respectively are educated at levels of primary to graduate levels. An increase is found at literacy rate due to initiatives taken by the project partner NGOs on informal education.

Table 5.3: Education Level of Household Members

	Baseline Number (N=3183)	Percentage	MTR Number (N=5422)	Percentage
Illiterate	828	26	743	14
Can sign only	1,050	33	1,736	32
Can read and write	159	5	813	15
Primary	955	30	1,707	31
Secondary	159	5	345	6
Higher Secondary	32	1	61	1
Graduation and above	-	0	17	0

6. Housing condition

Most of the households have found to be living in katcha houses with natural floor. During baseline it was observed that 91 % of households had their roof made of leaves and only 9% of the households made the roof of the main house using tin[2] sheets. But at present tin is used by 67% of the households, and straw by 33% of the households.

Table 6.1: Distribution of households by type of floor and roof of main house

	Baseline 2009 (N=900)		Mid-term 2014 (N=1080)	
	Number	**Percent**	**Number**	**Percent**
Type of floor				
Mud	898	99.8	1074	99.4
Bricks	1	0	2	0.2
Pacca	1	0	4	0.4
Type of Roof				
Leaf	817	90.8	2	0.2
Straw	1	0.1	354	33
Tin	82	9.1	722	67
Pacca	0	0	2	0.2

[2] Corrugated Iron sheet

7. Water and sanitation

Deep/ shallow tube-well is the universal source of drinkable water in the project area, as observed both in baseline and present survey (Table 7.1). During baseline survey it was observed that on average the tube-wells were located 431 meters away from homesteads/ yards/ plots and three-fourth (76%) of the households used to collect water from a distance of over 200 meters. The present data show that household members are collecting water from an average distance which is only 120 meters and only 16% households are having it at a distance of over 200 meters. The present data show that it takes less than 30 minutes to fetch water for 99.5% of the households which was 57% at base line.

Table 7.1: Distribution of households by type of source of drinkable water and its characteristics

Source/ characteristics	Baseline 2009		Mid-term RIMS survey 2014	
	Number	Percentage	Number	Percentage
Tube well	897	99.7	1076	99.6
Protected dug well	1	0.1	0	0
Pond, River or Stream	2	0.2	4	0.4
Distance from Household in Meter				
1-100	95	10.1	697	64.5
101-200	125	13.9	213	19.7
201-500	397	44.1	166	15.4
500+	287	31.9	4	0.4
Mean distance	431		120	
Time taken to fetch water (minutes)				
01-10	75	8.4	614	56.9
11-20	182	20.2	213	19.7
21-30	253	28.1	247	22.9
31-60	314	34.9	6	0.5
60+	76	8.4	0	0

It is observed from the baseline survey data that almost 96% households had no latrine or used an open/ traditional pit latrine. Now 66% of the households are using ring slab latrines out of which 48.6% are fully hygienic (Table 7.2).

Table 7.2: Distribution of households by type of sanitation facilities

Type of latrine	Baseline 2009		Mid-term RIMS survey 2014	
	Number	Percentage	Number	Percentage
No Latrine	79	8.8	9	0.8
Open Pit/ Traditional Pit Latrine	782	86.9	356	33
Ring Slab unhygienic	37	4.1	190	17.6
Ring Slab hygienic	2	0.2	525	48.6

8. Economic Status

8.1 Land possessed

As shown in Table 8.1, on average a household had 26 decimals of land as homestead during baseline and no changes were observed during present survey. The amount of all land, including all types of land occupied by a household, viz. homestead land, crop land, pond and any other land, decreased from 162 to 142 decimal. On average a household had 136 decimals of cultivable land in baseline, and 116 decimals of cultivable land during present survey. The cropping intensity has been calculated based on how much cultivable land is available and how much land they cultivated for different crops in a year. Table 8.1 shows that the cropping intensity has increased remarkably to 140%, from only 84% during baseline survey. This is an effect of less soil salinity during dry season due to proper water management initiatives taken by the project.

Table 8.1: Distribution of households by types of lands

Type of land	Baseline 2009		Mid-term RIMS survey 2014	
	Number	Percentage	Number	Percentage
Homestead Land (decimal)				
01-10	262	29.1	175	16.2
11-20	218	24.2	371	34.4
21-40	303	33.7	282	38.2
40+	117	13.0	122	11.3
Mean Homestead land	26 (decimal)		26 (decimal)	
Cultivable Land (decimal)				
No land	30	3.3	223	20.7
01-49	68	7.6	187	17.3
50-99	133	14.8	334	30.9
100-149	337	37.4	243	22.5
150-249	273	30.3	52	4.8
250-499	54	6.0	33	3.1
500+	5	0.6	8	0.7
Mean Cultivable land	136		116	
Mean all Land	162		142	
Mean Land Cultivated	114		162	
Cropping Intensity	84 %		140 %	

8.2 Domestic animals possessed

Possession of cattle, sheep/ goat and poultry birds is considered as an indicator of economic wellbeing of rural households. A household is likely to be relatively better off if it has more domestic animals. As shown in Table 8.2 about 97% of the households of the sample are rearing chicken/ duck which was 94% in the baseline. A remarkable increase is observed in case of cattle rearing, which is almost double compared to the baseline situation. The number of poultry birds also increased compared to the baseline survey.

Table 8.2: Distribution of households by animals owned

Type	Baseline 2009			Mid-term RIMS 2014		
	Number of HH	Percentage	Mean no. of animals	Number	Percentage	Mean no. of animals
Chicken/ Duck	849	94	9.7	1046	97	16.2
Sheep/ Goat	205	23	2.5	178	16.5	3.8
Cattle	262	29	2.3	625	58	2.8
Others	10	1.1	6.2	73	6.8	9.5

8.3 Household assets

Asset holding is an important indicator of economic well-being of rural households. A long list of family assets has been examined that include furniture, electrical and electronic goods, gold, agricultural and fishing instruments, transports and trees. To make comparison with the baseline data only a limited number of assets are shown in Table 8.3. Percentage of assets holding households for most of the assets has increased, except for boat/ engine boat and radio. Remarkable changes have taken place in case of mobile phones (14% to 88%), solar panels (0% to 31%), chairs/ table (33% to 60%), and tin/ wooden trunk (20 to 54%).

Table 8.3: Distribution of households having specific assets

Asset	Baseline 2009		Mid-term RIMS 2014	
	Number of HH	Percentage	Number of HH	Percentage
Electricity	-	-	-	-
Solar	-	-	336	31
Television	9	1	14	1.3
Refrigerator	-	-	-	-
Fan	5	0.7	30	2.8
Mobile Phone	125	14	949	88
Radio	111	12	6	0.6
Almirah/ wardrobe	19	2.1	172	16
Chair/ table	294	33	643	60
Tin/ wooden Trunk	184	20.4	581	54
Bicycle	17	2	107	10
Motor Cycle/ Scooter	-	-	33	3
Car/ Truck	-	-	-	-

Rickshaw/ Van	7	0.8	15	1.4
Boat/ Engine Boat	30	3.3	21	2
Fishing Net	392	44	472	44

8.4 Household income from different sources

The average monthly income of the households from all sources (9,113 BDT) has increased almost three fold since the baseline (3,103 BDT). Table 8.4 shows that 69% of the households have an income of more than 6,000 Taka which was only 6% during the baseline survey.

Table 8.4: Distribution of households by monthly income

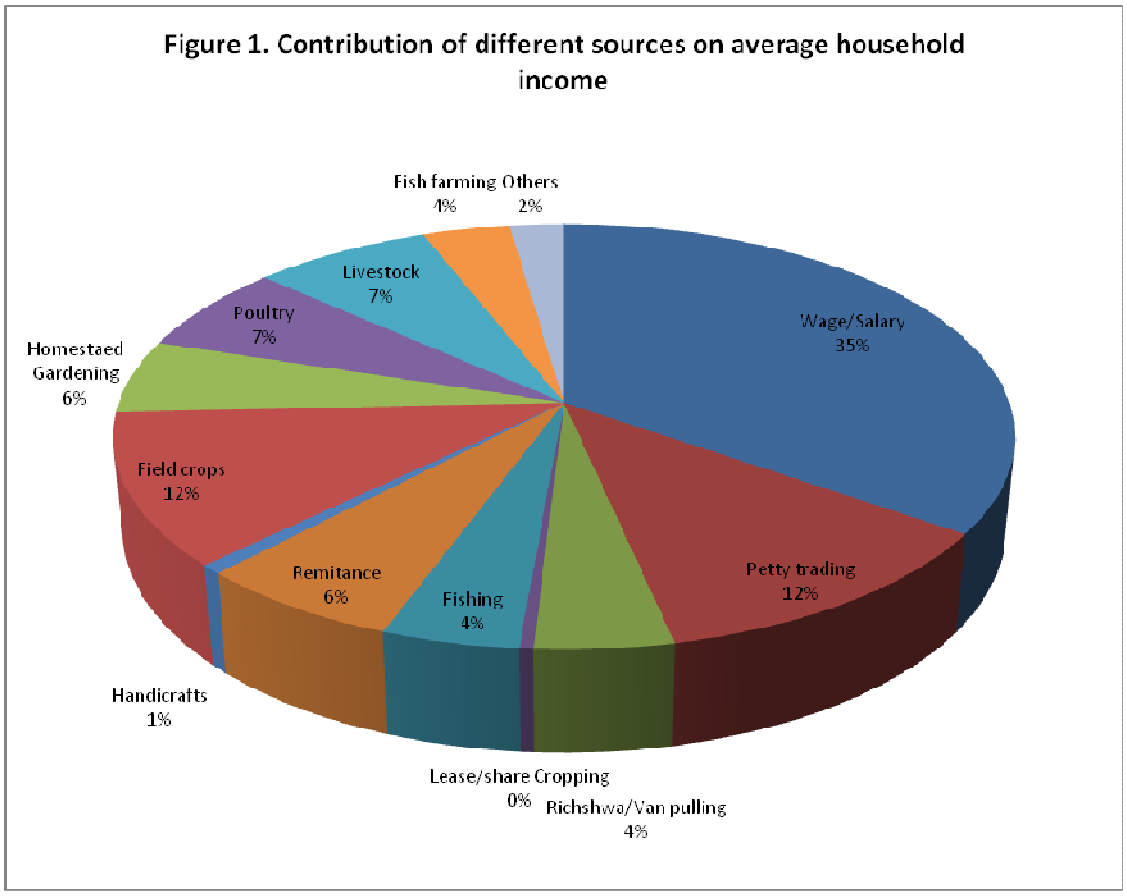
	Baseline 2009		Mid-term RIMS 2014	
BD Taka	**Number of HH**	**Percentage**	**Number of HH**	**Percentage**
0000-1000	27	3	17	1.6
1001-2000	227	25	18	1.6
2001-3000	287	32	44	4
3001-4000	177	20	70	6.5
4001-6000	131	15	190	18
6001+	51	6	741	69
Mean Monthly income (BDT)	3,103		9,113	

Table 8.5 shows the distribution of households on primary and secondary sources of household income. During the baseline survey major income sources, both primary and secondary, were farming and wage/ salary. Diversification of income sources can be observed in present survey data. Still the farming and wage/ salary are major income sources; remarkable changes are observed in poultry and livestock rearing, handicrafts and rickshaw/ van pulling.

Table 8.5: Distribution of households by major sources of household income (%)

	Baseline 2009		Mid-term RIMS 2014	
	Most Important	**Second Important**	**Most Important**	**Second Important**
Own Farming	39	32	38	24
Lease/ Share Farming	1.0	1.2	3.4	0.0
Poultry and Livestock Rearing	0.6	8	1.5	20
Fish Farming	0	0.2	2.7	5.4
Fishing	7.2	11	3.1	15
Wage/ Salary	43	42	31	23
Petty trading	6.1	0	11	2.4
Rickshaw/Van/Boat	0	0	3.3	2.1
Handicrafts	-	-	1.9	8
Remittances (In/out side country)	2.1	1.6	2.8	0.0
Others	0.7	1.1	1.0	0.2

Figure 1 presents the percentage of contribution of difference sources of income to the average household income.

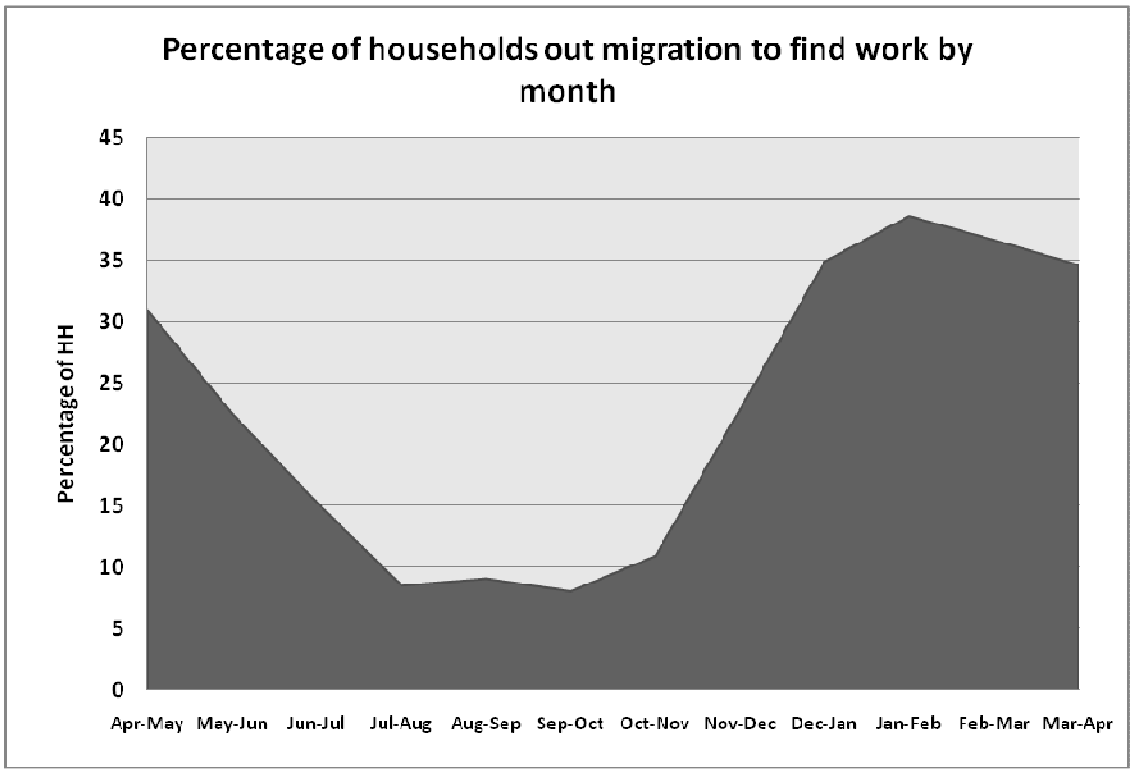


8.5 Seasonal migration out of char to find work

There is limited or lack of opportunities to find work in the char areas, some times in the year the male members of the households have to migrate or travel to other places for employment. Compared to the baseline data, the rate of seasonal migration has reduced from 64% to 53%, but still a large number of household members go outside the chars to find work (Table 8.6). Figure 2 shows that each year during December to May the largest number of people migrates to other places for work. During this period there are no major crops in the field and on the other hand there is a huge demand for labour in the brick fields located outside the char areas. This situation encourages the char people to migrate.

Table 8.6: Distribution of households with members traveling out of chars to find work

	Baseline 2009		Mid-term RIMS 2014	
	Number	Percentage	Number	Percentage
Yes	576	64	569	53
No	324	36	511	47


Percentage of households out migration to find work by month
Percentage of HH
45
40
35
30
25
20
15
10
5
0
Apr-May
May-Jun
Jun-Jul
Jul-Aug
Aug-Sep
Sep-Oct
Oct-Nov
Nov-Dec
Dec-Jan
Jan-Feb
Feb-Mar
Mar-Apr

9. Food security and quality of diet

To measure food self-sufficiency of people in the project area, information was collected on whether households can meet their requirement of rice for consumption from their own production. During the baseline very few (2.4%) households grew enough rice, but at present 16.5 % of households can meet their requirement from their own production (Table 9.1). Present survey data reveal that 28% of the households are not growing rice at all, which was 18% during baseline. Of these households not growing rice at all, some have no agriculture land and some of them have converted their agriculture land to fish farming plot, due to year round water logging in some areas of Char Nangulia and Urir Char.

Table 9.1: Distribution of households by whether they grew enough rice for a year

	Baseline 2009		Mid-term RIMS 2014	
	Number	Percentage	Number	Percentage
Grew enough rice	22	2.4	178	16.5
Did not grow enough rice	718	80	596	55
Did not grow rice at all	160	18	306	28

Both baseline and present survey data show that most households are found to be in the condition of food insecurity in the project area. Whether a household faced food insecurity or not, was assessed by asking if they had experienced any food shortage months in the one year preceding the survey. As shown in Table 9.2, the households in the survey area reported that they have experienced at least one month of food shortage in the one year preceding the survey, which was 87% and 73% respectively during baseline and mid-term survey. Data also show that the food shortage of more than five months has reduced (46% to 24%) compared to the baseline situation.

Table 9.2: Distribution of households experiencing food shortage

	Baseline 2009		Mid-term RIMS 2014	
	Number	Percentage	Number	Percentage
Experienced food shortage some time in a year				
No	119	13	291	27
Yes	781	87	789	73
Number of months experience of food shortage				
None	119	13.2	291	27
01-02 months	133	14.8	244	23
03-04 months	233	25.9	290	27
05-06 months	263	29	88	8
Above 6 months	152	17	167	16

Diversity of diet is an important measure of its quality. Thus the number of different food groups consumed in a household is used as an indicator of the quality of the household diet. The extent of diversity in a household's diet was assessed by asking a respondent about the food groups consumed by the members of the households the day before the survey. Table 9.3 shows the distribution of households reported to have consumed food from specific groups, both in baseline and present survey. Cereals, oil/ fat and vegetables were the three food groups universally or almost

universally consumed by the household members and no major changes were observed compared to the baseline survey. The consumption of others food groups including Roots/ Tubers, Legumes/ Pulse, Milk/ Milk products, Eggs, Sugar and Fruits has increased considerably compared to the baseline situation.

Table 9.3: Distribution of households reporting consumption of group specific food

	Baseline 2009		Mid-term RIMS 2014	
	Number	**Percentage**	**Number**	**Percentage**
Cereals	895	99.4	1077	99.7
Roots/ Tubers	121	13.4	589	54.5
Legumes/ Pulse	285	31.7	593	54.9
Milk/ Milk Products	131	14.6	245	22.7
Eggs	48	5.3	590	54.6
Liver/ Beef/ Poultry/ Meat etc.	48	5.3	94	8.7
Fish/ Seafood	607	67.4	778	72
Oil/ Fat	851	94.6	1008	93.3
Sugar/ Honey	309	34.3	615	56.9
Fruits	82	9.1	204	18.9
Vegetables	696	77.3	777	71.9
Others	110	12.2	8	0.74

10. Anthropometric measurement of children below 5 years

A child's age, weight and height/ length are combined to provide the three key indicators of nutritional status: Stunting (height for weight), wasting/ malnutrition (weight for height) and underweight (weight for age). The child's age was determined from the health card, if available. If there was no health card available, the interviewer calculated the age of the child, asking about the Bengali month and year in which the child was born.

Height and weight of children aged 0-59 months were measured using weighing scales and measuring boards. The weighing scales branded as CAMERY were lightweight bathroom-type with a digital screen, the best one available in the local market. The measuring boards were the ones locally manufactured following the design of board used by UNICEF and other international organizations. The height of children above 24 months old was measured by making them stand on the board while that of younger children was measured by lying them down on the board. The interviewers were trained adequately on how to take the weight and height measures of the children. They were strictly supervised ensuring that they obtained and recorded the measures correctly. Each child's weight was taken three times to confirm the correct weight.

The positive change in height and weight of the children with respect to age is an indicator of their health and well-feeding. In-adequate food supply is one of the major factors that lead to malnutrition among the children. In a well nourished population there is a statistically predictable distribution of the children of a given age with respect to height and weight.

The analysis was based on children aged 0-59 months, for whom complete and plausible anthropometric data were collected. The nutritional status of the children in the survey was analyzed by calculating a score called Z-score defined as standardized deviation score (SD-Score) of an anthropometric measurement (such as height or weight for a given age) of the child from its median in the WHO child growth standards. A child is considered to be malnourished (stunted, wasted or underweight) if the child is below minus two standard deviation (-2SD) for an index. A child below -3SD is considered to be severely malnourished, while a child between -2SD and -3SD is considered to be modestly malnourished.

The data from baseline and present survey show that more than half (52%) of children under five years are short of their age, or stunted (-2SD), suffering from chronic malnutrition plausibly as a result of either inadequate feeding or repeated illness or both (Table 10). The stunting rate of project area (52%) is more than the national average for rural areas (45%). The difference between boys and girls is not statistically significant, with the estimates for both boys and girls being within the 95% confidence interval. Prevalence of chronic malnutrition is higher among boys than girls.

Present data show a decreasing rate of wasting/ acute malnutrition both for boys and girls below 5 years of age. The average wasting is 14% which is 4% lower than the national average for rural areas (18%) and the baseline data (18%). There was no variation in the prevalence of wasting during baseline between boys and girls but a little difference was observed during present survey.

In comparison between baseline and present data remarkable changes (from 57% to 43%) are observed on underweight children under five years. There are variations in the proportion of the underweight between boys and girls both in baseline and present. The present status of underweight children is similar to the national average (43%).

Table 10.1: Percentage of under-five children classified as malnourished according to three indicators by sex

	Baseline 2009			Mid-term RIMS 2014		
	Boys	**Girls**	**Total (95% confidence interval)**	**Boys**	**Girls**	**Total (95% confidence interval)**
Stunting/ Chronic malnutrition (height-for-age <2 SD), 95% confidence interval	55	50	52 (53-56)	54	51	52 (46-60)
Wasting/ Acute malnutrition (weight-for-height <2 SD), 95% confidence interval	18	18	18 (15-20)	15	14	14 (10-19)
Underweight (weight-for-age <2 SD), 95% confidence interval	55	58	57 (53-60	44	43	43 (38-49)

11. Conclusions

Comparison between the baseline and Mid-term RIMS survey reflects the positive livelihood changes in the project area over the period of three and half years of project intervention.

It is clearly evident from the data that all indicators of socio-economic status of the households like housing condition, monthly income, household assets and cropping intensity (which resulted in more production) have increasing trends.

The present survey data show the positive changes of food insecurity and food shortage compared to the baseline data but more than half of the households are still in food insecurity and two third of the households are facing food shortage for at least 1 month in a year.

As there is no direct intervention of the project to improve the nutritional status of children below five years, it was not expected to see a remarkable change within such a short period of project implementation. Still wasting/ acute malnutrition and underweight have decreased by 4 and 14% respectively. The positive changes of socio-economic and food security indicators are expected to result in further improvement of nutritional status of the children below five years in the project area.

Finally the study shows a clear indication that the implementation of the project is on the right track towards achieving its goal and it is hoped that the final evaluation at the end of project will show clear evidence of the successful implementation of the CDSP IV project.

Annex1

Char Development and Settlement Project (CDSP IV)
RIMS Survey Questionnaire-2014

Section A: Household Composition:

1. Name of Household Head:…….. Father/Husband:……
2. Address: Para/Moholla/Somaj:…….Char:……..
3. Name of Respondent…… Relation with HH:……
4. Household members details:

Sl	Name	Sex(Male - 1/Female -2)	Age	Marital Status(Use code)	Educational Status (Use code)	Occupation (Code)		Information of Children below 5 years				
						Primary	Secondary	Date of birth	Age		Height/Length (cm)	Weight (kg)
									Month	Day		
01	Household head											
02												
03												
04												
05												
06												
07												
08												
09												
10												

Marital Status Code: Married-1, Unmarried-2, Divorced-3, Widow/Widower-4, Separated -5.

Education Code: Illiterate-1, Can sign only-2, Can read and write -3, Primary -4, Secondary -5, HSC -6, Graduate and above-7,

Occupation Code: Agriculture/ Crop farming -1, Day Labor-2, Job-3, House Keeping-4, Student-5, Unemployed-6, Fishing-7, Fish/Poultry/Livestock rearing-8, Handicrafts-9, Petty trading-10, Rickshaw/Van puller/Boat man-11, Driver-11, Retired person/ old man-13, Disable-14, Others (Specify)……-15

Section B: Socio-economic Status

1. Land holding:

Did you get the land from Government under settlement program?		Yes/No		If Yes amount		……..Deci.	
If no, how do you occupy the land?		Occupy by myself-1, Lease/Share taken-2, Given by landowner to live-3, Others…… 4				……. Deci	
Total own land (in deci):……..							
Homestead		Pond/ditch		Agri. Land		Fallow land	

2. Housing Condition, Health, Water and Sanitation:

2.1 Housing condition

Type of House	Size (Length X Width) Feet	Type of Floor	Type of Wall	Type of Roof
Main House				
Kachari/Baithakkhana				
Kitchen				
Animal Shade				

Floor Type Code: Mud-1, Bricks-2, Pacca-3, Wall Type Code: Leaf-1, Straw-2,Mud-3, Bamboo-4, Tin-5, Brick wall-6 Roof Type Code: Leaf-1, Straw-2, Tin-3, Pacca-4, Others-5

2.2 Drinking Water and Sanitation:

Sources of drinking water:	Shallow Tube Well -1, Deep Hand Tube Well-2, Dug Well-3, Rain Water-4, Protected Pond Water (PSF)-5, Untreated Pond Water-6, Normal pond water-7,Untreated River/Canal Water-8, Others (specify)……..9.	
Ownership:	Installed by CDSP -1, Own-2, Jointly Owned-3, Neighbour-4, Govt./Other Sources-5	
How far do you go for collecting Water:	Dry Season…….. Meter	Rainy season……..Meter
Source of water for bathing and washing:	Shallow Tube Well -1, Deep Hand Tube Well-2, Dug Well-3, Pond Water-4, River/Canal Water-5, Others (specify)……..8.	
Type of latrine used by HH:	No Latrine-1, Hanging/Open-2, Ring-slab (unhygienic)-3, Ring-slab (water sealed)-5, Sanitary Latrine -6.	
If the type of latrine is Ring-slab (unhygienic)/Ring-slab (water sealed)/Sanitary Latrine, where did you collect?	Installed by CDSP-1 Buy myself -2 Donated by NGO/other organization-3	

2.4 Health and Family planning:

Do you and your family members wash hand by soap before taking meal? Yes/No	
Do you and your family members wash hand by soap or ash after using latrine? Yes/No	
Do all the children of your family properly immunize? (all six) Yes/No	
If yes, how you managed it?	Upazila Health Center-1, Union Health Center-2, CDSP-NGO Clinic-3, Local Doctor-4, Through government special program-5
If no, Why?	Lack of awerness-1, Support not available Localy-2, Due to bad road communication couldn't attend in the camp/center-3

Do you use mosquito net? Yes/No	If no, why?: Not needed-1, Lack of awerness-2, Lack of money-3
Is there any Health Worker (Govt/NGO) visited regularly in your area? Yes/No	
Do you use any family planning method? Yes/No, If yes, which method: Permanent-1, Temporary-2	
If no, Why: Lack of awerness-1, Service not available localy-2, Materials are costly-3	

3. Household Assets:

Sl	Type of Assets	Put Tick	Qnt.	Present Value (Taka)	Sl	Type of Assets	Put Tick	Qnt.	Present Value (Taka)
1	Cot/ Khaat				16	Auto Rickshwa			
2	Almira				17	Solar Panel			
3	Chair/Table				18	Boat			
4	Shinduk				19	Mechanized boat			
5	Alna				20	Power tiller/Husking Machine			
6	Ceiling/Table Fan				21	Pump Machine			
7	Radio/Cassette Player				22	Fishing net(……)			
8	B&W TV				23	Trees			
9	Color TV				24	Cow			
10	Mobile Phone				25	Buffalo			
11	Sewing machine				26	Goat			
12	Ornaments				27	Sheep			
13	Bicycle				28	Chicken			
14	Rickshaw/Van				29	Duck			
15	Motor Cycle				30	Others (Specify)……			

4. HH annual income from different sources:

Sources of Income	Taka (Last one year)			Sources of Income	Taka (Last one year)		
	Taka	%			Taka	%	
		M	F			M	F
Wages/Salary				Fishing			
Petty Trading/Business				Remittance			
Rickshwa/Van/Boat				Handicrafts			
Lease/Share Cropping				Others ……			

5. Migration Issues

01	Whether any member of your HH temporarily goes outside for work during any part of the year?Yes-1, No-2	

02	If yes, tick the months when goes outside	01-Boishak, , 2- Joishto, 03- Ashar, 04- Srabon, 05- Bhadro, 06- Ashin, , 7- Kartik, 08- Agrahaion, 09- Poush, 10- Magh, 11- Falgun, 12- Choitro

6. Culture Status, Production and Income from Different On Farm Activities:

6.1 Cropping intensity:

Total cultivable land (Deci.)……..							
Aus (Deci)		Amon (Deci)		Boro/Robi (Deci)		Total (Deci)	

6.2 Production and Income from Field Crops (Last one year)

Crop	Production Cost (Taka)	Consumption		Sales	
		kg	Taka	Kg	Taka
Paddy					
Pulse					
oil seeds					
Vegetable					

6.3 Homestead gardening

Type	Consumption		Sales		Market price Tk/Kg
	Kg	Taka	Kg	Taka	
Leafy & other vegetable					
Fruits					

6.4 Use of fertilizer a pesticide

Type	Yes-1, No-0	Type	Yes-1, No-0
Urea		Cow dung	
Guti Urea		Compost	
TSP		Pest Control	
MP		Pesticide	
Zink		IPM	

7. Production and Income of Poultry Birds:

Birds	Egg Production & Income (last one year)				Meat Production & Income (Last one year)			
	Consume (Nos.)	Use for breeding (No)	Sales (nos.)	Income from sales (Tk)	Sales (kg)	Consume (kg)	Income from sales (Tk)	Present Stock (kg)
Chicken								
Duck							```	
Pigeon								

8. Production and income of livestock:

Animals	Nos. of milking animals	Nos. of Other animals	Production & Income last one year				Present value of existing animals (Tk)
			Milk sales (kg)	Income from Milk sales (Tk)	Milk Consume (kg)	Income from animal selling (Tk)	
Cow							
Goat							
Buffalos							
Sheep							

9. Pond Aquaculture (Production and Income)

Type of Culture		1. Not Cultured, 2. Traditional Method (Only stocking and Harvesting no feeding fertilizing, Species combination and density not followed properly) 3. Semi Intensive (Species combination and density followed properly but irregular feeding fertilizing) 4. Intensive (Species combination and density followed properly and regular feeding fertilizing)			
No. of Ponds	Area (Deci)	Production Cost (Taka)	Fish sale (kg)	Home consumption (kg)	Income from sale (Taka)

10. Food Security, Quality and Self Sufficiency:

10.1 How many months you are able to meet the basic food (Rice/Pulse) needs from your ownproduction:…….

10.2 Does it happen that in certain months of the year your family members have to take less amount or low quality of food than usual? Yes/No, If Yes, how many months

1	2	3	4	5	6	>6

10.3 Please mention the food items cooked and eaten by the HH members yesterday and last one week?

Yesterday		Last week	
Type of food	Put tick	Type of food	Number of days? [Don't know=9]
1. Cereals		1. Any kind of milk	
2. Roots/Tubers		2. Liquids other than water/milk	
3. Legumes/Pulse		3. Food made from wheat/maize/rice	
4.Vegetables		4. Egg	
5.Eggs		5. Fish	
6. Milk/Milk product		6. Poultry meat	
7. Beef/Meat/Poultry meat		7. Beef/Meat	
8. Fish		8. Vegetables	
9. Oil/Fat		9. Pulses	
10. Sugar/Molasses/Honey		10. Fruits	
11. Fruits		11. Others…….. ……..(Specify)	
12. Others…… ……..(specify)			

11. Accessibility to key services:

[Please ask the question in the 1st column for each institution. if applicable, then ask next column]						
Institutions	Distance from your household (Km)	Type of Road	Rainy season		Winter/dry season	
			Usual mode of transport (*code)	Usual time taken to reach..... (minutes)	Usual mode of transport (*code)	Usual time taken to reach ..... (minutes)

1	Primary school						
2	Local market						
3	Health Clinic						

Road Code: No Road-1, Kancha-2, Brick-3, Pacca-4, Canal/River-5
Transport Code 1-On foot, 2- Bicycle, 3- By boat, 4- Rickshaw/van, 5- By engine boat, 6- By Taxi/ tempo, 7- By launch, 8- By motor cycle, 9- By bus

12. Gender roles and participation in Community Activities

12.1 Gender role in household domestic works

	Activities	Who do it? %	
		Male	Female
1	Who do the household chores (cleaning and sweeping)		
2	Who usually fetch water for household		
3	Take care of children (Bathing, Feeding..)		
4	Collect fire wood		

12.2 Participation of women in decision-making process at family level :

Sl #	Issues	Who decides? (Male-1, Female-2, Both-3)
1	Family Expenses, buy furniture/ornaments	
2	Treatment of diseases	
3	Education of children and marriage	
4	Farming/Poultry and Live stock rearing	
5	Adoption of family planning	
6	Joining with NGO or other organization by the female members	
7	Use of loan	

12.3 Women mobility:

	Places	1- Yes, 2- No	If yes, Seldom-1, Yearly 1-2 times-2 Occasionally-3, Frequently-4
1.	Local Market /Hat		
2.	Health center/ clinic		
3.	NGO Office/ CBO office		

13. Shocks and coping strategy

Did your household experience any kind of shocks or crisis during the last one year?					Yes-1, No-0
Types of shocks and crisis					
How it was coped					

Shocks and Crisis Code: 1. Death/invalidity of earning member, 2. Displacement due to Flood/cyclone/ tornado,

3. Loss/ death/theft of livestock/poultry, 4. Dacoity/ Theft/ Mastanies in house/business, 5. Loss of business/investment, 6. Dowry, 7. Socio-political harassment, including bribe and tolls, 8. House destroyed by fire or other assets, 9. Others

Cooping Strategy Code: 1- By selling land, 2- By selling domestic animals/birds, 3- By selling trees
4- With own savings, 05- By mortgaging land, 06- By mortgaging other properties
07- With help from relatives, 08- By taking cash credit, 09- By taking inputs in credit, 10- Aid/relief, 11- Complain with police, 12. Salish with the UP, By mobilization of community groups/CBO/ NGOs, 13- 13. Others (specify).....

☺Thank you for your kind cooperation

Name of Field Investigator:.....
Signature:..... Date:.....
Checked by:.....Name:.....Date.....

_____.