

Char Development and Settlement Project Phase IV Bangladesh

Annual Outcome Survey 2012 Technical Report No 5

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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

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1. INTRODUCTION

As part of the M&E systems of CDSP-IV the annual outcome monitoring survey gathers detailed information on log frame goal and purpose level indicators (plus a number of output indicators– see below Table 1). This survey also covers CDSP I, II and III areas and incorporates indicators that have been covered in past CDSP III monitoring surveys (land tenure and retention, cropping intensity, and coverage of HYV paddy varieties). This enables the CDSP data-set for these indicators to be continued and the long term development and sustainability of benefits in older CDSP chars to be measured. As conditions in CDSP I, II and III areas are better than in CDSP IV, they act as control area in terms of measurement of the rate of change. The survey is carried out on an annual basis. This provides continuous information on project outcomes and helps avoid relying on results from a single year with abnormal weather or other external events. Annual surveys also provide evidence for RIMS level II performance ratings.

Impact	Indicators	Data to be collected
Goal	* No. of HHs with improved food security disaggregated by gender of HH head	Months of food scarcity Frequency of consumption of meat, eggs, milk
	* No. of HHs with improved water & sanitation disaggregated by gender of HH head	Distance to potable water source, own sanitary latrines, use of sanitary latrines
	* No. of HHs with improved housing disaggregated by gender of HH head	Materials for construction of roof and walls, number of rooms, number of times of flooding each year
	* No. of HHs and number of assets owned disaggregated by gender of HH head	Ownership/ tenure of land, livestock, farm equipment, boats, vehicles, furniture, radio, TV
	No. of HHs with women owning assets, and with increased mobility	Land and livestock owned Frequency of visits to market, town, hospitals
	Household expenditure	Annual expenditure on housing, health, festivals and education Annual expenditure on clothing by male and female HH members
	Outcome	* Increase in crop production and sales of crops
Increase in livestock ownership		Number of households owning livestock and numbers owned by type of livestock. Number of households selling livestock products and value of sales
Increase in number of homestead trees		Number of trees (timber, fruit) owned.

	* Income and employment	No. of people (m/f) in each household earning an income, sources of income (occupational mobility index). Numbers migrating out. Amount of cash income earned each year.
	Improved communications	Reduction in travel time to education and health facilities
	No. of HHs maintaining possession of land.	Area of land occupied, status of land title. No. of HHs still in occupation each year following granting of title.
Output	* Reduced salinity and flooding of land	No. of HHs reporting reduced salinity and flooding
	No. of new enterprises and employment created.	Sales of homestead enterprises

* log frame indicators

1.1 Objective of the survey

1. To gather information on purpose and goal level log frame indicators, which are not covered adequately by RIMS Impact Monitoring.
2. In particular outcome monitoring aims to collect evidence for a “results chain” with changes in physical environment and/ or improved technology, leading to changes in cropping patterns, resulting in increased crop yields and/ or income, which in turn results in increased sales and improved food security, leading finally to reduced poverty.
3. In addition outcome surveys also gather information on the project services received by respondents.

1.2 Sampling procedure

The sample for this survey is 200 households in each of the three areas (CDSP I/II, CDSP III and CDSP IV) making a total sample of 600. The sample is a ‘panel sample’ with the same households being visited each survey round, which minimises sample errors caused by variations in the sample composition in each survey round.

Area	Total Number of samples	Union/Char	Village/Somaj	Nos. of Sample HHs	
CDSP I&II	200	Char Bata	Char Majid	22	
			Purbo Char Bata	24	
			Poshchim Char Bata	20	
		Char Jabbar	Char Jabbar	14	
			Char Jublee	Modhya Char Bagga	18
		Char Mohiuddin	Char Mohiuddin	20	
			Char Elahi	Gangchil	20
				Char Kalmi	20
			Char Clark	Baisakhai	20
				Shudolpur	Nobogram
CDSP III	200	Horni Union	Poshchim Gabtoli Adorsho	9	

			Gram	
			Shahab Uddin Shop	20
			Mirajpur	21
			Mohammadpur	10
			Molla Gram	20
			Adorsho Gram	20
			East 10 Number	20
			Forest Center	20
			Ali Bazar	32
			South Katakhal	28
CDSP-IV	200	Char Nangulia	Alamin Somaj	14
			4 no. ward	14
			Haji Gram	7
			Nasirpur	14
			Rani Gram	7
			Poshchim Char Basar	14
			Ismail Bazar	14
		Noler Char	Al Amin Somaj	7
			Dokshin Azim Nagar	14
			Dokshin Mojlshpur Killer Bazar	14
			North Musapue	7
		Caring Char	Joypur Somaj	14
			Krishno Nagar Somaj	14
			Shahebani Bazar	14
		Char Ziauddin	Ziauddin Bazar	8
			Sofi Neta Somaj	8
		Urir Char	Coloni Bazar Moshjid Somaj	8
			Janata Bazar Moshjid Somaj	8

1.3 Survey questionnaire

In order to fulfil the survey objectives, a household survey questionnaire was carefully prepared for the base line survey. For the present survey the questionnaire was slightly modified (see Annex 1 for the questionnaire).

1.4 Field data collection and data analysis

During November-December 2012 data have been collected from the field by four (2-male, 2-female) hired enumerators along with two M&E Officers of CDSP-IV. The enumerators were trained on the survey questionnaire. After computerization of the collected data, analysis has been done using MS Access and SPSS during January 2013.

2. RESULTS AND DISCUSSION

2.1 Settlement status

In the CDSP-IV area the settlement activities have not yet been completed; the first part of the settlement activities, the Plot to Plot Survey (PTPS), is still going on. In CDSP- I , II and III areas some people have settled by purchasing land from CDSP settlers, often a part of the allocated land. The figures are 23% and 17% in CDSP-I&II and CDSP-III areas respectively. This is a change from the baseline survey of 17% in CDSP III; no change in CDSP I&II. This issue needs further investigation; selling of newly received land under CDSP is not allowed.

Table 3 Settlement Status (% of HH)

	CDSP-I & II	CDSP-III	CDSP-IV
Settled under CDSP settlement program	73	83	-
Settled through purchasing land	23	17	-
Occupying <i>khas</i> land	-	-	100
Inherited	4	-	-

2.2 Changes in occupational profile of the respondents

A comparison of principle occupation of the household heads between CDSP-IV baseline and present status of CDSP phases is given in Table 4. The principle occupation is the one which provides the main part of their annual income. The principle occupation in all areas is mainly in agriculture and day labour. Comparison of the situation of the CDSP-IV baseline and the present status shows very interesting results. The proportion of household heads involved with agriculture as a principle occupation has increased in all the areas, most notably in the CDSP-IV areas, from 37% to 45%.

Table 4 Principle occupation of household head (%)

	CDSP-IV Baseline	CDSP-I & II	CDSP-III	CDSP-IV
Agriculture	37	30	41	45
Day Labour	31	31	31	29
House keeping	3	4	1	2
Fisherman	3	2	4	5
Job	3	11	5	2
Petty trading	9	13	14	9
Rickshaw/ Van/ Boat puller	4	2	2	4
Old age	6	6	1	3
Others	5	3	3	2

2.3 Changes in housing patterns of the households

The average size of the main houses observed in the CDSP-I&II, CDSP-III and CDSP-IV areas is 433, 354 and 271 square feet respectively. This is 71%, 40% and 7% bigger than during the CDSP-IV baseline size respectively. No changes have been observed in all areas in the floor type of the house,

which is mainly the mud floor. A remarkable change is observed regarding the wall and the roof: An increase with 18% for both! Details are given below in Table 5.

Table 5 Housing Condition

	CDSP-IV Baseline	CDSP-I,II	CDSP-III	CDSP-IV
Average size of main house (sq. ft)	253	433	354	271
Type of floor (%)				
Mud	99	94.5	98	99
Bricks	1	0.5	1.5	1
Pacca	-	4	0.5	-
Type of Wall (%)				
Leaf	4	3	5	7
Straw	34	1	3	19
Mud	0	3	1	3
Bamboo	50	38	51	40
Tin	13	55	40	31
Type of Roof (%)				
Leaf	2	0	0	0
Straw	82	15	37	66
Tin	16	85	63	34
<i>Pacca</i>	0	0	0	0

2.4 Changes in water and sanitation status

The situation regarding household drinking water sources has improved compared to the baseline situation. Now 42% households from the CDSP-IV area collect drinking water from deep tube wells installed by CDSP-IV. The important change is that earlier they collected water on an average distance of 345 meter and 418 meter in the dry and rainy seasons respectively. Now the average distance is 154 and 183 meter in the dry and rainy seasons respectively. It saves time for collecting drinking water especially for the women of the households.

Table 6 Water and sanitation

	Baseline CDSP IV	CDSP-I,II	CDSP-III	CDSP-IV
Source of Drinking Water (%)				
Shallow Tube well	3	31	20	2
Deep Tube well	96	69	80	97
Dug well	0	0	0	0
Rain Water	0	0	0	0
Pond Sand Filter	0	0	0	0
Untreated pond water	2	0	0	1
River/Canal water	0	0	0	0
Ownership of tube well (%)				

Owned by HH	5	20	18	3
Jointly owned	5	4	3	0
Neighbour	27	40	22	13
Govt./Community	63	12	5	42
From CDSP	0	24	48	42
Distance of water sources				
Dry Season (meter)	345	106	80	154
Rainy Season (meter)	418	127	93	183
Type of latrine used by HH (%)				
No latrine	5	0	1	0
Hanging/open	77	13	14	58
Ring slab (unhygienic)	14	61	62	28
Hygienic	6	26	24	14
Source of ring slab or hygienic latrine				
Purchased from market	61	50	22	50
Purchased from NGO/other organization	8	6	4	8
Donated by GO/NGO/other organization	31	5	6	17
Installed by CDSP	0	39	68	25

It is observed that the use of ring slab and hygienic latrine has doubled compared to the baseline situation. But it is alarming that in the CDSP older phase areas 13-14% of households are using open latrine and in CDSP-IV area it is still 58%. Twenty five percent of the households received a sanitary latrine from CDSP-IV. It should be noted that the actual project wide figure is much lower; the distribution program is having a slow start.

2.5 Changes in health and family planning issues

The study investigated four areas of health practices of the char dwellers. One is washing hands before taking food and after returning from latrine, the immunization of the children, regular visits of Community Health Workers and use of family planning method. Compared to the baseline of CDSP-IV no remarkable changes have taken place last one year regarding washing hands before taking food and after return from latrine and also not regarding the children immunization. The situation of CDSP older phase areas has improved slightly but is not up to the mark. On the other hand the visits of Health Workers to the community has increased compared to the CDSP-IV baseline situation and it is also notable that the CDSP-IV area is in a better position compared to the older phases areas. It is due to the intensive support from the CDSP-IV partner NGOs (Table 7 and 8). It has to be noted that the visits of the health workers had yet no impact on the health situation!

Table 7 Washing hands before taking food and after return from latrine (%)

	Baseline	CDSP-I,II	CDSP-III	CDSP-IV
Washing hand before taking food				
Wash by plain water	96	80	83	95
Wash by Soap	04	20	17	5
Washing hand after return from latrine				
Wash by plain water	94	72	66	89
Wash by ash/Soap	6	28	34	11

Table 8 Health and family planning

	CDSP-IV Baseline	CDSP-I,II	CDSP-III	CDSP-IV
Immunization of the children				
Yes	52	74	71	57
No	48	26	29	43
Regular visit of Govt./NGO health worker in the community				
Yes	6	22	36	79
No	94	78	64	21
Use of Family Planning Method				
No	66	45	38	41
Temporary method	32	53	60	56
Permanent method	2	2	2	3

2.6 Household assets

A long list of family assets was examined including furniture, electrical and electronic goods, gold, agricultural and fishing instruments, transport, trees and poultry and livestock (Table 9). Average assets value in CDSP older phases are double compared to the CDSP-IV baseline situation. Average assets value in CDSP IV increased around 24% compared to the baseline data in CDSP-IV area. Major increment of the assets in the CDSP-IV area is observed in case of mobile phone, ornaments (gold) and trees.

Table 9 Household assets (households in percent and value in taka)

Assets	Baseline		CDSP-I,II		CDSP-III		CDSP-IV	
	HH	Value	HH	Value	HH	Value	HH	Value
Cot/ Khaat	90	1,411	100	2,365	98	2,058	95	1,533
Almira	05	2,540	33	2,400	30.5	2,100	11	1,900
Chair/Table	28	1,061	81	1,251	65	1,175	39.5	971
Shinduk (Wooden box)/Trunk (Tin)	36	1,990	44	2,021	49.5	2,282	38.5	2,040
Alna	22	1,113	33	815	19	647	7.5	840
Ceiling/Table Fan	.21	833	9	1,782	4.5	100	1	500
Radio/Cassette Player	01	421	2.5	730	1	350	0.5	1,000
B&W TV	.71	4,120	8	2,714	3.5	2,914	1.5	3,500
Color TV	0	0	1.5	4,666	.5	4,000	1.5	9,000
Mobile Phone	46	1,984	75	2,276	79.5	2,023	68	1,844

Sewing machine	02	4,013	5	2,555	4.5	9,822	3	6,250
Ornaments	54	6,687	96	14,248	92.5	11,820	94	8,287
Bicycle	07	2,962	23	12,042	20.5	6,795	12	2,312
Rickshaw/Van	01	5,900	3	24,800	3.5	5,000	2	7,000
Boat	.49	9,500	0	0	2	25,500	0.5	12,000
Mechanized boat	01	94,928	0	0	2.5	192,000	2.5	75,000
Power tiller/Husking Machine	03	26,155	2.5	130,000	3.5	35,214	2	53,375
Pump Machine	0	0	1	10,000	1	8,500	0.5	8,000
Fishing net	40	3,377	46.5	1,347	46.5	5,042	45.5	2,476
Trees	24	10,765	91.5	25,000	76.5	14,337	64	8,258
Cow	61	23,328	41	31,969	57	28,230	59	25,390
Buffalo	02	216,204	0	0	1.5	63,666	0.5	120,000
Goat	36	3,533	20.5	2,803	30	3,746	30	2,765
Sheep	01	21,988	.5	600	.5	10,000	1	50,500
Chicken	90	903	87.5	1,154	93	1,124	94	1,479
Duck	81	1,269	80.5	1,083	84	1,905	85.5	1,899
Others	-	35,162	29	1,7843	22.5	21,406	13.5	12,383
All (average)	-	35,162		72,413		64,977		43,797

2.7 Changes in household annual income from different sources

The following table shows the average annual income of the households from different sources. The average annual incomes of the sampled households are at present 90,845, 89,407 and 79,800 in CDSP-I&II, CDSP-III and CDSP-IV areas respectively. Compared with the CDSP-IV baseline data the annual household income in the CDSP- I& II area is 26% more, in the CDSP-III 24% more and the CDSP-IV area it is 11% more. It is also observed that in the CDSP-IV area the contribution of wage/ salary in the annual household income has decreased and contribution from field crops has increased compared to the baseline situation (Table 10).

Table 10 Annual household income from different sources

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Wage/Salary	33,378	31,870	28,589	24,089
Field Crops	15,617	18,016	22,881	19,538
Petty Trading	6,879	11,410	9,950	7,898
Homestead Gardening	3,115	5,719	6,340	9,727
Rickshaw/Van Pulling	2,749	1,775	1,425	2,210
Pond Aquaculture	2,713	4,870	2,977	3,476
Livestock Rearing	2,666	2,973	7,006	3,883
Fishing/PL Catching	2,093	2,307	2,795	4,404
Poultry Rearing	1,887	2,700	3,542	3,515
Remittance	601	8,300	3,500	850
Handicrafts	252	905	402	210
Total	71,951	90,845	89,407	79,800

2.8 Field crop cultivation

2.8.1 Changes in cropping Intensity

The average cropping intensity of the CDSP older phases is 152% (47% more than the CDSP-IV baseline) and 161% (56% more than the CDSP-IV baseline survey) in the CDSP-I & II and CDSP-III areas respectively. Compared to the CCDSP-IV baseline, cropping intensity has also increased in CDSP-IV area at 14%. This is due to the more area coverage with *amon* and other cash crops during *robi* season. Table 11 also shows that rice cultivation in Boro/ Robi season is almost absent in all areas. This is due to the high salinity during the dry season and lack of irrigation facilities in the new chars.

Table 11 Cropping intensity and average area by crops

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Average cultivable land (Deci) per family	154	100	98	137
Average cultivated land (Deci) per family	163	152	158	163
Cropping intensity (%)	105	152	161	119
Average cultivated land by crop				
Aush (HH in %)	06	20	28	06
Average area (Deci)	98	140	84	77
Amon (HH in %)	87	71	76	83
Average area (Deci)	165	133	129	171
Boro/Robi (HH in %)	01	0	3	3
Average area (Deci)	98	0	83	84
Other cash crop (HH in %)	24	41	48	35
Average area (Deci)	53	32	25	24

2.8.2 Changes in average production, consumption and sale of field crops

The average production per hectare (yield) of rice is given in kg and for pulse and other crops in taka (Table 12). The production rate (yield) of other crops like pulse, oil seed, ground nut and water melon etc are difficult to measure because of the different productivity and the farmers can't clearly estimate the total production in units. So the production and income of other crops is presented in the following table in taka. Average rice production per hectare is 2.0 MT, which is 0.1 MT more than the CDSP-IV baseline yield. Average yield in CDSP-I & II and CDSP-III areas are 2.9 and 2.5 MT, around 52% and 31% higher than the CDSP-IV baseline yield respectively. Besides the few HYV demonstration plots demonstrated by the DAE under the CDSP-IV program, still the CDSP-IV areas farmers are cultivating the local variety namely *Rajashail*. Consumption of both rice and pulses and others has increased in CDSP-IV area compared to the baseline. It is also noticeable that sales of production are not the household surplus, they sell it to meet up the production cost, because in the food security section respondents mention that still on average 7 month in a year households can meet up the household needs from their own production.

Table 12 Production and income from field crops

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Rice				
Production (MT/ha)	1.9	2.9	2.5	2.0
Average Production (kg/HH)	1,261	9,25	1,059	1,208

Consumption (kg/HH)	877	753	899	990
Average Income (Taka/HH)	17,744	13,875	15,885	18,120
Pulses and other crops				
Average Sales(taka/HH)	2,128	4,195	3,323	1,633
Consumption (Taka/HH)	1,126	6,706	6,107	3,745
Total Income (Taka)	3,254	10,901	9,430	5,378

2.9 Homestead Gardening

2.9.1 Changes in vegetable cultivation in homestead

From the study it is clear that vegetables are grown mainly in homestead areas. The main vegetables cultivated by the households in their homestead among non-leafy vegetables are Bean, Long bean, Bottle gourd, Sponge gourd etc. and among the leafy vegetables Red amaranth (*Lal Shak*) is mostly grown in the homestead. Due to lack of irrigation facilities most common winter vegetables like Carrot, Cauliflower and cabbage are mostly absent in all chars. In comparison to CDSP-IV baseline and present situation it is observed that more households are cultivating different vegetables on the homestead.

Table 13 Type of vegetable cultivated in homestead (% of HH)

	CDSP-IV Baseline	CDSP-I & II	CDSP-III	CDSP-IV
Bean	82	81	86	91
Long Bean	35	41	48	52
<i>Jali Kumra</i> (Ridge gourd)	23	37	27	37
Bottle Gourd	60	39	43	58
Sweet Gourd	22	31	24	39
<i>Korola</i> (Bitter gourd)	7	17	10	19
<i>Jinga</i> (Ribbed gourd)	39	19	39	41
Dhundul (Sponse gourd)	55	19	37	34
Okra	8	11	10	16
Cucumber	10	7	21	20
Radish	9	7	11	17
Spinach	3	3	2	3
<i>Lal Shak</i> (Red amaranth)	23	20	21	25
<i>Pui shak</i>	19	6	5	4

2.9.2 Changes in production and income of homestead gardening

Besides vegetables, some fruits are grown in the homesteads in the surveyed areas. There are three common fruits grown in the study area: banana, guava and papaya. Compared to the CDSP-IV baseline data the percentage of households growing banana, papaya and Guava has remarkably increased. Consumption of vegetables and fruits grown in homesteads is common. It is observed that on average 50-75% of the total homestead productions are consumed by the household, according to CDSP-IV baseline survey it was 40-50%. The average estimated income from homestead gardening is considerable. Income from vegetables and banana has increased compared to the baseline survey but in case of papaya and guava the average income has decreased. It is noticeable that homestead gardening is mainly done by the female members of the households.

Table 14 Production and income from homestead gardening

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Vegetable (% of HH)	84	87	84	86
Consumption (Taka)	1,488	1,395	1,633	4,756
Sold (Taka)	2,254	821	1,923	1,398
Total Income (Taka)	3,742	2,216	3,556	6,155
Banana (% of HH)	33	40	59	51
Consumption (Taka)	878	729	606	739
Sold (Taka)	1,656	417	710	737
Total Income (Taka)	2,534	1,146	1,316	1,476
Guava (% of HH)	7	22	33	22
Consumption (Taka)	346	381	392	277
Sold (Taka)	479	102	68	106
Total Income (Taka)	825	483	460	383
Papaya (% of HH)	11	37	38	29
Consumption (Taka)	486	327	366	324
Sold (Taka)	484	162	144	123
Total Income (Taka)	970	489	510	447

2.10 Changes in poultry rearing status

Table 15 shows that on of 89%, 93% and 94% of the households are now rearing poultry in the CDSP-I&II, CDSP-III and CDSP-IV areas respectively. Compared to the baseline situation regarding poultry rearing in CDSP-IV area 5% increment is observed, to 94%, which is very high. The average number of chicken for each household has increased from 6 to 7 numbers and no changes are observed in the number of ducks. Average egg production and meat production in CDSP older phases and in CDSP IV at present is higher than during the CDSP-IV baseline. Compared to the baseline data in the CDSP-IV area both egg and meat production has increased with 9% and 16% respectively. At the same time the consumption of egg and meat has also increased in the CDSP-IV area. The female members of the households reportedly do the rearing of poultry birds. In a few cases the male members do the task and the women assist.

Table 15 Poultry rearing status, production, consumption and income

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Rearing status				
HH rear poultry (%)	89	89	93	94
Average nos. of Chicken	06	7	7	7
Average nos. of Duck	07	6	7	7
Annual production of eggs (nos./HH)	156	180	175	170
HH consumption of eggs (nos./HH)	47	60	57	50
Income from eggs (Tk/HH)	817	1,260	1,225	1,105
Annual production of meat (Kg/HH)	36	55	45	42
HH consumption of meat (Kg/HH)	06	20	10	8
Income from meat (Tk/HH)	4,949	8,250	6,750	5,880

2.11 Changes in livestock rearing and aquaculture practices, production and income

Table 16 shows that 90% household from CDSP-IV area are now rearing livestock (Cow and Buffalo) which is 15% more than in the baseline situation. Highest percentage of households (94%) with rearing livestock is found in CDSP-III, at the same time in CDSP-I & II area it is less than the CDSP-IV baseline. Production and income from milk has increased in CDSP-IV area compared to the baseline data. Remarkable change has taken place regarding the goat rearing in CDSP-IV area (17% to 30%). Highest milk production is observed in CDSP-I & II area (163 ltr.).

Percentage of household with pond aquaculture has remarkably increased (51% to 91%) in CDSP-IV area, here also the highest figure is observed in CDSP-I & II areas. Fish production and consumption per household has not much increased in CDSP-IV area. It is obvious because CDSP-IV has no support regarding pond aquaculture and also the RFLDC Danida have gradually withdrawn their activities from the CDSP-IV area as the project is going to be closed in mid 2013.

Table 16 Livestock rearing and aquaculture status, production and income

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Nos. of HH rearing livestock (%)	75	62	94	90
Avg. milk production (Lt)	114	163	143	125
Avg. milk consumption (Lt)	64	59	67	52
Avg. income from Milk (Tk)	2,850	6,224	4,124	4,107
HH with goat (%)	17	21	30	30
Aquaculture				
HH with pond/ditch (%)	99	98	92	96
HH culture pond/ditch (%)	51	98	88	91
Average Production (kg/HH)	43	50	64	48
Production (kg/dec)	1.74	2.9	3.1	2.4
Average Consumption (kg/HH)	29	33	45	32
Average income from pond (Tk/HH)	4,515	6,944	5,419	5,120

2.12 Food security

The respondents were asked how many months of a year they can meet their basic food needs from own production, like in the CDSP-IV baseline survey 2011. Table 17 shows that on average the households can meet their basic food needs from their own production during 7 months, similar to the baseline situation, except in CDSP- I&II areas, where the average period is 8 months. The respondents were also asked whether they normally face any situation during a year when the household members have to eat less than the usual quantity of food or inferior quality of food due to financial or other reasons. If they face this situation they were asked to specify the month(s) when it occurs as per *Bangla* calendar. Sixty six percent of the respondents replied that they face such a situation in different months of the year in CDSP-IV area which is 16% less than the baseline situation. In CDSP-I&II and CDSP-III areas 39% and 59% respondent mentioned about the acute crisis of food in different months of the year respectively. Table 17 shows the acute crisis period by month in a year.

Table 17 Food security

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Average months in a year HH meet the basic food needs from own production	7	8	7	7
HH faced acute crisis (% of HH)	82	39	59	66
Crisis Months (% of HH)				
<i>Boisakh (Apr-May)</i>	05	0	0	3
<i>Joistho (May-Jun)</i>	16	0	1	3
<i>Ashar (Jun-Jul)</i>	33	4	9	16
<i>Srabon (Jul-Aug)</i>	35	4	17	19
<i>Vadro (Aug-Sep)</i>	44	10	22	22
<i>Ashin (Sep-Oct)</i>	54	25	34	42
<i>Kartik (Oct-Nov)</i>	50	15	18	24
<i>Agrohayoun (Nov-Dec)</i>	09	3	2	2
<i>Powsh (Dec-Jan)</i>	02	0	0	1
<i>Mug (Jan-Feb)</i>	03	0	0	1
<i>Falgun (Feb-Mar)</i>	04	0	0	1
<i>Chaitro (Mar-Apr)</i>	06	0	0	1

2.13 Accessibility to schools and hats/bazaars

The mobility of the household members was assessed through asking the respondents whether any member of their household needs to go to specific places: one is primary school/ madrasa and another one is local market (hat/bazaar). And if they did go, they were asked about the distances, mode(s) of transportation and time taken for the trip during rainy as well as dry season for each of the visited places. Table 18 shows that in CDSP-IV area around 20-30% time was saved compared to the baseline situation to go to school/ Madrasa and 6-8% time saved to reach to the local market. It is also notable that due to improved communication and locally established market the distance of market has reduced.

Table 18 Accessibility to primary schools/ madrasahs and hats/ bazaars (rural markets)

	CDSP-IV Baseline	CDSP-I &II	CDSP-III	CDSP-IV
Primary Schools/Madrashas				
Average distance (km)	01	01	01	01
No road	26	3	7	11
<i>Kancha road</i>	74	31	44	49
Brick	0	7	0	0
<i>Pacca Road</i>	0	59	48	3
Average time taken to reach in rainy season	38	28	26	26
Average time taken to reach in dry season	30	23	23	22
Hats /Bazaar				

Average distance (km)	16	02	04	13
No road	33	1	0	6
<i>Kancha</i> road	67	18	22	62
Brick	0	1	0	0
<i>Pacca</i>	0	79	82	32
Average time taken to reach in rainy season	62	29	40	58
Average time taken to reach in dry season	49	24	35	46

2.14 Shocks and crises

Each household was asked with sufficient probing whether the household or its members faced any kind of accident, loss or problem (to call ‘disaster’) during last one year and if they faced they were identified using a 13 point list with provision to add. For each reported disaster the intensity of the same and coping method was gathered through appropriate questions.

From table 19 it is observed that compared to the baseline situation most of the shocks or crises has reduced in CDSP-IV area. Some of them are remarkably reduced like a serious disease (20% to 12%), loss of crops due to flood or draught (47% to 2%), Loss/ death/theft of livestock/poultry (15% to 4%) and Dacoity/ Theft/ Mastanies in house/business (15% to 1%). But it should be noted that during the baseline survey the respondents were asked to response about the last five years!

Table 19 Type of shocks or crises faced by the HH last one year (%)

	CDSP-IV Baseline	CDSP-I & II	CDSP-III	CDSP-IV
Death/invalidity of earning member	4	1	2	2
Serious disease of any member	20	21	14	12
Displacement due to Flood/cyclone/ tornado	42	6	12	36
River erosion	8	0	1	1
Loss of crop due to flood/drought	47	1	1	2
Loss/ death/theft of livestock/poultry	15	1	5	4
Dacoity/ Theft/ Mastanies in house/business	15	1	1	1
Loss of business/investment	1	0	1	1
Divorce/separation	1	1	0	0
Dowry	3	0	0	1
Socio-political harassment, including bribe and tolls	1	1	0	0
Women harassment (Violence)	0	0	0	1
House destroyed by fire or other reason	2	1	1	8

3. SUMMARY OF FINDINGS AND CONCLUSIONS

In CDSP- I , II and III areas some people have settled by purchasing land from CDSP settlers, often a part of the allocated land. This issue needs further investigation; selling of newly received land is not allowed.

The proportion of household heads involved with agriculture as a principle occupation has increased in all the areas, most notably CDSP-IV, from 37% to 45%.

A remarkable change is observed regarding the wall and the roof of people's houses: An increase from straw to tin with 18% for both.

An important change is that earlier the households collected drinking water on an average distance of 345 meter and 418 meter in the dry and rainy seasons respectively. Now the average distance is 154 and 183 meter in the dry and rainy seasons respectively. It saves time for collecting drinking water especially for the women of the households.

Twenty five percent of the households received a sanitary latrine from CDSP-IV. It should be noted that the actual project wide figure is much lower; the distribution program is having a slow start.

The visit of Health Workers to the community has increased compared to the CDSP-IV baseline situation and it is also notable that the CDSP-IV area is in a better position compared to the older phases. It is due to the intensive support from the CDSP-IV partner NGOs. It has to be noted however that the visits of the health workers had yet no impact on the health situation, as the NGOs started providing health services only in the last few months.

Average assets value in CDSP IV increased around 24% compared to the baseline. Major increment of the assets in CDSP-IV area is observed in case of mobile phone, ornaments (gold) and trees.

Compared with the CDSP-IV baseline data the annual household income in CDSP-IV area is 11% more. It is also observed that in the CDSP-IV area the contribution of wage/ salary in the annual household income has decreased and contribution from field crops has increased compared to the baseline situation.

Compared to the CCDSP-IV baseline, cropping intensity has also increased in CDSP-IV area at 14%. This is due to more area coverage with *amon* and other cash crops during *robi* season as soil salinity reduced, and there were less floods.

Average rice production per hectare is 2.0 MT, which is 0.1 MT more than the CDSP-IV baseline yield. It is noticeable that sales of production are not the household surplus, they sell it to meet up the production cost, because in the food security section respondents mention that still on average 7 month in a year households can meet up the household needs from their own production.

From the study it is clear that mainly vegetables are grown in homestead areas. The main vegetables cultivated by the households in their homestead among non-leafy vegetables are Bean, Long bean, Bottle gourd, Sponge gourd etc. and among the leafy vegetables Red amaranth (*Lal Shak*) is mostly grown in the homestead. Consumption of vegetables grown in homesteads is common and it remarkably increased with around 200% in CDSP IV compared to the baseline.

Compared to the baseline situation regarding poultry rearing in the CDSP-IV area 5% increment is observed, to 94%, which is very high. Both egg and meat production has increased with 9% and 16% respectively. At the same time the consumption of eggs (6%) and meat (33%) has also increased in the CDSP-IV area.

Fish production and consumption per household has not much increased in CDSP-IV area. It is obvious because in CDSP-IV there is no support regarding pond aquaculture and also the RFLDC (Danida) have gradually withdrawn their activities from the CDSP-IV area as that project is going to be closed in mid 2013.

In CDSP-IV area the acute food crisis has reduced from 82% to 66% compared to the CDSP-IV baseline survey. The months of food shortage are still the same as during baseline (5 months in a year).

In CDSP-IV area around 20-30% time was saved compared to the baseline situation to go to school/ Madrasha and 6-8% time was saved to reach to the local market. It is also notable that due to improved communication and locally established markets the distance to the market has reduced.

ANNEX-1 ANNUAL OUTCOME SURVEY QUESTIONNAIRE-2012

CDSP Phase:

I	II	III	IV
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 Sample ID:

--	--	--	--	--	--	--	--

 Baseline Sample ID:

--	--	--	--	--	--	--	--

Name of HH Head:..... Sex: M/F

Address: Vill/Somaj:....., Char:.....

Union:..... Upazila:.....

Occupation:

	Primary	Secondary
Household Head		
Spouse		
<i>Occupation Code: Student-1, Unemployed-2, Agriculture/ Crop farming -3, Day Labor-4, Housekeeping-5, Fishing-6, Salaried Job-7, Fish drier-8, Small trade-9, Rickshaw/Van puller-10, Boat man-11, Retired person/ old man-12, Beggar-13, Disable-14, PL Catching-15, Others (Specify)-16</i>		

Family Size:

	<10 Years	11-16 years	17-60 years	Above 60 years	All
Male					
Female					

Land holding:

Did you get the land from Government under settlement program?	Yes/No	If Yes amountDeci.
If no, how do you occupy the land?	Purchase-1, Occupy by myself-2, Lease/Share taken-3, Given by landowner to live-4, Others..... 5	Deci
Land by type (in deci):			
Homestead	Pond/ditch	Agri. Land	Fallow land

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				
<i>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</i>				

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, Untreated River/Canal Water-7, Others (specify).....8.
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Ownership:	Own by HH-1, Jointly Owned-2, Neighbour-3, Govt./Natural Sources-4	
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?	Buy myself from market-1, Buy through NGO/other organization-2, Donated by NGO/other organization-3	

Health and Family planning:

Do you and family members wash hand by soap before taking meal and 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, Local Doctor-3, From NGO/Voluntary organization-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	

Household Assets:

Sl	Type of Assets	Put Tick	Quantity	Present Value (Taka)
1	Cot/ Khaat			
2	Almira			
3	Chair/Table			
4	Shinduk (Wooden box)/Trunk (Tin)			
5	Alna			
6	Ceiling/Table Fan			
7	Radio/Cassette Player			
8	B&W TV			
9	Color TV			
10	Mobile Phone			
11	Sewing machine			
12	Ornaments			
13	Bicycle			
14	Rickshaw/Van			
15	Bullock cart			
16	Boat			
17	Mechanized boat			
18	Power tiller/Husking Machine			
19	Pump Machine			

20	Fishing net(.....)			
21	Trees			
22	Cow			
23	Buffalo			
24	Goat			
25	Sheep			
26	Chicken			
27	Duck			
28	Others (Specify).....			

Household Annual Income:

Sources of Income	Amount (Taka)	Sources of Income	Amount (Taka)
Wage/Salary		Livestock Rearing	
Field Crops		Poultry Rearing	
Petty Trading		Fishing	
Homestead Gardening		Remittance	
Rickshwa/Van Pulling		Handicrafts	
Pond Aquaculture		Others.....	

Crop Production and Income:

Field Crops: Total Cultivated Land:..... Deci

Crops	Area Cultivated (Deci)	Variety		Crops	Area Cultivated (Deci)	Variety	
		Local	HYV			Local	HYV
Aus				Long Bean			
Amon				<i>Jali Kumra</i> (Ridge gourd)			
Robi/Boro				Bottle Gourd			
<i>Keshari</i>				Sweet Gourd			
<i>Mug</i>				<i>Korola</i> (Bitter gourd)			
<i>Felon</i>				<i>Jinga</i> (Ribbed gourd)			
<i>Moshuri</i>				Dhundul (Sponse gourd)			
<i>Mash Kolai</i>				Okra			
Soybean				Cucumber			
Mastered				Radish			
Ground nut				Carrot			
Water melon				Cauliflower			
Musk melon				Cabbage			
Chilli				Spinach			
Onion				<i>Lal Shak</i> (Red amaranth)			
Garlic				<i>Danta</i> (Stem amaranth)			
Coriander				<i>Pui shak</i>			

Bean							

Production and Income

Crop	Consumption		Sales	
	kg	Taka	Kg	Taka
Field Crop				
Paddy				
Pulse				
Oil Seeds				
Vegetable				
Homestead Gardening				
Leafy & other vegetable				
Banana				
Guava				
Papaya				
Lemon				
Coconut				
Others fruits.....				

Poultry and Livestock Production and Income:

Birds	Egg Production & Income (last one year)			Meat Production & Income (Last one year)		
	Sales (nos.)	Consume (Nos.)	Income from sales (Tk)	Sales (kg)	Consume (kg)	Income from sales (Tk)
Chicken						
Duck						

Animals	Milk sales (kg)	Income from Milk sales (Tk)	Milk Consume (kg)	Income from animal selling (Tk)	Present value of existing animals (Tk)
Cow					
Goat					
Buffalo					

Aquaculture Production and Income:

Nos. of pond	Water area (deci)	Cost (Tk)	Fish Sales (kg)	Fish Consume (kg)	Income from Sales (Tk)

Food Security:

1. How many months you are able to meet the basic food (Rice/Pulse) needs from your own production:.....
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, please put tick below.							
Sl	Month	Severity (Put Tick)		Sl	Month	Severity (Put Tick)	
		Acute crisis	Some Crisis			Acute crisis	Some Crisis
01	Boishakh			07	Kartik		
02	Joishto			08	Agrohayon		
03	Ashar			09	Poush		
04	Srabon			10	Mag		
05	Vadro			11	Falgun		
06	Ashin			12	Chaitro		

Mobility:

<i>[Please ask the question in the 1st column for each institution. if applicable, then ask next column]</i>							
SL	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)
01	Primary School/Madrasha						
02	Nearby Bazar/Hat						
Road Code: No Road-1, Kancha-2, Brick-3, Pacca-4							
Mode of 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							

Shocks and coping strategy

1. Did your household experience any kind of shocks or crisis during the last one year?
Yes/No
2. If yes, please mention the type of shocks faced by your household or household members and how it was coped with.

List of shocks		Indicate shocks specifying magnitude (*Code)	How it was coped with (**Code)
1	Death/invalidity of earning member		
2	Serious disease of any member		
3	Displacement due to Flood/cyclone/ tornado		
4	River erosion		
5	Loss of crop due to flood/drought		
6	Loss/ death/theft of livestock/poultry		
7	Dacoity/ Theft/ Mastanies in house/business		
8	Loss of business/investment		
9	Divorce/separation		
10	Dowry		
11	Socio-political harassment, including bribe and tolls		
12	Women harassment (Violence)		

13	House destroyed by fire or other reason		
14	Others (specify)		
<p>*Code: 1- Severe, 2- moderate, 3-Low</p> <p>**Code: 01- By selling land, 02- By selling domestic animals/birds, 03- By selling trees 04- 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 materials in credit 10- Aid/relief, 11- Complain with police, <i>Salish</i> with the UP, By mobilization of community groups/CBO/ NGOs, 12- Did nothing, 13. Others (specify).....</p>			

Thank you for your kind cooperation

Name of data collector:.....Signature:..... Date:.....
Verified by:.....Signature:.....Date:.....