

Char Development and Settlement Project Phase IV Bangladesh

Baseline Survey 2011

Technical Report No. 1

February 2012

Government of Bangladesh / IFAD / Government of the Netherlands

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

Table of Content

| | |
|---|----------|
| Chapter 1: Introduction and background | 1 |
| 1.1 Introduction and background | 1 |
| 1.2. Brief Description of the Project Area..... | 2 |
| Chapter 2: Objectives of the Baseline Study | 4 |
| Chapter 3: Approach and Methodology | 5 |
| 3.1 Preparation of Survey Questionnaire | 5 |
| 3.2 Sample Selection and Sampling Procedure..... | 5 |
| 3.3 Method of Data Collection and its Reliability..... | 6 |
| 3.4 Quality Control..... | 6 |
| 3.5 Data Management and Analysis | 7 |
| Chapter 4: Results and Discussions | 7 |
| 4.1 Profile of Household Head | 7 |
| 4.1.1 Age sex and education of household head..... | 7 |
| 4.1.2 Occupational Profile of the household head | 8 |
| 4.2 Demographic profile | 8 |
| 4.2.1 Family Size and Composition..... | 8 |
| 4.2.2 Education of the Family Members | 9 |
| 4.2.3 Occupation of the Family Members | 10 |
| 4.3 Access to Land and Housing Condition | 10 |
| 4.3.1 Land Holding and Category of Land..... | 10 |
| 4.3.2 Type of House..... | 11 |
| 4.4 Water and Sanitation and Health | 12 |
| 4.4.1 Source of Water for Drinking and Bathing..... | 12 |
| 4.4.2 Use of Latrine | 13 |
| 4.4.3 Health and Family Planning | 14 |
| 4.5 Household Assets..... | 15 |
| 4.6 Household Income and Expenditure | 17 |
| 4.6.1 Income and their sources | 17 |
| 4.6.2 Household Expenditure | 18 |
| 4.6.3 Household savings | 19 |
| 4.7 Involvement with NGO and other Organizations and Microcredit Status | 19 |
| 4.7.1 Involvement with NGO and Other Organizations | 19 |
| 4.7.2 NGO- and other loans..... | 20 |
| 4.8 Migration Status of Households..... | 21 |
| 4.8.1 Duration of the present residence and reason for migration..... | 21 |
| 4.8.2 Seasonal Migration..... | 21 |
| 4.9 Field Crop Cultivation..... | 22 |
| 4.9.1 Cropping Intensity..... | 22 |
| 4.9.2 Average production, consumption and sale | 23 |
| 4.10 Homestead Gardening | 24 |
| 4.10.1 Vegetable cultivation in homestead | 24 |
| 4.10.2 Production and income of homestead gardening | 25 |

Baseline Survey 2011

| | |
|---|-----------|
| 4.11 Poultry, livestock and aquaculture practices | 26 |
| 4.11.1 Poultry rearing status..... | 26 |
| 4.11.2 Livestock rearing status..... | 27 |
| 4.11.3 Aquaculture practices | 28 |
| 4.12 Food Security..... | 29 |
| 4.12 Accessibility..... | 30 |
| 4.13 Gender and Equity..... | 31 |
| 4.13.1 Household Work Sharing Between Female and Male | 32 |
| 4.13.2 Participation of Family Members in Decision-making Process | 32 |
| 4.14 Shocks and Crisis Coping Strategy..... | 35 |
| 4.15.1 Accidents, Losses and Problems faced..... | 35 |
| 4.15.2 Coping strategies of disasters..... | 36 |
| Chapter 5: Conclusions..... | 37 |
| 5.1 Socio-economic Status | 38 |
| 5.2 Health and Sanitation | 38 |
| 5.3 Field Crops and Homestead Gardening..... | 38 |
| 5.4 Livestock, Poultry and Aquaculture..... | 39 |
| 5.5 Food security | 39 |
| 5.6 Accessibility | 40 |
| 5.7 Gender | 40 |
| 5.7 Disasters and Shocks..... | 40 |
| Annex 1: Survey Questionnaire..... | 40 |
| Annex 2: List of Shomaj | 54 |

List of Tables

| | |
|--|----|
| Table 3.1: Distribution of sample shomaj and households for baseline survey | 6 |
| Table 4.1: Background information of the household head | 7 |
| Table 4.2: Principle Occupation of Household Head (%)..... | 8 |
| Table 4.3: Family Size and Age Distribution of Household Members | 9 |
| Table 4.4: Education Level of Household Members (%) | 9 |
| Table 4.5: Occupational profile of the members of the households | 10 |
| Table 4.6: Average land occupied and type of land | 11 |
| Table 4.7. Housing Pattern..... | 11 |
| Table 4.8. Source of water | 12 |
| Table 4.9. Use of Latrine (%)..... | 13 |
| Table 4.10. Washing hands before taking food and after return from latrine (%) | 14 |

Baseline Survey 2011

| | |
|---|----|
| Table 4.11. Children immunization and family planning practices (%)..... | 15 |
| Table 4.12. Household Assets (HH in percent and Value in Taka)..... | 16 |
| Table 4.13. Annual household income from different sources | 17 |
| Table 4.14. Household distribution by income group (%)..... | 18 |
| Table 4.15 Annual Household Expenditure (Average Taka)..... | 18 |
| Table 4.16. Household savings status..... | 19 |
| Table 4.17. NGO involvement and services received (%)..... | 19 |
| Table 4.18 Household's NGO microcredit and other loans | 20 |
| Table 4.19 Duration of residence and reason for migration..... | 21 |
| Table 4.20 Cropping Intensity and Average Area by Crops | 22 |
| Table 4.21 Production and income from field crops | 23 |
| Table 4.22 Use of organic and inorganic fertilizer and pesticides | 24 |
| Table 4.23 Type of vegetable cultivated in homestead (% of HH) | 25 |
| Table 4.24 Production and income from homestead gardening | 25 |
| Table 4.25 Poultry rearing status, production and income..... | 26 |
| Table 4.26 Livestock rearing status, production and income..... | 27 |
| Table 4.27 Pond aquaculture practices | 28 |
| Table 4.28 Fish production and income..... | 29 |
| Table 4.29 Food Security | 30 |
| Table 4.30 Accessibility to primary school/ madrasha and hat/ bazar | 31 |
| Table 4.31 Household Decision Making (%)..... | 33 |
| Table 4.32 Women Mobility to Different Places (%)..... | 34 |
| Table 4.33 Type of Shocks or Crisis Faced by the HH Last five Years (%) | 36 |
| Table 4.34 Shocks and Crisis Coping Strategy (%) | 37 |

Chapter 1: Introduction and background

1.1 Introduction and background

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 secure 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 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 for potable water and hygienic sanitation;
- Provision to the settlers of a legal title to land;
- 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.

CDSP IV is establishing a comprehensive M&E system, which aims to:

- Generate information for monitoring the project and to measure the impact of the project against the log frame objectives.
- Generate information on project activities and outputs for project planning and management.

This will include IFAD RIMS (Results and Impact Management System) indicators that IFAD requires all projects to use in reporting to IFAD.

The first task of the M&E unit is conducting a baseline study of the project areas which will guide project interventions and against which the progress and impact of the project components at field level will be measured during future annual outcome surveys and mid-term impact and completion impact studies.

1.2. Brief Description of the Project Area

As stated above the focus of the activities of CDSP-IV will be on five chars, with a total area of about 30,000 ha and a population of around 155,000 in 28,000 households. Three chars are located next to each other and form a part of the mainland: Char Nangulia, Noler Char and Caring Char. Urir Char is still an island, while the fifth char, Char Ziauddin, is located on the mainland, surrounded by earlier developed CDSP areas. More details about these chars are given below.

Char Nangulia, Noler Char, Caring Char

- Char Nangulia, with an area of about 8,990 ha (22,000 acres) and an estimated population of 67,000 in 12,000 households;
- Noler Char of about 2,690 ha (6,650 acres) and a population of approximately 33,000 in 6,000 households;
- Caring Char of about 6,850 ha (16,920 acres), with around 33,000 people in roughly 6,000 households, these households are concentrated on the higher part of Caring Char of around 3,800 ha.

The total area amounts to 18,530 ha (45,770 acres) with a current population of about 133,000 in 24,000 households.

Nangulia and Noler Chars appeared around the 1970's. Present land levels for Char Nangulia are between 2.75 and 4.75 m PWD and for Noler Char between 2.25 and 3.75 m PWD. Caring Char appeared later and is less developed and inhabited (land levels between 2.00 and 4.00 m PWD). Nangulia and Noler Chars are next to each other, only separated by the Mamur Khal. To the south of these two chars is Caring Char, separated from them by the Caring and Mamur Khals. Char Nangulia is further bordered by polder 59/3B and Char Majid (in the north and west) and by a developing, yet to be

named, char. Noler Char is further bordered by the Hatiya river in the west (with on the other side Boyer Char), the Meghna River in the southwest and by Caring Khal in the south and southeast, at the other side of which is Caring Char. Caring Char is for a greater part still an emerging char in the Meghna River, by which it is bordered in the south and east sides.

All three chars are located within Noakhali District. The whole area is part of two Upazilas (Subarnachar and Hatiya) and of three Unions (Char Clerk of Subarnachar Upazila and Chanandi and Mohammadpur of Hatiya Upazila).

Urir Char

In the Meghna Estuary erosion and accretion along the boundaries of the chars or islands are very common morphological processes. Urir Char is a perfect example. Since its emergence in the early 1970s, Urir Char has shown a very dynamic character and developed through erosion, accretion and shifting of several kilometers. During the last 35 years the landmass of Urir char increased from 12 km² to 100 km². At the same time the char shifted about 8 kilometers towards the north.

The land levels in Urir Char vary from 3.67 m to 4.78 m PWD in the north to south direction and 3.85 m to 4.03 m PWD in the east to west direction. Average land level can be taken as 4.08 m PWD. The total land area of Urir Char including fallow and muddy land is about 13,824 ha (around 33,000 acres) of which about 36.8% has been brought under cultivation. About 48.7% of the area is fallow and muddy land. At present the fallow lands are partially used for grazing. Mangrove forestland has been developed and is occupying 7.8% of the total area. The estimated total population is 11,000, distributed over 2,000 households.

There are two parts of the area broadly known as Urir Char. One part falls under Urir Char Union of Sandwip Upazila of Chittagong District, comprising an area of approximately 21,694 acres (mouzas: Char Lakshmi, Piadogi, Shamserabad and Char Badu). Another part of 10,760 acres is located in Char Elahi Union of Companigonj Upazila under Noakhali District (Mouzas: Char Umed, Char Rahman, Char Balua and Char Gazi Mijan).

Char Ziauddin

Accretion of Char Ziauddin started in 1970 and people started living there in 2001. It is named after a district magistrate. This char is under the jurisdiction of Char Jublee Union of Subarnachar Upazila. The char is located west of Char Mora Dona near Boyer Char, in the southwest corner of Subarnachar

Upazila under Noakhali District. Boyer Char lies to the south, CBD-1 to the north and Baggardona River to the west. The area is on an average about 5 km in length and 3 km wide. Present land levels vary from 3.20 m to 3.71 m PWD.

Settlers of Char Ziauddin mainly came from Ramgati (50%), South Hatiya (25%) and the main land (25%). The estimated total population is 11,000 and the number of households 2,000. However, some new squatters (around 200 hhs) have moved in and are occupying the Matua and Elahi's fish project in this char. According to the survey and information from Department of Forest, the size of the areas is 1.943 hectares (4,799 acres). The settlers occupied 2,114 acres land without official title. Six big fishery projects occupy approximately 1,000 acres. Of these six, two biggest projects each occupy 300 acres.

Chapter 2: Objectives of the Baseline Study

The overall objective of the Baseline study is to establish the current socio-economic status and livelihood conditions of the target households within the CDSP IV project area. It is also expected to offer adequate benchmark on agricultural practices, communication status, and nutrition status in the project area. The central objective was to take a close look into the level of poverty, nutritional effect, environmental situation, and women's status that are the primary focus of CDSP IV.

The baseline study has been planned with the overall purpose to generate primary data that represent the situation of the beneficiaries before the project so that such data could be used at a later stage to compare the effect and impact of the project and in taking various measures to improve project performance.

Besides basic socio-economic characteristics of the people, the indicators under this baseline survey were chosen keeping in view the objectives of CDSP IV. The indicators are not limited to but include demographic characteristics, education, living standard (housing, food and nutrition, health and hygiene, healthcare, water, sanitation etc.), economic condition, (occupation, migration, land tenancy and land use, major crops, assets, income and expenditure, level of poverty, skill, employment, credit, communication, marketing facilities etc.). Indicators also include feedback on social institutions, women and gender issues and participation of the people – customs and traditions, leadership, local problems of development, status of women etc.

The specific objectives of the study are as follows:

- i. to examine the demographic situation of the selected households.
- ii. to assess the socio-economic status particularly emphasizing the crop, livestock and fisheries resources of the selected households.
- iii. to investigate the livelihood and vulnerability issues prevailing in the selected households.
- iv. to know the accessibility to key services for the selected households.
- v. to examine the social and economic empowerment of the women and human rights issues, and
- vi. to address the areas of interventions in relation to agriculture, forestry, livestock and fisheries for improving livelihoods.

Chapter 3: Approach and Methodology

The baseline survey has been conducted through a predesigned survey questionnaire from 1,400 sample households out of 28,000 households of the five chars under CDSP-IV area.

3.1 Preparation of Survey Questionnaire

In order to fulfill the survey objectives, a household survey questionnaire was carefully prepared to collect the required data. Before finalizing, the questionnaire was distributed among all sector specialists (Infrastructure, Gender, Livelihood, Forestry, Agriculture etc.) and other concerned of CDSP-IV. After accommodating the valuable feedback and necessary correction the draft questionnaire was tested and finalized (see Annex 1).

3.2 Sample Selection and Sampling Procedure

A two stage stratified random sampling was applied for selecting the samples for conducting the field survey. A total of 59 Shomaj (the smallest geographical unit of chars) were randomly selected from 172 Shomaj of the five different chars. After that 1400 household were selected randomly from these 59 Shomaj which are 5% of the total households of each Shomaj. The questionnaire survey of the total of 1400 households was conducted by direct face to face interview in the household premises during October 11 to December 07, 2011. (See Table 3.1 and Annex 2)

Table 3.1: Distribution of sample shomaj and households for baseline survey

| Name of Char | Total Area (ha) | Total Population | Total Shomaj | Sample Shomaj | % | Total HH | Sample HH | % |
|---------------|-----------------|------------------|--------------|---------------|-----------|---------------|-------------|------------|
| Char Ziauddin | 1,943 | 11,000 | 12 | 4 | 33 | 2,000 | 100 | 7.1 |
| Char Nangulia | 8,990 | 67,000 | 82 | 24 | 29 | 12,000 | 600 | 42.9 |
| Noler Char | 2,690 | 33,000 | 32 | 12 | 38 | 6,000 | 300 | 21.4 |
| Caring Char | 6,850 | 33,000 | 26 | 11 | 42 | 6,000 | 300 | 21.4 |
| Urir Char | 10,300 | 11,000 | 20 | 8 | 40 | 2,000 | 100 | 7.1 |
| Total | 30,773 | 155,000 | 172 | 59 | 34 | 28,000 | 1400 | 100 |

3.3 Method of Data Collection and its Reliability

For collecting field data 10 (5 Male and 5 Female) Field Investigators were recruited locally for two months through a short interview. During the selection preference was given to those who have past experience on data collection with CDSP previous phases or related data collection experience in char areas. The survey team explained to respondents the aim and objectives of the study before making the actual interview. The respondents were assured that the information given by them would not be used against their interest and that it would be useful to the households themselves in many respects. Interviewees were requested to give correct information as far as possible. The survey questionnaire was printed in bangla for easy understanding by both interviewer and respondents.

3.4 Quality Control

A two days training was held for the Field Investigators on data collection methodology and survey questionnaire. The questionnaire includes guidelines for critical questions and the technical issues in the questionnaire were explained to the data collection team during this two days training. The Monitoring and Evaluation Officers and the ME Adviser from CDSP-IV supervised the data collection team in the field on a regular basis and monitored data collection and provided technical backstopping. To ensure the quality of information the collected data was checked to ensure that information to each of the items had been correctly recorded. If there were any items overlooked and misunderstood or found contradictory, these were corrected through re-interviewing on the spot. The CDSP-IV M&E team gave feedback after reviewing the filled-in questionnaire on a sample basis, and shared experiences during off-duty and on-the-job meetings attended by all members of the survey team. As a follow-up the

Investigators checked each other's questionnaire and the M&EOs re-interviewed some of the sample households for checking the process followed by the Field Investigators.

3.5 Data Management and Analysis

The M&E Adviser developed the database for data entry using MS Access software. All the collected data were processed and analyzed in accordance with the objectives of the study. Data processing included field and office editing, coding and tabulation. Consistency checks and keystroke errors were also detected and corrected accordingly before data analysis. The analysis was done using descriptive statistics like percentage, frequency distribution, mean, and rank where appropriate. A comparison of proportions and means across the intervention groups was carried out using the appropriate statistical tests including t-test. SPSS PC⁺ software was used for t-test.

Chapter 4: Results and Discussions

4.1 Profile of Household Head

4.1.1 Age sex and education of household head

The households can be divided into male-headed (96%) households and female headed household (4%). Average age of male household head is 45 and female is 42. Household heads of Noler Char are relatively older than the other chars. Marital status of household heads is largely married (96%); a remarkable number of widows/widowers is observed in Urir char. The illiteracy rate (78% including “can sign only”) amongst household heads is generally very high in all chars. (Table 4.1)

Table 4.1: Background information of the household head

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|-----------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Male household head | 96 (96) | 577 (96) | 285 (95) | 292(97) | 90(90) | 1340 (96) |
| Female household head | 4 (4) | 23 (4) | 15 (5) | 8 (3) | 10 (10) | 60 (4) |
| Average Age (Male) | 44 | 45 | 47 | 44 | 45 | 45 |
| Average Age (Female) | 39 | 41 | 46 | 39 | 43 | 42 |
| Marital Status | | | | | | |
| Married | 97 (97) | 576 (96) | 291 (97) | 291(97) | 87 (87) | 1342 (96) |
| Unmarried | 0 | 8 (1.4) | 4 (1.3) | 3 (1) | 5 (5) | 20 (1.4) |

| | | | | | | |
|-------------------------|-------|---------|--------|---------|-------|----------|
| Divorced/Separated | 2 (2) | 6 (1) | 2 (.7) | 2 (.7) | 1(1) | 13 (1) |
| Widow/Widower | 1 (1) | 9 (1.6) | 3 (1) | 4 (1.3) | 7 (7) | 25 (1.6) |
| Education (in %) | | | | | | |
| Illiterate | 32 | 23 | 33 | 32 | 33 | 28 |
| Can signed only | 42 | 57 | 43 | 49 | 40 | 50 |
| Can Read and write | 6 | 5 | 8 | 6 | 3 | 5 |
| Primary | 13 | 10 | 10 | 9 | 16 | 10 |
| Secondary | 4 | 5 | 6 | 5 | 6 | 5 |
| Higher Secondary | 01 | 0 | 0 | 0 | 2 | 1 |
| Bachelor and above | 2 | 0 | 0 | 0 | 0 | 1 |

Figures in parenthesis represent the percentage

4.1.2 Occupational Profile of the household head

Agriculture (crop farming) appeared as the main occupation of the respondents, followed by day labour in all chars. The other main occupations of respondents are found to be petty trading, rickshaw/van pulling and old/retired persons. Very few household heads have fishing as their principle occupation. The other categories of occupation include begger, PL (prawn) catcher, tractor driver, village doctor, handicrafts etc (Table 4.2).

Table 4.2: Principle Occupation of Household Head (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Agriculture | 28 | 46 | 38 | 24 | 34 | 37 |
| Day Labour | 36 | 26 | 27 | 48 | 18 | 31 |
| House keeping | 04 | 02 | 03 | 02 | 09 | 3 |
| Fisherman | 04 | 01 | 03 | 05 | 02 | 3 |
| Job | 06 | 03 | 03 | 02 | 07 | 3 |
| Petty trading | 09 | 09 | 10 | 06 | 12 | 9 |
| Rickshaw/Van/Boat puller | 08 | 04 | 03 | 04 | 01 | 4 |
| Old age | 02 | 03 | 07 | 04 | 09 | 6 |
| Others | 03 | 05 | 07 | 05 | 08 | 5 |

4.2 Demographic profile

4.2.1 Family Size and Composition

Average family size is higher in Urir char (6.57) and lower in Caring char (5.39). The dominant age of family members is below 10 years for both male (28%) and female (29%). In all chars more children

and young adults in the below 20 year's bracket, reflect the lack of adult members in the household (Table 4.3).

Table 4.3: Family Size and Age Distribution of Household Members

| | | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|---|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Average family size | | 6.33 | 6.04 | 5.89 | 5.39 | 6.57 | 5.93 |
| Average male members | | 3.1 | 3.1 | 3.2 | 2.8 | 3.6 | 3.1 |
| Average female members | | 3.2 | 2.9 | 2.7 | 2.6 | 2.9 | 2.8 |
| Age distribution of family members (%) | | | | | | | |
| Below 10 years | M | 30 | 28 | 26 | 29 | 27 | 28 |
| | F | 33 | 29 | 29 | 30 | 28 | 29 |
| 10 to 20 years | M | 24 | 25 | 25 | 24 | 30 | 25 |
| | F | 29 | 30 | 25 | 26 | 31 | 28 |
| 20-40 years | M | 25 | 24 | 26 | 25 | 24 | 25 |
| | F | 25 | 25 | 27 | 28 | 22 | 26 |
| 40- 60 years | M | 14 | 16 | 14 | 16 | 14 | 15 |
| | F | 11 | 14 | 14 | 13 | 16 | 14 |
| Above 60 years | M | 07 | 07 | 09 | 06 | 05 | 07 |
| | F | 02 | 02 | 06 | 03 | 03 | 03 |

4.2.2 Education of the Family Members

The level of illiteracy of family members reflects the pattern of the household heads. The proportion of illiteracy of family members or those who can sign only is generally over 55%. Higher secondary and above is almost absent in all chars. More than one third of the family members in Urir Char have primary education which is higher than most of the other chars (Table 4.4).

Table 4.4: Education Level of Household Members (%)

| | | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--------------------|--|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Illiterate | | 29 | 22 | 27 | 32 | 28 | 26 |
| Can signed only | | 26 | 36 | 33 | 32 | 23 | 33 |
| Can Read and write | | 04 | 05 | 07 | 05 | 07 | 05 |
| Primary | | 32 | 31 | 28 | 26 | 37 | 30 |
| Secondary | | 07 | 06 | 05 | 04 | 04 | 05 |
| Higher Secondary | | 01 | 01 | 0 | 01 | 01 | 01 |

| | | | | | | |
|----------------------|----|----|----|----|----|----|
| Graduation and above | 00 | 00 | 00 | 00 | 00 | 00 |
|----------------------|----|----|----|----|----|----|

4.2.3 Occupation of the Family Members

Table 4.5 shows that more than 80% of the female members of the household are engaged in housekeeping and the rest of the female members are either student or unemployed. There are no significant varieties of occupation of the household male members in all five chars. Most are engaged in agriculture and day labour, which reflects the pattern of the household heads. The third and fourth highest occupational categories are Petty trading (9%) and Job (6%) respectively. Student and unemployed are similar for both male and female members.

Table 4.5: Occupational profile of the members of the households

| | Char Ziauddin (N=100) | | Char Nangulia (N=600) | | Noler Char (N=300) | | Caring Char (N=300) | | Urir Char (N=100) | | All (N=1400) | |
|-----------------------------|--------------------------|----|-----------------------------|----|--------------------------|----|---------------------------|----|----------------------|----|-----------------|----|
| | M | F | M | F | M | F | M | F | M | F | M | F |
| Agriculture | 27 | 0 | 35 | 10 | 28 | 0 | 18 | 0 | 40 | 0 | 30 | 0 |
| Day Labour | 35 | 01 | 30 | 01 | 34 | 01 | 44 | 01 | 16 | 01 | 34 | 01 |
| House keeping | 02 | 84 | 01 | 82 | 02 | 82 | 02 | 90 | 02 | 82 | 02 | 84 |
| Fisherman | 04 | 0 | 02 | 0 | 06 | 0 | 04 | 0 | 02 | 0 | 03 | 0 |
| Job | 05 | 01 | 07 | 01 | 04 | 01 | 04 | 0 | 10 | 01 | 06 | 01 |
| Petty trading | 08 | 01 | 10 | 0 | 08 | 0 | 08 | 0 | 09 | 0 | 09 | 0 |
| Rickshaw/Van/Boat puller | 09 | 0 | 03 | 0 | 02 | 0 | 02 | 0 | 01 | 0 | 03 | 0 |
| Student/Unemployed | 11 | 11 | 12 | 14 | 15 | 15 | 12 | 08 | 20 | 16 | 13 | 13 |

4.3 Access to Land and Housing Condition

4.3.1 Land Holding and Category of Land

Out of 1400 households 17 (2 from Char Ziauddin and 15 from Char Nangulia) households mentioned that they have received land from government with documents. Other 1383 household somehow occupied on average 171 decimal of *khas* land in these 5 chars. More than 90% households occupied land by themselves and other households has taken possession of *khash* land giving money to others. Average land size is the highest (379 deci) in Urir Char and lowest (114 deci) in Char Ziauddin. Average homestead area is 22 decimal and cultivable land is 134 decimal. More than 87% of the

households have a pond or ditch with average area of 21 decimal. Bigger size of pond was found in Urir Char and smaller in Char Ziauddin and Caring Char (Table 4.6).

Table 4.6: Average land occupied and type of land

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Nos. of HH received land under settlement program | 02 | 15 | 0 | 0 | 0 | 17 |
| Average land (deci) | 225 | 147 | 0 | 0 | 0 | 372 |
| Source of occupied land | | | | | | |
| Occupied by themselves | 90 | 89 | 93 | 93 | 94 | 91 |
| Lease/share taken | 0 | 0 | 0 | 0 | 0 | 0 |
| Taken from others | 08 | 08 | 07 | 07 | 06 | 08 |
| Average land Occupied (deci) | 114 | 160 | 137 | 165 | 379 | 171 |
| Land by category | | | | | | |
| Homestead (deci) | 20 | 25 | 20 | 13 | 35 | 22 |
| HH with pond | 92 | 584 | 274 | 242 | 36 | 1228 |
| Average pond area (deci) | 12 | 23 | 16 | 12 | 60 | 21 |
| Average cultivable land (deci) | 90 | 123 | 107 | 144 | 308 | 134 |

4.3.2 Type of House

The majority type of structure of the main house consists of a mud floor (99%), a straw made roof (82%) and straw or bamboo (84%) made wall. Average size of the main house is 253 sq.ft. Only in Urir Char a remarkable number of tin made walls (50%) and roofs (38%) have been observed. Forty percent of HH have no separate kitchen and 82% HH have no separate animal shed. It reflects that the majority of the HH have their kitchen and animal shade attached with their main house (Table 4.7).

Table 4.7. Housing Pattern

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|-------------------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Average size of main house (Sq.Ft.) | 268 | 247 | 256 | 185 | 297 | 253 |
| Type of floor (%) | | | | | | |
| Mud | 96 | 99 | 98 | 100 | 99 | 99 |

| | | | | | | | |
|--------------------------------------|--------|----|----|----|----|----|----|
| | Bricks | 0 | 01 | 02 | 0 | 01 | 01 |
| | Pacca | 04 | 0 | 0 | 0 | 0 | 0 |
| Type of Wall (%) | | | | | | | |
| | Leaf | 09 | 01 | 07 | 05 | 0 | 04 |
| | Straw | 23 | 33 | 29 | 55 | 04 | 34 |
| | Mud | 0 | 01 | 01 | 0 | 0 | 0 |
| | Bamboo | 55 | 55 | 50 | 36 | 59 | 50 |
| | Tin | 13 | 10 | 12 | 06 | 36 | 13 |
| Type of Roof (%) | | | | | | | |
| | Leaf | 12 | 01 | 01 | 17 | 0 | 02 |
| | Straw | 68 | 83 | 79 | 95 | 62 | 82 |
| | Tin | 20 | 16 | 20 | 3 | 38 | 16 |
| | Pacca | 0 | 0 | 0 | 0 | 0 | 0 |
| HH with Kachari/ Baithakkhana (%) | | 0 | 01 | 0 | 01 | 0 | 01 |
| HH with separate kitchen (%) | | 55 | 63 | 66 | 41 | 81 | 60 |
| HH with separate animal shed (%) | | 15 | 20 | 18 | 10 | 34 | 18 |

4.4 Water and Sanitation and Health

4.4.1 Source of Water for Drinking and Bathing

Deep tube well is the major source of drinking water of the respondents in all areas. Most of these deep tube wells (63%) were installed by the different organization for the community. Only 10% of the deep tube wells are jointly or individually owned by households. Although 99% of the household use tube well water for drinking purpose it is a problem for the households to collect the water due to the distance. In the dry season they collect the drinking water on an average from 345 meters and in the rainy season 418 meters far from their homestead. The major source of water for bathing and washing is Pond/ditch (76%). But during the dry seasons most of the pond/ditches dry out due to its depth and low water retention capacity of the soil (Table 4.8).

Table 4.8. Source of water

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|------------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Source of Drinking Water (%) | | | | | | |
| Shallow Tube well | 17 | 01 | 04 | 01 | 02 | 03 |
| Deep Tube well | 79 | 98 | 94 | 98 | 92 | 96 |
| Dug well | 0 | 0 | 0 | 0 | 0 | 0 |
| Rain Water | 0 | 0 | 0 | 0 | 0 | 0 |

| | | | | | | |
|--|-----|-----|-----|-----|-----|-----|
| Pond Sand Filter | 0 | 0 | 0 | 0 | 0 | 0 |
| Untreated pond water | 04 | 01 | 02 | 01 | 06 | 02 |
| River/Canal water | 0 | 0 | 0 | 0 | 0 | 0 |
| Ownership of tube well (%) | | | | | | |
| Owned by HH | 04 | 06 | 04 | 03 | 15 | 05 |
| Jointly owned | 03 | 07 | 03 | 03 | 0 | 05 |
| Neighbor | 34 | 32 | 36 | 08 | 12 | 27 |
| Govt./Community | 58 | 56 | 57 | 86 | 73 | 63 |
| Distance of water sources (meter) | | | | | | |
| Dry Season | 487 | 398 | 286 | 331 | 221 | 345 |
| Rainy Season | 542 | 475 | 331 | 431 | 312 | 418 |
| Source of water for bathing and washing (%) | | | | | | |
| Tube well | 26 | 18 | 20 | 06 | 58 | 19 |
| Dug well | 05 | 02 | 0 | 03 | 0 | 02 |
| Pond/ditch | 65 | 78 | 78 | 89 | 31 | 76 |
| River/canal | 04 | 02 | 02 | 03 | 10 | 03 |

4.4.2 Use of Latrine

The survey results show that only 6% of the household use hygienic latrine, 89% of the household use open and unhygienic latrine and the remaining 5% household has no latrine. Of those who use the hygienic or ring slab latrine 61% purchased it from the market, 31% received it from different government and non-government organizations as donation and the remaining 8% household purchased it from NGOs. In Caring Char 89% of the latrines was donated by the different government and non-government organization and in other chars most of the household purchased it from the market (Table 4.9).

Table 4.9. Use of Latrine (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Type of latrine used by HH | | | | | | |
| No latrine | 07 | 03 | 08 | 04 | 0 | 05 |
| Hanging/open | 65 | 79 | 77 | 76 | 62 | 76 |
| Ring slab (unhygienic) | 21 | 13 | 10 | 14 | 24 | 14 |
| Hygienic | 07 | 05 | 04 | 07 | 13 | 06 |
| Source of ring slab or hygienic latrine | | | | | | |
| Purchased from market | 68 | 85 | 72 | 9 | 65 | 61 |
| Purchased from NGO/other organization | 18 | 7 | 18 | 1 | 0 | 8 |

| | | | | | | |
|--------------------------------------|----|---|----|----|----|----|
| Donated by GO/NGO/other organization | 14 | 8 | 10 | 89 | 35 | 31 |
|--------------------------------------|----|---|----|----|----|----|

4.4.3 Health and Family Planning

The study investigated three 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 and use of mosquito net. The most common practice observed in all chars is washing hands with plain water (96%) before taking food. In case of washing hands after returning from latrine, only 2% households wash hand with soap, 4% use ash/mud and majority (94%) wash hand with plain water (Table 4.10).

Table 4.10. Washing hands before taking food and after return from latrine (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Washing hand before taking food | | | | | | |
| Wash by plain water | 85 | 98 | 96 | 99 | 93 | 96 |
| Wash by Soap | 15 | 02 | 04 | 01 | 07 | 04 |
| Washing hand after return from latrine | | | | | | |
| Wash by plain water | 85 | 94 | 93 | 98 | 88 | 94 |
| Wash by ash/mud | 14 | 03 | 05 | 01 | 02 | 4 |
| Wash by Soap | 01 | 03 | 02 | 01 | 10 | 2 |

Regarding immunization of the children the respondents were asked whether they immunize their children with at least 5 common vaccines (Polio, Ham, Diptheria, Tuberculosis and Tetanus) (Table 4.8). Fifty two percent of household immunize their children and major immunization has been taken (89%) under government mass immunization program. Those who didn't immunize their children, 66% of them mentioned that the support are not available locally, 17% due to lake of awareness and another 17% couldn't attend the vaccine camp due to bad road communication. Most of the char dwellers (92%) use mosquito net. Regarding use of family planning methods 66% of the couples don't use any family planning methods. Temporary methods are applied by 32% of households and only 2% of the couples applied permanent method of family planning. From data it is observe that one major reason regarding poor health and family planning services is the lack of NGO/ Government health worker within the char areas (Table 4.11).

Table 4.11. Children immunization and family planning practices (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Immunization of the children | | | | | | |
| Yes | 52 | 49 | 41 | 63 | 62 | 52 |
| No | 84 | 51 | 59 | 37 | 38 | 48 |
| Source of vaccine | | | | | | |
| Upazila/Union Health Center | 06 | 02 | 03 | 06 | 02 | 3 |
| Local Doctor | 0 | 13 | 06 | 0 | 0 | 6 |
| NGO | 06 | 0 | 04 | 01 | 0 | 2 |
| Govt. Program | 87 | 85 | 87 | 93 | 98 | 89 |
| If No, why? | | | | | | |
| Lack of awareness | 33 | 08 | 31 | 06 | 10 | 17 |
| Support not available locally | 53 | 78 | 52 | 70 | 86 | 66 |
| Couldn't attend the camp/center due to bad road communication | 13 | 14 | 17 | 24 | 04 | 17 |
| Use of Mosquito Net | | | | | | |
| Yes | 92 | 93 | 88 | 97 | 78 | 92 |
| No | 08 | 06 | 12 | 03 | 21 | 8 |
| Regular visit of Govt./NGO health worker in the community | | | | | | |
| Yes | 09 | 05 | 09 | 02 | 06 | 6 |
| No | 91 | 95 | 91 | 98 | 94 | 94 |
| Use of Family Planning Method | | | | | | |
| No | 70 | 63 | 72 | 60 | 80 | 66 |
| Temporary method | 28 | 35 | 25 | 39 | 20 | 32 |
| Permanent method | 02 | 02 | 03 | 01 | 0 | 2 |
| If No, why? | | | | | | |
| Lack of awareness | 62 | 56 | 61 | 43 | 80 | 58 |
| Service not available locally | 15 | 27 | 16 | 42 | 15 | 25 |
| Materials are costly | 23 | 17 | 23 | 15 | 05 | 17 |

4.5 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 4.12). Out of these long list of assets ownership of ceiling/table fan, radio/cassette player, television, bullock cart and pump machine are almost entirely absent among the sample households. At least onewooden cot is used by

90% of the households. Chickens are owned by 90% of the households followed by duck (81%) and cow (61%). A remarkable number of households has gold (54%) and mobile phone (46%). The average present value (6,687) of gold reflects that the amount of gold owned by the household is very low. Average present value of household assets is Tk 35,162. The lowest average value of assets is found in Caring Char, while on the other hand the average present value of assets in Char Ziauddin, Char Nangulia and Noler Char are more or less similar. It is noticeable that the average present value of assets is about 4 times higher in Urir Char, this is only because in Urir Char 14 households own more number of buffalos and the average per household value is taka 293,714. This is due to the availability of wide open rough grazing field in Urir Char.

Table 4.12. Household Assets (HH in percent and Value in Taka)

| Assets | Char Ziauddin (N=100) | | Char Nangulia (N=600) | | Noler Char (N=300) | | Caring Char (N=300) | | Urir Char (N=100) | | All (N=1400) | |
|---|-----------------------|-------|-----------------------|-------|--------------------|-------|---------------------|-------|-------------------|-------|--------------|-------|
| | H | Value | H | Value | H | Value | H | Value | H | Value | H | Value |
| Wooden cot | 93 | 1214 | 92 | 1635 | 97 | 1317 | 76 | 887 | 97 | 1829 | 90 | 1411 |
| Almira | 08 | 1350 | 05 | 2930 | 04 | 1700 | 01 | 3000 | 14 | 3071 | 05 | 2540 |
| Chair/Table | 21 | 409 | 30 | 1156 | 28 | 1092 | 18 | 574 | 58 | 1401 | 28 | 1061 |
| Shinduk (Wooden box)/Trunk (Tin) | 37 | 1537 | 35 | 2126 | 45 | 1975 | 30 | 1956 | 26 | 1723 | 36 | 1990 |
| Alna | 02 | 550 | 02 | 1166 | 02 | 1080 | 01 | 2000 | 07 | 1057 | 22 | 1113 |
| Ceiling/Table Fan | 0 | 0 | .49 | 833 | 0 | 0 | 0 | 0 | 0 | 0 | .21 | 833 |
| Radio/Cassette | 02 | 1150 | 01 | 268 | 01 | 393 | 0 | 0 | 0 | 0 | 01 | 421 |
| B&W TV | 01 | 4000 | .49 | 3000 | 01 | 4100 | 0 | 0 | 04 | 5000 | .71 | 4120 |
| Color TV | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Mobile Phone | 43 | 2293 | 50 | 2057 | 46 | 2105 | 33 | 1537 | 61 | 1860 | 46 | 1984 |
| Sewing machine | 03 | 4500 | 01 | 4562 | 02 | 5300 | 01 | 1400 | 04 | 2250 | 02 | 4013 |
| Ornaments | 55 | 10247 | 39 | 7201 | 42 | 9119 | 90 | 3886 | 76 | 8486 | 54 | 6687 |
| Bicycle | 22 | 1972 | 09 | 3318 | 03 | 2100 | 01 | 7334 | 06 | 2700 | 07 | 2962 |
| Rickshaw/Van | 05 | 6700 | 01 | 5400 | 01 | 4000 | 01 | 6667 | 0 | 0 | 01 | 5900 |
| Bullock cart | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Boat | 0 | 0 | 01 | 9000 | 01 | 13333 | 0 | 0 | 0 | 0 | .49 | 9500 |
| Mechanized boat | 01 | 70000 | 01 | 10250 | 03 | 96125 | .33 | 80000 | 0 | 0 | 01 | 94928 |
| Power tiller/ Husking | 05 | 27000 | 03 | 30076 | 02 | 40428 | 04 | 8125 | 08 | 33812 | 03 | 26155 |

| Machine | | | | | | | | | | | | |
|--------------|----|-------|-----|--------|----|--------|-----|-------|----|--------|----|-------|
| Pump Machine | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Fishing net | 22 | 5504 | 36 | 3459 | 34 | 4762 | 55 | 2271 | 48 | 2870 | 40 | 3377 |
| Trees | 24 | 3912 | 26 | 6692 | 24 | 3051 | 05 | 1546 | 68 | 32911 | 24 | 10765 |
| Cow | 52 | 21634 | 66 | 21026 | 66 | 21654 | 46 | 19863 | 78 | 46426 | 61 | 23328 |
| Buffalo | 04 | 43125 | .33 | 14000 | 01 | 30010 | .33 | 60000 | 14 | 293714 | 02 | 21620 |
| | | | | | | 0 | | | | | | 4 |
| Goat | 28 | 2017 | 34 | 2714 | 30 | 2377 | 47 | 3799 | 44 | 9870 | 36 | 3533 |
| Sheep | 0 | 0 | 02 | 28109 | 0 | 0 | .33 | 800 | 05 | 12760 | 01 | 21988 |
| Chicken | 88 | 725 | 90 | 885 | 90 | 879 | 90 | 876 | 89 | 1344 | 90 | 903 |
| Duck | 81 | 1141 | 80 | 1245 | 78 | 1197 | 84 | 1108 | 85 | 2200 | 81 | 1269 |
| All | - | 28,79 | - | 29,224 | - | 33,512 | - | 20,33 | - | 123,41 | - | 35162 |
| | | 2 | | | | | | 0 | | 5 | | |

4.6 Household Income and Expenditure

4.6.1 Income and their sources

The following table shows the average annual income of the households from different sources. The average annual income of the sampled Households in Urir Char is estimated the highest at Taka 104,400 and the four other chars Char Ziauddin, Char Nangulia, Noler Char, Caring Char are 65,743, 69,152, 69,281, 71475 respectively. Overall mean income is Taka 71,951. Of the total income, major share or 46% is contributed by wages and salaries, second highest contribution is from field crops (22%) and third highest contribution is from petty trading (10%). The share of poultry and livestock jointly is 7% but livestock contribution in Urir Char is higher than all other chars, which is due to more buffalo holdings in Urir Char (Table 4.13).

Table 4.13. Annual household income from different sources

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|----------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|----------------------|-----------------|
| Wage/Salary | 34,162 | 32,571 | 33,939 | 38,411 | 20,652 | 33,378 |
| Field Crops | 14,842 | 12,935 | 12,439 | 18,789 | 32,500 | 15,617 |
| Petty Trading | 3,660 | 8,057 | 7,367 | 4,417 | 8,950 | 6,879 |
| Homestead Gardening | 2,188 | 3,340 | 2,634 | 1,167 | 9,978 | 3,115 |
| Rickshaw/Van Pulling | 5,140 | 2,760 | 4,250 | 1,073 | 810 | 2,749 |
| Pond Aquaculture | 2,167 | 3,177 | 1,119 | 1,443 | 9,108 | 2,713 |
| Livestock Rearing | 879 | 1,993 | 2,213 | 1,439 | 13,531 | 2,666 |
| Fishing/PL Catching | 1,150 | 1,631 | 2,620 | 2,573 | 2,780 | 2,093 |
| Poultry Rearing | 1,380 | 1,768 | 1,373 | 2,161 | 3,831 | 1,887 |
| Remittance | - | 537 | 1,000 | - | 2,200 | 601 |

| | | | | | | |
|--------------|---------------|---------------|---------------|---------------|----------------|---------------|
| Handicrafts | 175 | 385 | 327 | - | 60 | 252 |
| Total | 65,743 | 69,152 | 69,281 | 71,475 | 104,400 | 71,951 |

Table 4.14 shows the household distribution by different income groups. The average annual income of 59% of the households is less than the average income (71,951) estimated in table 4.13. It is noticeable that the average annual income of 49% of the households is more than 90,000 in Urir Char. It reflects that the households of Urir Char are better off than the four other chars.

Table 4.14. Household distribution by income group (%)

| Income group | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|------------------|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Income <36,000 | 12 | 10 | 15 | 8 | 12 | 11 |
| 36,000 to 50,000 | 17 | 21 | 21 | 14 | 08 | 18 |
| 50,000 to 70,000 | 30 | 33 | 25 | 34 | 20 | 30 |
| 70,000 to 90,000 | 18 | 14 | 16 | 27 | 10 | 17 |
| Above 90,000 | 22 | 22 | 23 | 17 | 49 | 23 |

4.6.2 Household Expenditure

Average annual household expenditure estimate is 66.313 taka (\$884). Major expenditure head of the households is food cost. Average food cost per household is taka 52,585 (\$701) which is 79% of the total annual household expenditure. Second highest expenditure head is clothing with 6% of total annual expenditure and the third and fourth one are medical and marriage ceremonies (4%). Highest annual expenditure estimate is 73, 547 taka in Urir Char and the lowest Tk 61, 856 in Caring Char (Table 4.15).

Table 4.15 Annual Household Expenditure (Average Taka)

| Sources | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--------------------|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Food cost | 47962 (76) | 52073 (78) | 54682 (80) | 52238 (84) | 55030 (75) | 52585 (79) |
| Clothing | 4460 (7) | 3827 (6) | 4808 (7) | 3222 (5) | 3732 (5) | 3946 (6) |
| Medical | 4086 (6) | 2851 (4) | 2929 (4) | 2013 (3) | 2290 (3) | 2736 (4) |
| Children education | 912 (1) | 926 (1) | 503 (1) | 645 (1) | 962 (1) | 777 (1) |
| Transport | 737 (1) | 869 (1) | 831 (1) | 1239 (2) | 995 (1) | 940 (1) |
| Marriage ceremony | 2320 (4) | 2490 (4) | 2523 (4) | 878 (1) | 7230 (10) | 2478 (4) |
| Dowry/Gift | 273 | 1448 (2) | 363 (1) | 717 (1) | 1790 (2) | 999 (2) |
| Religious festival | 742 (1) | 656 (1) | 842 (1) | 649 (1) | 938 (1) | 720 (1) |
| Social ceremonies | 236 | 150 | 130 | 163 | 405 (1) | 173 (0) |
| Court case | 866 (1) | 1035 (2) | 687 (1) | - | - | 653 (1) |

| | | | | | | |
|------------|---------------|---------------|---------------|---------------|---------------|---------------|
| Fire wood | 713 (1) | 406 (1) | 260 | 92 | 85 | 306 (0) |
| All | 63,307 | 66,713 | 68,558 | 61,856 | 73,457 | 66,313 |

4.6.3 Household savings

From table 4.16 it is observed that 42% of respondents have some sort of savings. Most of the savings are kept in the NGO (83%) which is normally the group savings as per NGO rules. Other than NGOs 8% money kept at home, 7% at Bank and 2% have taken land leased/ mortgage.

Table 4.16. Household savings status

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|-----------------------------|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| % of HH have savings | 46 | 41 | 53 | 31 | 44 | 42 |
| Kept money at home (%) | 9 | 6 | 7 | 15 | 0 | 8 |
| In Bank (%) | 7 | 7 | 1 | 8 | 22 | 7 |
| Land lease/ mortgage in (%) | 4 | 2 | 1 | 1 | 0 | 2 |
| In NGO (%) | 80 | 85 | 90 | 76 | 78 | 83 |

4.7 Involvement with NGO and other Organizations and Microcredit Status

4.7.1 Involvement with NGO and Other Organizations

It is found that 43% of the households (at least one member) are associated with local Non-government Organizations. Other than NGOs the respondents are not involved with other community based organizations and institutions. Regarding the service received from NGO, out of those who are involved with NGOs 94% have received micro credit. Other than micro credit very negligible services are received by the respondents, only 16% and 9% in Caring Char and Urir Char respectively received training from NGO.

Table 4.17. NGO involvement and services received (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|------------------------|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Involvement with NGO | 56 | 45 | 56 | 23 | 35 | 43 |
| Advice on Agricultural | 2 | 1 | 2 | 0 | 3 | 1 |

| | | | | | | |
|--|----|----|----|----|----|----|
| and other farm activities | | | | | | |
| Received Training | 2 | 0 | 0 | 16 | 9 | 2 |
| Received Agri. Input | 0 | 0 | 0 | 2 | 0 | 0 |
| Treatment and vaccination of cattle and poultry bird | 0 | 0 | 1 | 0 | 0 | 0 |
| Service on health and FP | 0 | 0 | 0 | 0 | 0 | 0 |
| Legal aid | 0 | 0 | 0 | 0 | 0 | 0 |
| Assistance received on IGA | 0 | 0 | 4 | 0 | 0 | 1 |
| Employment Opportunity | 0 | 1 | 1 | 0 | 0 | 1 |
| Micro Credit | 96 | 97 | 93 | 82 | 88 | 94 |

4.7.2 NGO- and other loans

Table 4.18 shows the status of NGO micro credit and other loans taken by the households. It is found that major source of loan for the household is NGO (53%) and second source is local money lender (21%). Fifteen percent households have taken loan from neighbours and relatives. Only 2% of the respondents have taken loan from Bank. Average loan size is more or less the same for local money lender, neighbors and relatives.

Table 4.18 Household's NGO microcredit and other loans

| | Char Ziauddin (n=71) | Char Nangulia (n=416) | Noler Char (N=219) | Caring Char (N=201) | Urir Char (N=85) | All (N=992) |
|--|----------------------|-----------------------|--------------------|---------------------|------------------|-------------|
| Bank Loan (% of HH) | 0 | 3 | 1 | 0 | 5 | 2 |
| Average amount Tk. | 0 | 22,333 | 18,000 | 12,000 | 11,000 | 18,900 |
| NGO microcredit (% of HH) | 79 | 59 | 72 | 16 | 40 | 53 |
| Average amount Tk. | 16,760 | 17,554 | 16,824 | 8,109 | 18,117 | 16,708 |
| Loan from Relatives (% of HH) | 4 | 3 | 6 | 15 | 13 | 7 |
| Average amount Tk. | 29,000 | 37,083 | 28,076 | 16,166 | 31,272 | 25,014 |
| Loan from neighbors (% of HH) | 4 | 10 | 23 | 40 | 27 | 8 |
| Average amount Tk. | 13,666 | 30,073 | 15,785 | 19,042 | 52,695 | 25,434 |
| Loan from local money lender (% of HH) | 13 | 26 | 8 | 29 | 15 | 21 |
| Average amount Tk. | 37,777 | 32,612 | 17,944 | 14,706 | 18,000 | 25,558 |

4.8 Migration Status of Households

4.8.1 Duration of the present residence and reason for migration

Average period of residing in these chars is nine years. Average period of residing in Urir char is highest (21 years) and lowest in Caring Char (6 years), in the other three chars it is around 8-9 years. Majority of the households (74%) migrated from other upazilas (Hatiya, Ramgoti, Subarna Char) and 12% from other districts (Chittagong and Bhola). In Char Nangulia, Noler Char and Caring Char the majority of the households migrated from Hatiya Upazila, in Char Ziauddin the majority of the household migrated from Bhola district and Ramgoti upazila and In Urir Char the majority of the households migrated from Sandwip upazila of Chittagong district. The main reason for migration is river erosion (67%) and another one is that the landless households of adjacent upazilas hope to get khas land in newly accreted chars (Table 4.19).

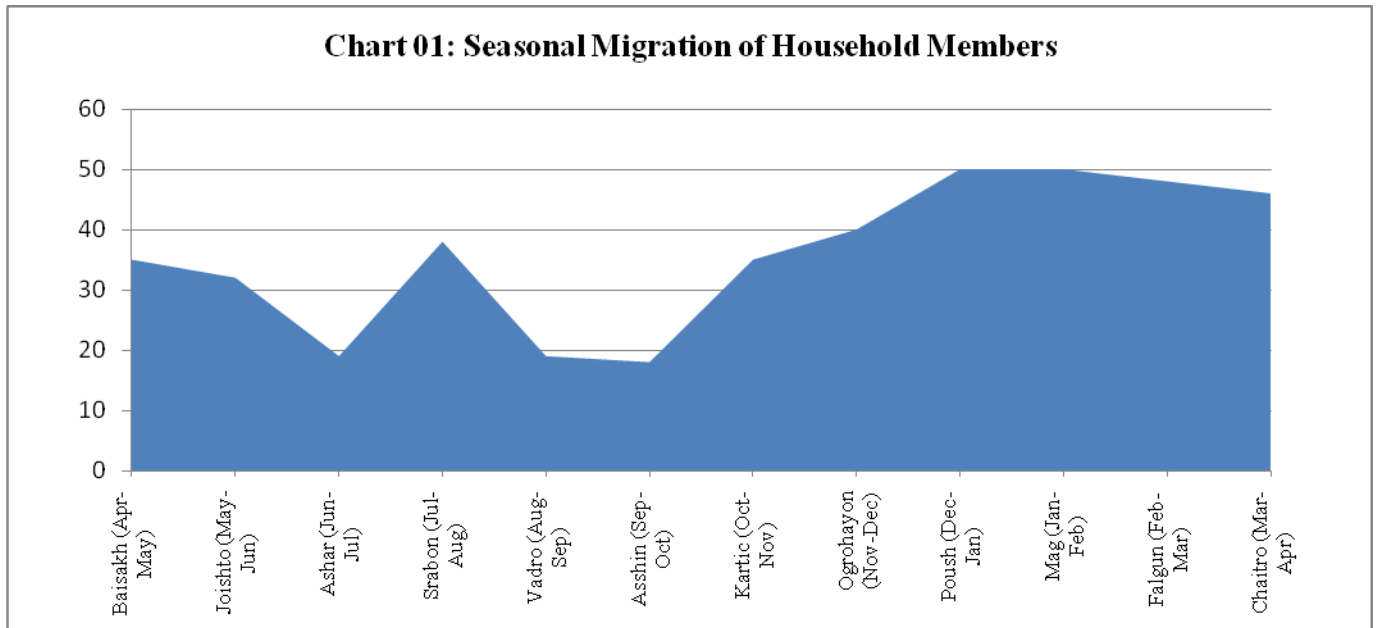
Table 4.19 Duration of residence and reason for migration

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|-----------------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Average years of living this char | 08 | 09 | 09 | 06 | 21 | 09 |
| Migrated from (%) | | | | | | |
| Other Village | 10 | 04 | 0 | 0 | 0 | 2 |
| Other Union | 20 | 23 | 02 | 0 | 0 | 12 |
| Other Upazila | 61 | 66 | 88 | 79 | 75 | 74 |
| Other Zila | 08 | 07 | 10 | 21 | 25 | 12 |
| Reasons for migration (%) | | | | | | |
| River Erosion | 38 | 57 | 86 | 73 | 91 | 67 |
| Got married here | 02 | 01 | 0 | 0 | 0 | 1 |
| To get khas land | 60 | 42 | 14 | 27 | 9 | 32 |

4.8.2 Seasonal Migration

A question was asked if any member of the respondents' family go outside the village for work. The next question asked was on the period of going outside the village. On analysis of the answers, it is found that member(s) of 66% of the household families go outside the village, almost at the same rate from four chars except from Urir char only 27%. Overall in the study area, the percentage of movement varies over the months from lowest 18% in the month of *Asshin* (September-October) to the highest of 50% in the month of *Poush* (December-January) and *Mag* (January-February) (Chart- 01). The scenario of

migration has no major differences among the chars. The reason is that the all these migrated members work in brick field as labour and the production period of brick field is between *Kartik to Baishakh* (November- April).



4.9 Field Crop Cultivation

4.9.1 Cropping Intensity

The average cropping intensity of the entire study area is estimated at 105%, the highest cropping intensity is observed in Char Ziauddin (148%) and the lowest in Char Nangulia (101%). There is no mentionable difference of present cropping intensities in Char Nangulia, Caring Char and Urir Char.

Table 4.20 also shows that rice cultivation in Boro/ Robi season is almost absent in all chars. May be it is due to the high salinity during the dry season and lack of irrigation facilities in the new chars. Vegetable cultivation in the rice field is also very poor (only 3% of households), none of the sample households in Urir Char and Caring Char cultivate vegetable in the rice field. It is also clear from the data that these char lands are being used only for one crop which is *Amon* (Table 8.20).

Table 4.20 Cropping Intensity and Average Area by Crops

| Char | Char | Noler | Caring | Urir | All |
|----------|----------|---------|---------|---------|----------|
| Ziauddin | Nangulia | Char | Char | Char | (N=1400) |
| (N=100) | (N=600) | (N=300) | (N=300) | (N=100) | |

| | | | | | | |
|---------------------------------|-----|-----|-----|-----|-----|-----|
| Average cultivable land (Deci) | 92 | 136 | 102 | 182 | 385 | 154 |
| Average cultivated land (Deci) | 137 | 137 | 121 | 186 | 402 | 163 |
| Cropping intensity (%) | 148 | 101 | 118 | 102 | 104 | 105 |
| Average cultivated land by crop | | | | | | |
| Aush (HH in %) | 27 | 02 | 08 | 05 | 02 | 06 |
| Average area (Deci) | 69 | 104 | 65 | 177 | 255 | 98 |
| Amon (HH in %) | 86 | 86 | 85 | 90 | 89 | 87 |
| Average area (Deci) | 103 | 144 | 122 | 191 | 391 | 165 |
| Boro/Robi (HH in %) | 0 | 01 | 01 | 0 | 02 | 01 |
| Average area (Deci) | 0 | 91 | 43 | 238 | 100 | 98 |
| Other cash crop (HH in %) | 44 | 23 | 35 | 08 | 30 | 24 |
| Average area (Deci) | 66 | 42 | 31 | 57 | 156 | 53 |
| Vegetable (HH in %) | 10 | 02 | 06 | 0 | 0 | 03 |
| Average area (Deci) | 20 | 04 | 07 | 0 | 0 | 01 |

4.9.2 Average production, consumption and sale

The average production per hectare (yield) of rice is given in Table 4.21 and for pulse and other crops in taka. 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 1.9 MT, highest yield estimated 2.4 MT in Char Ziauddin and lowest 1.7 MT in Char Nangulia, which is less than the national average. This is only because more than 99% of the study area cultivate the local variety of rice namely Rajashail. Also for other crops local varieties are used. More than 65% of rice and 55% of pulses and others crops is used for household consumption. 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 average 7 month in a year households can meet up the household needs from their own production.

Table 4.21 Production and income from field crops

| | Char Ziauddin | Char Nangulia | Noler Char | Caring Char | Urir Char | All |
|----------------------------|------------------|------------------|---------------|----------------|--------------|--------|
| Rice | | | | | | |
| Production (MT/ha) | 2.4 | 1.7 | 1.8 | 1.9 | 1.8 | 1.9 |
| Average Production (kg/HH) | 1,167 | 1,051 | 909 | 1,581 | 2,937 | 1,261 |
| Consumption (kg/HH) | 783 | 828 | 762 | 935 | 1,439 | 877 |
| Average Income (Taka/HH) | 20,052 | 14,088 | 12,698 | 22,737 | 41,743 | 17,744 |
| Pulses and other crops | | | | | | |
| Average Income(taka) | 1,621 | 1,978 | 2,745 | 3,987 | 8,742 | 2,128 |

| | | | | | | |
|---------------------|-------|-------|-------|-------|--------|-------|
| Consumption (Taka) | 771 | 763 | 1,158 | 2,723 | 1,862 | 1,126 |
| Total Income (Taka) | 2,392 | 2,741 | 3,903 | 6,710 | 10,604 | 3,254 |

4.9.3 Use of fertilizer and pesticides

Application of organic fertilizer is not very common among the households in all chars. Only 20% of the households use cow dung and 5% use compost. Cow dung is mostly applied in Char Ziauddin, Char Nangulia and Noler Char. Although more than 60% of the households rear cow, due to lack of fire wood in the char areas people mostly use the cow dung as fire wood. The most common chemical fertilizer is urea, 85% of the households use urea and 35% of the households use TSP. Likewise, use of pesticides is common among the households. Average 69% households use pesticides.

Table 4.22 Use of organic and inorganic fertilizer and pesticides

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Urea | 74 | 85 | 85 | 91 | 87 | 85 |
| Guti Urea | 11 | 6 | 13 | 3 | 0 | 8 |
| TSP | 54 | 41 | 45 | 21 | 0 | 35 |
| MP | 2 | 0 | 0 | 0 | 0 | 0 |
| Zink | 1 | 1 | 2 | 0 | 0 | 1 |
| Cow dung | 26 | 25 | 30 | 6 | 2 | 20 |
| Compost | 7 | 3 | 11 | 2 | 0 | 5 |
| Pesticide | 54 | 64 | 72 | 90 | 49 | 69 |
| Pest Control | 5 | 2 | 4 | 0 | 1 | 2 |
| IPM | 2 | 0 | 0 | 0 | 0 | 0 |

4.10 Homestead Gardening

4.10.1 Vegetable cultivation in homestead

From the study it is clear that vegetables are grown mainly in homestead areas. The main vegetable 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 grow in the homestead. Due to lack of irrigation facilities most common winter vegetables like Carrot, Cauliflower and Cabbage are mostly absent in all chars. Local Bean (82%) is the most common vegetable grown in homestead in all the chars.

Table 4.23 Type of vegetable cultivated in homestead (% of HH)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---------------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Bean | 72 | 88 | 78 | 76 | 85 | 82 |
| Long Bean | 30 | 40 | 22 | 40 | 42 | 35 |
| <i>Jali Kumra</i> (Ridge gourd) | 19 | 21 | 22 | 31 | 23 | 23 |
| Bottle Gourd | 40 | 64 | 45 | 67 | 79 | 60 |
| Sweet Gourd | 14 | 23 | 18 | 26 | 29 | 22 |
| <i>Korola</i> (Bitter gourd) | 2 | 6 | 6 | 9 | 11 | 7 |
| <i>Jinga</i> (Ribbed gourd) | 30 | 38 | 33 | 50 | 43 | 39 |
| Dhundul (Sponse gourd) | 48 | 60 | 47 | 56 | 59 | 55 |
| Okra | 2 | 10 | 2 | 9 | 11 | 8 |
| Cucumber | 4 | 8 | 4 | 12 | 41 | 10 |
| Radish | 6 | 8 | 8 | 8 | 18 | 9 |
| Spinach | 4 | 4 | 4 | 2 | 1 | 3 |
| <i>Lal Shak</i> (Red amaranth) | 16 | 21 | 21 | 25 | 39 | 23 |
| <i>Pui shak</i> | 19 | 22 | 22 | 20 | 14 | 19 |

4.10.2 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, these are banana, guava and papaya. Average 33% of the households grows banana, 11% grows papaya and 7% grows guava on the homestead. Consumption of vegetables and fruits grown in homesteads is common. It is observed that on average 40-50% of the total homestead productions are consumed by the household. Average estimated income from homestead gardening is considerable. Income from vegetables is on average 3742 taka/hh/year and from banana guava and papaya 2534, 825 and 970 taka/hh/year respectively. It is noticeable that homestead gardening is mainly done by the female members of the households.

Table 4.24 Production and income from homestead gardening

| | Char Ziauddin | Char Nangulia | Noler Char | Caring Char | Urir Char | All |
|------------------------------|------------------|------------------|---------------|----------------|--------------|------|
| Vegetable (Nos of HH) | 86 | 541 | 234 | 227 | 87 | 1175 |
| Consumption (Taka) | 1083 | 1863 | 1113 | 805 | 2347 | 1488 |
| Sold (Taka) | 1176 | 2162 | 1315 | 1202 | 7142 | 2254 |
| Total Income (Taka) | 2259 | 4025 | 2428 | 2007 | 9489 | 3742 |
| Banana (Nos of HH) | 43 | 210 | 134 | 28 | 50 | 465 |
| Consumption (Taka) | 1138 | 758 | 994 | 585 | 1014 | 878 |
| Sold (Taka) | 1370 | 1475 | 1558 | 815 | 2920 | 1656 |

| | | | | | | |
|---------------------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Total Income (Taka) | 2508 | 2233 | 2552 | 1400 | 3934 | 2534 |
| Guava (Nos of HH) | 7 | 53 | 20 | 3 | 18 | 101 |
| Consumption (Taka) | 248 | 428 | 202 | 400 | 500 | 346 |
| Sold (Taka) | 500 | 427 | 197 | 500 | 1323 | 479 |
| Total Income (Taka) | 748 | 855 | 399 | 900 | 1823 | 825 |
| Papaya (Nos of HH) | 11 | 86 | 60 | 4 | 23 | 148 |
| Consumption (Taka) | 468 | 512 | 421 | 275 | 411 | 486 |
| Sold (Taka) | 337 | 293 | 264 | 600 | 1535 | 484 |
| Total Income (Taka) | 805 | 805 | 685 | 875 | 1946 | 970 |

4.11 Poultry, livestock and aquaculture practices

4.11.1 Poultry rearing status

In a rural Bangladeshi household chicken and duck rearing is very common and they are reared open. The number of livestock depends on the area of the household, supportive environment, security, availability of persons attending etc. Especially duck rearing requires ponds or water bodies around. In many areas chicken and duck are being reared commercially. In some areas swan/ goose is also seen in plenty along with ducks. Pigeon rearing is also becoming popular as it is consumed as well as bought and sold in the market. All these combined are called domestic birds or simply 'Bird'. Traditional bird rearing gives supplementary income and is an important source of protein in the form of egg and meat to the households without much of additional investment.

Table 4.25 shows that on an average 89% of the households in the study area rear poultry. The way of rearing poultry bird is 99% semi scavenging (scavenging plus use of supplementary feed). The average number of birds for each household is 6 chicken and 7 duck. Average egg production per year is 156 from both duck and chicken and total meat production is 36 kg per year. Consumption of eggs (30%) is more than the consumption of meat (17%). Average yearly per household income from eggs is estimated 817 taka and from meat 4,949 taka. The female members of the households reportedly do the activities as regards rearing the poultry birds. In a few cases the male members do the task and the women assist.

Table 4.25 Poultry rearing status, production and income

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Rearing status | | | | | | |
| HH rear poultry (%) | 80 | 92 | 82 | 93 | 93 | 89 |
| Fully scavenging (%) | 03 | 0 | 02 | 0 | 0 | 01 |
| Scavenging plus supplementary feed (%) | 97 | 100 | 98 | 100 | 93 | 99 |

| | | | | | | |
|--------------------------------|------|------|------|------|------|------|
| Fully supplementary feed (%) | 0 | 0 | 0 | 0 | 0 | 0 |
| Average Nos. of Chicken | 04 | 06 | 05 | 06 | 09 | 06 |
| Average Nos. of Duck | 07 | 07 | 06 | 06 | 09 | 07 |
| Annual production of eggs | 275 | 139 | 127 | 208 | 209 | 156 |
| HH consumption of eggs | 84 | 39 | 43 | 56 | 64 | 47 |
| Income from eggs | 1210 | 660 | 760 | 1108 | 1372 | 817 |
| Annual production of meat (Kg) | 47 | 32 | 26 | 42 | 75 | 36 |
| HH consumption of meat (Kg) | 07 | 05 | 03 | 07 | 10 | 06 |
| Income from meat (Tk) | 9009 | 4307 | 4961 | 5010 | 7881 | 4949 |

4.11.2 Livestock rearing status

In an agrarian Bangladesh society livestock are an essential part of any household. They are needed to plough the land, they provide milk and meat and cow dung is the best known fertilizer and may also be used as fuel for cooking, it reproduces fast and sells at a very high price. Cattle hide is one of the major economic and export commodities of the country. However, mechanization of agriculture and transport and advent of chemical fertilizers suddenly replaced the cattle as some of the essential services and many farm households planned their agriculture production without cattle.

Table 4.26 shows that 1053 (75%) sample households are rearing livestock (Cow, Buffalo, Goat and Sheep) in the study area. In the study area 41% of sample households have at least one milking cow, 41% have a bull and 17% have goat. Sheep and buffalo are absent in most of the chars. Only in Urir Char there is a remarkable number of households (12%) with buffalos, with an average number of 7 animals. On average each livestock holding household produces 114 litre of milk per year and the annual income from milk is taka 2,850. The highest average milk production is in Urir Char, 4060 litre/year, which is due to the large number of milking cows and buffalos holding by the households in Urir Char.

Table 4.26 Livestock rearing status, production and income

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|------------------------------|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Nos. of HH rearing livestock | 65 | 468 | 222 | 213 | 85 | 1053 |
| HH with milking cow (%) | 33 | 42 | 45 | 31 | 67 | 41 |
| Average no. of cows | 01 | 01 | 01 | 01 | 02 | 01 |
| Avg. milk production (Lt)) | 99 | 91 | 118 | 104 | 203 | 114 |

| | | | | | | |
|----------------------------|------|------|------|------|------|------|
| Avg. milk consumption (Lt) | 48 | 46 | 70 | 70 | 110 | 64 |
| Avg. income from Milk (Tk) | 2970 | 2730 | 2950 | 2600 | 4060 | 2850 |
| HH with bull (%) | 28 | 47 | 39 | 28 | 67 | 41 |
| Average nos. of bull | 02 | 02 | 02 | 02 | 03 | 02 |
| HH with goat (%) | 10 | 13 | 13 | 28 | 29 | 17 |
| Average nos. of goat | 02 | 02 | 02 | 03 | 03 | 02 |
| HH with buffalo (%) | 01 | 0 | 01 | 0 | 12 | 01 |
| Average nos. of buffalo | 03 | 01 | 07 | 0 | 07 | 06 |
| HH with sheep (%) | 0 | 0 | 0 | 0 | 03 | .20 |
| Average nos. of sheep | 0 | 0 | 0 | 0 | 04 | 04 |

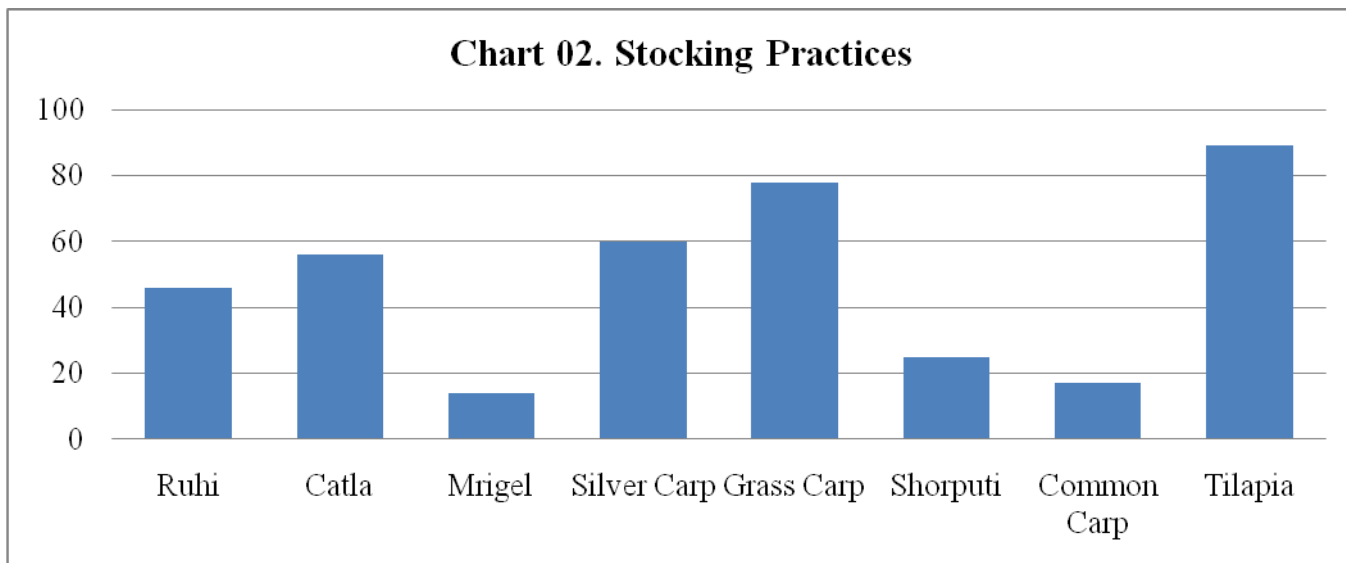
4.11.3 Aquaculture practices

1288 (92%) households have at least one pond/ ditch in the study area. Out of these 663 (51%) culture their pond/ditch. The common practice of fish culture is the traditional way (75%): only stocking and harvesting no feeding or fertilizing. The main two reasons not to culture fish are the flooded of the pond during high tide and in the monsoon (75%) and the water retention period being very low. There is only 2-3 months sufficient water retained for fish culture (23%).

Table 4.27 Pond aquaculture practices

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|-------------------------------------|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| HH with pond/ditch (%) | 92 | 97 | 91 | 81 | 96 | 99 |
| HH culture pond/ditch (%) | 47 | 62 | 42 | 25 | 84 | 51 |
| Type of culture (%) | | | | | | |
| Traditional | 81 | 80 | 82 | 53 | 54 | 75 |
| Semi-intensive | 16 | 19 | 18 | 47 | 43 | 24 |
| Intensive | 02 | 01 | 0 | 0 | 03 | 01 |
| If not cultured why? (%) | | | | | | |
| Flooded during high tide | 55 | 67 | 86 | 82 | 62 | 75 |
| Lack of fingerling and other inputs | 06 | 0 | 0 | 0 | 13 | 01 |
| Risk of theft | 08 | 01 | 01 | 0 | 06 | 01 |
| Low water retention | 31 | 32 | 13 | 18 | 19 | 23 |

The large majority of the households is found to stock Tilapia and Indian major carps, specially Rui and Catla. Silver carp (60%) and Grass carp (78%) are also stocked high in the study area. Major source of fingerling is Local vender (89%).



The average production rate is very low in the study area, (1.74 kg/ deci), which is far below the national average. The highest average production estimate is in Char Ziauddin, 2.8 kg/ deci and the lowest in Noler Char, only 1 kg/ deci. More than 67% of total production from pond/ ditch is used as household consumption. Per household income from the pond is taka 4.515. In Urir Char the per household income is around double than in the other chars, due to the average bigger size of pond/ ditch there.

Table 4.28 Fish production and income

| | Char Ziauddin (n=43) | Char Nangulia (n=362) | Noler Char (n=115) | Caring Char (n=62) | Urir Char (n=81) | All (n=663) |
|----------------------------------|----------------------|-----------------------|--------------------|--------------------|------------------|-------------|
| Average Production (kg/HH) | 37 | 43 | 25 | 30 | 89 | 43 |
| Production (kg/deci) | 2.8 | 1.8 | 01 | 1.9 | 02 | 1.74 |
| Average Consumption (kg/HH) | 28 | 29 | 20 | 25 | 52 | 29 |
| Average income from pond (Tk/HH) | 4070 | 4730 | 2750 | 3000 | 8900 | 4515 |

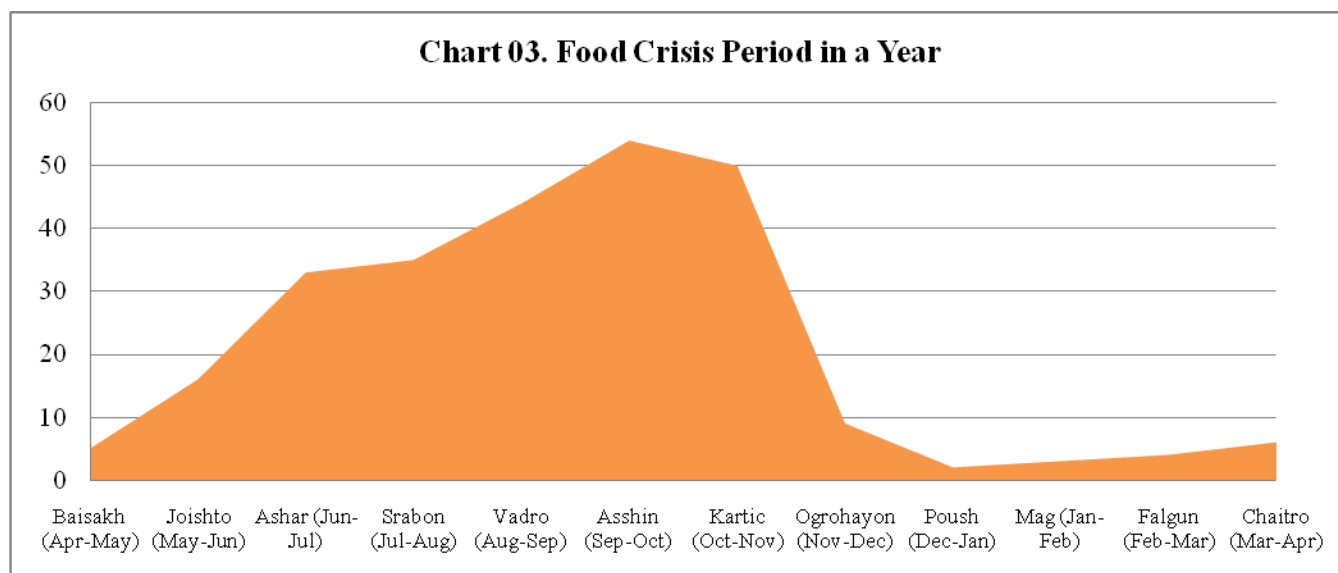
4.12 Food Security

The respondents were asked how many months of a year they can meet their basic food needs from own production. Table 4.29 shows that on average the households can meet their basic food needs from their own production during 7 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 the situation they were asked to

specify the month(s) when it occurs as per *Bangla* calendar. Eighty two percent of the respondents replied that they face such a situation in different months of the year. Chart 03 shows the acute crisis period by month in a year.

Table 4.29 Food Security

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Average months in a year HH meet the basic food needs from own production | 06 | 07 | 06 | 07 | 09 | 07 |
| HH faced acute crisis (%) | 76 | 86 | 73 | 91 | 59 | 82 |



4.12 Accessibility

The mobility of the household members was assessed through asking the respondents whether any member of their household needs to go to 11 specific places like primary school/ madrasha/ college, bazaar, NGO office, hospital, union or upazila office etc. 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.

Naturally the highest proportion of respondents mentioned bazaar/haat (96%) as the place visited by the household members, followed by primary school/ madrasha (51%), and NGO office (34%). It is very interesting to observe that mobility to other places like UP/Upazila health center, UP/Upazila/District

office is very negligible (below 1%). Data has been analyzed on distance, time taken to reach in different seasons only for hat/bazar and primary school/ madrasha. Table 4.30 shows that the average distance to primary school or madrasha is 1 kilometer and nearest hat/bazaar is 2.7 kilometer from the residence of respondents. No roads to go to the school and hat/bazaar are mentioned by 26% and 33% of the respondents respectively. Normally they use the dyke of the crop fields to go to above mentioned places. The remaining 74% and 67% respectively mentioned the *kancha* (earthen) road to go to the school and bazaar. To go to these two places, school and hat/bazaar, in the rainy season it takes 38 minute and 62 minute respectively and in the dry season 30 and 40 minutes respectively.

Table 4.30 Accessibility to primary school/ madrasha and hat/ bazar

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--|-----------------------------|-----------------------------|--------------------------|---------------------------|-------------------------|-----------------|
| Primary School and Hat/Bazar | | | | | | |
| Average distance (km) | 02 | 02 | 01 | 01 | 01 | 01 |
| No road | 14 | 19 | 30 | 51 | 35 | 26 |
| <i>Kancha</i> road | 86 | 81 | 70 | 49 | 65 | 74 |
| Average time taken to reach in rainy season | 49 | 410 | 32 | 32 | 28 | 38 |
| Average time taken to reach in dry season | 39 | 22 | 28 | 25 | 21 | 30 |
| Hat/Bazar (Rural market) | | | | | | |
| Average distance (km) | 05 | 03 | 02 | 03 | 01 | 16 |
| No road | 35 | 25 | 24 | 57 | 36 | 33 |
| <i>Kancha</i> road | 65 | 75 | 76 | 43 | 64 | 67 |
| Average time taken to reach in rainy season | 81 | 59 | 50 | 86 | 29 | 62 |
| Average time taken to reach in dry season | 58 | 48 | 38 | 69 | 23 | 49 |

4.13 Gender and Equity

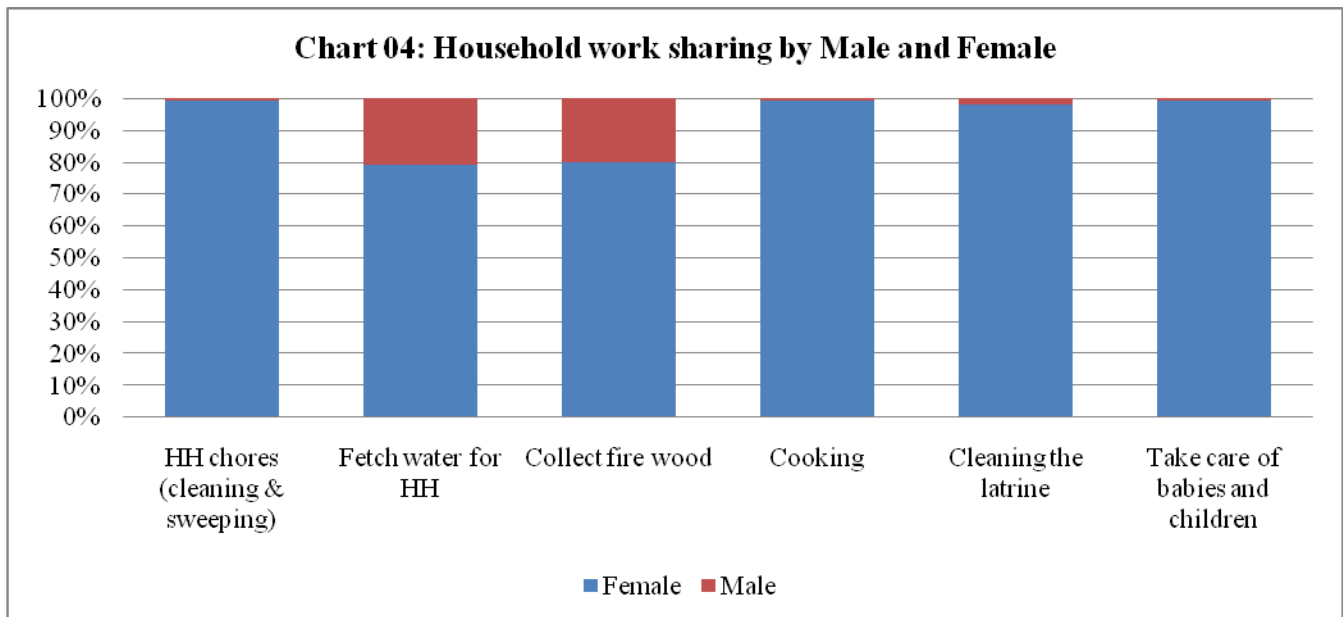
In the study, data are disaggregated by gender wherever necessary and participation of women in different production and related activities (crop cultivation, homestead gardening, fish culture, livestock & poultry) is discussed separately in each chapter. This “Gender and Equity” chapter elaborates mainly gender roles with reference to three broader aspects, namely:

- Participation of family members by gender in household work (other than production activities)
- Participation of family members by gender in decision making process (of selective issues)

- Mobility and exposure of women.

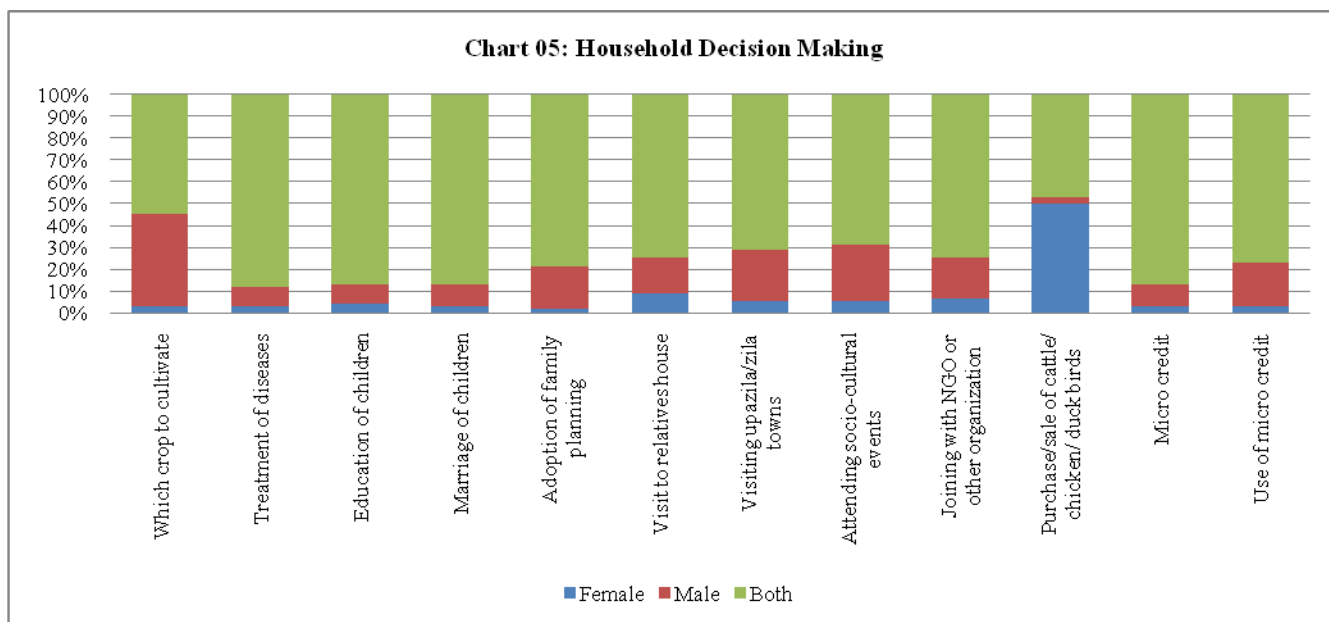
4.13.1 Household Work Sharing Between Female and Male

As most of the activities listed in the questionnaire are reproductive in nature, understandably women are more involved compared to their spouses with some variations between the chars (Chart 04). The activities included are: cleaning household surroundings, cooking, collecting water, collecting fuel for kitchen, cleaning toilet, take care of the children. Result shows that besides collecting drinking water (79%) and collecting fuel for kitchen (80%), adult female members shoulder the full responsibility of cleaning household surroundings (99%), cooking (99%), cleaning toilet (98%) and take care of the children (99%).



4.12.2 Participation of Family Members in Decision-making Process

The study findings show the relative lower position of women in the surveyed area, specifically in decision-making in agriculture, adoption of family planning, attending socio-cultural events and use of micro credit (Chart 05 and Table 4.31).



It appears from Table 4.31 that most of the decisions are undertaken jointly (by husband and wife), ranging from 47% in purchase and sales of poultry and livestock to 88% in treatment. Other cases where participatory decisions are largely taken include: education of children (87%), Marriage of boys and girls (87%), adoption of family planning (79%), receive microcredit (87%) and use of micro credit. Decisions towards purchasing and selling poultry birds are dominated by the female members. There is no significant difference in participation of household members in decision process across the chars.

Table 4.31 Household Decision Making (%)

| | Char Ziauddin (N=100) | | | Char Nangulia (N=600) | | | Noler Char (N=300) | | | Caring Char (N=300) | | | Urir Char (N=100) | | | All (N=1400) | | |
|-----------------------------|-----------------------|----|----|-----------------------|----|----|--------------------|----|----|---------------------|----|----|-------------------|----|----|--------------|----|----|
| | F | M | B | F | M | B | F | M | B | F | M | B | F | M | B | F | M | B |
| Which crop to cultivate | 02 | 51 | 47 | 02 | 31 | 67 | 04 | 53 | 43 | 04 | 44 | 52 | 04 | 44 | 52 | 03 | 42 | 55 |
| Treatment of diseases | 02 | 08 | 90 | 02 | 12 | 86 | 04 | 15 | 81 | 0 | 03 | 97 | 01 | 06 | 93 | 03 | 09 | 88 |
| Education of children | 04 | 08 | 88 | 02 | 11 | 87 | 07 | 13 | 80 | 04 | 0 | 96 | 06 | 02 | 92 | 04 | 09 | 87 |
| Marriage of boys/girls | 02 | 11 | 87 | 03 | 12 | 85 | 03 | 15 | 82 | 02 | 0 | 98 | 05 | 0 | 95 | 03 | 10 | 87 |
| Adoption of family planning | 01 | 18 | 81 | 02 | 14 | 84 | 03 | 21 | 76 | 04 | 22 | 74 | 0 | 42 | 58 | 02 | 19 | 79 |
| Visit to | 17 | 17 | 66 | 08 | 13 | 79 | 16 | 19 | 65 | 04 | 19 | 77 | 06 | 20 | 74 | 09 | 16 | 75 |

| | | | | | | | | | | | | | | | | | | | |
|--|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|--|
| relatives house | | | | | | | | | | | | | | | | | | | |
| Visiting upazila/zila towns | 04 | 36 | 60 | 05 | 17 | 78 | 07 | 25 | 68 | 04 | 27 | 69 | 07 | 28 | 65 | 05 | 24 | 71 | |
| Attending socio-cultural events | 0 | 48 | 52 | 03 | 18 | 79 | 07 | 26 | 67 | 03 | 30 | 67 | 07 | 29 | 64 | 05 | 26 | 69 | |
| Joining with NGO or other organization | 05 | 14 | 81 | 02 | 14 | 84 | 04 | 15 | 81 | 02 | 04 | 94 | 09 | 0 | 91 | 04 | 12 | 48 | |
| Purchase/sale of cattle/ chicken/ duck | 58 | 03 | 39 | 46 | 02 | 52 | 50 | 04 | 46 | 51 | 02 | 47 | 54 | 03 | 43 | 50 | 03 | 47 | |
| Micro credit | 06 | 11 | 83 | 02 | 10 | 88 | 04 | 08 | 88 | 03 | 03 | 94 | 88 | 04 | 08 | 03 | 10 | 87 | |
| Use of micro credit | 03 | 16 | 81 | 02 | 20 | 78 | 02 | 20 | 78 | 03 | 16 | 81 | 78 | 04 | 18 | 03 | 20 | 77 | |

4.13.3 Mobility and Exposure of women

Table 4.32 shows the extent of visit of women to various important places like District and Upazila level offices, hospital and health centers, NGO/CBO offices, Union Parishad and local markets. Women of 60% of the households have access to local hat/bazaar (mainly for purchasing daily necessities). Women of around 30% households visit NGO /CBO offices.

Table 4.32 Women Mobility to Different Places (%)

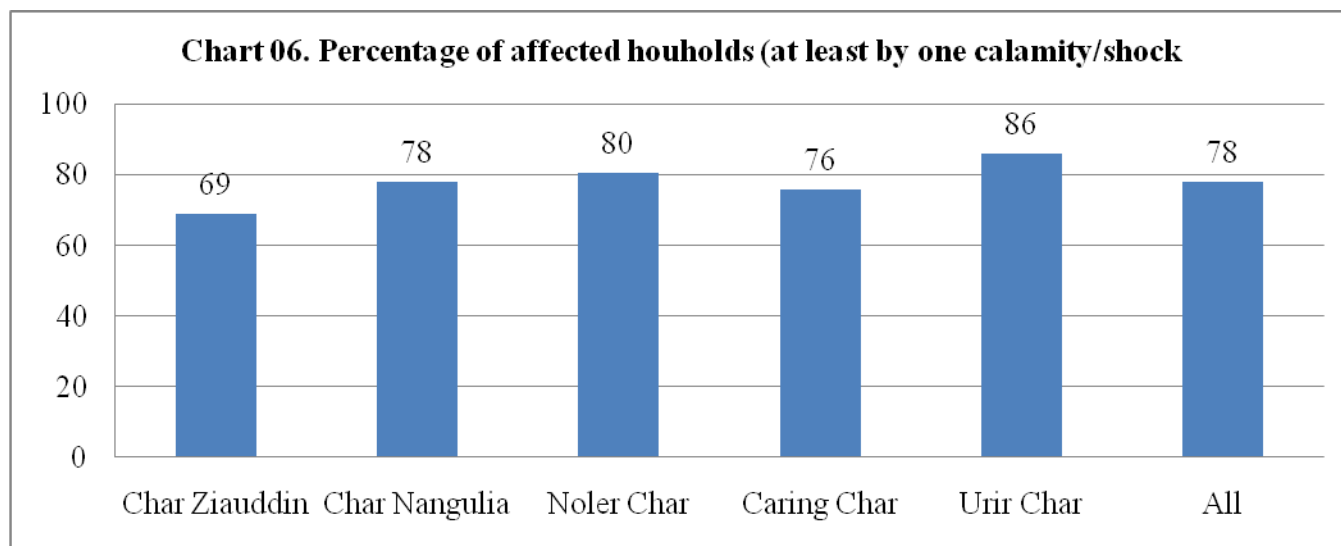
| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|--|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| Local Market /Hat | 48 | 64 | 58 | 70 | 19 | 60 |
| Health center/ clinic | 19 | 17 | 12 | 17 | 03 | 15 |
| Hospital | 10 | 07 | 06 | 04 | 01 | 06 |
| NGO Office/ CBO office | 38 | 36 | 41 | 08 | 16 | 30 |
| National day | 02 | 0 | 01 | 01 | 0 | 01 |
| Union Parishad | 01 | 0 | 01 | 0 | 0 | 01 |
| Upazila Livestock/Agriculture/Fishery/Social welfare offices | 0 | 0 | 0 | 0 | 0 | 0 |
| Upazila social welfare office | 0 | 0 | 0 | 0 | 0 | 0 |
| District level Offices | 0 | 0 | 0 | 0 | 0 | 0 |

4.14 Shocks and Crisis Coping Strategy

Every year Bangladesh experiences one or more disasters and calamities, some are natural and some caused by human beings. Bangladesh witnesses disasters mainly because of its geo-physical characteristics. Flood, cyclone, river erosion and draught are main natural calamities that visit almost on annual basis, and cause damages to infrastructure, assets and losses of lives, both human and animals. Most of the surveyed chars are by and large disaster prone. In addition, people in the rural areas across the country face different kinds of shocks and losses, such as death and/or serious disease of family member, harassment of women, violence, theft of belongings, cattle and or assets, burning of house/asset etc. The survey investigated the kind of such disaster, losses and shocks the sample households faced (if any), their degree/ severity and the way they coped with them.

4.15.1 Accidents, Losses and Problems faced

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 past five years 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.



It has been found that at least 78% households reportedly faced any of the disasters listed in Table4.33 during past five year. The proportion of affected household is highest in Urir Char (86%) and lowest in Char Ziauddin (69%) (Chart-06).

From table 4.33 it is observed that five major disasters were faced in all chars a) loss of crop due to flood/drought (47%) b) displacement due to flood/cyclone/tornado (42%) c) serious disease of any family members (20%) d) loss/ death/ theft of livestock/poultry (15%) and d) dacoity/ theft/ mastanias in house/ business (15%).

Table 4.33 Type of Shocks or Crisis Faced by the HH Last five Years (%)

| | Char Ziauddin (n=69) | Char Nangulia (n=468) | Noler Char (n=240) | Caring Char (n=228) | Urir Char (n=86) | All (N=1091) |
|---|----------------------|-----------------------|--------------------|---------------------|------------------|--------------|
| Death/invalidity of earning member | 1 | 5 | 5 | 1 | 6 | 4 |
| Serious disease of any member | 33 | 22 | 22 | 11 | 17 | 20 |
| Displacement due to Flood/cyclone/ tornado | 33 | 35 | 39 | 67 | 36 | 42 |
| River erosion | 13 | 7 | 13 | 5 | 1 | 8 |
| Loss of crop due to flood/drought | 29 | 37 | 41 | 68 | 76 | 47 |
| Loss/ death/theft of livestock/poultry | 6 | 17 | 7 | 19 | 20 | 15 |
| Dacoity/ Theft/ Mastanias in house/business | 6 | 9 | 7 | 36 | 26 | 15 |
| Loss of business/investment | 1 | 1 | 1 | 0 | 0 | 1 |
| Divorce/separation | 1 | 2 | 1 | 1 | 1 | 1 |
| Dowry | 0 | 3 | 3 | 3 | 0 | 3 |
| Socio-political harassment, including bribe and tolls | 0 | 1 | 2 | 0 | 0 | 1 |
| Women harassment (Violence) | 0 | 1 | 0 | 1 | 0 | 0 |
| House destroyed by fire or other reason | 1 | 2 | 0 | 2 | 0 | 2 |

4.15.2 Coping strategies of disasters

Coping strategy differs a lot with the kind of disaster. Overall about 40% of the households reporting any disaster told that they did nothing. Actually if there is some financial loss, one takes some measures

to overcome the situation. But if it is death of earning member, divorce or river erosion, may be they have very little to act upon.

However, added all the actions the survey results show that highest 67% households coped with such crises by taking cash loan, 28% with the help from relatives, 15% by selling animals/poultry birds. About 10% households did nothing to cope with such accidents or unforeseen happenings (Table 4.34).

Table 4.34 Shocks and Crisis Coping Strategy (%)

| | Char Ziauddin (N=100) | Char Nangulia (N=600) | Noler Char (N=300) | Caring Char (N=300) | Urir Char (N=100) | All (N=1400) |
|---|-----------------------|-----------------------|--------------------|---------------------|-------------------|--------------|
| By selling land, | 6 | 2 | 4 | 2 | 6 | 3 |
| By selling domestic animals/birds, | 7 | 20 | 12 | 9 | 17 | 15 |
| By selling trees | 0 | 1 | 3 | 0 | 0 | 1 |
| With own savings | 16 | 15 | 13 | 14 | 16 | 14 |
| By mortgaging land | 13 | 8 | 16 | 15 | 15 | 12 |
| By mortgaging other assets | 3 | 3 | 2 | 1 | 0 | 2 |
| With help from relatives | 22 | 25 | 20 | 34 | 39 | 28 |
| By taking cash credit | 53 | 53 | 55 | 65 | 73 | 67 |
| By taking materials in credit | 3 | 4 | 4 | 0 | 0 | 3 |
| Aid/relief | 0 | 1 | 2 | 7 | 0 | 2 |
| Complain with police, <i>Salish</i> with the UP, By mobilization of community groups/CBO/ NGOs, | 1 | 0 | 0 | 0 | 0 | 0 |
| Did nothing | 7 | 7 | 7 | 22 | 8 | 10 |

Chapter 5: Conclusions

The discussions and findings above lead us to arrive at a number of conclusions that lead to recommendations for consideration by the project. They are summarized below by section.

5.1 Socio-economic Status

- The education level of household heads and members is significantly low in the char areas compared to the mainland.
- Agriculture and day labor are the main occupation and main source of income.
- Average size of main house (253 sq.ft) is significantly small for around 6 family members and in most of the cases the main house includes kitchen and animal shed.
- Houses are made mostly from mud (floor), bamboo (wall) and straw (roof).
- Poultry and livestock are the most valuable assets for the households.
- Food cost (around 80%) is the main head of household expenditure.

5.2 Health and Sanitation

- Though the tube well water is the main sources of drinking water, it is significantly insufficient in number. Households have to collect water far from their household and spend time accordingly.
- More than 80% of the households use open and unhygienic latrine.
- More or less no practices to wash the hands with soap before taking food and after return from latrine.
- No NGO or Government health worker available in the chars.
- More than 65% of eligible couples do not use family planning methods.

5.3 Field Crops and Homestead Gardening

- Amon is the main crop of the chars; very few households cultivate Aush and other cash crops.
- Application of organic fertilizer is not common, commercial fertilizer and pesticide widely used for crop cultivation.
- Local varieties of most of the crops are cultivated by the farmers, resulting in low crop yields.
- High value vegetables suitable for home gardening are not practiced by the farmers (mostly pit crops are grown for home consumption).
- Necessary technology and support might be provided to women for development of improved kitchen gardens.

- Fruit crops may be introduced/promoted in the surveyed/project areas.
- Among others, marketing assistance may be provided.

5.4 Livestock, Poultry and Aquaculture

- There is scope for increasing goat and sheep rearing in all the chars as those can be handled by any member of the family.
- Poultry rearing could be an important source for additional income and protein for the households. And as poultry is specially reared by the female members of the household, it also leads to female empowerment.
- Compared to the mainland the prices of eggs and milk are very low.
- To ensure fair price, marketing assistance, including communication network development is needed for both livestock and poultry development.
- Women members of households should be specially targeted for development of livestock and poultry.
- Most of the households have a pond/ditch, those are mainly used for domestic purposes (bathing and washing).
- Improved culture practices not used.
- Inconsistent production and income indicates knowledge gap.
- Low price, bad communication and distance of market are the problems in pond aquaculture.

5.5 Food security

- On an average 5 months in a year the households have some sort of food crisis.
- The food crisis periods are mainly during *Joishto to Kartic* (May to November).
- Alternative IGA can help the household to meet up the crisis period.
- Inadequate food security coupled with inappropriate nutritional knowledge and behavior are likely to result in high rates of malnutrition particularly among the nutritionally vulnerable.

5.6 Accessibility

- Accessibility is the major problem for the char dwellers.
- Very few earthen roads are there made by the char dwellers. Most of the area has no roads, so the people have to use the dikes of crop fields for moving to different places.
- A remarkable amount of time the households have to spend to go to local market and other institutions.

5.7 Gender

- Women mostly perform household/reproductive activities as traditional role. Income generating activities are needed for creating opportunity for women to participate in productive role.
- Women are mostly involved in homestead gardening and poultry rearing. They need training to take it as productive activity to supplement family income and furthering women's productive role.
- Household decision making is still dominated by the male members.
- Only to local market and NGO office women have some mobility. Increased mobility to other places like health center, Union Parishod and local service center is essential for their empowerment.

5.7 Disasters and Shocks

- The people of project/surveyed area are highly affected by shocks, calamities and disasters, both natural and man-made, more severe in Urir Char than other chars.
- Increasing income from different household enterprise and available micro credit can help the households to cope with shocks and disasters.

Annex 1: Survey Questionnaire
Char Development and Settlement Project (CDSP) IV
Baseline Survey Questionnaire

| | | | | | | | |
|----|--|--|--|--|--|--|--|
| ID | | | | | | | |
|----|--|--|--|--|--|--|--|

Section A: Household Composition:

- Name of Respondents:..... Relation with HHH:.....
- Address: Para/Moholla/Somaj:..... Vill:.....
Union:..... Upazila:..... Dist:.....
- Household members details:

| S1 | Name of members | Sex (M/F) | Age | Marital status (use code) | Relation with HHH | Education (use code) | Occupation | |
|----|-------------------------|-----------|-----|---------------------------|-------------------|----------------------|------------|-----------|
| | | | | | | | Primary | Secondary |
| 01 | Name:..... F/H:..... | | | | HHH | | | |
| 02 | | | | | | | | |
| 03 | | | | | | | | |
| 04 | | | | | | | | |
| 05 | | | | | | | | |
| 06 | | | | | | | | |
| 07 | | | | | | | | |
| 08 | | | | | | | | |
| 09 | | | | | | | | |
| 10 | | | | | | | | |

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

Relationship Code: Wife-1, Husband-2, Son/Daughter-3, Father/Mother-4, Brother/Sister-5, Grandson/Granddaughter-6

Education Code: Illiterate-1, Can sign only-2, Can read and write -3, Primary CC-4, Primary -5, Secondary CC-6, SSC-7, HSC CC-8, HSC-9, Graduate and above-10,

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

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 | | |
| If no how much land you are occupying |Deci. | | |
| Land by type (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 Shed | | | | |

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, Untreated River/Canal Water-7, Others (specify).....8. | |
| 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 | |

2.3 Health and Family planning

| | |
|---|---|
| Do you and your 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, |

Baseline Survey 2011

| | |
|---|--|
| | 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 locally-2, Materials are costly-3 | |
| | |

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)..... | | | |

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 |
| Wages/Salary | | | Aquaculture | | |
| Trading | | | Fishing | | |
| Rickshwa/Van/Boat | | | Remittance | | |
| Agriculture | | | Handicrafts | | |
| Poultry | | | Selling Fruits/Trees | | |
| Livestock | | | Others | | |

5. HH Annual Expenses

| Head of Expenses | Taka (Last one year) | Head of Expenses | Taka (Last one year) |
|--------------------------|----------------------|--------------------|----------------------|
| Food Cost | | Dowry | |
| Clothing | | Religious Festival | |
| Medical | | Social Ceremonies | |
| Children Education | | Court case | |
| Transport | | Fire wood/Fuel | |
| Marriage of son/daughter | | Others | |

6. Savings Status

- 6.1 Whether your HH have any savings: Yes/No
- 6.2 If Yes, where do you keep the money: Cash at home-1, Bank-2, Land lease/Mortgage In-3, NGO-4.

7. Involvement with NGO or other Organization:

Baseline Survey 2011

- 7.1 Are you or any of HH members involved with any NGO or Local level organization?
Yes/No
- 7.2 If yes, put tick:
 - 1. NGO (Specify the name of NGO).....
 - 2. Water management Group (WMG)
 - 3. Water Management Association (WMA)
 - 4. Water Management Federation (WMF)
 - 5. Local Area Development Committee (LADC)
 - 6. Tube well User Group (TUG)
 - 7. Farmers Forum (FF)
 - 8. Social Forestry Group (SFG)
 - 9. Labor Contracting Society (LCS)
 - 10. Community Based Organization (CBO) of RFLDC
- 7.3 What kind of support do you get from these organizations?
Advice on agriculture and other farm activities-1, Any kind of training-2, Input Support-2, Vaccination for Poultry and Livestock-3, Health and Family Planning-4, Legal Support-5, Other IGA support-6, Employment-7, Micro Credit-8, Others.....-9
- 7.3 Do you or any of your HH members take loan from NGO or Other Sources? Yes/NO
- 7.4 If yes please mentioned the details;

| Sources | Amount (Tk) | Purpose (use code) | Actual Use (Use code) | Interest rate | Outstanding Tk |
|--------------------|-------------|--------------------|-----------------------|---------------|----------------|
| Bank | | | | | |
| NGO | | | | | |
| Relatives | | | | | |
| Neighbors | | | | | |
| Local Money Lender | | | | | |
| Others..... | | | | | |

Purpose Code: Agriculture-1, Aquaculture-2, Poultry/Livestock-3, House Construction/Repairing-4, Treatment-5, Household Consumption-6, Festival/Social Ceremonies-7. Marriage of son/daughter-8, Court case/toll/bribe -9

Section C. Migration Issues

| | | | |
|----|--|---|-----------------------|
| 01 | For how long you are living in this house? | Years | |
| 02 | Place of previous residence (please mention the name) | Different house..... Different village..... Different union..... Different upazila..... Different district..... Others (specify) | 1 2 3 4 5 |
| 03 | Reasons for migration | River Erosion Marriage Better Employment Other..... | 1 2 3 4 |
| 04 | Whether any member of your HH temporarily goes outside for work during any part of the year? | Yes, go Don't go | 1 2 |
| 05 | 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 | |
| 06 | During these period who look after the HH and Farm Activities | 01. Husband, 02. Wife, 03. Son, 04. Daughter 05. Others..... | |

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

1. Crops

1.1 Field Crops

| Crops | Area Cultivated (Deci) last one year | Variety/Species | | Crops | Area Cultivated (Deci) last one year | Variety/Species | |
|----------------|--------------------------------------|-----------------|-----|---------------------------------|--------------------------------------|-----------------|-----|
| | | Local | HYV | | | Local | HYV |
| Aus | | | | Bean | | | |
| Amon | | | | Long Bean | | | |
| Robi/Boro | | | | <i>Jali Kumra</i> (Ridge gourd) | | | |
| <i>Keshari</i> | | | | Bottle Gourd | | | |
| <i>Mug</i> | | | | Sweet Gourd | | | |
| <i>Felon</i> | | | | <i>Korola</i> (Bitter gourd) | | | |
| <i>Moshuri</i> | | | | <i>Jinga</i> (Ribbed gourd) | | | |

Baseline Survey 2011

| | | | | | | | |
|-------------------|--|--|--|------------------------------------|--|--|--|
| <i>Mash Kolai</i> | | | | Dhundul (Sponse gourd) | | | |
| Soybean | | | | Okra | | | |
| Mastered | | | | Cucumber | | | |
| Ground nut | | | | Radish | | | |
| Water melon | | | | Carrot | | | |
| Musk melon | | | | Cauliflower | | | |
| Chilli | | | | Cabbage | | | |
| Onion | | | | Spinach | | | |
| Garlic | | | | <i>Lal Shak (Red amaranth)</i> | | | |
| Coriander | | | | <i>Danta (Stem amaranth)</i> | | | |
| | | | | <i>Pui shak</i> | | | |

1.2 Income from Field Crops (Last one year)

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

1.3 Homestead gardening

| Type | Consumption | | Sales | |
|-------------------------|-------------|------|-------|------|
| | Kg | Taka | Kg | Taka |
| Leafy & other vegetable | | | | |
| Banana | | | | |
| Guava | | | | |
| Papaya | | | | |
| Lemon | | | | |
| Coconut | | | | |
| Others fruits..... | | | | |

1.4 Use of fertilizers and pesticides

| Type | Yes-1, No-0 | Type | Yes-1, No-0 |
|-----------|-------------|----------|-------------|
| Urea | | Cow dung | |
| Guti Urea | | Compost | |

| | | | |
|------|--|--------------|--|
| TSP | | Pest Control | |
| MP | | Pesticide | |
| Zink | | IPM | |

2. Poultry Birds

| 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 | | | | | | |
| Pigeon | | | | | | |

3. 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 | | | | | | | |

4. Pond Aquaculture

4.1 Culture Status

| | |
|---|--|
| Do you culture fish in your pond/ditch? | Yes/No |
| If yes, Type of Culture: | 1. Traditional Method (Only stocking and Harvesting no feeding fertilizing, Species combination and density not followed properly) 2. Semi Intensive (Species combination and density followed properly but irregular feeding fertilizing) 3. Intensive (Species combination and density followed properly and regular feeding fertilizing) |
| If No, Why? | 1- Pond/ditch flooded during high tide, 2- Lack of fingerling and other input, 3- Risk of theft 4- Lack of sufficient water round the year. 5- Others..... |

4.2 Production and Income

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

| | | | | | |
|--|--|--|--|--|--|
| | | | | | |
|--|--|--|--|--|--|

Section E: Food Security, Quality and Self Sufficiency

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

| 1. Month | | Severity (Put Tick) | | |
|----------|-----------|---------------------|-------------|-----------|
| | | Acute crisis | Some crisis | No crisis |
| 1 | Boishakh | | | |
| 2 | Joishtho | | | |
| 3 | Asar | | | |
| 4 | Srabon | | | |
| 5 | Bhadro | | | |
| 6 | Ashin | | | |
| 7 | Kartik | | | |
| 8 | Agrahaion | | | |
| 9 | Poush | | | |
| 10 | Magh | | | |
| 11 | Falgun | | | |
| 12 | Choitro | | | |

3. Please mention the food items cooked and eaten by the HH members during normal period and the period of (acute) shortage?

| Normal period | | Acute period | |
|---------------------------------|--|---------------------------------|--|
| Type of food cooked or eaten? | Number of days eaten per weakly? (days) [Don't know=9] | Type of food cooked or eaten? | Number of days eaten per weakly? (days) [Don't know=9] |
| 1. Rice | | 1. Rice | |
| 2. Wheat /Ata | | 2. Wheat /Ata | |
| 3. Green leafy vegetables | | 3. Green leafy vegetables | |
| 4. Yellow and orange vegetables | | 4. Yellow and orange vegetables | |
| 5. Other vegetables | | 5. Other vegetables | |
| 6. Pulse | | 6. Pulse | |
| 7. Fresh fish | | 7. Fresh fish | |
| 8. Eggs | | 8. Eggs | |
| 9. Meat | | 9. Meat | |

| | | | |
|---|--|--|--|
| 10. Milk / Milk products | | 10. Milk / Milk products | |
| 11. <i>Cheena/ Kwan</i> | | 11. <i>Cheena/ Kwan</i> | |
| 12. Collected/ wild vegetables (<i>sapla/saluki/Kachu</i>) | | 12. Collected/wild vegetables (<i>sapla/saluki/Kachu</i>) | |
| 13. Dry fish | | 13. Dry fish | |
| 14. Banana | | 14. Banana | |
| 15. Sour fruits and vegetables | | 15. Sour fruits and vegetables | |
| 16. Other fresh fruits and vegetables | | 16. Other fresh fruits and vegetables | |

Section F: Accessibility to key services

| <i>[Please ask the question in the 1st column for each institution. if applicable, then ask next column]</i> | | | | | | | |
|---|-----------------------|-----------------------------------|--------------|---------------------------------|--|---------------------------------|--|
| 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 | Junior/High school | | | | | | |
| 3 | College | | | | | | |
| 4 | Madrasa | | | | | | |
| 5 | Growth centre/market | | | | | | |
| 6 | Near Hospital/ Clinic | | | | | | |
| 7 | NGO Office | | | | | | |
| 8 | CBO Office | | | | | | |
| 9 | Union Parishad | | | | | | |
| 10 | Upazila Sadar | | | | | | |
| 11 | District Sadar | | | | | | |

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

Section G: Gender roles and participation in Community Activities

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 | Who collects fuel (fire wood) for the household? | | |
| 3 | Who usually clean court yard/ homestead vegetable garden? | | |
| 4 | Who cleans your latrine? | | |
| 5 | Other domestic works | | |

2. Participation of women in decision-making process at family level

| Sl # | Issues | Who decides? (Code) |
|--|---|---------------------|
| 1 | Which crop to cultivate | |
| 2 | Treatment of diseases | |
| 3 | Education of children | |
| 4 | Marriage of children | |
| 5 | Adoption of family planning | |
| 6 | Visit to relatives house | |
| 7 | Visiting upazila/zila towns | |
| 8 | Attending socio-cultural events | |
| 9 | Joining with NGO or other organization | |
| 10 | Purchase/sale of cattle/ chicken/ duck birds | |
| 11 | Micro credit | |
| 12 | Use of micro credit | |
| 13 | Purchase/mortgage (in/out) of agricultural land | |
| 14 | Purchase/sold of ornaments | |
| 15 | Household expenses | |
| Code: 1-Husband, 2- Wife, 3-Both, 9- Not applicable | | |

3. Whether women of your household visit the following places

| Places | | 1- Yes, 2- No | If yes, Seldom-1, Occasionally-2, Frequently-3 |
|--------|--|---------------|--|
| 1. | Local Market /Hat | | |
| 2. | Health center/ clinic | | |
| 3. | Hospital | | |
| 4. | NGO Office/ CBO office | | |
| 5. | National day | | |
| 6. | Union Parishad | | |
| 7. | Upazila Livestock/Agriculture/Fishery/Social welfare offices | | |
| 8. | Upazila social welfare office | | |
| 9. | District level Offices | | |

Section H: 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) | | |

***Code:** 1-Severe, 2- moderate, 3-Low

****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, *Salish* with the UP, By mobilization of community
groups/CBO/ NGOs, 12- Did nothing, 13. Others (specify).....

Annex 2: List of Shomaj

Sample Distribution by Shomaj

| Baseline Survey Sample Distribution of Char Ziauddin | | | | | |
|--|-------------|-------------------------------|-------------|-----------------------|----------------|
| Name of Char | Shomaj Code | Name of Village | Nos of HH | Sample Village/Shomaj | Nos. of Sample |
| Char Ziauddin | 001001 | Manna/Shahabuddin Shomaj | 230 | S | 25 |
| | 001002 | Abdur Rab Shomaj | 100 | | |
| | 001003 | Khaliler/Lalkalur Shomaj | 265 | | |
| | 001004 | Shafi Neta Shomaj | 220 | S | 25 |
| | 001005 | Folder Shomaj | 180 | | |
| | 001006 | Mohammadia Bazar | 220 | | |
| | 001007 | Mostafa Shomaj | 120 | S | 15 |
| | 001008 | Hoshenmiar Shomaj | 108 | | |
| | 001009 | Edris Majir Shomaj | 160 | | |
| | 001010 | Char Ziauddin Bazar Shomaj | 325 | S | 35 |
| | 001011 | Chowdhury Majir Shomaj | 185 | | |
| | 001012 | Siraj Bepari/Rahmatpur Shomaj | 130 | | |
| Total Sample for Char Ziauddin | | | 2243 | 4 | 100 |

| Baseline Survey Sample Distribution of Char Nangulia | | | | | |
|--|-------------|----------------------------------|-----------|-----------------------|----------------|
| Name of Char | Shomaj Code | Name of Village | Nos of HH | Sample Village/Shomaj | Nos. of Sample |
| Char Nangulia | 002001 | Rasulpur/Kabir Ahmed Shomaj | 200 | S | 25 |
| | 002002 | Dakshin Mohammadpur/Karim Shomaj | 175 | | |
| | 002003 | Haji gram | 300 | S | 30 |
| | 002004 | Bhuiyan Gram | 250 | | |

Baseline Survey 2011

| | | | | | |
|--|--------|-----------------------------------|-------------|-----------|------------|
| | 002005 | Purbo Bansh Khali | 100 | | |
| | 002006 | Uttar Mohammadpur | 100 | | |
| | 002007 | Char Nangolia 4 No Ward | 250 | S | 25 |
| | 002008 | 24 Dag (Purba Char Majid) | 200 | | |
| | 002009 | Nabogram (Purba Char majid) | 200 | | |
| | 002010 | Paschim Belal Bazar Masjid Shomaj | 150 | S | 20 |
| | 002011 | Haji Para (Chmber Plot) | 160 | | |
| | 002012 | Noya Para | 200 | | |
| | 002013 | Nabir Pukur Masjid Shomaj | 100 | | |
| | 002014 | Rani Gram | 250 | S | 25 |
| | 002015 | Uttar Pashchim Chowdhury Gram | 100 | | |
| | 002016 | Molla Gram | 250 | S | 30 |
| | 002017 | Adorsho Gram | 400 | | |
| | 002018 | Pashchim Miaji Gram | 120 | | |
| | 002019 | Rasel Gram | 150 | | |
| | 002020 | Nasirpur/Kaladaur Bazar | 300 | S | 30 |
| | 002021 | Dakshin Chowdhury Gram | 200 | | |
| | 002022 | Dakshin Purbo Chowdhury Gram | 200 | S | 20 |
| | 002023 | Purbo Miaji Gram | 120 | | |
| | 002024 | 40 Dag | 60 | | |
| | 002025 | Mohammadpur | 150 | S | 15 |
| | 002026 | Pashchim Faridpur (Masjid market) | 190 | | |
| | 002027 | Purbo Char Bashar | 300 | | |
| | 002028 | Pashchim Char Bashar | 400 | S | 50 |
| | 002029 | Dakshin Hemayetpur Mosjid Shomaj | 200 | | |
| | 002030 | Rasulpur | 180 | | |
| | 002031 | Purba Faridpur | 200 | S | 25 |
| | | Sub Total | 6155 | 11 | 295 |
| | 002032 | Dakshin Kerani Bazar | 200 | | |
| | 002033 | 30 dag | 60 | | |
| | 002034 | Tara Market | 150 | S | 20 |
| | 002035 | 40 Dag | 80 | | |
| | 002036 | Jashimuddin 50 dag | 75 | | |
| | 002037 | Alauddin Shomaj | 100 | | |
| | 002038 | Fakir Market | 100 | S | 10 |
| | 002039 | Beker Bazar | 150 | | |
| | 002040 | Babri Mosjid Shomaj | 100 | S | 10 |

Baseline Survey 2011

| | | | | | |
|--|--------|---------------------------------------|-------------|----------|------------|
| | 002041 | Abdul Haque Masjid Shomaj | 100 | | |
| | 002042 | Musa Mia Masjid Shomaj | 100 | | |
| | 002043 | Kabir Chaowdhury Shomaj | 100 | S | 10 |
| | 002044 | Purbo Belal Bazar | 150 | | |
| | 002045 | Rahmatpur 200 Dag | 200 | | |
| | 002046 | Bissho Pur | 150 | S | 15 |
| | 002047 | Islampur | 150 | | |
| | 002048 | Tuba Kathi | 200 | S | 25 |
| | 002049 | Salim bazar | 100 | | |
| | 002050 | Sayed Pur | 150 | | |
| | 002051 | Sariyat Pur (Rickshwa Para) | 150 | S | 15 |
| | 002052 | 40 Dag | 100 | | |
| | 002053 | Purbo Rob Bazar | 100 | | |
| | 002054 | Uttar Komolar Market | 100 | | |
| | 002055 | Siraj Koloni Masjid Shomaj | 100 | S | 15 |
| | 002056 | Haji Iddris Bazar | 200 | | |
| | 002057 | Rasul Pur (Zaker Shomaj) | 150 | | |
| | 002058 | Pashchim Dakshin Akram bazar | 100 | | |
| | 002059 | Al-Amin Shomaj (Solaman Bazar Shomaj) | 225 | S | 30 |
| | 002060 | Kabir Shomaj | 150 | | |
| | | Sub Total | 3790 | 9 | 150 |
| | 002061 | Chan Khola | 200 | S | 25 |
| | 002062 | Char Jamil | 200 | | |
| | 002063 | Sayed Pur | 200 | | |
| | 002064 | Nur Mohammad Shomaj | 130 | S | 20 |
| | 002065 | Karamotpur Shomaj | 120 | | |
| | 002066 | Alimpur Shomaj | 80 | | |
| | 002067 | Dakshin Char Noman Masjid Shomaj | 150 | S | 20 |
| | 002068 | Bitul Mamur Masjid Shomaj | 150 | | |
| | 002069 | Barak Shomaj | 100 | | |
| | 002070 | Mojam Market | 150 | S | 20 |
| | 002071 | Hemayet Bazar | 150 | | |
| | 002072 | Obyedia Masjid Shomaj | 150 | | |
| | 002073 | 50 Acar Masjid Shomaj | 200 | S | 25 |
| | 002074 | Pashchim Char Akram | 150 | | |
| | 002075 | Uttar Purbo Char Noman | 150 | | |
| | 002076 | Samsuddin Deputi Masjid Shomaj | 150 | S | 15 |

Baseline Survey 2011

| | | | | | |
|---------------------------------------|--------|--|--------------|-----------|------------|
| | 002077 | Char Noman | 200 | | |
| | 002078 | Pashchim Char Kanko | 200 | | |
| | 002079 | Uttar Char Mojam | 100 | | |
| | 002080 | Char Lakshmi Mojam Shomaj | 200 | S | 20 |
| | 002081 | Char Akram masjid Shomaj | 200 | | |
| | 002082 | Ismail Bazar/ Akram Chowdhury Bazar Shomaj | 200 | S | 25 |
| | | Sub Total | 3530 | 8 | 170 |
| Total Sample for Char Nangulia | | | 13475 | 28 | 615 |

| Baseline Survey Sample distribution of Noler Char | | | | | |
|--|--------------------|-----------------------------------|------------------|------------------------------|-----------------------|
| Name of Char | Shomaj Code | Name of Village | Nos of HH | Sample Village/Shomaj | Nos. of Sample |
| Nolar Char | 003001 | Islampur | 180 | S | 25 |
| | 003002 | Mannan Nagor | 270 | | |
| | 003003 | Mowlovi Gram | 300 | | |
| | 003004 | Molla Gram | 170 | S | 25 |
| | 003005 | Poshchim Adorsho Gram Chanandi | 160 | | |
| | 003006 | Purbo Adorsho Gram | 200 | | |
| | 003007 | Al Amin Shomaj | 250 | S | 30 |
| | 003008 | Dokshin Al Amin Shomaj | 150 | | |
| | 003009 | Uttar Azim Nagor | 180 | | |
| | 003010 | Rosulpur Daroga Bazar | 180 | S | 25 |
| | 003011 | Aladin (Ziar Bazar) | 165 | | |
| | 003012 | Poshchim Adorsho Gram | 200 | | |
| | 003013 | Poshchim Adorsho Gram Ghat | 100 | S | 15 |
| | 003014 | Purbo Adorsho Gram | 150 | | |
| | 003015 | Uttar Shantipur | 200 | | |
| | 003016 | Dakshin Azim Nagor | 300 | S | 40 |
| | 003017 | Purbo Azim Nagor (Madrasha Bazar) | 350 | | |

Baseline Survey 2011

| | | | | | |
|-----------------------------------|--------|--|-------------|-----------|------------|
| | 003018 | Purbo Azim Nagor Leski | 120 | | |
| | 003019 | Uttar Musapur | 250 | S | 30 |
| | 003020 | Dakshin Musapur | 300 | | |
| | 003021 | Modhya Musapur | 350 | | |
| | 003022 | Purbo Mazlishpur (Bangla bazar) | 200 | S | 25 |
| | 003023 | Modhya Mazlishpur | 250 | | |
| | 003024 | Uttar Mazlishpur | 230 | | |
| | 003025 | Dakshin Mazlishpur (Killar Bazar) | 210 | S | 25 |
| | 003026 | Dakshin Purbo Musapur | 185 | | |
| | 003027 | Modhya Shantipur | 150 | | |
| | 003028 | Dakshin Shantipur | 150 | S | 20 |
| | 003029 | Rahmatpur | 350 | | |
| | 003030 | Dakshin Azimnagar (Mohammadpur) | 250 | | |
| | 003031 | Tazimpur | 150 | S | 20 |
| | 003032 | Shabnaji Mashjid Shomaj (Project part) | 250 | S | 20 |
| Total Sample of Noler Char | | | 6900 | 12 | 300 |

| Baseline Survey Sample Distribution of Caring Char | | | | | |
|---|-------------|---------------------|-----------|-----------------------|----------------|
| Name of Char | Shomaj Code | Name of Village | Nos of HH | Sample Village/Shomaj | Nos. of Sample |
| Caring Char | 004001 | Krishnonagar Shomaj | 250 | S | 25 |
| | 004002 | Bathan Khali | 200 | | |
| | 004003 | Chowdhury Gram | 200 | | |
| | 004004 | Adarsho gram Leski | 250 | S | 25 |
| | 004005 | Motipur | 270 | | |
| | 004006 | Dhanshiree | 150 | | |
| | 004007 | Mohammadpur | 230 | S | 20 |
| | 004008 | CDSP Gram | 100 | | |
| | 004009 | Islampur | 175 | | |
| | 004010 | Rasulpur | 250 | S | 25 |

Baseline Survey 2011

| | | | | | |
|------------------------------------|--------|------------------------|-------------|-----------|------------|
| | 004011 | Mula Gram | 150 | | |
| | 004012 | Molla Gram | 200 | | |
| | 004013 | Mowlobi Gram | 250 | S | 25 |
| | 004014 | Adarsho Gram | 275 | | |
| | 004015 | Hajipur Gram | 260 | | |
| | 004016 | Shahebani Bazar Shomaj | 270 | S | 30 |
| | 004017 | Kuddus Howlader Shomaj | 400 | | |
| | 004018 | Hasina Nagar | 250 | | |
| | 004019 | Joypur Shomaj | 700 | S | 70 |
| | 004020 | Mojib Nagar | 170 | | |
| | 004021 | Poshchim Mojib Nagar | 100 | S | 10 |
| | 004022 | Dakshin Mojib Nagar | 80 | | |
| | 004023 | Uttar Mojib Nagar | 120 | S | 10 |
| | 004024 | Ali Ahmed Shomaj | 350 | | |
| | 004025 | Nijampur Shomaj | 600 | S | 60 |
| | 004026 | Jaggonatpur Mondir | 120 | | |
| Total Sample of Caring Char | | | 6370 | 10 | 300 |

Baseline Survey Sample Distribution of Urir Char

| Name of Char | Shomaj Code | Name of Village/Shomaj | Nos of HH | Sample Village/S homaj | Nos. of Sample |
|--------------|-------------|---|-----------|------------------------|----------------|
| Urir Char | 005001 | Coloni bazar Moshjid Shomaj | 150 | s | 20 |
| | 005002 | Moulana Iddris Shaheb Mosjid Shomaj | 100 | | |
| | 005003 | Pakistan Mosjid Shomaj | 85 | | |
| | 005004 | 5 No. Digi Mosjid shomaj | 56 | | |
| | 005005 | 4 no. ward Forest Office D. Mosjid Shomaj | 60 | s | 7 |
| | 005006 | Salamat Koner Mosjid Shomaj | 45 | | |
| | 005007 | Mostafiz Shaheber Mosjid Shomaj | 140 | s | 10 |
| | 005008 | Shahid Mostan Achrayan Shomaj | 150 | | |
| | 005009 | Police Fari Mosjid Shomaj | 52 | | |
| | 005010 | Moulana Iddris Shaheber Mosjid Shomaj (North) | 20 | s | 10 |
| | 005011 | Ayoub Alir Mosjid Shomaj | 60 | | |
| | 005012 | Din Mohammad Kamler Mosjid Shomaj | 125 | s | 12 |
| | 005013 | Janata Bazar Mosjid Shomaj | 300 | s | 17 |

Baseline Survey 2011

| | | | | | |
|--------------|--------|------------------------------------|-------------|---|------------|
| | 005014 | Banglabazar Mosjid shomaj | 240 | s | 12 |
| | 005015 | Miarbazar Mosjid shomaj | 200 | s | 12 |
| | 005016 | hafez Nazim uddin Mosjid Shomaj | 60 | | |
| | 005017 | Darber Madrasha/Mosjid Shomaj | 50 | | |
| | 005018 | Anjumazir Namarbazar Mosjid Shomaj | 220 | | |
| | 005019 | Rajib bazar Mosjid Shomaj | 100 | | |
| | 005020 | Salim Batynnar Shomaj | 20 | | |
| Total | | | 2233 | | 100 |