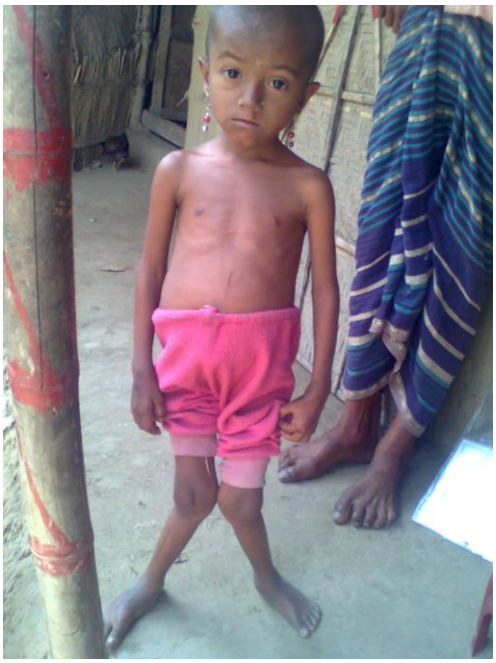
BASELINE SURVEY ON CHILD - CENTERED APPROACHES TO PREVENTABLE DISABILITY (CCAPD) PROJECT

FINAL REPORT



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Acknowledgment

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We have tried to do our best in completing the assignment within the given parameters. The survey revealed consistent findings from all the study sub-segments and this has been possible due to all out support we have received from the Project and SARPV officials in Dhaka and outside. Mr. Shahidul Haque, Chief Executive, SARPV has been instrumental for mobilizing the support, both technical and otherwise that enabled successful completion of the survey. We express our deep appreciation to him and to his colleagues for their support.

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At the end we thank all those who have contributed to this survey implementation process of any magnitude but not mentioned above.

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Abbreviations and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
BDHS	Bangladesh Demographic and Health Survey
BMMS	Bangladesh Maternal Mortality and Maternal Health Services
CBO	Community Based Organization
CNC	Community Nutrition Centre
CNP	Community Nutrition Promoter
CSO	Civil Society Organization
CwD	Children with Disability
DCI	Data Collection Instrument
EBF	Exclusive Breast Feeding
FGD	Focus group discussion
FP	Family Planning
FP/HW	Family Planning Health Worker
FWA	Family Welfare Assistant
GoB	Government of Bangladesh
HA	Health Assistant
HH	Household
HI	Health Instructor
HIV	Human Immunodeficiency Virus
IDI	In-depth Interviews
KII	Key informant interviews
MBBS	Bachelor of Medicine and Science
NGO	Non Government Organization
NNP	National Nutrition program
NSDP	NGO Service Delivery Program
PCSL	Pathways Consulting Services Ltd.
PwD	People with Disability
RMP	Rural Medical Practitioner
SARPV	Social Assistance and Rehabilitation for the Physically Vulnerable
SRS	Systematic Random Sampling
ToR	Terms of Reference
UHFPO	Upazila Health and Family Planning Officer
UNO	Upazila Nirbahi Officer
UP	Union Parishad
VARD	A local NGO

EXECUTIVE SUMMARY

Study background

This is the Baseline survey of the CCAPD project being implemented by SARPV in 12 upazilas in 3 districts namely Cox's Bazar, Sunamgonj and Gazipur. This initiative is a joint collaboration of SARPV and Healthlink Worldwide. The goal of the Project is to prevent Rickets among children through 1) Nutritional knowledge and awareness, 2) Recognition of the symptoms, and 3) Access to treatment. SARPV will implement the project directly in all the upazilas except the two upazilas from Sunamgonj where SARPV will select suitable local partners (NGO/CSO) for the task.

This agency (PCSL) has conducted this Baseline survey with technical collaboration of SARPV. The objectives of the survey include establishing a benchmark of the project in the 12 project upazilas about prevalence of rickets in children of different age groups below 15 years, and also to identify the state of knowledge and attitude of the stakeholders regarding rickets and disability in the area with special focus on nutritional knowledge, food habit and access to treatment.

A combination of qualitative and quantitative method has been adopted to collect information from the project areas. Independent questionnaire survey was conducted among 1,920 randomly selected mothers or caretakers of 1-15 year age children in all the 12 upazilas, and in-depth interview/discussion were held with 11 other stakeholders in 6 upazilas to supplement the survey findings. Separate data collection instruments were used to collect information for each respondent group.

Profile of the respondents:

The respondents are the mothers/caretakers of the children aged 1-15 years and they are mostly (98%) females and their average age is 30 years. The main occupations of the husbands are unskilled and skilled laborer, farmer, trading/business and rickshaw/van pulling. The respondents mostly (90%) live in their own land although more than one third do not own any other land, only one-third of the households has electricity connection and majority (55%) use cell phone. The estimates are seen to vary a lot by district and more so by upazila.

For a comparative economic classification of the upazilas, the households were grouped under five asset quintile based on ownership of selected assets and other possession. It may be noticed that the Lowest 40% of the asset poor HH distributes unevenly among the districts (e.g., Cox's Bazar 49%, Sunamgonj 48%, Gazipur 5%) and more so among the upazilas,

FINDINGS, QUANTITATIVE AND QUALITATIVE

Awareness of and Exposure to Rickets

Only less than one percent or 14 survey respondents were aware about Rickets as they could mention anything about the disease and/or claimed that they had seen a Rickets patient. Among them 8 respondents said that the Rickets patient existed in their own houses.

Asked about reasons for having Rickets, six of them expressed their ignorance. Others mentioned lack of nutrition, Calcium and Vitamin-D. Ten of them said that Rickets can be cured through treatment. NGO clinic and specialized hospital was mentioned as the places of treatment of Rickets. A few of them also recommended giving nutritious and Calcium rich diet. They claimed to know these information from multiple sources including relatives/ neighbours, hospitals and health workers.

Similar to the survey respondents, awareness of Rickets was found quite low among all non-medical stakeholders interviewed and FGD participants (fathers of children 1-15 years). The qualified doctors were found have good knowledge about Rickets. Relevant NGO officials and a few other

enlightened persons from different professions and groups had moderate to low level of knowledge about the same.

Prevalence of Rickets

Out of the listed 4,514 children aged 1-15 years in the 1920 survey households, 58 (1.3%) were identified by the field interviewers as Rickets patients. In addition, same proportion (1.3% or 57 children) of Rickets suspects were identified based on five symptoms observed/investigated among the children. The prevalence of Rickets and the symptom are seen to vary highly among upazilas. The low Rickets prevalent upazilas are Kutubdia, Jamalgonj and Pekua and the high prevalent upazilas are: Kaligonj, Moheshkhali and Gazipur Sadar. The male/female variation in prevalence of Rickets in the total sample is not significant.

Disability Prevalence

Total number of persons with disability (PwD) other than Rickets in the sample was 142 including 86 children (1.9%) of 1-15 year age group. This means, 4.3 percent of the sample household had at least one child with disability (CwD) which ranged between 3.1 percent in Kaligonj and 9.4 percent in Ukhia.

Access to Health information

About two-thirds (65%) of the households said to have access to one or more health information or messages other than treatment. The access is quite low in Kutubdia, Moheshkhali and Cox's Bazar Sadar upazilas (all under Cox's Bazar district). More than three-fourths (78%) of the respondents expressed their desire to receive further information especially about child care and nutrition issues.

Use of health care facilities

The respondent households usually choose multiple health care facilities for treatment. They said that they prefer GoB health facilities and qualified doctors, but due to easy accessibility and low cost, the pharmacy salesmen and Non-graduate Medical Practitioners are also visited equally or even more.

Other stakeholders perceived similar use of health care facilities by mothers but they differ among themselves about the quality and preference of sources. Majority of the respondents in different stakeholder groups considered GoB facilities/UHC to be better as there are qualified doctors, no fees is charged and often the medicine is given free. However, majority of the CSO representatives, UP chairman/member and RMP/PCs and one or more from all others stakeholder groups said that people like to go to the RMP/PCs as they are easily available, no transport cost and no consultation fees, Other advantages mentioned about RMP/PC are: they may be called at home quickly, at times the medicine can be taken on deferred payment, they refer to UHC or private MBBS doctors if needed and at times they take the patient to the doctors referred by them. Some said that the RMP/PC visit house to house and inquire about their health. Other sources of treatment mentioned by these stakeholders are: Private MBBS doctors, Pharmacy, Homeo doctor, *Kabiraj* (herbal practitioner), district/Dhaka hospitals and Union level FWC.

Perceived treatment facilities of persons with disability

Only 43 respondents (2%) said that treatment facilities for the PwD exist in their area. Others either said there was no facility or expressed their lack of knowledge about it. Among those who said that treatment facilities are available Govt. hospital at distance was mentioned the highest (40%) followed by NGO clinic (21%), Local GoB hospital (14%) and specialized hospital (12%). Even these respondents also felt that disable children are not getting proper treatment. Distance of facilities and high cost of treatment were the two prime reasons for saying so.

Suggestion on increasing Rickets awareness

All the stakeholders and FGD participants supports the necessity of increasing awareness about Rickets and came up with some suggestions. The qualified doctors' suggestions included: 1) Mass media campaign on Rickets like that of TB and malaria; 2) Propagating calcium and Vitamin-D rich food basket; 3) Rickets training to all staff and officials of the health sector; 4) Reaching such messages to all other officials, teachers, Imams and local govt. representatives, 5) Feeding Vitamin-D, Calcium and Phosphorus rich food to pregnant mothers.

Additionally, the NGO officials suggested organizing Rally, distributing leaflets, erecting hoarding and bill board at important places, organizing mobile film show and street drama at different remote places. The GoB officials emphasized about TV and Newspaper programs and advertisements, more field visits, courtyard meeting through appointing more field workers and Informing the Boy Scouts/ Girl Guides during their campaign. The teachers emphasized on mass awareness building on Rickets through more involvement of the GoB health facilities and NGOs and use of mass media. The CSO representatives suggested involving the clubs, social groups and the youth in awareness building side by side ensuring proper work by the relevant organizations. The non-graduate medical practitioners (RMP/PC) emphasized on training including them and also suggested to appoint qualified doctors to treat such patients.

Food habit, Malnutrition and consequence

Within the given poverty situation the survey did not find much of problem with frequency and adequacy of food intake, although a thorough investigation could not be done. However, the household survey found that leafy vegetables, protein, milk and fruits are relatively absent in the food basket of last 24 hours and also they are further low in some upazilas. For example, leafy vegetable was hardly taken in Jamalgonj and Pekua, milk was almost absent in the food basket of Moheshkhali, Pekua and Cox's Bazar, No protein including lentil (*daal*) in 38 and 35 percent of the households in Jamalgonj and Sunamgonj Sadar respectively.

Close observation of 1-5 year age children reveals that 2 to 27 percent of the children in different upazilas showed less growth with respect to their age (average 18%). The perceived reasons of children becoming malnourished by the mothers/caretakers are: giving less than required nutritious food specially protein, green/leafy vegetables, fruits, vitamin rich food and unspecific improved diet etc. Other less frequently mentioned reasons are: giving/eating food in less quantity, shortage of breast milk, failure in timely weaning, lack of immunization and cleanliness/ care.

The respondent mothers/caretakers were also found fairly responsive as regards the health hazards caused due to malnutrition. About a half of the mothers felt that children become sick and get weak if they are mal-nourished and about 28 percent added that they are attacked with various diseases including diarrhea.

All the other stakeholders were also aware and concerned about the problem of malnutrition in their community and some of them relate it with disability specially night blindness, weak growth and repeated illness. The fathers of children tend to feel that the nutrition problem is only related to income and that if one has enough money, he or she can buy good and nutritious food from the market and solve the problem. The Imams and teachers talk about nutrition, cleanliness and hygienic practices in their own ways but they hardly talk about disability and Rickets.

GoB and NGO programs working on nutrition and disability:

The qualitative team only visited 6 upazilas and they inquired about the existence of GoB and NGO programs on nutrition and disability in the upazilas from the stakeholders. Moreover, the mother/caretaker interview included question on NGO program that covered all upazilas. SARPV also mentioned a few names of NGOs. Still the information is incomplete as only the following name of NGOs could be gathered:

Pekua	--	SARD, COAST
Kaligonj	--	BRAC
Jamalgonj	--	CNRS, VARD, IDEA
Teknaf	--	BRAC, ACF, Baitul Barak Hospital, Action on disability and development, ADD
Moheshkhali	--	SARPV

Conclusion

- Rickets or Rickets suspecting symptoms and other preventable disability exist in every community, although with varying proportion. Rickets patients have been found both among poor and non-poor.
- Awareness about Rickets is almost non-existent among the mothers/caretakers of children and also among other non-medical stakeholders. Qualified doctors, however, are quite knowledgeable about it.
- Special treatment facilities for Rickets and other disabilities are hardly available at the local GoB hospitals and clinics. NGO programs on disabilities covers very small segment of the population, and usually they do not focus on treatment.
- Experiences of receiving treatment by the affected few are not encouraging.
- Although the reported frequency of food-taking-per-day and quantity of food taken per meal do not appear that much of a problem, content analysis of food taken in past 24 hours shows lack of desired nutrients in the food basket specially leafy vegetables, protein, milk and fruits.
- Mothers/caretakers are eager to get information on maternal and child health and nutrition. They prefer home visit and courtyard meeting the most.

Recommendations

The recommendations outlined below are primarily for the present SARPV project taken up in the 12 upazilas. However, many of them are equally applicable for other areas,

- Awareness program among the mothers and other stakeholders should be undertaken by the project about nutrition, preventable disability and Rickets as far as practicable.
- Total screening of children for Rickets and with early symptoms of the same should be done. Other preventable disability cases could preferably be added.
- Proper treatment of the identified Rickets affected children and those with early symptoms should be planned and ensured.
- Effective partnership should be built-up by the Project with other related service organization including NNP, UHC and NGO clinics in each upazila.
- Special training program should be organized by SARPV for the caregivers of children outside homes including the RMP/PC.
- For sustainability of these efforts, local level support must be harnessed from the very beginning.
- SARPV should use its long experience in doing these tasks and also take up action research projects to achieve better results and continue its learning process.
- SARPV and related agencies should strengthen policy level advocacy to mainstream the Rickets problem as part of nutritional and preventable disability.

1. BACKGROUND AND METHODOLOGY

1.1 Background of the project

The project goal is to improve health outcomes for children in Bangladesh regardless of their poverty levels. It aims to develop awareness at household and community level around the prevention of rickets through three major components -- nutritional knowledge and awareness, recognition of the symptoms, and access to treatment. To achieve this, FPHW and local CBOs in three districts will be trained on rickets prevention, diagnosis and care. Through child-centred outreach work, they will help communities identify the early symptoms of rickets, understand how to prevent them and provide appropriate support to children and their caretakers exposed to such situation. Training to strengthen CSOs and communities will also be included so that they can better advocate for child rights and appropriate policies to support child health and disability. Expected outcomes are that CSOs and health service providers are better able to advise and educate families and communities about rickets and diagnose and treat existing cases; households are better able to recognise the early symptoms of rickets and understand how to prevent them; CSOs and communities are better able to advocate for appropriate social policies to support child health and disability issues; local CSOs are better able to engage with international dialogue on disability prevention and nutrition. The primary beneficiaries include 36,000 children and adults already affected with rickets; 150,000 children between 1-15 years who have a high risk of developing rickets; 600,000 community members in identified at-risk areas; and 400 FPHW.

The project area comprises 12 upazilas falling under three districts. These are: 7 upazilas of Cox's Bazar district (Cox's Bazar Sadar, Kutubdia, Moheshkhali, Pekua, Ramu, Teknaf and Ukhia), 3 upazilas of Gazipur district (Gazipur Sadar, Kaligonj and Kapasia) and 2 upazilas of Sunamgonj district (Sunamgonj Sadar and Jamalgonj). SARPV will implement the project directly in all the upazilas except the two upazilas from Sunamgonj where SARPV will select suitable local partners (NGO/CSO) for the task.

This initiative is a joint collaboration of SARPV and Healthlink Worldwide who share over a decade's experience of working together. SARPV, set up in 1989, is an organization that works to improve the lives of people with disability (PwD) in Bangladesh and is well networked in the Bangladeshi disability movement. Healthlink has 30 years' experience in working with disability and rights projects in Asia, including Bangladesh, India, Nepal, Srilanka and Cambodia. The organizations have worked together in various projects including the Bangla CBR newsletter, QUEST participatory communications national level training and DFID CSCF funded projects namely "Communicating for Advocacy" and "Creating Spaces for Women with disabilities" to advocate and communicate for their rights.

1.2 Background of the study

The study was initiated by SARPV as part of the project plan to have a benchmark of the variables for which the intervention program would be carried out. A Terms of Reference of the study was made available to this agency based on which the study was designed. Later the design was finalized through series of exchanges with SARPV and also with Healthlink Worldwide, responsible for overall project management and technical support. The ToR instructed to have independent estimates of the study variables for all the upazilas and the qualitative investigation in some if the upazilas to supplement the survey findings.

1.3 Study objective

The specific objectives of the study are as follows

- To assess the prevalence of rickets in children of different age groups below 15 years of age in the sample areas.
- To identify the state of knowledge and attitude of the stakeholders regarding rickets and disability in the area
- To understand the level of existing knowledge, attitude and practices of the care givers (family members, services providers) with special focus on nutritional knowledge, recognition of symptoms, access to treatment and home based care practices and their understanding about child centred care
- Identify the local CSOs working on children, health and disability in the areas and assess the level of their understanding about Rickets and to what extent they are currently engaged in advocacy of inclusion of Rickets in national health programmes

1.4 Methodology and Sampling Design

A combination of quantitative and qualitative approach was followed to gather necessary information outlined in the objectives. The objective-1 fully and objectives 2 and 3 partially have been addressed through the household survey and the remaining with information gathered through the qualitative methods.

The household survey was designed to gather Independent data from each of the twelve project upazilas falling under three districts. The sample size of each upazila was statistically determined (160 per upazila) to get reasonably reliable estimates that are comparable laterally and over the period. Thus, total survey households were 1920 from 12 upazilas. The rationale for arriving at the sample size per upazila is as follows:

Sample size:

The primary objective of the survey has been to calculate the proportion of targeted audience aware of Rickets and related issues. The principle of determining sample size was therefore to find a size that fits within the desired range for precision and within the budget

available. The sample size has been calculated using the equation below. The sample size equation for point estimates is (Lemeshow et al. 1990):

$$n = \frac{z^2 \cdot p \cdot q}{r \cdot e^2} Deff$$

Where n is the sample size, 'z' the z-score, 'p' the level of awareness prevalence, q the percentage that are not aware of campaign massage (q = 1-p), Deff the design effect, 'r' the response rate, and 'e' the precision or the distance from the prevalence estimate in either direction.

The z-score was set at the 95% level for a two-tailed test (z=1.96), the response rate set to 90% (0.9) and the design effect set to 1.5. The sample size is determined with a precision of 10% (0.1) on either side. As there is no previous estimation of awareness, we considered 50% prevalence, which always maximize the sample size. Substituting these values in the equation above gives a sample size of 160 per upazila.

Two-stage random sampling technique was followed to draw the sample households from which the mothers/caretakers of children 1-15 years were interviewed.

1.5 Drawing of survey households

Quantitative: For wider spread of the sample respondents, 8 spots/villages were selected from each upazila and 20 households were drawn for interview per spot. At first, two unions were selected at random from each upazila and 4 spots/villages from each union were then randomly selected consulting the list of villages of the unions. From each selected village, at least 60 households were listed having children 1 to 15 years. Twenty households were then selected from the list using systematic random sampling (SRS) technique for interview using a semi-structured questionnaire. Thus the sample households have been drawn from 3 districts, 12 upazilas and 96 villages/spots, and total number of household is 96x20=1,920.

Table-1.1: Sample size calculation

District	Upazila	Union #	Spot/ Village #	Sample HH
Cox's Bazar	Cox's Bazar Sadar	2	2 x 4 = 8	8 x 20= 160
	Kutubdia	2	2 x 4 = 8	8 x 20= 160
	Moheshkhali	2	2 x 4 = 8	8 x 20= 160
	Pekua	2	2 x 4 = 8	8 x 20= 160
	Ramu	2	2 x 4 = 8	8 x 20= 160
	Teknaf	2	2 x 4 = 8	8 x 20= 160
	Ukhia	2	2 x 4 = 8	8 x 20= 160
Gazipur	Gazipur Sadar	2	2 x 4 = 8	8 x 20= 160
	Kaligonj	2	2 x 4 = 8	8 x 20= 160
	Kapasia	2	2 x 4 = 8	8 x 20= 160
Sunamgonj	Sunamgonj Sadar	2	2 x 4 = 8	8 x 20= 160
	Jamalgonj	2	2 x 4 = 8	8 x 20= 160
Total	**12**	**24**	**96**	**1,920**

Qualitative: Apart from the open-ended questions in the household survey, the qualitative investigations included In-depth interviews (IDI), Key informant interviews (KII), Case studies and Focus group discussion (FGD) with individuals and groups mentioned below from six project upazilas. Each of these respondents and groups were discussed about details about the stated objectives of the study.

Table-1.2: Coverage of Qualitative investigations

Activity	Respondent/ Participant	Pekua	Teknaf	Mohesh-khali	Gazipur Sadar	Kaligonj	Jamalgonj	**Total**
IDI	CSO Representatives	2	2	2	2	2	2	**12**
	RMP/ *Palli Chikitshak*	2	2	2	2	2	2	**12**
	Imam (Union level mosque)	1	1	1	1	1	1	**6**
	Teacher (High/Primary School)	1	1	1	1	1	1	**6**
	Total	**6**	**6**	**6**	**6**	**6**	**6**	**36**
Case Study	Parents of Rickets patients	1	1	1	-	1	1	**5**
	Parents of Rickets suspects (defined at section- 3.3)	2	2	2	-	2	1	**9**
	Total	**3**	**3**	**3**	**-**	**3**	**2**	**14**
KII	UP Chairman/member (Union level)	1	1	1	1	1	1	**6**
	GoB officials (Agri Off./ Fisheries Off./ Livestock Off./TNO)	1	-	2	1	1	1	**6**
	Doctor/ Pediatrician	-	2	-	-	-	-	**2**
	UHFPO	1	1	1	-	-	-	**3**
	NGO Coordinator/ Head	1	1	1	-	1	1	**5**
	Health/ FP workers (HA/ FWA/ HI)	3	3	-	3	1	2	**12**
	Total	**7**	**8**	**5**	**5**	**4**	**5**	**34**
***FGD sessions**	Fathers of 1-15 year children	1	1	1	1	1	1	**6**
	Health/ FP workers	-	-	1	-	1	-	**2**
	Total	**1**	**1**	**2**	**1**	**2**	**1**	**8**

**Participants per FGD was 10-15*

It is important to mention that more of them were targeted but the table shows only those could be interviewed or group discussion sessions held. The number of them is not statistically determined either.

1.6 Data Collection Instrument (DCI)

A simple questionnaire was developed to conduct interviews with the mothers/caretakers of the children. The project document of SARPV contains the areas where improvements are expected to take place due to the field activities. Apart from the knowledge related questions, data have been collected on attitude and practices that may cause disability and/or Rickets. The IDI, KII and FGD checklists/ guideline were prepared to cover wider range of information specially about other stakeholders. For technical matters the agency depended entirely on SARPV officials. All the DCIs were approved by the concerned SARPV

officials. The Healthlink Worldwide team also provided valuable inputs in the process of finalization of the DCIs.

As shown, a total of 12 DCI/Checklists were used in the study to collect relevant information: The translated version of the DCI/Checklists are attached as Annex 1.

List of Data Collection Instruments (DCI)			
DCI-1 :	Interview Schedule	:	Survey Questionnaire for household
DCI-2 :	In-depth Information	:	CSO/ club/ society Representatives
DCI-3 :	In-depth Information	:	RMP (*Palli Chikitshak)* /Health/ FP workers
DCI-4 :	In-depth Information	:	Imam (Union level mosque)
DCI-5 :	In-depth Information	:	Head Master of Primary School
DCI-6 :	Key Informant Interview	:	UP Chairman/member
DCI-7 :	Key Informant Interview	:	GoB officials (Agri/ Fisheries/ Livestock/TNO)
DCI-8 :	Key Informant Interview	:	UNO
DCI-9 :	Key Informant Interview	:	Doctor/ Pediatrician
DCI-10 :	Key Informant Interview	:	UHFPO & NGO Coordinator/ Head
DCI-11 :	Focus Group Discussion	:	Fathers of 1-15 year children and Health/ FP workers
DCI-12 :	Case study Guideline	:	Parents of Rickets patients/ suspects

To start the interview the Field Interviewer exchanged greetings, introduced herself and the read out a statement that describe the purpose of the interview and its importance, assures anonymity of the respondent and also clearly mentions that his/her participation in the study was voluntary. If agreed, he/she was interviewed as per his/her convenience.

1.7 Implementation of the study

The study was commissioned in third week of February 2010 and after all necessary preparations including selection of locations, finalization and pre-testing of the data collection instruments, recruitment of field staff and their training, the field data were collected during March-April 2010. The survey data were computerized after proper editing and coding of the open-ended questions and then processed to get the desired tables for the report. The qualitative data were manually processed under the supervision of the study management team. SARPV and Healthlink reviewed the draft report and worked together with Pathways to help in finalization of the report.

2. HOUSEHOLD CHARACTERISTICS

2.1 Profile of the respondents

Mothers/caretakers of 1-15 year age children were the target for interview as they are likely to provide necessary information about the children. They turned out to be mostly (98%) females with average age of 30 years.

2.2 Profile of the heads of households

The heads of the sample households are mostly (94%) males with average age of 34 years. Their major occupations are unskilled and skilled laborer, farmer, trading/ business and rickshaw/van pulling.

2.3 Ownership of dwelling house and possession of durable assets

As background information of the households studied, the following are some of the information collected and are presented below grouped by districts. It may be seen that people mostly (90%) live in their own land although more than one third do not own any other land, only one-third of the households has electricity connection and majority (55%) use cell phone. The estimates are seen to vary a lot by district and more so by upazila. For ease of analysis of the impact of poverty on the study variables the households have been distributed into five wealth ranking groups (Section 2.4) using standard formula.

Table-2.1: Selected household characteristics

Description	Cox's Bazar	Gazipur	Sunamganj	**Total**
Ownership of house				
Own	92.2	81.5	96.6	**90.3**
Rented	3.5	10.0	0.9	**4.7**
Live without rent/ Other	4.3	8.5	2.5	**5.1**
Own any land other than dwelling				
Yes	56.7	76.5	79.4	**65.4**
No	43.3	23.5	20.6	**34.6**
Electricity connection				
Yes	33.4	77.1	29.7	**33.4**
No	66.6	22.9	70.3	**66.6**
Durable assets				
Almirah/ Wardrobe	43.1	53.8	34.7	**44.4**
Table	53.5	73.1	49.1	**57.7**
Chair/bench	56.0	70.4	52.8	**59.1**
Watch	56.7	57.7	29.4	**52.4**
Khat/ Chowki	58.7	95.0	81.3	**71.5**
Radio/ 2-in-1	9.6	14.2	2.5	**9.6**
TV	15.8	59.8	15.3	**26.7**
Bicycle	3.8	15.0	6.3	**7.0**
Motor bike	2.0	6.3	0.9	**2.9**
Sewing machine	3.8	7.7	1.9	**4.4**
Electric fan	25.2	73.1	12.8	**35.1**

Description	Cox's Bazar	Gazipur	Sunamganj	**Total**
Telephone (cell/land)	50.6	76.9	37.2	**54.9**
Type of latrine use				
Septic tank/ Sanitary toilet	9.1	30.2	2.8	**13.3**
Ring slab latrine	75.0	53.3	25.3	**61.3**
Pit latrine	6.3	11.9	22.5	**10.4**
Hanging/ Open latrine	8.8	4.4	32.2	**11.6**
Bushes/ field	0.7	0.2	17.2	**3.3**
Drinking water sources				
Tube-well	97.1	99.6	98.4	**97.9**
Others	2.9	0.4	1.6	**2.1**
Available space for home based vegetable gardening and or small scale poultry farming				
Yes, has space	30.3	63.5	28.4	38.3
No such space	69.7	36.5	71.6	61.7
N= All HHs	**1120**	**480**	**320**	**1920**
Organized kitchen gardening	10.0	12.1	3.2	9.1
Organized poultry farm	0.5	2.5	1.6	1.2
Scattered Vegetable gardening	23.0	32.3	80.6	36.3
Open poultry rearing	95.8	89.4	88.3	92.9
N= Those have space	**743**	**282**	**248**	**1273**

2.4 Socio-economic classification

The households in this survey have been categorized into different socio-economic levels using an index of household assets following the standard principle known as Asset Quintile. The presence/absence and ownership information collected in the survey include: presence of electricity, ownership of Elmira/ Wardrobe, bicycle, motor cycle, television, electric fan, table or chair, Watch, Khat/ Chowki, Radio/ 2-in-1, Sewing machine and Telephone (cell/land), type of toilet, and materials used in roof, wall and floor of main dwelling house and ownership of land.

The index is constructed using the method of principal components which assigns each asset a factor score. The total factor score for a household is the sum of the factor scores for each asset owned by the household. Households are then categorized into quintiles based on their total asset score. This methodology has been applied to the 1996 Bangladesh Demographic and Health Survey (BDHS) by Gwatkin et. Al, (2000), to the BDHS 1999-2000, 2001 Bangladesh Maternal Mortality and Maternal Health Services (BMMS 2001) data, 2003 NSDP evaluation survey data and many others subsequently.

For a comparative economic classification of the upazilas, the households were grouped under five asset quintile based on ownership of selected assets and other possession.

Dividing the entire sample households equally into five quintiles, while distributed among the upazilas they are seen to vary widely (Table-2.2). It may be noticed that the high poverty sampled upazilas are: Moheshkhali, Teknaf, Kutubdia, and Pekua. While the less poverty sampled upazilas are: Gazipur Sadar, Kapasia, Kaligonj and Ramu.

Table 2.2: Distribution of the sample households by Asset Quintile

Upazila		Ultra Poor	Poor	Middle	Upper Middle	High	Total
Pekua		41.3	16.3	17.5	13.1	11.9	100.0
Ramu		10.6	15.6	13.8	23.8	36.3	100.0
Ukhia		28.1	16.9	16.3	21.3	17.5	100.0
Teknaf		35.0	15.6	15.0	19.4	15.0	100.0
Kutubdia		36.3	24.4	21.3	13.1	5.0	100.0
Moheshkhali		45.0	18.8	15.6	13.1	7.5	100.0
Cox's Bazar Sadar		17.5	18.8	28.1	23.1	12.5	100.0
Total Cox's Bazar		**30.5**	**18.0**	**18.2**	**18.1**	**15.1**	**100.0**
Gazipur Sadar		0.6	8.1	16.3	22.5	52.5	100.0
Kaligonj		2.5	12.5	19.4	32.5	33.1	100.0
Kapasia		1.9	18.1	19.4	28.8	31.9	100.0
Total Gazipur		**1.7**	**12.9**	**18.3**	**27.9**	**39.2**	**100.0**
Sadar		16.3	30.6	25.6	15.0	12.5	100.0
Jamalgonj		10.0	39.4	32.5	13.8	4.4	100.0
Total		**13.1**	**35.0**	**29.1**	**14.4**	**8.4**	**100.0**
Total	**%**	**20.4**	**19.6**	**20.1**	**19.9**	**20.0**	**100.0**
	N=	**392**	**376**	**385**	**383**	**384**	**1920**

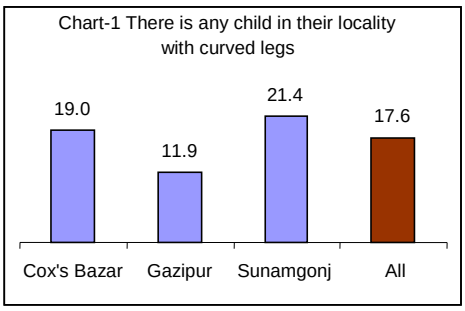
3. AWARENESS AND PREVALENCE OF RICKETS

3.1 Awareness of Rickets

Only less than one percent or 14 survey respondents were aware about Rickets as they could mention anything about the disease and/or claimed that they had seen a Rickets patient. Among them 8 respondents said that the Rickets patient existed in their own houses.

Asked about reasons for having Rickets, six of them expressed their ignorance. Others mentioned lack of nutrition, Calcium and Vitamin-D. In another query 10 of them said that Rickets can be cured through treatment. NGO clinic and specialized hospital was mentioned as the places of treatment of Rickets. A few of them also recommended giving nutritious and Calcium rich diet. They claimed to know these information from multiple sources including relatives/ neighbours, hospitals and health workers.

Curved legs: Those who did not hear about 'Rickets', were asked whether there is any child in their locality with curved legs. About 18 percent of the respondents told that there are. Majority (69%) of these respondents thought it was a disease and they named it differently. The more frequently mentioned names are: *Lengra*, *Kulbittor, Atur* and *Majur.* About treatment facilities, majority expressed their ignorance or said that there is no such facility around.



3.2 Prevalence of Rickets

Total number of children aged 1-15 years in the survey households was 4,514. About one-third of them (1,518 nos.) were of less than 5 years pf age. Among the households --

One child of 1-15 year age group was	29%
Two children of the age group was	30%
Three children of the age group was	23%
Four or more children of the age group was	18%

Irrespective of the knowledge of the respondents, the field surveyors identified Rickets patients in the survey households in the way they were trained. Out of the listed 4,514 children aged 1-15 years in the 1,920 survey households, 58 were identified as Rickets patients. They belonged to all the wealth rank group with relatively higher among the ultra poor **[Chart-2]**. Detail information about these patients were collected and supplied to SARPV. The low Rickets prevalence upazilas are Kutubdia, Jamalgonj and Pekua and the high prevalent upazilas are: Kaligonj, Moheshkhali and Gazipur Sadar. The male/female variation in prevalence of Rickets in the total sample is not significant but and they vary by upazila **[Table 3.1]**.

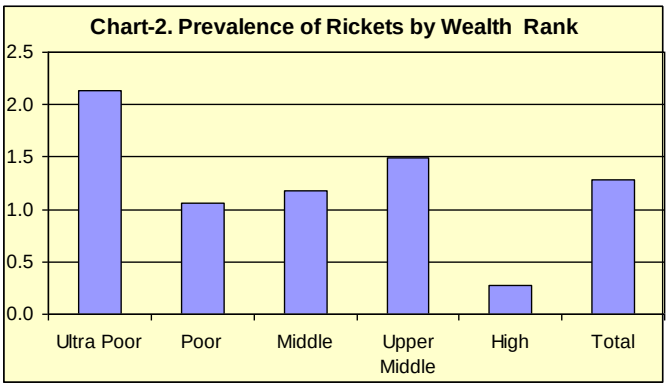


Table-3.1: Prevalence of Rickets among 1-15 year age children, by upazila

Upazila	# of children aged 1-15 years			% of children with Rickets		
	Boy	Girl	**Total**	Boy	Girl	**Total**
Pekua	201	226	**427**	1.0	0.4	**0.7**
Ramu	207	179	**386**	1.0	1.1	**1.0**
Ukhia	225	193	**418**	1.3	1.6	**1.4**
Teknaf	218	199	**417**	0.9	1.5	**1.2**
Kutubdia	233	184	**417**	0.4	0.0	**0.2**
Moheshkhali	187	201	**388**	2.1	2.0	**2.1**
Cox's Bazar Sadar	218	200	**418**	1.4	1.5	**1.4**
Total: Cox's Bazar	**1,489**	**1,382**	**2,871**	**1.1**	**1.2**	**1.1**

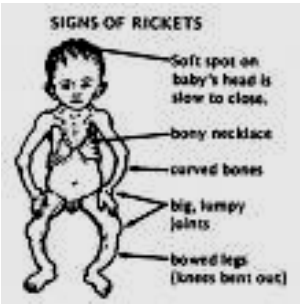
Upazila	# of children aged 1-15 years			% of children with Rickets		
	Boy	Girl	**Total**	Boy	Girl	**Total**
Gazipur Sadar	126	131	**257**	3.2	0.8	**1.9**
Kaligonj	146	131	**277**	2.7	3.1	**2.9**
Kapasia	148	139	**287**	0.7	1.4	**1.0**
Total: Gazipur	**420**	**401**	**821**	**2.1**	**1.7**	**1.9**
Sadar	235	208	**443**	1.7	1.0	**1.4**
Jamalgonj	213	166	**379**	0.9	0.6	**0.8**
Total:	**448**	**374**	**822**	**1.3**	**0.8**	**1.1**
Total	**2,357**	**2,157**	**4,514**	**1.4**	**1.2**	**1.3**
Number of identified Rickets patients				**32**	**26**	**58**

It is important to mention that only 8 of the 58 identified Rickets affected children could be named by the respondents as the children had Rickets. Others knew it in different names considering them as kind of physical disability.

3.3 Early Symptoms of Rickets

The following five symptoms of Rickets were observed among the children who were <u>not definitely identified</u> as Rickets patient. The first 4 symptoms were observed among 1-5 year age children and the 5th one among all the children aged 1-15 years. They are 4,514 – 58 = 4,456 children.

Symptom-1: Less than normal height (Poor growth) with respect to age
Symptom-2: Wrist joint is increased
Symptom-3: Feels pain at the leg while walking
Symptom-4: Ribs of the chest are raised
Symptom-5: Legs are curved from knee to ankle



It is commonly agreed that if a child more than 5 years of age have slight curved leg from ankle to knee (symptom-5), he/she is a Rickets Suspect. At lower age the curved legs may not be sharply visible and therefore the first four symptoms should be carefully examined for them to suspect Rickets. Thus, for the children aged 1-5 years, symptom-5 plus at least two other symptoms from 1 and 4 above are considered as Rickets Suspect. For children aged between 5 and 15 years, Rickets is suspected if only symptom-5 is found positive. Table below shows the Rickets Suspect (1.3% or 57 children) as per the above definition as well as proportion for all the five symptoms separately.

Curved leg (symptom-5) was found among 2 percent of the children aged 1-15 years (total 89 Nos.), which vary highly among the upazilas. The variation ranged between zero (or none) in Kutubdia and 6.7 percent in Kapasia upazila. The symptom was also very high in Kaligonj. Other symptoms observed among 1-5 year age children were quite low except 'poor growth' (18%).

Table-3.2: Symptoms relating to Rickets among the children aged 1-15 years

Upazila		Symptoms as per the list above					Rickets Suspect
		Symptom-1	Symptom-2	Symptom-3	Symptom-4	Symptom-5	
Pekua		20.8	0.5	0.5	0.7	0.7	0.7
Ramu		23.3	0.5	-	0.3	0.8	0.5
Ukhia		20.4	0.2	0.5	-	2.4	1.5
Teknaf		25.0	-	0.5	0.2	2.7	1.5
Kutubdia		20.9	-	0.2	0.2	-	-
Moheshkhali		27.9	-	1.3	-	1.8	1.1
Cox's Bazar Sadar		18.9	0.5	0.2	0.5	1.9	1.0
Total Cox's Bazar		**22.4**	**0.2**	**0.5**	**0.3**	**1.5**	0.9
Gazipur Sadar		14.3	-	0.8	0.4	1.6	0.8
Kaligonj		21.6	0.4	-	1.5	5.9	3.7
Kapasia		18.7	-	1.1	1.1	6.7	5.3
Total Gazipur		**18.3**	**0.1**	**0.6**	**1.0**	**4.8**	3.4
Sadar		3.0	-	-	0.2	0.9	0.7
Jamalgonj		2.1	0.3	0.8	0.5	1.1	0.5
Total Sunamgonj		**2.6**	**0.1**	**0.4**	**0.4**	**1.0**	0.6
Total	**%**	**18.4**	**0.2**	**0.5**	**0.4**	**2.0**	**1.3**
	n	**803**	**9**	**21**	**19**	**89**	**57**

4. AWARENESS, PREVALENCE AND TREATMENT OF DISABILITY

Article 1 of UNCRPD states that “persons with disability include those who have long-term physical, mental, intellectual or sensory impairments, which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others” The respondents in the process of interviewing on disability were explained about this in simple Bangle language so that they understand whom the interviewer was referring to as PwD (*protibondhi*). After explaining this, the respondents were asked seven questions on the perceived reasons, prevalence of children with disability in the area, adequacy of treatment facilities and use, etc. The responses of the question are presented in the detail set of tables by upazila. The salient features of the findings follow:

4.1 Awareness of disability

The reasons (or processes) of becoming disable as perceived by the respondents are Malnutrition (41%), Birth defects (31%), Due to disease (10%), and Absence of immunization/ polio (7%). However, a large proportion (42%) of the respondents could not mention any reason although 40 percent mentioned more than one reason. Malnutrition as a reason for disability was mentioned by more than 70% of the respondents in Gazipur district.

Table-4.1: Perception of the respondents about he ways a child or any member of a family could become disabled

Reasons	Cox's Bazar	Gazipur	Sunamgonj	**All**
Malnutrition/ Lack of calcium/vitamin	32.9	73.1	22.2	**41.2**
Birth defects	31.5	29.2	32.2	**31.0**
From disease	4.4	20.6	11.6	**9.6**
Absence of immunization/ Polio	8.9	6.3	0.9	**6.9**
Accident/ disaster/ attack	2.8	4.2	3.1	**3.2**
Wrong treatment	1.7	2.7	0.9	**1.8**
Lack of Iodine	1.0	1.0	0.6	**0.9**
Bad air/ Bad look/ Child staying alone/ weather/ Work during Sun eclipse etc.	3.7	2.5	0.6	**2.9**
Don't know	47.0	21.7	55.6	**42.1**
Others (Not giving colostrums/ Unsafe delivery practices/ Mismatch of parent's blood group)	0.3	0.6	-	**0.4**
Total (%)	**134.1**	**161.9**	**127.8**	**140.0**
N	**1120**	**480**	**320**	**1920**

4.2 Prevalence of disability

Overall 6.6 percent (127 Nos.) of the sample households had at least one PwD including 4.3 percent child aged 1-15 years (83 HHs). Proportion of households with one PwD ranged between 3.1 percent in Kaligonj and 9.4 percent in Ukhia (Table-4.2). The table also shows the average number of disable persons in each household by upazila, which is 1.1 ranging between 1.0 and 1.3 in an upazila. Total number of disable persons in the 127 households is 143 (children 87 and adults 56). The 58 Rickets patients are not included CwD.

Table-4.2: Prevalence of disable in the households and number, by upazila

Upazila	% of HHs with disability			Avg. # of disables in those HHs		
	> 15 yrs	1-15 yrs	**All**	> 15 yrs	1-15 yrs	**All**
Pekua	3.8	3.1	**6.9**	1.0	1.0	**1.0**
Ramu	4.4	3.8	**8.1**	1.3	1.0	**1.2**
Ukhia	3.1	7.5	**9.4**	1.0	1.2	**1.3**
Teknaf	1.3	3.8	**5.0**	1.0	1.0	**1.0**
Kutubdia	3.8	5.6	**7.5**	1.2	1.0	**1.3**
Moheshkhali	0.6	4.4	**4.4**	1.0	1.0	**1.1**
Cox's Bazar Sadar	2.5	1.9	**4.4**	1.3	1.0	**1.1**
Total: Cox's Bazar	**2.8**	**4.3**	**6.5**	**1.1**	**1.0**	**1.1**
Gazipur Sadar	2.5	3.8	**6.3**	1.0	1.0	**1.0**
Kaligonj	0.6	2.5	**3.1**	1.0	1.0	**1.0**
Kapasia	3.8	5.6	**9.4**	1.2	1.0	**1.1**
Total Gazipur	**2.3**	**4.0**	**6.3**	**1.1**	**1.0**	**1.0**
Sunamgonj Sadar	3.8	4.4	**8.1**	1.2	1.1	**1.2**
Jamalgonj	1.3	5.6	**6.9**	1.0	1.0	**1.0**
Total Sunamgonj	**2.6**	**5.0**	**7.5**	**1.1**	**1.1**	**1.1**
Total %	**2.6**	**4.3**	**6.6**	**1.1**	**1.0**	**1.1**
Households	**1,920**			**50**	**83**	**127**
Total disable persons				**56**	**86**	**142**

Nature of disability: The distribution of the 142 persons with disability in the sample households are presented in Table-4.2 below. It shows that the majority (52%) of them are physically disabled followed by 'deaf & dumb', 'blind' and 'multiple disabilities'. The proportion is seen to vary a lot among the upazilas although the base is too small to make any conclusive remark.

Table-4.2: Nature of disability, by upazila and district

Upazila	Mental	Deaf & dumb	Blind	Physical	Multiple	**All %**	**N**
Pekua	25.0	8.3	8.3	58.3	-	100.0	12
Ramu	-	26.7	6.7	33.3	33.3	100.0	15
Ukhia	-	21.1	-	73.7	5.3	100.0	19
Teknaf	-	25.0	-	62.5	12.5	100.0	8
Kutubdia	12.5	37.5	25.0	12.5	12.5	100.0	16
Moheshkhali	25.0	25.0	-	37.5	12.5	100.0	8
Cox's Bazar Sadar	12.5	50.0	12.5	25.0	-	100.0	8
Total Cox's Bazar	9.3	26.7	8.1	44.2	11.6	100.0	86
Gazipur Sadar	-	-	30.0	60.0	10.0	100.0	10
Kaligonj	-	-	40.0	60.0	-	100.0	5
Kapasia	12.5	12.5	6.3	50.0	18.8	100.0	16
Total Gazipur	6.5	6.5	19.4	54.8	12.9	100.0	31
Sunamgonj Sadar	-	-	13.3	66.7	20.0	100.0	15
Jamalgonj	-	9.1	-	81.8	9.1	100.0	11
Total Sunamgonj	-	3.8	7.7	73.1	15.4	100.0	26
Total	**7.0**	**18.2**	**10.5**	**51.7**	**12.6**	**100.0**	**143**
N=	**10**	**26**	**15**	**74**	**18**	**143**	

4.3 Treatment facilities of persons with disability

About treatment facilities for the persons with disability very few (2%) said that there exist any. Others said 'no' or expressed their lack of knowledge about it. Among those who said that treatment facilities are available (43 respondents), Govt. hospital at distance was mentioned the highest (40%) followed by NGO clinic (21%), Local GoB hospital (14%) and specialized hospital (12%). Even these respondents also felt that disable children are not getting proper treatment. Distance of facilities and high cost of treatment were the two prime reasons for saying so.

Table-4.3: Treatment facilities for the PwD

Response	Cox's Bazar	Gazipur	Sunamgonj	All
Govt. hospital (local)	14.3	12.5	16.7	**14.0**
Govt. hospital (away)	9.5	81.3	33.3	**39.5**
NGO clinic	33.3	12.5	-	**20.9**
MBBS Doctor/ Private clinic	14.3	6.3	-	**9.3**
Any specialized hospital	14.3	-	33.3	**11.6**
Kobiraj (herbal treatment)	-	-	16.7	**2.3**
No such facilities/ Don't know	23.8	6.3	16.7	**16.3**
N	**21**	**16**	**6**	**43**
Total (%)	**109.5**	**118.8**	**116.7**	**114.0**

5. DISEASE PROFILE AND HEALTH CARE FACILITIES

5.1 Prevalence of sickness among children and Treatment

Respondent mothers/caretakers were asked whether any of their children of 1-15 years was sick during the interview and/or became sick within past 3 months. In either case the information on the sick children, if any, were collected as regards kind of sickness/disease, present condition, days suffered/suffering, treated or not, and cost of treatment in three months.

About 52 percent of the households had at least one sick child age 1-15 years in their house during the time of interview. Including those 72% of the respondents reported that any of their children of the age group became sick during past 3 This may be mentioned that on an average 1.5 children per household became sick during past 3 months [Table-5.1].

Fever/cold was the most widely reported disease (63%) suffered by a child in the households followed by diarrhea/dysentery (15%). Other more frequently mentioned diseases were: respiratory diseases, malnutrition and skin disease. Average expenditure for treatment combined all was Tk.616/- with highest Tk.1,027/- in Kutubdia upazila and lowest Tk.365/- in Jamalgonj upazila.

Table-5.1: Prevalence of sickness among 1-15 year children and treatment expenses, by upazila

Upazila	Present sickness of any child in the HH (%)	Sickness of any child in the HH within 3 months (%)	Fever/ Cold (%)	Diarrhea and/or Dysentery (%)	Amount spent in 3 months (Avg. Tk.)	Avg. # of children got sick per HH Past 3 months
Pekua	58.1	75.0	64.4	16.3	843.00	1.6
Ramu	55.0	71.3	60.6	16.3	881.60	1.4
Ukhia	58.1	75.0	65.6	13.1	549.50	1.5
Teknaf	49.4	63.7	57.5	5.0	926.80	1.5
Kutubdia	50.0	66.3	60.0	16.3	1,026.60	1.8
Moheshkhali	65.0	81.9	75.6	30.0	482.90	1.6
Cox's Bazar Sadar	50.6	81.3	76.3	28.8	468.70	1.5
Total Cox's Bazar	**55.2**	**73.5**	**65.7**	**18.0**	**739.90**	**1.6**
Gazipur Sadar	50.6	72.5	61.3	11.3	402.90	1.3
Kaligonj	48.8	76.3	66.9	15.0	404.60	1.3
Kapasia	56.3	82.5	75.6	16.3	464.00	1.3
Total Gazipur	**51.9**	**77.1**	**67.9**	**14.2**	**423.80**	**1.3**
Sunamgonj Sadar	38.8	60.0	46.9	8.1	662.00	1.3
Jamalgonj	39.4	55.0	40.6	5.6	365.20	1.3
Total Sunamgonj	**39.1**	**57.5**	**43.8**	**6.9**	**513.60**	**1.3**
Total	**51.7**	**71.7**	**62.6**	**15.2**	**616.00**	**1.5**

Further it was found that 66 percent of the children reporting sickness were treated by a doctor and there was no much of discrimination between male and female child in treatment (boy 67% Vs girl 65%) or expenditure per child treated (boy Tk.440/- Vs girl Tk.403/-).

5.2 Health information and health care facilities

It is important that in every area there are some good health care facilities and also that they know about them. When there are multiple sources, people choose one or more depending on various factors including distance, nature of disease, dependability, perceived or actual cost and many others. Access to health information and facilities also are important determinants. The study inquired the related issues from the respondents through asking several questions, the responses of which are available in the detailed tables. We present below some of the important ones.

About health care facilities, the respondents were asked about the facilities where people of the area and the household members usually go at the time of different health care needs. Naturally they mentioned more than one sources and the frequency count is shown below, combined all areas (Table-5.2). The results represent their general tendency of choosing better facilities as well as using low cost and easily accessible sources of treatment. Thus we see that while visit to govt. facilities and qualified doctors are quite high, pharmacy salesmen and Non-graduate Medical Practitioners (NGMP)[1] are also visited equally or even more. Low cost and easy accessibility have been the main reasons for opting to the sources.

Table-5.2: Health facilities where the people and household members usually take services

Health facility	Health facilities around where people usually take services	Health facilities where the HH member usually take services
Pharmacy salesmen	88.8	73.8
Govt. hospital/health center	80.7	50.5
RMP/ *Palli Chikitshak*	69.9	55.4
MBBS Doctor (private)	49.7	30.4
Homeopath	14.0	7.6
Private clinic	10.6	5.5
NGO clinic	4.3	2.2
Kobiraj/ Ayurved	4.3	1.4
Nurse	-	0.1
N= All HH	**1,920**	**1,920**
Total % (multiplicity)	**322.4**	**226.8**

The last row of the table implies that on an average the respondent household members usually visits 2.3 number of treatment facilities and they thought that the people of their area usually go to more (3.2) number of facilities for treatment.

[1] NGMPs include *Gram Daktar* or Rural Medical Practioners (RMP) and *Palli Chikitahak* (PC)

Health information: About two-thirds (65%) of the households said to have access to any kind of health information or messages other than treatment. However, this is seen to vary among the upazilas and was reported quite low in Kutubdia, Moheshkhali and Cox's Bazar Sadar upazilas (all under Cox's Bazar district). Still, more than three-fourths (78%) of the respondents expressed their desire to receive further information (Table-5.3).

Table-5.3: Access to health information in general and further need, by upazila

Upazila	Have access to any source of health information	Need further information or advice on health
Pekua	59.4	83.1
Ramu	79.4	61.9
Ukhia	62.5	76.9
Teknaf	70.6	79.4
Kutubdia	20.0	84.4
Moheshkhali	16.3	88.1
Cox's Bazar Sadar	21.3	90.0
Total Cox's Bazar	**47.1**	**80.5**
Gazipur Sadar	77.5	84.4
Kaligonj	89.4	93.8
Kapasia	99.4	98.8
Total Gazipur	**88.8**	**92.3**
Sunamgonj Sadar	93.1	45.6
Jamalgonj	89.4	49.4
Total Sunamgonj	**91.3**	**47.5**
Total %	64.8	**78.0**
N= All HHs	**1920**	

Decision making for treatment: About 18 percent of the female respondents said that they decide the treatment source when any member of their households becomes sick, and another 42 percent decide jointly with their husbands. That means about 40 percent of the females/mothers had no participation in the decision making of treating the sick children. This proportion is the highest in Gazipur (51%) and lowest in Cox's Bazar (32%) district. The variation is more upazila-wise.

Table-5.4: Usual decision maker in the household for treatment of any member while sick

Response	Cox's Bazar	Gazipur	Sunamgonj	All
Wife	17.9	22.3	9.4	17.6
Husband	28.9	45.8	41.6	35.3
Husband and wife	49.2	24.2	44.7	42.2
Mothers in law	0.7	2.3	-	1.0
Father in law	1.3	1.9	0.3	1.3
Other family members	2.0	3.5	4.1	2.7
Total (%)	**100.0**	**100.0**	**100.0**	**100.0**
N	**1,120**	**480**	**320**	**1,920**

As regards the kind of health information the mothers/caretakers presently receive and they expect to receive are placed side by side in Table-5.4 below. It may be noticed that although about a half of the respondents admitted that they receive information on Mother and child nutrition, the highest 88 percent of them expect further information on the issue. Similar is also the response on 'child healthcare'. This shows that mothers are very much concerned about this vast and complex field and need more and more information although they are receiving information the most in this field presently.

Table-5.5: Kind of health information and counseling receive and the ones they desire

kind of information	Receive presently	Desire to receive
Immunization	60.2	12.8
Breastfeeding	20.7	13.6
Pregnancy care	21.5	30.8
Child healthcare	43.8	81.2
Water and sanitation	23.1	21.5
Mother/ child nutrition	48.0	87.8
Vitamin/Calcium	0.5	3.6
Family planning	0.6	-
HIV/AIDS	0.1	-
Diarrhea	0.2	-
General health	1.8	1.9
Cleanliness	-	0.8
N = Eligible respondents	**1,245**	**1,497**
Total % (Multiplicity)	**220.4**	**254.1**

The preferred means of receiving the health information is still home visit although many of them desired to get quality information and counseling through trained personnel at least near to their homes.

Table-5.6: Preferred means of receiving health messages

Response	Cox's Bazar	Gazipur	Sunamgonj	All
Home visit by female workers	29.3	75.8	59.9	46.2
Trained health workers' visit	52.3	3.2	27.0	35.2
Regular village meeting	16.5	19.4	5.9	16.3
Training on a schedule date	0.1	1.6	0.7	0.6
TV program	1.2	1.8	2.6	1.5
By doctors	7.1	0.9	5.3	5.1
Other (leaflet, booklet, mobile ….)	0.8	1.4	0.7	1.2
Don't know	0.1	0.2	0.7	0.2
Total (%)	**107.8**	**104.5**	**102.6**	**106.3**
N	**902**	**443**	**152**	**1,497**

5.3 Media habit

TV comes out to be the single major medium of entertainment in all areas. Ninety five percent of the respondents rated TV as the principal medium of entertainment in their locality and 81 percent rated the same for their own household. Although the ownership of TV was much less, it seems that they have access to neighbours or community facilities. Other media locally preferred are Radio, Cinema/ movie and Folk drama/ songs. However, for the respondents, hardly there was any preferred or popular media other than TV.

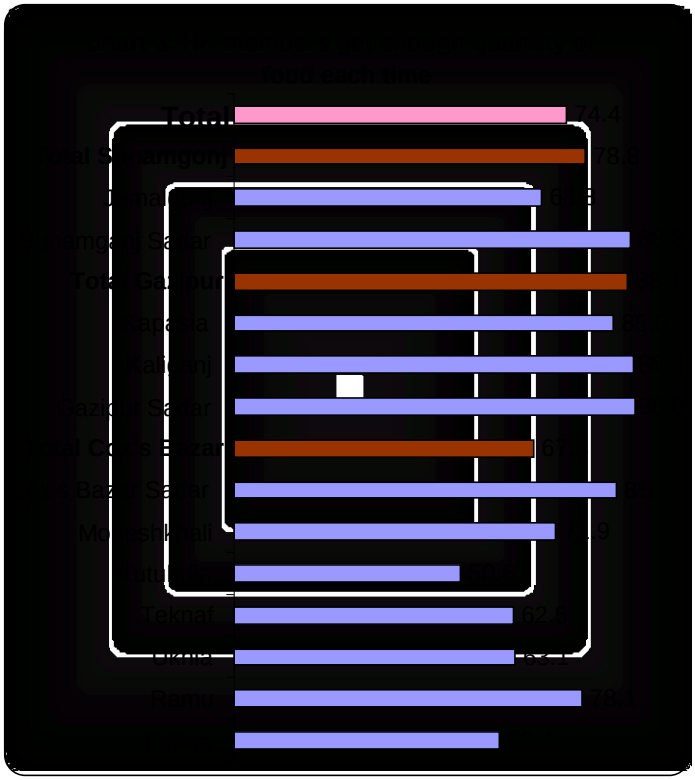
Table-5.7: Popular forms of entertainment: in the locality and to the household

Medium of entertainment	In the Locality	To the respondent
TV	94.8	80.9
Cinema/ Movie	16.3	1.0
Radio	14.6	4.2
Folk songs	6.0	1.5
Folk drama, *Jatra*	8.7	1.4
Hamd/ Nath	0.5	0.3
Mahfil	0.3	0.6
Computer/ Internet	-	0.2
Newspaper	-	0.1
Can't say/ Nothing	1.1	14.1
N = All HHs	**1920**	**1920**
Total % (Multiplicity)	**142.3**	**104.2**

6. FOOD HABIT AND NUTRITIONAL STATUS

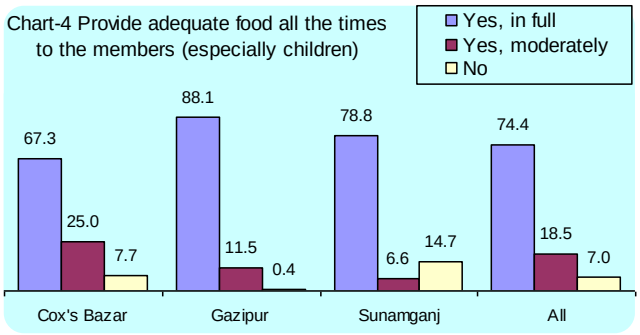
6.1 Food habit and 24 hour recall

Frequency of food taking**:** More than 90 percent of both males and females take meal three times a day. Others take either 2 times (2%) or more than 3 times (9%) a day. Upazila-wise the frequency differs moderately. Two times meal taking per day was recorded the highest among females in Gazipur (8%) and the least (none) both among males and females in Teknaf and Cox's Bazar sadar. On the other hand the highest 34 percent of the females in Ramu said that they take meal 4 times a day or more. In Kutubdia, Moheshkhali, Cox's Bazar Sadar and Jamalgonj none of the males and females take meal more than 3 times a day.



The frequency of food taking per day was reported higher among children than the adults, women or men. Overall 56 percent of the children take meal three times a day and others more than 3 times. Only two households, one each in Moheshkhali and Gazipur Sadar, said that their children take 2 meals per day. Giving food more than 4 times is also rare. The food taking frequency also differs slightly among the upazilas.

Adequacy of food taking**:** In addition to frequency, the respondents were asked whether the members, and specially the children, could be given enough quantity of food each time. About three-fourth (74%) of the mothers said that they could give in full [Chart-1] and 19 percent could give moderately. The remaining 7 percent of the mothers admitted that they failed to give enough quantity while they gave. The critical ''No' response was recorded the highest in Jamalgonj (24%) followed by Teknaf (18%), Ukhia (13%) and Pekua (12%). None of the respondents from Kapasia and one each from Cox's Bazar Sadar, Gazipur Sadar and Kaligonj said that they could not provide enough quantity of food while they gave.



The respondents admitting not able to provide adequate food all the times to the members (especially children) said that on an average they faced food shortage for 4.1 months in a year. About a half of these households faced shortage up to three months and more than 4 percent for about whole of the year.

The food basket**:** The respondents were asked to name the food items they usually eat in the household, and also to recall the food items they ate during last 24 hours preceding the interview. The table below shows a summary result by upazila. In the 'last 24 hour' column the figures represent taking of any of the food items in the group at least once. This will identify specially the type of food lacking among the children. It is found that leafy vegetables, milk and fruits are relatively absent in the food basket of last 24 hours and also they are further low in some upazilas. For example leafy vegetable was hardly taken in Jamalgonj and Pekua, milk was almost absent in the food basket of Moheshkhali, Pekua and Cox's Bazar, No protein including lentil (*daal*) in 38 and 35 percent of the households in Jamalgonj and Sunamgonj Sadar respectively.

Table-6.1: Broad food groups usually eaten and was in the food basket within past 24 hours

Upazila	Cereal/ staple		Leafy vegetable		Non-leafy vegetables		Protein (including daal)		Milk		Fruits	
	Usual	Last 24 hour	Usual	Last 24 hour	Usual	Last 24 hour	Usual	Last 24 hour	Usual	Last 24 hour	Usual	Last 24 hour
Pekua	100.0	100.0	91.9	16.9	99.4	95.6	95.6	75.0	31.3	1.3	66.3	4.4
Ramu	100.0	100.0	98.1	32.5	100.0	98.1	100.0	86.9	46.9	12.5	74.4	8.8
Ukhia	100.0	99.4	100.0	39.4	100.0	97.5	100.0	76.3	28.1	12.5	65.6	3.1
Teknaf	100.0	100.0	98.1	38.8	100.0	95.0	99.4	85.0	21.3	5.0	78.8	2.5
Kutubdia	100.0	100.0	93.1	29.4	98.8	96.3	98.8	80.0	25.6	3.1	53.1	4.4
Moheshkhali	100.0	100.0	97.5	28.8	97.5	96.3	100.0	80.6	24.4	1.3	48.8	9.4
Cox's Bazar Sadar	100.0	100.0	98.8	56.3	98.1	96.3	100.0	70.6	65.0	3.8	69.4	10.0
Total Cox's Bazar	**100.0**	**99.9**	**96.8**	**34.6**	**99.1**	**96.4**	**99.1**	**79.2**	**34.7**	**5.6**	**65.2**	**6.1**
Gazipur Sadar	100.0	100.0	98.1	41.3	100.0	90.6	100.0	86.3	90.6	19.4	93.8	24.4
Kaligonj	100.0	100.0	100.0	45.0	100.0	96.9	100.0	92.5	100.0	30.6	100.0	20.0
Kapasia	100.0	100.0	98.8	34.4	100.0	93.1	100.0	90.0	88.8	33.1	83.1	21.9
Total Gazipur	**100.0**	**100.0**	**99.0**	**40.2**	**100.0**	**93.5**	**100.0**	**89.6**	**93.1**	**27.7**	**92.3**	**22.1**
Sunamgonj Sadar	100.0	100.0	100.0	34.4	100.0	98.8	100.0	61.9	100.0	8.8	100.0	12.5
Jamalgonj	100.0	100.0	100.0	13.1	100.0	96.9	100.0	65.0	100.0	16.9	100.0	6.3
Total Sunamgonj	**100.0**	**100.0**	**100.0**	**23.8**	**100.0**	**97.9**	**100.0**	**63.5**	**100.0**	**12.9**	**100.0**	**9.4**
Total	**100.0**	**99.9**	**97.9**	**34.2**	**99.5**	**95.9**	**99.5**	**79.2**	**60.2**	**12.3**	**77.8**	**10.6**
N =All HHs	**1,920**											

This information is compiled for all households to see the general food habit. The same may be calculated for specific segments like Rickets affected or hardcore poor from the available database and compared with others

Specific food items**:** The table below shows all the specific food items mentioned by the sample respondents combined all upazilas. This information by upazila was used to construct the above table. The table also presents the scenario for the project upazilas combined.

Table-6.2: specific food items usually eaten and that taken in last 24 hours

Food Item	Food items usually taken in the HH	Food intake information for the day before interview (24 hour recall method)				
		Morning	Between	Noon	Between	Night
1	2	3	4	5	6	7
1. Rice	99.3	88.6	9.1	99.0	5.3	98.8
2. Wheat	32.8	12.9	1.8	1.0	1.1	1.5
3. Leafy vegetables *(Lal shak, Kochu shak, ..)*	82.6	8.1	0.5	14.0	0.1	9.6
4. Other leafy vegetables	80.3	7.4	0.9	10.8	0.3	8.8
5. Ladies finger (*Dheros*)	39.3	4.7	0.3	5.5	0.2	5.3
6. Other non-leafy vegetables	96.4	81.3	7.2	86.7	4.1	85.4
7. Small Fish	91.8	29.6	1.9	35.5	1.8	35.1
8. Big Fish	82.4	12.8	1.4	22.8	0.6	22.1
9. Meat	52.2	4.4	0.4	5.9	0.3	7.3
10. Egg	67.6	8.3	0.4	5.6	0.2	5.3
11. Lentil (*Daal*)	69.6	8.9	0.7	12.4	0.3	11.3
12. Milk	34.5	3.0	1.6	3.8	2.2	6.4
13. Sour fruit	25.9	0.1	0.3	-	0.6	0.2
14. Others fruit	57.0	1.5	4.8	0.5	5.6	1.0
15. Ground sesame seed/ Til	1.8	0.2	0.4	-	0.4	0.1
16. Biscuit	71.0	6.9	17.3	1.9	26.4	0.8
17. *Khichuri*	8.5	0.8	0.4	0.1	0.4	0.1
18. *Halua/ Suji/ Firni*	7.6	0.7	0.5	0.1	0.6	0.2
19. *Chira/ Muri*	60.8	3.3	4.1	0.6	8.3	0.8
20. Sugar/ *Gur*	57.7	3.5	1.7	0.7	2.6	1.7
21. Others (tea/chanachur/ pitha/dry fish)	68.0	28.1	6.6	22.7	9.0	22.8

6.2 Perceived reasons for malnutrition

The observation of 1-5 year age children reveals that 2 to 27 percent of the children in different upazilas showed less growth with respect to their age (average 18%). However, all the respondent mothers/caretakers were asked to mention at least three reasons why a child becomes malnourished. The prime reasons, they mention, are related to giving nutritious food specially protein, green/leafy vegetables, fruits, vitamin rich food and unspecific improved diet etc. Other reasons include: giving food in adequate quantity, breast milk, timely weaning, immunization and cleanliness/ care. It may also be noticed that about 30 percent of the respondents could not mention any reason with highest 39 percent from Cox's Bazar district. [Table-6.3].

Table-6.3: Perception of respondents about the reasons for malnutrition

Perceived reasons		Cox's Bazar	Gazipur	Sunamgonj	All
1	Not taking Green/yellow/leafy vegetables	32.1	52.1	53.1	**40.6**
2	Not taking fish/meat/egg/milk	29.7	49.0	55.0	**38.8**
3	Not taking fruits	17.8	16.0	36.3	**20.4**
4	Lack of vitamin	14.2	20.8	1.3	**13.7**
5	Not giving breast milk	9.8	10.4	4.1	**9.0**
6	Lack of adequate food	7.3	15.4	0.9	**8.3**
7	Not giving good food (unspecific)	8.6	1.7	0.9	**5.6**
8	Not giving nutritious diet	5.5	5.6	3.4	**5.2**
9	Not taking proper care of children	4.3	6.3	-	**4.1**
10	From lack of cleanliness of child	4.0	4.6	-	**3.5**
11	Mother not taking extra/nutritious food during pregnancy	2.1	8.5	0.3	**3.4**
12	Not giving weaning food from 6 months	2.1	3.3	2.5	**2.5**
13	If not immunized	1.8	5.8		**2.5**
14	Other (disease, giving stale food, lack of calcium/iodine ….)	5.0	4.9	1.5	**4.5**
99	Don't know	38.8	12.5	22.2	**29.5**
	Total %	**182.9**	**217.1**	**181.6**	**191.3**
	N = All HHs	**1120**	**480**	**320**	**1,920**

6.3 Perceived health problems faced by the malnourished children

The respondent mothers/caretakers were found fairly responsive as regards the health hazards caused due to malnutrition. About a half of the mothers felt that children become sick and get weak and about 28 percent added that they are attacked with various diseases including diarrhea. [Table-6.4]

Table-6.4: Perceived health problem faced by the malnourished children

Perceived reasons		Cox's Bazar	Gazipur	Sunamgonj	**All**
1	Gets sick/ becomes weak/ lacks strength	44.9	54.4	58.8	**49.6**
2	Reduces immunity to diseases/ attacked with various diseases/ diarrhea	20.8	40.2	32.8	**27.7**
3	Cannot move or play	9.3	18.5	15.3	**12.6**
4	Cannot eat and/or digest	5.4	24.8	15.6	**11.9**
5	Lacks weight	5.9	22.1	4.4	**9.7**
6	Become physically disable/ legs becomes bent	5.4	7.5	12.8	**7.2**
7	Develop night blindness/ Lose vision	3.4	13.5	10.9	**7.2**
8	Lack of knowledge/ Become mentally retarded	3.9	9.4	2.5	**5.1**
9	Arms and legs become skinny	1.7	6.9	0.6	**2.8**
10	Head and stomach becomes bigger	1.6	4.0		**1.9**
11	Other (Looks sick, can't talk/ .....)	2.5	5.2	-	**2.9**
12	Don't know	39.7	13.5	22.2	**30.3**
13	**Total %**	**144.6**	**220.0**	**176.6**	**168.8**
14	**N =** All HHs	**1120**	**480**	**320**	**1,920**

6.4 Knowledge about Vitamin-D and Calcium

Although large majority of the respondents claimed that they have heard about Vitamin-D, very few of them (4%) could correctly mention the ways our bodies get the nutrient. For Calcium however, the proportion was higher (42%). The knowledge varied a lot among the upazilas for both.

Table-6.5. Proportion of respondents giving 'Correct answer' as regards source of Vitamin-D and Calcium

Upazila	% of correct answer	
	How do our bodies get vitamin-D	Name of the foods that are rich in calcium
Pekua	5.0	39.4
Ramu	4.4	53.1
Ukhia	1.9	53.1
Teknaf	1.3	52.5
Kutubdia	5.0	41.3
Moheshkhali	8.1	38.1
Cox's Bazar Sadar	9.4	28.1
Total Cox's Bazar	5.0	43.7
Gazipur Sadar	5.6	57.5
Kaligonj	2.5	46.9
Kapasia	5.0	58.8
Total Gazipur	4.4	54.4
Sunamgonj Sadar	2.5	21.9
Jamalgonj	0.6	18.1
Total Sunamgonj	1.6	20.0
Total %	**4.3**	**42.4**
N= All HHs	**1,920**	

6.5 Colostrums and Exclusive Breast Feeding

The respondents were asked about giving of colostrums and period of exclusive breast feeding (EBF) of their youngest child. The findings are presented below. It may be seen that in at least five upazilas 12-17 percent of the mothers did not give colostrums to their last child. Exclusive breast feeding up to six months of age is still lacking in many upazilas. In 5 out of 12 upazilas the EBF is less than 40 percent.

Table-6.5: About Colostrums and Exclusive Breast Feeding (EBF) to the last child, by upazila and district

Upazila	Given colostrums to last child (%)	Avg. period given EBF (months)	Exclusive breast milk given for at least six months (%)
Pekua	93.1	4.0	26.9
Ramu	97.5	4.7	41.3
Ukhia	98.1	4.3	31.3
Teknaf	98.1	4.3	38.1
Kutubdia	93.8	5.0	48.1
Moheshkhali	99.4	5.7	69.4
Cox's Bazar Sadar	98.1	5.7	72.5
Total Cox's Bazar	**96.9**	**4.9**	**46.8**
Gazipur Sadar	85.0	5.1	43.8
Kaligonj	85.6	5.2	53.8
Kapasia	88.1	5.2	56.3
Total Gazipur	**86.3**	**5.1**	**51.3**
Sunamgonj Sadar	83.1	4.5	34.4
Jamalgonj	83.8	4.7	38.8
Total Sunamgonj	**83.4**	**4.6**	**36.6**
Total/ All	**92.0**	4.9	46.2
N	**1,920**		

7. FINDINGS FROM THE QUALITATIVE INVESTIGATIONS

As described in Section-1.5, the qualitative investigations were carried out in 6 out of 12 project upazilas. The task comprised 36 In-depth Interviews (IDI), 34 Key Informant Interviews, 14 Case studies, 6 FGDs with fathers of 1-15 age children and 2 FGDs with the Health/FP workers . The interview/ discussion mostly focused on: **a)** Awareness of Rickets among the stakeholders and caregivers outside homes, **b)** Suggestion on increasing Rickets awareness; **c)** Treatment facilities in the area and the health seeking behaviour and **d)** Identifying NGOs/ CSOs working on nutrition. The summary of the findings for each kind of investigation are presented below along with the case studies, A detail compilation of the findings is provided as attachment.

7.1 Awareness of Rickets

Like the general people, awareness of Rickets was found quite low among different stakeholders except qualified medical doctors, relevant NGO officials and a few other enlightened persons from different professions and groups. Some of them also described the disease with shallow or partial knowledge. Following are some details

- ✓ All the five qualified doctors interviewed were found fairly knowledgeable about Rickets, disability and nutritional issues. They all mentioned that the deficiency of Vitamin-D, Calcium and Phosphorus in children makes the bone soft and weak and deformities occur. One pediatrician said that Rickets may also cause due to birth defects; two UHFPO mentioned that Rickets may cause from kidney disease and lack of pregnancy care.
- ✓ Seven out of 12 non-graduate medical practitioners (RMP/PC) were ignorant about Rickets. Others could only describe about the reasons and symptoms of the disease partially. Out of 11 field level health/FP workers only 3 could say that Rickets is a bone disease (*Haarer roug*) and causes due to shortage of Calcium and Vitamin-D in child's body
- ✓ Five out of 6 upazila level GoB officials were found aware of Rickets and one could elaborate. Two NGO officials out of three are also fairly knowledgeable about disease.
- ✓ All the 6 teachers interviewed know about Rickets and only 2 of them could say that it causes due to shortage of Calcium and Vitamin-D in child's body.
- ✓ Only 2 out of 12 CSO representatives could relate Rickets as a disease of bones and said that bones remains soft)not strong) and is a children's disease. Others were totally ignorant. Only one out of 6 UP Chairman/member could only say that Rickets is a child disease. The 6 Imams interviewed were also totally ignorant about Rickets.
- ✓ In 6 male FGDs, 68 fathers of 1-15 year age children attended. None of them could say anything about Rickets. However, some of the 17 participants from 2 FGDs with field health/FP workers could fairly explain about Rickets and they said they knew it from their training.

7.2 Suggestions on increasing Rickets awareness

In both in-depth interview and group discussion the respondents were informed about Rickets in children and the purpose of the study after knowing how much they are aware about the same. Then specific suggestions were sought about increasing Rickets awareness among the people. All the respondents and FGD participants thought it was necessary to increase awareness and came up with some suggestions. Stakeholder-wise the findings are compiled and are presented below in brief:

- ✓ The qualified doctors came up with the following five suggestions which seem to form a guideline to follow. These are: 1) Mass media campaign on Rickets has to be done like that of TB and malaria; 2) People's food habit should be modified and in doing that recommended food basket should be propagated including calcium and Vitamin-D rich food; 3) All staff and officials of the health sector should be trained on Rickets; 4) Other officials, teachers, Imams and local govt. representatives should be reached with the messages on Rickets through meeting/seminar, and The pregnant mothers should be fed Vitamin-D, Calcium and Phosphorus rich food.
- ✓ The NGO officials echoed the suggestions of the qualified doctors and elaborated further specially the kind of mass media to be used. They suggested organizing Rally, distributing leaflets, erecting hoarding and bill board at important places, and organizing mobile film show and street drama at different remote places. They also suggested talking about Rickets by important officials in different meetings and gatherings.
- ✓ The GoB officials emphasized about TV and Newspaper programs and advertisements, more field visits, courtyard meeting through appointing more field workers and Informing the Boy Scouts/ Girl Guides during their campaign.
- ✓ The teachers emphasized on mass awareness building on Rickets through more involvement of the GoB health facilities and NGOs and use of mass media.
- ✓ The CSO representatives suggested involving the clubs, social groups and the youth in awareness building side by side ensuring proper work by the relevant organizations.
- ✓ The non-graduate medical practitioners (RMP/PC) emphasized on training including them and also suggested to appoint qualified doctors to treat such patients.

7.3 Treatment facilities in the area and the health seeking behaviour

The respondents across the groups mentioned two types of health service providers, Upazila Health Complex and the RMP/PC whom people usually visit for treatment of general diseases. They appreciate the differential advantage of both the sources. Other sources of treatment more frequently mentioned are: Private MBBS doctors, Pharmacy, Homeo doctor, Kabiraj (herbal practitioner), district/Dhaka hospitals and Union level FWC.

Majority of the respondents in different stakeholder groups said that UHC is better as there are qualified doctors, no fees is charged and often the medicine is given free. In Gazipur the name of Christian Missionary hospital was mentioned by more than one RMP/PC. Majority of the CSO representatives, UP chairman/member and RMP/PCs and one or more from all others stakeholder groups said that people like to go to the RMP/PCs as they are easily available and even called at home quickly, no transport cost, no consultation fees, at times the medicine can be taken on deferred payment, and they refer to UHC or private MBBS doctors and at time they take the patient along. Some said that the RMP/PC visit house to house and inquire about their health.

Treatment of Rickets: All the five UHFPO or Graduate doctors interviewed said that there is no treatment on Rickets in their area. However, one NGO official from Teknaf (Action on Disability and Development, ADD) said that he knows one NGO named SARPV who treat Rickets patients.

7.4 Case Study with Rickets patients and Rickets suspects

Total 4 Rickets patients and 8 Rickets suspects have been brought under case study. Besides observing and talking to them, their mothers/ caretakers were interviewed to collect detail information on the particular children. We present 4 of the case studies below with their name and upazila only to keep them anonymous. They are typical to others.

Case-1: Rickets patient
Nur Hasan of Teknaf, age 7 years is a confirmed Rickets patient. His feet and hands are curved, chest ribs are raised and wrist is swallowed. He has not been treated and the parents received no cooperation from any source. They know that their child had polio. Reportedly the child received colostrums and enough breast milk. He had suffered from phenomena in his early age. It appears that he lacked proper weaning and emergency medical care."

Case-2: Rickets patient
Rafi of Moheshkhali, age 4+ years is almost a confirm Rickets patient with curved legs and swallowed wrist. But his parents do not know what his disease is and not even consulted a doctor. They feel it has happened because he did not get enough breast milk, although he was breastfed up to 2 years. "As we are poor we could not give him enough protein (*mach, mangsha, dim, dudh*) or fruits (*fol-mul*)" the parents said.

Case-3: Rickets suspect
Sharmin of Kaligonj, age 8 years showing symptom of slightly curved legs and raised chest ribs from four years. The parents do not know what has happened to her and have not also treated for the same. Sharmin suffered from diarrhea and pneumonia several times in young age. She got Colostrums and enough breast milk with normal weaning. Her parents admitted that they could not give enough protein or fruits as they are poor.

Case-4: Rickets suspect

Tanvir of Moheskhali, age 5+ years is a Rickets suspects with slightly curved legs, swallowed wrist and he sometimes complains of feeling pain in legs while walking. He is treated for other diseases but have so far not treated for the said problem. Reportedly the child received colostrums and insufficient breast milk for two years. He would suffer from diarrhea repeatedly in his young age. He got various food in his weaning but would not like and therefore vegetables was given less. The parents requested for help from all concerned.

It is found that many parents did not treat their child with Rickets or with some symptoms of Rickets although they treat the child for other diseases like diarrhea or phenomena. Maybe they do not think the disease as treatable or they can avoid expensive treatment due to slowly developed symptoms. It may also happen that they have learned from experience of those who had failed to get any result from treatment of similar patients. Most of the parents also did not know the name of the disease or anything definite dietary or treatment protocol to recover from the disease. It is not clear from the case studies about the route cause of the children to become a Rickets patient/suspect. Almost all of them got colostrums and/ or breast milk for around 2 years although some of the mother informed that their child did not get enough breast milk. However, it appears that there was problem with proper weaning and balanced food supplementation along with the breast milk. Various vegetables protein and fruits were absent in the diet for many.

Moreover, they all had suffered from diarrhea and/or pneumonia in their early age and some had repeated attacks. Thus, it appears that lack of proper knowledge on various aspects of Rickets, failure to recognize early symptoms of physical or mental deformities, improper dietary practice and above all absence of regular health information and treatment facilities together are putting hundreds and thousands of innocent children to a miserable condition. Besides their own sufferings, they are adding burden to their families, society and the nation as a whole.

7.5 Upazila Case study

For a better understanding of the upazila scenario, the following two case studies of two project upazilas are presented and discussed, one for detailing about the nutrition program and the other on the overall stakeholder responses. These findings have contributed in drawing conclusions and recommendations for the study.

7.5.1 Case study : NNP of Kapasia upazila

Our of the 12 project upazilas under study, Pekua, Teknaf, Kapasia, Sunamgonj Sadar and Jamalgonj are the six of the 150 upazilas covered under National Nutrition program (NNP). Of them Kapasia was specially studied by the senior study team and the outcome is presented below in the form of a case study.

Kapasia has been found to be a relatively high disability prevalent area. SARPV is operating in three unions among 750 listed disables and their households. Apart from rehabilitation and education support program they are sensitizing the communities and other business and social groups to provide moral and material support to the people with disability to help them not becoming burden to their families.

VARD, a local NGO, is implementing the program in the upazila, which had started in October 2006 and continuing to date with a gap of four months of 2009 in between. According to VARD, they are operating 359 Community Nutrition Centres (CNC) covering the entire upazila with one Community Nutrition Promoter (CNP) in charge of each CNC that covers around 250 households. All pregnant mothers and children are screened to check whether malnourished and they are provided various services including feeding of *pushti* packet produced locally, supplied iron tablet, Vitamin-A capsule and anti-helminthes tablets. They also test the salt for iodine using lemon and teach them to do it at home. VARD claimed that regular long term interaction with the mothers at the CNC and at their homes providing nutrition knowledge and other services has reduced the nutrition related disability among the children. The Vitamin-A supplementation has reduced blindness, anti-helminthes drugs has helped better nutrition absorption and use of iodized salt has helped combat mental retardation from iodine deficiency, the manager added. He also said that their regular interaction with the upazila and health administration is helping to get the nutrition issue a priority attention from them.

7.5.2 Case Study: Teknaf upazila

In Teknaf upazila 160 households were covered under the survey and 417 children aged 1-15 years were recorded in them (2.6 children per HH). This is a moderate upazila in terms of prevalence of both Rickets patients and suspect. The survey found 1.2% Rickets patient and 1.9% Rickets suspects among the children as against 1.3% and 1.1% respectively in the entire sample of 12 upazilas. As regards disability, 3.8% of the sample households in Teknaf had at least one child 1-15 years disable. The same was 4.3% in the entire sample. These disables do not include the Rickets patient and suspect mentioned above.

With the given background, it may be interesting to notice what different stakeholders of the upazila know about disability and Rickets and what the patients' case studies reveal.

- One FWV was interviewed in-depth from one of the sample unions. She does not know about Rickets but know that malnutrition may cause disability specially night blindness and physical disability. She felt that these diseases are preventable. She said that disable children are less in her areas and most of them who have it are night blind. While explained about Rickets she said that people must be made aware about it through mass communication like TB, Malaria. She suggested that the teachers, Imams, Chairman, Member, health workers should be trained.

- Two health workers from Teknaf upazila were interviewed. One of them knows about Rickets and its reasons and treatment, but the other does not know. Both said disability is not that high in their working areas and there is no treatment around. Nobody seek treatment from them for disability, they said.
- One Imam was interviewed. He is not aware about Rickets. But he explains nutrition properly and preaches to eat all kinds of food and give more to the pregnant women and to the children. He speaks mainly about social bondage against free mixing of male and female that may lead to problems including AIDS. Upazila hospital is best for treatment for the poor, he said.
- One head master of a primary school was interviewed . He gave a practical picture about the children of his area. He informed that they discuss in the class about health/hygiene to the extant of nail cutting, remaining clean, bathing every day, brushing teeth and washing hand with soap returning from toilet. No feeding is in the school. Two disable boys study in his school and he could remember five more disable children living in the area.

  The head master said that malnutrition reduces talent in children, makes them weak, health breaks and get anemic. These cannot be discussed in the class, he said. He knows about Rickets and said that 1-5 year age children are effected. It could be avoided by feeding calcium and vitamin-D rich food like *katchu shaak, laau shaak*, small fish, meat, fruits etc. However he is ignorant about treating a Rickets child.
- One UP member was interviewed and found ignorant about most of the issues discussed. He informed that there is no program of the govt. or NGO on nutrition. He opined that for treatment upazila hospital is the best as there is qualified doctor and they also give medicine free. According to him fever, cold, diarrhea, pneumonia etc could be caused due to malnutrition and so also disability; so giving proper food can solve these problems.
- The FGD with males (12 participants) revealed that they also know or think very little about malnutrition. They said nutritious foods are available in the market. So if anybody wants can give it to his child. None of them said that there is disable person in the area. The diseases the children suffer, according to them, are fever, cough/cold, diarrhea and pneumonia. They preferred *Palli Chikitshak (*PC) for treatment as they are available nearby and involve less treatment cost. Next to PCs are *Paribaric Shystha Clinic* and the upazila hospital.
- A youth club (CSO) cashier was talked to and also was found ignorant about preventable disabilities or Rickets. They assist poor households in marriage and do yearly cultural program. He does not know any program of the govt. or NGO on nutrition.
- One rickets patient (age 7 years) and two suspects case studies show that none of them know about Rickets, they have not treated their children, they all gave colostrums and breast milk to their child and they gave weaning food from normal diet. What they could not give are expensive fruits like apple, grapes etc.

It reveals that all the stakeholders are aware and concerned about the problem of malnutrition in their community and some of them relate it with disability specially night

blindness, weak growth and repeated illness. The non-medical persons are almost ignorant about Rickets and its symptoms which is partially known to the medical persons. The community males are less concerned and knowledgeable about disability and Rickets and most of them do not find the problem around. They tend to feel that the nutrition problem is only related to income and that if one has enough money, he or she can buy good and nutritious food from the market and solve the problem. The Imams and teachers talk about nutrition, cleanliness and hygienic practices in their own ways but they hardly talk about disability and Rickets.

We may therefore conclude that almost all segment of the people lack specific knowledge about nutrition, factors contributing, consequences of malnutrition and specially its relation with disability and Rickets. Many of them are also not aware of the prevalence of preventable disability and their early symptoms and therefore the problem is remaining mostly indoor taking lots of toll on the affected persons and their families.

7.6 Identifying GoB and NGO programs working on nutrition and disability:

The information is partial as the qualitative team only visited 6 upazilas. In none of them any major GoB program was in place. However, in the following four upazilas one or more NGOs were working on nutrition which is likely to address disability and Rickets at least partially. No such NGO was named in Moheshkhali and Gazipur Sadar upazilas.

Pekua	--	SARD
Kaligonj	--	BRAC
Jamalgonj	--	CNRS, IDEA
Teknaf	--	BRAC, ACF

In addition the following NGOs were named by the participants who work on disability among the six upazilas covered under qualitative assessment

Moheshkhali	--	SARPV Bangladesh (treatment, education, …)
Teknaf	--	Baitul Barak Hospital (treat blinds and visually challenged)
	--	Action on disability and development, ADD (Capacity building, income generation, supply of equipment)
	--	Handicraft international (on rehabilitation, campaign and treatment)
Pekua	--	COAST (supply special tools, support education)
Jamalgonj	--	IDA (Social networking, on rehabilitation, management and participation & rights)
	--	VARD (Service range could not gather)

8. DISCUSSION OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

8.1 Discussion of Findings

A representative group mothers/caretakers of children aged 1-15 years in the new SARPV project area (12 upazilas under 3 districts) has been surveyed, other stakeholders from six upazilas interviewed and some FGD with fathers of the children of the said age group and some health/FP workers conducted to gather relevant information to address the four study objectives. In almost all areas the stakeholders and the health service providers reported that many poor households live in their area, although the estimated proportion mentioned by them varied widely even within one upazila. However, from the survey we have got a comparative poverty status by upazila reflected in the wealth ranking analysis (Section-2.4). It is found that calling lowest 20 percent of the total sample households as 'ultra poor', in at least five project upazilas of Cox's Bazar district they are quite high, which is more than 40 percent in Moheshkhali and Pekua upazila. On the other hand in all the three project upazilas of Gazipur district proportion of 'ultra poor' is quite low (below 2%). It may be observed that the proportion of ultra poor found through wealth ranking in particular upazilas does not always match with other poverty indicators like: frequency of food taking in the preceding 24 hours, inability to provide enough food to the members, stakeholder estimates of poverty in the area etc. Although, the reasons for this apparent variation cannot be explained through the findings, we should remember that poverty has got its local definition and dimensions and the perceptions are largely built on them.

Including these ultra poor, a large proportion of households are living in a subsistence economic condition. Among others they need information on basic health-care and nutrition, motivation to follow the advices and afford food & health care services for the family members and especially for the children. The analysis of the reported food intake in last 24 hours reveals that even mere presence of some desired food items (like leafy vegetable, milk, egg, lentil and fruits) in the entire sample is quite low, although quite a larger proportion of them claimed that they eat these foods usually.

It has been further observed that the food intake is further low among the poor and in specific areas. Highest 24 percent of the mothers in Jamalpur said that they could not provide enough quantity of food each time (Section 6.1). As we all know a balance diet means the presence of minimum quantity of different food items/ingredients, it is very likely that the expensive food items specially animal proteins fall short of quantity in the diet among the poor. This may be admitted that quantity intake of food could not be gathered in this study. However, the perception of the mothers about various nutritional issues was found low to moderate and they had no much of misconception other than that expensive food items and imported fruits are better and have more vitamins. A related factor is the

access to health information which is very low in the Cox's Bazar district (especially in Kutubdia, Moheshkhali and Cox's Bazar Sadar) than the other two districts (Section 5.2). The reasons were not explored for the difference of access to health information of the mothers and caretakers of children. Coverage of the upazila by NNP and/or existence of special NGO program with larger coverage are likely to influence the access to health information.

At this backdrop, the households and communities have been found to be either ignorant or inattentive about the children with disability, although such children are significant in number and living within them. Thus the total burden of the disables is largely borne by the households with hardly any social and institutional support. The treatment facilities for the persons with disability are almost non-existent and people also know very little about it. The distant facilities, although a few could mention, are either inaccessible or unaffordable to most of the victims. As a result the patients as well as the households have little to do and accept the situation as their fate.

As for Rickets and its symptoms, very few people know about it and not to say about its prevention and remedy. This is quite logical as the present health system talks very little about it. Although the mothers can generally relate a part of disability and the Rickets-like-symptoms with nutrition of mother and child, and also can mention some of the 'do's and don'ts, they lack specific knowledge of the disease symptoms and consequences. Out of 58 Rickets patients diagnosed by the field interviewers during the survey, only a few of the mothers/caretakers could mention that their child has had Rickets.

The long awaited child centred approach of comprehensive care for natural and healthy growth of children is still a long way to achieve at least in the survey areas and in specific areas like Cox's Bazar region. Not only this concept is less understood by the mothers/caretakers, the community leaders and the health administration is failing to demonstrate the value of such an approach in rendering their services. As a result the children are growing within the risk of becoming physically or mentally retarded. The worst victims are the children already affected due to malnutrition and other deficient services in course of their birth and childhood growth. Most of these poor victims could be saved if proper and timely counseling and treatment services could be ensured. Percentage-wise the preventable disability cases may look small but they are many in number in every community. More concern is that these preventable disability cases are often overlooked by the larger community and the health system. The victim's households bear the burden in full and often their experience in the treatment of their children is bitter.

8.2 Conclusion

- As per wealth ranking, there is higher proportion of ultra poor in Cox's Bazar district and more so in Moheshkhali and Pekua upazilas among all the project districts and upazilas.
- Rickets or Rickets suspecting symptoms and other preventable disability exist in every community, although with varying proportion. Rickets patients have been found both among poor and non-poor. The reasons for this are multiple and needs further exploration.
- Awareness about Rickets is almost non-existent among the mothers/caretakers of children and also among other non-medical stakeholders. Qualified doctors, however, are quite knowledgeable about it.
- Special treatment facilities for Rickets and other disabilities are hardly available at the local GoB hospitals and clinics. NGO programs on disabilities covers very small segment of the population, and usually they do not focus on treatment.
- Some mothers/caretakers know that the treatment is available at distant hospitals and perceive the treatment as expensive. Experiences of receiving treatment by the affected few are not encouraging.
- Although the reported frequency of food-taking-per-day and quantity of food taken per meal do not appear that much of a problem, content analysis of food taken in past 24 hours shows lack of desired nutrients in the food basket specially leafy vegetables, protein, milk and fruits.
- Mothers/caretakers are eager to get information on maternal and child health and nutrition. They prefer home visit and courtyard meeting the most.

8.3 Recommendations

The recommendations outlined below are primarily for the present SARPV project taken up in the 12 upazilas. However, many of them are equally applicable for other areas,

- Awareness program among the mothers and other stakeholders should be undertaken by the project about nutrition, preventable disability and Rickets as far as practicable.
- Total screening of children for Rickets and with early symptoms of the same should be done. Other preventable disability cases could preferably be added.
- Proper treatment of the identified Rickets affected children and those with early symptoms should be planned and ensured.
- Effective partnership should be built-up by the Project with other related service organization including NNP, UHC and NGO clinics in each upazila.
- Special training program should be organized by SARPV for the caregivers of children outside homes including the RMP/PC.
- For sustainability of these efforts, local level support must be harnessed from the very beginning.
- SARPV should use its long experience in doing these tasks and also take up action research projects to achieve better results and continue its learning process.
- SARPV and related agencies should strengthen policy level advocacy to mainstream the Rickets problem as part of nutritional and preventable disability.

Annex 1:
Data Collection Instruments (DCI)

ID #

BASELINE SURVEY ON CHILD - CENTERED APPROACHES TO PREVENTABLE DISABILITY THE CASE OF NUTRITIONAL RICKETS IN BANGLADESH

DCI-1: QUESTIONNAIRE FOR HOUSEHOLD

Introduction: Assalamu Alaikum. My name is ……. I am talking to you on behalf of a survey agency named PCSL. Presently we are conducting survey on nutrition among young age children in 12 upazilas (including this upazila) where SARPV Bangladesh has taken up a project to prevent child disability due to ignorance and malnutrition. The purpose of the survey is mainly to assess the present nutritional practices of the area that will form the basis of intervention of the project in the area. I would like to talk to you to know about your ideas and practices about nutrition and food habits. I assure you that the information you give will be confidential and used for research only. The interview may take about 30 minutes. You can choose not to answer any particular question or even terminate the discussion any time. I hope you will spend some of your valuable time with me to share your views and allow me to initiate the discussion.

Name of Interviewee **Sex:** **Age:**	**1-Female, 2-Male** **…….. Year**					
Name of household head **Sex:** **Age:**	**1-Female, 2-Male** **…….. Year**					
District name						
Upazila name						
Union name						
Village name						
Ward #						
Land mark						
Interviewer's Name		**Date**				
Supervisor's Name		**Date**				
Interview Time:	**Start:** ……	**End: ……..**				

Survey supported by:

SARPV-Bangladesh

House-60, Road-11, Baitul Aman Housing Society, Dhaka-1207
Phone: 88-02-9124522, E-mail: sarpv@bangla.net

Survey Conducted by:

1. List of children aged 1 - 15 years in the HH with disability status (if any) :

Sl. #	**Name** (From young to old)	**Age** (yrs & months)	**Sex** 1-Boy, 2-Girl	***Relationship** With head of HH	**Disability** 1= Yes, 2= No	**Nature of disability**** (Code)
1						
2						
3						
4						
5						

*** Relation code:** 1-Son/Daughter, 2-Nephew/Neice, 3- Brother/Sister, 4- Other
**** Nature of disability:** 1= Mental, 2=Deaf & dumb, 3= Blind, 4=Rickets, 5= physical. 6=Other----------,

2. Fill out the following table for children aged between 1 - 15 years (if any)

Information	SL# ..... (Yes-1, No-2)	SL# ..... (Yes-1, No-2)	SL# ..... (Yes-1, No-2)
a. Age is below 5 years and low growth (height and weight)			
b. The wrist joint is increased			
c. Feels pain at the leg while walking			
d. The ribs of the chest are raised			
e. The legs are curved from knee to ankle			

Section 3: Socio-economic status

Q. #	Question	Answer		Skip
301	What is the main occupation of the head of the HH?	Govt. service NGO/ private service Teaching/Tuition Farmer (Self-employed) Farmer Day laborer Rickshaw-van puller/ Boatman Small Business/Traders Medium/big business Fisherman Skilled laborer Others (specify)……..	01 02 03 04 05 06 07 08 09 10 11 77	

Q. #	Question	Answer	Skip

Q. #	Question	Answer				Skip
302	What are the materials of roof, wall and floor of your (main) dwelling unit?	**Material**	**Roof**	**Wall**	**Floor**	
		Leaves/ straw	1	1		
		Mud		2	2	
		Bamboo	3	3	3	
		Tin	4	4		
		Cement/Tiles	5	5	5	
303	Ownership of house	Self.....1 Rented .....2 Others 3				
304	Does your household own any land?	Yes.....1 No 2				
305	Does your household/any member of your household have --- ***(FI: Inquire/see each and circle)***	**Yes No** Electricity..... …….1 .....2 Almirah/ Wardrobe .....1 .....2 Table .....1 .....2 Chair/bench .....1 .....2 Watch.....1 .....2 *Khat/ Chowki*.....1 .....2 Functioning radio/ 2-in-1...1 .....2 Functioning TV .....1 .....2 Bicycle.....1 .....2 Motor bike .....1 .....2 Sewing machine.....1 .....2 Electric fan .....1 .....2 Telephone (cell/land).....1 2				
306	Type of latrine use in the house?	Septic tank/ Sanitary toilet….. 1 Ring slab latrine…… 2 Pit latrine ……... 3 Hanging/ Open latrine ……. 4 Bushes/ field …… 5				
307	Source of drinking water?	Tube well.....1 Others 2				
308	Available space for home based vegetable gardening and or small scale poultry farming?	Yes.....1 No.....2				
309	If space is available, Observe and tick the type of gardening and poultry are there?	Organized kitchen gardening ….1 Organized poultry farm ……..2 Scattered Vegetable gardening ..3 Open poultry rearing ……..….4 No organized gardening…..……5 No organized poultry farm ……...6 Others (specify) ----------				

Section 4: Food habit

401. (a) Ask: **What are all the food items that the household members usually eat?**

and tick the responses in the column-2 of the table below.

(b) Ask : **"What are the food items that the household members ate during morning, noon and night and also in between during the day before the interview?"** and tick the responses in the column-3 to 7 of the table below.

Food Item	Food item usually taken in the HH	Food intake information for the day before interview **(24 hour recall method)**				
		Morning	**Between**	**Noon**	**Between**	**Night**
1	**2**	**3**	**4**	**5**	**6**	**7**
1. Rice						
2. Wheat						
3. Leafy vegetables *(Lal shak, Kochu shak*)						
4. Other leafy vegetables						
5. Vegetable (*ladies fingers)*						
6. Others non-leafy vegetables						
7. Small Fish						
8. Big Fish						
9. Meat						
10. Egg						
11. Pulse						
12. Milk						
13. Sour fruit						
14. Others fruit						
15. Ground sesame seed						
16. Biscuit						
17. Khichuri						
18. *Halua/suji/Firni*						
19. *Chira/ Muri*						
20. Gur/ sugar						
21. Other ……						
22. Other ……						

Q. #	Question	Answer	Skip
402	How many major meals the HH members take in a normal day (Morning thru' night) ?	Male : ..... meals. Female : ..... meals. child : ..... meals	
403	Do you all get enough quantity each time you take meal ?	Yes, in full 1 Yes, moderately 2 No 3	1→501 2→501
404	(If No) For how many months of the year you have to face the problem of food shortage ?	..... Month	

Section 5: Disease profile of children

Q. #	Question	Answer	Skip
501	Is any of the children of your household sick now ? Or was any child sick within the past 3 (three) months?	Yes 1 No 2 →	601

502 If yes, kindly tell me some information about the sick members one by one:

Sick child **(Code of Sec-1)**	Name of disease ***(Code)**	Presently sick or not **(1=Yes, 2=No)**	Time suffered/ is suffering **(Days)**	Visited doctor **(1=Yes, 2=No)**	Total cost in 3 months **(Taka)**

***Disease code: -** *1-Diarrhea, 2-Dysentery, 3-Typhoid, 4-Jaundice, 5-Skin disease, 6-Fever/Cold, 7- W*orms, *8- Malnourished, 9- Night blind, 10- Rheumatic, Other (write).....*

Section 6: Decision making and facilities

Q. #	Question	Answer	Skip
601	What are the health facilities around where people can take treatment for any diseases ? ***[Multiple response expected]***	Govt. hospital/health center 01 NGO clinic 02 Private clinic 03 MBBS Doctor 04 RMP/ *Palli chikitshak* 05 Pharmacy salesmen 06 Homeopath 07 *Kobiraj/ Ayurved* 08 Other (specify) ……..	
602	In general, where do you or your family members go for treatment ? ***[Multiple response allowed]***	Govt. hospital/health center 01 NGO clinic 02 Private clinic 03 MBBS Doctor 04 RMP/ *Palli chikitshak* 05 Pharmacy salesmen 06 Homeopath 07 *Kobiraj/ Ayurved* 08 Other (specify) ……..	

Q. #	Question	Answer	Skip
603	Who usually take decision for treatment of any of your family member if he/she gets sick?	Self 1 Spouse 2 Jointly with spouse 3 Mothers in law 4 Father in law 5 Other family members 6 Relatives 7 Neighbor 8 Other (specify) …….	

Section 7. Knowledge about Rickets and other disability

Q. #	Question	Answer	Skip
701	In your opinion, in how many different ways a child or any member of a family could become disabled ? ***[Multiple response expected]***	By birth 1 Accident/ disaster/ attack 2 From disease 3 Wrong treatment 4 Malnutrition 5 Other (Specify) ……... 6	
702	Do you have any facilities around for treatment of people with disabilities? If yes, where people can go? ***[multiple responses allowed]***	Govt. hospital (local) 1 Govt. hospital (away) 2 NGO clinic 3 MBBS Doctor/ Private clinic 4 Any specialized hospital ……. 5 Other (Specify) ……..….. No such facilities/ Don't know 9	
703	How many disable children you can remember living around ?	Boys …….. Girls ……..	
704	Do you think the children are getting proper treatment?	Yes 1 No 2 Don't know 9	→ 706
705	If no, what are the reasons? *[**multiple responses allowed]***	Treatment not available around 1 Expensive treatment 2 Treatment doesn't work 3 Other (Specify) ……..	
706	Have you ever heard about a disease named 'Rickets'?	Yes 1 No 2	→716
707	Have you ever seen a person affected with 'Rickets'?	Yes, in own house 1 Yes, in others' house 2 Yes, in picture 3 No 9	→716
708	If yes, how do you know the child has rickets? ---------- ----------		

Q. #	Question	Answer	Skip
709	Do you know the reasons for which a child may get 'Rickets'? If yes, please tell how?	Not giving calcium rich food 1 Not giving nutritious food 2 Other (specify) …….. Don't know 9	
710	Do you think a child with Rickets can be cured through treatment?	Yes 1 No 2 Don't know 9	 →713 →713
711	How do you think a child with Rickets can be cured? ***[multiple responses allowed]***	Through treatment 1 Through food supplementation 2 Other (specify) …….. Don't know 9	 →714
712	Where could a child with 'Rickets' be treated?	Govt. Hospital 1 NGO clinic 2 MBBS Doctor/ Private clinic 3 Any specialized hospital …… 4 Other (Specify) …….. No such facilities/ Don't know 9	
713	Is there any need for giving any special diet or food item for a Rickets affected child? If yes, can you please tell me what special food items should be given?	Taking calcium rich food 1 By giving nutritious food 2 It cures naturally 3 Other (specify) …….. Don't know 9	
714	Do you think children could be protected from 'Rickets'? If yes, what should be done?	To give calcium rich food 1 To give nutritious food 2 Other (specify) …….. Can't be protected 8 Don't know 9	
715	Where or how have you learnt about treatment and prevention of Rickets?	TV 1 Radio 2 Poster/Leaflet 3 Relative/ Friend/Neighbour 4 Health worker 5 Hospital/clinic 6 Other (specify)	
716	Do you know anything about the need for vitamin-D in our body?	Yes 1 No 2	 →718
717	How do our bodies get vitamin-D? …… …… Don't know=9		
718	Do you know anything about the need for calcium in our body?	Yes 1 No 2	 →801
719	Name some of the foods that are rich in calcium? …… ……		
720	What are the benefits of calcium in our body ? …… …… Don't know=9		

Section 8. Sources and contents of health messages:

Q. #	Question	Answer	Skip
801	Where do you get information about health?	Health worker visiting home 1 Govt. hospital/clinic 2 NGO hospital/clinic 3 Private doctors, MBBS 4 Private doctors, quack 5 Pharmacy/ drug store 6 Other (specify) ……	
802	What kind of health information do you get? …… ……		
803	What specific issues are discussed by them?	Immunization 1 Breastfeeding 2 Pregnancy care 3 Child healthcare 4 Water and sanitation 5 Child nutrition 6 Other (specify) ……..	
804	***[FI: If mother or child nutrition is not mentioned, then ask:]*** Have you ever been counseled about nutrition of yourself or your child?	Yes 1 No 2	
805	If yes, who did that? What did she/he tell you? …… ……		
806	In your opinion, how does malnutrition affect child health? …… ……		
807	If yes, please describe what you know about it. …… ……		
808	Was your last baby given colostrums milk?	Yes 1 No 2	
809	From when/ after how many months of last children should be given execlusive breast milk?	Number of months ..... Don't know 99	
810	Can you please share what kind of health information do you need and how will you like to get them"(Probe more on child health) ……		

Q. #	Question	Answer	Skip
	……		
811	What are the most popular forms of entertainment in your locality?	Radio 1 TV 2 Local folk songs 3 Local drama, *Jatra* 4 Other (specify) ……	
812	Which one of the said forms do you enjoy most?	Radio 1 TV 2 Local folk songs 3 Local drama, Jatra 4 Other (specify) ……	
813	Do you have any comment or question on Rickets ? If yes, please mention. …… ……		

Interviewer, please tell : Thank you very much for your cooperation. We plan to use the information collected through the process of this interview to assess how much the people are aware of Rickets and its causes and remedies in this upazila and 11 others. Based on that, SARPV will design intervention plan. I hope you will also take part in that process and would be benefited.

Name of Interviewer: ..... Date : .....

Name of Supervisor: ..... Date : .....

DCI-2: Check List for CSO / Club/ Society Representative

1. Name:
2. Identity:
3. Age: ……. Years
4. Working area:
5. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
6. a) Please tell us about the nutrition status of your area. What proportions of the people are malnourished? Who are the most vulnerable? b) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working? c) What services are provided in the government service centers? What services are provided in the NGO/ private service centers? d) do you think the on-going programs on nutrition here is adequate?
7. What are the diseases that children may suffer due to malnutrition? Can children become disable due to malnutrition? Please describe. Can such disabilities be prevented? How?
Do you know anything about Rickets? Who are affected with Rickets? What are the symptoms of Rickets? What are the causes of Rickets? How one can be away from Rickets? What are the treatments of Rickets?
9. Did your club/organization ever involve or is now involved in any activity about disability in children or Rickets?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-3: Check List for RMP/ Palli Chikitshak/ Medical Assistant (FWC)/ Health worker

1. Name of respondent
2. Designation/ Identity:
3. Working in present position:
4. Working area:
5. a) Please tell us about the nutrition status of your area. What proportion of the people are malnourished? Who are the most vulnerable? b) How the children get affected due to lack of nutrition? What else? c) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working?
6. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
7. What different types of disability may be seen among children? What are the preventable disabilities? Can anybody become disable due to lack of nutrition? If yes, what is that type? What are the solutions of it?
8. How much disability problem is in the area? Do any Rickets patients come to you for treatment? What treatment do you prescribe for them? What are the treatment facilities of disability near to your near?
9. Please tell how much do you know about Rickets. How is the prevalence of Rickets in the area? What are the causes of Rickets? What are the symptoms of Rickets in children? What are the treatments if one has Rickets? What is about the treatment facilities of Rickets in the area? Do ant Rickets patient come to you for treatment or advice? If yes, What treatment do you prescribe for them? In your opinion, can a Rickets patient be cured through treatment? Have you referred any Rickets patient to anywhere? If yes, where?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-4: Check List for Imam

1. Name of respondent/Address:
2. You talk to the people at the mosque and also outside. Besides specific religious prechings, what special public interest issues you generally talk about?
3. What specific you talk about health?
4. How do you describe nutrition issue?
5. How a child could remain safe from malnutrition? What specific the parents should be careful of?
6. Do you think a child can become disabled due to malnutrition? How? How can this be prevented?
7. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
Do you know about Rickets? Who are usually the victims of Rickets? What are the symptoms of Rickets? What are the causes of Rickets? How one can be away from Rickets? What are the treatments of Rickets?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-5: Check List for Head Master of Primary School

1. Name of respondent
2. Designation/ Identity:
3. Name of school:
4. How long about teaching?
5. How many classes have you teach ?
6. a) Do you talk about health in the class room? Do you discuss anything beyond the syllabus? What are those? b) Do the teachers talk about nutrition? Please elaborate. c) What are the problems that a child may face due to malnutrition? Is it discussed in the class? d) Do you think a child can become disabled due to malnutrition? How? e) Do you offer any food to the children in the break? If yes, please detail.
a) Is any disable child enrolled in your school? If yes how many? b) What is the nature of their disability? c) Is there any special facilities or benefit for these children? What are those? d) Do you know of any other disable children around who do not or cannot go to school? Who are thinking about them? Do you think you have any role to play in this regard?
Do you have any idea about Rickets? Who are affected with Rickets? What are the symptoms of Rickets? What are the causes of Rickets? How a child could be away from Rickets? What are the treatments of Rickets? Have you ever said about rickets to the children?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-6: Check List for UP Chairman/ Member

1. Name:
2. Identity:
3. Age: ……. Years
4. Working area:
5. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
6. a) Please tell us about the nutrition status of your area. What proportions of the people are malnourished? Who are the most vulnerable? b) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working? c) What services are provided in the government service centers? What services are provided in the NGO/ private service centers? d) Do you think the ongoing programs in the area on nutrition are adequate?
7. What are the diseases that children may suffer due to malnutrition? Can children become disable due to malnutrition? Please describe. Can such disabilities be prevented? How?
8. Do you know about Rickets? Who are affected with Rickets? What are the symptoms of Rickets? What are the causes of Rickets? How one can be away from Rickets? What are the treatments of Rickets?
9. Is there any ongoing activity here on disability or Rickets? Do you think you have anything to contribute in this?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-7: Check List for GoB Official

1. Name of respondent
2. Designation/ Identity:
3. Working in present position:
4. How long working in this upazila?
5. a) Please tell us about the nutrition status of your area. What proportion of the people are malnourished? Who are the most vulnerable? b) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working? c) What are programs on agriculture, fishery and livestock in this upazila in the govt sector to combat nutrition problem? Please tell explain details. d) What are programs on agriculture, fishery and livestock in this upazila by the NGO or private sector to combat nutrition problem? Please in details. e) Do you think the said programs on agriculture, fisheries and livestock are enough to combat nutrition problem in the area? What proportions of the hardcore poor people are covered? f) Is there any success story of any organization in this area on nutrition? If yes, what is that? What is next? What is special about it/them?
6. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
7. How much disability problem in the area? What are the preventable disabilities? [*FI: Please give hints, if necessary*] What are the activities are done at govt. level? Does any NGO works here about disability? Please name them? What services they provide to the persons with disability?
8. Do you know anything about Rickets? What is Rickets? Do you know how one can have rickets? In your opinion, how a child could be kepy away from Rickets?
9. Is there any program in your department that are targeted to nutrition? Please detail.
10. Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-8: Check List for UNO

1. Name of respondent
2. Designation/ Identity:
3. Working in present position:
4. How long working in this upazila?
5. a) Please tell us about the nutrition status of your area. What proportions of the people are malnourished? Who are the most vulnerable? b) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working? c) Do you think the services on nutrition are adequate in the area?
6. In your opinion, how much disability problem in the area? What are the preventable disabilities?
7. Please tell how much do you know about Rickets. In your opinion, what are the causes of children are effected on Rickets? How the children could be saved from it? How is the prevalence of Rickets in the area?
8. Do you think it is necessary to increase awareness among people about Rickets? Who should do this task? How? What else could be done on this>
9. Have there been any discussion about Rickets in any upazila meeting where you chaired? Please elaborate.
10. Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-9: Check List for MBBS Doctor/ Pediatrician

1. Name of respondent
2. Designation/ Identity:
3. Working in present position:
4. How long working in this upazila?
5. a) Please tell us about the nutrition status of your area. What proportion of the people are malnourished? Who are the most vulnerable? b) How the children get affected due to lack of nutrition? What else? c) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working?
6. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
7. How much disability problem in the area? What are the preventable disabilities? [*FI: Please give hints, if necessary*] What activities are done at govt. level?
8. a) Please tell how much do you know about Rickets. b) ow is the prevalence of Rickets in the area? What are the causes of Rickets? c) What are the symptoms of Rickets in children? d) What are the treatments if one has Rickets? e) What is about the treatment facilities of Rickets in the area? f) Do any Rickets patient come to you for treatment or advice? If yes, What treatment do you prescribe for them? In your opinion, can a Rickets patient be cured through treatment? g) Have you referred any Rickets patient to anywhere? If yes, where?
9. In your opinion, what are the main reasons of Rickets in Bangladesh? What is its solution?
10. Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-10: Check List for UHFPO NGO Coordinator/ Head

1. Name of respondent
2. Designation/ Identity:
3. Period of working in present position:
4. How long working in this district/upazila?
5. a) Please tell us about the nutrition status of your area. What proportion of the people is malnourished? Who are the most vulnerable? b) Who works here about nutrition? From the government side? From NGO or private? How long the NGOs are working? c) What services are provided in the government service centers? Awareness building? Feeding of nutrition packet? School program? Treatment? Any other? d) What services are provided in the NGO/ private service centers? Counseling? Feeding? Any other? e) Do you think the services on nutrition are adequate in the area? What proportion of people is covered? How is the quality of services? f) Is there any special organization or approach going on here? If yes, what is that? Any other? What is special about it/them?
6. Would you tell me please what are the health facilities around where the poor people get their treatment? Which one is the best? What is next? How do you judge?
7. How much is disability problem in the area? What are the preventable disabilities? [*FI: Please give hints, if necessary*] What activities are done at govt. level? Does any NGO works here about disability? What is that? What type of services they provide to the disabled? How adequate the services are?
Please tell how much do you know about Rickets. What is the role of the govt. in this regard? How is the prevalence of Rickets in the area? What are the symptoms of Rickets in children? What are the causes of Rickets? How one can be away from Rickets? What are the treatments if one has Rickets? How are the treatment facilities of Rickets in the area?
In your opinion, what are the main reasons of Rickets in Bangladesh?
Is there any separate arrangement in your facility for treatment of the persons with disability? If yes, What is that? What about persons with Rickets? If yes, What is that?
Do you think it is necessary to increase awareness among people about Rickets? If yes, how it could be done?

DCI-11: FGD Guideline for Fathers of 1-15 year children and Health/ FP workers

About Malnutrition:

1. How is the level of malnutrition among the children in this area ? High, medium or low ?
2. In your opinion, why do children become malnourished ?
3. How do you know that a child is suffering from malnutrition ?
4. Can a child from rich family suffer from malnutrition?
5. How does malnutrition harms a child ?

Nutritional knowledge and Food Habit:

1. Do you know what types of food nutrias required for proper child growth? What else?
2. What types of food or nutrients are required for proper development of bone of a child?
3. Please discuss about vitamin-D. Which food contains vitamin-D? What types of diseases can develop due to lack of vitamin-D?
4. Please discuss about Calcium. Which food contains Calcium? What type of diseases can develop due to lack of calcium?
5. Are all kings of nutritious foods available in the local market for buying?
6. Do you do anything in your house that supplements the nutritional needs of your HH? If yes, what are those?

About Disability and Rickets:

1. Do you know for what reasons a child may become disable? Please discuss about various types of disability. Is there any child in your area who is like this (disable)? How many of them you can recall? Do the people get treatment for such disability?
2. Do you know anything about Rickets? Who are usually the victims of Rickets and why? What should we do if one has Rickets? Where to go for treatment?

About Treatment facilities:

1. Would you tell me please what are the health facilities around where the children get their treatment? Which one is the best? What is next? Why good? Why not good in others?
2. What are the diseases in which the children of this area usually suffer? Where do you take a child or whom do you consult first if a child becomes sick? Can you take the child to the best place that you think he/she should be taken? Do you face any situation when you cannot treat your child only for money? Does it happen often, at times or never?