Endline Report

PROSHAR Quantitative Final Program Performance Evaluation (QFPE) 2015, Bangladesh

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TECHNICAL ASSISTANCE to NGOs

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PROSHAR QFPE Study Team
TANGO International, Inc.

ACRONYMS

ARI	Acute respiratory infection
BADC	Bangladesh Agricultural Development Corporation
BARI	Bangladesh Agricultural Research Institute
BMI	Body mass index
BRAC	Bangladesh Rural Advancement Committee
BRRI	Bangladesh Rice Research Institute
CODEC	Community Development Centre
CPI	Consumer price index
DHS	Demographic and Health Survey
EWR	Early warning and response
FANTA	Food and Nutrition Technical Assistance
FFP	Food for Peace
HH	Household
HYV	High-yielding variety
iDE	International Development Enterprises
IPM	Integrated pest management
IPTT	Indicator performance tracking table
IYCF	Infant and young child feeding
LOA	Life of agreement
LIV	Local Improved Variety
M&E	Monitoring and evaluation
MCHN	Maternal and child health and nutrition
MYAP	Multi-year assistance program
NGO	Non-governmental organization
ODK	Open Data Kit
ORT	Oral rehydration Therapy
PCI	Project Concern International
PLW	Pregnant and lactating Women
PM2A	Preventing malnutrition in children under two years of age approach
PNGO	Partner NGO
PPS	Probability-proportional-to-size
PROSHAR	Program for Strengthening Household Access to Resources
QFPE	Quantitative Final Program Evaluation
SHOUHARDO	Strengthening Household Ability to Respond to Development Opportunities
SO	Strategic objective
TANGO	Technical Assistance to Non-Governmental Organizations
Tk.	Bangladesh taka
U5	Children under five years of age
UDMC	Union Disaster Management Committee
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization

EXECUTIVE SUMMARY

Since May 2010, ACDI-VOCA has been implementing the United States Agency for International Development (USAID)-supported Title II Program for Strengthening Household Access to Resources (PROSHAR) project in three upazilas; Batighata, Lohagara and Sarankhola in Khulna Division of Bangladesh. The program is designed to "*reduce food insecurity among vulnerable rural populations in selected upazilas in Khulna Division*." It has three strategic objectives (SOs) in the areas of income and access to food of poor and ultra-poor households (SO1), Health of pregnant and lactating women (PLW) and children under 5 (SO2), and disaster risk reduction (SO3), as well as a cross-cutting gender component. The Government of Bangladesh (GOB), along with its funded resources also provided critical support to PROSHAR and was invaluable to the program outcome. This report documents the findings of the program's quantitative final program evaluation (QFPE), conducted January – February 2015 by Technical Assistance to Non-Governmental Organizations (TANGO) International, Inc.

The purpose of the final QFPE is to measure changes in project impact and outcome indicators over the life of the PROSHAR project, in order to assess the extent to which project objectives have been achieved, measure the overall impacts on populations in the project areas, assess the assumed causal pathways linking project activities to outcomes and impacts, and determine how interventions contributed to achieving project goals. Another key function of the final QFPE is to provide current status for key indicators included in PROSHAR's Indicator Performance Tracking Table (IPTT).

Context

The food security situation in the targeted area of Bangladesh was critical at the point of project inception in 2010. Despite real wage growth in the previous five years leading to program initiation, a high rate of households, 31.5 percent, were in poverty. High food commodity prices, rising since 2007, exacerbated an already poor food security situation. Food insecurity at a national level was extremely high as measured by the Household Food Security Access Scale – at the beginning of 2011; the reported value was 69, a value more than double what was reported nearly two years later at the end of 2013.[1]

Inadequate Child feeding practices, poor maternal health, and low child nutrition were persistent problems on a national level at program commencement. An alarming number of children, 41 percent (34.1% in Khulna Division) as measured by the 2011 Demographic and Health Survey (DHS), were stunted, 16 percent (14.6% in Khulna division) wasted, and 36 percent (29.1% in Khulna Division) underweight. Only 21 percent (28.2 percent in Khulna Division) of children age 6-23 months were fed appropriately based on infant and young child feeding (IYCF) practices, over half (54.2 percent in Khulna Division) of children 6-59 months were reported as anemic, and 42 percent (37.4 percent in Khulna Division) of ever-married women age 15-49 were anemic as well.[2]

The Government's long-term development strategy (2010-2021) is implemented through two medium-term development plans, the first of which is called the Sixth Five-Year Plan. This plan focuses on poverty and income, education, nutrition, health and women's empowerment, among others,[3] which have been key areas of emphasis of the PROSHAR program.

Methodology

[1] *State of Food Security and Nutrition in Bangladesh: 2013*. Food Security and Nutrition Surveillance Project (FSNSP), 2014. Helen Keller International and James P. Grant School of Public Health.
[2] *Bangladesh Demographic and Health Survey (DHS): 2011.* National Institute of Population Research and Training (NIPORT), Mitra and Associates, and ICF International, 2013.
[3] Government of the People's Republic of Bangladesh (Ministry of Planning, General Economics Division). 2012.

An 'adequacy design' or non-experimental design for simple pre-post comparison of results was utilized for PROSHAR QFPE. The evaluation survey was population-based with the sample drawn randomly from the sample frame of all households residing within the action areas of PROSHAR. The sample size was determined to provide statistically representative results for indicators at the level of household (HH) and children under five years of age. A two-stage random sample selection process was used to select households to be interviewed. In the first stage, a total of 50 clusters (villages) were selected in two geographic strata: Coast (Sarankhola) and Inland (Batiaghata and Lohagara). In the second stage, 25 households were interviewed in each of the selected villages. The households were selected from a census listing of all households in the selected villages. During analysis the sample was weighted to account for the fact that within the two strata, the proportion of sampled households to strata population was different.

Findings

Comparison of baseline with endline values demonstrates that the PROSHAR program surpassed targets for all SO1 and SO2 impact indicators measuring household nutrition and food security status. Details of project indicators at baseline and endline as well as target values are provided in the IPTT Table, Annex 4. In particular, the endline values for all anthropometric indicators, Household Dietary Diversity Score (HDDS), and Months of Adequate Household Food Provisioning (MAHFP) exceeded the target values for these indicators. Many of the SO1 and SO2 outcome indicators also showed substantial improvements from baseline to endline, exceeding targets as well, suggesting that program activities have supported the favorable program outcomes. The results for the SO3 indicators revealed high levels of disaster preparedness awareness, particularly for households reporting receipt of support from SO3 interventions in the more disaster-prone Coast region.[4]

SO1 Income and Access to Food of Poor and Ultra-Poor Households

Impact level indicators for SO1 have improved substantially from baseline to endline. The HDDS increased by 10 percent, to 7.2 at endline for all surveyed households, exceeding the program target (target of 6.9). MAHFP increased from 9 months to 10.6 months over the life of the program, also exceeding the program target of 10.2 months. Livelihoods improved as measured by livestock gross margins. The average value of livestock gross margin (in Taka, real values adjusted for inflation), increased 27 percent to 9,085 taka. Agricultural (crop) gross margins showed no change over the life of the program in real terms (14,695 Tk.) and fell just short of the program target of 14,994 Taka.

There are some positive signs suggesting that program activities will continue to contribute to increased livelihoods for households in the program area. The yields for all key crops measured in the survey increased, particularly for all varieties of rice. Yields of the high-yielding variety (HYV) of rice increased by 49 percent (to 4,284 kg / ha), even more for the local variety (by 51 percent to 3,204 kg/ha), and the most for locally improved variety (LIV) by an impressive 139 percent gain (to 4,584 kg/ha). There is evidence of growing adoption of improved agricultural practices in the program area. The mean number of improved agricultural production techniques employed by all households increased from 2.8 to 5.3; the number of improved gardening techniques increased from 1.6 to 5.1; and, the number of improved fishing practices increased from 32 to 5.2. The increases in adoption of improved farming techniques are higher for SO1 participants compared to non-participants, implying that SO1 programming has effectively promoted positive changes in farmer behavior. These results suggest that there is interest on the part of farmers to adopt these practices, but there is probably continued need for promoting the messages to large numbers of farmers into the future.

[4] No IPTT indicators for SO3 are measured at the household level.

SO2 Maternal Child Health and Nutrition (MCHN)

Goal indicators and impact indicators[5] for SO2, particularly anthropometric indicators (measurements of child weight, height, and age) , improved dramatically from baseline to endline. The prevalence of overall stunting for children aged 6-59 months declined 25 percent - from 42 percent at baseline to 32 percent at endline. This exceeded the program target of 34 percent. This result is comparable to national statistics – stunting fell nationally from 45 percent in 2010 to 35 percent in 2013.[6]

Over the life of the program, declines in the prevalence of underweight children (aged 0-59 months) and overall wasting (aged 6-59 months) were 40 percent and 46 percent respectively. The endline results for underweight children 0-59 months (19 percent) also surpassed the program target of 24 percent. Reductions in underweight children and wasting compared quite favorably to national trends – underweight children remained flat at 32 percent from 2010 to 2013. National rates of child wasting rose from 10 percent in 2010 to 12 percent in 2013.[6] As a final point, chronic malnutrition rates of ever-married women declined considerably from 24 percent to 17 percent, surpassing the target of 22 percent.

Food security for the PROSHAR sample population improved markedly as measured by the household hunger scale (HHS). The HHS declined by 43 percent for all households sampled, from 0.51 at baseline to 0.29 at endline. Reductions in food insecurity were even greater for participant households compared to households that did not participate in PROSHAR. Non-participant households had an average HHS value of of 0.29 at endline, compared to 0.19 for households participating in only SO2 activities, while those households that received both SO1 and SO2 services performed even better with an average endline HHS of 0.13. All differences relative to non-participants are statistically significant.

These improvements were supported by high rates of adoption of recommended practices for child feeding and care. Infants and toddlers (aged 6-23 months) receiving a minimally acceptable diet increased from a baseline value of 29 percent to 39 percent of households surveyed at endline, exceeding the program target of 36 percent. The proportion of children under six months exclusively breastfed grew markedly, as well, from 41 percent to 74 percent of children of mother's surveyed. This bettered the program target of 60 percent substantially and was contrary to national trends, in which exclusive breastfeeding actually decreased from 52 percent to 43 percent between 2010 and 2013.[6]

Mother and infant health during pregnancy was supported by strong improvements in nutritional and antenatal health behaviors of pregnant women in the program area. The proportion of mothers reporting taking vitamin A supplementation increased 66 percent to 57 percent of mothers. The prevalence of mothers taking folic acid during pregnancy almost doubled from 38 percent to 74 percent for all households. Also, the percent of mothers that reported attending 4 or more antenatal care visit increased from 17 percent to 46 percent at endline. All these differences from baseline to endline are statistically significant.

It is important to note that the changes in anthropometrics were observed for both respondents that participated in SO2 interventions and those that did not report participating directly in these interventions. These results indicate that PROSHAR has helped to contribute to a change in child care and nutrition practices, and household hygiene practices that has been also supported by the government and other organizations that have reached households not participating directly PROSHAR,

[5] See the IPTT table in Annex 2 for indicator types.
[6] FSNSP, 2014.

or that PROSHAR interventions, such as the Care Group Trios, have indirectly reached individuals in project areas that have not been participants in project activities.

SO3 Disaster Risk Reduction

The percent of households reporting that they experienced a disaster in the previous four years decreased substantially from baseline to endline, from 88 percent to 58 percent of households surveyed, although this may be largely the result of the normal fluctuations of the incidence of disasters over time. More importantly, the negative impacts reported by households that experienced a disaster fell substantially as well. Where at baseline, a third to half of households reported having at least one of the following effects: i) loss of home, ii) stress/anxiety/fear, iii) loss of livelihood, or iv) loss of general assets, the percentages declined to between 4 percent and 28 percent of households at endline. It should be noted, however that there were a number of disasters prior to the baseline survey (Sidr, Ayla), while there were no intense shocks prior to the endline.

Conclusions and Recommendations

While the values of many of the nutrition impact indicators, along with the childhood stunting goal indicator, improved dramatically over the life of the program, the trends were quite similar for project participants and non-participants. This generally similar pattern of improvements for both participants and non-participants may be explained by the existence of government programs and projects supported by non-governmental organizations that have been providing similar MCHN messages throughout Bangladesh over the past several years. However, attribution of positive program effects is difficult when alternative messaging channels, such as mass media communications, cover the same geographic areas. An alternative explanation could be that project messages have been widely diffused to households throughout the project implementation area. The evidence from these quantitative findings supports the conclusion that PROSHAR has helped to contribute to the overall improvements in nutritional conditions in Bangladesh over the past five years, but further qualitative information is necessary to better understand the ways in which PROSHAR or other projects have contributed to improvements in these impact indicators.

One area of changes that can be justifiably attributed to program participation was in farmer adoption of appropriate agricultural practices and in rice yields. The numbers of improved agriculture, gardening, and fishery activities adopted by SO1 participants were all substantially higher than non-participants, and these differences were highly statistically significant. Rice yields for SO1 participant households (5,567 kg/ha) are 52 percent higher than households that did not participate in SO1 (3,657 kg/ha). These differences in outcomes between participants and non-participants indicate effective program implementation to promote improved behaviors.

One unexpected finding in the final quantitative study of PROSHAR was the decline in the index of women's empowerment with respect to decision making. This is very surprising, given that PROSHAR interventions are strongly oriented toward enhancing women's empowerment. In future project M&E designs, more detailed and qualitative analyses that focus specifically on measuring and assessing the factors that affect women's empowerment should be built into initial assessments and final project evaluations.

One substantial limitation of this quantitative performance evaluation study has been the lack of supporting qualitative information to help interpret the trends in quantitative indicators that have been measured and tracked over the two rounds of quantitative household surveys. In the future, project M&E plans should include an integrated final project evaluation design that includes both qualitative and quantitative components. Ideally, monitoring and evaluation design of the next round of

programming (or a separate impact evaluation) would incorporate testable hypotheses and a representative comparison group to evaluate the effectiveness of project activities for beneficiaries vs. non-beneficiaries.

1.0 INTRODUCTION

1.1 CONTEXT

ACDI/VOCA is implementing the Program for Strengthening Household Access to Resources (PROSHAR) in three *upazilas* in Khulna Division of Bangladesh. PROSHAR is a Multi-Year Assistance Program (MYAP) funded by the Office of Food for Peace (FFP) of the United States Agency for International Development (USAID) in partnership with Project Concern International (PCI), International Development Enterprises (iDE) and three local partner NGOs (PNGOs) - Shushilan, Muslim Aid, and Community Development Centre (CODEC). The program started in June 2010 and runs through May 2015. Its goal is to "*Reduce food insecurity among vulnerable populations in selected rural upazilas in Khulna Division*."

In achieving this goal, PROSHAR's activities are designed around three SOs and their intermediate results (IR) to support vulnerable communities through an integrated food security approach. This approach is primarily directed at both poor and ultra-poor populations in the three *upazilas* of Lohagara (Narail), Sarankhola (Bagerhat) and Batiaghata (Khulna) in the Khulna Division. The three SOs are:

SO1: Incomes and access to food of poor and ultra-poor households improved

SO2: Health of pregnant and lactating women (PLW) and children under 5 (with particular attention to children under 2) improved

SO3: Institutions and households prepared to respond effectively to shocks

PROSHAR also provides a mix of technical assistance and training directed at the household level to provide the tools that households need to improve their overall food security. These interventions are

based on an in-depth value chain analysis and are centered on enhancing both on- and off-farm productivity and livelihoods through the adoption of improved practices and technologies. Building sustainable relationships between beneficiaries and public and private stakeholders and linking smallholders to profitable domestic markets are also central to this approach.

In addition to each of the three SOs, PROSHAR promotes gender equity by including both men and women in project activities, facilitating women's participation without overburdening them, and ensuring that both men and women are engaged in remunerative productive activities, including interactions with markets.

In July 2012, PROSHAR revised the project livelihoods strategy by targeting different types of SO1 interventions according to the vulnerability conditions of the unions within the project intervention area.[7] The project categorized all unions into vulnerability categories based on secondary information about access to services and infrastructures, exposure to hazards and the overall economic status, all at the union level. Within all unions, interventions would be directed toward homestead production, with a higher proportion of households served in the most vulnerable unions, while commercial production was promoted in the seven most vulnerable unions,. Off-farm livelihoods activities were also focused in the seven most vulnerable unions.

The quantitative final performance evaluation survey (QFPE) has been conducted in the penultimate year (2014-2015) of PROSHAR project implementation (Annex 11). The survey provides end of program milestones for IPTT indicators to measure the program results, impact, and long-lasting change in the lives of the beneficiaries. The QFPE analysis has also taken into consideration a variety of contextual factors, such as: geographical spread of the project (e.g., inland and coastal locations), socio-economic factors (gender and poverty levels) and food security/nutrition interventions and their impact (negative or positive) compared to the baseline findings.

TANGO International has provided technical support in the form of the development of the QFPE study methodology and instruments, including programming of computer tablets for data collection, training of the data collection team, data tabulation and analysis, and the preparation of this QFPE report.

1.2 Purpose of the Study

The purpose of the QFPE is to compare the results of key performance indicators against the baseline values to measure progress towards achievement of the SOs and IRs of PROSHAR. The objectives are to:

1. Evaluate PROSHAR's theory of change. This is specifically to:
   - Use quantitative measurement to track endline values for project output, outcome and impact indicators;
   - Create plausible links between outputs and outcomes/impacts.
2. Evaluate the results of cross-sector integration across project activities, SOs, and implementing partners. Two key specific comparisons are:
   a) Households participating in multiple activities to households participating in one activity, and
   b) Endline results from coastal and inland *upazilas*.

1.3 Main Evaluation Questions

The evaluation process of the QFPE is based on the three basic evaluation questions and related topics given in the analytical framework in Table 1.

[7] See "Revision of PROSHAR Livelihoods Strategy, July 19, 2012" for details on calculations and sources of information.

Table 1: Analytical framework

Evaluation Question	Methodology
1. Did PROSHAR achieve the targets of outcome and impact indicators?	Analysis of impact and outcome indicators given in the IPTT and PIRS and comparison of the endline values with the Life of Achievement (LOA) targets.
2. Did the program make any change in its intended outcome and impact?	The endline information will be compared to the baseline to measure the extent of changes over the period of time and their statistical significance.
3. What is the conclusion and recommendation on program achievement?	Quantitative data analysis to enable appropriate and accurate interpretation and recommendation.

In turn, these main evaluation questions were answered through a series of sub-questions outlined in the SOW.

The QFPE is not sufficient to answer of all of the evaluation questions (detailed evaluation questions are presented in Annex 3). The main objective of the QFPE is to estimate IPTT indicator values at endline and to track progress compared to the baseline. The quantitative information in this QFPE report will supplement the qualitative evaluation.

In order to address the second and third research questions, more detailed analysis was conducted by comparing some key project impact and outcome indicators across participants and non-participants in specific project interventions, by geographic areas having different profiles of project interventions, and by households in different levels of vulnerability (based on food security indicators). These comparisons provide information about the contribution of project interventions to changes in outcome and impact indicators (participant/non-participant comparisons), targeting of project interventions and impacts (vulnerability category comparisons), and the project implementation strategy (categories of project intervention areas). As described more fully below, these comparisons must be interpreted with some care, since the survey design was not for an impact evaluation, and differences across groups (including participants/non-participants) may be the result of other confounding factors than simply the defined characteristics of the groups.

1.4 INDICATORS

PROSHAR has a set of impact and outcome level indicators in the IPTT. Due to the geographical context and the importance of disaggregating data, the study findings are disaggregated by program *upazilas* in coastal and inland areas, and by gender (where applicable). Table 2 shows the summary IPTT indicators that are used to estimate program achievement compared to the baseline. The complete set of indicators values for baseline and endline, along with Life of Agreement (LOA) targets is provided in the IPPT table in Annex 4.

Table 2: Summary of the indicators

Indicator		Type of respondents	Main Disaggregation
SO1: Incomes and access to food of poor and ultra-poor households improved			
	Impact Indicators		
IM1	Average # of months of adequate household food provisioning	HH Head/Adult Female HH member	None
IM2	Average HH dietary diversity score (HDDS)	Female HH member (who cook food)	None

Indicator		Type of respondents	Main Disaggregation
IM3	Gross margin per unit of land, kilogram, or animal of selected product (crops/animals/fish production)	HH Head/Adult Female HH member	None
OC1	Value of a set of assets (including savings, livestock, etc.)	HH Head/Adult Female HH member	None
OC2	Number of farmers and others who have applied new technologies or management practices as a result of United States Government (USG) assistance.		Male, Female
OC3	Number of hectares under improved technologies or management practices as a result of USG assistance		Male, Female
	Outcome Indicators		
OC7	% of producer groups with women in leadership positions	HH Head/Adult Female HH member	None
OC8	% of agricultural smallholders reporting increased market access and use as a result of PROSHAR intervention	HH Head/Adult Female HH member	Male, Female
OC9	% of producer group members bulking as a result of PROSHAR intervention	HH Head/Adult Female HH member	Male, Female
OC10	% of alternative livelihood groups members reporting increased market access and use	HH Head/Adult Female HH member	Male, Female
OC11	% of non-agriculture beneficiaries who adopted at least one technology introduced by the PROSHAR intervention	HH Head/Adult Female HH member	Male, Female
OC12	Quantity sold as a result of participation in PROSHAR technology transfer, • Karchupi (Piece/year/beneficiary) • Bamboo products (Piece/year/beneficiary) • Others (Piece/year/ beneficiary)	HH Head/Adult Female HH member	None
SO2: Health of pregnant and lactating women (PLW) and children under 5 (with particular attention to children under 2) improved			
	Impact Indicators		
IM4	Prevalence of stunted children under five years of age	Children 0-59 months	Boy, Girl
IM5	Prevalence of underweight children under five years of age	Children 0-59 months	Boy, Girl
IM6	% chronic malnutrition (energy deficient) of ever-married women 15-49 (BMI < 18.5mm)	Ever-married women 15-49 years of age	None
	Outcome Indicators		
OC13	Prevalence of exclusive breast feeding of children under six months of age	Mother/caregiver of children <2 years	Boy, Girl
OC15	% of children under 2 years old who are underweight	Children 0-23 months	Boy, Girl
OC18	% of caregivers who adopted at least three of the recommended behaviors as a result of USG assistance	Mothers/ caregivers of children U2	None
OC19	% of women who received at least 3 antenatal checkups by a qualified provider during pregnancy	Mother of children <2 years	None
OC20	% of children 6-23 months of age with 3 appropriate infant and young child feeding practices	Mother/ Caregivers of children U2	Boy, Girl
OC21	Percent of children 6-59 months' with diarrhea treated with Oral Rehydration Therapy	Mother/ Caregivers of children U2	Boy, Girl
OC23	% of children aged 6-23 months of age with diarrhea continuously fed during illness	Mother/ Caregivers of children U2	Boy, Girl

Indicator		Type of respondents	Main Disaggregation
OC24	% of children 0-23 months who had symptoms of Acute Respiratory Infection (ARI) that sought advice or treatment from trained health care provider	Mother/ Caregivers of children U2	Boy, Girl
0C25	% of households with soap and water at a hand washing station commonly used by family members		None
SO3: Institutions and households prepared to respond effectively to shocks			
OC31	# of wards with disaster early warning and response (EWR) systems in place as a result of project assistance		

1.5 Evaluation Methodology

The overall survey design is a non-experimental pre- and post-test that mirrors the geographical disaggregation used at baseline. An inclusive population-based sample survey was conducted for this quantitative evaluation. Because this is a random sample of household, it includes both participants and non-participants in project activities, in the same proportions as the overall population.

The survey includes structured questions to measure project indicators, and to measure the present status, knowledge, attitudes and practices on themes relevant to all three SOs. It has recorded responses from a representative sample of beneficiaries and non-beneficiaries about the implementation of the program and its impacts, and outcomes.

1.5.1 *Sample design and strategy*

The minimum required sample size for the endline was estimated based on the outcome indicator *stunting among children 6-59 months*. The indicator value and the design effect are obtained from the PROSHAR baseline dataset. The FANTA Sampling Guidelines[8] were used to calculate a sample size capable of detecting a 10 percent reduction in the child stunting indicator over the five-year intervention. The minimum sample size required per survey round was computed as follows:

$$n = [(Z_\alpha + Z_\beta)^2 * \{P_1(1-P_1) + P_2(1-P_2)\}/(P_2-P_1)^2] * D$$

where:

n = required minimum sample size per survey round or comparison group (strata)

P_1 = stunting rate at baseline, 42.4% = **0.424**

P_2 = the *expected* level of stunting at endline for the program area such that the quantity (P_2 - P_1) is the size of the magnitude of change it is desired to be able to detect, PROSHAR life of award (LOA) target reduction of 8 percentage points, 34.4% = **0.344**

Z_α = the Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of magnitude (P_2-P_1) would not have occurred by chance (α - the level of statistical significance for one-tailed test), 95% = **1.645**

Z_β = the z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of magnitude (P_2-P_1) if one actually occurred (β - statistical power), 80% = **0.840.**

D = Actual PROSHAR baseline design effect for stunting = **1.40**

[8] Sampling Guideline, FANTA III, Robert Magnani, 1999

Based on these parameter values, the estimated target sample size (n) is 635 U5 children per survey round. Considering that not all households have U5 children, the sample size was adjusted to ensure that a sufficient number of U5 children were measured. The sample was adjusted using FANTA inflation factor[9] of the following:

$$\textbf{n (final)} = n\ (adjusted_2)\ X\ non\text{-}response\ factor$$

$$n\ (adjusted_2) = [A\ X\ n\ (adjusted_1)] + [\{(1\text{-}A)\ X\ n\ (adjusted_1)\}/2]$$

$$A = (1 + \lambda)\ X\ e^{-\lambda}$$

$$\textbf{n (adjusted}_1\textbf{)} = n\ /(1 - e^{-\lambda})$$

Where, **λ** = Average number of children U5 per household
= Household size X proportion of children U5 in population = 4.9 (actual from PROSHAR baseline) X 11.5% (actual from PROSHAR baseline)= 0.5635

Therefore **n (adjusted$_2$)** = 1,392

The final sample size was obtained by adding 10% non-response is 1,532[10] for overall the PROSHAR program.

To be consistent with the baseline, the sample size for the endline survey was set to allow comparison across two regional strata (Coast and Inland). For the endline sample, the stratum sample size was calculated to detect 9[11] percentage point difference across the strata[12]. The stratum sample size was estimated 1,202 and rounded to 1,250, for a total sample of 2,500 households, which is substantially larger than the minimum required ample size of 1,532 as computed above. This larger sample size was applied to allow statistical comparison of project indicators across the two project intervention areas.

1.5.2 SELECTION OF CLUSTERS[13]

A two-stage sample selection process was used to select households to be interviewed. In the first stage, a total of 50 clusters were selected in each of the two strata: Coast (Sarankhola *upazila*) and Inland (Batiaghata and Lohagara *upazilas*). In the second stage of sampling, 25 households were interviewed in each of the selected clusters, for a total of 1,250 households interviewed in each strata. Clusters were selected using a probability-proportional-to-size (PPS)[14] sampling procedure (the list of selected clusters is provided in Annex 3). The PPS procedure ensures that all households within the stratum have an equal chance of being selected. The listings of clusters were arranged by union and *upazila* in the PPS selection process, to ensure wide geographic coverage.

1.5.3 SAMPLING FRAME

A complete sampling frame for all households in the selected clusters was constructed by conducting a census of households within the clusters.[15] Separate teams of census enumerators obtained lists and

[9] Using adjusted inflation factor from Stukel, Diana & Deitchler, Megan. Addendum to FANTA Sampling Guide by Robert Magnani (1999): Correction to Section 3.3.1 Determining the Number of Households that need to be Contacted. March 2012.

[10] All U5s in a selected household were measured for anthropometric indicators. The estimate for the proportion of children U5 per household is consistent with the baseline sample and data from the most recent Demographic and Health Survey (DHS).

[11] Considered 10 percentage points at PROSHARD baseline

[12] 498 children U5 is required to be in the sample per stratum

[13] Cluster is defined as the PROSHAR program villages.

[14] In larger clusters the chance that any single household will be selected is smaller, but this is offset by the fact that larger clusters have a greater chance of being selected in the PPS procedure.

maps of all households within the selected clusters. The census enumerators prepared a hand-sketched map (an actual map is given in Annex 6) for each selected cluster to identify the pattern of household distribution in rural settlements. Clusters were quite compact geographically, with houses grouped along rural roads and pathways. These characteristics made it possible for survey teams to quickly identify the boundaries of clusters and to locate roads, paths, and pockets of settlements within the clusters. Each household location in a given cluster was plotted on the hand-sketched map with a serial number starting from the number "1". Listing experts from Mitra used the same procedure of mapping and listing that they use in DHS. Details on the procedure are given in Annex 5.

A separate quality control team was assigned to ensure the accuracy of the household listing. A follow-up quality control team randomly selected at least one village from each *upazila* and visited every household to verify the listing file for that village. The quality control team found the listing files to be accurate.

1.5.4 SAMPLING WEIGHTS

The PROSHAR QFPE survey sample was drawn with two-stage, stratified cluster sampling based on a sample frame generated by a separate household listing exercise. Clusters were equally allocated among strata (Inland and Coast). At the first stage, a sample cluster was selected independently with probability proportional to the cluster's population in each stratum. The strata were the two geographical regions encompassing the program area – Inland (Batiaghata and Lohagara *upazilas*) and Coast (Sarankhola *upazila*). The unequal probabilities of selection across strata caused by the equal number of clusters in each stratum were adjusted relative to the population of each stratum. Design weights were calculated based on the separate sampling probabilities for each sampling stage and for each cluster.

Table 3: Household sampling weights

Strata	Total household	Estimated Sample size	Household Interviewed	Sampling weights
Inland (Batiaghata, Lohagara)	83,887	1,250	1,179	1.6145
Coast (Sarankhola)	26,289	1,250	1,140	0.5233
All	110,176	2,500	2,319	

The sampling weight was calculated with the design weight corrected for non-response for each of the selected clusters. Response rates were calculated at cluster level as ratios of the number of interviewed households over the number of eligible households. The overall household sampling weight was calculated by dividing the household design weight by the household response rate. The detailed sampling weights for QFPE are given in Table 3.

1.5.5 SELECTION OF HOUSEHOLDS

Once the census was completed, all listed households were given an identification number. Twenty-five households from each cluster were then randomly selected, using the statistical software SPSS, and noted on hand-sketched maps. The data collection team moved from house to house according to the map so that they could complete 25 households in a day.

1.5.6 COVERAGE OF THE SAMPLE

Table 4 shows the results of the household interviews from a total of 2,500 selected households, of which 2,496 were found to be occupied. Interviews were successfully completed in households, or 92.9 percent of all the occupied households. The non-response rate was found to be 7.1 percent, lower than the expected 10 percent non-response rate in the sample size calculation. The non-response rate is comparatively higher in coastal areas than in inland areas. The main reason for non-response is the unavailability of eligible respondents (7 percent) at the household despite repeated visits.

Table 4: Sample household and individual respondents

Background Characteristics	Inland	Coast	Total
Number of clusters	50	50	100
Household:			
Number of households estimated (n)	1,250	1,250	2,500
Number of households selected randomly from the sampling frame (obtained from census)	1,250	1,250	2,500
Number of households located to be interviewed	1,248	1,248	2,496
Number of household located and respondent available	1,181	1,140	2,321
Number of households interviewed	1179	1140	2319
Household non-response rate (%)	5.5	8.7	7.1
Percentage of households with children less than 5 years of age	31.3	31.2	31.2
Percentage of households with children less than 2 years of age	13.7	13.1	13.4
Children of age less than 5 years:			
Number of children estimated to be in the sample	629	629	1,258
Number of children in the sample	446	435	881
Number of children with anthropometric measurements	383	371	754
Percentage of children not available in the household	12.6	14.0	13.3
Mothers/Caregivers:			
Mothers of children under 2 years of age	403	383	786
Percentage of mothers absent during interview	13.0	14.1	13.5
Caregivers of children under 2 years of age	4	15	19

Based on the DHS 2011, it was anticipated that 50 percent of households would have children under the age of five years. However, the survey results show that 31.2 percent of households have children U5, which is lower than was expected. There were 881 children U5 in the sample; of them, 754 children were measured for anthropometric indicators and 127 (13.5 percent) were not available[16] at the time of the household interview. However, the number of children in the sample is adequate (635 children U5) to estimate IPTT indicator values as a whole for PROSHAR. Disaggregated child-level results by region will have a higher level of confidence interval.

The survey interviewed all mothers or caregivers of children U5. There were 805 mothers/caregivers in the sample, of which 786 are mothers (97.6 percent) of children U5. It was found that 13.5 percent of mothers were absent during the interview.

1.5.7 SELECTION OF RESPONDENTS

Household heads or male respondents were involved in the interview process for the collection of basic information at the household level. The person who is directly involved in the SO1 activities was interviewed to collect agriculture, farming and marketing related information. The household heads and spouse/adult household members were the main respondents of this survey. Most of the questions in the SO2 component were related to health and hygiene, IYCF and child care practices. Mothers or caregivers of children U2 were interviewed for the majority of the questions for SO2. However, pregnant women were also interviewed if they were available in the household. In particular, questions related to household dietary diversity were asked of the person who usually cooks food for the household. The

[16] "Not available" means, there is no possibility of getting them for anthropometric measurement within next 3 days

diet diversity questions were skipped if the appropriate respondent was not available at the time of the survey.

1.5.8 DATA COLLECTION TEAM COMPOSITION AND NUMBER OF DAYS REQUIRED FOR DATA COLLECTION

There were five data collection teams, with two coordinators to oversee all five teams and ensure data quality. A data collection team was comprised of 11 team members: one team supervisor, one field editor, five household survey enumerators, two anthropometric data collectors, one additional enumerator and one logistics assistant. Twenty-five households were interviewed per day by one team, thereby completing approximately one cluster per day (as noted earlier, 25 households were interviewed in each cluster). Then 19 working days (20 days were estimated during design) were required to complete the survey for 2,500 households. The data collection started on January 18, 2015 and finished on February 8, 2015.

The team supervisors were comparatively senior in the team with experience both in data collection and in leading teams. All five team supervisors were male. The team supervisor was responsible for identifying randomly selected HHs and for managing the data collector's movement during the data collection process. The team supervisors also took part in the practical training session as group facilitators and ensured quality data by cross-checking interviews on a sample basis. A detailed manual on field data collection is given in Annex 7.

All of the five field editors were female and had extensive experience in field data editing and quality control. The field editor in a team played the role of technical supervisor. The field editor observed the interview process and the accuracy of anthropometric measurements, provided on the spot technical support to the enumerators. The field editor edited all 25 HH records in the tablet at the end of the day before finalizing the survey and sending it to the cloud server.

Appropriate to the type of the respondents and the social context, all 25 enumerators, plus the five additional enumerators, were female. Eighty percent of the enumerators have experience conducting DHS surveys and recent Title II surveys (Strengthening Household Ability to Respond to Development Opportunities II (SHOUHARDO II) and the Nobo Jibon endline survey).

Each team had two members who performed anthropometric measurements, one male and one female. All of them have experience collecting anthropometric data for DHS and Title-II programs.

1.5.9 DATA COLLECTION AND ENTRY

Android tablets (Google Nexus Tablets) were used for data collection, complemented with Open Data Kit (ODK) software. The use of mobile devices and an electronic questionnaire improved data quality by allowing data validation rules and consistency checks that were integrated in the tablet ODK software program. The mobile-based data collection process reduced the data entry burden, as data was entered at the interviewer level and records were uploaded to a cloud server using the built-in internet connectivity of the devices. This allowed the data analysis team to review data consistency every day, and ensured the data were ready for analysis as early as one day after the completion of data collection for all 2,500 sample households. The ODK software-based electronic questionnaire was designed both in Bangla and English survey forms which were interchangeable at any time during the data collection process. The enumerators used the Bangla form on the tablet while interviewing the respondents and taking anthropometric measurements.

1.5.10 DATA QUALITY CONTROL

The Team Supervisors were responsible for re-interviewing two households per day for some critical questions, using tablets. This procedure was not strictly maintained in some very scattered clusters in

Sarankhola and Batiaghata. The supervisor also verified that the non-response households were unavailable, or truly opted out of participation.

In addition to the data collection team quality control system, there was an independent quality control team comprised of two Quality Control Officers (QCOs). Both of the QCOs were female. The QCOs made a random visit to each of the data collection teams to observe the data collection, sampling and re-interviewing processes. ODK database software allows for the cross-referencing of re-interview records with the original records collected by the enumerators. At the end of the day, the QCOs cross-checked the re-interview records with the actual interview record. The QCOs provided the necessary technical support to the team if they found significant differences between the re-interview record and the record that the respective enumerator collected.

The survey specialist runs data frequencies and cross-tabulations to verify data consistency at the individual interviewer level by comparing the re-interview data with the corresponding interview data. For any discrepancies found, the survey specialist provides the results to the respective enumerator and the respective team leader to determine the reasons and fix any problems. The TANGO Survey Specialist (TANGO International staff) spent time in the field during the first week of data collection to monitor whether the data collection teams were collecting information appropriately. The survey specialist provided immediate feedback and technical support as needed. He also monitored data consistency throughout the data collection process remotely by downloading data daily from the cloud server. A national consultant spent time in the survey area during the entire data collection process for on-the-spot monitoring, especially for the anthropometry.

1.5.11 DATA MANAGEMENT AND ANALYSIS

The ODK dataset (CSV format) was converted into an SPSS (Version 20) database for data management and analysis. Validated data was accumulated in the main SPSS database daily. The data analysis and tabulation followed the definition of the indicators in the IPTT and baseline data analysis logic so that the indicator values are accurately comparable.

SPSS statistical software was used to analyze the dataset, supplemented by World Health Orgnaization (WHO) Anthro software for the anthropometric data analysis. Syntax files were created to compute indicator and sub-indicator values. The analysis includes mostly descriptive statistics with some statistical hypothesis testing. Due to stratification, normalized sampling weights have been used to adjust indicator value estimates. Also, complex analysis was performed to estimate standard error and confidence intervals by adjusting the actual design effect.

1.5.12 SURVEY TOOLS AND SURVEY QUESTIONNAIRE

The PROSHAR baseline questionnaire was used as the basis for the QFPE to ensure consistency of the indicator values that were estimated for PROSHAR endline impact and outcome indicators. At the time of the inception report, the questionnaire was revised based on recent FFP/FANTA guidance and PROSHAR program data requirements. The English questionnaire was translated to Bangla and both versions are available in the ODK database system. The questionnaire form is provided in Annex 7.

1.5.13 SURVEY TEAM TRAINING AND FIELD TESTING

The survey team planned to have 12 days of training, including two days for field-testing and adjustment of tools, in Khulna. However, due to the security situation it was not possible for the team to travel to Khulna by road because of politically-motivated strikes and blockades. To avoid rescheduling the survey plan, the study team organized the data collection team training for 8 days in Dhaka starting from January 6, 2015 to avoid potential disruption of the data collection. Then the entire team was able to travel to Khulna by air despite the political volatility. The team completed training including field testing

in the PROSHAR program area (non-sampled clusters) in Batiaghata, Khulna. The following topics were discussed in the training (detailed training agenda is given in Annex 9):

1. Brief program overview and the objectives of the surveys
2. General rules, norms and guidance on survey implementation
3. Survey methodology – team composition, sampling, household selection process
4. Detailed discussion of the questionnaire form (question-by-question)
5. Use of questionnaire in computer tablet
6. Applying a mock procedure for a more clear understanding of the questionnaire
7. Role play to show the technique of asking some sensitive questions
8. Data quality

The anthropometric teams received training on both questionnaire interviews and anthropometric measurement, with a separate practical training session conducted on anthropometric measurement. Ten mothers with 10 children under five years of age were invited for the practical demonstration on anthropometric measurement and standardization process. The detailed standardization process and results of the practical demonstration for the mothers and children is given in Annex 10.

1.5.14 LIMITATIONS

One potential limitation of the evaluation was the difference in evaluation design with respect to sampling between baseline and endline. At baseline, detailed household listings were unavailable; therefore, second-stage selection of households was conducted using the random walk method. At endline, a household listing exercise was conducted prior to the commencement of field work and households for the second-stage of sampling were chosen from among the household lists.

When possible, sample selection from household listings is preferable as a more truly random selection process. In particularly, if not conducted properly, the random walk method of selecting households in a village may lead to bias in the selection of households, with households nearer the village central meeting points more likely to be selected than more isolated households.

Table 5: Selected household characteristics, baseline and endline survey rounds

Background Characteristics	Baseline		Endline		% Diff	Sig.
	%	n	%	n		
% HH that own cultivable land	34.0	2,201	32.0	2,319	-5.9	
Average farmland area (decimals)	40.6	2,201	38.8	2,319	-4.4	
Average # cows	1.30	2,201	0.97	2,319	-25.4	***
% HH primary occupation: day labor	41.4	2,207	29.7	2,672	-28.3	***
% HH primary occupation: rickshaw puller/boatman	13.7	2,207	9.2	2,672	-32.8	***

In order to examine for the possibility of bias in the selection of the baseline sample, basic characteristics of households expected to be relatively stable over time across households within a village. Table 5 includes general household characteristics that are expected to remain relatively constant over time, in both the baseline and endline samples. These characteristics include asset ownership, prevalence of farming as an income earning activity, and prevalence of other-income earning activities, such as wage labor, and rickshaw driving that might be indicative of lack of access to farming activities. Several characteristics are significantly different across the survey rounds. The proportion of households indicating that their primary occupation is day labor or rickshaw puller/boatman are substantially different across the two rounds, by 28 percent and 33 percent, respectively. The average number of cows and goats owned is less in the endline round, 25 percent and 13 percent less, respectively. However, land ownership and water body access are not very different across the survey rounds. There

was no difference in the percentage of households that own cultivable land, or in the average farmland area owned. Access to water bodies (ponds) was 10 percent less at endline than at baseline.

If the random walk sample selection technique produced a biased sample, one might expect to see several of the household characteristics to be different for the sample at endline compared to baseline. This was, in fact, true. While the percentage of households with access to farmland and the average size of agricultural land owned did not exhibit any change, all other characteristics changed from baseline to endline. There is no clear bias, either towards wealthier or poorer households implied by the direction of change in those variables that were significantly different across the two rounds. For instance, the prevalence of day labor and rickshaw pulling increased dramatically in the endline, suggesting distribution of wealthier households in the later round; however, conversely the average number of cows owned was lower at endline. Unfortunately, without additional information to determine if the observed changes are due to selection bias or underlying structural changes of household conditions.

Finally, it should be noted that in following FFP guidance for performance monitoring evaluation design (as opposed to for an impact evaluation (IE), a statistically representative comparison (or control) group was not built into the evaluation design. However, the population based survey design did include a large proportion of households that did not participate directly in PROSHAR activities, from which a limited amount of analysis is included in this report, comparing non-participant households to participant households for certain key indicators. While the analysis is constructive, it is only meant to provide subjective context, in an attempt to ascertain if there is any (non-statistically representative) indication that program activities might be influencing the program results reported in this document. Any comparisons made in this report between non-participant and participant households that suggest that program outcomes might be attributable to program activities could be explored further in a future IE, or as part of a more robust evaluation design in the subsequent, follow-on program.

1.6 Organization of the Report

The first section of the report outlines the broad characteristics of the household sample, demographics, and household composition. The report then follows the structure of the IPTT and incorporates additional endline and baseline findings in logical places. The next and largest section in the report focuses on community characteristics that are relevant to SO1, including food and livelihood security indicators, household asset ownership, agriculture, market access and use, credit, distress behavior, social services and women's empowerment. The following section presents findings related to SO2, namely water, sanitation and hygiene, primary health care clinics, child health and nutritional status, infant feeding practices and ante- and post-natal care. The next section focuses on disaster risk management in PROSHAR communities. It is followed by a brief section providing analysis of key indicators by vulnerability group and sex of household head. The report ends with a section outlining main conclusions and recommendations. All n's are given in the tables/charts are unweighted.

Levels of significance are reported in the tables in the column titled "sig." Where significant differences between means or proportions are detected, an asterisk is used to denote the level of significance using the following assigned values. No asterisk means that the differences are not statistically significant at the 0.95 level (p>=0.05).

Indicator	p-value
*	p<.05
**	p<.01
***	p<.001

2.0 Household Demographics and General Characteristics

2.1 Demographics

The PROSHAR endline survey completed interviews with 2,319 households and gathered demographic information on 10,439 individuals. Overall, the sample was split almost exactly in half between males and females (50.6 and 49.4 percent respectively). Table 6 shows the average household size in surveyed communities is 4.5 people, with household size ranging from 1 to 19 members. Average household size is slightly less than the baseline in both the inland and coastal areas. Households from the Coastal region have a slightly higher dependency ratio[17] than inland households (0.75 vs 0.69). As a result, household resources may be more strained in the coastal area due to the higher number of dependents. There is a big decrease of the dependency ratio in coastal communities compared to the baseline (from 0.90 to 0.75) while the decrease of the ratio is small (from 0.73 to 0.69) in inland communities.

Table 6: Key household demographic information, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Mean HH size	4.8	4.9	4.9	4.5	4.5	4.5	
Mean dependency ratio	0.73	0.90	0.81	0.69	0.75	0.70	
Percent of female headed HH	5.7	6.9	6.3	3.8	2.8	2.6	***
Mean age of HH head (years)	44.2	43.6	43.9	45.5	47.5	46.0	
n	1,189	1,018	2,207	1,179	1,140	2,319	

Overall, less than three percent of households were headed by females, higher by one percentage point in inland communities over coastal communities. There is a reduction in the overall proportion of female-headed households compared to the baseline (from 6.3 to 2.6) and the difference is statistically significant. The average age of the household head is 46 years.

Table 7: Percentage of household adults (18+ years) with highest level of education, by sex

Indicator	Baseline			Endline			Sig.[1]
	Male	Female	**All**	Male	Female	**All**	
No education	26.1	28.9	27.5	22.8	30.9	26.9	
Some primary	30.7	34.6	32.7	15.9	15.2	15.5	***
Primary completed	24.9	27.2	26.0	37.5	42.0	39.8	***
Secondary completed	8.9	5.6	7.2	10.2	5.7	8.0	
Higher secondary completed	9.4	3.6	6.5	13.5	6.3	9.9	***
n	3142	3230	6,372	3,276	3,300	6,576	

[1] *Significance test is for the total of baseline to endline*

Table 8: Percentage of household adults (18+ years) with highest level of education, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
No education	31.9	22.8	27.5	29.3	19.1	26.9	
Some primary	25.6	40.4	32.7	14.0	20.7	15.5	***
Primary completed	27.6	24.3	26.0	38.5	43.9	39.8	***
Secondary completed	7.4	7.1	7.2	8.0	7.9	8.0	
Higher secondary completed	7.5	5.4	6.5	10.3	8.4	9.9	***
n	3,314	3,058	6,372	3,388	3,188	6,576	

Some interesting regional trends regarding educational attainment of adults emerged from both the endline and baseline analysis (Table 8). The primary completion rate has increased significantly

[17] Age dependency ratio is calculated by dividing the number of "dependent" household members (individuals age 0-14 years or 65 years and older) by the number of "independent" household members (individuals age 15-64 years).

among adults in both inland and coastal areas. There is no significant difference in the secondary completion rate, but the increase in higher secondary completion is statistically significant. Adults in coastal communities are more likely to complete primary school than inland adults, but less likely to complete higher secondary education.

Table 7 presents the same data disaggregated by sex of household member. Among all respondents, women are slightly more likely to have no education compared to men, but are more likely to complete their primary education than their male counterparts. While the great majority of males and females do not access secondary and higher secondary education, men are more likely than women to complete these levels. There is a small increase from the baseline in the percentage of all respondents reporting completion of some level of secondary education.

2.2 Housing Characteristics

A key indicator of socio-economic status is the type and quality of housing that households are able to afford. Table 9 shows that over half of the homes in the survey area are constructed from corrugated iron sheets and wood, indicating little change from the baseline. These construction materials are twice as prevalent in the coastal area (83.2 percent) than in the inland areas (46.4 percent), where a wider variety of materials are used. Nearly all homes use iron sheeting and wood for roofing materials, and have dirt floors, showing little change from baseline to endline. There is a small decrease in the use of less durable construction materials (mud, straw, bamboo).

Table 9: Household construction, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Mean number of rooms	2.1	1.8	2.0	2.0	2.5	2.1	
Main wall materials (%):							
C.I. sheet/wood	38.3	84.4	59.6	46.4	83.2	55.2	
Mud	20.8	0.3	11.3	15.0	0.3	11.5	
Brick	12.5	5.6	9.3	19.1	9.0	16.7	***
Straw/jute	13.9	3.0	8.8	10.3	1.8	8.3	
Bamboo	10.3	4.3	7.5	1.7	1.6	1.7	
Thatched	3.7	1.8	2.8	7.3	4.1	6.5	
bamboo/polythene							***
Other	0.5	0.6	0.5	0.2	0.0	0.1	
Main roof materials (%):							
C.I. Sheet/wood	81.2	93.1	86.7	87.6	94.7	89.3	
Straw/jute	15.7	5.5	11.0	7.9	2.4	6.6	
Concrete	1.9	0.8	1.4	4.2	2.7	3.8	***
Other	0.4	0.3	0.4	0.0	0.0	0.0	
Thatched bamboo	0.3	0.3	0.3	0.2	0.1	0.2	
Bamboo	0.3	0.0	0.2	0.0	0.0	0.0	
Tiles	0.1	0.0	0.0	0.2	0.1	0.2	
Main floor materials (%):							
Dirt	90.7	96.6	93.4	83.2	94.1	85.8	
Cement	6.1	1.9	4.2	13.3	3.5	11.0	***
Stone/brick	3.2	1.2	2.3	3.3	2.0	3.0	
Other	0.0	0.3	0.1	0.2	0.2	0.2	
Wood	0.0	0.1	0.0	0.0	0.2	0.0	
n	1,189	1,018	2,207	1,179	1,140	2,319	

Both inland and coastal areas show increases in the percentage of homes constructed with brick walls, with a greater increase in the coastal areas (Table 9). There is also an increase in both the inland and coastal areas in the use of thatched bamboo/polythene. However, the percentage of homes constructed with bricks is nearly three times higher than those using thatched bamboo/polythene. This indicates that a greater number of households are able to afford more durable building materials (brick, concrete, cement) for their homes. Homes built of more durable materials provide better protection from weather and more sanitary conditions, help to protect the

health and well-being of its inhabitants, and offer greater psychological benefits. While still a small percentage of homes in the survey area (16.7 percent with brick walls; 3.8 percent with concrete roofing materials; 11 percent with cement floors), this change indicates that some people are better able to invest in more permanent building materials. While both the coastal and inland areas have benefitted, the majority of households enjoying these improvements in housing materials are in the inland areas.

2.3 Households with PROSHAR Assistance in the Sample

At the time of the endline survey, some thirty-seven percent of all surveyed households reported that they had participated in at least one PROSHAR intervention (Figure 1). Over 20 percent of households in the sample received assistance to improve income and access to food under the SO1 component. A slightly smaller share of the population, 17.4 percent of respondents received assistance to improve the health of PLW and children U5 under the SO2 component, with the share higher Inland than in the Coast area. The majority of households receiving assistance under SO3 to more effectively respond to shocks were located in Coast, twenty percent of sampled households, compared with less than five percent Inland.

Figure 1: Percentage of households participating in PROSHAR, by SO, by region

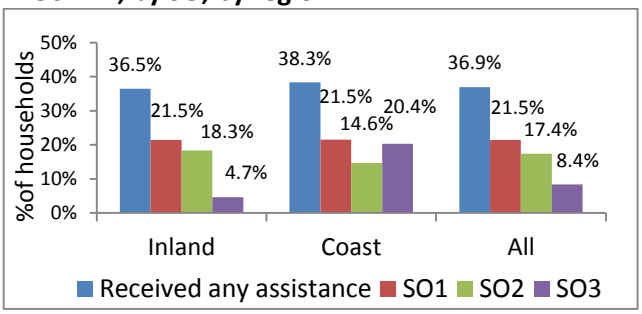


Table 10: Type of assistance received, by region

Indicator	Endline			
	Inland	Coast	**All**	**Sig.**
SO1 (Percent of HH that have received any assistance):	***58.8***	***56.1***	***58.2***	
A. Training on farm activities (poultry, livestock, aquaculture, crops, vegetables etc.)	35.3	39.6	36.4	
B. Off farm training (Karchupi, Bamboo craft, tailoring etc.)	4.7	2.5	4.1	
C. Master trainer for capacity building and inputs	8.4	3.0	7.0	**
D. Micro grants assistance	43.5	36.2	41.7	*
SO2 (Percent of HH that have received any assistance):	***50.2***	***38.2***	***47.3***	*****
E. Child health and Nutrition care	36.5	21.7	32.9	***
F. Antenatal care	35.6	24.3	32.8	***
G. Lactating mothers care (Post-natal care)	33.3	25.4	31.3	*
H. Growth monitoring and promotion service	34.7	23.1	31.8	***
I. Commodity (wheat, lentil, vegetable oil)	46.5	33.2	43.2	***
J. Ready to use Therapeutic food (RUTF)	25.1	10.3	21.4	***
K. Tippy Tap	10.9	7.3	10.0	
L. Care group meeting	16.3	12.4	15.3	
M. Maternal and child health training	28.6	19.5	26.3	**
SO3 (Percent of HH that have received any assistance):	***12.8***	***53.1***	***22.8***	*****
N. Disaster preparedness training of UDMC/CBDMVG/CPP volunteers	10.2	38.9	17.3	***
O. Food for Work (FFW)	1.6	17.6	5.6	***
P. Cash for Work (CFW)	2.1	19.5	6.4	***
Number of household received any assistance	430	437	867	
Percent of household received any assistance	36.5%	38.3%	36.9%	

Total surveyed HH (n)	1,179	1,140	2,319

The Inland and Coast households in the sample that received PROSHAR assistance received similar types and levels of support from SO 1 and SO 2 interventions. Nearly all households participating in SO1 activities (36.4 percent) received training on farm activities and micro grants (41.7 percent, see Table 10).

3.0 STRATEGIC OBJECTIVE 1: INCOMES AND ACCESS TO FOOD OF POOR AND ULTRA-POOR HOUSEHOLDS IMPROVED.

Over the life of the Program, PROSHAR has sought to directly and indirectly address a number of factors that constrain the food security and general welfare of the target population, which are incorporated under SO1. PROSHAR has introduced new crop varieties; providing training in appropriate production technologies; strengthening market actors to increase services related to quality inputs; and providing technical advice on bulk selling and purchasing in order to increase the incomes of poor and ultra-poor households. PROSHAR has promoted technologies to improve profit margins and the nutritional value of crops in commercial and homestead agriculture. Key technologies and methodologies that are proving to have the greatest uptake by producers include: maintenance of proper crop spacing; balanced fertilizer use; improved pits and heap systems; multistoried cropping; relay cropping; aquaculture pond cleaning and liming; fish disease management; and poultry/livestock vaccination and de-worming. With the support of iDE, PROSHAR works to systematically link producer groups with the private sector and build the capacity of PNGOs to promote market linkages. Women's empowerment remains a key crosscutting theme in PROSHAR, with the program recognizing the important role women play in household food security.[18]

The findings from the QFPE are presented first in terms of those related to higher-level impact indicators of livelihood status such as dietary provisioning and diversity, and income and asset ownership. Next, information is provided about outcome indicators that measure adoption of improved practices to enhance crop cultivation, livestock rearing, and aquaculture. The following sections present information on market access and use, credit and economic distress indicators. Finally, information on access to social services and women's empowerment is presented.

3.1 HOUSEHOLD FOOD SECURITY

IPTT Indicator IM1: *Average # of months of adequate household food provisioning*

The number of months of adequate household food provisioning (MAHFP) is a proxy indicator that captures the seasonality of food security. Significant changes with respect to MAHFP emerge between the baseline and endline, with an overall increase of 18.3 percent (from 9.0 to 10.6) across the two rounds. Households on the coast had significantly fewer months of adequate food provisioning at the time of the baseline. Over five years of PROSHAR programming, there has been a significant improvement in the coastal communities (Figure 3). There has been a two-fold increase in percentage of households with 12 months of food sufficiency from baseline 28 percent to 57 percent in endline (Figure 2).

[18] PROSHAR Website – http://acdivoca.org/our-programs/project-profiles/bangladesh-program-strengthening-household-access-resources-proshar

Figure 2: Percent of households with 12 months of food sufficiency, by region

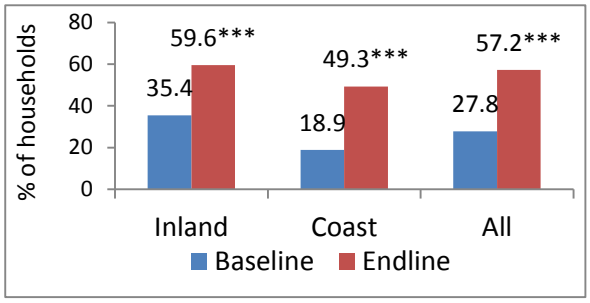
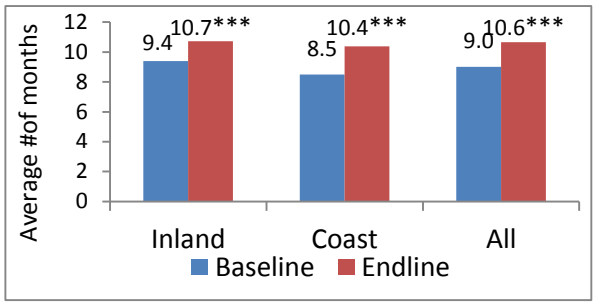


Figure 3: Average months of adequate household food provisioning, by region



IPTT Indicator IM2: *Average household diet diversity score (HDDS)*

The HDDS is a proxy measure for household food access. The index is computed as the number out of 12 food/food groups (cereals, roots/tubers, pulses/legumes, milk/milk products, eggs, meat and offal, fish/sea food, oil/fats, sugar/honey, fruits, vegetables, species, condiments etc.) that consumed in last 24 hours by the household. Overall, the HDDS increased by 0.6 percentage points, from 6.6 at baseline to 7.2 at endline, and the project target for this indicator was surpassed. There is a clear emphasis on rice and fish in the Bangladeshi diet, and also a strong tradition of consuming a number of vegetables, pulses and to some extent, fruit. In Table 6, household level dietary composition shows an overall increase in fish, eggs, milk/dairy, pulses and meat consumption compared to the baseline. While the increase in pulse consumption may be biased by the rations provided to Preventing malnutrition in children under two years of age approach (PM2A) households, which included wheat lentils and vegetable oil, the other increases may be the direct result of understanding the importance of these foods in the diet to maintain health, and the additional resources they had available (either through reduced need to purchase at the market, or through increased incomes. The overall average diet diversity score has increased significantly (Figure 4).

Figure 4: Average household diet diversity score

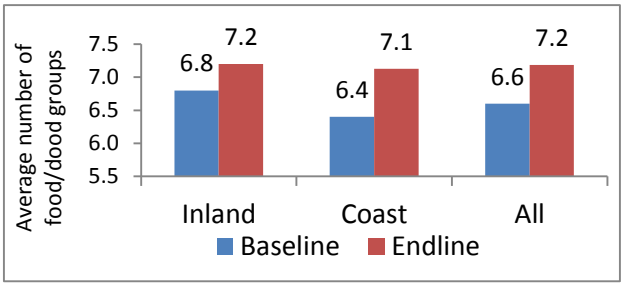
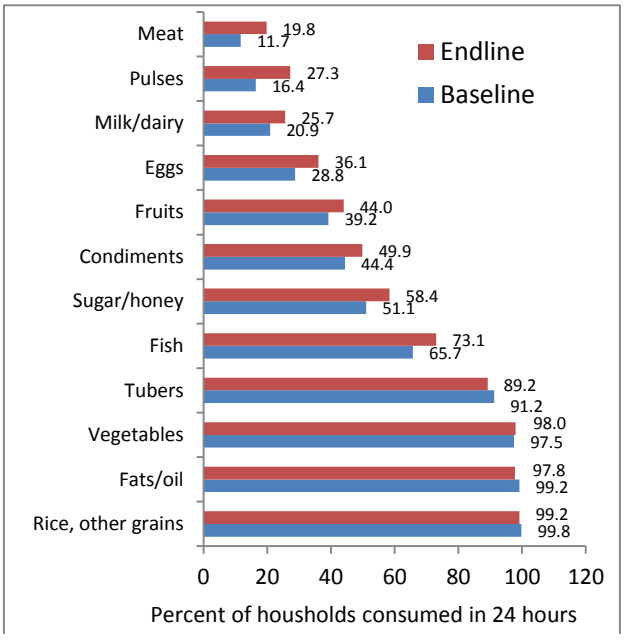


Figure 5: Household dietary composition



3.2 HOUSEHOLD HUNGER

The household hunger scale (HHS) uses questions to measure varying levels of household food insecurity that captures the following: (1) respondent's anxiety about household food supply; (2) insufficient quality, which includes variety, preferences, and social acceptability; and (3) insufficient food supply, intake and the physical consequences.[19] As shown in Table 11, there was a large decrease in households reporting having no food in the last four weeks from 29.7 percent at baseline to 11.4 percent at endline. The Coast saw the greatest decrease from baseline to endline of 21.6 percentage points; Inland, comparatively, saw a decrease of 14.4 percentage points. Likewise, the proportion of households going to sleep hungry and the proportion of household members skipping meals has decreased in the program area, from 15.6 to 13.0 percent and from 3.2 to 2.9 percent, respectively. Households also reported significant gains in experiencing little to no hunger overall and across regions. The majority of households in all categories show improvements in their overall household food security, in t report that they rarely (i.e., 1-2 times per month) go without food.

It should be noted that although regionally there is a downward trend over time for the proportion of households going to sleep hungry, the proportion of household members reporting sometimes skipping an entire day of eating (i.e., 3-10 times a month) increased significantly . The increase is larger in the coastal areas. In other words, while over half of coastal households have some kind of food most of the time, the proportion of coastal households who experience hunger sometimes has increased. There are many fewer households who often skip eating for a day (i.e., more than 10 times a month) and they increased only in the coastal areas. This indicates that while more households have some kind of food available, and a very small proportion of households in the overall sample report severe hunger, many households still do not have enough food to meet their daily needs.

Table 11: Household hunger scale, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Proportion of HHs with no food at any time in last 4 weeks	**25.3**	**34.7**	**29.7**	**10.9**	**13.1**	**11.4**	***
Rarely	57.6	54.9	56.2	58.6	57.0	58.2	
Sometimes	36.9	40.3	38.7	33.6	35.6	34.1	
Often	5.5	4.8	5.1	7.8	7.4	7.7	
Proportion of HHs going to sleep hungry at any time in last 4 weeks	**13.0**	**18.7**	**15.6**	**9.8**	**8.6**	**9.5**	***
Rarely	55.8	63.9	60.2	66.4	51.0	63.1	
Sometimes	41.0	34.6	37.5	30.2	40.8	32.5	
Often	3.2	1.6	2.3	3.4	8.2	4.5	
Proportion of HHs w/ member skipping entire day eating in last 4 weeks	**2.9**	**3.5**	**3.2**	**7.5**	**4.3**	**6.8**	***
Rarely	77.8	86.1	81.9	68.5	51.0	65.9	
Sometimes	16.7	13.9	15.3	25.8	44.9	28.7	
Often	5.6	0.0	2.8	5.6	4.1	5.4	
Household hunger category[20]							
Little/no hunger	86.9	80.9	84.1	90.9	92.2	91.2	***
Moderate hunger	12.4	18.6	15.2	8.5	7.3	8.2	***

[19] Ballard, Terri; Coates, Jennifer; Swindale, Anne; and Deitchler, Megan. 2011. Household Hunger Scale: Indicator Definition and Measurement Guide. Washington, DC: Food and Nutrition Technical Assistance II Project, FHI 360. Frequency is measured as follows: rarely (1-2 times); sometimes (3-10 times); and often (more than 10 times) in the past 30 days.

[20] Ballard, Terri; Coates, Jennifer; Swindale, Anne; and Deitchler, Megan. 2011. Household Hunger Scale: Indicator Definition and Measurement Guide.

Severe hunger	0.8	0.5	0.6	0.6	0.5	0.6	
n	1,189	1,016	2,205	1,179	1,140	2,319	

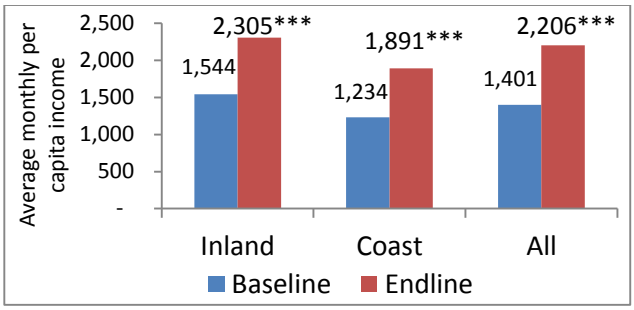
3.3 HOUSEHOLD REVENUE

Table 12: Household income earners and sources of income, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Mean number of income earners	1.7	1.8	1.7	1.5	1.7	1.6	
Mean number of income sources	1.8	1.9	1.9	1.5	1.7	1.5	
Mean number of months of income per income earner	10.5	10.6	10.6	10.6	10.7	10.6	
Sources of income (Percent):							
1. Non-agricultural day labor	25.9	42.0	33.3	11.9	23.5	14.7	***
2. Farming (own land)	29.9	16.9	23.9	12.9	25.9	16.0	***
3. Petty business	19.0	21.8	20.3	11.6	8.3	10.8	***
4. Regular salaried employment	20.1	18.4	19.3	25.3	25.2	25.3	***
5. Self-employment in business/service provision	18.7	15.2	17.1	16.4	17.1	16.6	
6. Student stipend	10.4	23.3	16.3	0.0	0.0	0.0	
7. Agricultural day labor	15.6	14.4	15.0	30.6	20.7	28.3	***
8. Transport	13.4	12.9	13.2	10.9	13.2	11.5	
9. Poultry/livestock rearing	8.3	6.7	7.5	3.0	5.1	3.5	***
10. Non-agricultural contract labor	6.1	8.3	7.1	9.0	8.5	8.8	
11. Casual labor	6.3	4.4	5.4	8.9	11.8	9.6	***
12. Working as servant/maid	2.3	2.7	2.5	3.3	3.4	3.3	
13. Agricultural contract labor	2.5	2.3	2.4	3.0	3.2	3.0	
14. Cash for work	1.2	1.4	1.3	0.3	2.1	0.7	
15. Business, using hired labor	0.4	1.4	0.9	0.7	0.1	0.6	
16. Boatman	0.3	0.7	0.5	0.1	0.1	0.1	
17. Begging	0.2	0.6	0.4	0.0	0.3	0.1	
18. Paid volunteer	0.1	0.2	0.1	1.8	0.8	1.6	
n	1,189	1,018	2,207	1,005	967	1,972	

Figure 6: Average household monthly per capita income by region

Table 12 shows the mean number of income earners, mean number of income sources, and mean months of income per income earner. From baseline to endline, no significant differences were detected across these three indicators. However when the sources of income were disaggregated, it was found that non-agricultural day labor, farming (on own land), petty business, and poultry/livestock rearing had significantly decreased overall. The sources of income that was found significant increasing trends both overall and regionally included regular salaried employment, agricultural day labor, and casual labor. It should also be noted that across regions, respondents' sources of income during the time period of PROSHAR have also changed. At baseline, a greater proportion of Inland respondents cited farming their own land as their main source of income (29.9 percent), whereas at endline, a greater proportion of respondents cited agricultural day labor (30.6 percent). Coastal households, on the other hand, had a greater proportion of respondents working as non-agricultural day laborers at baseline (42.0 percent) and at endline, had a greater proportion farming their own land (25.9 percent).



Annual income values are deflated by the CPI 2012-2014

As shown in Figure 6, the average household monthly per capita income increased from a baseline of Bangladesh Taka (Tk.) 1,401 to an endline of TK. 2,206, the increase is statistically significant. This trend was similar across regions. The average monthly per capita income was measured based on the average monthly incomes from the regular income sources given in Table 12. Annual earnings that are not regular or not usual, such as remittances, gifts etc., were not included in the per capita monthly income analysis.

3.4 Household Asset Ownership

Asset ownership is an important indicator of economic status, productive capacity and by extension, resilience. Household survey respondents were asked the number of assets owned in each of the following broad categories: domestic, productive, land, animal, and resource. In each of the three surveyed *upazila*s, market information was collected on average prices for each of the asset types listed during baseline. The baseline market prices have been adjusted for the inflation during the period 2012-2014 for the endline analysis. The number of assets owned was then multiplied by the commodity price and summed across categories to develop mean asset values for each asset category.

IPTT Indicator OC1: *Value of a set of assets*

Table 13: Average assets value (Tk.), by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Domestic assets[21]	33,813	23,307	28,968	51,300	34,184	47,233	***
Productive assets[22]	12,659	7,645	10,347	19,975	12,415	18,171	***
Animal assets[23]	9,097	9,186	9,138	9,213	7,350	8,754	***

[21] Domestic assets are: Chair, cot, cupboard, table, showcase, dressing table, watch, clock, lantern, radio, TV, cassette player, DVD player, electric fan, mobile phone, gold and silver ornaments

[22] Productive assets: Boat, motorcycle, rickshaw/van, bicycle, shallow/hand tube-well, deep tube-well, power tiller, paddle thresher, spray machine, plough, fish net, pump, hoe, axe, shovel/spade, CNG/Mishuk/votvoti/nosimon

[23] Cow, buffalo, goat, sheep, chicken, duck, pig, pigeon, rabbit, billy goat, quail

Total average	**55,569**	**40,138**	**48,453**	**77,890**	**52,069**	**71,729**	***
n	1,189	1,018	2,207	1,179	1,140	2319	

Average assets value is deflated by the CPI 2012-2014

The average asset value increased from Tk. 48,453 to Tk. 71,729 collectively for domestic, productive and animal assets overall (Table 13), and the overall increase was statistically significant, as were the increases in the values of domestic and productive assets.

Not included in the asset indices calculated above were the value of trees that households owned due to the difficulty in estimating the cost of the various trees.

3.4.1 Land ownership

Table 15 shows no significant change in the average amount of land owned by households in any category between the baseline and endline surveys.

Table 14: Average number of trees owned, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Timber	11.1	20.2	15.7	22.6	18.7	21.6	***
Fruit	13.1	20.4	16.8	10.4	9.9	10.3	***
Bamboo	15.2	10.3	12.7	57.1	11.1	46.1	***
Medicinal	0.9	0.5	0.7	9.2	0.5	7.1	***
n	1,189	1,018	2,207	1,179	1,140	2319	

Table 15: Average amount of land (in decimal) owned, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Homestead land	13.4	16.1	14.8	12.6	18.6	14.1	***
Agricultural land	53.4	25.5	39.4	44.3	21.1	38.8	***
Land lease - IN	39.9	23.1	31.5	40.0	29.7	37.5	***
Land lease - OUT	14.3	7.0	10.6	19.4	11.7	17.5	***
Mortgage - IN	4.9	9.5	7.2	4.4	2.8	4.0	***
Mortgage - OUT	5.7	7.3	6.5	5.1	5.6	5.2	***
Haor land (extended marsh)	0.1	0.1	0.1	1.9	0.2	1.5	***
Pond/ditch	3.4	3.3	3.4	4.0	3.4	3.8	***
Other land	3.1	6.9	5.0	1.0	1.8	1.2	***
Total	138.2	98.7	118.4	132.7	94.9	123.7	***
n	1,189	1,018	2,207	1,179	1,140	2319	

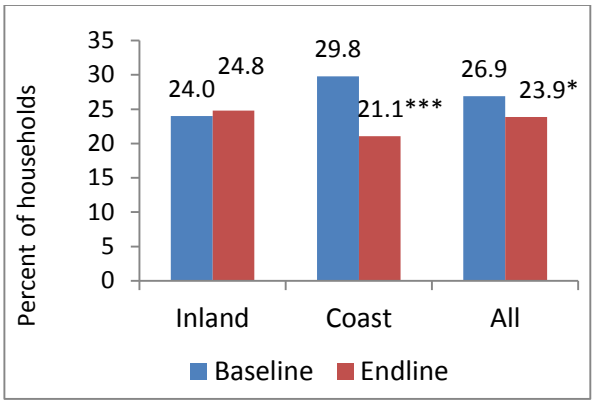
3.4.2 Landless households

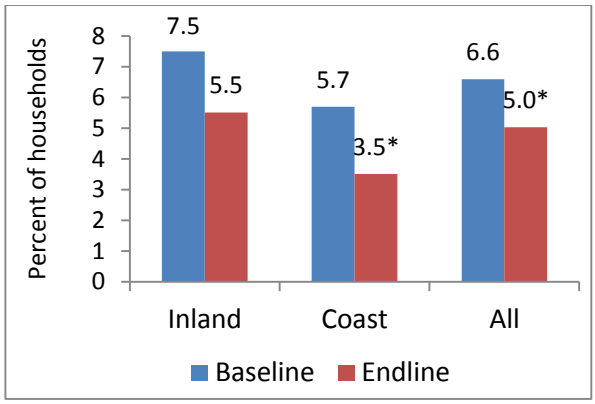
The landless are often seen as a critically vulnerable group. These households are sometimes broken down into two categories, those with a homestead but no other production land, and those without a homestead.[24]

Figure 7: Percent of household with less than 10 decimals of land, by region

Figure 8: Percent of household without access to any land, by region

[24] *Bhoomi heen* are people with less than 10 decimals of land, which is effectively a homestead.





As shown in Figure 8, the percent of all households without access to any land decreased significantly from 6.6 percent to 5.0 percent from baseline to endline. Coastal households saw a similar significant trend, where the percent of households without access to any land decreased from 5.7 percent to 3.5 percent.

Figure 7 shows that coastal households also saw a significant decrease in the percent of households with less than 10 decimals of land, which is on par with overall trends. However, it should be noted that inland households did not show any significant improvements in either of these indicators, but rather saw slight increases in the percent of households with less than 10 decimals of land.

3.5 Agricultural Livelihoods

There is no statistically significant change in the percent of households with agricultural production in the previous season (Table 16). However, a comparison of baseline and endline data show a shift is occurring in the most commonly cultivated crop, as households move from growing local rice (local and local improved variety) to HYV rice. Coastal areas in particular made gains in the percentage of households cultivating HYV rice. The percentage of households cultivating wheat increased significantly from 4.3 percent to 14.4 percent, though all of the increase was in the inland areas. A higher percentage of households in inland areas, continue to grow a greater diversity of crops than coastal households, while coastal households have shown modest gains in the production of oilseeds and commercial vegetables.

Table 16: Agricultural production, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households with any agricultural production in the previous season	45.4	23.2	35.2	38.8	22.6	35.0	
n (unweighted)	1,189	1,018	2,207	1179	1140	2319	
Mean number of crops cultivated	2.3	1.4	2.0	2.4	1.7	2.3	
Crops cultivated (percent of households with crop production)							
Rice (Local)	48.0	74.4	56.1	37.3	57.8	40.5	***
Jute	45.8	0.4	31.9	43.9	0.0	37.1	*
Pulses	30.6	24.0	28.6	35.8	17.1	32.9	
Rice (HYV)	29.2	8.1	22.8	58.7	51.6	57.6	***
Oilseeds	30.4	2.7	21.9	29.5	7.4	26.1	
Rice (LIV)	16.4	16.7	16.5	2.8	6.6	3.4	***
Vegetables (commercial)	8.8	6.2	8.0	9.4	19.8	11.0	*
Wheat	6.2	0.0	4.3	17.0	0.0	14.4	***

Other	5.0	1.6	3.9	1.5	2.3%	1.7	***
Spices	3.6	0.8	2.7	1.3	0.4	1.2	*
Sweet potato	1.0	1.2	1.0	0.2	3.5	0.7	
Fruits (commercial)	0.6	0.8	0.7	0.7	3.9	1.2	
Groundnuts	0.4	0.8	0.5	0.2	0.4	0.2	
Maize	0.0	0.0	0.0	0.2	0.8	0.3	
n	540	238	777	458	258	716	

3.5.1 Crop production

Table 17: Agricultural production, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Rice (HYV)	2,893	2,473	2,849	4,288	3,995	4,248	***
Rice (LIV)	1,890	1,989	1,919	3,536	7,056	4,584	***
Rice (Local)	2,249	1,925	2,117	3,332	2,754	3,204	***
Maize	n/a	n/a	n/a	3,088	1,976	2,815	
Pulses	n/a	n/a	n/a	812	1,171	840	
Oilseeds	n/a	n/a	n/a	605	1,441	641	
n	540	238	777	458	258	716	

n/a: not collected at baseline

Table 17 shows yields of key crops promoted by PROSHAR by area and for the overall sample. Overall, there is a significant increase in the yields in kilograms (kg) per hectare for the key crops - local rice, local improved variety (LIV) rice, and HYV rice since the baseline. The most significant increase is for LYV rice, which increased by 2,665 kg per hectare. HYV rice yields have increased by 1,399 kg per hectare. Local rice yields increased by 1,087 kg per hectare. Both regions showed gains in yields. Overall production for three of the four crops is higher in inland areas, while households in coastal communities produce more LYV rice.

IPTT Indicator IM3: *Gross margin per unit of land, kilogram, or animal of selected product (crops/animals/fish production)*

Overall, annual revenue from crop sales has increased by 17 percent, from Tk. 22,537 at baseline to 26,396 at endline (Table 18). Crop sales increased by 21 percent in Coast compared with 10 percent in Inland. Cash production costs for current inputs (seeds, fertilizer etc.) increased from Tk.9,553 at baseline to Tk.11,303 at endline. The increase in production cost was higher in Inland (13 percent) than in Coast (4 percent).

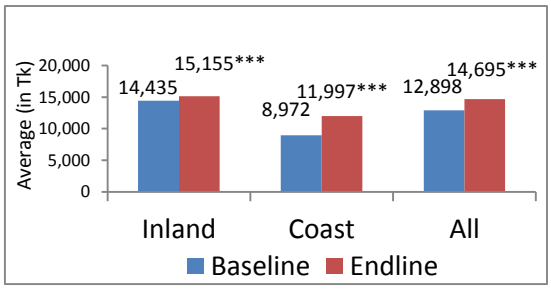
Table 18: Household average annual income from crop sales and production cost, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Average crop sales (Tk./year)	25,261	15,579	22,537	27,716	18,858	26,396	***
Average crop production input cost (Tk./year)	10,724	6,561	9,553	12,090	6,803	11,303	***
n	436	200	636	399	210	609	

Annual income and production cost values are deflated by the CPI 2012-2014

Figure 9: Average gross margin (Tk.) for crop production by region

Figure 9 shows mean gross margin for agriculture, defined as the value of all agricultural products sold by the household minus the reported annual cost of purchased agricultural inputs.[25] This measure is consistent with the computation for gross margin for agriculture computed in the baseline survey. There were statistically significant increases in gross margin from baseline to endline in Inland, in Coast, and in the entire sample.



3.5.2 Access to financial support

Households in the survey area experienced a steep decline in access to agricultural financial support and government subsidies between baseline and endline. Table 19 indicates that 92.7 percent of households have no access to agricultural financial support, a decrease of 13.2 percentage points from the baseline. Only 2 percent of households have access to a government subsidy for agriculture – a substantial drop from the baseline, when 15.8 percent of households had access to a government subsidy. Inland communities experienced a much greater drop-off in government subsidies compared to coastal communities. There is a similar decline among inland communities in access to agricultural financial support, whereas coastal households with no access to agricultural financial support report a modest three percent decrease.

Table 19: Percentage of households with access agricultural financial support, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
None	74.2	91.4	79.5	93.4	88.4	92.7	***
Government subsidy	21.4	3.1	15.8	1.7	3.1	2.0	***
Agricultural loan	4.2	3.1	3.9	2.2	4.3	2.5	
A company provided advance inputs	0.6	0.8	0.7	1.3	3.1	1.6	
Other	0.0	1.6	0.5	1.5	1.2	1.5	
n	540	238	777	458	258	716	

3.5.3 Agricultural labor, inputs, and practices

The mean number of improved agricultural production techniques used by households during the agricultural season increased significantly from 2.8 practices to 5.3 practices between the baseline and endline surveys (Table 20). Both inland and coastal households have adopted new practices, with inland households adopting slightly more improved practices. The percent of farming households that ever received training on improved food production technologies also saw a significant increase from 10.7 percent to 14.5 percent of all farming households.

[25]Households with negative gross profit margins, that is cash input costs that are higher than sales from crops, were excluded from the calculation for this indicator. We view households that are running negative gross profits as structurally different (with respect to crop marketing) from those that have positive gross profits, thus only included those with positive gross profits in order to maintain a valid comparison.

The survey shows that there is a significant increase in the use by households of 10 out of 15 of the improved practices investigated by the survey, a rise of 66 percent (Table 20). Both the inland and coastal areas surveyed show similar increases in the percent of households adopting improved practices. The improved practice adopted by the highest percentage of households is using 2-3 seedlings per hill for rice (66.3 percent versus 19.3 at baseline). The second most popular practice is maintaining proper spacing, used by 63.9 percent of households against 22.1 percent at baseline. Over one-half (52.6 percent) of the surveyed households use organic fertilizers at endline compared to 31 percent at baseline.

Table 20: Improved agricultural production techniques used last agricultural season, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of farming households that have ever received any training on improved food production technologies	10.6	11.0	10.7	13.7	18.6	14.5	*
Mean number of improved practices used in the last season	2.8	2.9	2.8	5.3	4.9	5.3	***
Improved agricultural practice utilized (% agricultural households)							
1. Balanced fertilizer use	75.2	74.3	74.9	68.8	63.6	68.0	**
2. Weed control	62.6	65.4	63.4	58.5	59.7	58.7	
3. Use improved seed	41.8	31.5	38.7	45.0	38.4	44.0	*
4. Use organic fertilizers	31.0	31.1	31.0	51.7	57.0	52.6	***
5. Maintain proper spacing	18.2	31.1	22.1	64.4	61.2	63.9	***
6. Use 2-3 seedlings per hill for rice	15.6	27.6	19.3	66.8	63.2	66.3	***
7. Improved post-harvest technique	11.4	7.4	10.2	4.6	7.0	5.0	***
8. Intercrop/relay cropping	8.0	3.9	6.7	25.8	18.2	24.6	***
9. Use IPM	4.4	7.0	5.2	24.0	17.1	22.9	***
10. Use recommended seed storage	1.6	5.4	2.8	14.6	14.3	14.6	***
11. Green manure	2.6	3.1	2.8	19.4	17.1	19.1	***
12. Conservation agriculture	3.2	0.0	2.2	17.0	18.6	17.3	***
13. Other	1.2	0.0	0.8	0.7	0.8	0.7	
14. Use of quality seeds				60.7	47.3	58.6	
15. None	6.8	8.6	7.3	2.8	2.3	2.8	***
n	540	238	777	458	258	716	

Other improved practices adopted by nearly one-quarter of households include intercropping/relay cropping, and integrated pest management (IPM) (Table 20). The percentage of households using these two practices nearly quadrupled, from approximately seven to five percent of households at baseline, respectively, to 24.6 percent and 22.9 percent of households. Nearly one-fifth (19.1 percent) of households have adopted the use of green manure, an increase of 16.3 percentage points. A smaller but still significant percentage of households (17.3 percent) now practice conservation agriculture versus only 2.2 percent at baseline. The percentage of households that do not use any improved practice is very low, and shows a significant decrease from 7.3 percent at baseline to 2.8 percent of households at

the time of the endline survey.

Balanced fertilizer use is the only improved practice that shows a significant decrease in application. It declined from 74.9 percent of households at baseline to 68 percent of households at endline, though it is still used by more than two-thirds of households. Table 22 reports the agricultural inputs purchased during the season prior to the baselines and endline surveys. There is a significant increase in the percent of households using ploughing inputs, from 65.3 percent to 87.7 percent. There is also a significant rise in the use of herbicides, increasing from 38.5 percent at baseline to half all households at endline. Seedlings have become a popular item for purchase among more than one-half (58.4 percent) of households. In addition, the purchase of saplings, though made by slightly less than one-fifth of households, has also increased significantly.

Table 22: Agricultural inputs purchased last season, by region (percent of households)

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Fertilizer	94.6	95.7	94.9	74.9	45.7	70.4	***
Pesticides	80.4	93.0	84.2	63.3	72.5	64.7	***
Ploughing	65.8	64.2	65.3	88.0	86.0	87.7	***
Irrigation water	54.2	20.2	43.8	12.0	8.1	11.4	***
Improved seed	46.8	30.0	41.7	44.5	35.3	43.1	
Use of weedicides	39.0	37.4	38.5	47.6	63.2	50.0	***
Seedlings	18.2	13.2	16.7	61.1	43.4	58.4	***
Saplings	4.2	7.4	5.2	16.8	19.0	17.1	***
None	1.8	1.2	1.6	1.1	0.4	1.0	
n	540	238	777	458	258	716	

The data also reflects a significant decline in the use of critical agricultural inputs of fertilizer (balanced fertilizer use), pesticides, and irrigation water by households. The purchase of fertilizer declined from 94.9 percent of all households to 70.4 percent; however, this decrease may have been offset by the increase in the use of organic fertilizer (Table 22). Pesticide use has also decreased, with 64.7 percent of households using pesticides versus 84.2 percent at baseline. As with fertilizer use, this decrease may be offset by an increase in the use of IPM or balanced fertilizer use, as noted earlier and in Table 20. Finally, the purchase of water for irrigation has significantly fallen off, reduced to 11.4 percent of households at endline from 43.8 percent at baseline. While the adoption of conservation agriculture techniques may reduce the need for irrigation, it may not provide a full explanation for the decrease in the purchase of water inputs.

Table 21: Agricultural crop storage, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of HHs (with agric production) stored crops	65.5	46.4	57.0	86.9	80.6	85.9	***
Storage method used (percent)							
Bag on floor inside household	43.3	65.9	51.6	31.9	49.0	34.4	***
Gola (bamboo storage pot)	54.7	12.8	39.3	57.8	18.7	52.1	***
Other covered container	19.8	25.2	21.8	17.1	26.9	18.5	
Bag elevated inside household	7.8	13.8	10.0	29.9	42.3	31.7	***
At a separate storage facility	2.0	0.0	1.3	2.3	2.9	2.4	
Other	0.4	0.0	0.3	8.3	1.0	7.2	***
n	486	281	767	398	208	606	

3.5.4 Crop storage

The percentage of households storing their crops has increased significantly from little over one-half (57 percent) to 85.9 percent (Table 21). In coastal areas, the percent of households storing crops has nearly doubled in coastal areas, from 46.4 percent to 80.6 percent. However, the majority of households

continue to use rudimentary methods of crop storage, using bags to store their crops either on the floor or elevated from the floor. There is a modest increase in the use of covered containers.

3.5.5 Homestead gardens

Table 23: Homestead garden production, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households cultivating a homestead garden in the previous year	37.6	49.1	42.9	41.3	53.1	44.1	
n (unweighted)	1,189	1,018	2,207	1,176	1,140	2,319	
Average number of vegetables cultivated in garden	3.2	4	3.7	6.0	5.7	5.9	***
Main crops cultivated (Percent of gardening households):							
1. Bottle gourd	68.8	65.3	66.9	67.1	72.4	68.7	
2. Bean	47.8	59.4	54.0	48.5	67.4	53.9	
3. Brinjal/Egg plant	33.7	48.4	41.5	45.2	53.6	47.6	**
4. Pumpkin (yellow)	25.0	37.2	31.5	32.4	47.6	36.8	*
5. *Pul shak*/Indian spinach	36.3	23.3	29.4	52.8	30.7	46.4	***
6. *Lal shak*/Red amaranth	19.0	38.2	29.1	35.3	42.6	37.4	***
7. Green chili	12.5	22.0	17.5	26.7	21.0	25.1	***
8. Tomato	12.7	17.6	15.3	35.7	32.1	34.7	***
9. Radish	9.1	19.4	14.6	17.5	28.1	20.5	***
10. Cauliflower	12.7	10.8	11.7	19.5	5.6	15.5	*
11. *Data shak*	10.1	8.8	9.4	23.4	14.7	20.9	***
12. *Chichinga*	7.5	7.3	7.4	14.2	9.9	12.9	***
13. Cucumber	1.4	8.8	5.3	6.2	15.0	8.7	**
14. Spinach	n/a	n/a	n/a	29.4	21.7	27.1	
15. Potato/*Kesur*	n/a	n/a	n/a	21.4	20.7	21.2	
16. *Knolkhol*	n/a	n/a	n/a	20.9	6.9	16.9	
17. Bitter gourd (*Korolla*)	n/a	n/a	n/a	18.5	11.7	16.5	
18. Ladies finger	n/a	n/a	n/a	16.8	15.4	16.4	
19. Coriander leaf/ Black seed/Ginger	n/a	n/a	n/a	10.3	18.8	12.7	
20. Drum stick	n/a	n/a	n/a	14.6	1.3	10.8	
21. *Kangkong*	n/a	n/a	n/a	8.0	6.8	7.7	
22. Sweet potato/yams	n/a	n/a	n/a	7.8	6.0	7.3	
23. Carrot/Turnip	n/a	n/a	n/a	6.8	7.1	6.9	
24. Onion	n/a	n/a	n/a	7.2	3.0	6.0	
25. Garlic	n/a	n/a	n/a	4.5	1.5	3.6	
26. *Potol*	n/a	n/a	n/a	0.6	2.8	1.2	
27. Others	n/a	n/a	n/a	9.2	10.1	9.5	
n	449	502	951	487	605	1092	

n/a: Not collected in baseline report

As noted in the baseline report, it is a common practice in the survey area to grow vegetables on a small homestead garden for household consumption, and to generate income from sales of excess vegetables. Vegetables from homestead gardens can greatly enhance household nutrition and dietary diversity, and homestead gardens have the added advantage of requiring relatively small amounts of land to cultivate enough vegetables to meet household needs. There was no significant change detected from baseline in the percent of households cultivating a homestead garden in the year prior to the endline. However, there is a positive change in the diversity of vegetables grown, which increased from three to four crops

on average per garden at baseline to six crops at the endline. Table 23 shows that households continue to grow a diverse mix of vegetables, with the most popular vegetables being bottle gourd, beans, brinjal, yellow pumpkin, *pul shak*, *lal shak*, green chili, and tomatoes.

The use of improved gardening practices has increased threefold from baseline, with the mean number of improved practices increasing from 1.6 to 5.1 (Table 24). This reflects a significant increase in the adoption of improved practices in both inland and coastal areas. The gardening practices used by the highest percentage of households are stalking/sticking/trellis, organic fertilizer, improved pit/heap systems. Significant gains were also made in the percentage of gardening households using quality seed, plant thinning, relay/multiple cropping, pruning and mulching. Project gains are further reflected by data showing that while nearly 30 percent of households used no improved gardening practices at baseline, this has decreased to three percent at endline.

Table 24: Improved gardening techniques used last year, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Mean number of improved gardening practices utilized	1.4	1.8	1.6	5.1	5.0	5.1	***
Improved gardening practice utilized (Percent of gardening households):							
A. Organic fertilizer	40.0	47.1	43.7	57.1	72.2	61.4	***
B. Stalking/sticking/trellis	18.6	23.2	21.0	72.7	82.5	75.5	***
C. Quality seed	17.3	23.0	20.3	41.9	38.5	40.9	***
D. Improved pit/heap systems	14.7	18.4	16.6	55.0	46.4	52.6	***
E. Compost preparation	6.5	11.0	8.9	21.4	17.0	20.1	***
F. Thinning	6.7	9.0	7.9	47.4	41.3	45.7	***
G. Improved bed system	6.3	9.4	7.9	25.7	25.5	25.6	***
H. Pruning	4.6	7.7	6.2	31.8	27.3	30.5	***
I. Non-chemical pesticides	5.3	3.1	4.2	19.5	13.1	17.7	***
J. Relay cropping/multiple cropping	16.2	25.0	20.9	39.8	39.8	39.8	***
K. Multi storied cropping	0.5	1.7	1.1	7.6	10.9	8.5	***
L. Bagging	0.0	0.6	0.3	5.5	9.3	6.6	***
M. Artificial pollination	0.0	0.4	0.2	2.5	4.3	3.0	***
N. Mulching	0.0	0.2	0.1	23.4	21.7	22.9	***
O. Other	0.0	0.2	0.1	0.0	2.6	0.8	*
P. None	34.5	25.2	29.6	3.3	2.1	3.0	***
Q. Improved variety	n/a	n/a	n/a	28.1	23.8	26.9	
R. Balanced fertilizer	n/a	n/a	n/a	27.1	21.0	25.3	
n	540	238	777	487	605	1092	

n/a: Not reported in baseline report

3.5.6 Aquaculture and open-water fisheries

Small ponds and larger water bodies are found in most villages in the survey area, with some forms of aquaculture taking place in ponds, including *ghers* which are modified paddy fields with built-up retaining dykes.

While there were no significant gains in the percentage of households rearing any fish between the baseline and endline surveys, households are using, on average, two additional improved fishing

practices since the baseline (Table 25). Households in inland communities have a slightly higher adoption rate of improved practices; on average, inland households are using two and a half additional improved practices versus coastal communities that are using one additional improved practice. The improved practices adopted by the highest percentage of households include testing water color to determine if sufficient food is available or water chemistry is unbalanced (increased by 41.9 percentage points); species selection (increased by 35.5 percentage points); and maintaining optimal stocking density (increased by 28.7 percent).As above, the percentage of households adopting these practices was higher in inland communities surveyed than in coastal communities.

Table 25: Fisheries production, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households rearing any fish	19.3	35.6	26.8	25.4	33.2	27.2	
n (unweighted)	1,189	1,018	2,207	1179	1140	2319	
Average number of improved fishing practices used	3.1	3.3	3.2	5.6	4.3	5.2	***
Improved fishing practice used (Percent):							
1. Using poly culture	50.2	65.6	59.7	70.6	56.6	66.5	*
2. Pond cleaning	49.3	57.3	54.2	68.6	68.8	68.6	***
3. Providing fish seed	55.9	52.9	54.1	62.2	65.9	63.3	**
4. Liming	47.4	52.7	50.6	68.9	60.8	66.6	***
5. Providing supplementary feed	35.2	44.5	40.9	54.5	35.2	48.9	**
6. Growth monitoring	29.1	29.5	29.4	29.1	26.7	28.4	
7. Employing fish disease management	12.7	5.9	8.5	29.1	9.0	23.3	***
8. Maintaining stocking density	7.0	8.7	8.0	42.1	23.5	36.7	***
9. Testing water color to determine if food	8.0	5.3	6.4	54.2	33.9	48.3	***
10. Species selection	2.8	0.5	1.4	44.8	17.7	36.9	***
11. Other	0.5	0.3	0.3	0.0	1.1	0.3	
12. None	12.7	7.9	9.7	7.0	6.9	7.0	
n	230	362	592	299	378	677	

3.5.7 Livestock and poultry

Livestock rearing is a very common activity in the survey area. Table 26 shows that the percent of household rearing any poultry or livestock has declined from 85.9 percent to 75.2 percent of all households, while the mean number of improved livestock practices in use has tripled, from less than one to 2.3 practices. Both inland and coastal communities show approximately the same degree of change in these areas.

The greatest increase in improved practices was in the percentage of households using improved animal housing (from 0.1 percent to 21.8 percent); stall feeding (from 12 percent to 30.6 percent), and supplementary feed for poultry (from 8.7 percent to 20.4 percent). There is no significant change in vaccination rates, and a little over one-third of households are vaccinating their livestock against disease. The endline survey shows that a greater number of households are adopting some kind of improved livestock rearing practices. The percentage of households using no improved practices declined by over 15 percentage points; this change is more pronounced in the coastal areas, where the percentage of households not using any improved practice declined by 25.2 percentage points versus

only 12 percentage points among inland households in the survey. However, 40 percent of households were still not using improved practices at endline.

Table 26: Livestock production, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households rearing any poultry or livestock	82.7	89.7	85.9	73.1	82.0	75.2	***
n	1,189	1,018	2,207	1,179	1,140	2,319	
Mean number of improved livestock practices used	0.7	0.6	0.7	2.4	2.3	2.3	***
Improved livestock practice used (percent):							
1. Vaccination	36.1	36.8	36.4	33.1	49.8	37.4	
2. Stall feeding	13.6	10.2	12.0	30.7	30.1	30.6	***
3. Supplementary poultry feed	6.1	11.5	8.7	20.1	21.4	20.4	***
4. Growth monitoring	3.4	3.4	3.4	2.4	9.7	4.3	
5. Fattening	2.3	1.2	1.8	6.3	3.7	5.6	***
6. Artificial insemination	2.4	0.5	1.5	9.2	4.4	7.9	***
7. Improved breeding	1.8	0.2	1.0	9.7	6.2	8.8	***
8. Improved animal housing	0.1	0.0	0.1	20.6	25.0	21.8	***
9. Other	0.3	0.9	0.6	0.5	9.8	2.9	***
10. None	55.7	54.7	55.2	43.7	29.5	40.0	***
n	981	912	1,893	862	935	1,797	

Overall, income from livestock and livestock product sales has increased by 39 percent from Tk.9,427 at baseline to 13,096 at endline (Table 27). Income from livestock sales is comparatively higher in coast (46 percent) than in inland (16 percent). The cost of livestock production increased significantly in Inland (47 percent) while it remained essentially unchanged in Coast. Overall, the input costs increased from 2,643 at baseline to 3,903 at endline.

Table 27: Household average annual income from livestock /livestock product sales and production cost, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Average livestock sales (Tk.)	12,343	5,213	9,427	14,275	7,616	13,096	***
Average livestock production input cost (Tk.)	2,890	2,286	2,643	4,257	2,258	3,903	***
n	349	283	632	342	227	569	

Annual income and production cost values are deflated by the CPI 2012-2014

Along with the adoption of improved livestock practices and increase in sales of livestock production, households in the survey area report that the average gross profit margin for livestock production increased by Tk.2,301, a 34 percent increase, from baseline to endline (Figure 10). The positive deviance

Figure 10: Average gross profit (Tk.) for livestock production by region

was driven by sharp gains in gross profits in the coastal region, a 81 percent increase from baseline (5,289 Tk.), although average gross profits for coastal households remain roughly half of those earned on average by inland households.

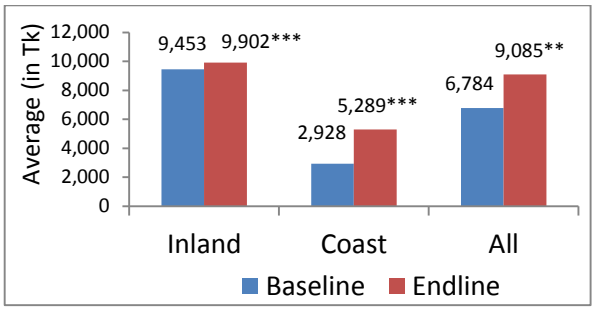


Table 28 shows the mean number of animal assets owned per household by animal type and region. The mean number of animal assets has shown a small but significant decline for most livestock since the baseline.

Table 28: Mean number of animal assets owned, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Cows	1.60	0.99	1.32	0.98	0.91	0.97	***
Buffalo	0.00	0.03	0.01	0.01	0.01	0.01	***
Goats	0.51	0.35	0.44	0.40	0.32	0.38	***
Sheep	0.04	0.01	0.03	0.02	0.02	0.02	***
Chickens	4.11	7.87	5.85	3.10	4.18	3.36	***
Duck	1.64	1.99	1.80	1.83	2.29	1.94	***
Pigs	0.01	0.00	0.00	0.05	0.01	0.04	***
Pigeon	0.59	0.72	0.65	1.22	1.08	1.19	***
Rabbit	0.00	0.00	0.00	0.03	0.03	0.03	***
Billy goat	0.01	0.00	0.01	0.00	0.02	0.01	***
Quail	0.00	0.00	0.00	0.02	0.04	0.03	***
n	1,189	1,018	2,207	1,179	1,140	2,319	

Table 29 shows the percent of households owning animal assets. Ownership of cows declined significantly from 46.2 percent of households surveyed at baseline to 40.8 percent of households at endline. The percent of household owning chickens also declined, from 75.7 percent to 63.4 percent. Ownership of pigeons increased from 9.8 percent to 14.8 percent.

Table 29: Percent of households owning animal assets, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Cows	54.1	36.9	46.2	42.0	37.0	40.8	***
Buffalo	0.0	1.3	0.6	0.1	0.4	0.1	*
Goats	20.0	16.2	18.2	17.7	12.5	16.5	
Sheep	1.1	0.1	0.6	0.6	0.4	0.6	
Chickens	69.4	83.1	75.7	60.6	72.4	63.4	***
Duck	42.6	46.6	44.4	43.9	48.8	45.0	
Pigs	0.4	0.1	0.2	1.0	0.2	0.8	**
Pigeon	8.7	11.1	9.8	14.8	15.1	14.8	***
Rabbit	0.2	0.1	0.1	0.5	0.4	0.5	*
Billy goat	0.5	0.4	0.5	0.2	1.6	0.5	
Quail	0.2	0.1	0.1	0.6	1.1	0.7	**

n	1,189	1,018	2,207	1,179	1,140	2,319

3.5.8 Government services for livestock and agricultural production

Table 30 gives the percentage of households that have government agricultural and livestock services available to the community. There have been significant increases in the percent of households that have services available from the Department of Fisheries (by 6.4 percentage points). There is a smaller but significant increase (2.6 percentage points) in the percentage of households that have services available from the Bangladesh Agricultural Research Institute (BARI). The percentage of households receiving services from the Bangladesh Rice Research Institute (BRRI) is small at 2.6 percent, but increased by a significant amount from 0.1 percent at baseline.

Table 30: Government agricultural and livestock services available in the community, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Dept. of Agricultural extension	52.5	53.8	53.1	51.9	53.9	52.4	
Government land office (*Tohoshil*)	46.6	47.8	47.1	34.6	39.9	35.9	***
Dept. of Livestock	44.5	50.0	47.0	48.7	52.5	49.6	
Dept. of Fisheries	34.1	42.0	37.7	43.4	46.4	44.1	***
BADC seed department	14.0	14.2	14.1	13.0	7.6	11.7	*
BARI	0.5	0.3	0.4	3.2	2.3	3.0	***
BRRI	0.2	0.1	0.1	2.6	2.4	2.6	***
n	1,189	1,018	2,207	1,179	1,140	2,319	

The percent of households that have services available to them from the Government land office (*Tohoshil*) declined significantly from nearly half (47.1 percent) of households to slightly more than one-third (35.9 percent) of households. Services from the Bangladesh Agricultural Development Corporation (BADC) seed department declined as well, although a small percentage of households have access to those services to begin with.

Table 31: Government services used in the last six months, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Dept. of Agricultural extension	9.4	5.1	7.4	10.8	10.1	10.6	***
Government land office	7.7	6.7	7.2	5.6	2.8	4.9	**
Dept. of fisheries	1.7	1.2	1.5	4.8	2.5	4.2	***
Dept. of livestock	1.3	0.8	1.1	5.2	9.8	6.4	***
BADC seed dept.	0.9	0.4	0.7	12.5	1.1	10.8	***
n	1,189	1,018	2,207	1,179	1,140	2,319	

Despite the availability of government agricultural and livestock services, the percentage of households in the survey that use these government services is quite low. The service most utilized by program area households are BADC seed department services, however the utilization rate is still low at only 10.8 percent of all households surveyed (Table 31). Granted, BADC seed department service use has also seen the greatest increase since the baseline, 10.1 percentage points. The second most used service by households are those offered by the Department of Agricultural Extension. While the increase in usage of those services by households is significant, once again the utilization rate at endline is still low at little more than 10 percent of all households surveyed. There were similar significant but small increases in the percent of households using Department of Fisheries and Department of Livestock services. Once again, the use of these services by households increased significantly since baseline but constitute only

around five percent of households by the time of the endline study. The percentage of households using Government land office (*Tohoshil*) has declined significantly, from 7.2 percent of households to 4.9 percent. This is in line with the declining availability of services from this office shown in Table 30.

3.6 Market Access and Use

IPTT Indicator OC8: *% of agricultural smallholders reporting increased market access and use as a result of PROSHAR intervention*

Market access was measured both for input and output markets. This indicator would ideally be measured by collecting information from a sample of producer groups (Figure 11). Instead, the data presented here was collected from the population-based sample by filtering households that produce agricultural products. Therefore, the sample is very small (less than 50 households) to draw any statistically valid conclusions about this indicator. Note also that the change in sampling strategy from baseline to endline may have influenced the findings, as the random walk method used in the baseline may be biased toward more accessible households. It would more appropriate to track this indicator through annual monitoring with an adequate sample of agricultural smallholders.

Figure 11: Percent of agricultural smallholders reporting increased market access and use, by gender and region

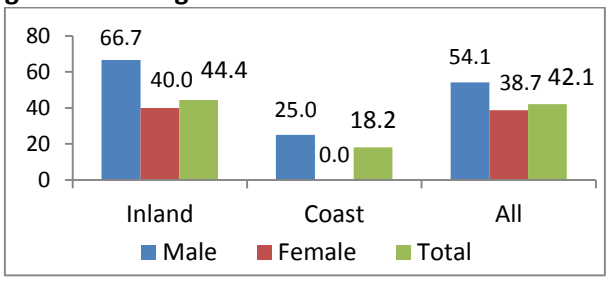


Table 32: Access to markets, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Distance to local food market							
Less than 30 minutes	65.1	60.9	63.2	64.5	58.3	63.1	
30 minutes to 1 hour	29.3	31.0	30.1	26.4	34.5	28.4	
1-2 hours	5.2	7.5	6.3	8.4	6.1	7.9	*
More than 2 hours	0.4	0.6	0.5	0.6	1.1	0.7	
n	1,157	1,001	2,158	1,173	1,138	2,311	
Distance to market for selling handicrafts							
Less than 30 minutes	84.0	54.5	65.2	46.3	12.1	41.6	
30 minutes to 1 hour	16.0	27.3	23.2	14.9	18.2	15.4	
1-2 hours	0.0	13.6	8.7	9.0	3.0	8.1	
More than 2 hours	0.0	4.5	2.9	6.0	3.0	5.6	
Sell at the household**				23.9	63.6	29.4	
n	25	44	69	67	33	100	
Distance to the market to sell agricultural products							
Less than 30 minutes	51.1	63.4	54.3	30.0	22.0	28.9	
30 minutes to 1 hour	32.8	30.8	32.3	23.9	13.5	22.4	***
1-2 hours	13.6	4.7	11.2	20.9	4.2	18.5	***
More than 2 hours	2.5	1.2	2.2	5.5	0.0	4.7	*

Sell at the household[26]				19.7	60.2	25.6	
n	472	172	644	493	259	752	
Distance to purchase agricultural inputs							
Less than 30 minutes	54.1	50.0	52.6	49.0	45.6	48.4	*
30 minutes to 1 hour	32.4	36.1	33.8	33.0	40.1	34.3	
1-2 hours	11.9	11.4	11.7	16.8	10.6	15.6	**
More than 2 hours	1.6	2.5	1.9	1.2	3.7	1.7	
n	691	404	1,095	655	461	1,116	

Table 32 shows the varying degrees of access to different markets, measured as the time it takes to reach markets by foot. As the distance to a market for buying inputs or selling goods increases, transportation costs for the household increase and profits decrease. The amount of time a household must invest in reaching the market also affects time available for other productive activities. The data indicate that there has not been a significant change in the distance to local food markets since baseline, with the exception of a slight increase (from 6.3 percent to 7.9 percent) in the percentage of households that are one to two hours away from a food market. There is also no significant change in the distance to a market for selling handicrafts.

The majority of households are 30 minutes to one hour from markets where they can buy or sell agricultural goods. There has been a significant decrease (from 32.3 percent to 22.4 percent) in households that are 30 minutes to one hour from markets where they sell agricultural products. Conversely, the percent of households that are one to two hours by foot from these same markets increased significantly (from 11.2 percent to 18.5 percent) in coastal communities from baseline to endline. There is also a significant increase for a small percentage of households (from 2.2 percent to 4.7 percent) that must travel more than two hours to sell their agricultural products. Similarly, the percentage of households that must travel one to two hours to purchase agricultural inputs increased form 11.7 percent to 15.6 percent. Again, these differences may reflect the change in sampling strategy, with the baseline possibly biased toward households with easier access to markets.

The data show a significant shift in the mode of transport used by households to reach markets (Table 33). At baseline, over half of households (55.9 percent) traveled by foot to markets. Now the primary mode of transport to markets is by rickshaw/van, used by 83.4 percent of households. Overall, only a small percentage of households (7.7 percent) now reach markets by foot, a decline of 48.2 percentage points. Inland communities are more likely to use rickshaw/van transportation, though their use has also increased in coastal communities. One-third of households in coastal communities still reach markets by foot, but this has declined by half, as previously two-thirds of households in coastal communities walked to markets.

Other significant modes of transport are used by a much smaller percentage of household. The use of bicycles and motorcycles has decreased, and there is a small increase in the use of "other" modes of transportation.

Table 33: Primary mode of transport to markets, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Rickshaw/Van	60.4	50.0	56.6	85.2	61.8	83.4	***
Foot	50.0	66.5	55.9	5.6	32.4	7.7	***

[26] During field testing it was found that many households with handicraft and agricultural production sell products from their house directly. This information was not collected separately in the baseline and it is assumed that it was included in the "less than 30 minutes" category. The hypothesis testing was done combining these two categories to compare with the baseline.

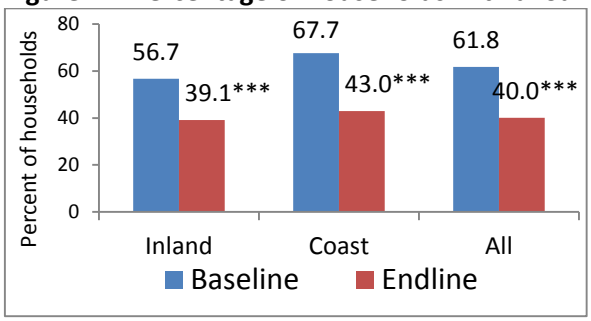
Bicycle	7.1	3.2	5.7	0.0	0.0	0.0	***
Car/Truck	2.1	1.5	1.9	2.6	1.0	2.4	
Boat	2.3	1.0	1.8	0.3	3.9	0.5	*
Other	1.5	0.5	1.1	6.4	0.0	5.9	***
Motorcycle	0.5	2.2	1.1	0.0	1.0	0.1	***
n	618	406	1024	392	102	494	

The data show a significant shift in the mode of transport used by households to reach markets (Table 33). At baseline, over half of households (55.9 percent) traveled by foot to markets. Now the primary mode of transport to markets is by rickshaw/van, used by 83.4 percent of households. Overall, only a small percentage of households (7.7 percent) now reach markets by foot, a decline of 48.2 percentage points. Inland communities are more likely to use rickshaw/van transportation, though their use has also increased in coastal communities. One-third of households in coastal communities still reach markets by foot, but this has declined by half, as previously two-thirds of households in coastal communities walked to markets. Other significant modes of transport are used by a much smaller percentage of household. The use of bicycles and motorcycles has decreased, and there is a small increase in the use of "other" modes of transportation.

3.7 CREDIT

Indebtedness of households in the program area decreased 21.8 percentage points from baseline (61.8 percent) to endline (40.0 percent (Figure 12). Households typically borrow as a means of coping with limited resources during the lean season or when faced with a shock such as illness or natural disaster. With this in mind, the large decrease in household borrowing could be viewed as a positive sign, if in fact borrowing is declining as a coping strategy.

Figure 12: Percentage of households with a loan



Additional information regarding loan sources and reasons for borrowing in Table 34 and Table 35 below, can help shed light on the drivers of the reported decreases in borrowing among households in the program area. Ideally, program area households would be borrowing more often from formal sources and less from NGOs and informal sources. Borrowing source is often a function of socio-economic status, as formal sources of credit require collateral or proof of collateral (often in the form of land), thus, poor landless households are only able to access credit from NGOs and informal sources.

Results in Table 34 show households have decreased reliance on informal sources of credit (friend/relative, neighbor, mohajan, money lender, etc.) from baseline to endline. Also the share of

Table 34: Loan sources, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
NGO/CBO	75.5	74.3	74.9	78.3	60.2	73.7	
Bank/formal lending institution	27.4	36.6	32.0	16.5	20.8	17.6	***
Friend/relative	25.9	27.7	26.8	3.5	15.1	6.5	***
Neighbor	13.4	16.3	14.9	1.7	6.1	2.9	***
Mohajan	12.0	15.6	13.8	7.6	13.3	9.0	***
Trader/grocer	2.2	11.6	7.0	0.2	3.3	1.0	***
Money lender	2.1	6.0	4.1	0.4	1.0	0.6	***
Dadon dar	1.8	3.3	2.6	0.4	2.7	1.0	**
Informal savings group	2.6	0.5	1.5	1.5	1.2	1.4	

	Other	1.3	1.7	1.5	2.4	0.4	1.9	
	Pawnshop	0.8	2.1	1.5	0.0	1.2	0.3	**
	n	674	689	1,363	461	490	951	

households receiving loans from banks and other commercial lending institutions has decreased, from 32 percent at baseline to 18 percent at endline. Households have reduced the range of different sources of credit, and at the time of endline most loans are from NGOs and CBOs.

Decreases in borrowing coincided with large decreases in borrowing for the purposes of consumption smoothing, emergencies, and/or loan repayment (Table 35). Households that report borrowing for household consumption dropped from 27.2 percent to 7.1 percent, for loan repayment dropped from 24.2 percent to 14.4 percent, and for payment of medical treatment from 17.4 to 9.2 percent. While nearly all reported reasons for borrowing fell from baseline to endline, as would be expected given the large drop in borrowing over the same timeframe, the downward trend in borrowing for productive purposes decreased less than for non-productive purposes. Borrowing to set up a small business dropped to 17.1 percent from 27.4 percent, for purchase of agricultural inputs fell to 10.4 percent from 14.6 percent, and for productive asset purchases dropped to 14.2 percent from 18.5 percent. Borrowing for housing maintenance was unchanged at approximately 14 percent.

Table 35: Reasons for borrowing, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Starting small business	20.6	34.1	27.4	18.0	14.3	17.1	***
Household consumption	21.6	32.8	27.2	6.1	10.0	7.1	***
Loan repayment	19.0	29.3	24.2	13.7	16.5	14.4	***
Purchase of other productive assets	19.7	17.2	18.5	13.4	16.3	14.2	**
Pay for treatment/medicine	14.9	19.8	17.4	7.6	13.9	9.2	***
Purchase agricultural inputs	20.3	9.1	14.6	10.6	9.6	10.4	**
Housing/repair	11.5	15.8	13.7	15.8	10.0	14.3	
Other	4.3	8.6	6.5	3.0	5.7	3.7	**
Purchase of non-productive assets	4.8	6.7	5.8	3.3	4.1	3.5	*
Livestock purchases	7.4	4.0	5.7	5.4	3.5	4.9	
Land purchases	4.0	7.2	5.6	5.4	8.2	6.1	
Wedding	6.1	3.7	4.9	3.3	3.3	3.3	
Education	4.5	3.1	3.8	5.0	3.1	4.5	
Legal dispute/expenses	0.8	2.1	1.5	0.4	2.0	0.8	
Rental of house/shop	1.8	1.1	1.4	0.9	0.6	0.8	
Bride price/dowry	1.4	0.4	0.9	2.2	0.2	1.7	
Migration	1.0	0.4	0.7	1.5	1.8	1.6	*
Purchase agricultural tools	0.3	0.1	0.2	0.7	0.0	0.5	
Religious event	0.2	0.1	0.1	0.7	0.0	0.5	
Funeral	0.0	0.1	0.1	0.4	0.2	0.4	
n	674	689	1,363	461	490	951	

The median amount borrowed increased 42 percent to 22,649 Taka (Table 36). Households in the coastal region borrowed more on average (18,532 taka) than households in the inland region (34,599 taka). The mean level of indebtedness increased substantially (by 75 percent), from 19,740 taka at baseline to 34,599 at endline. On a positive note, the average interest rate on household borrowings fell substantially from 18.2 percent to 13.9 percent.

Table 36: Loan information, by region

Indicator	Baseline	Endline	Sig.

	Inland	Coast	**All**	Inland	Coast	**All**	
Mean amount borrowed	21,810	33,700	27,818	27,552	44,195	31,816	***
Median amount borrowed	14,000	20,000	16,000	18,532	34,599	22,649	***
Mean amount owed	15,250	24,120	19,740	22,649	18,532	34,599	***
Mean percentage of principal owed	68.8	68.5	68.7	66.2	75.3	68.5	
Mean interest rate	19.3	17	18.2	14.4	12.6	13.9	***
n	674	689	1363	461	490	951	

3.8 Economic distress indicators

Migration, sales of labor in advance, and reliance on informal credit are three indicators being used to monitor economic distress in the program area. Results are mixed with respect to levels of economic distress for surveyed households, as some indicator values increased while others decreased.

Migration continues to be a prevalent strategy used to cope with or avoid economic distress in the program area (Table 37). One in four households (25.5 percent) reported that a household member had migrated in the previous 12 months, however this proportion was unchanged from the baseline (23.1 percent). A more extreme form of coping, selling labor forward, increased slightly from baseline (5.8 percent) to 7.4 percent.

Encouragingly, the use of informal loans and emergency asset divestment decreased sharply (Table 37). Households reporting taking out a loan from an informal lender in the previous 12 months fell from 35.7% at baseline to 12.8% of households at endline. Only 7.6 percent of households reported engaging in emergency asset sales, down from 24.0 percent of households at baseline.

Table 37: Migration and other distress behavior, by region

Indicator	**Baseline**			**Endline**			**Sig.**
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of household with any member migrate in last 12 months	20.5	26.1	23.1	22.3	35.5	25.5	
Percent of household with any member sell labor in advance in the last 12 months	4.6	7.1	5.8	6.9	9.1	7.4	*
Percent of household with any member take out loan from non-formal sources in last 12 months	32.3	39.6	35.7	10.9	19.1	12.8	***
Percent of household with any member sell assets in last 12 months in order to be able to purchase or pay for household urgent need	26.8	20.7	24.0	7.6	7.5	7.6	***
n	1,189	1,018	2,207	1,179	1,140	2,319	

3.9 Participation in Community Groups

Overall participation in community groups fell in the program area, particularly in the coastal region (Table 38). At baseline, 56.2 percent of all households surveyed reported belonging to any community group and fell to 40.1 percent of households at endline. In the coastal region the proportion fell by nearly half, from 59.0 percent of households to 29.6 percent of households. Most of this drop appears to be driven by declining membership in savings and credit groups. Across all households sampled, membership in saving/credit groups fell from 54.1 percent to 34.5 percent.

Membership in community agriculture and community health groups exhibited strong growth, however overall levels of membership in these groups remains quite low. Membership in community agriculture groups grew from 3.1 percent to 5.1 percent of all households sampled, while membership growth in

community health groups was even stronger, growing from 1.1 percent to 4.5 percent. Notably, women's participation in community savings groups and health groups is particularly robust, at 69.7 percent and 87.6 percent, respectively.

Table 38: Group participation and membership, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Membership in any community based group	**53.7**	**59.0**	**56.2**	**43.4**	**29.6**	**40.1**	***
Member in savings/credit group (Percent)	***51.1***	***57.6***	***54.1***	***38.3***	***22.6***	***34.5***	
Primarily men	24.3	25.5	24.9	22.6	19.8	22.2	
Primarily women	66.1	60.1	63.1	68.1	78.3	69.7	**
Both men and women	9.6	14.5	12.0	9.3	1.9	8.2	**
n	563	636	1199	451	258	709	
Member in community agriculture group (Percent)	***3.8***	***2.2***	***3.1***	***5.3***	***4.6***	***5.1***	**
Primarily men	85.7	75.0	82.2	72.6	46.2	66.9	*
Primarily women	11.9	16.7	13.5	25.8	50.0	31.0	**
Both men and women	2.4	8.3	4.3	1.6	3.8	2.1	
n	42	24	66	62	52	114	
Member in community health group (Percent)	***1.2***	***0.9***	***1.1***	***4.9***	***3.0***	***4.5***	***
Primarily men	23.1	30.0	25.8	6.9	20.6	9.1	*
Primarily women	76.9	50.0	66.3	89.7	76.5	87.6	*
Both men and women	0.0	20.0	7.9	3.4	2.9	3.4	
n	13	10	23	58	34	92	
Member in PTA/SMC (Percent)	***4.0***	***4.5***	***4.2***	***3.2***	***5.2***	***3.7***	
Primarily men	65.9	84.0	74.8	65.8	64.4	65.3	
Primarily women	29.5	10.0	19.9	31.6	32.2	31.8	
Both men and women	4.5	6.0	5.3	2.6	3.4	2.9	
n	44	50	94	38	59	97	
n	1,189	1,018	2,207	1,179	1,140	2,319	

3.10 WOMEN'S EMPOWERMENT

In order to assess gender roles and attitudes, the surveys asked several questions regarding decision-making, freedom of movement, income generation, alignment with patriarchal values, and women's participation in community groups. Research shows that women's decision-making power is directly and intricately linked to household food security outcomes. "Women with low status tend to have weaker control over household resources, tighter time constraints, less access to information and health services, poorer mental health, and lower self-esteem. These factors are thought to be closely tied to women's own nutritional status and the quality of care they receive, and, in turn, to children's birth weights and the quality of care the children receive."[27]

For thirteen common household decisions, women were asked to report whether they can decide alone, can decide with their husband or other adult male, whether their husband makes the decision after

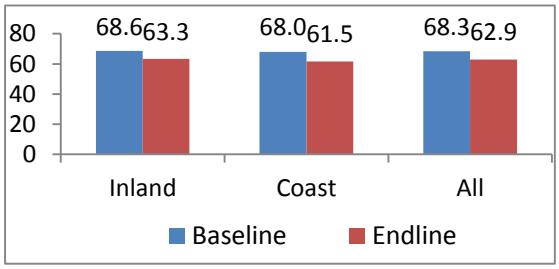
[27] Smith, Lisa C. et al. 2000. *The Importance of Women's Status for Child Nutrition in Developing Countries.* International Food Policy Research Institute (IFPRI).

discussion with them, or whether they are involved in the decision at all. The respondent could also note when a particular decision was not applicable. The women's responses were aggregated into a single index of decision-making power, by assigning score values from 1 for "least power" to 4 for "most power" for their responses. The scores used were as follows: "Can decide alone" (score=4); "Can decide with husband or other adult male family member (3); "Husband makes decision after discussion with wife" (2); and "Not involved" (1). The overall decision-making score[28] is the mean over the total number of decisions, out of 13 possible, that the woman felt was applicable to her situation.

The women empowerment scores were converted into an index by dividing the sum of individual decision-making scores by the highest possible score (i.e., total number of decisions multiplied by 4) and calibrated to 100. Higher index values indicate more empowerment in decision making.

Women's empowerment, as measured by the women's empowerment index, fell to 62.9 for all households sampled (Figure 13). It should be noted that there was a large increase in the number of households indicating that many decisions were "not applicable" for their respective household (Table 39). "Not applicable" responses are effectively thrown out of the index. Because of this change in how respondents interpreted the questions, the comparability of the index between baseline and endline, as currently calculated, is limited.

Figure 13: Women's empowerment index in household-level decision making



While the value of the composite index decreased from baseline to endline, there were some encouraging signs with respect to the empowerment of women with respect to some of the particular decisions that comprise the index. For instance, the proportion of women that can make decisions on their own to buy small food items/groceries/toiletries (51.8 percent at endline) and clothing for herself or children (31.6 percent at endline) increased dramatically. The proportion of women making decisions on their own regarding their own or their children's healthcare (17.0 percent at endline), and family planning decisions (14.8 percent at endline), also exhibited strong growth.

Table 39: Women's decision-making by, survey round

Indicator	Percent of women														
	Can decide alone			Can decide with husband or other adult male			Husband makes decision after discussion with wife			Not involved in decision			Not applicable		
	Base	End	Sig	Base	End	Sig	Base	End	Sig	Base	End	Sig	Base	End	Sig
Buying small food items, groceries, toiletries	31.6	51.8	***	10.8	8.4	**	51.3	34.9	***	5.9	4.6		0.5	0.2	
Buying clothing for herself or her children	12.7	31.6	***	18.2	10.3	***	61.0	48.0	***	6.0	6.5		2.1	3.6	**
Spending money that she has earned	9.8	10.7		6.4	1.0	***	20.2	8.1	***	5.8	3.0	***	57.8	77.2	***
Buying or selling major household assets	3.0	2.8		17.1	8.8	***	66.5	29.4	***	8.3	7.4		5.2	51.7	***
Buying or selling jewelry	2.2	1.8		15.1	3.0	***	50.8	14.6	***	9.2	3.5	***	22.8	77.1	***
Use of loans or savings	2.8	3.9	*	12.9	6.7	***	62.7	42.6	***	7.1	5.3	*	14.5	41.5	***
Expenses for children's education	7.7	12.8	***	10.6	6.7	***	56.2	46.9	***	2.2	2.2		23.3	31.3	***
Expenses for children's marriage	1.7	0.9	*	8.7	3.1	***	31.6	11.2	***	3.6	0.8	***	54.4	84.0	***

[28] The baseline mean score was recalculated using appropriate sampling weight.

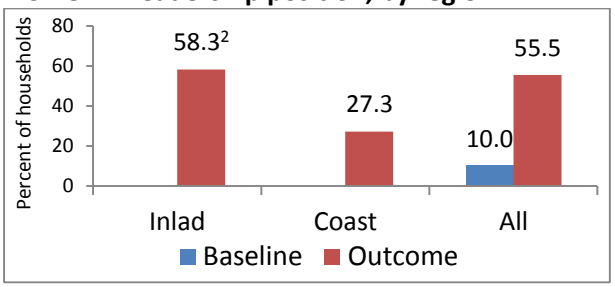
Table 39: Women's decision-making by, survey round

Indicator	Percent of women														
	Can decide alone			Can decide with husband or other adult male			Husband makes decision after discussion with wife			Not involved in decision			Not applicable		
	Base	End	Sig	Base	End	Sig	Base	End	Sig	Base	End	Sig	Base	End	Sig
Decision over child's marriage	1.7	0.8	*	8.8	3.3	***	35.2	11.8	***	3.1	0.9	***	51.2	83.2	***
Medical expenses for herself or her children	9.5	17.0	***	16.0	13.1	***	71.1	63.1	***	1.5	2.5	*	2.0	4.4	***
Expenses for family planning (contraceptives)	5.7	14.8	***	9.8	1.0	***	65.3	43.9	***	1.6	1.6		17.6	38.7	***
To move to shelter during time of disaster	4.8	1.5	***	14.3	5.6	***	48.1	13.3	***	8.3	6.2	**	24.6	73.4	***
Actively participate in *shalish* decision making	1.4	1.1		3.9	0.4	***	5.3	2.2	***	29.6	16.2	***	59.8	80.1	***
n (unweighted)	2198	2201		2198	2201		2198	2201		2198	2201		2198	2201	

IPTT Indicator OC7: *% of producer groups with women in leadership positions*

Figure 14 shows the percentage of women who hold a leadership position within a producer group. Encouragingly, this proportion is relatively high at endline (55.5 percent), although it should be noted that the sample size is extremely small (n=64). More useful information regarding women's participation and roles within producer groups could be collected from annual monitoring data (collected solely from beneficiaries) or directly from the producer groups.

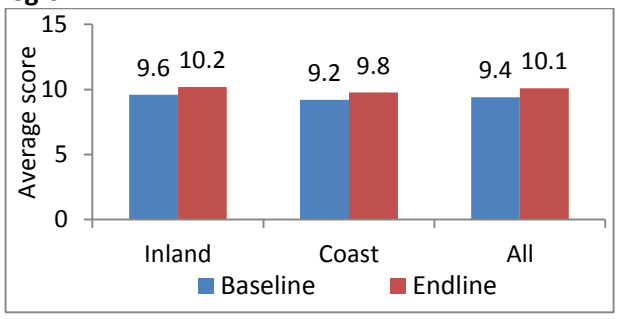
Figure 14: Percentage of producer groups with women in leadership position, by region[1]



[1]*A producer group survey is more appropriate to get actual estimate of this indicator. It was estimated based on household level responses*
[2]*Baseline information available only at the project level*

Another measure of women's empowerment is their ability to move freely throughout public spaces. This was measured by whether or not women are able to travel at all to various common destinations (markets, health centers, friends' homes, and mosques/shrines) and whether or not they are able to travel alone. To create an index of women's mobility, the following categories of response were used: permitted to go alone (score=3); permitted to go accompanied by someone else (score=2); never permitted to go (score=1). The index value for each woman is the sum of the scores over the four types of places (max=12). There was no observed change in this index between baseline and endline, however overall, the level is high 10.1 out of a maximum of 12 (Figure 15).

Figure 15: Average women's mobility score, by region



The proportion of women responding they are able to travel to market and the mosque/shrine increased (Table 40). At baseline, 66.3 percent of women reported being able to travel to market, increasing to 77.7 percent at endline. Women reporting they are able to go to mosque increased from 43.9 percent to 55.1 percent, mainly driven by a sharp increase in women's ability to do so in the coastal region. Of those women that report being able to travel to various places, in the majority of cases they are free to do so alone – ranging from 84.5 percent of women respondents to 97.0 percent at endline. Table 41 shows that the percentage of women engaged in a livelihood

Table 41:Percent of women engaged in livelihood activities, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Women engaged in livelihood activity (%)	16.7	18.2	17.4	14.3	9.5	13.2	***
n	1,189	1,016	2,205	1,134	1,067	2,201	
% of these women earning any cash income	89.7	86.2	88.0	98.1	96.0	97.8	***
n	204	188	392	162	101	263	

Table 40: Percentage of women able to travel, by destination and by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Ability to travel (% of women)							
To market	67.0	65.5	66.3	79.3	72.5	77.7	***
To health center or doctor	87.5	88.3	87.9	91.2	87.6	90.4	***
To a friend's home	96.5	97.1	96.8	95.8	97.1	96.1	
To mosque/shrine	54.0	32.0	43.9	57.4	47.3	55.1	***
n	1,188	1,016	2,204	1,179	1,140	2,319	
Ability to travel (% of women)[1]							
To market	74.5	79.9	77.0	85.0	82.7	84.5	***
To health center or doctor	71.5	75.2	73.2	87.8	84.4	87.0	***
To a friend's home	94.3	94.3	94.3	96.9	97.6	97.0	***
To mosque/shrine	89.4	85.3	88.0	94.2	90.1	93.3	***

[1]The n's in the bottom half of the table are different for each destination; each n is the subset of the women able to travel to that destination at all (accompanied or alone).

activity[29] decreased from 17.4 percent to 13.2 percent. This result was driven by a large decrease in the coastal region, from 18.2 percent to 9.5 percent. However on a more encouraging note, of those women that engaged in a livelihood activity, nearly all at endline (97.8 percent) reported earning cash income. This may reflect a shift from women earning in-kind income to cash income from these activities from baseline to endline.

Table 42 exhibits women's agreement with statements that enforce patriarchy and alternatively with statements that do not enforce patriarchy. The results demonstrate positive shifts towards less patriarchal attitudes by women in the program area. Large reductions were found at endline in the proportion of women who believe important family decisions should only be made by men (16.6 percent at endline), that the husband should make family planning decisions (11.1 percent), and that it is better to send a son instead of a daughter to school (3.1 percent). One area that did not show meaningful improvement is with respect to domestic violence, where 86.4 percent of women still believe that a wife should tolerate violence to keep the family together.

Table 42: Percent of women who agree with various statements revealing patriarchal attitudes about family life, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of women who agree with statements that enforce patriarchy							
a) The important decisions in the family should be made only by the men of the family	36.2	37.3	36.7	13.8	25.8	16.6	***
b) A wife should tolerate being beaten by her husband in order to keep the family together	89.4	93.1	91.1	87.6	82.8	86.4	***
c) It is the husband who has the right to make decision on family planning	45.3	44.2	44.8	10.1	14.5	11.1	***
d) It is better to send a son to school than it is to send a daughter	17.3	17.8	17.6	2.9	3.8	3.1	***
Percent of women who agree with statements that do not enforce patriarchy							
a) If the wife is working outside the home, then the husband should help her with household chores	83.4	81.0	82.3	89.9	86.1	89.1	***
b) A married woman should be allowed to work outside the home if she wants	75.1	70.4	72.9	81.8	74.7	80.2	***
c) The wife has a right to express her opinion even when she disagrees with her husband	66.3	65.4	65.9	82.8	82.9	82.8	***
n	1,189	1,016	2,205	1134	1067	2201	

When women were presented with statements framed as not supporting patriarchy, their attitudes exhibited similar trends in improvement. Where earlier, two-thirds of women agreed that a wife has the right to express an opinion distinct from her husband's, at endline 83 percent of women responded affirmatively. The percentage of women agreeing that a woman should be allowed to work outside the home if she chooses grew from 73 percent to 80 percent. Women agreed that a husband should help with chores when the wife works outside the house increased from 82 percent at baseline to 89 percent at endline.

Table 43: Normalization of domestic violence, by region

[29] Some women earn cash from different jobs: sell products, have a small business or work on the farm or in the family business.

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of women who agree a husband is justified in hitting or physically abusing his wife							
She does not obey elders	63.2	61.9	62.5	31.4	26.0	30.1	***
She argues with him	53.2	55.5	54.3	18.1	16.6	17.7	***
She goes out without telling him	55.4	50.2	52.8	14.7	16.3	15.1	***
She refuses to have sex with him	29.4	35.7	32.5	4.3	5.4	4.6	***
She neglects the children	30.9	31.0	30.9	16.8	15.0	16.3	***
She burns the food	18.9	21.9	20.4	3.2	4.7	3.5	***
n	1,102	1,105	2,207	1,134	1,067	2,201	

Trends in the normalization of domestic violence improved considerably in the program area (Table 43). The percent of women that agree violence against them is justified for not obeying elders, arguing with their husband, or going out without telling their husband dropped from between 54.3 and 52.8 percent to between 17.7 and 15.1 percent. Where at baseline nearly one in three women believed domestic violence was justified for refusing sex or neglecting children, less than five percent of women agree with this statement at endline.

As outlined in Table 44, women's rate of membership in groups is growing, but still limited in absolute level. The percentage of women that report attending *shalish* meetings grew from around one percent to 10.8 percent. Also, the percentage of women participating in women's groups grew from close to zero to 3.1 percent – a positive but still very small change.

Table 44: Membership in women's groups, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of women with memberships in mother's group	0.4	0.4	0.4	11.8	6.8	10.7	***
n	1,110	921	2,031	1,134	1067	2,201	
Percent of women with memberships in women's group	0.5	0.5	0.5	3.3	2.6	3.1	***
n	1,188	1,016	2,204	1,134	1,067	2,201	
Percent of women attending *shalish* meeting	1.0	1.3	1.1	12.6	4.7	10.8	***
n	1,188	1,016	2,204	1,134	1,067	2,201	

4.0 Strategic Objective 2: Health of pregnant and lactating women and children under 5 (with particular attention to children under 2) improved

The nutrition and health component of PROSHAR sought to contribute to improvements in antenatal care (ANC), maternal and infant feeding practices, and child health care related to immunization and treatment of diarrhea and ARI. Through SO2 intervention, beneficiary mothers has learnt about health, nutrition and hygiene practices, and are participating in antenatal and postnatal care sessions. In addition, children aged 6-23 months of PROSHAR-participating households have been involved in growth monitoring and promotion activities. Maternal leaders have been trained to identify severe acute malnutrition cases to facilitate timely referrals to clinics. Direct distributions to households were providing additional resources to meet caloric needs during normal times and lean seasons. All activities have been held in coordination with the government of Bangladesh, UNICEF, WHO, and other national and local health service providers. PROSHAR provided training to the

government health workers, family welfare assistants, and skilled birth attendants in the community to strengthen their capacity to meet the needs of mothers and children. PROSHAR also formed and trained community groups to strengthen community-clinic-hospital referral links. The program promotes proper maternal and newborn practices among women and other family members in accordance with Bangladesh's Ministry of Health strategy. Behavior change communication (BCC) interventions reach community members through care group trio sessions, community meetings, community mobilization, and dissemination of BCC materials. Care group trios were an innovative BCC method promoted by PCI within PROSHAR that targets fathers and mothers-in-law as the most influential members of a household in supporting childhood nutrition and sanitation. Mothers, fathers, and mothers-in-law meet with their peers in the community to receive BCC messaging, and then meet as a household to receive messaging and materials, and gauge progress.[30]

This section discusses the survey findings relative to the SO2 indicators, describing changes in knowledge and practices in health-seeking behaviors.

Table 45: Primary water sources, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households with access to an improved water source*	97.7	75.3	87.4	96.1	76.7	91.5	***
Primary water source							
Deep tube well	49.7	1.4	27.4	37.5	3.3	29.3	
Pond sand filter	0.3	55.2	25.6	1.0	56.3	28.2	*
Hand tube	35.3	14.0	25.4	49.6	11.7	40.6	***
Pond	2.3	23.5	12.1	3.9	22.3	8.3	***
Shallow tube well	12.4	2.7	7.9	6.4	0.9	5.1	***
Rainwater harvesting	0.0	1.6	0.7	0.3	3.4	1.0	
River/canal	0.0	1.1	0.5	0.0	1.1	0.3	
Piped water	0.0	0.4	0.2	0.6	0.2	0.5	
Other	0.0	0.2	0.1	0.8	0.9	0.8	**
n	1,189	1,018	2,207	1,179	1,140	2,319	

4.1 Potable Water

As shown in Table 45, for the sample as a whole, household access to improved water sources improved by 4.1 percentage points between baseline and endline; this result was highly significant (p<.001). Most notably, in the overall sample hand tube access saw a highly significant increase of 15.2 percentage points: while access decreased on the coast, it increased by 14.3 percentage points in inland areas. It was also found in slight but statistically significant (p<.05) increase in access to pond sand filters. There are interesting changes in certain types of access to potable water that are not consistent with the overall trend toward improved access: access to deep tube wells in inland areas decreased by 12.2 percentage points, though this change was not significant.

Table 46: Tube well testing and contamination, by region

[30] PROSHAR Website – http://acdivoca.org/our-programs/project-profiles/bangladesh-program-strengthening-household-access-resources-proshar

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households with tube wells as their primary water source that have had them tested	63.7	74.5	65.2	70.5	81.2	71.0	**
n	1,157	184	1,341	1,102	181	1,283	
Percent of tested tube wells that are contaminated	11.8	5.1	10.7	5.8	0.7	5.5	**
n	746	138	884	777	147	924	
Percent of contaminated tube wells that are marked red (arsenic-contaminated)	46.5	42.9	45.7	86.7	100.0	86.8	**
n	86	7	93	45	1	46	

At endline, almost three-quarters of sampled households had tested their tube wells for arsenic contamination compared to 65.2 percent at baseline (Table 46). Another positive finding is that of those households that tested, only 5.5 percent found the tube well to be contaminated at endline, a reduction from 10.7 percent at baseline. Of the contaminated wells, a very high percentage (86.8 percent) in the endline sample contained arsenic, though the numbers are very small relative to the overall sample. It is notable that the absolute number of arsenic-contaminated wells was nearly halved, from 93 at baseline to 46 at endline, possibly from the installation of new hand tube-wells (from 25.4 percent at baseline to 40.6 percent at endline) that are arsenic-free. The data indicate that arsenic contamination is a much greater problem in inland areas.

4.2 Sanitation and Hygienic Practices

IPTT Indicator OC25: ***% of households with soap and water at a hand washing station commonly used by family members.***

Figure 16: Percent of households with water at the hand-washing facility

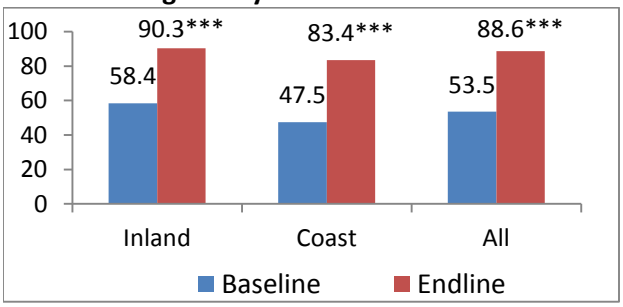


Figure 17: Percent of households with cleaning agent and water at the hand-washing facility

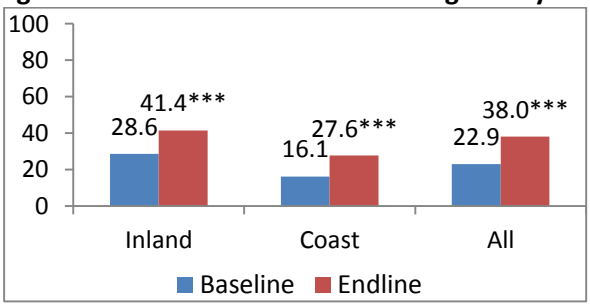


Figure 16 and Figure 17 provide data regarding the availability of water and a cleaning agent at hand-washing facilities. Overall, there was a significant improvement ($p<.001$) in the percentage of households with access to water at their hand-washing facility, from 53.5 percent to 88.6 percent: an increase of 35.1 percentage points.

For both regions, the availability of a cleaning agent lags behind: at endline, it is still more common to have access to water alone compared to both water and a cleaning agent. Nevertheless, the data indicate an improvement at endline, with 38 percent of households having access to both, compared to just 22.9 percent at baseline.

Convenience of hand-washing facilities is presumed to encourage their use, and availability of cleaning agents is presumed to promote good hygiene. For this reason, the baseline and endline surveys included questions about the proximity of hand-washing facilities within or near the home, and about what kinds of cleaning agents, if any, were available.

Table 47: Hand-washing facilities, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Location of hand-washing facilities							
Inside/within 10 paces of the toilet facilities	35.9	23.3	30.1	32.3	36.8	33.4	*
Inside/within 10 paces of the kitchen/cooking place	6.6	6.4	6.5	21.2	6.3	17.6	***
Elsewhere in home or yard	29.8	31.1	30.4	21.1	30.8	23.4	***
Outside yard	22.5	32.9	27.2	12.0	17.5	13.3	***
No specific place	5.2	6.3	5.7	13.5	8.6	12.3	***
No permission to see	0.0	0.1	0.0	0.0	0.0	0.0	
n	**1,189**	**1,007**	**2,196**	**1,158**	**1,130**	**2,288**	
Percent of household with cleaning agent at the hand-washing facility							
None	63.8	80.0	71.2	43.0	54.3	45.7	***
Bar soap	17.7	6.3	12.5	43.9	30.7	40.8	***
Detergent (powder/liquid/paste)	0.3	0.1	0.2	4.8	3.8	4.5	***
Liquid soap (including shampoo)	0.0	0.0	0.0	3.2	1.3	2.7	
Ash or clay	18.2	13.7	16.1	15.7	14.0	15.3	
n	**1,127**	**943**	**2,070**	**1,002**	**1033**	**2,035**	

The data shown in Table 47 suggest improvements in the convenience of hand-washing facilities to critical spaces for hygienic practices – near toilets and kitchen areas. At baseline, only 6.5 percent of all households were able to wash hands within 10 paces of the kitchen or cooking space; at endline, this increased to 17.6 percent. The percentage of households with hand washing facilities near toilets around one-third at both baseline and endline, though it was slightly higher at endline. Coastal areas showed a notable change in this respect, with a 13.3 percentage points increase from baseline to endline (of coastal households, 23.3 percent at baseline versus 36.8 percent at endline

were able to wash hands near the toilet).Conversely, but consistent with this positive trend, the percentage of overall households whose hand-washing facilities were located farther away from critical spaces (elsewhere in the home or yard, or outside the yard), decreased (7 and 13.9 percentage points, respectively). At the same time, at endline, still 12.3 percent of households had no specific place for washing hands, compared to 5.7 percent at baseline; the data indicate that this was more of a problem in inland areas. The data show that cleaning agents, especially bar soap, were far more available at endline, with over half of endline households having some kind of cleaning agent available at the hand-washing facility compared to less than a third at baseline.

Mothers and primary caregivers play an important role in childcare and household food preparation, hence the project was interested to measure changes in their hygienic practices. The endline data show

Figure 18: Percent of mothers/caregivers washing hands at three of more critical times, by region

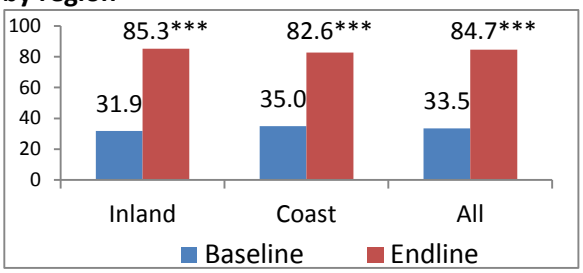
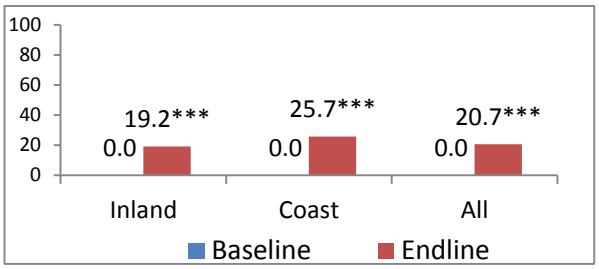


Figure 19: Percent of mothers/caregivers washing hands at all five critical times, by region



dramatic improvements in handwashing compared to 31.9 percent at baseline, 84.7 percent (Figure 18) of all mothers/caregivers reported washing their hands at three or more "critical times" defined as before eating, after defecation, after cleaning a child that has defecated, before cooking/preparing food, and before breastfeeding or feeding a child. At endline, 20.7 percent of all mothers/caregivers reported washing their hands at all five critical times (Figure 19), a highly significant improvement given that no

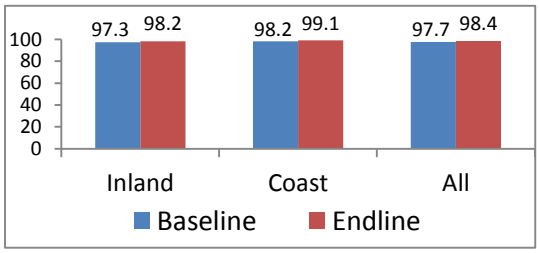
Table 48: Caregiver hand-washing practices, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Self-reported times of hand-washing							
Before eating*	89.2	91.4	90.3	98.1	97.2	97.9	***
After defecation/urination*	87.3	90.3	88.8	90.4	79.2	87.8	
After eating	65.3	62.9	64.1	83.3	74.3	81.3	***
When my hands are dirty	52.1	56.9	54.6	39.7	34.0	38.4	***
After cleaning a child that has defecated*	53.1	49.8	51.4	53.2	60.4	54.9	
Before cooking or preparing food*	36.2	39.0	37.6	68.6	65.3	67.8	***
Before praying	19.2	23.6	21.5	5.8	18.1	8.6	***
After cleaning the toilet or potty	20.7	15.0	17.7	35.3	42.4	36.9	***
Before breastfeeding or feeding a child*	8.0	6.0	7.0	49.4	59.0	51.6	***
Other	0.0	0.4	0.2	0.6	0.0	0.5	
n	230	246	476	156	144	300	

** Indicates a critical time*

households in either inland or coastal regions had met this standard at baseline. Table 48 provides detailed data on specific hand washing practices: it shows that the largest change, in terms of percentage point increase, was in the prevalence of washing hands before preparing food: 37.6 of all households at baseline compared to 67.8 percent at endline, an increase of 30.2 percentage points.

Figure 20: Percent of households with access to toilet facility



Access to toilets was already nearly universal at baseline, ranging from 97.3 to 97.7 percent of households (Figure 20). This improved by about one percentage point for both inland and coastal regions. Table 49 provides a breakdown of the types of toilet facilities accessed by sampled households. The majority of the sample at both measurement times used ring slab/offset latrines, and there was an improvement in terms of the frequency of broken seals. The percentage of households with ring slab toilets with unbroken seals increased significantly in both inland and coast.

The second-most-common type of toilet was a covered pit latrine, used by 15.2 percent of endline households compared to just 3.2 percent at baseline.

Table 49: Access to toilet facilities and type by, region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Toilet facility used:							
Ring slab/offset latrine (seal unbroken)	33.5	24.6	29.4	47.9	39.3	45.9	**
Ring slab/offset latrine (seal broken)	49.8	64.7	56.7	21.6	36.2	25.1	***
Pit latrine (covered)	2.9	3.7	3.2	16.7	10.7	15.2	***
Pit latrine (uncovered)	2.2	2.4	2.3	2.8	5.1	3.3	*
Septic latrine	7.8	1.5	4.9	8.2	4.9	7.4	**
Hanging/open latrine	2.1	2.6	2.3	1.5	2.7	1.8	
Locally adopted hygienic latrine	1.8	0.5	1.2	1.4	1.1	1.3	
n	1,156	999	2,155	1,158	1130	2,288	

Table 50 provides data on toilet use and functioning. While nearly all observed latrines at both baseline and endline showed signs that they were being used, the data indicate that functionality decreased in both inland and coastal areas, and overall from close to universal functioning (94.6 percent) at baseline to just over one-third functioning (76.4 percent) at endline. This conflicts a bit with the data that show improvements in effective water seals, so it may be that the problems lie with some other component. In terms of hygienic practices, the data indicate improvements in cleanliness, with 69.1 percent of latrines having a clean surrounding area compared to just 35.7 percent at baseline.

Table 50: Toilet cleanliness and functioning, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of HHs allowing observation of latrine	100.0	99.1	99.6	100	100	100	**
n	1,155	997	2,152	1,158	1130	2,288	
Percent of latrines that are functioning	95.3	93.7	94.6	77.3	73.7	76.4	***
n	1,154	989	2,143	1,158	1130	2,288	
Percent of latrines that show signs of use	99.2	99.4	99.3	97.2	94.5	96.5	***
n	1,154	987	2,141	1,158	1130	2,288	
Percent of latrines with a clean surrounding area	41.9	28.4	35.7	71.0	63.1	69.1	***
n	1,153	986	2,139	1,158	1130	2,288	
Percent of latrines with unbroken water seal	49.1	30.0	40.3	60.1	45.1	56.5	***
n	1,155	987	2,142	1,158	1130	2,288	

Both surveys collected data on how households dispose of child feces, another important indicator of hygiene practices. When children are allowed to openly defecate, the chance of disease transmission increases.[31]

Table 51 presents the data regarding feces disposal of children age 0-23 months old. They show improvements in the percentage of children using the toilet (27 percent at endline versus 14.9 at baseline); this positive trend is consistent with the finding that a smaller percentage of children defecate

[31] Hernandez, Orlando and Tobias, Scott (2010*). Access and behavioral outcomes indicators for water, sanitation, and hygiene*. USAID Hygiene Improvement Project, Academy for Educational Development.

in the house or yard (21.8 percent at endline versus 43.7 percent at baseline). Similarly, there was a highly significant (p<.001) reduction in the percentage of households that disposed of feces in the bush, from 42.1 percent at baseline to 18.9 percent at endline. The data also show that more households are using toilets for feces disposal, and in fact, this was the most common practice for feces disposal at endline (30.3 of households); by contrast, at baseline, throwing feces into the bush was the most common practice, so this is a positive behavior change. However, at endline, a larger percentage of households are throwing feces into waterways (24.7 percent versus just 14.9 percent at baseline), a result significant at the p<.01 level. For households that "washed or rinsed away" feces, the data suggest improved hygienic practices because a far lower percentage are throwing feces into waterways (38.2 percent at endline versus 60.2 percent at baseline), and a far higher percentage are disposing of feces in toilets (23.6 percent at endline versus 3.6 at baseline).

Table 51: Disposal of child's feces by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Location of child's last defecation							
Went in house/yard	40.9	46.3	43.7	22.9	18.2	21.8	***
Went in his/her clothes	35.2	32.5	33.8	43.3	43.4	43.3	**
Used potty	14.3	15.4	14.9	26.8	28.0	27.0	***
Went outside of house/yard	5.2	4.5	4.8	5.7	6.3	5.9	
Used latrine	3.9	1.2	2.5	1.3	3.5	1.8	
Used washable diaper	0.4	0.0	0.2	0.0	0.7	0.2	
n	230	246	476	157	143	300	
Location of feces disposal (for last defecation)							
Outside of yard (thrown away in bush/outside of house)	43.7	40.7	42.1	18.7	19.6	18.9	***
Dropped into toilet facility	15.3	27.2	21.5	29.0	34.8	30.3	*
Washed or rinsed away	18.3	16.3	17.3	20.0	21.7	20.4	
Thrown into waterway	16.6	13.4	14.9	26.5	18.8	24.7	**
Buried	3.5	1.2	2.3	0.6	1.4	0.8	
In sink or tub	1.7	0.4	1.1	1.3	0.7	1.2	
Put into container for trash	0.4	0.8	0.6	0.6	0.7	0.7	
In yard	0.4	0.0	0.2	0.0	1.4	0.3	
n	160	160	320	155	138	293	
If "washed or rinsed away", location of water disposal							
Thrown into waterway	54.8	65.9	60.2	38.7	36.7	38.2	**
Outside of yard	42.9	26.8	34.9	35.5	43.3	37.4	
Dropped into toilet facility	2.4	4.9	3.6	25.8	16.7	23.6	***
In yard	0.0	2.4	1.2	0.0	0.0	0.0	
Put into container for trash	0.0	0.0	0.0	0.0	3.3	0.8	
n	42	41	83	31	30	61	

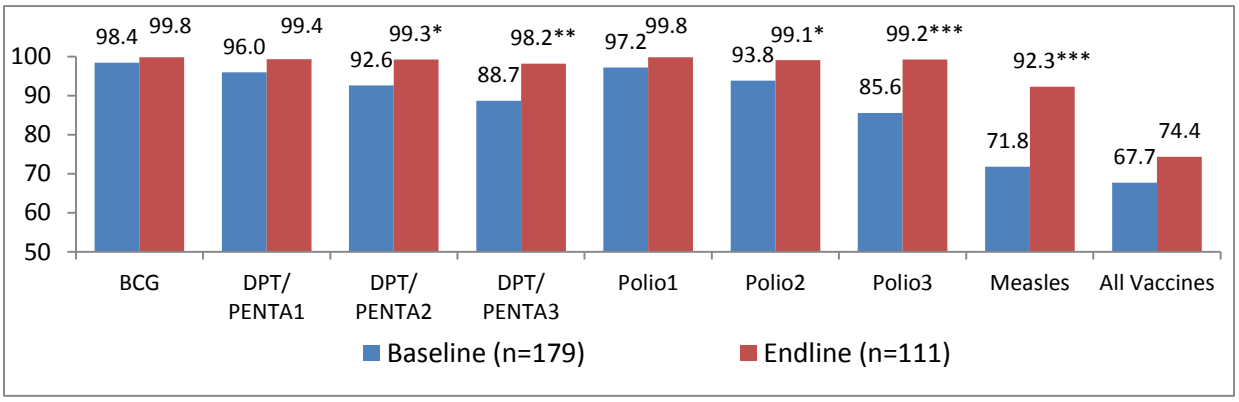
4.3 Child Vaccination and Illness

4.3.1 Vaccination

Child immunization is essential to reducing child vulnerability to preventable diseases such as tuberculosis, diphtheria, pertussis, tetanus, poliomyelitis, and measles. The World Health Organization

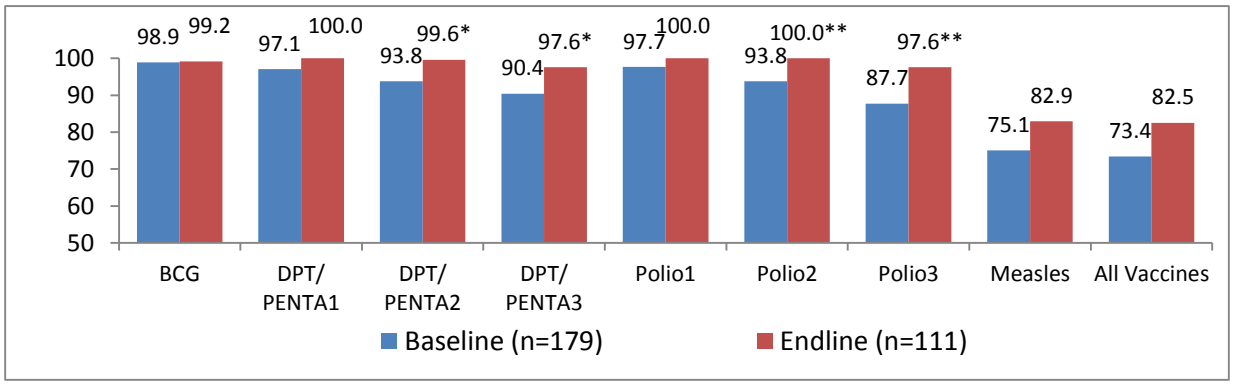
recommends that full vaccination occur by the time a child is one year old.[32] In order to interpret the following figures on vaccination, it is necessary to explain a change that affected the collection, analysis,

Figure 21: Child immunizations (before reaching first birthday) for children age 12-23 months, by survey round



and presentation of data on certain vaccinations. The baseline survey collected data on DPT 1, 2, and 3 vaccination (among other vaccinations, which are also reported below). DPT is for diphtheria, pertussis (whooping cough), and tetanus. Recently the Government of Bangladesh started pentavalent vaccination in most areas. Pentavalent vaccination combines five individual vaccines: the three covered by DPT, plus haemophilus influenza type B and hepatitis B. The endline survey collected data on DPT and added pentavalent vaccination, which was not collected at baseline but is relevant to comparing vaccination rates for the three diseases the two combination vaccines have in common (diphtheria, pertussis, and tetanus.) The data presented as "DPT/PENTA" in Figure 21 and Figure 22 indicate DPT vaccination at baseline, and DPT or pentavalent vaccine at endline, the comparable component vaccines from baseline to endline being diphtheria, pertussis, and tetanus; these figures also show the data for BCG, polio, measles, and all vaccines. Figure 21 presents the data for children under two years old who received vaccinations within the WHO standard of before the first birthday, while Figure 22 shows data for under-twos who were vaccinated sometime between birth and the second birthday. The data indicate an improvement not only in the percentage of children receiving all vaccines before age two

Figure 22: Child immunizations (anytime) for children age 12-23 months, by survey round



[32] NIPORT (National Institute of Population Research and Training), Mitra and Associates, and Macro International (2009). *Bangladesh Demographic and Health Survey 2007.* National Institute of Population Research and Training, Mitra and Associates, and Macro International, Dhaka, Bangladesh and Calverton, Maryland, USA.

(an increase from 73.4 percent of the sample at baseline to 82.5 percent at endline) (Figure 22), but in the percentage who received all vaccinations per the WHO standard (67.7 percent at baseline compared to 74.4 percent at endline). Compliance with the recommended vaccinations and schedule improved for all vaccine types, with the most notable improvement for measles vaccinations in the first year: 92.3 percent of under-twos at baseline compared to 71.8 at endline, a difference of 20.5 percentage points.

4.3.2 Childhood illness

IPTT Indicator OC21: ***Percent of children 6-59 months with diarrhea treated with Oral Rehydration Therapy (ORT)***
IPTT Indicator OC23: ***Percent of children aged 6-23 months of age with diarrhea continuously fed during illness***

The baseline and endline surveys collected and analyzed data on diarrhea treatment for children 0-23 months of age. The IPTT was revised in 2013 to include indicators for children 6-23 months and 6-59 months; therefore the endline survey expanded data collection and analysis to include diarrhea indicators for children 24-59 months. Note that the sample sizes for the diarrhea-related indicators for children 0-23 months are very small, ranging from 24 to 49, depending on the specific indicator (for most the endline n is just 24 or 25), and thus insufficient to allow a generalizable analysis.

Table 52: Diarrhea prevalence among children 0-23 months and care seeking practices by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of children age 0-23 months suffering from diarrhea in the 2 weeks prior to the survey	5.7	10.2	8.0	10.3	11.4	10.6	
n	229	221	437	126	105	231	
Caring practices for children afflicted with diarrhea							
Amount given to child to drink (Percent)							
Less	--	--	28.9	75.0	58.3	70.9	**
Same	--	--	53.2	16.7	25.0	18.7	**
More	--	--	17.9	8.3	16.7	10.4	
n			38	12	12	24	
Amount given to child to eat (Percent)							
Less	--	--	41.9	84.6	63.6	80.1	**
Same	--	--	45.5	7.7	36.4	13.9	*
More	--	--	12.6	7.7	0.0	6.0	
n			38	13	11	24	
Percent of breastfed children that continued breastfeeding	--	--	97.4	100.0	100.0	100.0	
n	--	--	437	126	105	231	
Diarrhea treatment provided (Percent)							
Packet saline	--	--	42.9	53.8	58.3	54.9	
Pill/capsule/syrup	--	--	44.9	53.8	58.3	54.9	
Plain drinking water	--	--	34.2	46.2	25.0	41.3	
Nothing	--	--	18.3	0.0	16.7	3.8	
Home-made (sugar/salt) saline	--	--	5.0	7.7	8.3	7.8	
n			38	13	12	25	
Percent of children 6-59 months with diarrhea treated with Oral Rehydration Therapy (ORT)	--	--	17.9	44.8	51.7	46.9	
n	--	--	38	18	29	47	

Results presented in Table 52 show there is an increase in diarrheal prevalence from 8.0 percent at baseline to 10.6 percent at endline among the children 0-23 months. All of the breastfeeding mothers responded that their children with diarrhea continued breastfeeding. There is a decrease both in providing more or same amount of drinks and foods. However, offsetting these decreases, there was a significant increase in provision packet saline (5.9 percent at baseline to 54.9 percent at endline) as treatment for the children with diarrhea. Overall, children 6-59 months with diarrhea treated with ORT has increased from 17.9 at baseline to 46.9 percent at endline. Percent use of ORT is higher in coast (51.7 percent) than in inland (44.4 percent).

IPTT Indicator OC24: *Percent of children 0-23 months who had symptoms of Acute Respiratory Infection (ARI) that sought advice or treatment from trained health care provider*

ARI is often characterized by a cough with rapid or difficult breathing and a problem in the chest or in the chest with a blocked nose.

The prevalence of ARI among children 0-23 months in last 2 weeks of the survey has increased from 8.2 percent at baseline to 15.4 percent at endline (Table 53). The percent of children with ARI whose caregivers sought treatment has decreased from 94.9 percent at baseline to 87.4 percent at endline. There is a significant increase in seeking treatment or advice from a trained health care provider has increased from 37.0 percent at baseline to 80.3 percent at endline.

Table 53: Acute respiratory infection prevalence and treatment by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of children age 0-23 months suffering from suspected ARI in the two weeks prior to the survey	7.9	8.5	8.2	14.6	18.1	15.4	**
n	228	246	474	158	144	302	
Percent of afflicted children whose caregivers sought treatment	--	--	94.9	91.3	76.9	87.4	
n			40	23	26	49	
Percent of children 0-23 months who had symptoms of Acute Respiratory Infection (ARI) that sought advice or treatment from trained health care provider[a]	--	--	84.8[b]	81.8	76.0	80.3	***
n			40	22	25	47	
Location of consultation							
Private physician	--	--	24.2	23.8	10.0	20.6	
Dispensary	--	--	18.4	19.0	45.0	25.2	
Hospital (private, public)	--	--	17.6	9.5	50.0	19.1	
Village Health Worker (VHW)	--	--	16.0	9.5	10.0	9.6	
Other	--	--	10.7	4.8	0.0	3.6	
Clinic (NGO, private, gov't)	--	--	10.2	23.8	5.0	19.4	
Health center	--	--	2.9	4.8	5.0	4.8	
n			38	21	20	41	

[a] *Trained providers include hospitals, VHW, clinic and health centers*

[b] *From the IPTT table in PROSHAR Baseline Report*

4.4 ANTHROPOMETRICS

Reducing malnutrition among children under five years of age is a key goal of PROSHAR, and measuring changes is a prime focus for evaluating the impact of the project. To this end, data were collected on the height, weight and age of all children under five years of age during the baseline and the endline

surveys. Child malnutrition is primarily measured using three indicators, stunting, wasting and underweight.

The first, stunting, is a result of inadequate growth of the fetus and child and results in a failure to achieve expected length compared to a healthy, well-nourished child of the same age. It is an indicator of past growth failure and associated with long-term factors including chronic insufficient protein and energy intake, frequent infection, and sustained inappropriate feeding practices. It is calculated by first combining height and age data to compute a child's height-for-age z-score (HAZ). If the z-score is less than -2 standard deviations below the median of an adequately nourished reference population, the child is considered to be stunted.

The second measure of malnutrition is wasting, or weight-for-height (WHZ). If the z-score is less than -2 standard deviations below the median of an adequately nourished reference population, the child is considered to be wasted, suffering from current or acute undernutrition resulting from failure to gain weight or actual weight loss.

The third measure is underweight or weight-for-age (WAZ), which identifies children who are of inadequate weight compared to a healthy, well-nourished child of the same age. It is a measure that reflects both stunting and wasting, reflecting both past (chronic) and/or acute undernutrition.[33]

The reference population for calculating the malnutrition prevalence reported here is that used to develop the WHO 2006 child growth standards. These standards are based on a multi-country study of children with optimal infant and child feeding practices and living in households with minimal health, environmental, and economic constraints on growth.[34] Note that prevalence of stunting and wasting are only calculated for all children 6-59 months and underweight for all children 0-59 months following USAID indicator guidelines and baseline analysis.

IPTT Indicator IM4: *Prevalence of stunted children under five years of age*

Figure 23: Percent children of age 6-59 months stunted by region

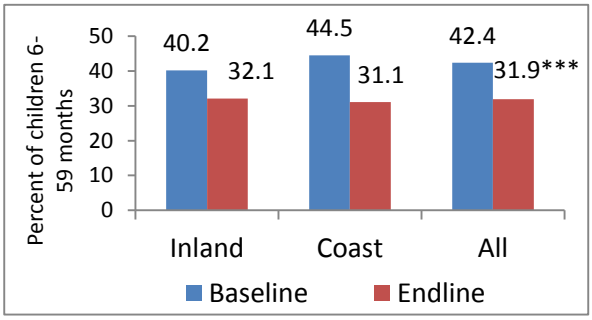
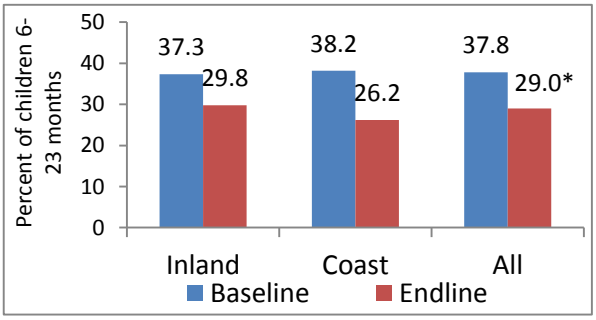


Figure 24: Percent children of age 6-23 months stunted by region



There has been significant reduction in the stunting rate in the PROSHAR intervention area over the five years of project implementation. The stunting rate among children 6-59 months has decreased over the five years from 42.4 percent at baseline to 31.9 percent at endline (Figure 23). The decrease is somewhat lower among children 6-23 months from 37.8 at baseline to 29.0 percent at endline (Figure

[33] See Cogill, Bruce (2003). *Anthropometric indicators measurement guide.* Food and Nutrition Technical Assistance Project, Academy for Educational Development, Washington, D.C.

[34] de Onis, Mercedes, Cutberto Garza, Cesar G. Victora, Maharaj K. Bhan, and Kaare R. Norum, guest editors (2004). The WHO Multicentre Growth Reference Study (MGRS): Rationale, planning, and implementation. Food and Nutrition Bulletin 25(supplement 1):S3-S84.

24). The reductions in stunting rates were significantly greater in Coast communities than in the Inland communities.

Figure 25: Percent children of age 6-59 months wasted (GAM) by region

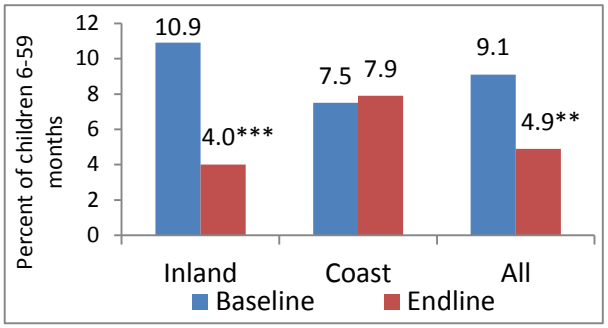
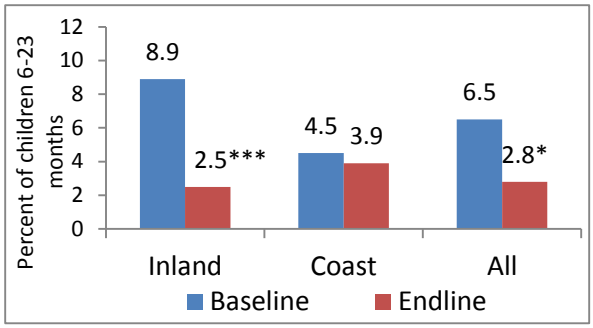


Figure 26: Percent children of age 6-23 months wasted by region



Overall, the wasting rate shows significant improvements in Global Acute Malnutrition (GAM). The rate has decreased from 9.1 percent in baseline to 4.9 percent in endline among children 6-59 months (Figure 25). Significant reduction was found in the inland communities while the reduction rate is smaller among the children from coastal communities. Wasting is an indicator of short-term nutritional status and is strongly affected by the current availability of adequate food at the household level. The reduction in wasting rates indicates that Inland communities had less food insecurity than the Coast region.

IPTT Indicator IM5: *Prevalence of underweight children under five years of age*

The underweight rate measures the combination of both past chronic and current acute malnutrition and it reflects the changes in measured in both the stunting and wasting indicators. The project has surpassed the LOA target (24.4 percent LOA target vs 19.0 percent in endline) on this composite indicator (Figure 27). Children of less than five years in the inland communities were found 12 percentage point reduction (29.5 percent at baseline to 17.5 percent at endline) while it was 9.2-percentage point (33.2 percent at baseline to 24.0 percent at endline) in the coastal communities (Figure 28).

Figure 27: Percent children of age 0-59 months underweight by region

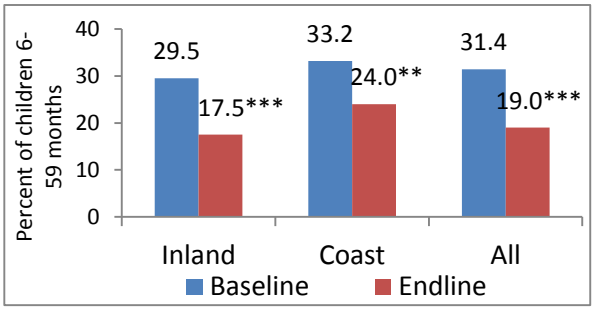
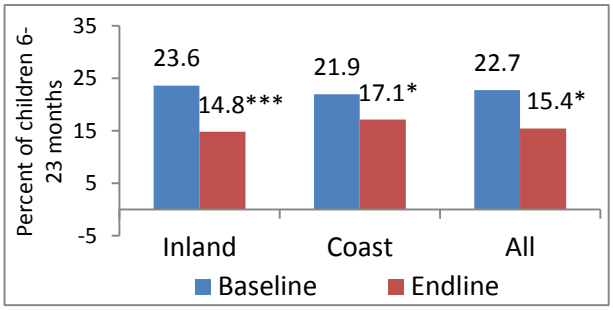


Figure 28: Percent children of age 0-23 months underweight by region



Anthropometric indicators by sex

The gender disaggregated data provided in Table 54, shows that the reduction in malnutrition rate is higher among female children than the male children for all three anthropometric indicators. The reduction was found in female children 12.7-percentage points in stunting, 5.0-percentage points in

wasting and 12.9-percentage points in underweight while the reduction rate is 8.3, 3.3 and 11.6 respectively among the male children.

Table 54: Anthropometric indicators, by sex

Indicator	Baseline			Endline		
	Boy	Girl	**All**	Boy	Girl	**All**
Percent children of age 6-59 months stunted by sex	39.5	45.3	42.4	31.2**	32.6***	31.9***
n	517	539	1056	352	325	677
Percent children of age 6-59 months wasted by sex	8.6	9.6	9.1	5.3	4.6**	4.9**
n	517	539	1056	352	325	677
Percent children of age 0-59 months underweight by sex	29.3	33.4	31.4	17.7***	20.5***	19.0***
n	572	598	1170	385	369	754

Significance tests are baseline to endline for boy, girl and total

4.5 INFANT AND YOUNG CHILD FEEDING PRACTICES

Child nutritional status is directly related to IYCF practices. Using the indicators created by the WHO (2008), IYCF practices were measured in PROSHAR project areas. The indicators of interest include: children breastfed within first hour of birth, exclusive breastfeeding among children under 6 months old, indicators measuring the complementary feeding practices for children age 6-23 months (minimum acceptable dietary diversity, an indicator of dietary quality, a minimum acceptable meal frequency for solid, semi-solid or soft foods, and a minimal acceptable diet).[35] The last two child feeding indicators presented in this section are prevalence of iron and Vitamin A supplementations.

IPTT Indicator OC13: *Prevalence of exclusive breastfeeding of children under six months of age*

Figure 29: Percent of children age 0-23 months breastfed within first hour of birth

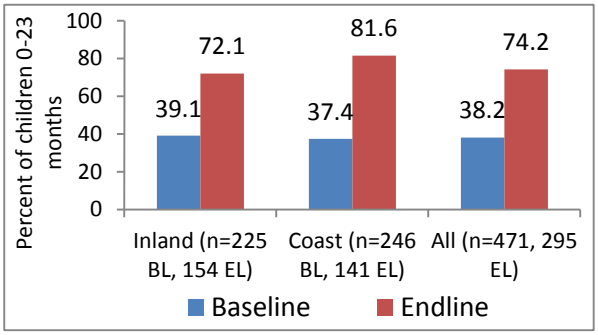


Figure 30: Percent of children age 0-5 months exclusively breastfed

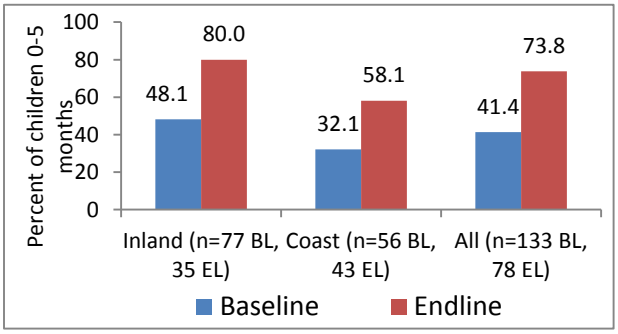


Figure 29 and Figure 30 show significant increases in early initiation of breast milk and exclusive breast feeding practices over the course of the project. The endline data shows that more than 80 percent of the mothers of children 0-23 months of age in the coastal communities responded that they started breastfeeding of their toddlers within first hour of birth while 72 percent of mothers responded similarly

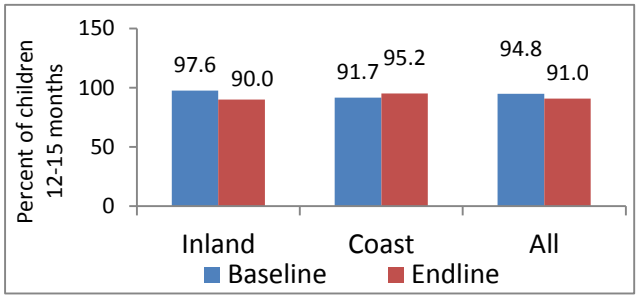
[35] The definitions and calculation methods for these first four indicators are given in WHO (2008). *Indicators for assessing infant and young child feeding practices. Part I: Definitions.* World Health Organization, Geneva. and WHO (2008). *Indicators for assessing infant and young child feeding practices. Part II: Measurement.* World Health Organization, Geneva

in the inland communities (Figure 29). Overall, the early initiation of exclusive breastfeeding has increased substantially, from 38.2 percent at baseline to 74.2 percent at endline (Figure 29).

Mothers of children 0-5 months in the inland communities are more likely to practice exclusive breastfeeding (80.0 percent) than mothers in the coastal communities (58.1 percent). For the project area as a whole, exclusive breastfeeding has increased significantly from 41.4 percent at baseline to 73.8 percent at endline (Figure 30), which is far above the project LOA target of 60 percent.

Most of the mothers of children 12-15 months in both inland and coastal communities responded that they continued breastfeeding of their toddlers. The Figure 31 shows that the continuation rate of breastfeeding has slightly decreased in the inland communities from 97.6 percent at baseline to 90.0 percent while a slight increase was found in the coastal communities (91.7 percent at baseline to 95.2 percent at endline).

Figure 31: Percent of children age 12-15 months still breastfed



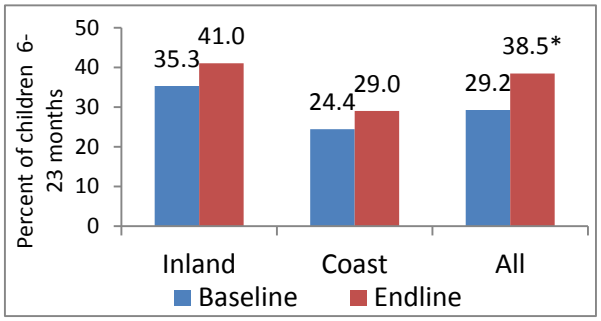
IPTT Indicator OC20: *Percent of children 6-23 months of age with appropriate infant and young feeding practices (Minimum Acceptable Diet)*

Complementary child feeding practices for children age 6-23 months, three standard indicators were measured: minimum dietary diversity, minimum meal frequency and minimum acceptable diet. The minimum dietary diversity indicator identifies whether a child has consumed at least four foods from the following seven food groups in the last 24 hours

- Grains, roots and tubers
- Legumes and nuts
- Dairy products (milk, yogurt and cheese)
- Flesh foods (meat, fish, poultry and liver/organ meats)
- Eggs
- Vitamin-A rich fruits and vegetables
- Other fruits and vegetables.

Figure 32 shows that the mothers/caregivers of children 6-23 months in Inland communities are providing more diversified diets to their toddlers than in the Coast communities. The percent of children 6-23 months with minimum acceptable diet diversity has increased from 35.3 percent at baseline to 41.0 percent in endline in the Inland communities and 24.4 percent to 29.0 percent in the Coast communities. Overall, the percent of children with minimally acceptable diet increased by 9.3, and this change is statistically significant.

Figure 32: : Percent of children age 6-23 months with minimum dietary diversity



The minimum meal frequency indicator is defined as the proportion of breastfed and non-breastfed children age 6-23 months who receive solid, semi-solid or soft foods the minimum number of times (2+

times for 6-8 months old breast fed children, 3+ times for breastfed children age 9-23 months and 4+ times for non-breastfed children).

Figure 34 shows that the overall minimum meal frequency among children 6-23 months has decreased from 56.2 percent from baseline to 51.8 percent at endline. The rate has decreased in both inland and coast communities but the reduction is significantly higher (14.3 percentage point) in the coastal communities. An in-depth qualitative analysis would be useful for validating these findings.

Minimum Acceptable Diet (MAD) is a composite indicator of minimum diet diversity and minimum meal frequency. A child of age 6-23 month is considered to have a "minimum acceptable diet" if he or she has both a minimum dietary diversity and a minimum meal frequency.

Overall, the Figure 33 shows significant increase in the percent of children 6-23 with MAD from 16.9 percent at baseline to 23.9 percent at endline. The rate is slightly higher (4.5 percentage point) in coast than the inland (4.2 percentage points) (Figure 33).

Figure 33: Percent of children age 6-23 months with minimum acceptable diet

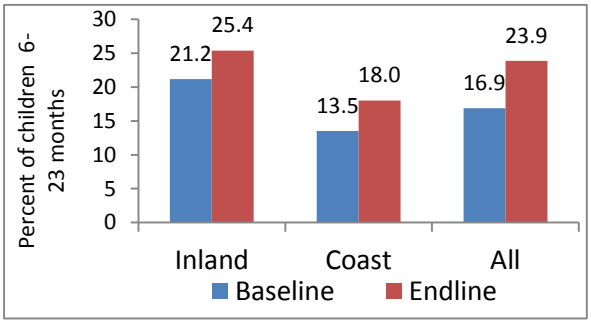
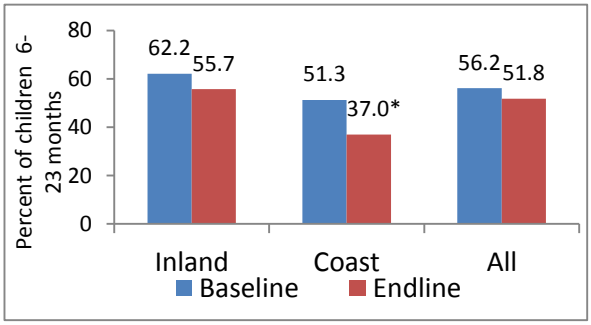


Figure 34: Percent of children age 6-23 months with minimum meal frequency



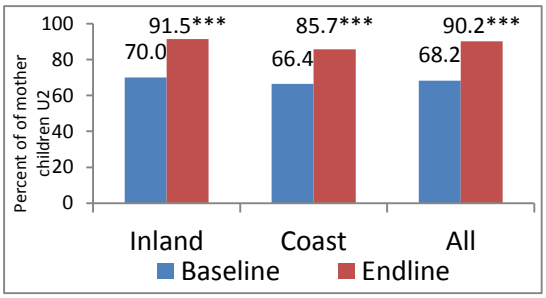
4.6 ANTENATAL (ANC) AND POSTNATAL CARE (PNC)

4.6.1 Antenatal Care

PROSHAR is positioned to work with the existing health system to strengthen support to PLW and the baseline study sought to gain insight of current utilization of these services by mothers of children age 0-23 months.

Figure 35 shows, overall, the utilization of ANC services by pregnant women has increased significantly from 68.2 percent at baseline to 90.2 percent at endline. The patterns of increase are similar between the Inland and Coast Regions.

Figure 35: Percent of mothers of children age 0-23 months obtaining any ANC by region



In Table 55, the mothers in Inland communities are most likely to visit to the CHW (57.9 percent at endline) while the mothers in the Coast are to the doctors (64.2 percent at the endline). Overall, the mothers from both Inland and Coast communities are most likely to go the government health facilities. There is a decrease in using government hospital (35.9 percent at baseline to 28.0 percent at endline) but significant increase (9.5 percent at baseline to 21.0 percent endline) in other government health facilities (satellite clinics, community clinics, union health

facilities, MCWC etc.). The increase of use of private hospital or clinic for ANC services was found both in inland and coast (overall, from 18.3 percent at baseline to 27.3 percent at endline).

Table 55: **Antenatal care service provider and places by region**

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of mother with ANC provider							
CHW	49.0	47.7	48.2	57.9	50.0	56.1	
Doctor	51.7	37.5	44.6	55.7	64.2	57.6	**
Nurse/midwife	10.1	22.2	16.3	15.0	13.3	14.6	
Other	1.3	1.7	1.5	2.1	4.2	2.6	
TBA	0.7	0.0	0.3	0.0	0.8	0.2	
Percent of mother with location of ANC services							
Government hospital	34.5	37.4	35.9	26.4	33.3	28.0	*
Other home	22.3	16.7	19.5	18.6	17.5	18.3	
Private hospital/clinic	21.6	14.9	18.3	28.6	23.3	27.3	**
Home	7.4	19.5	13.5	14.3	13.3	14.2	
Other private health facility	12.8	10.3	11.6	3.6	10.8	5.2	**
Other government health facility	11.5	7.5	9.5	22.1	16.7	21.0	***
Other	0.7	0.0	0.3	0.7	0.0	0.7	
NGO Facility	0.0	0.0	0.0	15.0	10.8	14.2	***
n	160	160	320	140	120	260	

Sufficient number of ANC visits is important not only for maternal health care but equally important for postnatal care (PNC), newborn care, immunization, child care and IYCF practices. The mothers with at least 3 to 4 ANC visits are assumed to adequately educated for PNC, newborn care, immunization and IYCF. Table 56 shows significant increase in the rate of both at least 3 ANC visits (32.3 Percent at baseline to 59.1 percent at endline) and at least 4 ANC visits (17.3 percent at baseline to 46.4 percent at endline). The increase rate of mothers receiving at least 4 ANC visits is equal (27.5 percentage point increase) is the same in Inland and Coast communities

Accurate detection of pregnancy in first trimester is difficult in the rural communities and providing ANC checkups is sometimes not useful in the first trimester of pregnancy. Conversely, a mother cannot get adequate care and proper education if she only receives ANC services in the third trimester. Table 56 shows there is significant increase in receiving ANC services in the second trimester (43.9 percent at baseline to 61.5 percent at endline) and decrease in third trimester (29.6 percent at base line to 10.6 at endline).

Table 56: **Number and timing of antenatal care visits by region**

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of women with 3+ ANC visits	35.7	29.7	32.3	60.8	53.6	59.1	***
Percent of women with 4+ ANC visits	20.2	14.6	17.3	47.7	42.1	46.4	***
n	221	267	488	153	140	293	
Timing of ANC visits							
First trimester	25.3	26.9	26.1	25.7	35.8	27.9	
Second trimester	47.4	40.6	43.9	63.6	54.2	61.5	***
Third trimester	27.3	32.5	29.9	10.7	10.0	10.6	***

n	154	160	314	140	120	260	

Sufficient food intake and daytime rest is equally important for the maternal health and fetus development during pregnancy. Table 57 shows significant increase in taking more food (23.4 percent at baseline to 49.5 percent at endline) and more daytime resting (29.4 percent as baseline to 70.9 percent at endline). The increase rate of food intake among the mothers in the inland communities (24.7 percentage point increase) was found significantly higher than the mothers in the coastal communities (14.1 percentage point increase). Daytime resting has increased significantly in both of the communities, which is slightly lower in the coastal communities (43.6 percentage point increase in inland vs 41.5 percentage point increase in coast).

Table 57: **Information on caring practices for mothers during pregnancy by region**

Indicator	**Baseline**			**Endline**			**Sig.**
	Inland	Coast	**All**	Inland	Coast	**All**	
Amount of food taken during pregnancy							
More	27.5	19.5	23.4	54.2	33.6	49.5	***
Less	29.7	43.6	36.8	22.9	43.6	27.6	**
Same	42.8	36.9	39.8	22.9	22.9	22.9	***
Amount of daytime rest taken during pregnancy							
More	31.6	27.4	29.4	75.2	56.4	70.9	***
Less	26.3	25.3	25.8	7.8	18.6	10.3	***
Same	42.1	47.3	44.8	17.0	25.0	18.8	***
n	229	241	470	153	140	293	

Vitamins and micro-nutrient supplementations are important during pregnancy and the post-partum period. A mother should be ensured post-partum vitamin A within six weeks after the delivery. The percentage of receiving post-partum vitamin A has increased from 34.6 percent at baseline to 57.3 percent at endline. The rates increased significantly among the mothers of children 0-23 months in both Inland and Coast. The increase rate is higher (30 percentage points) than the coast (12 percentage points).

Iron deficiency is a common problem in rural Bangladesh. Iron supplementation is equally important during the pregnancy (both mother and fetus) and after the delivery for the nutrition of the mothers. It was found that 74.3 percent mothers took iron/folic acid during their last pregnancy at endline which is a significant increase (35.9 percentage points) compared to the baseline figure 41.5 percent Table 58. There is an increase (53.3 percent at baseline to 70.6 percent at end line) of taking of iron/folic acid for 1-2 months during pregnancy while decrease both for 3-4 months and 5-6 months.

Table 58: Information on vitamin and minerals supplementation of mothers during pregnancy by region

Indicator	**Baseline**			**Endline**			**Sig.**
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of mothers who took vitamin A within six weeks of delivery	28.8	40.1	34.6	58.8	52.1	57.3	***
Percent of mothers who took iron/folic acid during pregnancy	41.5	35.5	38.4	76.5	67.1	74.3	***
n	229	241	470	153	140	293	
Number of months taking folic acid							
1-2 months	55.2	51.2	53.3	71.8	66.0	70.6	***
3-4 months	30.2	33.7	31.9	28.2	34.0	29.4	

5-6 months	13.5	11.6	12.6	0.0	0.0	0.0	***
More than 6 months	1.0	3.5	2.2	0.0	0.0	0.0	*
n	96	86	182	117	94	211	

4.6.2 Delivery and postnatal care

Bangladesh has achieved significant reduction in the maternal mortality rate. However, the rate of deliveries assisted by trained and skilled service providers is still low. The PROSHAR project worked to educate mothers on proper delivery care and postnatal care (PNC) and linking to the quality service providers at the community level. Table 59 reveals that the percent of mothers whose last delivery was assisted by a trained health professional has increased significantly from 33.5 percent at baseline to 57.5 percent at endline. The increase rate is slightly higher in Inland than the Coast.

Table 59: Child delivery practices for mothers of children under two years by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of mothers whose last delivery was assisted by a trained health professional*	38.6	28.6	33.5	62.1	42.1	57.5	***
Delivery assistant							
TBA	50.0	63.7	57.1	33.3	54.3	38.1	***
Friend/relative	42.0	50.0	46.1	41.8	53.6	44.5	
Nurse/midwife	27.4	18.3	22.7	39.9	28.6	37.3	***
Doctor	24.1	11.5	17.6	41.8	30.7	39.3	***
CHW	1.9	5.7	3.9	12.4	7.1	11.2	***
Nobody	1.4	1.5	1.5	0.0	0.7	0.2	
Other	0.5	0.0	0.2	0.0	0.0	0.0	
n	229	241	470	153	140	293	

**Trained health professionals include doctors, nurses, midwives and CHWs*

The percent of deliveries assisted by nurse/midwife has increased from 22.7 percent at baseline to 37.3 percent at endline, by doctors from 17.6 percent at baseline to 39.3 percent at endline, CHW from 3.9 percent at baseline to 11.2 percent at endline. Conversely, assisted TBA has significantly decreased from 57.1 percent at baseline to 37.1 percent at endline. Assisted friends/relatives reduced slightly from 46.1 percent at baseline to 44.5 percent at endline. Mothers in Coast communities are most likely be assisted by TBA (54.3 percent) or friends/relatives (53.6 percent) while the mothers in the Inland are to the doctors (41.8 percent) at the endline.

Table 60: Postnatal care practices by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of mothers obtaining any PNC	32.5	36.0	34.3	67.3	55.0	64.5	***
n (unweighted)	228	242	470	153	140	293	
Source of PNC							
Doctor	59.8	53.3	56.3	61.2	53.2	59.6	
CHW	18.3	19.6	19.0	23.3	26.0	23.8	
Nurse/midwife	18.3	17.4	17.8	30.1	26.0	29.3	*
Other	2.4	4.3	3.4	1.9	2.6	2.1	
Friend/relative	0.0	4.3	2.3	1.9	0.0	1.6	
TBA	0.0	0.0	0.0	7.8	13.0	8.8	***
Nobody	1.2	1.1	1.1	0.0	0.0	0.0	
n	82	92	174	103	77	180	

Percent of women (who received any PNC) receiving PNC from qualified health professional within 2 days of childbirth	49.3	44.8	46.9	97.1	97.4	97.1	***
n	75	87	162	103	77	180	

Table 60 shows that, there is significant increase in mothers receiving any PNC , from 34.3 percent at baseline to 64.5 percent at endline. The percent of mothers obtaining PNC increased more in Inland communities than in Coast. Postnatal care service from both CHW and nurse/midwife has increased while there is slight increase in postnatal care from doctors.

4.7 FEMALE NUTRITIONAL STATUS AND FOOD CONSUMPTION

IPTT Indicator IM6: % chronic malnutrition (energy deficient) of ever-married women 15-49 (BMI < 18.5mm)

Data were collected on the weight and height of mother of children 0-59 months to gain an understanding of malnutrition among females of reproductive age. The data were used to calculate the percent of women who are underweight, often referred to as "chronically undernourished". A woman is defined to be underweight if her body mass index (BMI) (weight divided by height-squared) is less than 18.5.

Figure 36: Percent of ever married women underweight (BMI<18.5) by region

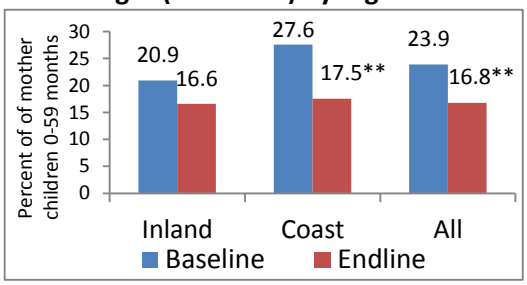


Table 61: Mother's (children 0-23 months) food consumption by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of mothers consumed foods in last 24 hours							
Fats/oils	99.1	98.8	98.9	93.5	94.3	93.7	***
Rice/other grains	98.7	95.9	97.2	98.7	99.3	98.8	
Other vegetables	97.8	96.7	97.2	94.1	95.7	94.5	
Tubers	86.0	79.7	82.7	94.1	87.1	92.5	***
Fish	76.0	53.5	64.5	76.5	68.6	74.7	**
Green leafy vegetables	42.8	40.1	41.4	50.3	37.1	47.3	
Other fruits	37.1	19.9	28.3	41.8	27.9	38.6	**
Milk/dairy	23.1	14.9	18.9	30.1	12.1	26.0	*
Eggs	21.4	15.4	18.3	33.3	31.4	32.9	***
Pulses	23.6	12.0	17.6	27.5	27.1	27.4	**
Pumpkin/carrots	19.7	13.3	16.4	8.5	7.9	8.4	**
Sugar/honey	15.7	13.7	14.7	38.6	62.1	44.0	***
Meat	14.0	8.7	11.3	25.5	12.9	22.6	***
Papaya/mango	5.7	3.7	4.7	4.6	7.1	5.2	

n	230	241	471	153	140	293

Figure 36 shows there has been a significant decrease in women's underweight prevalence from 23.9 percent at baseline to 16.8 percent at endline. The underweight prevalence has decreased from 27.6 at baseline to 17.5 at endline among the women in the coast and from 20.9 at baseline to 16.6 percent at endline among the women in inland. The reduction rate was double in the coast region than inland region.

Consumption of food groups that are rich in protein, vitamin A and iron is essential for better nutrition of the women of reproductive age (15-49 years). The mothers of the children were asked about their consumption of different food or food groups in last 24 hours of the day of survey. **Table 61** shows, there is significant increase in the consumption of protein (fish, meat and egg), milk/dairy products and green leafy vegetables. It was also found similar pattern of food consumption in both inland and coast. More mothers from the Inland communities took meat, fish and milk/dairy food than the mothers in the Coast.

5.0 Strategic Objective-3 (SO3): Institutions and households prepared to respond effectively to shocks

5.1 Household Experience of Disasters and Disaster Risk Planning

As an integral part of food security interventions in the high-risk environment of Bangladesh, PROSHAR has implemented a disaster risk reduction program to enable people to adjust to the threats of natural disasters, minimize their negative impact and respond more effectively. PROSHAR activities focus on the 13 unions most affected by rapid onset natural disasters. Activities include mobilizing communities and helping them to map their risks and resources, forming community-based disaster management volunteer groups at the ward level to support disaster warning and response, conducting disaster preparedness trainings, and preparing risk-reduction action plans. In partnership with the Center for Environmental and Geographic Information Services, PROSHAR conducted community risk assessments to generate multi-hazard vulnerability and resource maps and initiate community-level risk-reduction interventions.

In coordination with the government of Bangladesh, PROSHAR has helped to revitalize upazila and union Disaster Management Committees (DMCs) that are responsible for communicating early warning messages to communities, convening meetings during disasters, and developing disaster risk-reduction plans. PROSHAR has also provided upazila and union DMCs in the most vulnerable unions with early-warning, search-and-rescue, and first-aid materials. As an avenue to improve infrastructure, the government of Bangladesh has provided funding for PROSHAR's Cash for Work program, which supports infrastructure to mitigate the impact of disasters.[36]

The endline survey included a range of questions related to the experiences of recent disasters, their current natural disaster preparedness, and their ability to resume livelihood activities similar to the baseline. Some additional questions were also added for better explanation of household level preparedness and awareness.

The prevalence of households experiencing a disaster within the previous 12 months declined sharply (Figure 37). Over all households surveyed, 29 percent reported experiencing a disaster in the previous year compared to 72 percent at baseline. Those reporting experiencing a disaster in the previous four years fell as well, to 58 percent from 88 percent at baseline (Figure 38).

[36] http://acdivoca.org/our-programs/project-profiles/bangladesh-program-strengthening-household-access-resources-proshar

Figure 37: Percent of households experiencing a disaster in the last 12 months

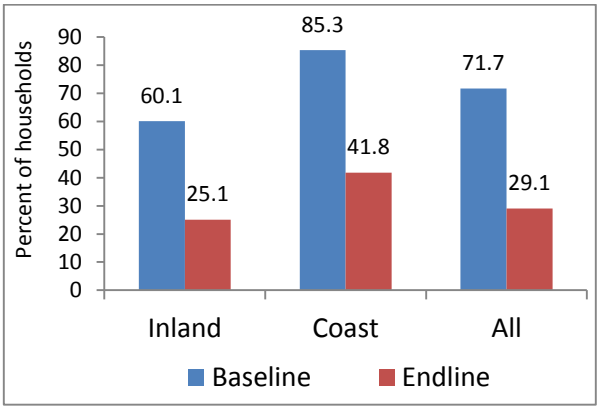
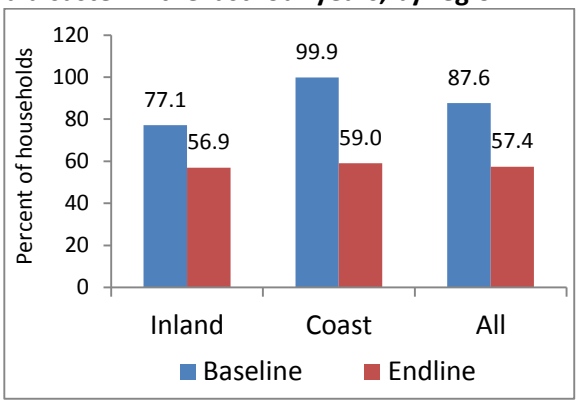


Figure 38: Percent of households experiencing a disaster in the last four years, by region



Households in the program area are being less affected by disasters (Table 62). The proportion of respondents reporting stress, loss of assets, and/or loss of livelihoods declined dramatically. Those reporting loss of home from a disaster occurring in the previous 4 years is 28 percent compared to 52 percent at program initiation. Stress, anxiety, and fear declined to 5 percent from 38 percent. And, while nearly one in three households reported loss of assets and livelihoods at baseline resulting from disasters, at endline only 13 percent and 4 percent, respectively, reported the same.

Table 62: Impact of disasters that occurred in last four years, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Percent of households with impacts							
Loss of home	49.4	53.3	51.5	31.7	16.8	28.1	***
Stress/anxiety/fear	31.6	44.0	38.1	5.2	5.1	5.2	***
Loss of other asset	18.4	51.3	35.7	11.2	18.7	13.0	***
Loss of livelihood	17.3	45.6	32.2	3.1	6.7	4.0	***
Loss of field crops	29.8	29.3	29.5	14.2	11.1	13.4	***
Loss of livestock	4.7	27.7	16.8	2.7	8.2	4.0	***
Poor/low yield	8.6	5.8	7.1	0.6	4.8	1.6	***
Loss of water supply	1.3	10.5	6.1	1.5	4.5	2.2	***
Other	2.6	5.1	3.9	0.4	0.3	0.4	***
Physical disability/injury	1.1	2.8	2.0	0.0	0.4	0.1	***
DNK	3.8	0.0	1.8	0.1	0.0	0.1	***
Loss of family member	0.1	1.1	0.6	0.1	0.1	0.1	*
Having to care for others	0.0	0.4	0.2	0.0	0.4	0.1	
Additional HH members	0.0	0.3	0.1	0.1	0.1	0.1	
n	915	1016	1931	671	673	1344	

SO3 programming was primarily targeted to households in the coastal region that are particularly vulnerable to disasters and this is reflected in differences seen between the coastal and inland regions for SO3 indicators. For all households surveyed, 18 percent received disaster preparedness training, however over one in three (35 percent) received training in the coastal region. Overall, 37 percent of households report receiving an early warning signal before the last disaster. Nearly half of all households are aware of disaster response plan in their community, with 2 in 3 households reporting the same in the coastal region (Figure 39).

Figure 39: Percentage of households with disaster preparedness indicators, by region

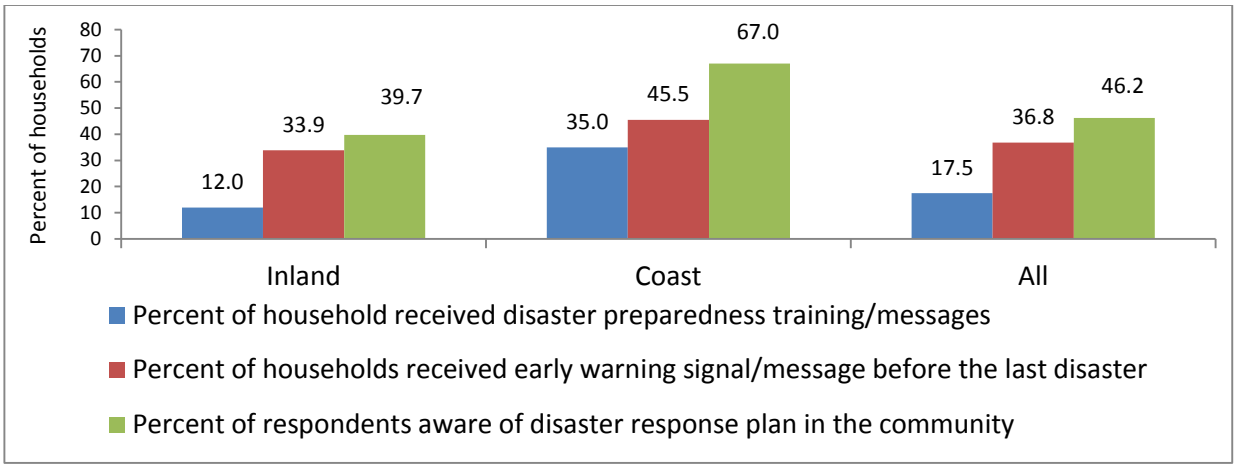


Table 63 below demonstrates the awareness of community members with respect to the identity of those who can provide support during disasters. Those households reporting having received SO3 assistance from PROSHAR most frequently reported NGOS (55%), but a large proportion also reported disaster management committees (38%) and volunteers (19%). Households that did not receive SO3 support, most commonly reported disaster management committees and volunteers. Recipients of SO3 assistance reported more sources than did non-recipients, suggesting that PROSHAR worked directly with communities and with the government to support volunteers for disaster preparedness and response.

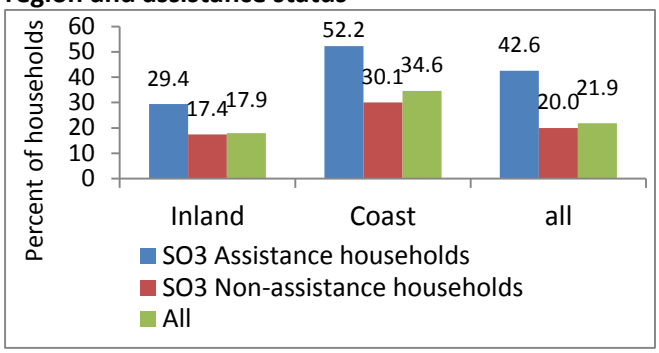
Table 63: Percent of households aware of the community members or organziations trained to help during disasters

Indicator	Received SO3 assistance			Not received SO3 assistance			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
CPP volunteers	2.6	30.8	19.2	16.0	19.0	17.1	
Union parishad chairman/ member	28.2	13.4	19.5	28.8	11.5	22.4	
NGOs	48.7	59.3	54.9	19.6	31.3	23.9	***
Teacher	15.4	5.8	9.8	13.2	6.2	10.6	
Students	7.7	0.0	3.2	6.4	1.5	4.6	
Village leaders	15.4	7.6	10.8	13.2	5.1	10.2	
Union/village disaster management Committee	38.5	41.9	40.5	42.8	38.0	41.0	
Disaster volunteers	17.9	51.7	37.8	32.4	56.5	41.3	
Other (specify)	0.0	0.6	0.3	2.4	0.2	1.6	
n	39	172	211	250	453	703	

A household level disaster preparedness index was computed based on 6 basic household level preparedness plan (evacuation of vulnerable members, visit shelter center in normal time, identify safe shelter center, plan for dry food, plan to protect HH valuables/assets and identify safe shelter for livestock. To compute the index, each of the six preparedness activities were given score “1” if the household has that particular plan. The mean household level disaster preparedness score were obtained by computing the sum of scores and divided by highest possible score i.e., six. The mean score was then calibrated to 100 to get the household level disaster preparedness index. This information was not available in baseline. So, the index values are presented in Figure 40 disaggregated by the region and the status of household of receiving SO3 assistance. As expected the overall level of disaster preparedness is higher in the Coast than Inland, as the Coast is more exposed to disasters. Also , the

level of preparedness is much higher for household receiving SO3 assistance than those not receiving assistance, in both Coast and Inland areas.

Figure 40: Household-level disaster preparedness, by region and assistance status



6.0 Additional Analysis by Vulnerability Group and Project Participation

Following the analytical methodology applied in the baseline study, a vulnerability profile was constructed using quantitative data to determine key demographic, socio-economic, food security, and other characteristics. TANGO selected three indicators which together could best explain vulnerability to food insecurity. The three indicators, or variables, are:

a) Number of months of adequate food provisioning (food security)
b) Dietary diversity (number of food groups acquired in week)
c) Household assets (value of assets in *taka*)

Using Principal Component Analysis (PCA), TANGO extracted components from these three variables to explain the most variation. Based on a thorough exploration of various socio-economic and food security variables, this model was the "best-fit" that explained the most variation in the quantitative data. In the baseline analysis the principal factor was broken into three groups using cluster analysis.[37] In order to have consistently defined groups across the two survey rounds, a slightly different categorization process has been adopted for the final evaluation results. Specifically, the principal factor from both the baseline and final surveys was broken into three equal groups, or terciles, from the ranked values of the principal factors. The lowest tercile (three subgroups with equal number of cases) comprises households that are the most vulnerable (have the lowest number of months of food provisioning, the lowest dietary diversity, and the fewest household assets), and the households in the highest tercile are the least vulnerable. Table 64 shows the demographic characteristics of the households in the three vulnerability groups. There are clear patterns in the demographic characteristics of households by vulnerability categories; more vulnerable households have smaller households, are more likely to be female-headed, and have higher dependency ratios than less vulnerable households. Variations of other characteristics will be described in following tables below.

Table 64: Household demographic characteristics by vulnerability category

Indicator/	Survey round		Diff	Sig.	n	
Vulnerability category	Baseline	Endline			Baseline	Endline
Average family size						
Most vulnerable	4.6	4.2	-0.4	***	734	741
Moderate	4.7	4.4	-0.3	***	735	742
Least vulnerable	5.3	4.9	-0.4	***	735	742
All households	4.9	4.5	-0.4	***	2,207	2,319
Percent of female-headed households						
Most vulnerable	9.2	6.3	-2.9	*	734	741
Moderate	5.5	2.7	-2.7	**	735	742
Least vulnerable	4.5	2.0	-2.4	**	735	742

[37] The sample was broken into three groups to have sufficient number of groups for comparison, but also a large enough sample size within each subgroup.

All households	6.3	3.6	-2.7	***	2,207	2,319
Average dependency ratio						
Most vulnerable	0.88	0.74	-0.1	***	734	741
Moderate	0.82	0.71	-0.1	***	735	742
Least vulnerable	0.71	0.66	0.0	***	735	742
All households	0.81	0.70	-0.1	***	2,207	2,319

Because the sample of households for this final evaluation is drawn randomly from households in the PROSHAR intervention areas, the sample will have households that participate in various PROSHAR activities, and households that do not participate directly with any PROSHAR activities. Furthermore, the proportions of sampled households that participate in different types of project intervention will reflect the proportions in the population in the entire intervention area. Table 65 provides information about households that participate in interventions under SO1 and SO2, as well as households that participate in interventions under both SO1 and SO2. We have not included SO3 in these comparisons, because the interventions under SO3, unlike SO1 and SO2, are mostly directly toward local government and community-level organizations, not at households. Thus many of SO3 interventions are public goods, that confer benefits to all households residing in the communities being supported. Non-participant households are distributed approximately equally across the three vulnerability categories, similar the overall population. Participants in SO1 are more heavily in the most vulnerable category, and less represented in the least vulnerable category. This reflects the targeting strategy that PROSHAR follows for SO1 interventions. Households participating in SO1 and SO2 fall more predominantly in the moderate vulnerability category than the overall population, presumably reflecting the non-targeted nature of SO2 and targeted strategy followed for SO1. Finally, those households participating only in SO2 are more likely to fall into the least vulnerable category. This is consistent with the fact that more vulnerable households that participate in SO2 are also more likely to also participate in SO1, so falling into the combined participation category.

Table 65: Percent of Households by vulnerability category, by PROSHAR project participation category

PROSHAR project participation category	Vulnerability Category			n
	Most	Moderate	Least	
Non-participant	33.1	32.7	34.2	1,476
SO1 only	38.0	33.4	28.6	383
SO2 only	24.4	29.0	46.6	270
Both SO1 and SO2	23.1	43.1	33.7	96
All Household	32.4	32.8	34.9	2,225
n	741	742	742	

The project baseline survey conducted in January, 2011, estimated that, on average, 70 percent of households are most or moderate vulnerable. The project also undertook a separate vulnerability analysis[38] to identify most vulnerable unions within the project intervention area, to guide the targeting of livelihood interventions. The geographic targeting analysis was conducted considering the following factors: road access conditions, ANC coverage, health facility

Table 66: Household distribution, by project defined union vulnerability category, and survey round

Household vulnerability category	Project defined union vulnerability Category					
	Most		Moderate		Least	
	Baseline	Endline	Baseline	Endline	Baseline	Endline
Most	35.1	29.7**	33.4	35.1	21.6	31.9**
Moderate	34.6	31.2	31.1	32.8	34.6	35.8
Least	30.3	39.1***	35.5	32.1	43.9	32.3**
All	100.0	100.0	100.0	100.0	100.0	100.0
n	1146	1,086	789	857	269	282

[38] Revision of livelihoods strategy within the ACDI/VOCA funded program for strengthening household access to resources (PROSHAR), July 19, 2012

coverage of the population, market accessibility, environmental hazards and socio-economic status. The 23 unions in the PROSHAR intervention area were categorized in three groups: i) most vulnerable (7 unions), ii) moderate vulnerable (10 unions), and least vulnerable (6 unions), based on a scoring system of the individual factors. Within the most vulnerable unions, 77 percent of all households are targeted for SO1 intervention, on the assumption that this is the percentage of vulnerable households within that union. Remaining participants were targeted from other unions considering the households that have less than 10 decimals of land. Table 66 shows the breakdown of household vulnerability, as measured by the combination of household food security indicators, by the project-defined vulnerability categories of unions at endline. These results indicate that the community-level characteristics used to define vulnerable unions were correlated with household-level vulnerability at the time of the baseline. In the most vulnerable unions, 35 percent of households fell into the most vulnerable category, compared with only 21.6 percent in the least vulnerable unions in the baseline. Conversely, only thirty percent of households in the most vulnerable unions fell in the least vulnerable category, compared with 44 percent in the least vulnerable unions.

The changes in percent of vulnerable households across the project-defined vulnerability categories support the hypothesis that the project interventions in the targeted unions have been successful in reducing the vulnerability of households within those targeted unions. In the most vulnerable unions, which have received the most intensive project support, the percent of vulnerable households fell from 35 percent to less than 30 percent across the two survey rounds. Conversely, the percent of most vulnerable household increased from 22 percent to 32 percent in the least vulnerable unions, where project interventions were less intensive.

Table 67 provides information about the percentage of households in the project defined vulnerability categories that participate in SO1 and SO2 interventions. The figures in this table demonstrate the targeting, particularly of SO1 interventions toward the most vulnerable unions. Without explicit targeting, we would expect to see SO1 participant households distributed proportionately across the three categories of union, with approximately one-third of participants in each of the three categories. In fact over 40 percent of SO1 participants are in the most vulnerable unions. Less than one-quarter of SO1 participants are in the least vulnerable unions.

Table 67: Percent of Households by project defined union vulnerability category, by PROSHAR project participation category, endline

PROSHAR project participation category	Vulnerability Category (Project defined)				n
	Most	Moderate	Most+ moderate	Least	
SO1 only	42.4	34.3	76.7	23.3	396
SO2 only	31.4	43.5	74.9	25.1	281
Both SO1 and SO2	44.8	41.8	86.6	13.5	102
All participant households	38.5	38.7	77.2	22.8	779

Indicators of project impacts with respect to food security – nutritional status, economic status and women's empowerment – are broken down by both household vulnerability category and by project participation category in Table 68. Note that participants and non-participants can only be identified in the endline round. All of these food security indicators are negatively associated with household vulnerability status; more vulnerable households have lower values of all these indicators than less vulnerable households. Also, all the food security indicators have improved between the two survey rounds, and the improvements are observed in all three vulnerability categories. In general, households in the most vulnerable category showed the greatest percentage increases in the impact indicators from baseline to endline. For example in the case of nutritional indicators, only the lowest category had a statistically significant reduction in prevalence of stunting and underweight from baseline to endline.

Per-capita income increased by 80 percent for the most vulnerable group, compared with just over 30 percent increase for the least vulnerable group. The MAFHP indicator increased by over 30 percent for the most vulnerable group, compared with a seven percent increase for the least vulnerable group. The one exception to this pattern is the HDDS, where the increase for the most vulnerable group was only three percent, compared with eight percent for the least vulnerable group. Further qualitative analysis can address this anomaly of the different pattern of HDDS compared with the other impact indicators by vulnerability category.

Gross margins of agriculture and livestock production are strongly positively correlated with vulnerability category, with the gross margins earned by the most vulnerable category less than one-fourth that of the highest category. The moderate vulnerability exhibited the greatest increase in gross margins, in both absolute and proportionate terms.

The breakdowns of the indicators by participation category in the endline survey round generally do not show any significant differences between non-participants and participants in either SO1 or SO2 (some differences are statistically significant but very small in magnitude). Thus, this very simple comparison analysis does not point to changes in these impact indicators that can by directly attributable to project interventions. However these results are consistent with a conclusion that PROSHAR has supported broad general trends of improvements in household food security conditions within the project intervention area. The one exception to this general conclusion is gross margin of agricultural and livestock production. This indicator is significantly higher for non-participants than non-participants, and the value is lower for SO1 participants than SO2 participants. These relative differences likely reflect the targeting of SO1 interventions in particular.

Table 68: Impact indicators by survey round, vulnerability category, and project participation

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
MAHFP						
All households	9.0	10.6	1.6	***	2,204	2,319
Vulnerability category						
Most	6.7	8.8	2.1	***	734	741
Moderate	9.1	11.2	2.1	***	735	742
Least	11.1	11.8	0.7	***	735	742
Participation[1]						
Non-participant		10.6				1,540
SO1 only		10.4		+++		396
SO2 only		11.0		+++		281
Both SO1 and SO2		10.8		+++		102
HDDS						
All households	6.6	7.2	0.6	***	2,204	2,227
Vulnerability category						
Most	5.1	5.5	0.4	***	734	741
Moderate	6.7	6.9	0.2	***	735	742
Least	8.1	9.0	0.9	***	735	742

Table 68: Impact indicators by survey round, vulnerability category, and project participation

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
Participation[1]						
Non-participant		7.1				1,478
SO1 only		7.0		+++		383
SO2 only		7.6		+++		270
Both SO1 and SO2		7.6		+++		96
Average Gross margin of agricultural and livestock production						
All households	12,495	15,339	2,844	***	658	950
Vulnerability category						
Most	4,471	5,828	1,357	***	208	218
Moderate	6,188	12,541	6,353	***	335	304
Least	20,528	22,481	1,953	***	464	392
Participation[1]						
Non-participant		17,143				590
SO1 only		10,535		+++		195
SO2 only		14,764		+++		122
Both SO1 and SO2		14,742		+++		43
HHS						
All households	0.51	0.29	-0.2	***	2,204	2,319
Vulnerability category						
Most	1.05	0.71	-0.3	***	734	741
Moderate	0.41	0.14	-0.3	***	735	742
Least	0.09	0.03	-0.1	***	735	742
Participation[1]						
Non-participant		0.29				1540
SO1 only		0.39		+++		396
SO2 only		0.19		+++		281
Both SO1 and SO2		0.13		+++		102

[1]Significance test for difference with non-participant +++ p<0.001, ++ p<0.01, + p<0.05

One exception to this general pattern is monthly per-capita income, where the increase in income the overall average baseline value is actually greater for non-participants than participants in SO1. However, this result is likely to be at least partially explained by the selection bias from targeting of SO1 support. In particular, it is quite likely that the baseline incomes of SO1 participants were lower than non-participants, so their incomes may have actually increased more than for non-participants. However, it is not possible to detect this differences since the baseline incomes of households by project participation category are not available.

Table 68 (continued): Impact indicators by survey round, vulnerability category, and project participation category

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
Prevalence of stunted children under five years (6-59 months) of age						
All households	42.4	31.9	-10.5	***	1,056	677
Vulnerability category						
Most	47.5	35.1	-12.4	**	373	208
Moderate	40.9	33.4	-7.5		333	210
Least	27.5	28.0	0.5		341	258
Participation[1]						
Non-participant		33.4				291
SO1 only		31.0				52
SO2 only		31.6				250
Both SO1 and SO2		28.4				84
Prevalence of underweight children under five years (0-59 months) of age						
All households	31.4	19.0	-12.4	***	1,170	754
Vulnerability category						
Most	33.0	18.1	-14.9	***	420	232
Moderate	28.6	24.2	-4.4		381	230
Least	21.2	15.5	-5.7		375	291
Participation[1]						
Non-participant		20.4				336
SO1 only		21.6				62
SO2 only		18.4				270
Both SO1 and SO2		15.0				86
Monthly per capita income (in Taka)						
All households	1,401	2,206	804.5	***	2,207	2,073
Vulnerability category						
Most	940	1,691	750.9	***	734	667
Moderate	1,217	2,079	861.9	***	735	661
Least	2,142	2,831	688.5	***	735	652
Participation[1]						
Non-participant		2,319				1,359
SO1 only		1,873		+++		363
SO2 only		2,067		+++		258
Both SO1 and SO2		2,289				93

[1]Significance test for difference with non-participant
+++ p<0.001, ++ p<0.01, + p<0.

Table 68 (continued): Impact indicators by survey round, vulnerability category, and project participation category

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
Value of assets (in Tk)						
All households	49,291	71,729	22,437	***	2,207	2,317
Vulnerability category						
Most	19,846	29,199	9,353	***	734	741
Moderate	34,233	48,755	14,521	***	735	742
Least	92,444	134,116	41,672	***	735	742
Participation[1]						
Non-participant		76,386				1,538
SO1 only		54,647		+++		396
SO2 only		76,348				281
Both SO1 and SO2		55,062		+++		102
Women empowerment index on decision making						
All households	68.3	62.9	-5.4	***	2,198	2,199
Vulnerability category						
Most	68.0	64.1	-3.9	***	729	724
Moderate	69.1	62.7	-6.4	***	734	730
Least	67.8	62.1	-5.7	***	735	737
Participation[1]						
Non-participant		63.2				1452
SO1 only		63.1		+++		380
SO2 only		60.9		+++		270
Both SO1 and SO2		63.3		+++		97
Women empowerment index on mobility						
All households	9.4	10.1	0.7	***	2,204	2,201
Vulnerability category						
Most	9.3	10.1	0.7	***	734	724
Moderate	9.4	10.0	0.6	***	735	731
Least	9.5	10.2	0.7	***	735	738
Participation[1]						
Non-participant		10.1				1,454
SO1 only		10.3		+++		380
SO2 only		9.8		+++		270
Both SO1 and SO2		10.4		+++		97

[1]Significance test for difference with non-participant
+++ p<0.001, ++ p<0.01, + p<0.

Table 69 reports on differences in some key outcome (behavior change) indicators related to SO1 from baseline to endline, and at endline comparing between participants and non-participants in SO1 interventions. The results in this table indicate a contribution of project interventions under SO1 to changes in livelihood practices. The first panel provides information about yields of HYV rice. Yields increased substantially from baseline to endline. Furthermore, the yields of farmers that participated in SO1 are significantly higher (by almost 30 percent) than non-participant farmers. In addition, yields increased proportionately more in the most vulnerable unions as defined by the project than in the vulnerable unions. This result suggests that the more intensive support to SO1 interventions in the most

vulnerable unions helped households in those targeted unions to increase yields. The remaining panels in the table reveal a similar pattern, the average number of improved practices adopted by households increased from baseline to endline, and the average number of practices adopted by SO1 participants is higher than for non-participants. One important result to highlight is that the number of improved practices adopted by non-participant households also increased substantially from baseline to endline. These increases may represent spillover effects from direct project participants to their neighbors.

Table 69: Key SO1 outcome indicators by participation

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
Yield of high yield variety (HYV) rice (kg/ha)						
All households	2,849	4,248	1,399	***	173	402
Non-participant		3,954				295
SO1 participant		5,122	1,168	+++		107
Project defined union vulnerability category						
Most	2,530	4,237	1,707	***	55	161
Moderate	2,742	3,744	1,002	***	57	158
Most + Moderate	2,640	3,960	1,320	***	112	319
Least	3,222	5,044	1,821	***	61	83
Yield of local variety of rice (kg/ha)						
All households	2,117	3,204	1,088	***	433	320
Non-participant		3,194				252
SO1 participant		3,239				68
Project defined union vulnerability category						
Most	2037	3,116	1,079	***	199	147
Moderate	2095	3,203	1,108	***	154	142
Most + Moderate	*2063*	*3,160*	1,097	***	*289*	*319*
Least	2334	3,473	1,138	***	80	31
Average number of improved agriculture practices adopted						
All households	3.0	5.3	2.3	***	756	699
Non-participant		5.2				531
SO1 participant		5.5	0.3	+++		168
Project defined union vulnerability category						
Most	3.2	5.1	1.9	***	319	272
Moderate	2.9	5.2	2.3	***	281	306
Most + Moderate	3.0	5.1	2.1	***	600	578
Least	2.8	5.8	3.0	***	156	121
Average number of improved gardening practices adopted						
All households	1.6	5.1	3.5	***	961	1,092
Non-participant		4.9				798
SO1 participant		5.5	0.5	+++		294
Project defined union vulnerability category						
Most	1.8	5.6	3.7	***	530	619
Moderate	1.4	4.7	3.3	***	308	382
Most + Moderate	1.6	5.1	3.5	***	838	1,001
Least	1.2	4.6	3.4	***	123	91

The results broken down by project-defined union vulnerability categories shows that adoption of homestead production practices (gardening practices) was highest in the most vulnerable unions. This is consistent with the project strategy to establish a larger number of producer groups in the most vulnerable unions. Conversely, the increase of (commercially oriented) agricultural practices was greatest in the least vulnerable unions, perhaps because the relatively better access and infrastructure conditions in these unions favor commercial agriculture in comparison with the more vulnerable unions.

Table 69 (continued): Key SO1 outcome indicators by participation

Indicator	Survey round		Diff	Sig.	n	
	Baseline	Endline			Baseline	Endline
Average number of improved livestock practices adopted						
All households	0.7	2.3	1.7	***	1,899	1,144
Non-participant		2.3				854
SO1 participant		2.4	0.1	+++		290
Project defined union vulnerability category						
Most	0.7	2.2	1.5	***	980	633
Moderate	0.6	2.3	1.7	***	682	404
Most+Moderate	0.7	2.3	1.6	***	1,662	1,037
Least	0.6	2.6	2.0	***	237	107
Average number of improved fishery practices adopted						
All households	3.2	5.2	2.0	***	606	630
Non-participant		5.2				454
SO1 participant		5.5	0.3	+++		176
Project defined union vulnerability category						
Most	3.3	5.3	2.0	***	366	376
Moderate	3.2	5.3	2.2	***	207	207
Most + Moderate	3.2	5.3	2.1	***	573	583
Least	3.0	4.8	1.8	***	33	47

[1]*Significance test for difference with non-participant*
+++ p<0.001, ++ p<0.01, + p<0.05

Similar information is provided for outcome indicators relevant for SO2 interventions in Table 70. The patterns are also similar; general improvements in the indicators from baseline to endline, and recommended practices are more widely adopted by SO2 participants than non-participants. The only exceptions are number of children vaccinated, where differences cannot be detected because of very small sample size, and the percentage of underweight women. These results also support the conclusion that project interventions have been successful in promoting improved practices in the area of MCHN. As in the case of SO1, adoption of improved practices has increased for non-participant households. With the exceptions of vaccination and minimal acceptable diet, the outcome indicators also improved substantially for non-participants from baseline to endline.

Table 70: Key SO2 outcome indicators by SO2 participation

Indicator	Survey round		Diff	Sig.	n (unweighted)	
	Baseline	Endline			Baseline	Endline
Percent of mothers washing hands at least 3 critical times						
All households	33.5	84.7	51.2	***	476	300
Non-participant		82.0				146
SO2 participant		86.7	4.7			154
Percent of children receiving all vaccines before first birthday						

Table 70: Key SO2 outcome indicators by SO2 participation

Indicator	Survey round		Diff	Sig.	n (unweighted)	
	Baseline	Endline			Baseline	Endline
All households	67.7	74.4	6.7		179	111
Non-participant		67.2				37
SO2 participant		77.1	9.9			74
Percent of all children 0-6 months exclusively breastfed						
All households	41.4	73.8	32.4	***	133	78
Non-participant		74.6				56
SO2 participant		72.0	-2.6			22
Percent of all children 6-23 months with minimal acceptable diet						
All households	16.9	23.9			394	222
Non-participant		16.0				89
SO2 participant		28.1	12.1	+		133
Percent of mothers obtaining any ANC						
All households	68.2	90.2	22.0	***	471	293
Non-participant		86.3				153
SO2 participant		93.0	6.7	+		140
Percent of women taking vitamin A during pregnancy						
All households	34.6	57.3	22.7	***	470	293
Non-participant		52.9				140
SO2 participant		60.6	7.7			153
Percent of mothers who took iron/folic acid during pregnancy						
All households	38.4	74.3	35.9	***	470	293
Non-participant		63.8				140
SO2 participant		82.0	18.2	+++		153
Percent of ever married women underweight						
All households	23.9	16.8	7.1	**	471	675
Non-participant		17.1				361
SO2 participant		16.5	0.6			314

[1]*Significance test for difference with non-participant*
+++ p<0.001, ++ p<0.01, + p<0.05

7.0 Conclusions and Recommendations

Comparison of baseline with endline values of project impact and outcome indicators demonstrates that the PROSHAR project surpassed targets for all SO1 and SO2 impact indicators measuring household nutrition and food security status. Household level achievements under SO3 were also very substantial, with 18 percent of surveyed households reporting having received training, and almost 50 percent of households aware of disaster response plans in their communities (two-thirds of households in the more disaster-prone Coast communities).

While many of the project impact indicators, along with the childhood stunting goal indicator, improved dramatically over the life of the program, further analysis of achievement disaggregated by project participation showed few significant differences in these impact measures between project participants and non-participants. A possible cause of these observed results for MCHN indicators may be explained by the existence of government programs and projects supported by non-governmental organizations that have been providing similar support and services to the rural poor in Bangladesh over several years.

This is not to say that PROSHAR MCHN programming was not useful or effective, as it certainly was invaluable to the villages, households, mothers, and children that received program support. However, attribution of positive program effects is difficult when there are multiple programs, services, and messaging being delivered in the same geographic areas. The evidence from these quantitative findings supports the conclusion that PROSHAR has helped to contribute to the overall improvement in nutritional and health status of women and children within the project implementation area.

Outcome indicators generally showed very strong improvement from baseline to endline. While the percentage of both participants and non-participants adopting recommended practices increased from baseline to endline, the fact that the improvements were in most cases significantly higher for beneficiaries than non-beneficiaries suggests that these changes in behaviors can be attributed to program interventions. Adoption of recommended agricultural practices increased more for project participants in SO1 interventions than for non-participants. Correspondingly, rice yields for SO1 participant households (5,567 kg/ha) are 52 percent higher than households that did not participate in SO1 (3,657 kg/ha). However, it is also true that non-participant households substantially increased adoption of recommended practices. This result is consistent with strong demonstration effects from participants to their neighbors, although alternative factors could also explain these patterns of change. Further exploration of the reasons for changes in farming practices by participant and non-participant households should be the focus of follow-up qualitative research. Adoption of recommended MCHN practices also increased substantially from baseline to endline, and, as in the case of SO1, adoption of most practices was significantly higher for participants than non-participants.

Vulnerability characteristics of project participants and non-participants indicate that SO1 interventions are quite effectively targeted toward more vulnerable households, while SO2 interventions are not targeted, which is consistent with the PM2A implementation strategy for MCHN interventions.

One unexpected finding in the final quantitative study of PROSHAR was the decline in the index of women's empowerment with respect to decision making. This is very surprising, given that PROSHAR interventions are strongly oriented toward enhancing women's empowerment. This result may reflect that the questions in the quantitative questionnaire do not adequately capture all the subjective and qualitative aspects of women's empowerment. In future project designs, more detailed and qualitative analyses that focus specifically on measuring and assessing the factors that affect women's empowerment should be built into initial assessments and final project evaluations.

A limitation of the quantitative performance evaluations conducted for PROSHAR was the change in the sampling strategy from the baseline round, which employed a random-walk procedure for selecting households to be interviewed, to a random sampling of census listing of all households within selected villages. Analysis of the structural characteristics indicated some differences across the baseline and endline rounds, although the differences did not show a distinct pattern to support the conclusion that there was significant selection bias in the baseline sample design. Although these findings do not seriously compromise the comparison of results across survey rounds, future surveys should follow a census listing sampling procedure.

In the future, project M&E plans should include an integrated final project evaluation design that includes both qualitative and quantitative components. Ideally, M&E design of the next round of programming (or a separate impact evaluation) would incorporate testable hypotheses and a representative comparison group to evaluate the effectiveness of project activities for beneficiaries vs. non-beneficiaries. This recommendation is particularly relevant for project similar to PROSHAR that have very important intervention strategies that are not directed toward households, but rather to strengthen marketing systems, local institutions, infrastructures, etc. Adequate assessments of these types of intervention cannot be based only on household-level information.

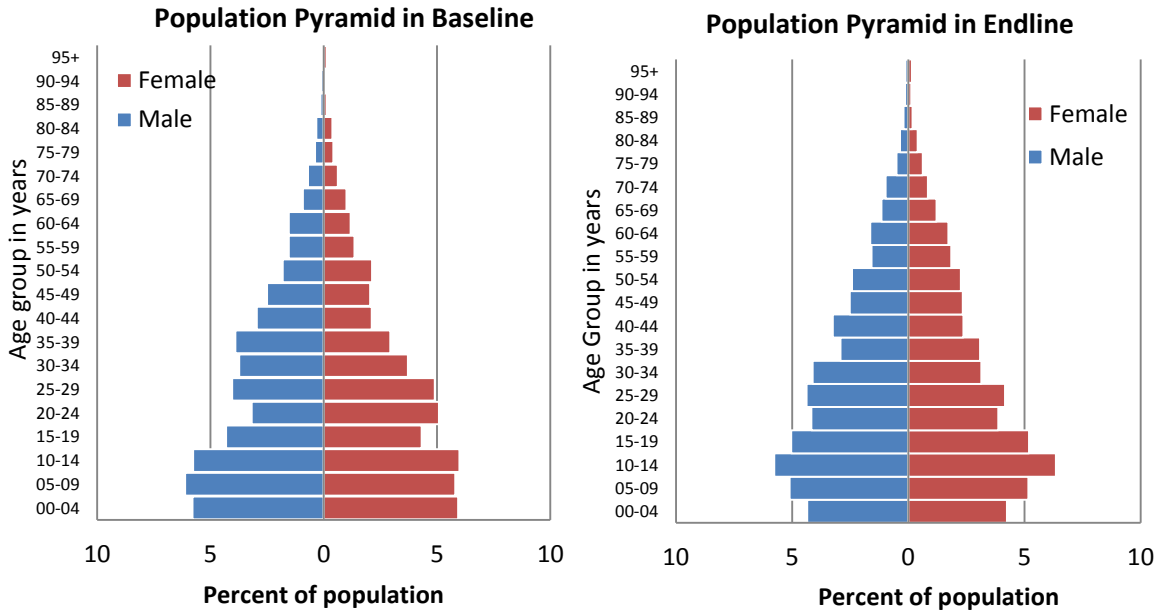
ANNEXES

ANNEX-1: SUPPLEMENTARY INFORMATION FROM BASELINE AND ENDLINE QUANTITATIVE SURVEYS

1. Household Demographics: Population Pyramid

The population pyramids for baseline and endline show some difference in the pattern of age distribution. In the endline, the distribution of males and females is more symmetrical while in the baseline the percentage of males was less than females in the age group 20-24. In all age categories the population has increased slightly with few exceptions, including among the most elderly portion of the population, indicating that people are living longer lives. Both the male and female population below nine years of age is smaller in the endline than in the baseline. This may indicate a decline in the birth rate.

Figure 41: Population pyramid in baseline and endline



2. Common property land assets

Aside from the private land resources which are mentioned above, some important common properties are found in and around villages in the PROSHAR program area. Trends in common property available to households is important, as there is considerable discussion in Bangladesh about natural resources as the foundation of food security and economic development because land and water resources are in particularly short supply amidst a high and extremely concentrated population. The endline survey indicates that many forms of common property available to and used by households have increased significantly.

Table 71 shows the percent of households in the survey reporting what common properties are available to them. For the households in this survey, the common properties available to them are predominantly river/canal, followed by roadside sloping, *khas* land, *beel*/*haor*/closed water body, and *khas* ponds. For both inland and coastal households, the availability of roadside sloping has increased

significantly from the baseline, increasing by 30.1 percentage points in inland areas and by 22.6 percentage points on the coast. Available common property in the form of *beel*/*haor*/closed water body has also increased significantly from the baseline, though the greatest part of that gain is in the inland areas (from 37.8 percent to 71.6 percent) rather than coastal areas (from 22.4 percent to 33.5 percent). Community-based organization (CBO)-managed water bodies are available to a small percentage of households (4.8 percent) but have grown from 0.6 percent of households since baseline.

Khas land availability as common property has decreased significantly in both areas, declining from 40.5 percent for coastal households and 39.7 percent for inland households at baseline to only 24.7 percent and 24 percent, respectively, at endline. The availability of *khas* ponds as common property has decreased in inland areas but increased in coastal areas. Also, there is a significant decrease in the availability of common grazing land to households (13.1 percent to 6.6 percent) and a small but significant decrease of 0.3 percent in the availability of forest land, indicating that these types of land are becoming less available to households.

Table 71: Common property available in the community, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
River/canal	92.6	97.6	94.9	87.0	97.4	89.5	
Roadside sloping	55.7	63.0	59.1	85.8	85.6	85.8	***
Embankments	38.4	56.2	46.6	33.9	60.0	40.1	
Khas land	39.7	40.5	40.1	24.0	24.7	24.2	***
Beel/*haor*/closed water body	37.8	22.4	30.7	71.6	33.5	62.5	***
Khas pond	13.7	23.3	18.2	11.6	34.6	17.1	***
Grazing land	14.1	11.9	13.1	6.5	7.0	6.6	***
Forest land	0.3	7.0	3.4	0.6	11.2	3.1	***
CBO water body	0.6	0.5	0.6	4.1	7.1	4.8	***
Railway grounds	0.5	0.1	0.3	0.2	0.3	0.2	
Other	0.4	0.2	0.3	0.1	0.0	0.1	
n (unweighted)	1,189	1,018	2,207	1,179	1,140	2319	

Table 71 shows the common property resources used during the previous six months by households in the survey. As found in the baseline, in most cases less than half of households with access to common property resources are actually taking advantage of these resources; for example, although nearly 90 percent of households have access to river/canal property, a little more than half of households (53.9 percent) use them.

The majority of households use common property rivers/canals, most often for fishing and irrigation (Table 71). However, the percentage of households using this option has declined by 13.6 percentage points since baseline, possibly reflecting increased competition for a preferred resource. *Beel*/*haor*/closed water body is the second-most used common property resource by households, with the percentage of households using this resource rising from less than one-fifth at baseline to over 40 percent at endline. One-third of the households surveyed use roadside sloping or *khas* pond common property resources. While the percentage of households using roadside sloping has increased by over 10 percentage points, the percent of households using *khas* ponds has risen from 2.6 percent to 33.9 percent. Although, as shown in Table 71, the availability of *khas* ponds has decreased in inland areas, their use by households has increased from 0.8 to 18.1 percent, suggesting much more intensive use of the *khas* ponds that are available. Household use of common grazing land and forest land has risen by

over 20 percentage points even though households report a decrease in availability (see Table 72). Nearly one-third (29.5 percent) of households surveyed did not use common property resources in the six months preceding the survey, an increase of 8.8 percentage points from the baseline.

Table 72: Common property resources used in the community, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
River/canal	62.0	74.0	67.5	48.5	69.1	53.9	***
Embankments	23.0	38.0	29.9	23.2	44.3	30.8	
Roadside sloping	22.9	24.3	23.5	33.9	34.6	34.1	***
None	25.3	15.3	20.7	33.6	16.6	29.5	***
Beel/*haor*/closed water body	20.0	13.6	17.0	42.1	37.2	41.4	***
Khas land	3.4	6.8	5.0	16.1	17.5	16.5	***
Grazing land	5.3	2.7	4.1	22.7	15.1	21.2	***
Khas pond	0.8	4.7	2.6	18.1	49.8	33.9	***
Forest land	0.1	3.5	1.7	11.1	26.7	24.2	***
Railway grounds	0.2	0.1	0.1	0.0	0.0	0.0	
CBO water body	0.1	0.0	0.0	20.2	32.3	22.7	***
Other	0.1	0.0	0.0	0.0	0.0	0.0	
n (unweighted)	1,189	1,018	2,207	1,179	1,140	2319	

3. Social services and organizations

An important factor contributing to community resilience is access and usage of social services. Table 73 shows that access to a wide range of social services, including health care, education, and local government services, increased substantially over the life of the program. Access to primary health services increased roughly 10 percent, with 89.0 percent of all households surveyed reporting access at endline. The percentage of households reporting Grammo Shalish and Union Parishad access increased to 80.2 and 71.0 percent, respectively, compared to baseline results of 58.5% and 61.4%. The largest increase by any service category is reported for access to pre-school services, increasing from 32.1 percent of households at baseline to 67.9 percent at endline.

Table 73: Basic social services available in the community, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Basic social services available in the community (Percent of household)							
Primary school	94.8	97.5	96.0	97.4	96.9	97.3	*
Family planning services	86.9	86.5	86.7	93.7	93.2	93.6	***
Primary health care services	77.7	85.7	81.4	88.8	89.6	89.0	***
Union Parishad	59.3	63.9	61.4	72.4	66.2	71.0	***
Grammo Shalish	57.5	59.6	58.5	81.9	74.8	80.2	***
Post office	50.9	59.4	54.8	68.2	59.8	66.2	***
Emergency shelter	11.1	81.7	43.6	26.9	92.2	42.5	
Pre-school	29.8	34.9	32.1	67.3	69.7	67.9	***
Social welfare	25.2	25.9	25.5	19.8	14.6	18.6	***
n (unweighted)	1,189	1,018	2,207	1197	1140	2319	

Table 74 indicates that access to immunization and family planning services remain high: over 90 percent of households in the program area are covered by these government services. Access to women's and youth services grew markedly over the life of the program, however still remains relatively low: households reporting access to services from the Department of Women's Affairs grew from 5.4 percent to 19.5 percent, and those reporting access to services offered by the Department of Youth Development grew from 5.0 percent to 11.8 percent.

Table 74: Government services available in the community, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Government services available (Percent of household)							
Government immunization services	92.8	93.8	93.3	94.7	93.8	94.4	
Government family planning	82.8	85.6	84.1	90.9	89.0	90.5	***
Department of social welfare	21.5	24.3	22.8	17.3	12.5	16.1	***
Department of disaster management	5.2	30.1	16.7	13.8	44.8	21.2	***
Department of cooperatives/BRDB	10.3	8.5	9.5	11.6	10.7	11.4	*
Dept. of women's affairs	6.0	4.8	5.4	20.6	16.0	19.5	***
Department of youth development	4.4	5.7	5.0	11.5	12.8	11.8	***
n (unweighted)	1,189	1,018	2,207	1179	1140	2319	

While in many cases, access to government services was widespread and/or growing, usage appears low and is in some cases declining (Table 75). Households reporting usage of government immunization services decreased over program life from 40.5 percent to 16.6 percent. This could be due to substitution by private health providers. Use of government family planning services in the program area fell slightly from 41.0 to 37.7 percent. The usage rate of all other government services was extremely low, not greater than 1.3 percent.

Table 75: Government services used in the last six months, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Government services used (Percent of household)							
Government family planning	41.4	40.5	41.0	39.2	32.8	37.7	*
Government immunization services	38.5	42.9	40.5	17.2	14.6	16.6	***
Dept. of social welfare	3.0	3.6	3.3	1.4	1.1	1.3	***
Dept. of cooperatives/BRDM	0.8	0.0	0.4	1.3	0.1	1.0	*
Dept. of youth development	0.2	0.1	0.1	0.1	0.1	0.1	
Dept. of women's affairs	0.2	0.0	0.1	0.7	0.9	0.7	**
N/A	34.9	32.0	33.6	2.7	0.4	2.2	***
n (unweighted)	1,189	1,018	2,207	1,179	1,140	2,319	

Table 76 reports participation in a range of social safety-net programs offered by the GOB. At baseline, the age allowance program, a monthly pension payment to those aged 60 and above, had the highest rate of participation (7.0 percent) and was virtually unchanged at endline (6.0 percent). Receipt of the widow allowance, grew negligibly from 1.8 percent to 3.0 percent. Baseline qualitative results characterized both of these services as attempts to buy voter loyalty through patronage. Participation in the Vulnerable Group Feeding (VGF) program, an emergency mechanism targeted to vulnerable

populations, grew dramatically. Participation in VGF at baseline was 1.6 percent, growing to 26.3 percent at endline.

Table 76: Participation in government programs, by region

Indicator	Baseline			Endline			Sig.
	Inland	Coast	**All**	Inland	Coast	**All**	
Participating in Government programs (Percent of household)							
Age allowance	7.5	6.3	7.0	5.9	6.3	6.0	
Government VGD	2.0	3.1	2.5	4.0	6.5	4.6	***
Widow allowance	1.2	2.4	1.8	3.4	2.1	3.0	**
Government CFW	1.5	2.1	1.7	0.8	1.3	0.9	*
Government VGF	1.1	2.2	1.6	24.2	32.6	26.3	***
100 days work	1.0	1.5	1.2	1.8	1.3	1.7	
NGO CFW	0.5	1.2	0.8	1.0	6.9	2.5	***
Disability allowance	0.6	0.5	0.6	0.6	0.6	0.6	
Other	0.6	0.2	0.4	7.3	0.8	5.6	***
Community based savings	0.4	0.1	0.2	0.6	0.3	0.5	
NGO FFW	0.0	0.2	0.1	0.5	4.8	1.6	***
None	84.3	81.5	83.0	50.0	36.7	46.6	***
n (unweighted)	1,189	1,018	2,207	1,179	1,140	2,319	

ANNEX-2: REFERENCES

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ANNEX-3: EVALUATION QUESTION

The QFPE is not sufficient to answer of all of the evaluation questions that are given below. The main objective of the QFPE is to estimate IPTT indicator values at endline and tracking progress compared to the baseline. The QFPE will supplement quantitative information for the qualitative evaluation. The complete answer of the evaluation questions will be formulated by triangulating quantitative and qualitative information.

The QFPE will complement information to address the following key evaluation questions[39]:

To what extent was PROSHAR effective in achieving its strategic objectives and intermediate results?
Income and Access to Food (SO1)
• Have the introduced technologies contributed significantly to reduce food insecurity at household level? • What technologies are mostly adopted by HHs? What factors (receipt of micro-grants, geography, HH economic category,) are influencing the adoption rate? • To what extent have PROSHAR interventions contributed to fostering changes in the market system that provides benefits to the poor and the ultra-poor?
Maternal Child Health and Nutrition (SO2)
• What are the most common factors that have affected change in nutritional status of pregnant and lactating women (PLW) with children under the age of two, such as access to health services, household behavior change with respect to exclusive breastfeeding, early breastfeeding, use of health services, Infant and Young Child Feeding Practices? • Is there a difference in uptake of MCHN services and optimal behaviors when comparing beneficiary households receiving PROSHAR MCHN services with households participating in both PROSHAR livelihood and MCHN services? What is the difference? • Have PROSHAR MCHN activities contributed to increased utilization of government community level health facilities & services (Community Clinic, satellite clinic, Expanded Program of Immunization (EPI) service point), as determined by comparing households with children under 5 years who were not part of the PM2A program, with those children under 5 years who were part of the PM2A program?
Disaster Risk Reduction (SO3)
• Do direct PROSHAR beneficiaries perceive themselves to be more prepared in case of a disaster compared to indirect project beneficiaries? • What improvement/changes DMCs (UDMC, UzDMC and CBDMVG) have seen due to PROSHAR intervention? How does Disaster risk reduction projects building resilience of community-DMCs perception? • What do households consider as the most effective strategies at reducing household susceptibility to shocks? Has this changed since baseline?
Sustainability: What program outcomes are likely to be sustainable beyond the life of the program?
• What is the likelihood that those technologies adopted to improve crop production will continue beyond the life of the project? • What is the likelihood of continuation of business linkages after the project has ended? • What proportion of households are practicing appropriate maternal and child health and nutrition related behaviors promoted by this program, and is this is an adequate threshold for achieving a community shift in positive behaviors to prevent malnutrition in children under the age of 2 years? • To what extent are communities functional and prepared for effective response to shocks as a result of PROSHAR program intervention. What are the lessons learned from the community based disaster management volunteer group model that may inform future program design?

[39] Adopted from the QFPE Scope of Work

ANNEX-4: PROSHAR INDICATOR PERFORMANCE TRACKING TABLE (IPTT)

Ind #	Indicators	Baseline			Endline			Diff	Stat sig.	LOA Target		Remarks
		Value (#/%)	95%CI	n (un weighted)	Value (#/%)	95%CI	n (un weighted)			Target	% achieved	
SO1: Incomes and access to food of poor and ultra-poor households improve												
Impact indicators												
IM1	Average # of months of adequate household food provisioning (MAHFP)	9.0	(8.8-9.2)	2,204	10.6	(10.5-10.8)	2,319	1.6	***	10.2	104%	
IM2	Average HH dietary diversity score (HDDS)	6.6	(6.5-6.8)	2,204	7.2	(7.1-7.3)	2,227	0.6	***	6.9	104%	
IM3	Gross margin per unit of land, kilogram, or animal of selected product (crops/animals/fish production)	12,495	(10764-14226)	658	15,339	(13,463-17,214)	950	2844	***	14,994	102%	Endline values are deflated using CPI for 2012 to 2014
OC1	Value of a set of assets (including savings, livestock, etc.)	49,291	(46626-51956)	2,207	71,729	(57542-85916)	2,317	22,438	***	60,566	118%	Endline values are deflated using CPI for 2012 to 2014
OC2	Number of farmers and others who have applied new technologies or management practices as a result of USG assistance.	N/A			N/A							Refers for a beneficiary-based sample from program monitoring data. (Mail from USAID on 3rd November 2014, confirmed that the endline PBS surveys for all three awardees do not need to collect this indicator)
OC3	Number of hectares under improved technologies or management practices as a result of USG assistance	N/A			N/A							Refers for a beneficiary-based sample from program monitoring data. (Mail from USAID on 3rd November 2014, confirmed that the endline PBS surveys for all three awardees do not need to collect this indicator)
Outcome Indicators												
OC7	% of producer groups with women in leadership positions	10.0			55.5	(39.4-70.5)	47	45.5	***	80.0	69%	Baseline information is not available for 95% CI and n. Very small sample size in the endline population-based sample (few HH reported as members of producer groups). PMP states that this indicator should be measured

Ind #	Indicators		Baseline			Endline			Diff	Stat sig.	LOA Target		Remarks
			Value (#/%)	95%CI	n (un weighted)	Value (#/%)	95%CI	n (un weighted)			Target	% achieved	
													from survey of producer group members.
OC8	% of agricultural smallholders reporting increased market access and use as a result of PROSHAR intervention	All Male Female	0.0 0.0 0.0			42.1 54.1 38.7	(25.3-60.9) (24.8-80.8) (19.6-62.1)	47 14 33	42.1 54.1 38.7	*** *** ***	50.0 50.0 50.0	84% 108% 77%	Sample size is very small in the endline population-based sample PMP states that this indicator should be measured from survey of producer group members.
OC9	% of producer group members bulking as a result of PROSHAR intervention		0.0			0.0	(0.0-0.00)	47	0.00		20.0	0%	Sample size is very small in the endline population-based sample PMP states that this indicator should be measured from survey of producer group members.
OC10	% of alternative livelihood groups members reporting increased market access and use		0.0			63.0	(33.7-85.0)	43	63.0	***	65.0	97%	Sample size is very small in the endline population-based sample PMP states that this indicator should be measured from survey of producer group members.
OC11	% of non-agriculture beneficiaries who adopted at least one technology introduced by the PROSHAR intervention		0.0			90.9	(75.8-97.0)	53	90.9		80.0	114%	We did not collect this information in population based endline survey following the annual monitoring questionnaire. This percentage was calculated based on engagement in at least one of the 4 off-farm activities supported by the project: Karchupi, embroidery, tailoring, bamboo products
OC12	Quantity sold as a result of participation in PROSHAR technology transfer, • Karchupi (Piece/year/beneficiary) • Bamboo products (Piece/year/beneficiary)		 0.0 0.0			 36 557		 2 27	 36 557		 96 1440	 38% 39%	Sample size is too small to make any conclusion. Refers

Ind #	Indicators		Baseline			Endline			Diff	Stat sig.	LOA Target		Remarks
			Value (#/%)	95%CI	n (un weighted)	Value (#/%)	95%CI	n (un weighted)			Target	% achieved	
	• Others (Piece/year/ beneficiary)		0.0			1138		96	1138		600	190%	to a beneficiary based sample through annual monitoring
SO2: Health of pregnant and lactating women (PLW) and children under 5 (with particular attention to children under 2) improve													
Impact Indicators													
IM4	Prevalence of stunted children under five years of age	All	42.4	(39.5-45.4)	1,047	31.9	(27.3-36.8)	677	-10.5	***	34.4	108%	
		Boy	39.5		523	32.6		325	-6.9	*	32.0	98%	
		Girl	45.3		524	31.2		352	-14.1	***	37.0	119%	
IM5	Prevalence of underweight children under five years of age	All	31.4	(28.8-34.1)	1,176	19.0	(15.6-23.1)	754	-12.4	***	24.4	128%	
		Boy	29.3		590	20.5		369	-8.8	**	23.4	114%	
		Girl	33.4		586	17.7		385	-15.7	***	25.4	144%	
IM6	% chronic malnutrition (energy deficient) of ever- married women 15-49 (BMI < 18.5mm)		23.9	(22.2-25.8)	471	16.8	(13.9-20.2)	675	-7.1	**	21.5	128%	
Outcome Indicators													
OC13	Prevalence of exclusive breast feeding of children under six months of age	All	41.4	(33.0-49.9)	133	73.8	(61.7,83.1)	78	32	***	60.0	123%	
		Boy	45.0			64.1		46	19		60.0	107%	
		Girl	45.0			87.2		32	42		60.0	145%	
OC15	% of children under 2 years old who are underweight	All	22.7	(19.2-26.7)	480	15.4	(11.0-21.1)	301	-7.3	*	17.5	114%	
		Boy				17.5		156			17.0	97%	
		Girl				13.1		145			18.0	137%	
OC18	% of caregivers who adopted at least three of the recommended behaviors as a result of USG assistance					88.6	(83.7-92.1)	296			60.0	148%	No Baseline figure
OC19	% of women who received at least 3 antenatal checkups by a qualified provider during pregnancy		32.3	(28.1-36.6)	488	59.1	(51.2-66.7)	293	26.8	***	65.0	91%	
OC20	% of children 6-23 months of age with 3 appropriate infant and young child feeding practices		N/A			3.7	(1.7-7.6)	222			36.5		Sample size is very small for continued breastfeeding and composite percent for all three indicators shows very small. It is recommended to report separately for these 3 indicators from population based endline similar to the baseline report.
	Continue breastfeeding (children 12-15 months)	All	94.8	(90.1-99.9)	77	91.0	(78.0-96.6)	51					
		Boy				90.5		20					
		Girl				91.3		31					
	Age-appropriate diet diversity	All	29.2	(24.5-34.0)	394	38.5	(32.3-45.0)	222		*			
		Boy				41.4		107					
		Girl				35.7		115					
	Age-appropriate frequency of feeding	All	56.2	(50.9-61.3)	394	51.8	(43.4-60.1)	222					
		Boy				51.2		107					

Ind #	Indicators		Baseline			Endline			Diff	Stat sig.	LOA Target		Remarks
			Value (#/%)	95%CI	n (un weighted)	Value (#/%)	95%CI	n (un weighted)			Target	% achieved	
		Girl				52.4		115					
OC21	Percent of children 6-59 months' with diarrhea treated with Oral Rehydration Therapy	All Boy Girl	17.9			46.9 46.5 47.4	(32.0-62.5)	47 25 22	29.0		28.6 28.6 28.6	164% 163% 166%	Very small sample size that is difficult to estimate accurate value of the indicator
OC23	% of children aged 6-23 months of age with diarrhea continuously fed during illness	All Boy Girl				16.3 15.4 17.4	(5.1-41.2)	23 12 11					Very small sample size that is difficult to estimate accurate value of the indicator. No baseline value available for this indicator
OC24	% of children 0-23 months who had symptoms of Acute Respiratory Infection (ARI) that sought advice or treatment from trained health care provider	All Boy Girl	84.8	(73.0-96.7)	40	80.3 78.2 83.4	(62.8-90.7)	47 29 18	-4.5		46.3 42.5 50.0	173% 184% 167%	Very small sample size that is difficult to estimate accurate value of the indicator.
0C25	% of households with soap and water at a hand washing station commonly used by family members		23.0	(21.1-24.7)	2070	38.0	(35.1,40.9)	2035	15.0	***	36.8	103%	
SO3: Institutions and households prepared to respond effectively to shocks													
OC31	# of wards with disaster early warning and response (EWR) systems in place as a result of project assistance												Recommend to collect this indicator value from inventory of the Disaster management committee

ANNEX-5: SAMPLE FRAME- VILLAGES SELECTED USING PPS

A. PPS sample for inland (Batiaghata and Lohagara) stratum

Sl No.	Upazila	Union	Village	#of Households*	#of Cluster	#of Sample HH
1	Batiaghata	Amirpur	Amirpur	218	1	25
2	Batiaghata	Amirpur	Khanrabad	653	1	25
3	Batiaghata	Amirpur	Tala Para	347	1	25
4	Batiaghata	Baliadanga	Bujbunia	435	1	25
5	Batiaghata	Baliadanga	Phulbati	400	1	25
6	Batiaghata	Batiaghata	Batiaghata	195	1	25
7	Batiaghata	Batiaghata	Hetalbunia	866	1	25
8	Batiaghata	Batiaghata	Mailmara	192	1	25
9	Batiaghata	Bhanderkote	Bhandarkote	898	1	25
10	Batiaghata	Bhanderkote	Naoailtala	323	1	25
11	Batiaghata	Gangarampur	Andharia	56	1	25
12	Batiaghata	Gangarampur	Deoatala	283	1	25
13	Batiaghata	Gangarampur	Kayemkholar Hula	213	1	25
14	Batiaghata	Jalma	Chak Alipur	196	1	25
15	Batiaghata	Jalma	Gajalmari	111	1	25
16	Batiaghata	Jalma	Harintana	1,857	1	25
17	Batiaghata	Jalma	Kholabaria	157	1	25
18	Batiaghata	Jalma	Mahammad Nagar	1,235	1	25
19	Batiaghata	Jalma	Putimari	620	1	25
20	Batiaghata	Jalma	Solemari	364	1	25
21	Batiaghata	Surkhali	Bara Aria	426	1	25
22	Batiaghata	Surkhali	Chhatra Bil	174	1	25
23	Batiaghata	Surkhali	Roypur	312	1	25
24	Batiaghata	Surkhali	Surkhali	221	1	25
25	Lohagara	Dighalia	Dighalia	1,203	1	25
26	Lohagara	Dighalia	Kumri	1,227	1	25
27	Lohagara	Dighalia	Talbaria	420	1	25
28	Lohagara	Itna	Dikrir Char	290	1	25
29	Lohagara	Itna	Itna	1,343	1	25
30	Lohagara	Itna	Uttar Pankhar Char	330	1	25
31	Lohagara	Joypur	Chachai	924	1	25
32	Lohagara	Joypur	Khanair	270	1	25
33	Lohagara	Kashipur	Chalighat	245	1	25
34	Lohagara	Kashipur	Rameshwarpur	108	1	25
35	Lohagara	Kotakul	Ghaga	352	1	25
36	Lohagara	Lahuria	Char Trilakshmia Para	101	1	25
37	Lohagara	Lahuria	Gobinda Para	55	1	25
38	Lohagara	Lahuria	Naluapara	76	1	25
39	Lohagara	Lahuria	Trilakshmia Para	125	1	25
40	Lohagara	Lakshmipasha	Kuchiabari	101	1	25
41	Lohagara	Lohagara	Kamthana	371	1	25
42	Lohagara	Mallikpur	Mahisha Para	291	1	25
43	Lohagara	Mallikpur	Par Panchuria	63	1	25
44	Lohagara	Naldi	Char Balidia	277	1	25
45	Lohagara	Naldi	Mathbari	104	1	25
46	Lohagara	Naldi	Sujapur	152	1	25
47	Lohagara	Noagram	**Handla + Kankul**	248	1	25
48	Lohagara	Noagram	Satara Hazari	179	1	25
49	Lohagara	Shalnagar	Char Shalnagar	340	1	25
50	Lohagara	Shalnagar	Par Shalnagar	261	1	25
TOTAL				**20,208**	**50**	**1250**

B. PPS sample for Coast (Sarankhola) stratum:

Sl No.	Upazila	Union	Village	#of Households*	#of Cluster	#of Sample HH
1	Sarankhola	Dakhin Khali	Bakultala	584	1	25
2	Sarankhola	Dakhin Khali	Bogi	455	1	25
3	Sarankhola	Dakhin Khali	Chalitabunia	635	1	25
4	Sarankhola	Dakhin Khali	Dakshin Saudkhali	660	1	25
5	Sarankhola	Dakhin Khali	Dakshin Tafalbari	439	1	25
6	Sarankhola	Dakhin Khali	Khamriakhali	752	2	50
7	Sarankhola	Dakhin Khali	Royena	552	1	25
8	Sarankhola	Dakhin Khali	Sonatala	1132	2	50
9	Sarankhola	Dakhin Khali	Uttar Saudkhali	400	1	25
10	Sarankhola	Dakhin Khali	Uttar Tafalbari	570	1	25
11	Sarankhola	Dhansagar	Dakshin Badal	427	1	25
12	Sarankhola	Dhansagar	Dhansagar	732	2	50
13	Sarankhola	Dhansagar	Malsa	103	1	25
14	Sarankhola	Dhansagar	Nalbunia	819	1	25
15	Sarankhola	Dhansagar	Rajapur	1669	3	75
16	Sarankhola	Dhansagar	Silabunia	114	1	25
17	Sarankhola	Khontakata	Amragachhia	656	1	25
18	Sarankhola	Khontakata	Baniakhali	842	2	50
19	Sarankhola	Khontakata	Golbunia	527	1	25
20	Sarankhola	Khontakata	Janar Para	298	1	25
21	Sarankhola	Khontakata	Jiban Duari	255	1	25
22	Sarankhola	Khontakata	Khontakata	2021	3	75
23	Sarankhola	Khontakata	Morellabad	1367	3	75
24	Sarankhola	Khontakata	Nalbunia	333	1	25
25	Sarankhola	Khontakata	Rajoir	1017	2	50
26	Sarankhola	Royenda	Dakshin Rajapur	895	1	25
27	Sarankhola	Royenda	Khada	909	2	50
28	Sarankhola	Royenda	Madhya Royenda	370	1	25
29	Sarankhola	Royenda	Malia	647	1	25
30	Sarankhola	Royenda	Rajeshwar	338	1	25
31	Sarankhola	Royenda	Royenda (Kadamtala)	2418	5	125
32	Sarankhola	Royenda	Uttar Rajapur	917	2	50
33	Sarankhola	Royenda	Uttar Tafalbari	603	1	25
TOTAL				**24456**	**50**	**1250**

Source: PNGO/ Union Parishad

ANNEX-6: ACTUAL HAND SKETCH MAP OF A CLUSTER FROM HOUSEHOLD CENSUS

ANNEX-7: ENUMERATOR'S FIELD SURVEY MANUAL

INTRODUCTION

CDI/VOCA is implementing the Program for Strengthening Household Access to Resources (PROSHAR) Aproject in three upazilas in Khulna Division of Bangladesh. PROSHAR is a Multi-Year Assistance Program (MYAP) funded by the Office of Food for Peace (FFP) of the United States Agency for International Development (USAID) in partnership with PCI, iDE and three local partner NGOs (PNGOs) Shushilan, Muslim Aid, and CODEC. The program started in June 2010 and runs through May 2015. Its goal is to "*Reduce food insecurity among vulnerable rural populations in selected upazilas in Khulna Division*."

In achieving this goal, PROSHAR's activities are designed around three Strategic Objectives (SOs) and their intermediate results (IR) to support vulnerable communities through an integrated food security approach. This approach is primarily directed at both poor and ultra-poor populations in the three upazilas of Lohagora, Sharankhola and Batiaghata in the Khulna Division. The three SOs are:

- **SO1:** Incomes and access to food of poor and ultra-poor households improved
- **SO2:** Health of pregnant and lactating women (PLW) and children under 5 (with particular attention to children under 2) improved
- **SO3:** Institutions and households prepared to respond effectively to shocks

PROSHAR also provides a mix of technical assistance and training directed at the household level to provide the tools they need to improve their overall food security. These interventions are based on in-depth value chain analysis and are centered on enhancing both on- and off-farm productivity and livelihoods through the adoption of improved practices and technologies. Building sustainable relationships between beneficiaries and public and private stakeholders and linking smallholders to profitable domestic markets are also central to this approach.

In addition to each of the three SOs, PROSHAR promotes gender equity by including both men and women in project activities, facilitating women's participation without overburdening them, and ensuring that both men and women are engaged in remunerative productive activities, including interactions with markets.

PURSPOSE OF THE STUDY

The purpose of the quantitative final program evaluation (QFPE) is to evaluate the performance of key indicators against the baseline values to measure strategic objectives and intermediate results of PROSHAR program. Specific objectives include:

1. Evaluate PROSHAR's theory of change. Specifically to:
    a. Use quantitative measurement to track endline values for project output, outcome and impact indicators
    b. Create plausible links between outputs and outcomes/impacts
2. Evaluate the results of cross-sector integration across project activities, strategic objectives, and implementing partners. Two specific comparisons are key. A comparison of households participating in multiple activities to households participating in one activity, and a comparison of endline results from coastal and inland upazilas.

ENUMERATOR'S ROLE

The enumerator is pivotal to the success of the QFPE study. Close adherence to procedures for conducting the interviews and entering data will ensure the quality of the survey.
The enumerator's responsibilities include:

- Locating the assigned households and completing Module A, *Identification and Consent*, for each listed household;
- Explaining the survey to the respondent and obtaining informed consent to participate in the survey;
- Interviewing all selected households, including returning to the household if the eligible respondent was absent on the first visit;
- Entering the respondent's answers onto the tablet accurately;
- Submitting the interview data to the field supervisor and discussing issues with the field supervisor; and
- Tracking and reporting progress in completing assignments.

ETHICS AND CONFIDENTIALITY

Ethics: Research misconduct means fabrication, falsification, plagiarism in proposing, performing, or reviewing research, or in reporting research results. It does not include honest error or differences of opinion. Confidentiality means holding secret all information relating to an individual, unless the individual gives consent permitting disclosure. Field team members cannot:

- Divulge anything learned during survey administration to anyone.
- Discuss data collected or observed with anyone outside of the survey, including with other data collectors not on the project or at home with family members or friends.
- Interview anyone they know or known to them through mutual acquaintances, unless a special exception is made by the field supervisor.

Confidentiality: All information that comes from anyone in the study will not be identified with that individual person in any communications with persons outside of the study or in any reports. Very confidential information will not be shared with anyone except the direct supervisor of the data collector or the district team leader or quality control team– who is part of the study. Give constant re-assurance of confidentiality, especially when handling sensitive topics.

Right to end the interview session: Let all respondents know that they have the right to ask questions at any time, the right to think about their answers, and the right to refuse to answer for any question. They also have the right to end/leave the interview at any time without prejudice.

CONDUCTING THE INTERVIEW

GENERAL GUIDANCE

The enumerator represents Mitra Associates, TANGO International and the PROSHAR program. It is important for the enumerator to make a favorable impression on the respondent. Enumerators should follow these basic guidelines:

- Dress appropriately for field work.
- Address all persons encountered politely and with respect.
- Visit households during appropriate hours. (Note: enumerators may need to visit a household outside these hours in order to interview someone who was not available during the initial visit. This will be planned in advance with the respondent.)
- Treat all information that you collect as strictly confidential. Do not share it outside of the respondent, with other household members, or with other enumerators.

A. Approaching the Household

As a potential stranger at the household, it is important to observe all of the rules and customs governing visits to other people's houses:

- Knock first (or follow the acceptable method in the locality for approaching the house).
- Ask to speak with a head of the household.
- Introduce yourself politely
- Ask permission to enter the house.
- Try to put the respondent at ease. Smile at them and be friendly and relaxed.

Then read the statement about the survey in *Module A: Interview Consent and Sample Identification.*

If asked, explain that respondents cannot be compensated for their time. Instead, express your gratitude at their willingness to participate in a survey that will help PROSHAR better understand the situations of village members in the area, allowing PROSHAR to better serve them and their community members.

Answer any questions frankly and courteously.

B. Ensuring Privacy

Do not interview people in a group. Participants are likely to be more uneasy and untruthful if they are required to respond in front of others. Friends, neighbors, or other non-respondents should not be present during the respondent interview.

C. Translations

You will conduct the interview in the language used by the respondents (Bangla); the translations have been verified by PROSHAR program staff (and in training). Please do not alter the translation.

If needed, explain a question in local dialect. Once the question has been explained, repeat the question as it appears on the tablet.

D. Interview Techniques

- Do not *rush* the interview. Allow the respondent time to think before responding. Let the respondent know that his/her answer is very important.
- Read the *question exactly* as it is written. Read it slowly and clearly. If the respondent does not understand the question, explain what the question is asking, and then reread the question again slowly.
- Unless *instructed* to do so, do not read the list of possible answers to the respondent. Let the respondent answer on his/her own. You then select the survey response that best matches the answer given by the respondent.
- Remain *neutral*. Do not give the impression that any response is more appropriate than others. Never appear to disapprove of any response.
- Respondents may provide *long answers* that include a lot of information not directly relevant to the question. Simply record the relevant response and ignore non-pertinent information. If the respondent has not answered the question at all, probe the respondent politely back to the question.
- Do not *argue* with respondents.
- If the respondent is *reluctant* to answer a question, explain that individual responses will be completely confidential. If the respondent still will not answer the question, select 'refused' and proceed to the next question.

E. Interviewing Instructions on the Questionnaire (Tablet)

The printed questionnaire and the questions on the Tablet contain instructions for the enumerator. All instructions will be available in Bangla. Local language is used for both questions and instructions/introduction.

Questions or explanations that the enumerator has to read to the respondent appear in regular text with no special formatting. Here are two examples:

- Example of a question to read to the respondent:
  "What is your marital status?"

Instructions tell the enumerator what to do that appears between **[ ]** in all CAPITAL LETTERS. Enumerators should not read instructions to the respondent. Here are two examples:

- *[OBSERVE AND RECORD]*
- *[SELECT ALL THAT APPLY]*

F. Differences between the Printed Questionnaire and the Tablet Screens

There are many differences between the printed questionnaire and the tablet, as follows.

Number of Questions on Printed Questionnaire vs. Tablet Screen:

The printed questionnaire can display a lot of information on a page, therefore the printed questionnaire has many questions on one page. A screen on the tablet can display less information, so each screen on the tablet has fewer questions. Usually, in Tablet, there is one question on each screen.

IMPORTANT: In all cases, the questions on the printed questionnaire have the same numbers as the questions on the Tablet.

G. Skip Instructions:

If a particular response to one question makes subsequent questions irrelevant, you skip to the next appropriate question. On the print questionnaire, this is indicated by the skip logic found to the right of the responses.
On the Tablet, there are no skip instructions. Instead, on entering a response, the Tablet automatically goes to the next appropriate question.

FIELDWORK PROCEDURES

A. ENUMERATION TEAM

An enumerator will work as part of a team. Each enumeration team member will have his/her own Tablet for entering data. Each enumeration team member is responsible for his/her Tablet.

B. GETTING ASSIGNMENTS

The enumeration team will be given a control sheet that lists all households assigned to the team in each cluster (village). The control sheet will provide the head of the household's name. The enumeration team will track progress in completing the required surveys on their respondent control sheets.

Enumerators should NEVER complete more than 5 interviews in a day. This is to ensure that all entered data is done accurately and without data entry error.

C. SAMPLE PROTOCOL

Sampling protocol needs to be strictly followed. The central study team will select the sample households randomly and enumerators will get the printed sample household list. The enumerators

with the help of the team supervisor need to ensure that they are interviewing the correct sampled households.

D. CLUSTER (PPS SAMPLE VILLAGE):

In each clusters the team will be provided a list of 25 names of the randomly selected households to locate and interview. *Every effort should be made to locate and interview every name on the list.*

1. Upon arrival at the site, the team supervisor will provide a map of the cluster.
2. Identify names provided and locate them on the map.
3. Group households together by location and assign groups to enumerators.
4. Enumerators locate the first name on his/her list and interview the appropriate respondent.
5. Upon completion of the interview the enumerator will interview the next name on the list by consulting to their respective team supervisor.

E. RETURN VISITS

Selected households may not have an eligible respondent available during an enumeration team's first visit. In these cases, the enumeration team will plan a time to return and complete the interview. The enumeration team will return to the household if it is logistically possible, meaning the missing respondent will be available when the enumeration team is still in the cluster. If eligible respondents are not expected to be available when the survey team is working in that cluster, it will not be possible to complete the interviews for that respondent. The enumeration team will note on the Tablet by filling up the sample identification module and on the control sheet. I this circumstances the household should be considered as "non-response".

F. ENSURING HIGH DATA QUALITY

The enumerator has a key role in ensuring data quality. To succeed, enumerators must:

- Visit all assigned households; [COMPLETE A SURVEY FOR **EVERY** LISTED HOUSEHOLD – EVEN IF THEY ARE NOT AVAILABLE FOR INTERVIEW]
- Obtain the cooperation of respondents;
- Build rapport with respondents so they complete the interview;
- Ask the questions exactly as they appear on Tablet, while providing helpful explanations when necessary;
- Interpret the respondent's answers correctly; and
- Enter all responses accurately.

Enumerator commitment to completing each of these activities in accordance with this manual and the training is central to the quality of the survey.

In addition to the enumerator's actions, several other measures are in place to ensure survey quality. Specifically,

- Field supervisors will observe enumerators as they conduct their interviews.
- Enumeration team members will support each other. For example, enumeration team members can help each other interpret responses, identify eligible respondents to be interviewed, and review data.
- The Tablet contains automated edit checks that will notify the enumerator immediately if the entered data is not acceptable (for example, if age is out of range). The Tablet also is programmed to ensure the enumerator enters a response to all required questions.

- The enumerator will discuss any responses about which he or she is uncertain with the field supervisor.
- The field supervisor will review the completed survey's record to identify missing or problematic information.
- The field supervisor will confirm that there is data for every household assigned to an enumeration team.
- TANGO will carefully review all data to see if there are unusual patterns of responses, or any outliers.

G. *ENTERING AND MANAGING DATA ON THE TABLET*

This section describes the physical features of your Tablet, how to start a survey on your tablet, how to navigate through the survey, and how to enter responses.

BASIC TABLET FUNCTIONS AND NAVIGATION

1. **Power on the tablet** - Press and hold the power button until you see the screen light up. The power button is the small rectangular button on the right edge of the tablet behind the screen.

The home page of the table will look similar to the below image:

2. **Power off the tablet** - There are three steps:
   - Press and hold the power button.
   - Select "power off".
   - Select "OK".

Always turn the tablet off when you have finished entering data for a day. This will save battery time. If you do not turn the tablet off, the tablet will "time out" or "go to sleep." The tablet will look like it is off, but it will still be running and using battery time.

3. **Airplane mode**: Always keep the tablet in airplane 

mode.

- Press and hold the power button.
- Select “Airplane-mode”.
- Select “OK”.
- The following icon will be displayed in the top right corner (next to battery level) when in airplane mode

TABLET/SCREEN COMPONENTS

1. **Home Screen:** The home screen is what you see when you log onto the tablet.
2. **Tablet Navigation symbols**. There are three navigation symbols at the bottom of the screen:

   - **Back** - Touching this opens the previous screen.
   - **Back to Home screen** - Touching this opens the home screen.
   - **Applications** - Touching this opens a list of all of the applications on the tablet. You do not need to access these.
3. **Entering into the Survey Software:** The application/software on the home screen that you will use is the ODK Collect application, the icon looks like this. Open ODK Collect by touching the ODK Collect icon

INITIAL SCREENS (ODK)

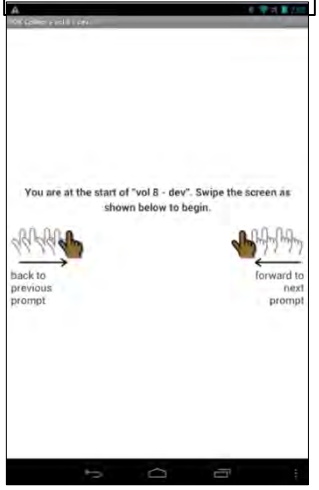
Select an activity:

- **Fill Blank Form:** Select this when you want to enter data for a new household.
- **Edit Saved Form:** Select this when you want to open and add more data or correct data for a respondent in a survey that you have already saved.
- **Send Finalized Form:** Select this when you want to send the final data to the cloud server to share with others.
- **Get Blank Form:** Select this when you want to download a new version of the data entry form.
- **Delete Saved Form:** Select this when you want to delete any saved form before sending to the cloud server.

[THE ENUMERATORS ARE ALLOWED TO USE ONLY THE FIRST TWO OPTIONS]

Start Survey for new household:

- Select ‘Fill Blank Form.’
- Select the form “PROSHAR QFPE TANGO V1.0”
- Proceed with administering the survey.



The first screen indicates that you are at the start of the form and shows you how to advance:

Scroll down the screen – The text on the screen may extend below what you see and you may need to scroll down the screen to see all of the text. To do so, swipe your finger down the screen (from top to bottom).

Scroll up the screen - The text on the screen may extend above what you see and you may need to scroll up the screen to see all of the text. To do so, swipe your finger up the screen (from bottom to top).

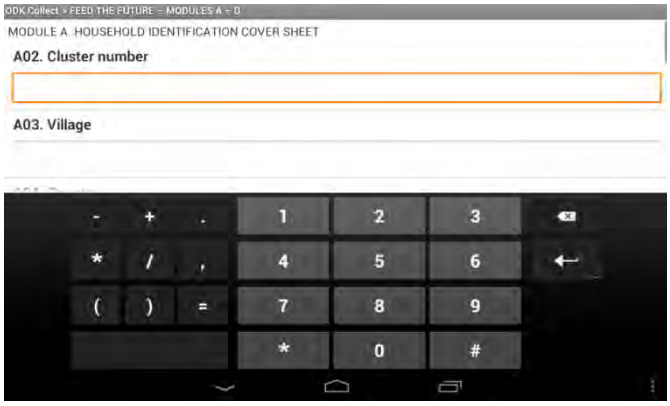
Advance one screen  If you want to move to the next screen in the survey, swipe your finger from right to left across the center of the screen (like turning a page).

Go back one screen  Swipe your finger from left to right across the center of the screen (like turning back a page)

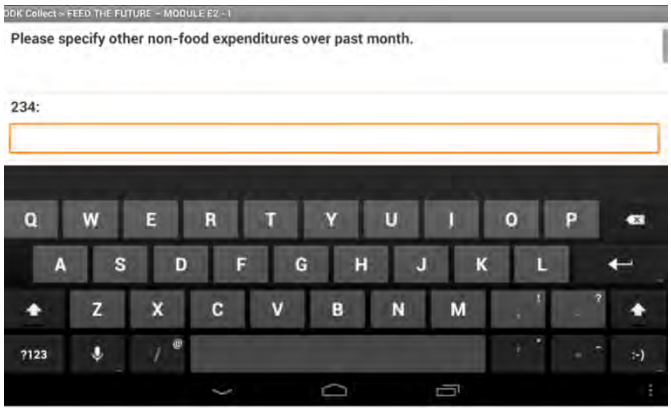
ENTERING RESPONSES

There are five (5) ways to enter data on the tablet:

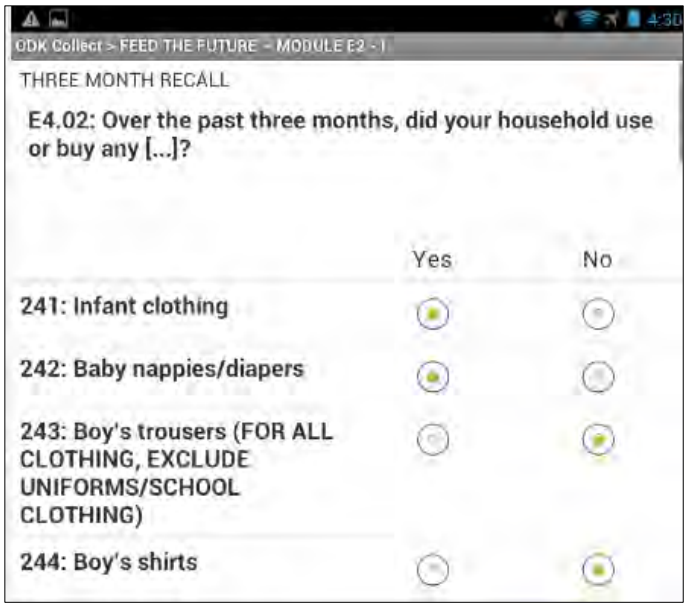
1. Enter a number using the virtual number keypad that appears when you touch the response space requiring a numeric response.



2. Enter a date using the virtual number keypad that appears when you touch a response space requiring a date response. You will have to use the date format specified on the screen (DD-MM-YYYY, meaning the first two digits are for the day, the second two digits are for the month, and the last four digits are for the year).
3. Enter a word or words using the virtual letter keypad that appears when you touch a response space requiring a text response.



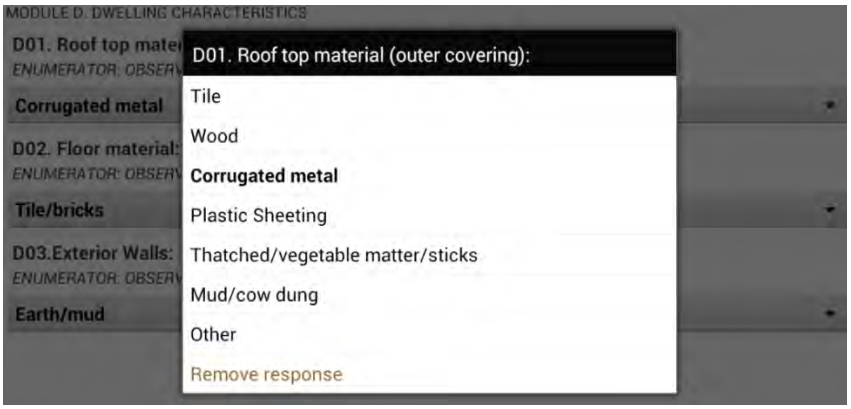
4. Select one of several options by touching the appropriate radio button.



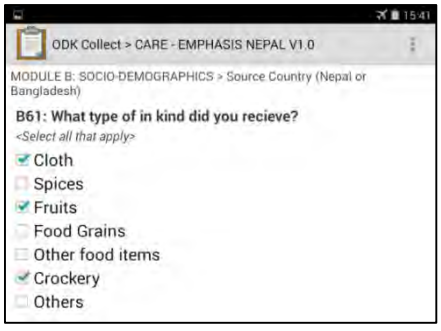
5. Select a response from a dropdown list:

- Touch the drop down arrow

- Then select the appropriate response from the dropdown list

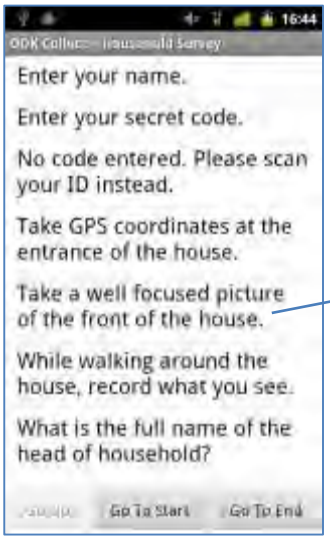


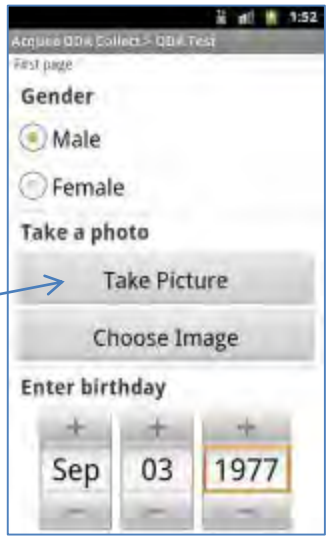
6. Select multiple responses of several options by touching the appropriate check box buttons. Questions that allow multiple responses are labeled: [multiple response].



IMPORTANT!! Always review the response that appears on the screen after you select a response to make sure that you touched the right response!

EDIT SAVED FORM





- To add more data to a previously saved form (a form that is not finalized or has been finalized but has not been submitted) , open ODK Collect by touching the ODK Collect icon on the home screen.
- Select 'Edit Saved Form.'
- Select the appropriate form (survey) based on the date and time the form was saved. Refer to your records for the date and time the form was saved.
- Swipe down to the question where you want to add or correct data and make the changes. (Note that on a saved form, all the questions and responses appear on one long screen. When you touch a question on the long screen, that reopens the survey at that screen.)
- Save the form (top right save icon)

FINALIZING A SURVEY

Upon completing a survey you will be prompted to "Mark Form as Finalized"

- If the survey has been fully completed, check "Mark From as Finalized"
- If enumerator needs to return to the a household to complete the survey (i.e. the respondent is not home) DO NOT mark the form as finalized.

TROUBLESHOOTING

Tablet Times Out. If you do not touch the tablet screen for five minutes the tablet will time out. Press the power button until you see the logon or the survey screen again. After entering your password, you will return to the most recent screen you were on. The data you entered on previous screens will be saved. The data you were entering on the most recent screen when the screen timed out will be lost and you will have to re-enter it.

Low Battery. If you are in an interview and you receive a 'Low Battery' message, determine whether you feel you can complete the interview before the tablet runs out of power. If you feel you cannot complete the interview, explain to the respondent that you will return to complete the interview once you have charged your tablet. Please note that data entered up to this point will be lost. Check your battery level before beginning any interview.

INTERPRETING THE PAPER QUESTIONNAIRE

a) Single answer questions

In the questionnaire, several questions are designed to get either 'Yes' or 'No' answer or a single answer from the respondent. The single response questions, in the paper questionnaire, usually do not have any instruction under the question in the "QUESTIONS AND FILTERS" column. For example,

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q701	Do you have any children under 24 months or are you currently pregnant?	Yes..... 1 No 2	

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q401	What was the most recent type of natural disaster experienced in this area?	Cyclone ..... 1 Flood ..... 2 Earthquake..... 3 River erosion..... 4 Other (specify) ..... 5 No disaster..... 6	 6→Q416

b) Multiple response questions

In the questionnaire, several questions are designed to capture more than one possible answer from the respondents. In the paper questionnaire, for multiple response questions, there is an instruction (multiple response) in the questions and filters column.

NO.	QUESTIONS AND FILTERS	CODING CATEGORIES	SKIP
Q901	Do you know what are the rights of children in Bangladesh? **[MULTIPLE RESPONSE]**	non-discrimination (ethnic groups, disabled) ..... 1 to live with parents..... 2 to give opinion ..... 3 to education..... 4 to health services..... 5 to birth registration ..... 6 to recreation ..... 7 to protection from abusive child labor..... 8 to protection from physical/social abuse ..... 9 other ..... 10 don't know..... 11	

c) Introduction

The introduction is the description of the session. You may read this exactly or explain clearly in your own words. The purpose of the introduction is to explain to the respondent what kinds of information will be requested in the following section. The following example is the introduction to Module G.

Module G: Income and HH Expenditures
***[INTRODUCTION:** In this section I will ask about the household income and change in last <u>THREE</u> years. Please try answer as accurate as you can.]*

Q #	QUESTIONS	Responses	SKIP
G1	What is your household's monthly average income?	☐☐☐☐☐☐ Taka	
G2	**Overall:** Compared with three years ago how have your household income changed?	No change .....1 Increased.....2 Decreased 3	

d) Instruction

Instructions are written in capital letters, and to be used to explain to interviewer what to do in this module and how. DO NOT read the instructions during the interview.

Module E: Loans received

*[**INSTRUCTION:***

- *ASK ONLY FOR ALL MEMBERS WHO ARE 15 YEARS OR OLDER.*
- *REPORT CASH LOANS: INCLUDE BOTH INTEREST BEARING AND NON BEARING CASH LOANS. GET INFORMATION ABOUT THE LOANS THAT HAVE BEEN PAID.]*

Q #	QUESTIONS	Responses	SKIP
E1	Has any adult in the household taken out any loans in last 2 years?	**Yes** .....1 No .....0 →	Module F

e) Skip questions

There are also skips in certain questions instructing the interviewer to skip a few questions that follow based on the response given by the respondent. The skips can be identified with the symbol **"→"** in the last column "SKIP" of the questionnaire. See the example given below: in this case if the answer is 'No' i.e., code '0' is circled; the interviewer will have to ask S12 by skipping questions S2 thru S11.

Q #	QUESTION	RESPONSE	SKIP
S1	Are you currently pregnant?	Yes ....1 No .....0 →	S12

QUESTIONNAIRE MODULES

We all need to have a shared understanding of all terms and concepts used in the questionnaire. This will ensure uniformity in our work and that the information captured is accurate and reliable

NOTES WITHIN EACH MODULE

1.5.15 MODULE A: IDENTIFICATION AND CONSENT

Introduction: There are Three KEY principles to the introduction:

1. Inform the respondent:
   - Type of questions that will be asked
   - Why the questions are being asked
   - How the respondents answers will be used
2. Participation is Voluntary
3. All responses are Confidential

Household Code: This is a unique number assigned to each household in a cluster (village). The household numbers will be clearly noted on the cluster maps given to enumerators when they begin surveying households in a new cluster.

Notes:

Upazila, Union and Village codes are preassigned centrally. Enumerators will be provided those in-built into the ODK Software. Enumerators will need to enter their team ID and individual enumerator ID. Every enumerator will have a 2 digit unique ID where the first digit will represent their corresponding team ID and second digit will represent their individual ID within the team.

1.5.16 MODULE B: INFORMATION ON THE RESPONDENT

This module consists of questions related to the background information on the main respondent who will provide information related to household background characteristics, financial and livelihoods. This module also contains information related to household head and relationship between the household head and the respondent.

1.5.17 MODULE C: BASIC INFORMATION ON HOUSEHOLD MEMBERS (ROSTER)

Definition of Household and Household Head: Household is: "those people who live together and have regularly been eating together for the past three months". This definition does not include household members who have not been present for reasons of work or school in the past three months.

The "Head of the Household" is be the primary decision-maker in terms of allocating the natural, human, and financial resources available to the household. The Household Head must have been present consistently for the past 3 months, but could be absent at the time of the survey. For example, the Head could be shopping or working in the field.

The Respondent will decide who is the Head of the Household but may need assistance from the Enumerator in cases of a Female or Child headed household. A Female-headed household is defined as a household in which:

- the male head of the household has been away for the past three months, or
- the woman manages the home because she is widowed, divorced, separated, or single or her husband is disable for the past three months.

Prior to completing this section, ensure that data for all household members has been entered. It is recommended that enumerators get a paper copy of this sheet for their personal reference when conducting the interview and entering data on the Tablet. This will help to guide enumerators on who is eligible for other modules of the questionnaire. The line number of the individual will correspond to a person number on the Tablet.

Notes:

Age (C5) : If the respondent does not know his/her age, or the age of one member, or any child in the household and no ID card (National ID)/birth registration certificate/EPI card are available you will have to probe to try to estimate his/her age. Probing for age is time consuming and sometimes tedious; however, it is important that you take the time to try to get the best possible information. There are several ways to probe for age:

- Ask the respondent how old he/she or the member was when he/she got married or had the first child, and then try to estimate how long ago he/she got married or had the first child. For example, if the respondent says that he/she was 19 years old when he/she had her first child and that the child is now 12 years old, he/she is probably 31 years old.

- You might be able to relate the age to that of someone else in the household whose age is more reliably known.
- Try to determine how old the member was at the time of an important event such as a war, flood, or change in political regime, and add his/her age at that time to the number of years that have passed since the event. In this case, use the event calendar.
- If probing does not help in determining the respondent/member's age, you will have to estimate the age, mostly by looking at this person. Remember, this is a last resort to be used only when all your efforts at probing have failed. Be careful because people living in harsh rural conditions could look much older than they really are.

Primary and secondary occupation (C8 and C9): Primary occupation is defined as the income generating activity that generally constitutes the greater amount of income. Secondary occupation is the income generating activity next to the primary occupation.

1.5.18 MODULE D: HOUSEHOLD ECONOMIC SECURITY

This module focuses on a variety of issues around household economy with the goal of gaining an understanding about the socioeconomic status of the households and the resources available to the household. Household head is the respondent for module D. Most of the questions for this module are for past 12 months recall. If the survey administers in January 2015, then January to December 2014 should be counted as "past 12 months".

Migrate out for employment (D1): You should be careful about the information on migration. This migration is only for employment, not anything else.

Sell labor in advance (D2): Any household member takes cash or kind in off-season or hard time with conditional that he/she will compensate by rendering labor in suitable time.

Non-formal sources (D3): The non-formal sources include moneylenders, friends, relatives, etc.

How many rooms in the household (D7): Number of rooms for living – this includes bedrooms, common areas, cooking area etc. If the respondent has more than one house, ask them to describe their *preferred* house. Count the number of rooms in the household that they usually live.

Ownership and sales of assets: ownership means the household currently has the listed assets. Sales in last 12 months means, any of the listed assets sold in last 12 months. It is not necessary that they have own these assets currently. They might have those assets in last 12 months but currently they do not have.

Please enter area of land (in decimals) for each of the following categories. If none of the particular land is owned, enter '0'.

Own homestead land (D9A): this is the amount of land that the dwelling structure is located on *and* the household *owns*.

Own agricultural land (D19B): Amount of total agricultural land (in use and fallow) that the household *owns*.

Land lease in: this is the amount of land (any use) that the household leases from the land owner.

Land lease out: this is the amount of land (any use) that the household *owns* but leases out to another individual.

Mortgage in: this is the amount of land (any use) that the household currently has under mortgage, that is, they are in the process of buying the land but do not completely own it.

Mortgage out: this is the amount of land (any use) that the household is currently selling under mortgage, that is, they are in the process of selling the land to another individual.

Haor (extended marsh)/Bil: low-lying depression that is inundated for part of the year – technically government land and may be irrelevant for Khulna district.

Pond/ditch: this is the area of land dedicated for use as a fishing pond or ditch that the household own.

Other type of land: Any other type of land that the household currently own.

Household Income: Income is defined as cash income for all household members in a household. Income is a very sensitive topic, people do not like to disclose. Ask the income related questions to the household head (if possible). Make sure that the interview is in a place where respondents can speak without being overheard by other people. On the Tablet, the questionnaire will cycle through these questions for each income earner. The first question will ask which of the following activities did you make money from in the last year? Depending on their response the Tablet will ask D13_1 (#of months) and D13_2 (monthly income) for each income activity the individual engaged in.

Household Income from Remittance (D18A): Enter the amount, in Taka, that all household members combined received in remittances in the **12 months**. Remittances are cash received by the household from a relative or friend that lives outside the household (in or outside of the country). If the household has trouble estimating for the last 12 months, ask them how many times in the last 12 months they have received any money and to provide an approximation of the typical amount received. If no remittances were received, enter "0".

Sales of agricultural crops (D18E): Enter the total household income from agricultural crop sales in the last **12 months**. Probe by asking how much the household approximately earned for each harvest they have sold in the past 12 months and then sum up the total. If no crop sales in the last 12 months, enter "0".

Household spent on agricultural inputs (D18F): Enter the total amount that the household spent on agricultural production in the last **12 months**. Probe by asking how much the household spent approximately for each harvest on seed, fertilizer, equipment or other inputs in the past 12 months and then sum up the total. If no investment in agriculture, enter 0. Skip question D18F, if there is no income from sale of agricultural production in last 12 months (D18E is 0). There might have some expenditure on agricultural inputs in last year, but did not have any income from the sale of agricultural production due to loss of crops or small amount of production or any natural calamity. In that case, skip D18F too.

Sales of animals or animal products (D18G): Enter the total household income from the sales animals (including cattle, poultry and fish) and/or animal products (milk, egg, fingerlings etc.) in the last **12 months**. Probe by asking how much the household approximately earned for each animal or animal products that they have sold in the past 12 months and then sum up the total. If no sales animals or animal products in the last 12 months, enter "0".

Household spent for inputs to raise animals (D18H): Enter the total amount that the household spent on animal or animal product production in the last **12 months**. Probe by asking how much the household spent approximately for each animal or product on feedings, veterinary services, buying animals or fingerlings, constructing animal shed, transportation, labor cost or other inputs in the past 12 months and then sum up the total. If no investment in animal/animal product, enter 0. Skip question D18H, if there is no income from sale of animal or animal products in last 12 months (D18G is 0). There might have some expenditure on inputs for animal raising in last year, but did not have any income from

the sale of animal/animal product due to loss of livestock or small amount of production or damage of animal products or any natural calamity. In that case, skip D18F too.

Household Loans (D20): Record **all** currently outstanding loans. This will require additional probing to make sure that all loans the household has are accounted for. This loan should be counted for all formal and informal sources by any of the household members. Someone outside of the household (parents, in-laws or friends) can take loan from a formal source but household member may borrow that money from their relative/friend. In that case, the sources (D22) should be relative/friends for the household member who borrowed money. Others information (D21 and D23) should be the corresponding household member. There are five rows to record for five loans. If one household member has three outstanding loans, then use three different rows for that individual household member.

Total amount borrowed (D24): Total amount of loan in Taka that they received initially (principal amount borrowed), not the amount that includes interest.

Amount of loan still outstanding (D25): Record the total amount **still owed** on the loan. This is **not** the amount paid per month/week. This is the remaining principal amount after paying certain installments that the household member will have to pay. In some cases, outstanding amount might be much larger than the initial amount due to fail some installments. In that case, count whatever the outstanding amount still owed on the loan. There is a passbook/card for the loan that has been taken from the formal source and these figures can be obtained from there easily.

Rate of interest paid/agreed upon (%): Usually, the interest rate can be obtained from the passbook/card if the source of loan is formal. Even, formal source or informal source if the interest rate is unknown, then calculate manually using the following procedure:

Total amount of loan received (A) = TK. 10,000
Weekly installment (B) = TK. 250
Number of total installment (C) = 46

Total amount will have pay (D) = B X C = 250 X 46 = TK. 11500
Additional amount that HH member will have to pay E = D – A = TK. 11500 – TK. 10,000 = TK. 1,500
Interest rate is (I) = (E ÷ A) X 100 = (1500 ÷ 10,000) X 100 = 15%

In Table do not enter the percent symbol (%) for interest rate, just enter the number. For example, if the interest rate is 15%, then enter 15.

Household Savings (D27): Record **all** current savings that the household have. This savings can be both to formal and informal sources, but, savings that are quantifiable. In the hard copy of the questionnaire, there are spaces for collecting information for three savings. In Tablets, it will be possible to collect information for 5 savings and it will come one after another if the household has more than one savings.

1.5.19 MODULE E: ACCESS TO SOCIAL SERVICES AND COMMON PROPERTY RESOURCES

In Module E, collect information about the participation/access to services of any household member in social, community, government or any non-government organizations. The participation also includes natural resources and community common properties.

1.5.20 MODULE F: DISASTER RISK MANAGEMENT

The natural disasters that the household experienced in the last 12 months (F1): This disaster related information is for last 12 months that the household already experienced, not their knowledge level

question. The answer of this question can be more than one. Record all responses that respondents tell. Do not read the responses. If the respondent does not know, select "Don't know" option. This answer cannot be selected with any other options.

Most recent (in last 4 years) natural disaster that the household experienced (F2): This is a single response and disaster can be experienced within last 12 months or more. Count the disaster that they have experienced in last 4 years and the most recent one. Here "experienced" means disaster that was devastating and there are some effects. If the respondent does not know, select "Don't know". This answer cannot be selected with any other options.

1.5.21 MODULE G: AGRICULTURAL PRODUCTION, FISHERIES AND LIVESTOCK REARING

Crops varieties (G2): Following are the definition and brand of three rice varieties:

- **Rice (HYV) - Ufshi:** This variety of rice is called "High Yielding Variety". In Bengali it is called "Ufshi - **উফসি**". There are many local name of this rice variety, some of them are: BR1 (Chandina), BR2 (Mala), BR3 (Biplob), BR4 (Brrisail), BR5 (Dulabhog), BR6, BR7 (BRRI Balam), BR8 (Asha), BR9 (Sufala), BR10 (Progati), BR11 (Mukta), BR12 (Moyna), BR14 (Gazi), BR15 (Mohini), BR16 (Shahiblam), BR17 (Hashi), BR18 (Shahjalal), BR19 (Mongol), BR20 (Nizami), BR21 (Niamot), BR22 (Kiron), BR23 (Dishari), BR24 (Rahmat), BR25 (Nayapajam), BR26 (Srabani), BRRI dhan27, BRRI dhan28, BRRI dhan29, BRRI dhan30, BRRI dhan31, BRRI dhan32, BRRI dhan33, BRRI dhan34, BRRI dhan35, BRRI dhan36, BRRI dhan37, BRRI dhan38, BRRI dhan39, BRRI dhan40, BRRI dhan41, BRRI dhan42, BRRI dhan43, BRRI dhan44, BRRI dhan45, BRRI dhan46, BRRI dhan47, BRRI dhan48, BRRI dhan49, BRRI dhan50 (Banglamoti), BRRI dhan51, BRRI dhan52, BRRI dhan53, BRRI dhan54
- **Rice (LIV):** This variety of rice is called "Locally Improved Variety". Some of the names of the LIV rice are: IR 64, Narica, Sookha, Pariza, Razedra Sarna, Rangit, Guti Sarna, Sarna, Minikit, Sarna 5.
- **Rice (Local):** This variety of rice is varieties are available locally. Some of the names of the local varieties are: Zira.

1.5.22 MODULE H: HOUSEHOLD FOOD SECURITY

Questions H1 - H15: These questions need to be asked to the person who is responsible for preparing food in the household (usually an adult female). If this person is not available at the interview, inquire whether the person can be reached later on that day or not possible to meet her/him. If it is possible to meet on that day, return to the household to complete this module.

Question H1 – H15: Read each of the food items one by one and ask the type of foods that she/he or anyone else in the household ate yesterday during the day or at night. Include all foods and snacks, including the foods eaten at the household or somewhere else (e.g., other homes, street stalls, given by employer).

1.5.23 MODULE I: WATER AND SANITATION

This module is a combination of both directly asking questions to the respondent and observational. You must observe latrine and sanitation facilities to answer latrine use and hygiene related questions from I7 to I16. If the respondent is unwilling to show the latrine or sanitation facilities, skip these questions. If the respondent is willing and able to show the latrine, record whether it is functioning, in use, clean, and has an unbroken water seal (if applicable).

1.5.24 MODULE J: INFORMATION ON WOMEN'S EMPOWERMENT

Ask questions in Module J to an adult married woman (18+ years old) member of the household in absence of the male household members. To help find a woman, see circled line numbers from column C7 of household roster. The preferred respondent is the female head of household or spouse of the male head of household.

1.5.25 MODULE K-Q: INFORMATION ON CHILDREN 0-23 MONTHS OLD AND THEIR MOTHERS

Modules K-Q is for all children aged 0-23 months in the household and their caregivers. Data for each caregiver should be entered along with data for their corresponding child. If there are multiple caregivers of children 0-23 months in the household, the TABLET will cycle through all of the questions (caregiver and child level) the appropriate number of times for particular questions. If a caregiver has more than one child aged 0-23 months, the TABLET will cycle through the child level questions the appropriate number of times. Others instructions are in-built to the questionnaire.

1.5.26 MODULE R: HEIGHT AND WEIGHT OF CHILD 0-56 MONTHS AND MOTHER

Get permission of the respondent to measure her and her child's height and weight

The key indicators for monitoring the nutritional status of a child are under-weight (weight for age), stunting (height for age) and wasting (weight for height). These can be measured by obtaining the height or length and weight of the child along with the sex of the child and age in months.

Similarly, mothers nutritional status can be measured by calculating the indicator Body Mass Index (BMI). Mother's weight and height is necessary to calculate BMI.

Each team will be provided with two weighing scales (Uni-Scale) and two height measuring boards (Shorr board) and the anthropometric data collector will be responsible for measuring the mother and children with the help of enumerator. Since children under 2 years of age will be measured lying down (length) and older children will be measured standing up (height), measuring boards provided should be adaptable to both situations. Measure height and weight for all children 0 to 59 months of age who are living in the same household. Height and weight should also be measured for all corresponding mothers.

Child's correct age is very important to calculate the anthropometric indicators. So the anthropometric measurer will have go for a comprehensive age verification process. Verify correct age by examining EPI card/birth certificate or any other reliable document. Use some instant technique, such as touching ear by rounding the other side hand over the head. If a child can touch ear in this way, the child is over 5 years.

Sample identification

NO.	QUESTIONS	CODING CATEGORIES		SKIP
A1	Date of interview	☐☐-☐☐-☐☐☐☐ Day Month Year		
A2	Team ID	☐☐		
A3	Household Enumerator ID	☐☐		
A4	Anthro Measurer ID	☐☐		
		Name	**Code**	
A5	Upazila		☐☐	
A6	Union		☐☐	
A7	Village		☐☐	
A8	Household		☐☐	

The anthropometric measurer will use separate Tablets other than the enumerator to enter anthropometric information. So they will have to fill-up the "Sample identification" part before going to start entering child's and mother's weight and height. The information in the sample identification table should be same as in the enumerator's tablet.

The Tablet program will repeat the anthropometric data table for multiple number of children U5 and mothers.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
R1a	What is the date of Birth of child?	Day ..... ☐☐ Month ..... ☐☐ Year ..... ☐☐☐☐	
	A. **IF THE CHILD WAS BORN IN JANUARY 2012 OR LATER, HE/SHE IS 0-23 MONTHS OF AGE. IN THAT CASE, MEASURE THE CHILD'S LENGTH BY LYING DOWN.** B. **IF THE CHILD WAS BORN IN DECEMBER 2011 OR EARLIER, HE/SHE IS 24 MONTHS OF AGE OR OLDER. IN THAT CASE MEASURE HEIGHT BY STANDING.**		
R1b	Line number of the child and mother from module C	A. Child..... ☐☐ B. Mother..... ☐☐	
R2	Sex of the child?	Boy ..... 1 Girl..... 2	
R3	Height or length of the child (in centimeters)	☐☐☐.☐ cm	
R3a	Height or length was measured by	Standing ..... 1 Lying down 2	
R4	Child's weight (in kg)	☐☐.☐ kg	
R5	Mother's weight	☐☐.☐ kg	
R6	Mother's height	☐☐☐.☐ cm	
R7	Date measured/weighed	☐☐-☐☐-☐☐☐☐ dd mm yyyy	
R8	Results of the anthropometric measurement	Child was measured..... 1 Child was sick ..... 2 Child was not present ..... 3 Child refused ..... 4 Mother refused..... 5 Other refused..... 6	
R9	Is there any child 0-59 months in the household?	Yes..... 1 No..... 2	1→R1a

A. **Household Enumerator ID (A3):** The anthropometric measurer should record the household enumerator ID of the enumerator conducting the household survey. The household survey enumerators will leave a completed worksheet containing the household roster of children under 5, including household identification information with the survey respondent at the completion of the household interview. This worksheet will have the household enumerator ID. At times the anthropometric survey will be conducted concurrently with the household survey, in which case, the

anthropometric enumerator can query the enumerator conducting the household survey directly, confirming the enumerator ID (and other information) matches the worksheet.

B. **Anthro Measurer ID (A4):** The anthropometric measurer will have a separate ID and different from household enumerator ID.

C. **HH Code (A8):** Enter the unique household code from the map provided by the team supervisor. Confirm that the household code matches the code from the roster worksheet completed by the household survey enumerator. It is extremely important to record this code correctly, as it is the means in which the anthropometric data can be linked to the household survey data.

D. **Weight (kg) (R4 and R5):** Make sure that the weights of the child and mother are recorded in kilogram with one decimal points maximum.

E. **Height (cm) (R3 and R6):** Make sure that the heights or length of child and mother are recorded in centimeters with one decimal point maximum.

F. **Assessing the accuracy of the measurements:** There are some techniques of assessing the accuracy of the measurement. When taking more than one height or weight measurement on the same person, the two measurements can be averaged. If they are vastly different from each other, the measurements should be disregarded and the measuring should start again.

Largest acceptable differences between repeated measurements[2]

Anthropometric measurement	Largest acceptable difference
Weight	0.5 kg
Height	1.0 cm
MUAC	0.5 cm

G. **Calibration of weight scale**: This is important that weight scales are accurate and calibrated to 00.0. This is supervisor's responsibility to ensure that weight scales are calibrated and show accurate results every day before starting the data collection. Following are the steps to calibrate the weight scale:

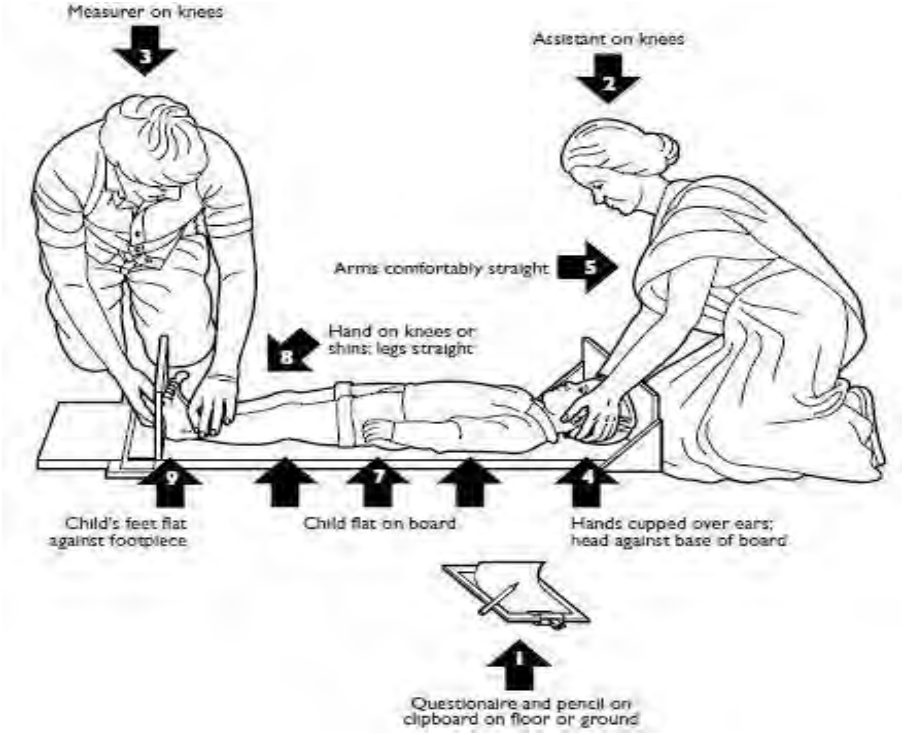
- Put the weight scale on a flat and hard space. Observe the readings and see if it is showing "0.00". Calibrate to "0.00" manually using the adjustment nob.
- Put a 10kg weight stone on the weight scale. The scale provides accurate result if the display shows "10.00".
- Replace the weight scale if it does not show "10.00".
- Al least once in a week, calibrate the weight scale using 50kg weight stone from the nearest market. This weight scale will be used both for mother and child. Sometimes it will not show any difference if we use 10kg. But in the case of 50kg or more it may show big difference.

H. **Measurement of length for children between 0 and 23 months (lying down length measurement):** Enumerators should fully explain this process to their assistant if they are not already familiar with the techniques. To complete this measurement:[40]

1. ***The Measurer or assistant*:** Place the measuring board on a hard flat surface.
2. ***Assistant*:** Kneel with both knees behind the base of the board.

[40] Bruce Cogill, FANTA Anthropometric Indicators Measurement Guide, March 2003.

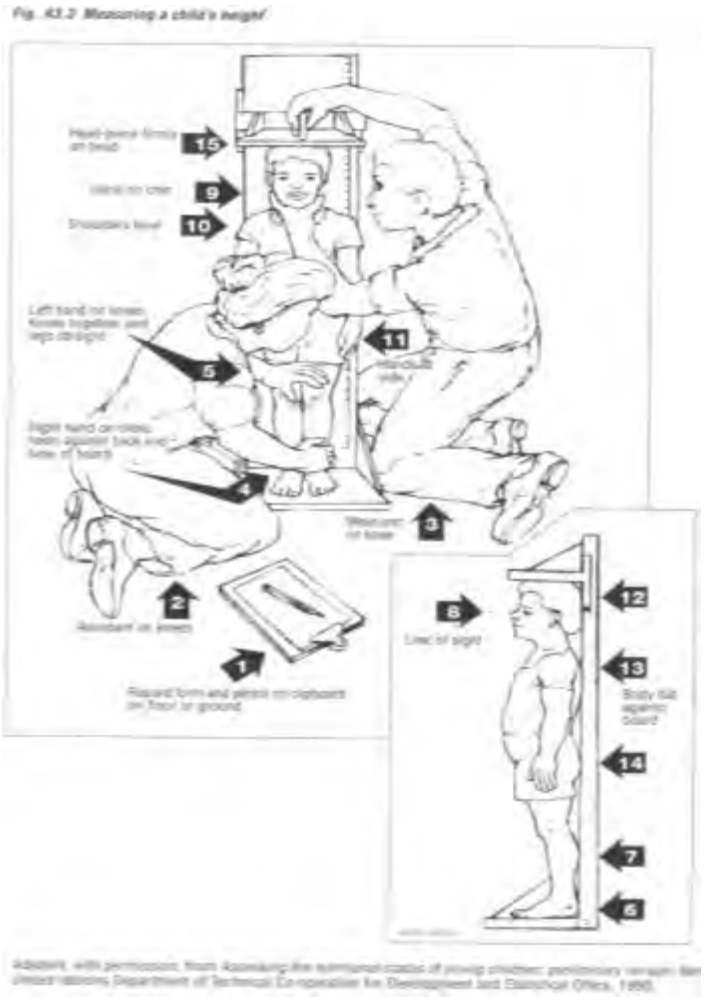
3. ***Measurer:*** Kneel on the righ side of the child so that you can hold the foot piece with your right hand (Arrow 3).
4. ***Measurer and assistant:*** With the mother's help, lay the child on the board by supporting the back of the child's head with one hand and the trunk of the body with the other hand. Gradually lower the child onto the board.
5. ***Measurer or assistant:*** Ask the mother to kneel close on the opposite side of the board facing the measurer as this will help to keep the child calm
6. ***Assistant:*** Cup hands over the child's ear (Arrow 4). With your arms comfortably straight (Arrow 5), place the child's head against the base of the board so that the child is looking straight up. The child's line of sight should be perpendicular to the ground (Arrow 6). Your head should be straight over the child's head. Look directly into the child's eyes.
7. ***Measurer:*** Make sur ethe child is lying flat and in the center of the board (Arrows 7). Place your left hand on the child's shins (above the ankles) or on the knees (Arrow 8). Press them firmly against the board. With your right hand place the foot piece firmly against the child's heels (arrow 9).
8. ***Measurer and assistant:*** Check the child's position (Arrows 1-9). Repeat any steps if necessary.
9. ***Measurer:*** When the chil's position is correct, read and call out the measurment to the nearest 0.1 cm. Remove the foot piece and release your left hand from the child's shins or knees.
10. ***Assistant:*** Immediately release the child's head, record the measurement and show it to the measurer for



verification (if the measurer did not write the measurment).

11. ***Measurer:*** Check the recorded measurment on the questionnaire for accuracy and legibility.

I. **Height of children between 24 and 59 months (standing up):** Enumerators should fully explain this process to their assistant if they are not already familiar with the techniques. To complete this measurement[41]:



1. ***Measurer or assistant*:** Place the measuring board on a hard flat surface against a wall, table, tree, staircase, etc. Make sure the board is not moving.
2. ***Measurer or assistant:*** Ask the mother to remove the child's shoes and unbraid any hair that would interfere with the height measurement. Ask her to walk the child to the board and to kneel in front of the child.
3. ***Assistant:*** Place the questionnaire and pencil on the ground (Arrow 1). Kneel with both knees on the right side of the child (Arrow 2).
4. ***Measurer:*** Kneel on your right knee on the child's left side (Arrow 3). This will give you maximum mobility.
5. ***Assistant:*** Place the child's feet flat and together in the center of and against the back and base of the board/wall. Place your right hand just above the child's ankles on the shins (Arrow 4), your left hand on the child's knees (Arrow 5) and push against the board/wall. Make sure the child's legs are straight and the heels and calves are against the board/wall (Arrows 6 and 7). Tell the measurer when you have completed positioning the feet and legs.
6. ***Measurer:*** Tell the child to look straight ahead at the mother who should stand in front of the child. Make sure the child's line of sight is level with the ground (Arrow 8). Place your open left hand under the child's chin. Gradually close your hand (Arrow 9). Do not cover the child's mouth or ears. Make sure the shoulders are level (Arrow 10), the hands are at the child's side (Arrow 11), and the head, shoulder blades and buttocks are against the board/wall (Arrows 12, 13, and 14). With your right hand, lower the headpiece on top of the child's head. Make sure you push through the child's hair (Arrow 15).
7. ***Measurer and assistant:*** Check the child's position (Arrows 1-15). Repeat any steps as necessary.
8. ***Measurer:*** When the child's position is correct, read and call out the measurement to the nearest 0.1 cm. Remove the headpiece from the child's head and your left hand from the child's chin.

[41] Cogill, FANTA Anthropometric Indicators Measurement Guide, 2003.

9. ***Assistant:*** Immediately record the measurement and show it to the measurer.
10. ***Measurer:*** Check the recorded measurement on the questionnaire for accuracy and legibility. Instruct the assistant to erase and correct any errors.

STANDARDIZATION OF ANTHROPOMETRIC MEASUREMENTS[42]

The training of personnel on specific measurement and recording techniques includes not only theoretical explanations and demonstrations, but also an opportunity to allow participants to practice the measurement techniques, as well as reading and recording the results. This practice is more efficient when a large number of children are available.

Once all personnel have adequately practiced the measurement and recording techniques, and feel comfortable with their performance, standardization exercises can be carried out. Each exercise is performed with a group of 10 children whose ages fall within the pre-established range for the study. A sequential identification number is assigned to both children and staff. To conduct the exercises the following are needed:

- Balances/scales and height boards;
- Pens; and
- Sufficient Anthropometric Standardization Forms 1 and 2, to record the exercise number, name and number of the measurer, date on which the exercise is conducted, and a sequential listing of children with their name, age and identification number.

Measurement and Recording

Before carrying out the exercise, the supervisor carefully weight and measure each child and records the results without any of the trainees seeing the results. For each exercise, a group of up to 10 measurers will conduct the measurements in a pre-determined order. Each child will remain at a fixed location. The distance between each child should be big enough to prevent measurers seeing/ hearing each other's results.

At the beginning of an exercise, each measurer and assistant is paired with a child. Once the children and the measurers have been positioned with their respective materials and instruments, the supervisors should instruct the measurers to begin the measurements following the pre-established sequence. The measurer carefully conducts the measurements and clearly records the results on the anthropometric standardization form (MY MEASURE column) next to the child's identification number. The measurers remain with the child until the supervisor instructs them to move. Once results are recorded, corrections are not allowed. When all the measurers have conducted their measurements, the supervisor should instruct them to move to next child following the numerical order and requests that they wait for instructions to begin the measurement. This process is repeated until all children have been weighed and measured by all the measurers.

Use the same equipment to measure each child's weight and height/length. Measurers and assistants should rotate to conduct the measurement, but the equipment remains stationed next to each child. Only one pair of measurers should be with a child at any one time. Talking between measurer-pairs during this exercise is not allowed. The supervisor should take advantage of the standardization exercises to systematically observe each measurer's performance using the Measurement Techniques Observation Form. This form contains a list of the most important steps of each measurement technique that allows the supervisor to record if each step was completed appropriately, and to later discuss the results of these observations with the staff.

Anthropometric Standardization Form

[42] Cogill, FANTA Anthropometric Indicators Measurement Guide, 2003: detail procedure is given in Annex-6.

Form-1: Weight

Exercise number : ☐☐

Name of measurer : _____

Measurer's code : ☐☐

Date : ☐☐-☐☐-☐☐☐☐

Child's Name	Child's age in months	Child No.	Child's weight (kg) by measurer	Child's Standard weight (kg)	Difference	
					From standard weight (kg)	(+/-)
	☐☐	1	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	2	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	3	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	4	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	5	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	6	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	7	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	8	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	9	☐☐.☐	☐☐.☐	☐.☐☐	
	☐☐	10	☐☐.☐	☐☐.☐	☐.☐☐	

1. **Total number large differences** (0.3 Kg or more) ☐☐
2. **Total number medium differences** (0.2 Kg) ☐☐
3. **Total number of small differences** (0.0 or 0.1 Kg) ☐☐

Signature of the Measurer: _____

Anthropometric Standardization Form

Form-2: Height

Exercise number : ☐☐

Name of measurer : _____

Measurer's code : ☐☐

Date : ☐☐-☐☐-☐☐☐☐

Child's Name	Child's age in months	Child No.	Child's Height/ Length (CM) by measurer	Height/ Length measured Standing=1, Lying=2	Child's Standard Height/Length (CM)	Difference	
						From standard Height/Length (CM)	(+/-)
	☐☐	1	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	2	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	3	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	4	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	5	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	6	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	7	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	8	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	9	☐☐.☐	☐	☐☐.☐	☐.☐☐	
	☐☐	10	☐☐.☐	☐	☐☐.☐	☐.☐☐	

4. **Total number large differences** (1.0 cm or more) ☐☐
5. **Total number medium differences** (0.6 – 0.9 cm) ☐☐
6. **Total number of small differences** (0.0 - 0.5 cm) ☐☐

Signature of the Measurer: _____

1.5.27

1.5.28 INTERVIEW RESULT

1. **Completed Survey:** Survey successfully completed
2. **Selected Household has no (eligible) person at home:** This implies the enumerator will make a return visit to complete this questionnaire, but should be identified in the pre-screening questions.
3. **Selected household could not be located or there is no respondent at the household:** This is also selected when a respondent house is not located or there is no eligible respondent at the HH to the survey
4. **Refused:** If the respondent decides not to, or to no-longer, participate in the survey.

After completing the interview: Ask the respondent(s) if they have any questions. If yes, answer them politely but without raising expectations or making promises. The interviewer should also check and ensure that all the questions have been answered before leaving. Finally, say thanks to the respondents and appreciate for their valuable time.

ANNEX-6: TEAM SUPERVISOR'S FIELD SURVEY MANUAL

SUPERVISOR ROLES AND RESPONSIBILITIES

ield supervisors have an important role in survey management in the field. They are the primary links Fbetween the survey coordinator and the enumerators. As such, the supervisor is responsible for ensuring both the progress and quality of fieldwork. The responsibilities of the Field Supervisor include:

- Preparation for fieldwork, including provision of logistical support for the team
- Oversee the data collection process in the field
- Organize and supervise fieldwork
- Ensure the quality and accuracy of the data
- Transmit finalized data to TANGO.

These instructions provide the information needed by field supervisors to carry out their duties. The field supervisor should study these instructions carefully during their training. They should also study the Enumerators Field Manual, since it is necessary to thoroughly understand the questionnaire and the procedures for completing it. Field supervisors should continue to refer to these instructions throughout the fieldwork period.

It is vital that all field supervisors have a complete and in-depth understanding of the questionnaire in both paper and electronic form, on the Tablet.

The field supervisor is the senior member of the field team. He/she is responsible for the well-being and safety of team members, as well as the completion of the assigned workload and the maintenance of data quality. The field supervisor receives his/her assignments from, and reports to the fieldwork manager.

FIELDWORK PROCEDURES

The supervisor is responsible for:

Fieldwork planning/logistics

- Plan (with PROSHAR staff) fieldwork schedules, locations and logistics

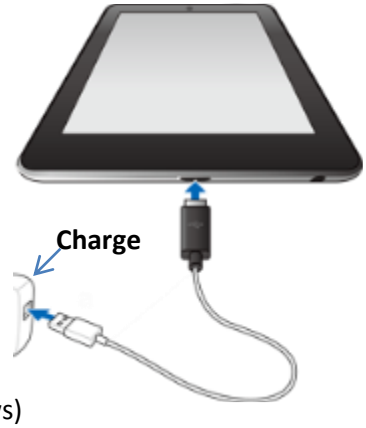
- Ensure all sampled locations are identified and data collection is completed in a timely manner

Data quality:

- Ensure enumerators make every attempt to interview all households assigned to them
- Ensure enumerators are implementing the survey correctly

Tablet care

- Inspect tablets daily for damage
- Charge tablets each evening (see image to the right).



Data Management

- Send data regularly to TANGO via the server (as connectivity allows)
    - Connect tablet to Wi-Fi and send all finalized forms
    - If needed copy files to computer and send needed .zip file (see steps in later section)

PROSHAR STAFF CONTACT INFORMATION

PROSHAR CONTACT NAME	ROLE	MOBILE #
		☐☐☐☐☐☐☐☐☐☐
		☐☐☐☐☐☐☐☐☐☐
		☐☐☐☐☐☐☐☐☐☐
		☐☐☐☐☐☐☐☐☐☐
		☐☐☐☐☐☐☐☐☐☐

ENUMERATION TEAM INFORMATION

Enumerator Name	Enumerator Tablet #	Enumerator ID #	Enumerator Mobile #
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐
			☐☐☐☐☐☐☐☐☐☐

SAMPLE PROTOCOL

It is the Supervisors role to ensure the following sampling protocol is strictly followed.

CLUSTER (VILLAGE):

In each cluster, the team will have a list of names to locate and interview. *Every effort should be made to locate and interview every name of the household on the list.*

6. Roughly identify where each sampled household on the list is located on the map.
7. Group names together into groups of 5 household names based on their location in the cluster.
8. Assign a group of names to an enumerator for them to complete interview.

QUALITY CONTROL

Quality control is important in the field. The supervisor must regularly check the quality of the data that is being entered by the enumerators, and ensure that the enumerators are interviewing respondents appropriately. *Each day the supervisor will be required to observe one (1), or a portion of one, interview of each enumerator in their team.* Supervisor observations should not interrupt the interview. The supervisor should quietly sit/stand next to the enumerator – in a place where they can observe what the enumerator is entering on the tablet. If the supervisor observes the enumerator making an error they should *not* interrupt the interview to correct the enumerator. Instead, they should make a note of the error, and discuss it with the enumerator once the interview is complete.

Each day the supervisor should complete a minimum of one (1) spot check. A spot check involves the following steps:

- Using a blank (paper) survey *(One (1) Blank paper survey should be carried for each cluster)*
    - Go to a household who has been interviewed earlier in the day.
    - Request to speak with the person who responded to the earlier interview.
    - Explain to the respondent that you are "checking" the enumerator's accuracy to ensure the respondent's data was captured correctly. This press will take no longer than 5 minutes.
    - Ask a series of questions from the paper survey to the respondent, taking no longer than 5 minutes. Fill in the responses on the paper survey. The questions should be *purposefully* chosen. Choose questions that the enumerator has had difficulty with in the past, or questions that the supervisor feels the enumerator may be rushing through. Examples of modules to be checked are: Module C (number of persons listed in the household); Module G (Agricultural production, fisheries and livestock rearing); Module O (Feeding of children 0-23 months).
    - That evening, prior to submitting the data to the server, check the responses collected on the paper survey to the responses collected by the enumerator on the tablet.

RETURN VISITS

Selected respondents (from beneficiary lists) may not be available during an enumeration team's first visit to the respondent. In these cases, the enumeration team will plan a time with the respondent to return to interview the missing respondent. The enumeration team will return to the respondent if it is logistically possible, meaning the missing respondent member will be available when the enumeration team is still in the cluster and can return to the house. If eligible respondents are not expected to be available when the survey team is working in that cluster, it will not be possible to complete the interviews for that respondent. The enumeration team will note this on the respondent record on the tablet and on the control sheet.

FIELD CHECK LIST

The below is the checklist for fieldwork activities

Item #	Item(s)	Number required	Total
1.	Enumerator Tablets	1 per enumerator	5 + 2 Anthro = 7
2.	Spare Tablets	1 (total)	1 + 1 supervisor =2
3.	Small Bags (for tablets)	1 per tablet	9
4.	Tablet Charger	1 per tablet	9
5.	Notebooks	1 per enumerator	9
6	Enumerator Names, Mobile numbers	TBD	
7.	Respondent Lists (Sampled Household Names)	1 Per cluster	
8.	PROSHAR Contact names and mobile numbers	1 List	
9.	Power Strips for Charging Tablets	1 (total)	

UPLOADING DATA TO SERVER

The easiest way to upload data to the TANGO server is via Wi-Fi. This is the preferred method.

REVIEW ENUMERATOR SAVED FORMS

Enumerators have been instructed to mark forms as final upon fully completing an interview. If the interview is not complete, they are to save it and not mark it as final.

- At this time, Supervisors should also compare the "Spot Check" results from their paper survey to the results on the enumerator's tablet. If there are any inconsistencies the supervisor should discuss these with the enumerator. If the inconsistencies are serious, the enumerator will be required to return to the household to collect the data again. If this is not logistically possible, the household should be noted (Cluster, Enumerator #, Date, and Respondent Number) so the data can be removed.

SENDING DATA VIA WI-FI

- Connect the tablet to the Wi-Fi.
    - This will send all completed forms to the TANGO server.
    - Email towfique@tangointernational.com when files have been uploaded, and for which enumerators and locations.
- If data does not upload:
    - Open ODK
    - Select "Send Finalized Form"
    - Select "Toggle all"
    - Select "Send Selected"

SENDING DATA WITHOUT WI-FI

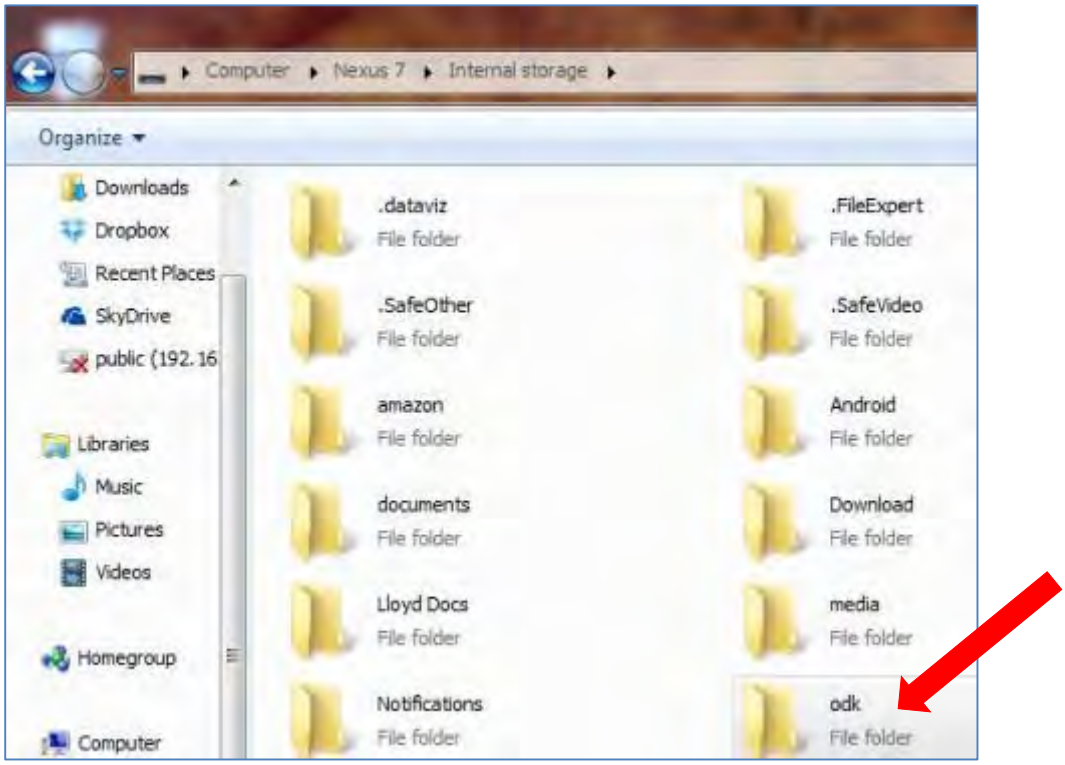
Following the below steps in a situation where Wi-Fi is not available to upload data. This method send the data from a computer with an internet connection (i.e. via a dongle). Do not do this if you have Wi-Fi; prior to using this method speak with the survey manager.

1. Turn off all tablets and turn them back on.
    a. **This is vital to send all data.**
2. Create a folder on the desktop titled
    a. PROSHAR_DATA_DAY.MONTH.YEAR (e.g. PROSHAR_DATA_15.11.2014)
3. In this folder create 1 folder for each enumerator (see image below)

a. Enumerator 1
b. Enumerator 2
c. Enumerator 3
d. Enumerator 4
e. Enumerator 5
f. Anthro measurer 6
g. Anthro measurer 7

[FOR EACH TABLET COMPLETE STEPS 4 THROUGH 6]

4. Plug the tablet into the computer (see image to below).
5. Navigate to
    a. Computer\Nexus 7\Internal storage



6. Copy ***(DO NOT CUT)*** the odk folder and paste into the enumerator's folder
    a. \Desktop\PROSHAR_DATA_Day.Month.Year\Enumerator#

[DO STEPS 7 THROUGH 12 AFTER STEPS 4 THROUGH 6 HAE BEEN COMPLETED FOR EACH TABLET]

7. Right click on the folder "PROSHAR_DATA_Day.Month.Year" and select "Send to .zip file" Email "PROSHAR_DATA_Day.Month.Year.zip" to: towfique@tangointernational.com

TROUBLESHOOTING

Contacts:

PROSHAR: Hindole Bakhte
TANGO: Towfique Aziz: towfique@tangointernational.com , +1-647-779-4059

PROSHAR QFPE Questionnaire

Population Based Household Survey 2015

January 2015

ACDI/VOCA – Bangladesh

TANGO International Inc.

(Centre for Research and Consultancy)

MODULE A. INTERVIEW CONSENT AND SAMPLE IDENTIFICATION

Introduction and purpose of the interview:

- **Hello!** My name is _____ and I am currently working for/with ACDI/VOCA and PCI **PROSHAR** Program on the Final Evaluation Survey.
- We have selected your household by chance in this village for the interview. The purpose of this interview is to obtain information about the Livelihood, Maternal Child Health and Nutrition, Hygienic practices, disaster preparedness and responses. It will help us to understand the status of the HH's livelihood strategies in terms of scio-economic, health other related aspects.
- The survey is voluntary and confidential. You/your family can choose not to take part. We will use the information to prepare reports. ACDI/VOCA and PCI will use this report to assess the progress and achievement of the PROSHAR project activities.
- The interview will take about 90 minutes. Could you please spare some time for the interview?

Please let me know if you have any question on the survey.

[INSTRUCTION TO ENUMERATOR: DO NOT SUGGEST IN ANY WAY THAT HOUSEHOLD ENTITLEMENTS COULD DEPEND ON THE OUTCOME OF THE INTERVIEW, AS THIS WILL PREJUDICE THE ANSWERS.]

QUESTIONS	CODING CATEGORIES	SKIP
May I begin the interview now?	Agreed ..... 1 Not agreed..... 2	→Complete the sample identification table and continue survey. →Complete the sample identification table and go to **END**

Interview starting time: ☐☐ hours ☐☐ minutes

Sample identification and PROSHAR program participation

NO.	QUESTIONS	CODING CATEGORIES	SKIP
A1	Date of interview	☐☐-☐☐-☐☐☐☐ (Day Month Year)	
A2	Team ID	☐☐	
A3	Enumerator ID	☐☐	
		Name	**Code**
A4	Upazila		☐☐
A5	Union		☐☐
A6	Village		☐☐
A7	Household		☐☐

INSTRUCTION: THIS QUESTIONNAIRE IS DIVIDED INTO TWO PARTS:

1. ALL HOUSEHOLDS WILL RESPOND TO **PART I**.
2. ONLY HOUSEHOLDS WITH CHILDREN AGED **0-23 MONTHS** WILL RESPOND TO **PART II.**

PART I. HOUSEHOLD INFORMATION

MODULE B. INFORMATION ON THE RESPONDENT

NO.	QUESTIONS	CODING CATEGORIES	SKIP
B1	Relationship to household head (see codes below)	☐☐	
B2	Cell or house phone number of household head or other adult household member. **[IF NO PHONE NUMBER LEAVE BLANK]**	☐☐☐-☐☐☐☐-☐☐☐☐	
B3	Does the Household Head have any physical/mental disability?	Not disabled ..... 1 Physically disabled (temporary) ..... 2 Physically disabled (permanent) ..... 3 Mentally disabled 4	

NO.	QUESTIONS	CODING CATEGORIES	SKIP

CODES FOR B1: RELATIONSHIP OF THE RESPONDENT TO THE HOUSEHOLD HEAD

1 = Household head
2 = Wife of household head
3 = Husband of household head
4 = Son
5 = Daughter
6 = Father
7= Mother
8= Daughter in law/son in law
9= Brother
10=Sister
11=Father/mother in law
12= Nephew/niece
13= Grandfather/Grandmother
14= Grandson/Granddaughter
15=Sister-in-law/Brother-in-law
16= Brother's wife,
17= others (e.g. servant)

MODULE C. BASIC INFORMATION ON HOUSEHOLD MEMBERS

Please tell the name of persons who usually live in your household (A household is a person or group of persons that usually lives and eat together and family members who lives outside visit the HH at least in every six months), starting with the head of the household.

Line Number	Name of HH member	Relationship of [NAME] to the HH head	Is [NAME] male or female? Male=1, Female=2	How old is? [NAME] IF AGE LESS THAN 1 YEAR WRITE '00'	IF AGE IS 6 YEARS OR MORE			
					Educational Status of [NAME]	Marital Status of [NAME]	Primary occupation of [NAME] [SEE CODES BELOW]	Secondary occupation of [NAME] [SEE CODES BELOW]
C1	C2	C3	C4	C5	C6	C7	C8	C9
01								
02								
03								
04								
05								
06								
07								
08								
09								
10								
11								
12								
13								
14								
15								

CODES FOR C3:
Relationship of the household members to the household head

CODES FOR C6:
Educational status of household members

CODES FOR C7:
Marital Status of Household Members

CODES FOR C8 AND C9:
Primary/secondary ocupation of household members

1 = Household head
2 = Wife of household head
3 = Husband of household head
4 = Son
5 = Daughter
6 = Father
7 = Mother
8 = Daughter in law/son in law
9 = Brother
10 = Sister
11 = Father/mother in law
12 = Nephew/niece
13 = Grandfather/Grandmother
14 = Grandson/Granddaughter
15 =Sister-in-law/Brother-in-law
16 = Brother's wife,
17 = others (e.g. servant)

0 = No class
1 = Class 1
2 = Class 2
3 = Class 3
4 = Class 4
5 = Class 5
6 = Class 6
7 = Class 7
8 = Class 8
9 = Class 9
10 = SSC pass
11 = HSC pass
12 = Graduate
13 = Masters

1 = Married
2 = Single
3 = Divorced/ separated
4 =Widow

1 = Farming (own land)
2 = Sharecropper
3 = Agricultural day labor/contract labor
4 = Fishing (own boat)
5 =Fishing labor (someone else's boat)
6 = Fish farming (aquaculture)
7 =Boat roaring
8 = Poultry and livestock rearing
9 = Rickshaw/van puller
10 = Non-agricultural day labor/contract labor
11 = Casual labor
12 = Regular salaried employment
13 = Self employed in business/petty business
14 = Paid "volunteers"
15 = House work (child care, home care)
16 = Servant/ Maid
17 = Student
18 = Beggar
19 = Old/ Disabled
20 = Unemployed
21 = Other
22 = N/A (for secondary occupation)

NO.	QUESTIONS	CODING CATEGORIES	SKIP
C10	Did you receive or currently receiving any assistance from the PROSHAR program?	Yes ..... 1 No 2	2→D1
C11	What assistance did you receive or are currently receiving from the PROSHAR program?	**SO1** A. Training on farm activities (poulty, livestock, aquaculture, crops, vegetables etc.)..... 1 B. Training on off farm activities (Karchupi, Bamboo craft, tailoring etc.) ..... 2 C. Master trainer for capacity building and inputs..... 3 D. Micro grants assistance (Seed, fertilizer, Goat, Duck, Chicken, Feed, Fingerlings, housing materials, Sewing mechine, Karchupi Frame, Cloth etc.)..... 4 **SO2** E. Child health and Nutrition care ..... 5 F. Antenatal care..... 6 G. Lactating mothers care (Post natal care) ..... 7 H. Growth montoring and promotion service.... 8 I. Commodity (wheat, lentil, vegetable oil)..... 9 J. Ready to use Theraputic food (RUTF)..... 10 K. Tippy Tap..... 11 L. Care group meeting..... 12 M. Maternal and child health training ..... 13 **SO3** N. Disaster preparedness training of UDMC/CBDMVG/CPP volunteers..... 14 **FFW/CFW** O. Food for Work (FFW)..... 15 P. Cash for Work (CFW)..... 16	

MODULE D. HOUSEHOLD ECONOMIC SECURITY

[INSTRUCTION: FOR SECTION D USE HEAD OF HOUSEHOLD AS RESPONDENT]

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Indicators of economic distress		
D1	Did any resident household member migrate out of the village for part of the last 12 months to find employment?	Yes .....1 No 2	
D2	Did any resident household member sell labor in advance for part of the last 12 months?	Yes .....1 No 2	
D3	Did any resident household member take out an interest-bearing loan from non-formal sources in the last 12 months?	Yes .....1 No 2	
	Housing characteristics		

NO.	QUESTIONS	CODING CATEGORIES	SKIP
D4	What is the main construction material of the walls of your main house? **[OBSERVE AND CIRCLE CODE NUMBER OF RESPONSE. PROMPT IF NEEDED]**	Brick.....1 C.I. Sheet/wood.....2 Mud wall .....3 Bamboo.....4 Straw/jute stick/leaves .....5 Thatched bamboo/polythene .....6 Other (Specify) 7	
D5	What is the main construction material of the roof of your main house? **[OBSERVE AND CIRCLE CODE NUMBER OF RESPONSE. PROMPT IF NEEDED]**	Concrete.....1 C.I. Sheet/wood.....2 Tiles .....3 Bamboo .....4 Straw/jute stick/leave .....5 Thatched bamboo/polythene .....6 Other (Specify) 7	
D6	What is the main construction material of the floors of your main house? **[OBSERVE AND CIRCLE CODE NUMBER OF RESPONSE. PROMPT IF NEEDED]**	Dirt .....1 Stone/Brick.....2 Wood.....3 Bamboo .....4 Cement.....5 Others (Specify).....6	
D7	How many rooms do you have household members to live in your house?	☐☐ Rooms	

Ownership and sales of assets

NO.	Asset Name	Number currently owned	Sales in last year
	[ASK EACH OF THE ITEMS ONE BY ONE]	How many (_____) does your household own? **[IF DO NOT OWN, WRITE "0"]**	Did you sell any of these kinds of items in the last year?
	Domestic Assets	**D8_1.1**	**D8_1.2**
D8_1	A. Chairs	☐☐	Yes.....1 No.....2 Don't know.....3
	B. Khat	☐☐	
	C. Cupboard	☐☐	
	D. Tables	☐☐	
	E. Show case	☐☐	
	F. Dressing table	☐☐	
	G. Watch	☐☐	
	H. Clock	☐☐	
	I. Lantern	☐☐	
	J. Radio	☐☐	
	K. TV	☐☐	
	L. Cassette player	☐☐	
	M. Electric fan	☐☐	
	N. Mobile Phone	☐☐	
	O. Gold ornaments/jewelry (ana)	☐☐☐	
	P. Silver ornaments/jewelry (ana)	☐☐☐	
	Transport/Agricultural Assets	**D8_2.1**	**D8_2.2**

NO.	Asset Name	Number currently owned	Sales in last year
	[ASK EACH OF THE ITEMS ONE BY ONE]	How many (_____) does your household own? **[IF DO NOT OWN, WRITE "0"]**	Did you sell any of these kinds of items in the last year?
D8_2	A. Boat	☐☐	Yes.....1 No.....2 Don't know.....3
	B. Motorcycle	☐☐	
	C. Rickshaw/van	☐☐	
	D. Bicycle	☐☐	
	E. Shallow / hand tube well	☐☐	
	F. Deep tube well	☐☐	
	G. Power tiller	☐☐	
	H. Paddle thresher	☐☐	
	I. Spray machine	☐☐	
	J. Plough	☐☐	
	K. Fishing net	☐☐	
	L. Pump	☐☐	
	M. Hoe	☐☐	
	N. Axe	☐☐	
	O. Shovel/spade	☐☐	
	P. CNG/Misuk/Votvoti/Nosimon	☐☐	
	Animal Assets	**D8_3.1**	**D8_3.2**
D8_3	A. Cow	☐☐☐	Yes.....1 No.....2 Don't know.....3
	B. Buffalo	☐☐☐	
	C. Goat	☐☐☐	
	D. Sheep	☐☐☐	
	E. Chicken	☐☐☐	
	F. Duck	☐☐☐	
	G. Pigs	☐☐☐	
	H. Pigeon	☐☐☐	
	I. Rabbit	☐☐☐	
	J. Billy goat	☐☐☐	
	K. Koyel	☐☐☐	
	Trees and Plants Now I'm going to ask you about some trees and plants.	**D8_4.1**	**D8_4.2**
D8_4	A. Timber tree	☐☐☐	Yes.....1 No.....2 Don't know.....3
	B. Fruit tree	☐☐☐	
	C. Bamboo	☐☐☐	
	D. Medicinal plants	☐☐☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Land ownership		

NO.	QUESTIONS	CODING CATEGORIES	SKIP
D9	How much of these types of land do your household **own** (in decimals)? **[LIST EACH TYPE ONE-BY-ONE AND RECORD RESPONSE]** A. Own homestead land B. Share cropping-IN C. Share cropping-OUT D. Own agricultural land E. Land lease-IN F. Land lease-OUT G. Mortgage-IN H. Mortgage-OUT I. Haor (extended marsh) J. Pond/ditch K. Other type of land	**Amount of Land (in Decimals)** ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐ ☐☐☐☐.☐	
	Distress sales of assets		
D10	Did anyone in your household sell any assets in the last 12 months in order to be able to purchase food, pay for medicine, pay school fees, or meet any other urgent household need?	Yes.....1 No.....2	2 → D12
D11	How much money did your household get from selling assets for these things?	☐☐☐☐☐ Taka	

Household income

NO.	QUESTIONS	CODING CATEGORIES	SKIP
D12	Did any resident household member bring cash income into the household in the last year?	Yes ..... 1 No 2	2 → D18

	What activities did you make money from in last year? **[PROMPT FOR MORE ACTIVITIES TILL RESPONDENT INDICATES NO MORE]**	Number of months in different activities and (net) income for last 12 months									
		Person 1 Line # from Module C ☐☐		**Person 2** Line # from Module C ☐☐		**Person 3** Line # from Module C ☐☐		**Person 4** Line # from Module C ☐☐		**Person 5** Line # from Module C ☐☐	
		# of months	Monthly Income (Taka)	# of months	Monthly Income (Taka)	# of months	Monthly Income (Taka)	# of months	Monthly Income (Taka)	# of months	Monthly Income (Taka)
		D13_1	**D13_2**	**D14_1**	**D14_2**	**D15_1**	**D15_2**	**D16_1**	**D16_2**	**D17_1**	**D17_2**
A	Farming own land	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
B	Livestock rearing	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
C	Agricultural day labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
D	Agricultural contract labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
E	Non-agricultural day labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
F	Non-agricultural contract labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
G	Casual labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
H	Regular salaried employment	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
I	Self employment in business/service provision	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
J	Petty business	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
K	Business, using hired labor	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
L	Paid “volunteer”	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
M	Transport (including Rickshaw/rickshaw van pulling, motorcycle, auto rickshaw)	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
N	Boatman	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
O	Working as servant/ maid	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
P	Begging	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
Q	Cash-for-work	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
R	Student stipend (including cash value of food received)	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐
S	Others (specify)	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐	☐☐	☐☐☐☐☐

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Other Sources of Income		
	How much income did your household receive income from the following sources in the last year? **[IF NO INCOME, PUT "0"]**		
D18	A. Remittances	☐☐☐☐☐☐☐☐ Taka	
	B. Gifts	☐☐☐☐☐☐☐☐ Taka	
	C. Pensions/retirement fund	☐☐☐☐☐☐☐☐ Taka	
	D. Leases(In/Out)	☐☐☐☐☐☐☐☐ Taka	
	E. Sales of agricultural crops	☐☐☐☐☐☐☐☐ Taka	00→D18H
	F. How much did your household spend on agricultural inputs (e.g., seeds, fertilizer, etc) in the last year?	☐☐☐☐☐☐☐☐ Taka	
	G. Sales of animals or animal products (including cattle, poultry and fish)	☐☐☐☐☐☐☐☐ Taka	00→D19A
	H. How much did your household spend on inputs needed to raise the animals (e.g., feed, veterinary services) in the last year?	☐☐☐☐☐☐☐☐ Taka	
	Remoteness and access to markets		
D19A	Did anyone in your household buy any food to cook in the household in the last year?	Yes .....1 No 2	2→D19C
D19B	How long does it take to walk to a place to buy food?	less than 30 minutes .....1 30 minutes to 1 hour .....2 1 to 2 hours .....3 more than 2 hours 4	
D19C	Some people have their own businesses making things to sell like baskets, rugs or furniture. Does anyone in your household do this?	Yes .....1 No 2	2→D19E
D19D	How long does it take to walk to the place to sell these things?	less than 30 minutes .....1 30 minutes to 1 hour .....2 1 to 2 hours .....3 more than 2 hours .....4 Sell at the household 5	
D19E	Does anyone in your household ever sell agricultural products grown in your household?	Yes .....1 No .....2 Not applicable/do not grow food 3	2,3→ D19I
D19F	How long does it take to walk to the place to sell the agricultural products, for example to a market or to a buyer pick-up location?	less than 30 minutes .....1 30 minutes to 1 hour .....2 1 to 2 hours .....3 more than 2 hours .....4 Sell at the household 5	
D19F_1	Is it a market/certain place/selling and buying collection center/at the household?	Market.....1 Certain place in the village .....2 Selling and buying collection center ...3 Others (specify) .....4 At the household.....5	5→D19I
D19G	What mode of transport does your household use to transport goods to the market/selling points?	By foot .....1 By bicycle .....2 By rickshaw/van .....3 By car/truck 4	1,2,8→D19I

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		By motorcycle .....5 By boat.....6 Other .....7 Not applicable/do not sell goods to market 8	
D19H	HOW MUCH DOES THIS TRANSPORT COST PER TRIP? **[IF USING OWN VEHICLE, INCLUDE COSTS OF FUEL. IF NO ADDITIONAL COST, ENTER '0']**	☐☐☐☐☐ Taka	
D19I	Do you or anybody in your household ever buy inputs for crop production like seeds and fertilizer?	Yes .....1 No 2	2→D20
D19J	How long does it take to walk to the nearest place to buy inputs such as seeds and fertilizer?	less than 30 minutes .....1 30 minutes to 1 hour .....2 1 to 2 hours .....3 more than 2 hours 4	
D19J_1	Is it a market/certain place/selling and buying collection center/at the household?	Market.....1 Certain place in the village .....2 Selling and buying collection points....3 Others (specify) .....4 At the household.....5	
	Household Loans		
D20	Including all household members, how many loans does your household currently have?	☐☐ Loans	00→D27
	Ask details on each of the loans one by one		

Details by Loan

Loan#	Sex of the family member who took out the loan Male=1, Female=2	What was the source of the loan? **[SEE CODE]**	What was the **main** reason for taking out the loan? **[SEE CODE]**	Total amount borrowed (Taka)	Amount of loan still outstanding (Taka)	Rate of interest paid/ agreed upon (%)
	D21	**D22**	**D23**	**D24**	**D25**	**D26**
1	☐	☐☐	☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐.☐
2	☐	☐☐	☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐.☐
3	☐	☐☐	☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐.☐
4	☐	☐☐	☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐.☐
5	☐	☐☐	☐☐	☐☐☐☐☐☐	☐☐☐☐☐☐	☐☐.☐

Codes for D22
1 = Friend/relative
2 = Money lender)
3 = Pawnshop
4 = Mohajan
5 = Bank/formal lending institution
6 = Informal savings group
7 = Neighbor
8 = NGO/CBO
9 = Trader/grocer
10 = Dadon dar

Codes for D23
1 = Purchase agricultural tools
2 = Purchase agricultural inputs
3 = Land purchase
4 = Livestock purchase
5 = Purchase of other productive assets
6 = Purchase of non-productive assets
7 = Consumption (food, clothes, etc.)
8 = Pay for treatment/medicine
9 = Education expenses
10 = Housing/repairing (including housing tax)
12 = Bride price/Dowry
13 = Funeral
14 = Religious event
15 = Loan repayment
16 = Legal dispute/expenses
17 = Migration
18 = Rental of house / shop
19 = Starting small business
20 = Other

NO.	QUESTIONS	CODING CATEGORIES	SKIP
11 = Other	11 = Wedding		

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Household Savings		
D27	Does anyone of your household have any cash savings (money put aside for some future use)?	Yes ..... 1 No 2	 2→E1
Savings #1	**(IF HOUSEHOLD HAS ONLY <u>ONE</u> FORM OF SAVINGS SKIP ADDITIONAL SAVINGS)**		
D28_1	Sex of person saving	Male..... 1 Female..... 2	
D29_1	Main method of saving used	Bank..... 1 Savings Scheme/ Coops ..... 2 Post Offices ..... 3 Home ..... 4 Insurance company ..... 5 Village group (samity)..... 6 NGO group ..... 7 bKASH ..... 8 Other (specify)..... 9	
D30_1	Total amount of Taka in savings	☐☐☐☐☐☐ Taka	
D31_1	Reasons for saving (Multiple response)	A. To buy household goods..... 1 B. To start/help busines ..... 2 C. To buy land/house ..... 3 D. For education/training..... 4 E. For marriage ..... 5 F. To build/repair house ..... 6 G. To earn interest from lending 7 H. Difficult times ..... 8 I. To meet medical expenses .. 9 J. To replace lost assets ..... 10 K. To purchase large asset ..... 11 L. To meet children's needs .. 12 M. Repayment of loan ..... 13 N. Other (specify) 14	
Savings #2	**(IF HOUSEHOLD HAS ONLY <u>TWO</u> FORM OF SAVINGS SKIP ADDITIONAL SAVINGS)**		
D28_2	Sex of person saving	Male..... 1 Female..... 2 All household..... 3	
D29_2	Main method of saving used	Bank..... 1 Savings Scheme/ Coops..... 2 Post Offices..... 3 Home ..... 4 Insurance company ..... 5 Village group (samity)..... 6 NGO group..... 7 bKASH ..... 8 Other (specify)..... 9	
D30_2	Total amount of Taka in savings	☐☐☐☐☐☐ Taka	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
D31_2	Reasons for saving (Multiple response)	A. To buy household goods..... 1 B. To start/help busines ..... 2 C. To buy land/house ..... 3 D. For education/training..... 4 E. For marriage ..... 5 F. To build/repair house ..... 6 G. To earn interest from lending 7 H. Difficult times ..... 8 I. To meet medical expenses .. 9 J. To replace lost assets ..... 10 K. To purchase large asset ..... 11 L. To meet children's needs .. 12 M. Repayment of loan ..... 13 N. Other (specify) 14	
Savings #3	**(IF HOUSEHOLD HAS ONLY THREE FORM OF SAVINGS SKIP ADDITIONAL SAVINGS)**		
D28_3	Sex of person saving	Male..... 1 Female..... 2	
D29_3	Main method of saving used	Bank..... 1 Savings Scheme/ Coops ..... 2 Post Offices ..... 3 Home..... 4 Insurance company ..... 5 Village group (samity)..... 6 NGO group ..... 7 Other (specify)..... 8	
D30_3	Total amount of Taka in savings	☐☐☐☐☐☐ Taka	
D31_3	Reasons for saving (Multiple response)	A. To buy household goods ..... 1 B. To start/help busines ..... 2 C. To buy land/house ..... 3 D. For education/training ..... 4 E. For marriage ..... 5 F. To build/repair house ..... 6 G. To earn interest from lending ..... 7 H. Difficult times ..... 8 I. To meet medical expenses ..... 9 J. To replace lost assets ..... 10 K. To purchase large asset ..... 11 L. To meet children's needs ..... 12 M. Repayment of loan ..... 13 N. Other (specify) 14	

MODULE E. ACCESS TO SOCIAL SERVICES AND COMMON PROPERTY RESOURCES

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Access to and use of social services		
E1	Which of the following services are available in your community?	A. Primary health care services..... 1 B. Family planning services..... 2	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	[READ THE RESPONSES AND CIRCLE ALL CODES THAT THE RESPONDENT MENTIONED]	C. Primary school ..... 3 D. Pre-school ..... 4 E. Social welfare..... 5 F. Union Parishad..... 6 G. Grammo Shalish..... 7 H. Post office ..... 8 I. Emergency shelter during shocks 9 J. Agric extension services..... 10	
E2	Of those services mentioned, which of these services have you or someone in your household used in the last 6 months? **[READ THE RESPONSES AND CIRCLE ALL CODES THAT THE RESPONDENT MENTIONED]**	A. Primary health care services..... 1 B. Family planning services..... 2 C. Primary school ..... 3 D. Pre-school ..... 4 E. Social welfare..... 5 F. Union Parishad..... 6 G. Grammo Shalish..... 7 H. Post office ..... 8 I. Emergency shelter during shocks 9 J. Agric extension services..... 10 K. Did not go or receive services.... 11 L. Not Applicable 12	
E3	Which of the following *government* agencies are active in your community? **[READ THE RESPONSES AND CIRCLE ALL CODES THAT THE RESPONDENT MENTIONED]**	A. Department of Women's Affairs ... 1 B. Department of Agriculture Extension (DAE)..... 2 C. Department of Fisheries (DOF)..... 3 D. Department of Livestock (DOL) ..... 4 E. Government Land Office ..... 5 F. BADC seed department ..... 6 G. Department of Youth Development 7 H. Department of Cooperatives/BRDB8 I. Government Family Planning ..... 9 J. Government Immunization services ..... 10 K. Department of Social Welfare..... 11 L. BARI ..... 12 M. BRRI..... 13 N. Department of Disaster Management ..... 14 O. Don't know/not applicable..... 15	
E4	These government agencies mentioned, which ones have you or someone in your household utilized the services of in the last 6 months. **[READ THE RESPONSES AND CIRCLE ALL CODES THAT THE RESPONDENT MENTIONED]**	A. Department of Women's Affairs . 1 B. Department of Agriculture Extension (DAE) ..... 2 C. Department of Fisheries (DOF).... 3 D. Department of Livestock (DOL) ... 4 E. Government Land Office ..... 5 F. BADC seed department 6	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		G. Department of Youth Development ..... 7 H. Department of Cooperatives/BRDB8 I. Government Family Planning ..... 9 J. Government Immunization services ..... 10 K. Department of Social Welfare ... 11 L. Not received any service..... 12 M. Not Applicable 13	
	Access to and use of social services		
E5	Which of the following programs has your household participated in or received assistance from in the last year? **[READ EACH RESPONSE CODE AND CIRCLE CODE NUMBER IF SAFETY NET WAS USED]**	A. Government VGD..... 1 B. Government VGF ..... 2 C. Government Cash-for-Work ..... 3 D. "100" days work..... 4 E. Aged allowance..... 5 F. Widow allowance ..... 6 G. Disability allowance ..... 7 H. Non-Government Cash-for-Work 8 I. Non-Government Food-for-Work 9 J. Community based savings group10 K. Other (Specify)..... 11 L. Not received any service..... 12 M. Not applicable (N/A)..... 13	
	Access to and use of common property resources		
E6.1	Which of the following common property resources are available in your community? **[READ THE RESPONSES AND CIRCLE ALL CODES THAT THE RESPONDENT MENTIONED]**	A. Roadside sloping ..... 1 B. Embankments ..... 2 C. Railway grounds..... 3 D. Beel/Haor/Closed water body..... 4 E. River/Canal ..... 5 F. CBO water body..... 6 G. Grazing land ..... 7 H. Forest land ..... 8 I. Hills..... 9 J. Khas pond ..... 10 K. Khas land ..... 11 L. Don't know/not applicable ..... 12 M. Other..... 13	
E6.2	Of those common property resources mentioned, which have you or someone in your household used in the last 6 months? **[SELECT ALL THAT RESPONDENT MENTIONS]**	A. Roadside sloping ..... 1 B. Embankments ..... 2 C. Railway grounds..... 3 D. Beel/Haor/Closed water body..... 4 E. River/Canal ..... 5 F. CBO water body..... 6 G. Grazing land ..... 7 H. Forest land ..... 8 I. Hills..... 9	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		J. Khas pond ..... 10 K. Khas land ..... 11 L. Did not use any ..... 12 M. Not applicable ..... 13 N. Other 14	
	Participation in Community Groups **[READ LIST ONE-BY-ONE AND ENTER RESPONSE CODE FOR WHO PRIMARILY PARTICIPATES IN EACH COMMUNITY GROUP]**		
E7.1	Are you or is anybody in your household a member of a Savings or credit group? If yes, who participates?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Not a member 4	
E7.2	Are you or is anybody in your household a member of a Community agriculture or garden group? If yes, who participates?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Not a member 4	
E7.3	Are you or is anybody in your household a member of a Community health group? If yes, who participates?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Not a member 4	
E7.4	Are you or is anybody in your household a member of a Parent-Teacher Association or School Management Committee? If yes, who participates?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Not a member 4	
E7.5	Are you or is anybody in your household a member of a producer group? If yes, who participates?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Not a member 4	1,4→F1
E7.5a	Who leads the producer group?	Primarily men ..... 1 Primarily women ..... 2 Both men and women ..... 3 Don't know 4	

MODULE F. DISASTER RISK MANAGEMENT

NO.	QUESTIONS	CODING CATEGORIES	SKIP
F1	In the last 12 months, what are the natural disasters that your household experienced? **[SELECT ALL THAT APPLY]**	A. Heavy rains ..... 1 B. Wild fire ..... 2 C. Hurricane ..... 3 D. Wind storms ..... 4 E. Erosion (river, wind) ..... 5 F. Earthquake ..... 6 G. Cyclone ..... 7 H. Floods ..... 8 I. Tidal surge ..... 9 J. Salinity ..... 10 K. Cold wave ..... 11 L. Major disaster outbreak ..... 12 M. Others (specify) 13	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		N. Don't know..... 14 O. Not any disaster experienced 15	
F2	What was the <u>most</u> recent (in last 4 years?) natural disaster your household experienced? **[SINGLE RESPONSE]**	Heavy rains ..... 1 Wild fire ..... 2 Hurricane ..... 3 Wind storms ..... 4 Erosion (river, wind) ..... 5 Earthquake ..... 6 Cyclone..... 7 Floods..... 8 Tidal surge ..... 9 Salinity ..... 10 Cold wave..... 11 Major disaster outbreak ..... 12 Others (specify)..... 13 Don't know ..... 14 Not any disaster..... 15	14,15→F 14
F3	In what year did you experience this disaster?	☐☐☐☐	
F4	How did the most recent disaster affect your household? **[CIRCLE NUMBER OF ALL RESPONSES MENTIONED]**	A. Loss of family member ..... 1 B. Loss of livelihood ..... 2 C. Loss of home ..... 3 D. Physical disability/injury ..... 4 E. Loss of field crops ..... 5 F. Loss of livestock ..... 6 G. Loss of other assets ..... 7 H. Poor/low crop yield ..... 8 I. Loss of water supply ..... 9 J. Having to care for others ..... 10 K. Additional household members 11 L. Stress/anxiety/fear ..... 12 M. Others (specify)..... 13 N. Not affected ..... 14 O. Don't know..... 15	14,15→F 6
F5	How did your household cope with the most recent disaster? **[CIRCLE NUMBER OF ALL RESPONSES MENTIONED, PROBE BY ASKING "DID YOUR HOUSEHOLD USE ANY OTHER MEANS OF COPING?"]**	A. Loan from neighbors/relatives ... 1 B. Loan from money lender ..... 2 C. Loan from NGO ..... 3 D. Loan from bank..... 4 E. Taking grain loan from relatives or Mohajan..... 5 F. Reduced # or quantity of meals... 6 G. Mortgaged farmland out ..... 7 H. Leased farmland out..... 8 I. Sold HH productive assets (tools, livestock, trees, vehicles etc.) ..... 9 J. Sold other HH assets (furniture, radios, jewelry, tin/CI sheets etc.) 10	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		K. Sold agricultural products or fish in advance or low price..... 11 L. Sold advance male labor ..... 12 M. Sold advance female labor ..... 13 N. Sold farmland..... 14 O. Sold homestead land ..... 15 P. Ate famine foods ..... 16 Q. Received aid ..... 17 R. Received help from others ..... 18 S. Migrated ..... 19 T. Used savings ..... 20 U. Purchased goods or food on credit ..... 21 V. Postpone medical treatment.... 22 W. Send child to work ..... 23 X. Others (specify)..... 24 Y. Did not need to do anything..... 25 Z. Don't know..... 26	
F6	Did you receive any early warning signal/message before the last natural disaster (you had in your area)?	Yes..... 1 No..... 2	2→F9
F7	How long before the disaster, did you receive the warning signal message?	☐☐☐ hours	
F8	Who gave the early warning signal/message? [MULTIPLE RESPONSE] [DO NOT READ THE RESPONSES]	A. CPP volunteers.....01 B. Radio .....02 C. Television .....03 D. Union parishad.....04 E. VDC .....05 F. Disaster management committee .....06 G. Disaster volunteers .....07 H. NGOs .....08 I. Mosque miking .....09 J. Neighbor/relatives.....10 K. Other (Specify)..... 11	
F9	Did you/your household members move to another place to take shelter before/after the last natural disaster?	Yes..... 1 No..... 2	1→F11
F10	If no, why not? **[MULTIPLE RESPONSE]** [DO NOT READ THE RESPONSES]	A. No shelter .....01 B. No space available in the shelter02 C. Shelter not functional .....03 D. Did not receive messages .....04 E. No transport .....05 F. Did not want .....06 G. To protect home/assets.....07 H. Live in protected house 08	Any→F14

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		I. Not required ..... 09 J. Others ..... 10 K. DNK 11	
F11	Where did you move to take shelter before/after the last natural disaster? **[MULTIPLE RESPONSE]** [DO NOT READ THE RESPONSES]	A. **'Pacca' House (cement)..... 01** B. 'Kacha' house ..... 02 C. **Cyclone or flood shelter ..... 03** D. Union parishad building..... 04 E. School/institution building ..... 05 F. Boat..... 06 G. Highways/ Embankment..... 07 H. Raised hillock ..... 08 I. Mosque/Temple/Church ..... 09 J. Market place..... 10 K. Other (SPECIFY)..... 11	
F12	Did anybody help you to take shelter?	Yes..... 1 No..... 2 DNK 3	2,3 →F14
F13	Who did help you out to take shelter? **[MULTIPLE RESPONSE]** [DO NOT READ THE RESPONSES]	A. CPP volunteers..... 1 B. Union parishad..... 2 C. Disaster management committee3 D. Disaster volunteers ..... 4 E. NGOs ..... 5 F. Neighbor/relatives..... 6 G. Other (Specify) ..... 7 H. DNK 8	
F14	Are you aware of any members of the community trained/active to help you during disaster?	Yes..... 1 No..... 2	2→F16
F15	Who are they? **[MULTIPLE RESPONSE]** [DO NOT READ THE RESPONSES]	A. CPP volunteers..... 01 B. Union parishad chairman/member ..... 02 C. NGOs ..... 03 D. Teacher ..... 04 E. Students..... 05 F. Village leaders..... 06 G. Union/village disaster management committe Committee ..... 07 H. Disaster volunteers ..... 08 I. Other (specify) 09	
F16	Have you or any member of your HH received any disaster preparedness training/ awareness message?	Yes..... 1 No..... 2	2→F18
F17	Who provided the training/messages?	A. CPP volunteers..... 01 B. Union parishad chairman/member 02	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	[MULTIPLE RESPONSE] [DO NOT READ THE RESPONSES]	C. NGOs ..... 03 D. Teacher ..... 04 E. Students ..... 05 F. Village leaders ..... 06 G. Union/Village disaster management committee ..... 07 H. Disaster volunteers ..... 08 I. Other (specify) 09	
F18	What do you plan to with your household members in the event of a disaster (cyclone/flood/other natural)? **[MULTIPLE RESPONSE]**	A. Evacuation of vulnerable members ..... 01 B. Visit shelter centers in normal time ..... 02 C. Identify safe shelter center ..... 03 D. Plan for dry food ..... 04 E. Plan to protect HH valuables/assets ..... 05 F. Identify safe shelter for livestock. 06 G. Other (Specify) ..... 07 H. No plan ..... 08 I. Don't know 09	
F19	Does your community has a vulnerability map (risk and resource map)?	Yes ..... 1 No 2	2→G1
F20	Who develop this map? **[MULTIPLE RESPONSE]** [DO NOT READ THE RESPONSES]	A. CPP volunteers ..... 01 B. Union parishad chairman/member ..... 02 C. NGOs ..... 03 D. Teacher ..... 04 E. Students ..... 05 F. Village leaders ..... 06 G. Union/Village disaster management committee ..... 07 H. Disaster volunteers ..... 08 I. Community people ..... 09 J. Other (specify) 10	
F21	Did you or any of your household members take part to develop this map?	Yes ..... 1 No 2	

MODULE G. AGRICULTURAL PRODUCTION, FISHERIES, LIVESTOCK REARING AND OFF FARM

[IF NECESSARY, ASK TO SPEAK TO INDIVIDUAL MOST KNOWLEDGEABLE ABOUT THE AGRICULTURAL, LIVESTOCK AND OFF FARM PRODUCTION OF THE HOUSEHOLD.]

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Field Crop Production		

NO.	QUESTIONS	CODING CATEGORIES	SKIP
G1	Did you or anyone in your household cultivate any field crops like cereals, ground nuts, jute, or fruits and vegetables for selling to others?	Yes ..... 1 No ..... 2 Don't know 3	2,3→G9
G2	In the last year did anyone in your household cultivate any of these crops? **[READ LIST AND CIRCLE CODE NUMBER OF ITEMS RESPONDENT SAYS WERE GROWN]**	A. Rice (HYV) .....1 B. Rice (LIV) .....2 C. Rice (Local).....3 D. Vegetables (commercial).....4 E. Fruits.....5 F. Wheat .....6 G. Ground nut .....7 H. Maize .....8 I. Pulses.....9 J. Oilseeds .....10 K. Spices.....11 L. Jute .....12 M. Tobacco .....13 N. Sweet potato .....14 O. Other (specify).....15 P. Don't know 16	If all or any of 1,2,3,8 and 12 codes are circled then ask **G3** otherwise SKIP to **G4**

G3	What was the area planted and amount harvested for the following crops? **[ONLY CROPS CIRCLED IN G2 AND PROMOTED BY PROSHAR NEED TO BE ASKED]**	**Crops cultivated**	**Area planted** (decimals)	**Amount harvested** (Kg)	
		A	**B**	**C**	
		G3.1 Rice (HYV)	☐☐☐☐.☐	☐☐☐.☐	
		G3.2 Rice (LIV)	☐☐☐☐.☐	☐☐☐.☐	
		G3.3 Rice (Local)	☐☐☐☐.☐	☐☐☐.☐	
		G3.4 Maize	☐☐☐☐.☐	☐☐☐.☐	
		G3.5 Jute	☐☐☐☐.☐	☐☐☐.☐	

G4	Which of the following improved cropping practices did you use in the last year? **[READ LIST AND CIRCLE CODE NUMBER OF PRACTICES THAT THE RESPONDENT USED IN THE LAST YEAR]**	A. Use improved seed variety.....1 B. Use 2-3 seedling per hill for rice ....2 C. Maintaining proper spaces.....3 D. Intercropping/relay cropping .....4 E. Use IPM.....5 F. Use organic fertilizers .....6 G. Use recommended seed use methods .....7 H. Balanced fertilizer use .....8 I. Green manure.....9 J. Weed control (herbicides, weeding)10 K. Conservation agriculture (zero /minimal tillage, composting).....11 L. Improved post-harvest techniques 12 M. Other (specify) .....13 N. None of the above 14	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
G5	Which agricultural inputs did you purchase before or during the last cropping season? **[READ LIST AND CIRCLE CODE NUMBER OF INPUTS THAT THE RESPONDENT PURCHASED IN THE LAST CROPPING SEASON]**	A. Improved seed.....1 B. Quality seed.....2 C. Seedlings .....3 D. Saplings.....4 E. Irrigation water.....5 F. Fertilizer.....6 G. Ploughing.....7 H. Use of pesticides.....8 I. Use of herbicides .....9 J. Other (specify).....10 K. None of the above.....11	
G6	Which of the following agricultural financial services did you or your household use in the previous cropping season? **[READ LIST AND CIRCLE CODE NUMBER OF SERVICES THAT THE RESPONDENT USED IN THE PREVIOUS CROPPING SEASON]**	A. Agricultural loan .....1 B. A company provided advance inputs .....2 C. Government subsidy .....3 D. Other (specify).....4 E. None of the above.....5	
G7	Have you or any member of your household participated in any training programs on improved crop production technologies?	Yes ..... 1 No ..... 2 Don't know 3	2,3→G9
G8	What kind of agricultural techniques did you use/apply in the last agricultural season? **[PROBE - ASK "ANY OTHER TECHNIQUES?"]**	A. Use improved seed variety.....1 B. Use quality seeds.....2 C. Use 2-3 seedling per hill for rice ..3 D. Maintaining proper spaces.....4 E. Intercropping/relay cropping .....5 F. Use IPM .....6 G. Use organic fertilizers.....7 H. Use recommended seed use methods .....8 I. Balanced fertilizer use .....9 J. Green manure .....10 K. Weed control (herbicides, weeding) .....11 L. Conservation agriculture (zero /minimal tillage, composting) ....12 M. Improved post-harvest techniques 13 N. Other (specify).....14 O. None of the above.....15	
	Vegetable Production/Gardening **[FOR THIS SECTION, IF POSSIBLE, ASK THE HOUSEHOLD MEMBER WHO IS INVOLVE IN GARDENING]**		
G9	In last year, did any member of your household grow any vegetables in a garden?	Yes ..... 1 No ..... 2 Don't know 3	2,3→G12
G10	Which of the following vegetables did you or anybody in your 153ousehold grow in last year?	A. Bottle gourd.....1 B. Radish .....2 C. Brinjal/egg plant 3	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	[READ LIST AND CIRCLE CODE NUMBER OF PRACTICES THAT THE RESPONDENT USED IN THE LAST YEAR]	D. Red amaranth ..... 4 E. Pumpkin (yellow) ..... 5 F. Corriandor leaf/ Black seed/Ginjer 6 G. Potato/Kesur ..... 7 H. Data shak ..... 8 I. Potol ..... 9 J. Chichinga/Jhinga ..... 10 K. Beans ..... 11 L. Indian spinach (Pui shak) ..... 12 M. Kangkong ..... 13 N. Spinach ..... 14 O. knokhol ..... 15 P. Ladies finger ..... 16 Q. Cauliflower/cabbage ..... 17 R. Carrot/Turnip ..... 18 S. Green chili ..... 19 T. Onion ..... 20 U. Garlic ..... 21 V. Sweet potato/yams ..... 22 W. Tomato ..... 23 X. Bitter gourd (Korolla) ..... 24 Y. Cucumber ..... 25 Z. Drum stick ..... 26 AA. Others (Specify) 27	
G11	Which of the following improved practices did you apply to any of your vegetable garden in the last year? **[READ LIST AND CIRCLE CODE NUMBER OF PRACTICES THAT THE RESPONDENT USED IN THE LAST YEAR]**	A. Improved bed system ..... 1 B. Improved pit/heap system ..... 2 C. Improved seed ..... 3 D. Quality seed ..... 4 E. Organic fertilizer ..... 5 F. Compost preparation ..... 6 G. Balanced fertilizer ..... 7 H. Multi-storied cropping ..... 8 I. Relay cropping ..... 9 J. Multiple cropping ..... 10 K. Thinning ..... 11 L. Pruning ..... 12 M. Mulching ..... 13 N. Bagging ..... 14 O. Stalking/sticking/trellis ..... 15 P. Non-chemical pesticides ..... 16 Q. Artificial pollination ..... 17 R. Others (specify) ..... 18 S. None 19	
	Agricultural crop storage		
G12	Do you or anybody in your household store any of your agricultural products?	Yes ..... 1 No 2	2→G14

NO.	QUESTIONS	CODING CATEGORIES	SKIP
G13	How do you store agricultural production? [Multiple Response] [DO NOT read the response]	A. Bag on the floor inside household .....1 B. Bag elevated inside household .....2 C. Gola (bamboo storage pot) .....3 D. Other covered container with solid sides .....4 E. At a separate storage facility.....5 F. Other.....6	
	Fish Production/Aquaculture		
G14	In the last year, did you or your household raise/produce any fish?	Yes ..... 1 No ..... 2 Don't know 3	2,3→G16
G15	Which of the following improved fish production practices did your household use in the last year? **[READ LIST AND CIRCLE CODE NUMBER OF PRACTICES THAT THE RESPONDENT USED IN THE LAST YEAR]**	A. Testing water color to determine if food adequate .....1 B. Maintaining stocking density .....2 C. Species selection .....3 D. Pond cleaning .....4 E. Liming .....5 F. Providing supplementary feed .....6 G. Employing fish disease management .....7 H. Using polyculture.....8 I. Providing fish seed .....9 J. Growth monitoring.....10 K. Others (specify) .....11 L. None 12	
	Livestock Production/Rearing		
G16	In the last year, did you or your household raise any livestock/poultry?	Yes ..... 1 No ..... 2 Don't know 3	2,3→G18
G17	What are the following improved practices did you apply to raise poultry and rearing livestock in last year? **[READ LIST AND CIRCLE CODE NUMBER OF PRACTICES THAT THE RESPONDENT USED IN THE LAST YEAR]**	A. Improved breeding.....1 B. Improved poultry and livestock housing .....2 C. Vaccination .....3 D. Supplementary poultry feed .....4 E. Fattening.....5 F. Articificial insemination.....6 G. Stall feeding.....7 H. Growth monitoring .....8 I. Others (specify) .....9 J. None 10	
	Off-farm Producction		
G18	Do you or anyone in your household is involved in the following off-farm activities? **[MULTIPLE RESPONSE AND READ LIST]**	A. Kurchupi.....1 B. Producing bamboo products (basket, furniture, etc.) .....2 C. Tailoring .....3 D. Hand embroidery 4	5→G20

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		E. Not any off-farm activities.....5	
G19	How much did you sell of the following that you have produced in last year?	A. Kurchupi..... ☐☐☐☐ B. Producing bamboo products (basket, furniture, etc.) ..... ☐☐☐☐ C. Tailoring ..... ☐☐☐☐ D. Hand embroidery .... ☐☐☐☐	
	Technical Support		
G20	Do you know where to go for getting technical guidance on agriculture, livestock rearing, gardening, or pond/fish management?	Yes ..... 1 No 2	
G21	Did you or any member of your household receive any type of assistance (technical, materials, financial) from any of the following sources in last year? **[PROBE - ASK "ANY OTHER SOURCE?"]**	A. Neighbor/relatives/other farmers1 B. Dept. of agricultural Extention (DAE .....2 C. Dept. of fisheries (DoF).....3 D. Dept. of livestock Services (DLS) ..4 E. NGO .....5 F. Seed/pesticide companies.....6 G. Fish/poultry/livestock feed and pharmaceutical companies .....7 H. Local dealers/retailers.....8 I. Master trainer/lead farmer .....9 J. Private livestock health worker..10 K. Others (specify) .....11 L. No assistance.....12	

MODULE H. HOUSEHOLD FOOD SECURITY

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Food Consumption **[INSTRUCTION: THE RESPONDENT SHOULD BE THE INDIVIDUAL RESPONSIBLE FOR PREPARING FOOD FOR THE HOUSEHOLD (USUALLY AN ADULT FEMALE). IF THAT PERSON IS NOT AT HOME AT THE TIME OF THE SURVEY, ASK IF THE PERSON CAN BE REACHED AT A DIFFERENT TIME LATER THAT DAY OR IF IT IS IMPOSSIBLE TO MEET WITH THIS PERSON. IF IT IS NOT POSSIBLE TO MEET WITH THIS PERSON, SKIP THIS MODULE.]**		
H0	Does the person who normally prepares food at the household is available?	Available ..... 1 Available later for interview .. 2 Not available..... 3	2,3→H16
	[INTRODUCTION: Now I would like to ask you about the types of foods that you or anyone else in your household ate yesterday during the day or at night. Please include all foods, including the foods eaten here at your house or somewhere else (e.g., other homes, street stalls, given by employer)] **[READ THE LIST OF FOODS ONE-BY-ONE AND RECORD RESPONSES]**		
H1	**Any cereals**, e.g. rice, bread, wheat, wheat bread, rice flakes, puffed rice, barley, wheat grain, popcorn?	Yes=1, No=2 ☐	
H2	**Any pumpkin, carrots, squash, or sweet potatoes** or vegetables that are yellow or orange inside?	☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
H3	**Any white potatoes, white yams** or other foods made from roots and tubers?	☐	
H4	**Any dark green, leafy vegetables**, e.g., ipomoea, amaranth, spinach, parwar sag, and drumstick leaves?	☐	
H5	**Any other vegetables**, e.g. cucumber, radish, pepper, string beans, cabbage, cauliflower, radish, onion?	☐	
H6	**Any ripe papaya, mangoes** or other fruits that are yellow or orange inside?	☐	
H7	**Any other fruits**, e.g. banana, papaya, sithphal, grapefruit, apple, orange, jackfruit, jambu fruit, plums, melon, tomato, date, lemon, etc. ?	☐	
H8	**Any meat**, such as, liver, beef, poultry, lamb, pork, etc.?	☐	
H9	**Any eggs?**	☐	
H10	**Any fresh or dried fish or shellfish?**	☐	
H11	**Any legumes/pulses**, e.g. Bengal gram, black gram dal, lentil, Khesari, Mung bean?	☐	
H12	**Any Milk or Milk products**, e.g. cow milk, buffalo milk, goat milk, yogurt, curd, cheese?	☐	
H13	**Any foods prepared using fat,,** e.g., oil, butter, dalda or ghee?	☐	
H14	**Any sugar or honey?**	☐	
H15	**Any other foods such as condiments, coffee, tea?**	☐	
	<u>Months of Insufficient Food</u> **[INTRODUCTION: Now I would like to ask you about your household's food supply during different months of the year. When answering these questions, please think back over the last 12 months, from now to the same time last year.]**		
H16	Were there months, in the past 12 months, in which you did not have enough food to meet your family's needs?	Yes..... 1 No 2	2→H18_1
H17	If yes, which were the months in the past 12 months in which you did not have enough food to meet your family's needs?		
		<u>Yes=1, No=2</u>	
	H17_1. January	☐	
	H17_2. February	☐	
	H17_3. March	☐	
	H17_4. April	☐	
	H17_5. May	☐	
	H17_6. June	☐	
	H17_7. July	☐	
	H17_8. August	☐	
	H17_9. September H17_10. October	☐ ☐	
	H17_11. November	☐	
	H17_12. December	☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Household Hunger		
H18_1	In the last 4 weeks was there ever no food to eat of any kind in your household, because of lack of resources to get food?	Yes ..... 1 No 2	2→H18_3
H18_2	How often did this happen?	Rarely..... 1 Sometimes (3-4 times in last 4 weeks)..... 2 Often (More than 10 times in last 4 weeks). 3	
H18_3	In the past four weeks, did you or any household member go to sleep at night hungry because there was not enough food?	Yes ..... 1 No 2	2→H18_5
H18_4	How often did this happen?	Rarely..... 1 Sometimes (3-4 times in last 4 weeks)..... 2 Often (More than 10 times in last 4 weeks). 3	
H18_5	In the past four weeks, did you or any household member go a whole day and night without eating anything because there was not enough food?	Yes ..... 1 No 2	2→H19_1
H18_6	How often did this happen?	Rarely (1-2 times in last 4 weeks)..... 1 Sometimes (3-10 times in last 4 weeks)..... 2 Often (More than 10 times in last 4 weeks). 3	
	Household Food Access: Food Insecurity Coping Strategies		
H19_1	In the past 12 months, how often did you or any of your family have to eat potato, wheat, or another grain although you wanted to eat rice (not including when you were sick)?	Never ..... 1 Rarely (1-6 times in last 12 months)..... 2 Sometimes (7-12 times in last 12 months)... 3 Often (few times in each month) ..... 4 Regularly (almost or everyday) 5	
H19_2	In the past 12 months how often did you yourself or any of your family skip entire meals due to scarcity of food?	Never ..... 1 Rarely (1-6 times in last 12 months)..... 2 Sometimes (7-12 times in last 12 months)... 3 Often (few times in each month) ..... 4 Regularly (almost or everyday) 5	
H19_3	In the past 12 months how often did you personally eat less food in a meal due to scarcity of food?	Never ..... 1 Rarely (1-6 times in last 12 months)..... 2 Sometimes (7-12 times in last 12 months)... 3 Often (few times in each month) ..... 4 Regularly (almost or everyday) 5	
H19_4	In the past 12 months how often did your family purchase food (rice, lentils etc.) on credit (or loan) from a local shop?	Never ..... 1 Rarely (1-6 times in last 12 months)..... 2 Sometimes (7-12 times in last 12 months)... 3 Often (few times in each month) ..... 4 Regularly (almost or everyday) 5	
H19_5	In the past 12 months how often did your family have to borrow /take food from relatives or neighbors to make a meal?	Never ..... 1 Rarely (1-6 times in last 12 months)..... 2 Sometimes (7-12 times in last 12 months)... 3 Often (few times in each month) ..... 4 Regularly (almost or everyday) 5	

MODULE I. WATER AND SANITATION

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Water Source		
I1	WHAT IS THE MAIN SOURCE OF DRINKING WATER FOR MEMBERS OF YOUR HOUSEHOLD? **[PROMPT IF NECESSARY]**	Hand tube well ..... 1 Tara pump ..... 2 Deep tube well ..... 3 Shallow tube well ..... 4 Dug well/ indara ..... 5 Pond ..... 6 River/canal..... 7 Piped water ..... 8 Pond sand filter ..... 9 Rain water harvesting system ..... 10 Treadle pump ..... 11 Others (specify) 12	
I2	How much time does it usually take to go to the drinking water source, get water, and come back?	☐☐☐ minutes	
	[IF 1,2,3,4 IN I1 THEN ASK I3-I5 OTHERWISE SKIP TO I6]		
I3	If source is tube well/Tara pump, has the tube well/ Tara pump been tested for arsenic?	Yes ..... 1 No ..... 2 Don't know ..... 3 Not applicable 4	2,3,4→I6
I4	If tested, does the tube well/Tara pump have arsenic?	Yes ..... 1 No ..... 2 Don't know 3	2,3→I6
I5	If yes, is it marked red or green?	Red..... 1 Green ..... 2 Neither 3	
	Sanitation		
I6	Does your household have any toilet facility?	Yes ..... 1 No 2	2→J1
I7	What kind of toilet facility do members of your households usually use? **[PROMPT IF NECESSARY]**	Ring-slab/offset latrine (water seal)..... 1 Ring-slab/offset latrine (water seal broken) 2 Pit latrine (covered) ..... 3 Pit latrine (uncovered) ..... 4 Septic latrine..... 5 Hanging/open latrine ..... 6 Local adopted hygienic latrine ..... 7 Others..... 8	
I8	Are there organizations in your community that are building or repairing toilet facilities or water sources (e.g. tube wells, pumps, etc.)?	Yes ..... 1 No ..... 2 Don't know 3	
	OBSERVE THE LATRINE DIRECTLY AND RECORD CONDITION OF THE LATRINE.		
I9	Is the latrine functioning?	**Yes=1, No=2, Not applicable=3** ☐	
I10	Does the latrine show signs of use?	☐	
I11	Is the latrine itself clean? For example, is the pan and slab (or place to sit while defecating) clean?	☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
I12	Is the surrounding area of the latrine clean?	☐	
I13	Does the latrine have an unbroken water seal?	☐	
I14	Can you please show me where members of your household most often wash their hands? **[OBSERVE AND CIRCLE RESPONSE CODE]**	Inside/within 10 paces of the toilet facility ..... 1 Inside/within 10 paces of the kitchen/cooking place 2 Elsewhere in home or yard ..... 3 Outside yard ..... 4 No specific place ..... 5 No permission to see 6	5,6→J1
I15	Is water present at the place? **[OBSERVE. IF THERE IS A TAP OR PUMP SEE IF WATER COMES OUT. IF THERE IS A CONTAINER, SEE IF WATER IS IN IT. CIRCLE RESPONSE CODE]**	Yes ..... 1 No 2	
I16	Is soap, detergent, ash or clay present at the place? **[OBSERVE. CIRCLE ALL RESPONSE CODES THAT APPLY.]**	A. None..... 1 B. Bar soap ..... 2 C. Detergent (powder/liquid/paste) .... 3 D. Liquid soap (including shampoo)..... 4 E. Ash or clay..... 5	

MODULE J. INFORMATION ON WOMEN'S EMPOWERMENT

ASK QUESTIONS IN PART II TO AN ADULT MARRIED WOMAN (18+ YEARS OLD) MEMBER OF THE HOUSEHOLD IN ABSENCE OF THE MALE HOUSEHOLD MEMBERS.

TO HELP FIND A WOMAN, SEE CIRCLED LINE NUMBERS FROM COLUMN C7 OF HOUSEHOLD ROSTER. THE PREFERRED RESPONDENT IS THE FEMALE HEAD OF HOUSEHOLD OR SPOUSE OF THE MALE HEAD OF HOUSEHOLD.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	House Level Decision Making		
J1	Record line number of the respondent from Module C	☐☐	
	In the last year, to what extent have you been able to make the following decisions? **[READ QUESTIONS J2-J14 ONE AFTER ANOTHER DISCUSS POSSIBLE RESPONSE]** 1 = Can decide alone 2 = Can decide with husband or other adult male family member 3 = Husband makes decision after discussion with wife 4 = Not involved in decision 5 = Not applicable		
J2	Buying small food items, groceries, toiletries	☐	
J3	Buying clothing for yourself and your children	☐	
J4	Spending money that you yourself have earned	☐	
J5	Buying or selling major household assets (land, livestock, crops)	☐	
J6	Buying or selling jewelry	☐	
J7	Use of loans or savings	☐	
J8	Expenses for your children's education	☐	
J9	Expenses for your children's marriage	☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
J10	Decision over children's marriage	☐	
J11	Medical expenses for yourself or your children	☐	
J12	Expenses for family planning (contraceptives)	☐	
J13	To move to shelter during time of disaster	☐	
J14	Actively participate and involved in ***salish*** decision making	☐	
	Freedom of Movement and Participation in Community Groups		
J15	Are you allowed to travel to the local market to buy things?	Yes ..... 1 No 2	2→J17
J16	Can you go alone?	Yes ..... 1 No 2	
J17	Are you allowed to travel to a local health center or doctor?	Yes ..... 1 No 2	2→J19
J18	Can you go alone?	Yes ..... 1 No 2	
J19	Are you allowed to travel to homes of friends in the neighborhood	Yes ..... 1 No 2	2→J21
J20	Can you go alone?	Yes ..... 1 No 2	
J21	Are you allowed to travel to a nearby mosque/shrine	Yes ..... 1 No 2	2→J23
J22	Can you go alone?	Yes ..... 1 No 2	
J23	Are you a member of a Mother's Group?	Yes ..... 1 No 2	
J24	Are you a member of a Women's support group?	Yes ..... 1 No 2	
J25	Have you ever attended a Salish meeting in your village?	Yes ..... 1 No 2	
J26	Did you speak at the meeting?	Yes ..... 1 No 2	
	Earning of Cash Income		
J27	Some women earn cash by doing different jobs. Some sell products, have a small business or work on the farm or in the family business. In the last 12 months, have you done any of these things?	Yes ..... 1 No 2	2→J29
J28	If yes, did you earn any money from your work in the last 12 months?	Yes ..... 1 No 2	
	Attitude about Family Life **[INTRODUCTION: Now I would like to get your opinion on some aspects of family life. Please tell me if you agree or disagree with each statement.]**		
	Agree=1, Disagree=2, Don't know/depend=3		
J29	The important decisions in the family should be made only by the men of the family.	☐	
J30	If the wife is working outside the home, then the husband should help her with household chores.	☐	
J31	A married woman should be allowed to work outside the home if she wants to.	☐	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
J32	The wife has a right to express her opinion even when she disagrees with what her husband is saying.	☐	
J33	A wife should tolerate being beaten by her husband in order to keep the family together.	☐	
J34	It is husband who has the right to make decision on family planning	☐	
J35	It is better to send a son to school than it is to send a daughter.	☐	
	Domestic Violence		
J36	Sometimes a husband is annoyed or angered by things his wife does. In your opinion, is a husband justified in hitting or physically abusing his wife in the following situations?		
	1. If she goes out without telling him	Yes ..... 1 No 2	
	2. If she neglects the children	Yes ..... 1 No 2	
	3. If she argues with him	Yes ..... 1 No 2	
	4. If she refuses to have sex with him	Yes ..... 1 No 2	
	5. If she burns the food during cooking	Yes ..... 1 No 2	
	6. If she does not obey the elders	Yes ..... 1 No 2	

PART II. INFORMATION ON CHILDREN 0-23 MONTHS OLD AND THEIR MOTHERS

MODULE K. RESPONDENT IDENTIFICATION FOR PART II

This section (Modules K-Q) is for all children aged 0-23 months in the household and their caregivers. Data for each caregiver should be entered along with data for their corresponding child. If there are multiple caregivers of children 0-23 months in the household, the TABLET will cycle through all of the questions (caregiver and child level) the appropriate number of times. If a caregiver has more than one child aged 0-23 months, the TABLET will cycle through the child level questions the appropriate number of times.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
K1	REFER TO MODULE C: ARE THERE ANY CHILDREN OF AGE 0-23 MONTHS (I.E. BORN SINCE JANUARY 2013) CURRENTLY LIVING IN THE HOUSEHOLD?	Yes ..... 1 No 2	2→R1
	Information on Child Caregiver		
K2	Line number of the Child and Mother/Caregiver (Record line number from Module C)	Child ..... ☐☐ Mother/caregiver ..... ☐☐	
K3	How old are you? (years)	☐☐ Years	
K4	What is your level of education? **[SEE CODES BELOW]**	☐☐	
	0 = No class, 1 = Class one, 2 = Class two, 3 = Class three, 4 = Class four, 5 = Class five, 6 = Class six, 7 = Class seven, 8 = Class eight, 9 = Class nine, 10 = SSC pass, 11 = HSC pass, 12 = Graduate, 13 = Masters.		
K5	I would like you to read the following sentence: ***"Always speak the truth"*** **[SHOW SENTENCE TO THE RESPONDENT. IF THE RESPONDENT CANNOT READ THE WHOLE SENTENCE, PROBE WHETHER OR NOT SHE/HE CAN READ PART OF THE SENTENCE]**	Can not read at all ..... 1 Able to read only parts of the sentence ..... 2 Able to read the whole sentence ..... 3 Sentence is not in required language ..... 4 Blind/mute, visually/speech impaired 5	
K6	Can you write a letter? for example, letter to a friend or relative?	Yes ..... 1 No 2	
K7	What is realtionship between caregiver and the child?	Mother ..... 1 Grand mother ..... 2 Sibling ..... 3 Aunt ..... 4 Other 5	N1

MODULE L. ANTENATAL CARE

INTRODUCTION: Now I would like to ask you some questions about your current or last pregnancy.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
L1	Are you currently pregnant?	Yes ..... 1 No 2	
L2	DID YOU SEE ANYONE FOR ANTENATAL CARE DURING YOUR LAST PREGNANCY?	Yes ..... 1 No 2	2→L9
L3	WHOM DID YOU SEE? [CODE ALL RESPONSES]	A. Doctor ..... 1 B. Nurse/midwife ..... 2 C. Traditional birth attendant ..... 3 D. Community/village health worker .... 4 E. Others 5	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
L4	WHERE DID YOU RECEIVE ANTENATAL CARE FOR YOUR LAST PREGNANCY? [CODE ALL RESPONSES]	A. Your home ..... 1 B. Other's home ..... 2 C. Government hospital ..... 3 D. Other government health facility ..... 4 E. Private hospital/clinic ..... 5 F. Other private health facility ..... 6 G. NGO facility ..... 7 H. Other (specify) 8	
L5	HOW MANY MONTHS PREGNANT WERE YOU WHEN YOU FIRST RECEIVED ANTENATAL CARE FOR YOUR LAST PREGNANCY?	Months of pregnancy ..... ☐ Don't know/cann't remember 98	
L6	HOW MANY CHECK-UPS DID YOU HAVE DURING YOUR PREGNANCY?	Number of check-up ..... ☐☐ Don't know/cann't remember 98	
L7	Do you have an antenatal card or a prescription sheet for your pregnancy? **[IF YES, MAY I SEE IT PLEASE?]**	Yes, seen ..... 1 Yes, not seen ..... 2 No card 3	2,3→L9
L8	**[VERIFY NUMBER OF ANTENATAL VISITS]** Is the number of documented visits on the card different from the stated number of visits in L6?	Same as stated ..... 1 Different from stated ..... 2 Number of visits in the card ..... ☐☐	
L9	Who, if anyone, assisted with your last delivery? [CODE ALL RESPONSES]	A. Doctor ..... 1 B. Nurse/midwife ..... 2 C. Traditional birth attendant ..... 3 D. Community/village health worker ..... 4 E. Friend/relative ..... 5 F. Others ..... 6 G. Nobody 7	
L10	Did you visit or receive a visit from any health agent (e.g. doctor, nurse, CHW, TBA) after birth?	Yes ..... 1 No 2	2→L13
L11	If yes, from whom did you receive a visit? [CODE ALL RESPONSES]	A. Doctor ..... 1 B. Nurse/midwife ..... 2 C. Traditional birth attendant ..... 3 D. Community/village health worker ..... 4 E. Friend/relative ..... 5 F. Others 6	
L12	How many days after birth did you receive a visit?	☐☐ days	
L13	During your **(current/last)** pregnancy, do/did you take the same amount of food or more or less than you take usually?	More food ..... 1 Less food ..... 2 Same as usual 3	
L14	During your **(current/last)** pregnancy, do/did you take as much daytime rest as you usually take?	More rest ..... 1 Less rest ..... 2 Same as usual 3	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
L15	Did you receive Vitamin A within one and a half months (6 weeks) of delivery of the child?	Yes ..... 1 No 2	
L16	In your last pregnancy, did you take any iron and folic acid tablets like this? **[INTERVIEWER: SHOW IRON TABLET]**	Yes ..... 1 No 2	2→M1
L17	For how many months during your last pregnancy did you take iron and folic acid tablets?	1-2 months ..... 1 3-4 months ..... 2 5-6 months ..... 3 More than 6 months 4	

MODULE M. FOOD CONSUMPTION OF MOTHER

Now I would like to ask you (mother) about the types of foods that you (mother) ate yesterday during the day or at night. Please include all foods, including the foods eaten here at your house or somewhere else.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		Yes=1, No=2	
M1	**Any cereals**, e.g. rice, bread, wheat, wheat bread, rice flakes, puffed rice, barley, wheat grain, popcorn?	☐	
M2	**Any pumpkin, carrots, squash, or sweet potatoes** or vegetables that are yellow or orange inside?	☐	
M3	**Any white potatoes, white yams** or other foods made from roots and tubers?	☐	
M4	**Any dark green, leafy vegetables**, e.g., ipomoea, amaranth, spinach, parwar sag, and drumstick leaves?	☐	
M5	**Any other vegetables**, e.g. cucumber, radish, pepper, string beans, cabbage, cauliflower, radish, onion?	☐	
M6	**Any ripe papaya, mangoes** or other fruits that are yellow or orange inside?	☐	
M7	**Any other fruits**, e.g. banana, papaya, sithphal, grapefruit, apple, orange, jackfruit, jambura fruit, plums, melon, tomato, date, lemon, etc?	☐	
M8	**Any meat**, such as, liver, beef, poultry, lamb, pork, etc.?	☐	
M9	**Any eggs?**	☐	
M10	**Any fresh or dried fish or shellfish?**	☐	
M11	**Any legumes/pulses**, e.g. Bengal gram, black gram dal, lentil, Khesari, Mung bean?	☐	
M12	**Any Milk or Milk products**, e.g. cow milk, buffalo milk, goat milk, yogurt, curd, cheese?	☐	
M13	**Any foods prepared using fat,,** e.g., oil, butter, dalda or ghee?	☐	
M14	**Any sugar or honey?**	☐	

MODULE N. MOTHER'S HAND WASHING HABITS

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	Mother's hand washing habits		
N1	Please mention all of the times when it is important to wash your hands.	A. Before eating..... 1 B. After eating ..... 2 C. Before praying..... 3	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	[CIRCLE THE CODE NUMBER OF THE HAND WASHING TIMES ONLY IF THE MOTHER MENTIONS IT. AFTER SHE FINISH, PROMPT TWO TIMES: ANY OTHER TIMES]	D. Before breastfeeding or feeding a child 4 E. Before cooking or preparing food..... 5 F. After defecation/urination..... 6 G. Cleaning baby for defecation/changing diaper..... 7 H. When hand is dirty..... 8 I. After cleaning the toilet/potty..... 9 J. Others (Specify)..... 10 K. Don't know..... 11	

MODULE NK. CHILD IDENTIFICATION AND DISPOSAL OF CHILD FECES

NO.	QUESTIONS	CODING CATEGORIES	SKIP
NK1	I would like to ask you some questions about (NAME).		
NK2.1	Do you have any vaccination card or birth certificate for (NAME)?	Yes, vaccination card ..... 1 Yes, birth certificate ..... 2 Yes, both vaccination and birth certificate... 3 There is cards but could not show ..... 4 None 5	
NK2.2	What is (NAME's) date of birth (DOB)? [VERIFY BIRTH DATE ON VACCINATION OR BIRTH CARD AND FILL IN THE DAY, MONTH AND YEAR. IF DAY IS NOT KNOWN, ENTER '99'] [IF A VACCINATION OR BIRTH CERTIFICATE IS NOT AVAILABLE, ASK THE MOTHER IF SHE KNOWS THE DATE OF BIRTH] [IF THERE IS NO DOCUMENT OR MOTHER CAN NOT RECALL, USE THE LOCAL EVENTS CALENDAR THAT WAS PROVIDED IN THE TRAINING TO APPROXIMATE THE MONTH AND YEAR OF BIRTH (LEAVE DAY OF BIRTH BLANK]	A. **DOB:** ☐☐-☐☐-☐☐☐☐ Day Month Year B. **Source of DOB:** Vaccination card ..... 1 Birth certificate ..... 2 Mother's recall..... 3 Event Calendar..... 4	
NK3	**[CHECK DATE OF BIRTH OF (NAME)]** Was child born January 2012 or later?	Yes ..... 1 No 2	
	Disposal of child's feces		
NK4	Where did (NAME) defecate last time?	Used potty ..... 1 Used washable diaper ..... 2 Used disposable diaper ..... 3 Child's cloth ..... 4 Inside of house/yard..... 5 Outside of house/yard..... 6 Used latrine 7	
NK5	Where did you dispose (NAME) feces last time?	Dropped into toilet facility ..... 1 Buried ..... 2 Put into container for trash..... 3 In yard..... 4 Defecated in latrine..... 5 In sink or tub..... 6 Thrown into waterway ..... 7 Thrown outside ..... 8 Washed or rinsed away 9	→O1 9→NK6
NK6	If "washed or rinsed away", probe where the waste water was disposed.	Dropped into toilet facility ..... 1 Put into container for trash..... 2 In yard..... 3 Outside of yard ..... 4 In sink or tub..... 5 Thrown into waterway 6	

MODULE O. FEEDING OF CHILDREN 0-23 MONTHS

INTRODUCTION: To mother: Now I would like to ask you about what your child eats and drinks.
[ENSURE THAT THE MOTHER IS TALKING ABOUT HER CHILD AND NOT ANOTHER CHILD IN THE HOUSEHOLD]

NO.	QUESTIONS	CODING CATEGORIES		SKIP
O1	Has (NAME) ever been breastfed?	Yes ..... 1 No ..... 2 Don't know 3		2,3→O4
O2	Was (NAME) breastfed yesterday during the day or at night?	Yes ..... 1 No ..... 2 Don't know 3		
O3	How long (in hours) after birth was (NAME) first put to the mother's breast?	☐☐ Hours **["0" IF LESS THAN 1 HOUR]** Don't know 99		
O4	**INTRODUCTION:** Now I would like to ask you about some medicines and vitamins that the infants are given sometimes. Was (NAME) given any vitamin drops or other medicines as drops yesterday during the day or at night?	Yes ..... 1 No ..... 2 Don't know 3		
O5	Was (NAME) given any oral rehydration solution yesterday during the day or night?	Yes ..... 1 No ..... 2 Don't know 3		
	Child's Consumption of Liquid Foods			
O6	Now, I would like to ask you about some liquids that (NAME) might have had yesterday during the day or night.	**Given Liquids?**	**How many times?**	
	A. Plain water?	Yes..... 1 No ..... 2 Don't know..... 3		
	B. Infant formula/baby formula bought with money?	Yes..... 1→ No ..... 2 Don't know..... 3	☐☐ times Don't know .. 99	
	C. Milk, such as tinned, powdered or fresh animal milk?	Yes..... 1→ No ..... 2 Don't know..... 3	☐☐ times Don't know .. 99	
	D. Juice or juice drinks?	Yes..... 1 No ..... 2 Don't know..... 3		
	E. Clear broth?	Yes..... 1 No ..... 2 Don't know..... 3		
	F. Yogurt?	Yes..... 1→ No ..... 2 Don't know..... 3	☐☐ times Don't know .. 99	
	G. Thin porridge?	Yes..... 1 No ..... 2 Don't know..... 3		
	H. Any other liquids?	Yes..... 1 No ..... 2 Don't know..... 3		
	Child's Consumption of Solid Foods			
O7	**[ASK THE MOTHER]** Please describe everything that (NAME) ate yesterday during the day or night, whether at home or outside the home. • Think about when (NAME) first woke up yesterday. Did (NAME) eat anything? What is that? • What did (NAME) eat after that? Did (NAME) eat anything else? • Anything else?			

NO.	QUESTIONS	CODING CATEGORIES	SKIP
	• In case of mixed food, ask about the ingredients.		
	A. Any cereals: porridge, bread, rice, noodles, or other foods made from cereals	Yes ..... 1 No ..... 2 Don't know 3	2 for all A-R →**P1** If 1,3 at least any of A-R →**O8**
	B. Pumpkin, carrots, squash or sweet potatoes that are yellow or orange inside	Yes ..... 1 No ..... 2 Don't know 3	
	C. White potatoes, white yams, manioc, cassava, or any other foods made from roots	Yes ..... 1 No ..... 2 Don't know 3	
	D. Any dark green leafy vegetables, such as ipomoea, amaranth, spinach, parwar sag, and drumstick leaves	Yes ..... 1 No ..... 2 Don't know 3	
	E. Ripe mangoes, ripe papayas or other fruits that are yellow or orange inside	Yes ..... 1 No ..... 2 Don't know 3	
	F. Any other fruits or vegetables	Yes ..... 1 No ..... 2 Don't know 3	
	G. Liver, kidney, heart or other organ meats	Yes ..... 1 No ..... 2 Don't know 3	
	H. Any meat, such as beef, pork, lamb, goat, chicken, or duck	Yes ..... 1 No ..... 2 Don't know 3	
	I. Eggs	Yes ..... 1 No ..... 2 Don't know 3	
	J. Fresh or dried fish, shellfish, or seafood	Yes ..... 1 No ..... 2 Don't know 3	
	K. Any foods made from beans, peas, lentils, nuts or seeds, such as Bengal gram, black gram, dal, Khesari	Yes ..... 1 No ..... 2 Don't know 3	
	L. Cheese, yogurt, curd or other milk products	Yes ..... 1 No ..... 2 Don't know 3	
	M. Any oil, butter, dalda or ghee or foods made with any of these	Yes ..... 1 No ..... 2 Don't know 3	
	N. Any sweet foods such as honey, chocolates, sweets, candies, pastries, cakes or biscuits	Yes ..... 1 No ..... 2 Don't know 3	
	O. Condiments for flavor, such as chilies, spices, herbs, or fish powder	Yes ..... 1 No ..... 2 Don't know 3	
	P. Grubs, snails, or insects	Yes ..... 1 No ..... 2 Don't know 3	
	Q. Foods made with red palm oil, red palm nuts, or red palm nut pulp sauce	Yes ..... 1 No ..... 2 Don't know 3	
	R. Other solid food	Yes ..... 1 No 2	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		Don't know 3	
O8	Did (NAME) eat any solid, semi-solid, or soft foods yesterday during the day or at night? **[IF "YES", PROBE: WHAT KINDS OF FOODS DID (NAME) EAT? GO BACK TO "O7" AND RECORD FOODS EATEN. THEN CONTINUE WITH O9]**	Yes ..... 1 No ..... 2 Don't know 3	2,3→O10
O9	How many times did (NAME) eat solid, semi-solid, or soft foods other than liquids yesterday during the day or night?	☐☐ times Don't know 99	
O10	Did (NAME) drink anything from a bottle with a nipple yesterday during the day or night?	Yes ..... 1 No ..... 2 Don't know 3	

MODULE P. IMMUNIZATION OF CHILDREN 0-23 MONTHS

NO.	QUESTIONS	CODING CATEGORIES	SKIP
P1	Do you have any vaccination card for (NAME)? Could you please show me the card?	Yes, seen ..... 1 No, not seen ..... 2 No card 3	2,3→P4
P2	(1) COPY VACCINATION DATE FOR EACH VACCINE FROM THE CARD. (2) WRITE "44" IN "DAY" COLUMN IF CARD SHOWS THAT A VACCINATION WAS GIVEN BUT NO DATE IS RECORDED.	Day Month Year BCG ..... ☐☐-☐☐-☐☐☐☐ Polio-0..... ☐☐-☐☐-☐☐☐☐ Polio-1..... ☐☐-☐☐-☐☐☐☐ Polio-2..... ☐☐-☐☐-☐☐☐☐ Polio-3..... ☐☐-☐☐-☐☐☐☐ Penta-1 ..... ☐☐-☐☐-☐☐☐☐ Penta-2 ..... ☐☐-☐☐-☐☐☐☐ Penta-3 ..... ☐☐-☐☐-☐☐☐☐ DPT-1 ..... ☐☐-☐☐-☐☐☐☐ DPT-2 ..... ☐☐-☐☐-☐☐☐☐ DPT-3 ..... ☐☐-☐☐-☐☐☐☐ Measles..... ☐☐-☐☐-☐☐☐☐	
P3	Has (NAME) received any vaccinations that was not recorded on this card? **RECORD "YES" ONLY IF RESPONDENT MENTIONS BCG, POLIO 1-3, DPT 1-3, PENTA 1-3 AND/OR MEASLES VACCINE(S)** **PROBE FOR VACCINATIONS AND WRITE "66" IN THE CORRESPONDING DAY COLUMN IN QUESTION P2**	Yes ..... 1 No ..... 2 Don't know 3	2,3→P10
	Please tell me if (NAME) received any of the following vaccinations:		
P4	A BCG vaccination against tuberculosis, an injection in the left shoulder that caused a scar?	Yes ..... 1 No ..... 2 Don't know 3	
P5	Oral polio vaccine, drop that put in the mouth of the child?	Yes ..... 1 No ..... 2 Don't know 3	2,3→P7
P6	How many times did (NAME) receive polio vaccine?	☐ times	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
P7	DPT/PENTAVALENT vaccination, an injection is given in the thigh or buttocks, sometimes at the same time with polio drops?	Yes ..... 1 No ..... 2 Don't know 3	2,3→P9
P8	How many times did (NAME) receive DPT/PENTAVALENT vaccine?	☐ times	
P9	An injection to prevent measles that is given after 9 months of age of the child?	Yes ..... 1 No ..... 2 Don't know 3	
P10	Has (NAME) received a vitamin A capsule like this in the last 6 months? **[CHECK VACCINATION CARD IF AVAILABLE. SHOW BLUE AND RED VITAMIN A CAPSULES AS EITHER MAY HAVE BEEN GIVEN DEPENDING ON CHILD'S AGE]**	Yes ..... 1 No ..... 2 Don't know 3	
P11	Do you or someone at your household add any Moni-mix or other sprinkles into (NAME's) food?	Yes ..... 1 No ..... 2 Don't know 3	

MODULE Q. DIARRHEA AND ARI AMONG CHILDREN 6-23 MONTHS

CHECK THE INDEX CHILD'S BIRTH DATE (QUESTION NK2.2). WAS THE CHILD WAS BORN BETWEEN FEBRUARY 2012 AND JULY 2014? IF SO, HE/SHE IS 6-23 MONTHS. PROCEED TO ASK THE QUESTIONS BELOW. IF NOT, SKIP TO MODULE R.

NO.	QUESTIONS	CODING CATEGORIES	SKIP
Q	Line number of the child and mother/ caregiver from module C	A. Child ..... ☐☐ B. Mother/Caregiver ..... ☐☐	
Q1	Did (NAME) have diarrhea (3 or more loose stools in 24 hours) in the last 2 weeks?	Yes ..... 1 No 2	2→Q12
Q2	How much (NAME) was given to drink during the diarrhea (including breast milk)? Was he/she given less than usual to drink, same amount, or more than usual to drink? **[IF "LESS", PROBE]** Was he/she given much less than usual to drink or somewhat less?	Much less ..... 1 Somewhat less ..... 2 About the same ..... 3 More ..... 4 Nothing to drink ..... 5 Don't know 6	
Q3	When (NAME) had diarrhea, was he/she given less than usual to eat, about the same amount, more than usual, or nothing to eat? **[IF "LESS", PROBE]** Was he/she given much less than usual to eat or somewhat less?	Much less ..... 1 Somewhat less ..... 2 About the same ..... 3 More ..... 4 Nothing to eat ..... 5 Don't know 6	
Q4	Are you still breastfeeding?	Yes ..... 1 No 2	2→Q6
Q5	Did you continue to breastfeed (NAME) during diarrhea?	Continued ..... 1 Did not continue 2	
Q6	Was anything given to (NAME) to treat the diarrhea? **[MULTIPLE RESPONSE]**	A. Home made (sugar/salt) saline ..... 1 B. Home made (Labon-gur) saline ..... 2 C. Packet saline ..... 3 D. Rice poser ..... 4 E. Pill/capsule/syrup ..... 5 F. Injection 6	

NO.	QUESTIONS	CODING CATEGORIES	SKIP
		G. Intravenuos ..... 7 H. Home remedies/herbal medicine/plants ..... 8 I. Plain drinking water ..... 9 J. Did not give anything ..... 10 K. Other (specify) 11	
Q7	Has the child had an illness with a cough at any time in the last 2 weeks?	Yes ..... 1 No 2	2→Q12
Q8	When the child had an illness with a cough, did he/she breathe faster than usual with short, rapid breaths or have difficulty breathing?	Yes ..... 1 No 2	2→Q10
Q9	Was the fast or difficult breathing due to problem in the chest or nose blockage or runing nose?	Chest only ..... 1 Nose only ..... 2 Both ..... 3 Other ..... 4 Don't know 5	
Q10	Did you seek advice or treatment for the illness from any source?	Yes ..... 1 No 2	2→Q12
Q11	If yes, where?	A. Hospital (private or public) ..... 1 B. Health centre ..... 2 C. Dispensary ..... 3 D. Village health worker ..... 4 E. Clinic (NGO, private, or gov't) ..... 5 F. Private physician ..... 6 G. Traditional healer ..... 7 H. Friend/relative ..... 8 I. Other 9	
Q12	Does this woman have another child aged 0-23 months? **[IF THERE IS 2ND CHILD THEN START ASKING QUESTION RELATED TO THE 2ND CHILD FROM "O1"]**	Yes ..... 1 No 2	1→Q1
Q13	Is there another woman in the household with a child aged 0-23 months?	Yes ..... 1 No 2	1→K1

MODULE R. HEIGHT AND WEIGHT OF CHILD 0-59 MONTHS AND MOTHER

MEASURE WEIGHT AND HEIGHT FOR ALL CHILDREN 0-59 MONTHS IN THE HOUSEHOLD

NO.	QUESTIONS	CODING CATEGORIES	SKIP
R1a	What is the date of Birth of child?	Day..... ☐☐ Month..... ☐☐ Year..... ☐☐☐☐	
	C. **IF THE CHILD WAS BORN IN JANUARY 2012 OR LATER, HE/SHE IS 0-23 MONTHS OF AGE. IN THAT CASE, MEASURE THE CHILD'S LENGTH BY LYING DOWN.** D. **IF THE CHILD WAS BORN IN DECEMBER 2011 OR EARLIER, HE/SHE IS 24 MONTHS OF AGE OR OLDER. IN THAT CASE MEASURE HEIGHT BY STANDING.**		

NO.	QUESTIONS	CODING CATEGORIES	SKIP
R1b	Line number of the child and mother/ caregiver from module C	C. Child ..... ☐☐ D. Mother/Caregiver ..... ☐☐	
R2	Sex of the child?	Boy ..... 1 Girl 2	
R3	Height or length of the child (in centimeters)	☐☐☐.☐ cm	
R3a	Height or length was measured by	Standing ..... 1 Lying down 2	
R4	Child's weight (in kg)	☐☐.☐ kg	
R5	Mother's/Caregiver's weight	☐☐.☐ kg	
R6	Mother's/Caregiver's height	☐☐☐.☐ cm	
R7	Date measured/weighed	☐☐-☐☐-☐☐☐☐ dd mm yyyy	
R8	Results of the anthropometric measurement	Child was measured ..... 1 Child was sick ..... 2 Child was not present ..... 3 Child refused ..... 4 Mother refused ..... 5 Other refused 6	
R9	Is there any other child 0-59 months in the household?	Yes ..... 1 No 2	1→R1a 2→END
END	**THANK YOU VERY MUCH for your time and Patience! Do you have any question?**		

ANNEX-9: QFPE DATA COLLECTION TEAM TRAINING SCHEDULE

Quantitative Final Program Evaluation of the PROSHAR Program

Training Schedule

Venue: CBCB Training center, Dhaka and Ava Center, Khulna

January 06-14, 2015 in Dhaka and January 15-17 in Khulna

Duration	Topic	Facilitation
Day 1 (January 06, 2015), TUESDAY		
8:00 – 9:00	Registration	Mitra
9:00 – 9:45	Welcome and Introduction	Mitra & PROSHAR
9:45 – 10:00	Inauguration	PROSHAR
10:00 – 11:00	Introduction to PROSHAR (*background, goal, strategic objectives of the project and its activities*)	PROSHAR
11.00 – 11.30	Tea Break	
11:30 – 12:15	Purpose of the study and sampling methodology	TANGO & Mitra
12:15 - 13:00	General rules, norms and guidance on survey implementation	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Review of the hard copy questionnaire	TANGO & Mitra
15:30 – 16:00	Tea and Prayer break	TANGO & Mitra
16:00 – 16:30	Review of the hard copy questionnaire	TANGO & Mitra
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 2 (January 07, 2015), WEDNESDAY		
8:30 – 9:00	Recap of day-1	TANGO & Mitra
9:00 – 10:30	Review of the hard copy questionnaire	TANGO & Mitra
10:30 – 11:00	Tea break	
11:00 – 13:00	Review of the hard copy questionnaire	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Review of the hard copy questionnaire	TANGO & Mitra
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Review of the hard copy questionnaire	TANGO & Mitra
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 3 (January 08, 2015), THURSDAY		
8:30 – 9:00	Recap of day-2	TANGO & Mitra
9:00 – 9:30	Tablet distribution	TANGO & Mitra
9:30 – 10:30	Discussion on Tablet operation	TANGO
10:30 – 11:00	Tea break	
11:00 – 13:00	Discussion on Tablet operation	TANGO
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Discussion on questionnaire using Tablet	TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Discussion on questionnaire using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 4 (January 09, 2015), FRIDAY		
8:30 – 9:00	Recap of day-3	TANGO & Mitra
9:00 – 10:30	Discussion on questionnaire using Tablet	TANGO
10:30 – 11:00	Tea break	
11:00 – 12:30	Discussion on questionnaire using Tablet	TANGO
12:30 – 14:30	Lunch and Prayer break	
14:30 – 15:30	Discussion on questionnaire using Tablet	TANGO

Duration	Topic	Facilitation
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Discussion on questionnaire using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 5 (January 10, 2015), SATURDAY		
8:30 – 9:00	Recap of day-4	TANGO & Mitra
9:00 – 10:30	Discussion on questionnaire using Tablet	TANGO
10:30 – 11:00	Tea break	
11:00 – 13:00	Discussion on questionnaire using Tablet	TANGO
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Discussion on questionnaire using Tablet	TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Discussion on questionnaire using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 6 (January 11, 2015), SUNDAY		
8:30 – 9:00	Recap of day-5	TANGO & Mitra
9:00 – 10:30	Questionnaire practice using Tablet	TANGO
10:30 – 11:00	Tea break	
11:00 – 13:00	Questionnaire practice using Tablet	TANGO
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Questionnaire practice using Tablet	TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Questionnaire practice using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 7 (January 12, 2015), MONDAY		
8:30 – 9:00	Recap of day-6	TANGO & Mitra
9:00 – 10:30	Anthropometric data collection guidance	TANGO
10:30 – 11:00	Tea break	
11:00 – 13:00	Demonstration on anthropometric data collection process	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Practice on anthropometric data collection with children U5 and mothers, Standardization	Mitra & TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Practice on anthropometric data collection with children U5 and mothers, Standardization	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 8 (January 13, 2015), TUESDAY		
8:30 – 9:00	Recap of day-7	TANGO & Mitra
9:00 – 10:30	Anthropometric data entry in Tablet	TANGO
10:30 – 11:00	Tea break	
11:00 – 13:00	Questionnaire and anthro data entry practice practice using Tablet	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Questionnaire and anthro data entry practice using Tablet	Mitra & TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Questionnaire and anthro data entry practice using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 9 (January 14, 2015), WEDNESDAY		
8:30 – 9:00	Recap of day-8	TANGO & Mitra
9:00 – 10:30	Questionnaire and anthro data entry practice using Tablet	TANGO

Duration	Topic	Facilitation
10:30 – 11:00	Tea break	
11:00 – 13:00	Questionnaire and anthro data entry practice using Tablet	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Questionnaire and anthro data entry practice using Tablet	Mitra & TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Questionnaire and anthro data entry practice using Tablet	TANGO
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 10 (January 15, 2015), THURSDAY		
8:30 – 9:00	Recap of day-9	TANGO & Mitra
9:00 – 10:30	Question and Answer session	TANGO & Mitra
10:30 – 11:00	Tea break	
11:00 – 13:00	Question and Answer session	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Briefing on field practice	Mitra & TANGO
15:30 – 16:00	Tea and Prayer break	
16:00 – 16:30	Field logistics planning	TANGO & Mitra
16:30 – 17:00	Review of day's discussion	TANGO & Mitra
Day 11 (January 16, 2015), FRIDAY		
7:30 – 9:00	Travel to Batiaghata for field practice	Mitra & TANGO
9:00 – 12:30	Field practice	Mitra & TANGO
12:30 – 14:30	Lunch and Prayer break	
14:30 – 15:30	Field practice	Mitra & TANGO
15:30-17:00	Travel back from Batiaghata	Mitra & TANGO
Day 12 (January 17, 2015), SATURDAY		
8:30 – 10:30	Discussion on field practice and adjustment	TANGO & Mitra
10:30 – 11:00	Tea break	
11:00 – 13:00	Discussion on field practice and adjustment	TANGO & Mitra
13:00 – 14:00	Lunch and Prayer break	
14:00 – 15:30	Wrap-up the training	Mitra
15:30 – 16:00	Tea and Prayer break	
16:00 – 17:00	Wrap-up and field data collection planning	Mitra
17:00 – 18:00	Training closing	PROSHAR & Mitra

ANNEX-10 ANTHROPOMETRIC TRAINING AND STANDARDIZATION PROCESS

Day long training was organized in Dhaka on 13 January 2015, on anthropometric measurement. To ensure that the measurer are confident in taking the weight and height/length of adult and children - a practice session had been organized on the same day with real mothers and children under 5 years.

Measurement accuracy was considered as the prerequisite for height and weight otherwise the z-scores of height-for-age, weight-for-age and weight-for-height will be incorrect. Accuracy was achieved through a combination of good training, supervision and practice.

Over the last 10 years two error estimates, the technical error of measurement (TEM) and the coefficient of reliability (R) have been regularly used (including WHO Multicenter Growth Reference Study) to determine if the measurements have been taken accurately. Same thing have been done during the training of measurers for PROSHAR final quantitative evaluation. TEM and R was calculated using the practice measurement data to check if the measurement accuracy has reached to a satisfactory level.

For full details of the TEM and R calculated for each of the measurement teams, please refer to the excel datasheet attached along with this documents. A brief description of the calculation procedure is mentioned below for reference.

Calculation of TEM and R:

Determination of TEM involves taking repeated measurements on the same subject either by the same observer (intra-observer TEM) or by two or more observers (inter-observer-TEM) and then computing the difference in the measurements.

For intra-observer TEM and for inter-observer TEM involving two measures, the equation is:

$TEM = \sqrt{\Sigma D^2/2N}$

where D is the difference between the two measurements and N is the number of individuals who have been measured.

For TEM with more than 2 teams the equation is as follows:-

$$TEM = \frac{\sum Diff}{N(K-1)} = \frac{\sum_1^N [(\sum_1^K M(n)^2) - \frac{(\sum_1^K M(n))^2}{K}]}{N(K-1)}$$

Here, K = number of teams i.e. 4 or 10 teams etc.

The coefficient of reliability, R, ranges from 0 (not reliable) to 1 (complete reliability). It is calculated from the following equation:

$R = 1 - [(TEM)^2/(SD)^2]$, where SD is the inter-subject standard deviation.

Thus an R value of 0.90 indicates that 90% of the variance is due to factors other than measurement error. Although there are no recommended values for R, most researchers use a cut-off of 0.95 be used (i.e. a measurement error of up to 5%). I have also used the same threshold to assess the quality of the measurement for PROSHAR final quantitative evaluation.

Examples of computation of TEM and R

Intra-observer TEM and R for 2 measurements

The heights of 10 adults were twice measured by a team (team no.5 was taken as an example) twice.

SL No	Name of the adult	First measurement	Second Measurement	Difference (D)	Difference^2 (D^2)
1	Rashid	168.1	168.0	0.1	0.01
2	Motaleb Sheikh	166.6	166.7	-0.1	0.01
3	Abu Hena	157.4	157.3	0.1	0.01
4	Kulsum	156.0	155.3	0.7	0.49
5	Sayma Akhter	160.2	160.1	0.1	0.01
6	Bojor Ali	168.3	168.2	0.1	0.01
7	Anower	163.9	163.8	0.1	0.01
8	Shompa	155.9	155.7	0.2	0.04
9	Sultana Razia	150.2	150.2	0	0
10	Rahima	141.6	141.6	0	0
$\sum D^2 = 0.59$					

Steps

1. Compute Difference 1st measurement–2nd Measurement, for person 1,168.1–168.0= +0.1
2. Compute Difference^{2,} for person 1, $+0.1^2 = 0.01$
3. Compute $\sum$ Difference^2 ($\sum D^2$) = 0.59
4. Compute TEM = $\sqrt{\Sigma D^2/2N}$, TEM = $\sqrt{6.00/2x10}$, = 0.038406
5. Compute R = 1 – $[(TEM)^2/(SD)^2]$, R = 1 - $[(0.5477)^2/(4.5794)^2]$ = 0.999, which is above the acceptable R threshold of 0.95

Overall this team has acceptable measurement technique and quality control is satisfactory.

Inter-observer TEM and R for 5 teams

TEM of the finalized 5 anthropometric teams was measured using the second equation and the calculation was done as follows:-

The heights of 10 person were measured by four Teams 1, 2, 3, 4 and 5, K = number of teams i.e. 5

Sl. No	**Team 1**	**Team 2**	**Team 3**	**Team 4**	**Team 5**	**$\sum M$**	**$\sum M^2$**	**$(\sum M)^2/K$**	**Diff = $(\sum M^2)$ - $(\sum M)^2/K$**
1	167.7	167.6	167.8	168.3	168.0	839.4	140918.8	140918.5	0.308
2	166.7	166.6	166.5	166.4	166.7	832.9	138744.6	138744.5	0.068
3	157.6	157.4	157.1	157.4	157.3	786.8	123811	123810.8	0.132
4	156.0	155.7	155.8	155.9	155.3	778.7	121275	121274.7	0.292
5	159.4	159.7	159.6	159.4	160.1	798.2	127425	127424.6	0.332
6	168.5	168.3	168.2	168.3	168.2	841.5	141624.5	141624.5	0.06
7	163.9	163.9	163.5	163.8	163.8	818.9	134119.6	134119.4	0.108
8	155.6	155.6	155.2	155.5	155.7	777.6	120932.5	120932.4	0.148
9	150.1	150.2	149.1	149.6	150.2	749.2	112261.1	112260.1	0.932
10	141.8	141.1	141.3	140.8	141.6	706.6	99857.34	99856.71	0.628
$\sum$Diff = 3.008									

Steps

1. Compute $\sum M$ = Height of each person for Teams 1 to 5, e.g. person 1, 167.7 + 167.6 + 167.8 + 168.3 + 168.0 = 839.4

2. Compute $\sum M^2$ = Height^2 of each person for Teams 1 to 5, e.g. person 1, $167.7^2 + 167.6^2 + 167.8^2 + 168.3^2 + 168.0^2 = 140918.8$
3. Compute $(\sum M)^2/K$ for each person, e.g. $(839.4)^2/5 = 140918.5$
4. Compute Diff = $(\sum M^2) - (\sum M)^2/K$, for person 1, 140918.8– 140918.5 = 0.308
5. Compute $\sum$Diff = sum of all differences = 3.008
6. TEM =√ $\sum$Diff/N(K-1) = √0.000282/10(5-1) = 0.27422618
7. Compute SD for all 40 measurements = 8.24957538
8. Compute R = 1 – $[(TEM)^2/(SD)^2]$, R = 1 - $[(0.27422618)^2 8.24957538)^2]$ = 0.99889502

ANNEX-11: PROSHAR QFPE SCOPE OF WORK