KOICA
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World Vision

Mid-line Survey of Maternal and Child Nutrition Project

Prepared by

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Acknowledgement

With great pleasure, joy and enthusiasm, I am writing this acknowledgment page for the report of mid-line Survey of Maternal and Child Nutrition Project" for World Vision Bangladesh. We, the study team, believe this work would not have been possible without the cordial support from World Vision Bangladesh.

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I would also like to thank the core research team; Md. Fazle Rabbi, Moin U Ahmed, Md. Abdus Sabur, Mr. Mazharul Khan, Ms. Akfa Ali for their contribution in data collection, analysis and report writing.

Yours sincerely,

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Khandaker Samina Afrin

Marketing and Commercial Leader

The Nielsen Company (Bangladesh) Limited

Affirmation

This report summarizes the mid-line findings of Rajshahi Maternal & Child Nutrition Project of World Vision Bangladesh (WVB). Implementation of Rajshahi Maternal & Child Nutrition Project started in March 2018 at three upazilas of Joypurhat & Naogaon districts. The Nielsen Company (Bangladesh) Ltd. conducted the mid-line survey of the project during the period of July 2019-August 2019. The aim of this survey was to monitor the changes of the key health and nutrition indicators of the project over the project period.

I acknowledge that the motive and objectives of the evaluation report being presented and also that the material is original work. I also state that the intellectual properties of the evaluation report rest with the communities about which the report is written.

Except as acknowledged by the references in this paper to other authors and publications, the evaluation described herein consists of our own work, undertaken to secure funding, implement the activities, describe and advance learning, as part of the requirements of World Vision's Design, Monitoring and Evaluation Learning System.

Primary quantitative and qualitative data collected throughout the evaluation process remain the property of the communities and families described in this document. Information and data must be used only with their consent.

Yours sincerely,

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Khandaker Samina Afrin

Marketing and Commercial Leader

The Nielsen Company (Bangladesh) Limited

Glossary

ANC	Antenatal Care
BDT	Bangladeshi Taka
BDHS	Bangladesh Demographic & Household Survey
BINP	Bangladesh Integrated Nutrition Programme
CAPI	Computer-Assisted Personal Interviewing
CHCP	Community Health Care Provider
CF	Community Facilitator
CG	Community Groups
CSG	Community Support Groups
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
ED	Economic Development
EPI	Expanded Program on Immunization
FANTA	Food and Nutrition Technical Assistance Project
FP	Family Planning
FGD	Focus Group Discussion
FWC	Family Welfare Center
GMP	Growth Monitoring and Promotion
GoB	Government of Bangladesh
HPN	Health, Population and Nutrition
Icddr,b	International Centre for Diarrhoeal Disease Research, Bangladesh
IGA	Income Generating Activities
IMCI	Integrated Management of Childhood Illness
IPHN	Institute of Public Health and Nutrition
IYCF	Infant & Young Child Feeding
KII	Key Informant Interview
KOICA	Korea International Cooperation Agency
MDG	Millennium Development Goals
MIS	Management Information System
MOHFW	Ministry of Health and Family Welfare
MUAC	Mid-Upper Arm Circumference
NNP	National Nutrition Programme
NNS	National Nutrition Service
PD Hearth	Positive Deviance Hearth
PNC	Postnatal Care
RM&CN	Rajshahi Maternal & Child Nutrition
SD	Standard Deviation
SDG	Sustainable Development Goals
WASH	Water, Sanitation and Hygiene
WATSAN	Water, Sanitation and Hygiene
WHO	World Health Organization
WVB	World Vision Bangladesh

Executive Summary

Malnutrition is considered as the greatest single threat to the world's public health especially in developing countries. Considering Health as the one of the fundamental rights of human being, the Government of Bangladesh has prioritized Health, Population and Nutrition (HPN) among the most urgent development issues for the government. Nationally, prevalence of stunting, wasting and underweight among children under 5 years of age were 36%, 14% and 33% respectively in 2014. The Vision 2021 of the Government of Bangladesh envisions a country where all citizens enjoy a quality of life assured with basic health care and adequate nutrition. With an aim to support GoB's vision and to contribute in improving the nutrition for the children under 5 as well as for the mothers/caregivers in the targeted area, Rajshahi Maternal and Child Nutrition Project funded by KOICA and implemented by World Vision Bangladesh, employed an integrated package of nutrition interventions covering areas of nutrition, water, sanitation and hygiene and livelihood to address the underlying causes of under nutrition. The Rajshahi Maternal & Child Nutrition project is being implemented in 3 Upazilas of Joypurhat & Naogaon.

Before the initiation of the main project main activities, Nielsen conducted baseline survey to measure the baseline indicators in order to track the progress of the project over the project period. As a part of this M&E activities, Nielsen also conducted Midline Survey in July-August 2019. The Survey was carried with 500 mothers of children aged 0-23 months.

Key findings:

Demographic and socioeconomic characteristics of the respondents:

- Access to improved source for drinking water was universal in both baseline and mid-line survey.
- Around 71.6% household had access to improved sanitation facilities which was 62.0% in the baseline.
- The average household income has found to be BDT 9,185 in the midline survey which was BDT 6,698 in baseline. The average household income of ED beneficiaries was found to be BDT 7,924.
- Around 65% of the surveyed respondents were aged between 20-29 years and the mean age was 25 years. All the women (100%) were married at the time of the survey. Around 6% of the respondents had never been to school.

Nutrition

Stunting, Wasting & Underweight:

- For midline survey, the major objectives were to collect information on exclusive breastfeeding and dietary diversity of the children aged 6-23 months. Therefore a total of 500 samples were covered randomly, among those 150 samples were children aged 0-5 months and 350 samples were children aged 6-23 months. Whereas the baseline data was collected with the children aged 0-59 months. Baseline data reflected that the prevalence of underweight increases with the increase of age of the children aged 0-59 months. The prevalence of underweight was higher (more than 40%) among the children aged more than 24 months. Since the midline data was collected

from children aged 0-23 months, therefore it has impact on the prevalence of underweight, the rate has decreased significantly. To compare the result of baseline and midline more accurately, we have also provided the baseline result for children aged 0-23 months along with total result for children aged 0-59 months.

- The prevalence of stunting has reduced from baseline result (*36% vis-a-vis 29%)*. In midline survey, 29% of the children in the survey area were found to be stunted (< -2 height-for-age z –score) while 7% were severely stunted (<-3 height-for-age z –score). It should also be noted that 34% of the children aged 0-23 months were stunned in baseline.
- Wasting rate shows declining trend in midline survey compared to baseline which is indicating improvement. 11% of the children aged under five years in study areas were found to have wasting whereas baseline result was 18%. It should be noted that 14% of the children aged 0-23 months were found to have wasting in baseline.
- The prevalence of underweight has been decreased significantly from 31% to 15% in midline. However, as mentioned above, the prevalence of underweight was 23% for the children aged 0-23 months in baseline.

	Baseline		Midline (children with 0-23 months)
	Children with 0-59 months	Children with 0-23 months	
Stunting	36%	34%	29%
Wasting	18%	14%	11%
Underweight	31%	23%	15%

Exclusive Breastfeeding & Food Diversity according to PD/Hearth Guideline

- All the infants (100%) 0-5 months received breast milk during the previous day of survey.
- 94% of the infants under 6 months (baseline result was 78%) received exclusive breastfeeding.
- 51% of the infants aged 6-23 months consumed 4 or more food items according to PD Hearth Guideline in the midline which was 21.3% in the baseline.

Access to Govt. Health Facilities

- 65% of the respondents in the midline reported that they have access to different services from government health facilities which was 61% in the baseline survey.
- Similar to baseline findings, it was found that all (100%) the community groups are functioning as per operation guideline whereas 44% of the Community Support Groups (CSG) is functioning as per operation guideline which was 40% in the baseline survey.

PD/Hearth Programme & Economic Development (ED) Programme

- 24.54% underweight children aged under 5 of the households benefited project income generation interventions which was 37.55% in baseline. Since the project has been successful in reducing the prevalence of stunting, wasting and underweight of the children, the percentage of underweight children under 5 years who have benefitted from the project income generation intervention has reduced.
- 57.94% of the children of ED beneficiaries are receiving minimum dietary diversity which was 21.3% in the baseline survey.
- With respect to minim adequate diet of women who have received IGA support, it was found that 44.8% of the women received adequate diet which was 33.5% in the baseline.
- All the children of ED beneficiaries attended the PD/Hearth session. Majority of the ED beneficiaries stated they have learnt about exclusive breastfeeding for first 6 months (84.9%), when to feed soft and solid foods (86.8%), feeding a variety of foods (88.2%), how much food to feed child (90.9%), how to feed a sick baby (83.9%), how to seek health services when child is sick (82.7%), good hygiene practices (76.9%).
- Almost all the ED beneficiaries (99%) stated that they are satisfied with the session and found it useful and the lesson applicable for child caring and feeding.
- 86% of the respondents stated that they have shared lessons from PD Hearth with neighboring mothers.
- 96% of the ED beneficiaries completed the Economic Development (ED) group/saving training.
- Majority of the ED beneficiaries received the assets/training i.e. duck (73%), mango tree (65%), lemon tree (65%), papaya tree (52%), guava tree (63%), gardening training (82%) and vegetable seeds (81%) from World Vision.
- Majority of the ED beneficiaries and their children consumed (76% children & 74% ED beneficiaries) and sold (67%) eggs, meats of duck & chicken, and vegetables (consumed: children 96%, ED Beneficiaries 95%, sold: 44%) that they received from World Vision. This enables them to fulfil the nutritional requirement of the family members of the ED beneficiaries as well as to generate income for their families.
- This also ensures economic empowerment of the women ED beneficiaries as they are now managing the additional income (97%) & savings (59%) of the household from the IGA support they received from World Vision.

Chapter One: Introduction

1.1 Background

Bangladesh is the most densely populated country in the world, with about 163 million people living in a landmass of 147,570 square kilometers, and around one-third of the population under 15 years (UNICEF 2017; NIPORT et al. 2016). Bangladesh has maintained an impressive track record of 6% economic growth rate over the past decade, coupled with remarkable improvements in human development (World Bank 2017). The agriculture and fisheries sectors are pillars of the economy, employing more than half the population (USAID 2017a). However, population growth, urbanization, and soil and natural resource depletion have resulted in the degradation of land, water bodies, wetlands, and forests, and pose a significant threat to the agricultural sector. Despite these challenges, Bangladesh reached Millennium Development Goal (MDG) 1, of halving poverty by 2015, reducing the number of people in poverty from 57% in 1991 to 32% in 2010 (General Economics Division [GED] et al. 2015). Bangladesh has also seen impressive improvements in primary school enrollment, gender parity in primary- and secondary-level education, immunization coverage, reduced incidence of communicable diseases, and substantial reductions in child and maternal mortality, meeting key targets for MDGs 2,3,4, and 5 (GED et al. 2015). Bangladesh has also made strides in reducing the prevalence of stunting, wasting & under nutrition among the under 5 children (NIPORT et al. 2013; NIPORT et al. 2016).

Despite of these achievements, levels of malnutrition in Bangladesh are amongst the highest in the world and it incurs heavy costs from the health care system through excess morbidity, increased premature delivery and increases risks of other diseases (Save the Children, 2015). About 35% of Bangladesh's population remains food insecure (NIPORT et al. 2013). Loss of arable land, rising sea levels, frequent flooding, and extreme weather patterns, and climate change; compound the threats to food security. Under nutrition is exacerbated by poor dietary diversity, with 70% of the diet comprising cereals, and inadequate protein and micronutrient intake (Magnani et al. 2015). Poor sanitation and hygiene, which result in diarrhea and other infectious diseases, also contribute to under nutrition in children.

To combat with these challenges, a series of nutrition related programmes have been implemented by the government of Bangladesh over time. The Bangladesh Integrated Nutrition Programme (BINP) was implemented since 1995 with the focus on improving nutritional status of women, adolescent girls and young children. The BINP was replaced by the National Nutrition Programme (NNP) from 2004 to 2010. In 2011, an integrated approach, National Nutrition Service (NNS) was initiated. All relevant agencies of the government started working in collaboration for combating malnutrition as part of NNS. Besides the government, other stakeholders are also implementing and supporting smaller-scale interventions to improve nutritional status of women and children.

To continue the Bangladesh Government's commitment towards making a country where all citizens enjoy a quality of life assured with basic health care and adequate nutrition; the government has also signed onto achieving the Sustainable Development Goals (SDGs). In the new target of SDGS; the issues of maternal & child health & nutrition are

fitting under goal number 2 & 3[1]; Good health and well-being which was targeted under fifth goal in pervious Millennium Development Goals (MDGs) framework. The targets of the 7th Five Year Plan (2016–2020) and the fourth health sector program (2017–2021) are fully aligned with global commitments to nutrition, such as SDG 2 and SDG 3.

1.2 Background of RM&CN Project (Rajshahi Maternal & Child Nutrition Project)

The Vision 2021 of the Government of Bangladesh envisions a country where all citizens enjoy a quality of life assured with basic health care and adequate nutrition. The milestones of Vision 2021 has been articulated under the "'Perspective Plan of Bangladesh 2010-2021" and to implement the perspective plan; the government decided to formulate two 5-year plans, the Sixth Five Year Plan (FY2010-FY2015) and the Seventh Plan (FY2016-FY2020). The Seventh Plan has been aligned with the Sustainable Development Goals (SDG). Health, Nutrition and Population situation appears satisfactory as health outcomes continue to improve as demonstrated by the progress on the MDGs, which has been mentioned in Health, Nutrition and Population (HPN) Development Strategy of the Seventh plan. It also states that despite the good progress made in improving health outcomes, malnutrition continues at an unacceptably high level in Bangladesh, with children and women the most affected. It describes some challenges which are barrier to reduce malnutrition. The challenges are inadequate skilled attendance at birth, and child marriage and teenage pregnancy. These endanger the health status of women and children. It also acknowledges the challenges related to rapid demographic changes, epidemiological transition and confronted with double burden in nutrition. It describes the geographical location of Bangladesh as a challenge, which makes the country vulnerable to different natural disasters and climate change as well. Issues in service delivery, governance and health workforce are also important challenges in the HPN sector. The Government targets to address these challenges in the Seventh plan to pave the way for a healthy, happy and prosperous nation. The Plan also states some limitations. Some of the important limitations are inadequate health financing, insufficient human resources of GoB, limited progress in providing health services in hard-to-reach areas, availability of village quacks and non-trained birth attendants, lack of skilled staff who are engaged in Management Information System (MIS).

With an aim to support GoB's vision and to contribute in improving the nutrition for the children under 5 as well as for the mothers/caregivers in the targeted area, World Vision with the funding of Korea International Cooperation Agency (KOICA), initiated 'Bangladesh Rajshahi Division Maternal and Child Nutrition Project' (Phase I) in the sub-districts of Joypurhat, Panchbibi and Dhamoirhat in January 2015.

The project made significant improvement of health and nutrition indicators in the project area. According to the final evaluation conducted by icddr,b in 2017, the rate of

[1] SDG2- End hunger, achieves food security and improved nutrition, and promote sustainable agriculture, SDG 3- Ensure healthy lives and promote well-being for all at all ages.

underweight and wasting rates of under-5 children, which was 20% and 34.7% respectively in baseline, dropped to 14% and 26% respectively by end line.

Based on the learning and success from Phase I and with the increased knowledge and technical expertise, World Vision has initiated the phase II of the project in the surrounding Unions in March 2018.

The proposed project has been designed considering all these challenges and limitations so that it is well-supported with the Health, Nutrition and Population (HPN) Development Strategy of the Seventh plan. It will complement the GoB in achieving health and nutrition targets mentioned in the Seventh plan. Bangladesh National Nutrition Policy 2015 is the reflection of the commitment of the Government of the People's Republic of Bangladesh to improve the nutritional status of its people. The proposed project is fully aligned with the Nutrition Policy 2015. In this project, both nutrition-specific direct interventions and nutrition-sensitive indirect interventions along with strategies have been undertaken considering both Nutrition Policy 2015 and project location context.

In implementing development projects, WVB collaborates with relevant government ministries and agencies at local and national levels such as Ministry of Health and Family Welfare (MOHFW), Directorate General of Health Services (DGHS), and Directorate General of Family Planning (DGFP). WVB has a formal agreement with the Institute of Public Health and Nutrition (IPHN) and Community-Based Health Care to operate health and nutrition interventions across the country[2].

1.3 Objectives of the Mid-Line Survey

The objectives of the study were as follows

- To measure the progress of the project towards the overall objectives and three Specific Objective statements and indicators mentioned in the Logical Framework particularly for project goal and outcome level indicators.
- To compare the mid-term evaluation findings with baseline findings as well as with national and district level data, where available.
- To provide clear and actionable recommendations for remaining years that will support the project in implementing interventions to the target communities.

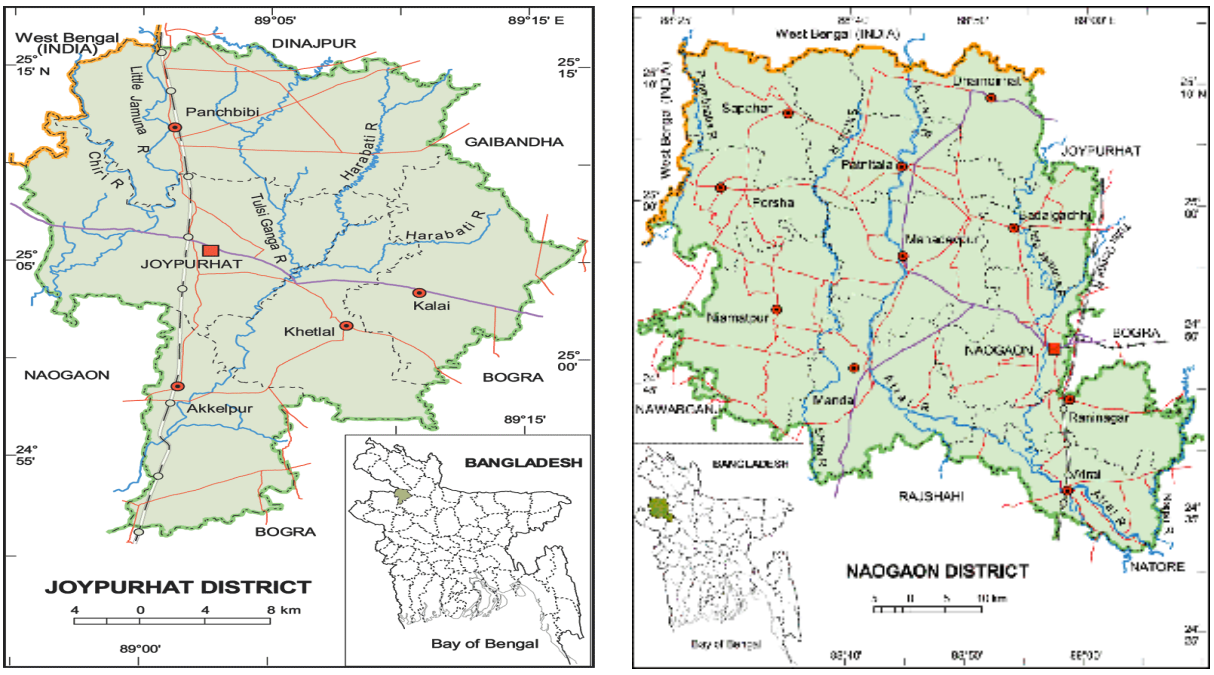
[2] Project Goals & Indicators are presented in Appendix B.

Chapter Two: Methodology

2.1 Study Areas

The mid-line survey was conducted in 2 districts i.e. Joypurhat & Naogaon for 'Bangladesh Rajshahi Division Maternal and Child Nutrition Project' as shown in figure below

Figure 1: Study locations



2.2 Target Population

The primary target respondents for the study were as follows

- Mother of 0-5 months infants
- Mother of 6-23 months children

2.3 Study Approach

The mid-line survey adopted quantitative approach. A semi structured questionnaire was used for collecting quantitative data, incorporating all necessary questions as per tentative information coverage. For getting more authentic and error free data, Nielsen conducted the survey in CAPI (Computer Administered Personal Interview). The CAPI facilitates logic checks, skip patterns, and validations during the interview. This makes the survey more efficient and helps assure higher quality data. Anthropometric measurement of all the children aged 0-5 months and 6 -23 months were also collected using necessary instruments (height & weight machine & MUAC tape) by especially trained data collectors.

2.3.1 Sample Size[3]

A total of 500 children aged 0-5 months and 6-23 months were covered and sample distribution is as follows:

Table 1: Sample Distribution (Respondent Type)

Respondent Type	Joypurhat Sadar	Panchbibi	Dhamoirhat	Sample
Mother of children aged 0-5 months	50	50	50	150
Mother of children aged 6-23 months	116	117	117	350
Total Sample Total	**166**	**167**	**167**	**500**

Sample Selection Procedure:

- From each of the three intervention upazilla, two unions were selected randomly.
- A total of 10 villages were selected randomly from the two selected unions of each upazila.
- These villages were selected as cluster.
- The villages of each union were divided into 2/3 blocks consisting of 100-150 households.
- For selecting the household with children aged 0-5 months and children aged 6-23 months, the study team followed right hand rule approach. The first household was selected using date method. After each successful interview, the interviewers skipped three households and knocked the 4th Households. If there was no eligible respondent available then the interviewers knocked the next household for the interview.
- If the sample was not covered from the selected block, the study went for adjacent blocks/villages to cover the sample.

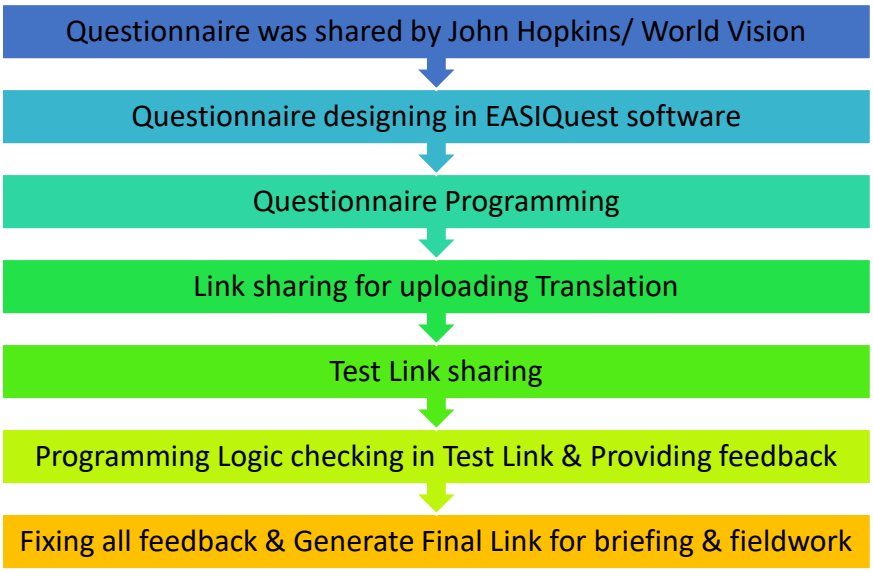
As part of the study, World Vision programme officers of M&CN Project also collected data from 34 Community Group and 102 Community Support Group under 34 Community Clinics in project working area to assess the effectiveness as well as whether these groups are functioning as per plan by the guidance of Project Advisor.

2.4 Questionnaire Finalization & CAPI Programming

The questionnaire was largely developed by John Hopkins University. The core research team members of Nielsen reviewed the questionnaire and provided necessary feedback.

[3] During the period of data collection of mid-line survey, John Hopkins University was also conducting research on the participants of PD/Hearth and ED beneficiaries & participants of PD/Hearth but of the project. As part of that research, Nielsen collected data from 1,029 respondents (544 PD/Hearth participants & non ED beneficiaries and 485 PD/Hearth participants and ED beneficiaries). Nielsen also conducted 4 FGDs and 20 KIIs with these target segments. Some findings of that study are used in this report.

Once the questionnaire was finalized, the Easiquest[4] was done by core research team and was submitted to programming team to do programming in confirmit platform[5]. Once the programming was done, the core research team checked the flow and logic of the questionnaire and provided necessary feedback to programming team. The link also submitted to World Vision team for review. It took 7 working days to finalize the programming of the questionnaire.



2.5 Field Work and Quality Control Mechanism

The fieldwork for the study was conducted from July 22, 2019 to August 08, 2019 with the cooperation from World Vision Bangladesh.

A total of four teams (6 members in each team – 5 interviewers and 1 supervisor) were responsible for collecting data. In terms of employing data collectors, focus was given on data collectors who had previous exposure in the study areas as well as on similar studies.

The field staffs were given adequate training on the techniques of data collection and on the data collection instruments (e.g. questionnaire, height & weight measurement, how to handle CAPI device etc.). A 4 days training for survey enumerators were arranged. The enumerators who completed graduation and had experience in similar kind of studies and familiar with android devices were recruited for the training. During the training, the key study team members thoroughly trained the enumerators on methodology, how to select respondents, logic of each questionnaire, how to handle non response etc. The representatives of World Vision Bangladesh & John Hopkins were also present during the training session and provided training on child protection. After the training, written test and mock test were conducted to evaluate each of the enumerators. The participants who performed satisfactorily were selected for the study.

[4] Nielsen Proprietary software for designing questionnaire
5 Confirmit is the world's leading provider of survey and reporting software, delivering the most complete and robust market research platform available.

To ensure quality of the data collection process, the quality controllers were present in the field during the first few days of the data collection. Site supervisors checked all questionnaires for completeness every day at the end of all interviews beside accompany check. They also back checked questions whenever was necessary. The database was checked from Dhaka office on a daily basis and necessary feedback was provided to the field enumerators. The field controller and field manager were responsible for overall management and quality control.

2.6 Data Processing

Since the data was collection through CAPI[6], data entry was not required. The coders did the coding of the open ended responses. Following that analysis was done using SPSS windows program (version 24).

The analysis team analyzed data under the guidance of the expert panel. Descriptive statistics were used as appropriate (frequency, mean, standard deviation, etc.) to describe the socioeconomic characteristics of the respondents. WHO Anthro software (version 3.2.2, 2011) was used for analysis of anthropometric data.

2.7 Ethical Consideration

In order to protect the right of the respondents, prior to approaching them for the detailed interview, their oral consent to participate in the interviews was obtained. They were provided full and correct information regarding the purpose of the study, nature of information required, benefits of the study, confidentiality to be maintained and freedom to be exercised by the respondents during the interviews. Nielsen team also provided training on child protection so that the interviewers can understand the dos and don'ts while interaction with children.

[6] Computer Assisted Personal Interview

Chapter Three: Household Information

This section presents information on the demographic and socioeconomic information of the Survey respondents and their households. The information in this section is based on 500 randomly selected households.

3.1 Household characteristics

The data was collected on certain household characteristics including type of sanitation facility, source of drinking water and main housing materials. These physical characteristics were used to assess the general wellbeing and socioeconomic status of the households. Table 3 shows that access to improved source for drinking water was universal in both baseline and mid-line survey.

Around 71.6% household had access to improved sanitation facilities which was 62.0% in the baseline. The practice of open defecation has also decreased (1.8% in midline compared to 11.4% in baseline). The access to improved sanitation facilities is 43% nationally (BDHS 2017).

It was also found that for the majority of the households, wall was made of mud/soil (baseline 69.0% and midline 60.2%), ceiling was made of tin (baseline 97.2% and midline 96.6%), and floor was made of mud/soil (baseline 95.2% and midline 85.2%). The average household income has found to be BDT 9,185 in the midline survey which was BDT 6,698 in baseline.

Table 2: Percent distribution households by type of source of drinking water, toilet/latrine facilities and housing characteristics

	Baseline	Mid-Line
Source of drinking water		
Improved Source	100.0	100.0
Tube-well	95.0	96.0
Shallow Tube well	4.9	4.0
Protected Well	0.0	0.2
Toilet facility		
Improved Facility[7]		
Pit Latrine	62.0	71.4
Non-Improved Facility		
Kaccha toilet/ traditional pit latrine (basic)	26.4	26.8
Hanging toilet	0.1	0.0
No facility/bush/field	11.4	1.8
Main Roof material		
Tin	97.2	96.6
Brick/Cement	2.7	2.8
Others	0.1	0.6

7 Improved sanitation facility includes flush/pour flush to piped sewer system/septic tank/pit latrine, ventilated improved pit (VIP) latrine, or pit latrine with slab-BDHS 2017

	Baseline	Mid-Line
Main Floor material		
Mud/Soil	95.2	85.2
Brick/Cement	4.8	14.8
Main Wall material		
Mud/Soil	69.0	60.2
Brick/Cement	19.7	35.6
Tin	5.4	3.8
Fencing/Bamboo/ leaf/straw/chon	3.3	0.4
Jute Stick	2.2	0.0
Others	0.3	0.0
Household Income		
Less than BDT 4,000	8.0	5.6
BDT 4,000-BDT 8,000	77.0	53.2
BDT 8,001-BDT 12,000	11.0	23.4
More than BDT 12,000	4.0	17.8
Average Monthly HH Income (BDT)	6,698	9,185
Median (BDT)	6,000	7,500
n	**900**	**500**

3.2 Characteristics of Survey respondents

Table 5 provides information on the characteristics of the Survey respondents. Around 65% of the respondents were aged between 20-29 years and the mean age was 25 years. All the respondents were women and were married (100%) at the time of the survey. Around 6% of the respondents had never been to school.

Table 3: Percentage Distribution of Characteristics of survey respondents

Characteristics	Baseline	Midline
Age		
15-19 years	16.8	10.6
20-24 years	34.6	37.8
25-29 years	24.8	27.8
30-34 years	14.3	17.2
35+ years	9.6	8.4
Mean age in years	24.9	25.4
SD	5.7	5.2
Marital status		
Married	99.8	100.0
Widow/widower	0.0	0.0
Divorced	0.1	0.0
Separated/Deserted	0.1	0.0
Education		
No education	13.7	6.4
Primary incomplete	11.3	6.6
Primary complete	13.8	15.0
Secondary incomplete	47.4	23.8
Secondary or higher	13.8	36.8
n	**900**	**500**

Chapter Four: Nutrition

This section presents information on anthropometric measurement of children, exclusive breastfeeding, and IYCF practices. Information was obtained for children of 23 months and less. Information was also collected on the food diversity of the mothers of children aged 0-23 months.

4.1 Nutrition Status of the children aged 0-23 months

Project Goal: Reduce the incidence of malnutrition in children under five years of age living in three Upazilas: Dhamoiraht, Phanchibibi, Joypurhat

1) *Prevalence of stunting in children under 5 years of age*
2) *Prevalence of wasting in children under 5 years of age*
3) *Prevalence of underweight in children under 5 years of age*

The nutritional status of children in the survey population is compared with the World Health Organization (WHO) Child Growth Standards, which are based on an international sample of ethnically, culturally, and genetically diverse healthy children living under optimum conditions that are conducive to achieve a child's full genetic growth potential (WHO 2006). The WHO Child Growth Standards identify breastfed children as the normative model for growth and development and document how children should grow under optimum conditions and with optimum infant feeding and child health practices. Use of the WHO Child Growth Standards is based on the finding that well-nourished children in all population groups for which data exist follow very similar growth patterns before puberty. These standards can therefore be used to assess the nutritional status of children all over the world, regardless of ethnicity, social and economic influences, and feeding practices.

Three standard indices of physical growth that describe the nutritional status of children are:

- Height-for-age (stunting)
- Weight-for-height (wasting)
- Weight-for-age (underweight)

Stunting, Wasting & Underweight[8]

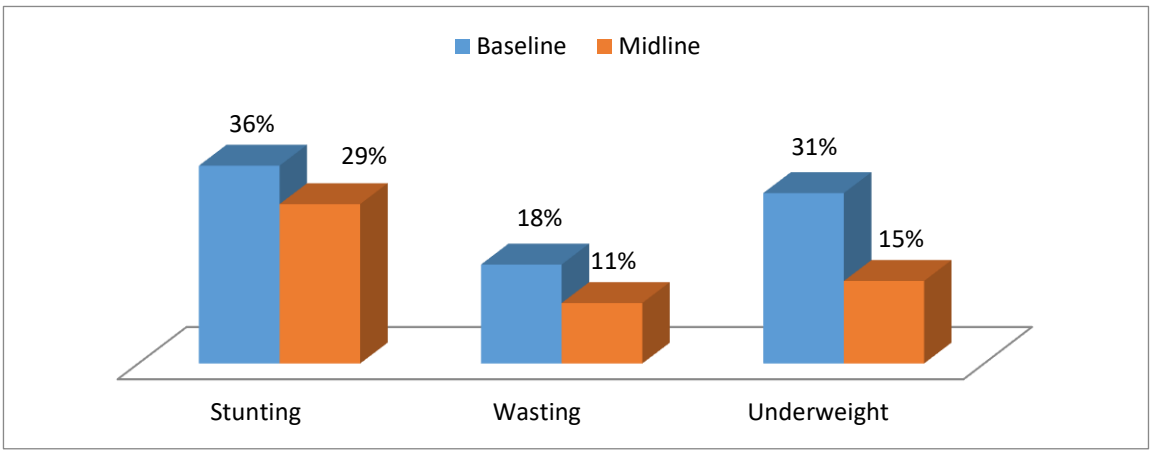
8 For midline survey, the major objectives were to collect information on exclusive breastfeeding and dietary diversity of the children aged 6-23 months. Therefore a total of 500 samples were covered randomly, among those 150 samples were children aged 0-5 months and 350 samples were children aged 6-23 months. Whereas the baseline data was collected with the children aged 0-59 months. Baseline data reflected that the prevalence of underweight increases with the increase of age of the children aged 0-59 months. The prevalence of underweight was higher (more than 40%) among the children aged more than 24 months. Since the midline data was collected from children aged 0-23 months, therefore it has impact on the prevalence of underweight, the rate has decreased significantly. To compare the result of baseline and midline more accurately, we have also provided the baseline result for children aged 0-23 months along with total result for children aged 0-59 months.

29% of the children in the survey area were found to be stunted (<-2 height-for-age z –score) while 7% were severely stunted (<-3 height-for-age z –score) (Appendix A: Table 1). The prevalence of stunting has reduced from baseline result (36% vis-a-vis 29%). It should also be noted that 34% of the children aged 0-23 months were stunned in baseline. The prevalence of stunting is 31% nationally and in Rajshahi division (BDHS 2017). Like baseline result, the prevalence of stunting was higher among boys and was more common in Dhamoirhat Upazila compared to other two intervention upazilas. Mother's educational attainment was positively related with decreased prevalence of stunting.

11% of the children aged below five years in the study areas were found to have wasting. The prevalence of wasting was more common in boys compered to girls. The baseline result was 18% in this regard. It should be noted that 14% of the children aged 0-23 months were found to have wasting in baseline. The prevalence of wasting is 8% nationally and in Rajshahi division (BDHS 2017).

On the hand, the prevalence of underweight has been decreased significantly from 31% to 15% in midline. However, it should be noted that the prevalence of underweight was 23% for the children aged 0-23 months in baseline. The prevalence of underweight is 22% nationally and 23% in Rajshahi division (BDHS 2017). With respect to intervention upazilas, Dhamoirhat has the highest prevalence rate of underweight (21%).

Figure 2: Prevalence of Stunting, Wasting and Underweight in children under age 5 years (n-baseline: 825, midline 500)



4.2 Exclusive Breastfeeding

Outcome 1: Improve nutritional status of children under 5 years

Proportion of children receiving exclusively breastfed until 6 months of age

WHO recommends mothers worldwide to breastfeed exclusively infants for the child's first six months to achieve the child's optimal growth and development. Thereafter, they should be given nutritious complementary foods and continue breastfeeding up to the age of two years or beyond.

All the infants (100%) 0-5 months received breast milk during the previous day. The mothers of infants 0-5 months further asked whether the infant 0-5 months received anything else except breast milk. It was found that 94.0% of the infants received exclusive breastfeeding which is higher than the baseline data (77% in baseline). The PD/Hearth program of world Vision has a major influence in increasing the practice of exclusive breastfeeding since the participants got to know the importance of exclusive breastfeeding and they have also shared the learning with other community members. This has worked tremendously in creating awareness of importance of exclusive breastfeeding for the children aged 0-5 months.

Table 4: Percentage of infant 0–5 months of age who received only breast milk

	Infants 0–5 months received breast milk during the previous day	Infants 0–5 months received breast milk & others	Infants 0–5 months received only breast milk	n
Baseline	100.0	23.0	77.0	**158**
Midline	100.0	6.0	94.0	**150**

4.3 Food Diversity for infants aged 6-23 months

Indicator:

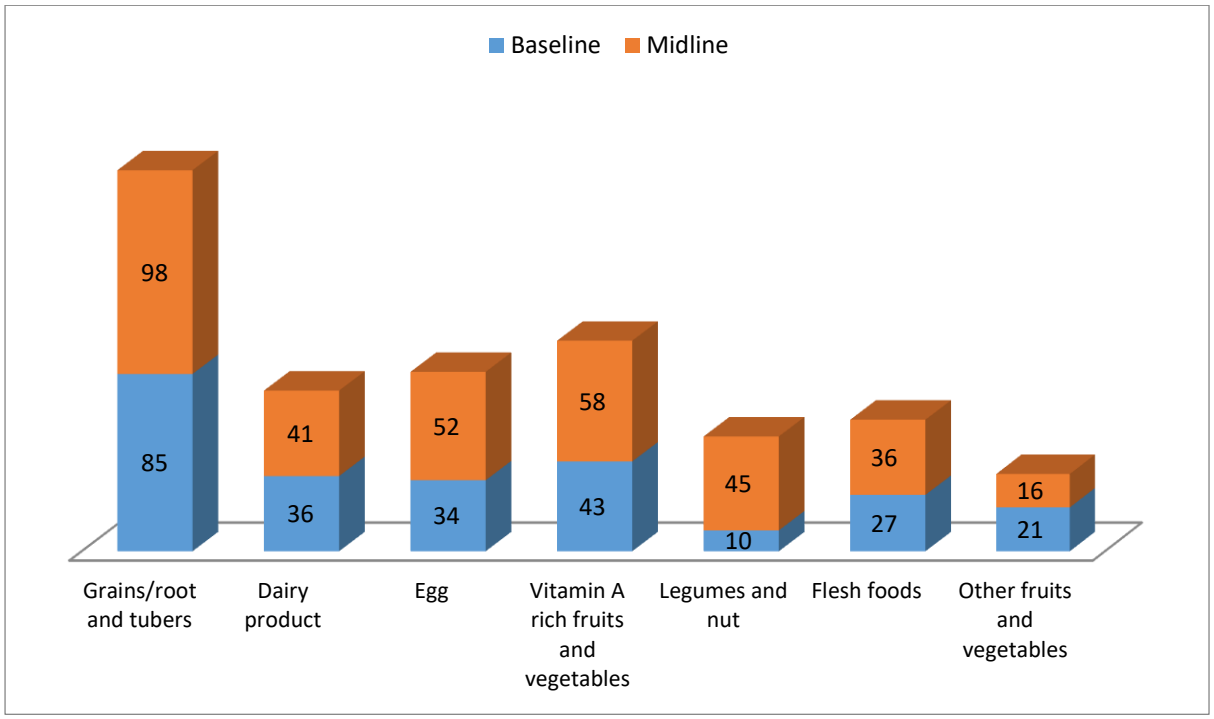
Percentage of children aged 6-23 months receiving minimum dietary diversify according to PD/Hearth guideline

In order to understand the quality of food that the 6-23 months children consume, data was collected on the food items ate in the previous day of survey. The food items were further categorized into 7 groups[9] as follows:

1. Grains, roots and tubers
2. Legumes and nuts
3. Dairy products (milk, yoghurt, cheese)
4. Flesh foods (meat, fish, poultry, and liver/organ meats)
5. Eggs
6. Vitamin A rich fruits and vegetables
7. Other fruits and vegetables

It was found that the consumption of grains, roots and tubers is high among the children aged 6-23 months where the consumption of dairy products, flesh foods and legumes and nuts is comparatively low.

Figure 3: Food Groups consumed by children aged 6-23 months (n=350)



[9] FANTA guideline was followed to analyze the infant & young child feeding practice

While counting on how many food groups the infants aged 6-23 months received during previous day of conducting survey, significant improvement was found in the result of midline survey. 51% of the children consumed 4 or more food items in the midline which was 21.3% in the baseline. As mentioned before, PD/Hearth program is being successful in creating awareness and practice of feeding nutritious food to the children of 6 -23 months of age. The situation is found to be better in Panchbibi upazila (66.7%) where it is comparatively low in Dhamoirhat upazila (35.9%) (Appendix A: table 2)

Table 5: Percentage Distribution of Food Groups Received by 6-23 months Infants according to PD/Hearth guideline

Food Group[10]	Baseline	Midline
1 group	20.7	8.3
2 groups	32.3	20.6
3 groups	24.3	20.6
4+ groups	21.3	50.6
n	362	350

[10] According to FANTA guideline, Minimum Dietary Diversity (MDD) is the consumption of four or more food groups from the seven food groups (mentioned above).

Chapter Five: Hygiene Practice & Access to Govt. Health Facilities

This section presents information on the hand washing practices and access to govt. health facilities.

5.1 Hand Washing Practice

Appropriate hand hygiene practices is defined as use of soap & water for hand washing before the five events (before preparing food, before taking food, before feeding children, after cleaning the child feces and after defecation). Table 6 provides information on reported hand hygiene practices of mother of under-5 children. The practice of hand washing with soap was found to increase in midline survey. However, it is also observed that except after defecation & after cleaning the child fees, the hand washing practice in other events was low in both baseline and midline survey.

Table 6: Percentage of mothers of under five children who reported hand washing practices with soap

Hand Washing Practice With Soap [11]	Baseline	Midline
Before Eating	50.9	62.3
After defecation	89.6	90.3
Before Feeding Child	51.6	58.4
after cleaning the child feces	74.3	82.0
Before preparing food	37.5	42.8
n	900	500

5.2 Health Seeking Behavior

Outcome 2: Strengthening partners(community facilitators, government bodies, WV staff)' capacity building on health & WASH in the community

Access to services from Government health facilities

It was found that the majority of the respondents had access to community clinic and family welfare center (FWC) in terms of maternal and neonatal health care services (ANC & PNC), integrated Management of Childhood Illness (IMCI), Reproductive Health and FP services, health education & counseling and EPI (See table 7). 65% of the respondents in the midline reported that they have access to different services from government health facilities which was 61% in the baseline survey.

[11] Soap includes any kind of soap including hand wash, detergent

Table 7: Percentage Distribution of People having access to services in Government Health facilities

	Baseline	Midline
Maternal and neonatal health care services (ANC & PNC)	84	87
Integrated Management of Childhood Illness (IMCI)	64	65
Reproductive Health and FP services	82	85
EPI	79	85
Nutritional education and micro-nutrient supplements	40	52
Health education & counseling	72	75
Screening of Chronic Non Communicable Diseases	33	30
Treatment of minor ailments, common diseases & first aid	32	40
Composite Score[12]	**61**	**65**
n	**900**	**500**

Similar result was found in the baseline survey. Like baseline result, the access to nutritional education and micro-nutrient supplements, screening of chronic non communicable Diseases, treatment of minor ailments, common diseases & first aid found to be low in midline survey. During baseline survey, the community people mentioned some problems in access services from community clinic and family welfare center. The major problem was identified as the shortage of service providers. This was also acknowledged by UH&FPO (upazila health & family planning officer) participated during KII sessions as they feel the number of service providers is insufficient to provide the service to community people. Another problem raised by community members is absence of medicine. Although the community clinic is mandated to provide 30 types of medicines for free to community members, however in most of cases it was found that the medicines are not available. That is why they do not prefer to go to community clinics. Besides, community members complained that the service providers stay only 3 or 4 hours at community clinics therefore they do not get the opportunity to take services from these health facilities. Moreover, the service providers prescribed same medicine for different diseases that also lowers the confidence of the community members about the services provided by community clinics.

[12] Composite score was calculated by summing up to access to all the services divided by total number of services provided by government health facilities

5.3 Number of CG (community group) & CSG (community support group) Functioned

Outcome 2: Strengthening partners(community facilitators, government bodies, WV staff)' capacity building on health &WASH in the community

Percentage of CG and CSG are functioned

Similar to baseline findings, it was found that all (100%) the community groups are functioning as per operation guideline whereas 44% of the community support group meetings were performed as per CC operation guideline. Below is the summary of findings gleaned from the assessment

Community Group

- 100% of the Community Group meetings were performed regularly as per operation guideline for the last three months (May to July, 2019)
- Average 44.79 members were attended in the Community group meeting which CG are functioned 100% Community Group kept meeting minutes in the particular register
- Signature of the attended member of Community Group meeting was ensured correctly
- The meeting took decision and follow-up action were recorded in the minutes

Community Support Group:

- 44% of the Community Support Group meetings were performed regularly as per CC operation guideline last seven months (January to July, 2019)
- Average 44.88 members were attended in the meeting which CG are functioned
- 44% Community Support Group kept meeting minutes in the particular register
- Signature of the attended member of Community Group meeting was ensured correctly
- The meeting took decision and follow-up action were recorded in the minutes
- 35% (36) Community Support Group were not performed regular meeting within last 7 months (January to July, 2019)
- 21% (21) of the CSG were not performed any meeting during last seven months (January to July, 2019)

Chapter Six: Findings from ED (Economic Development) Beneficiaries[13]

This section presents information on the dietary diversity of children aged 6-23 months and women who have received IGA support. This section also presents the types of training/assets they have received and how they have utilized the training and assets.

6.1 Food diversity of the children aged 6-23 months and women who have received IGA Support

Outcome 3: Improving behavior through supporting income generating activities

Indicators:

Percentage of the underweight children aged under 5 of the households benefited project income generation interventions

Proportion of children aged 6-23 months receiving minimum dietary diversity among the HHs who received IGA support

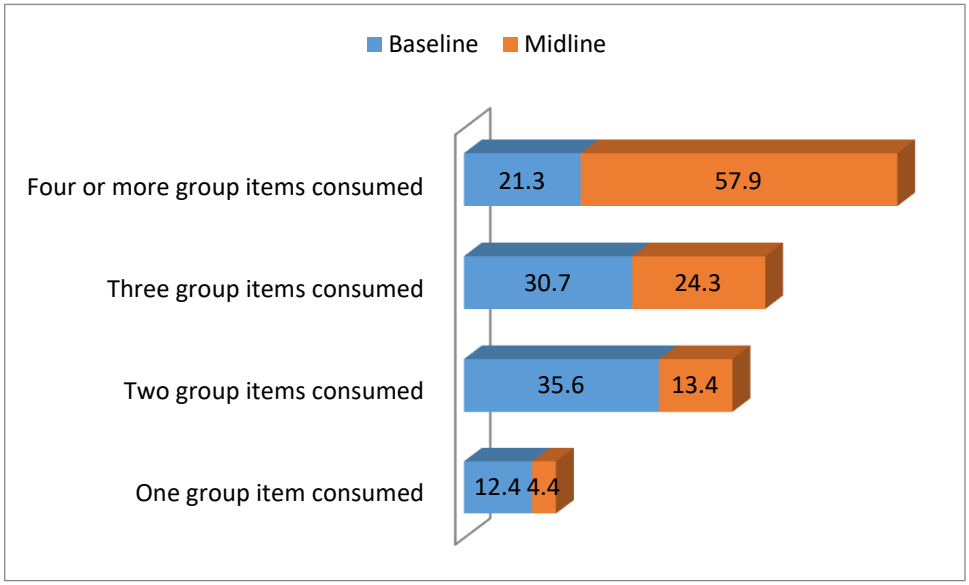
Proportion of women receiving minimum adequate diet among the HHs who received IGA support

A total of 485 ED beneficiaries were interviewed during survey and it was found that 24.54% underweight children aged under 5 of the households benefited project income generation interventions. During baseline survey, the result was 37.55%. Since the project has been successful in reducing the prevalence of stunting, wasting and underweight of the children, the percentage of underweight children under 5 years who have benefitted from the project income generation intervention has reduced.

With respect to children aged 6-23 months receiving minimum dietary diversity among the HHs who received IGA support, it was found 57.94% of the children are receiving minimum dietary diversity which was 21.3% in the baseline survey. This is a huge success for the project as it has been able to create awareness on the nutrition requirement of the children under 5 among the ED beneficiaries and income generation activities also supported them to provide nutritious food to the children.

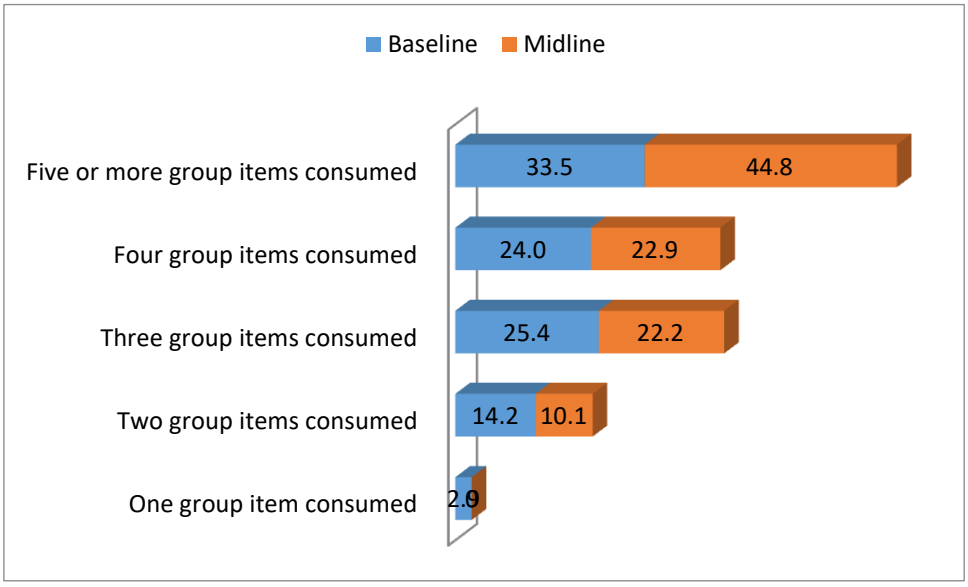
[13] This section is based on the result of 485 ED beneficiaries that Nielsen covered as part of data collection for John Hopkins

Figure 4: Food Groups consumed by children of ED beneficiaries aged 6-23 months (n=485)



With respect to minim adequate diet of women who have received IGA support, it was found that 44.8% of the women received adequate diet which was 33.5% in the baseline.

Figure 5: Food Groups consumed by women ED beneficiaries (n=482)



6.2 Participation in PD/Hearth Program

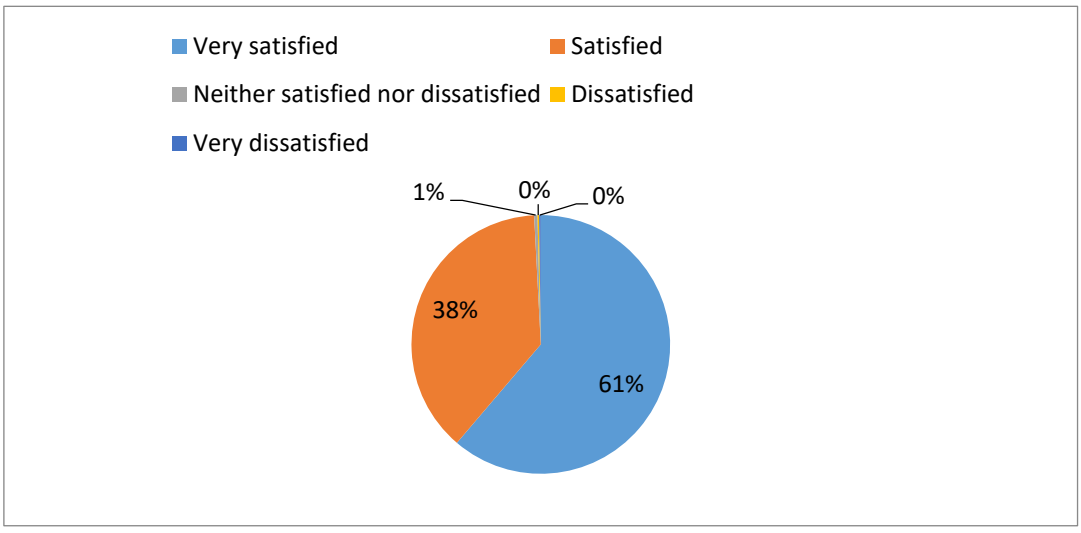
All the children of ED beneficiaries attended the PD/Hearth session. 54% of the children attended in one session where 46% participated in two sessions (Appendix A: Table 3). Majority of the ED beneficiaries stated they have learnt about exclusive breastfeeding for first 6 months, when to feed soft and solid foods, feeding a variety of foods, how much food to feed child, how to feed a sick baby, how to seek health services when child is sick, good hygiene practices (see table 8). No major difference was observed between the responses of ED beneficiaries and non ED beneficiaries.

Table 8: Messages learnt at PD Hearth Session

Messages did you learn at PD Hearth session	PD/Hearth & ED Beneficiaries	PD/Hearth & Non ED Beneficiaries
Exclusive breastfeeding for first 6 months	84.9	83.5
When to feed soft and solid foods	86.8	89.2
Feeding a variety of foods	88.2	83.8
How much food to feed child	90.9	87.3
How to feed a sick baby	83.9	86.8
Good hygiene practices (Hand Washing, Hair Cleansing, Dental Care, Body Hygiene, etc.)	76.9	71.9
How to seek health services when child is sick	82.7	78.9
How to give multiple micronutrients	33.0	34.4
n	**485**	**544**

Almost all the ED beneficiaries (99%) stated that they are satisfied with the session and among them, 99% stated that they found the session useful and the lesson applicable for child caring and feeding (Appendix A: Table 4). 35% of the beneficiaries stated that they always practice the lessons learned PD Hearth session for child caring and feeding (Appendix A: Table 6).

Figure 6: Satisfaction level with the PD/Hearth Session (n=485)



All the respondents stated they did not face any difficulty in participating in PD/Hearth session. 86% of the respondents stated that they have shared lessons from PD Hearth with neighboring mothers and one fourth of them (24.6) stated that they share the lesson with neighboring mothers once a week (Appendix A: Table 7 & 7.1).

The findings of qualitative sessions (FGD and KIIs) can be summarized as follows:

Main facilitators of PD Hearth program

- *Improved eating habits and physical development of children:* Child ate better when he/she was with other children than eating alone and became more active and interactive when playing with other children in the PD Hearth sessions.
- *Improved nutritional status of children:* Child nutritional status (growth of height and weight) became better than before participating in the program.
- *Learning new knowledge:* Most participants learned new and useful knowledge for taking care of their child more appropriately.
- *Sharing the workload of child care among household members:* Attendance to PD Hearth session of daughter-in-law reduced the workload of child care among mother-in-law, as long as the daughter-in-law finishes housework, because mother and child altogether go to the session. For this reason, their mothers-in-law agreed their daughters-in-law (the participants) to participate in PD Hearth program.

Main barriers of PD Hearth

- *Economic hardship:* Some poor participants had difficulties in buying all food ingredients required for PD Hearth menu. Some of them felt nervous that they won't be able to feed nutritious foods to their kids after finishing the PD Hearth session.
- *Conflicts with other family members:* Their husbands and mothers-in-laws did not want them to go to PD Hearth program because there are lots of household chores that the women should do.

6.3 Recipient of ED Program

A total of 485 ED beneficiaries were covered during the survey. Among them 96% stated that they have completed the Economic Development (ED) group/saving training (Appendix A: Table 14). Majority of the ED beneficiaries received the assets/training i.e. duck, mango tree, lemon tree, papaya tree, guava tree, gardening training and vegetable seeds (Table 9).

Table 9: Whether the ED beneficiaries received assets

Assets/training Received	Yes (%)	Number of assets received (Mean)
Duck	73.0	13.0
Chicken	25.0	12.1
Mango Tree	65.0	1.7
Lemmon Tree	65.0	1.1
Papaya Tree	52.0	1.7
Guava Tree	63.0	1.2
Vegetable Seeds	81.0	N/A
Gardening Training	82.1	N/A
n	**485**	

Majority of the ED beneficiaries and their children consumed eggs, meats of duck & chicken, and vegetables that they received from World Vision. They have also sold the eggs and meats of duck and chicken and vegetables in the market. This indicates the IGA support from World Vision is useful for the ED beneficiaries to fulfil the nutritional requirement of the family members of the ED beneficiaries as well as to generate income for their families (Table 10). However, the consumption and sale of fruits from mango, lemon & guava trees were found comparatively low. This is because World Vision has provided the sapling of mango, lemon and guava trees to the beneficiaries and these plants has not fully grown within one hour to provide sufficient fruits to meet the consumption requirements of their family members and to sale the fruits in the market.

Table 10: Whether the ED beneficiaries sold/consumed eggs, ducks, chicken, fruits, & vegetables they have received from World Vision

	Chicken/duck/egg	Fruits from Mango/Lemon/Guava Tree	Vegetables
	Yes (%)	Yes (%)	Yes (%)
Have you sold ---	66.9	3.1	43.6
Have you consumed ---	74.1	22.0	95.4
Have your children consumed ---	76.0	22.7	96.2
n		**485**	

About 12% (12.4%) ED beneficiaries received swing machine and fabric kit or small business items from World Vision in the past 12 months and among them the 77% (76.7%) respondents stated that they have sold any products they made with swing machine/selling (Appendix A: Table 8 & 15).

72% of the beneficiaries stated that they earned any additional income using livestock, eggs, fruits or vegetables provided by World Vision and in majority cases the beneficiaries themselves (mother of the child) are managing the additional income. This also ensures economic empowerment of the women beneficiaries as the project has successful for providing opportunities to women to engage in economic activities. Majority of the beneficiaries stated that they have utilized this additional income to buy

nutritious food for them and their children and also to buy a better health care/treatment for them and their children (Appendix A: Table 9).

Figure 8: Whether the ED beneficiaries earned any additional income using livestock, eggs, fruits, or vegetables provided by WV (n=485)

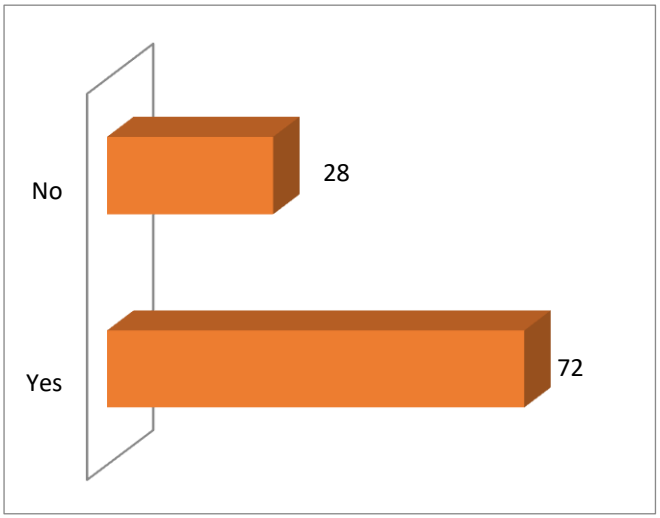
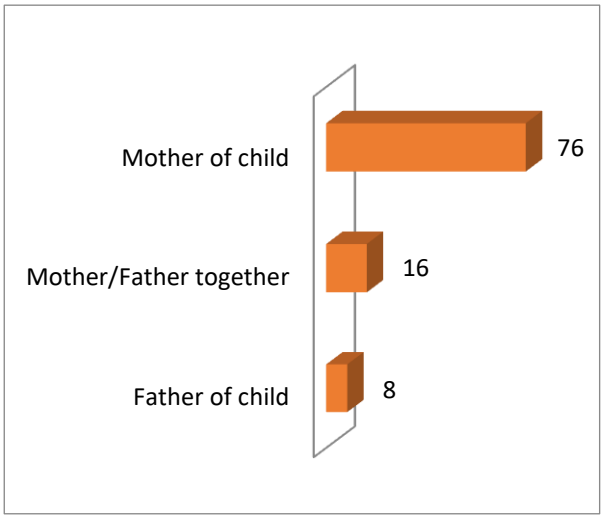
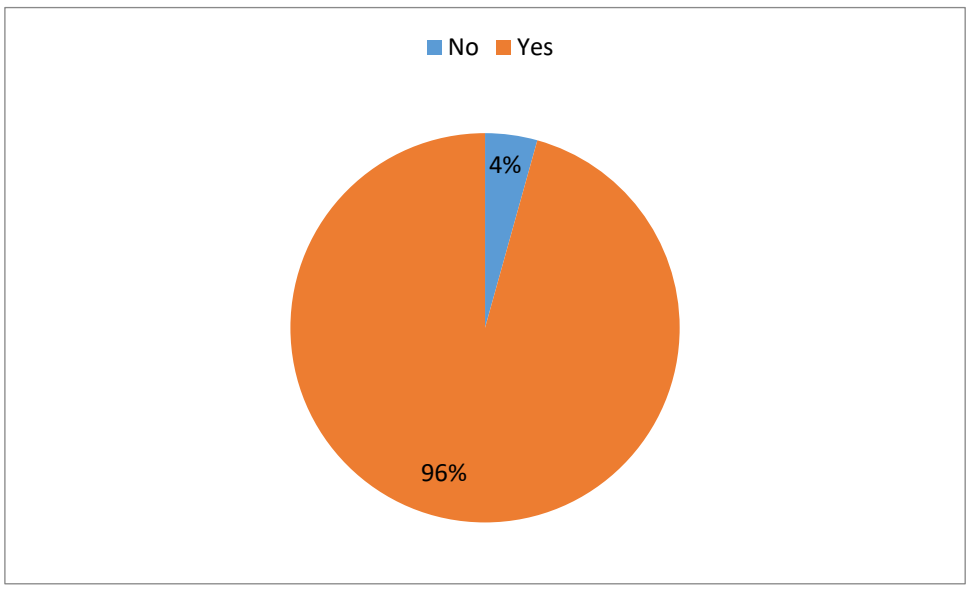


Figure 7: Who is managing the additional income using livestock, eggs, fruits, or vegetables provided by WV (n=347)



Almost all the beneficiaries (96%) completed the economic development group/saving training. 53% of the beneficiaries used to save before receiving the training. After training, around 90% of the beneficiaries started saving money and on an average the beneficiaries save BDT 3,427 after the training (Appendix A: Table 10 & 11).

Figure 9: Whether the Beneficiaries completed Economic Development (ED) group/saving training (n=485)



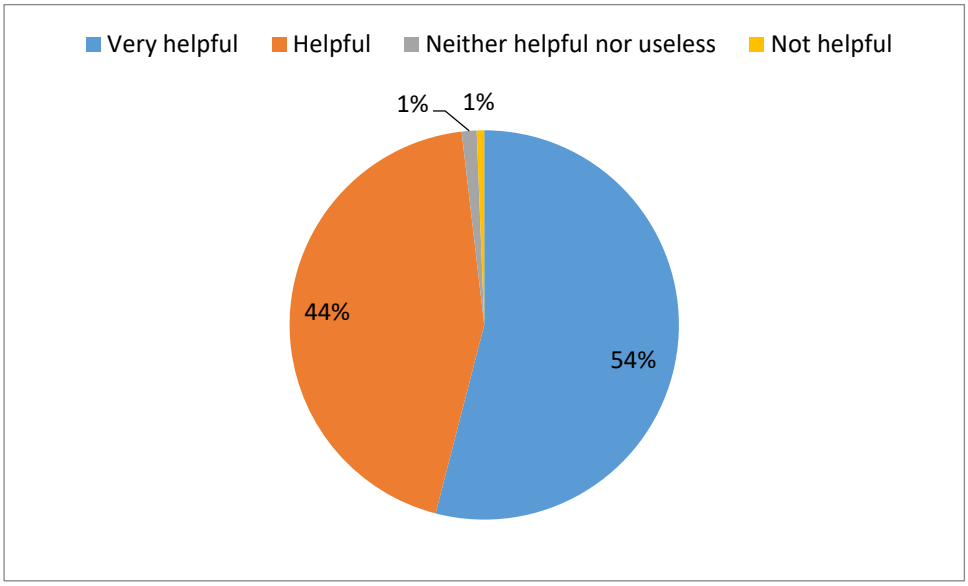
Like the managing of additional income of the household, the household saving is also managed by mother of the child/women beneficiaries (58.6%). With this saving, the beneficiaries are planning to purchase food, bear general living expenses and purchase

goods for the household (Appendix A: Table 12). Around 97% of the beneficiaries stated that the ED program/saving training were useful to manage their assets (Appendix A: Table 13).

Table 11: Who is managing the savings of this household?

Who is managing the savings of this household	Percentage
Mother of child	58.6
Father of child	9.1
Grandmother/grandfather of child	0.6
Other family member	0.4
Not Applicable	10.3
Mother/Father together	21.0
n	485

Figure 10: Whether the participation at ED program helpful for ED beneficiaries to increase their household income (n=485)



The findings of qualitative sessions (FGD and KIIs) can be summarized as follows:

Main facilitators of PD Hearth and ED program

- *Economic benefits:* The participants could earn money from the eggs and other assets from ED program.
- *Psychological benefits:* Some participants experienced increased self-esteem and economic empowerment in their household.
- *Utilization as child foods:* Most participants feed more nutritious food from their ducks or chickens.
- *Preparing the future of kids:* Most participants save money for the future of their kids, especially for their good-quality education.

Main barriers of PD Heath and ED program

- *Poor management of received assets:* Some participants experienced hardship in keeping safely poultries from the fox or bad weather.
- *Poor time management:* Some participants experienced difficulties of dual burdens of the housework and managing assets together because of time limitations.
- *Misunderstanding of the main purpose of ED program:* Some participants did not have an appropriate understanding of the main purpose of ED program related to child nutrition. Some of them wanted to buy goats, cows or other materials using income generation, instead of buying the nutritious food ingredients for their kids' health improvement.

Chapter Seven: Conclusion & Recommendation

In conclusion it can be said that the project is being implemented on right direction and is successful in creating awareness & practice of nutritional food requirements of children aged below 5 months and their mothers. The proportion of infants receiving exclusive breastfeeding has also increased. As a result, the prevalence of stunting, wasting and underweight has decreased significantly.

The access to government health facilities and percentage of CG and CSG functioned have increased a little, more attention is required to improve the situation. During baseline survey, it was also found that there is shortage of service providers, absence of necessary medicines, service providers stay only 3 or 4 hours at community clinics.

The PD/Hearth programme and Economic Development programme (ED) were found to be very successful in creating awareness and practice of community on nutritional food requirements, balanced diet, saving habit, asset management. The project has also provided opportunities to the women beneficiaries to engage in economic activities and taking the financial decision of their households which in turn ensures the economic empowerment of the women beneficiaries.

Based on the findings and discussions in above section below is the summary table highlighting the results of key indicators of the project are as

Table 12: Indicator Summary Table

Indicator	Baseline	Midline	Significant Test[14]	National & Rajshahi Level data[15]
Project Goal: Reduce the incidence of malnutrition in children under five years of age living in three Upazilas: Dhamoiraht, Phanchibibi, Joypurhat				
1) Prevalence of stunting in children under 5 years of age	36.1% (n 825)	29%* (n 500)	0.008	N: 36% R: 31%
2) Prevalence of wasting in children under 5 years of age	18.2 % (n 825)	11%* (n 500)	0.000	N: 14% R: 17%
3) Prevalence of underweight in children under 5 years of age	31.0% (n 825)	15%* (n 500)	0.000	N: 33% R: 37%
Outcome 1: Improve nutritional status of children under 5 years				
1) Proportion of children receiving exclusively breastfed until 6 months of age	77% (n 158)	94%* (n 150)	0.000	N: 55% R: NA
2) Percentage of children achieving + 400g within 30 days of participating in the PD/Hearth program	N/A	64.06%	PD/Hearth database, monitored by Project	
Outcome 2: Strengthening partners(community facilitators, government bodies, WV staff)' capacity building on health &WASH in the community				
1) Percentage of CG and CSG are functioned	CG 100%, CSG 40%	CG 100%, CSG 44%	N/A	NA
2) Access to services from Government health facilities	60% (n 900)	65% (n 500)	0.06	NA
3) Percentage of children aged 6-23 months receiving minimum dietary diversify according to PD/Hearth guideline	21.3% (n 362)	50.6% (n 350)	0.000	
Outcome 3: Improving behavior through supporting income generating activities				
1) Percentage of underweight children among ED beneficiary's children under 5 years	37.55% (n 237)	24.54% (n 482)	0.000	NA
2) Proportion of children aged 6-23 months receiving minimum dietary diversity among the HHs who received IGA support	25.2% (n 143)	57.9%* (n 485)	0.000	NA
3) Proportion of women receiving minimum adequate diet among the HHs who received IGA support	33.5% (n 346)	44.8%* (n 482)	0.001	NA

14 Z test was done to calculate significant test. A Z-test is a statistical test to determine whether two population means are different when the variances are known and the sample size is large. It can used to test hypotheses in which the z-test follows a normal distribution

15 N denotes National, R denotes Rajshahi, NA denotes not available or not applicable

The following recommendations has been made in light of the findings discussed above

- The project has been successful in creating knowledge and practice of nutritional food requirements of the children under 5 years, therefore the project activities should carry on to achieve the desired impact.

- The PD/Hearth programme has proved to be a major success and this activity should continue. However, to sustain the impact of PD/Hearth program, it needs to design more practical interventions to resolve the root causes and barriers among the participants, such as the complicatedness of ingredients preparations or burdens of housework.

- To enhance the synergetic impact between PD/Hearth program and ED program, more focused education/training that the generated income from the ED program should be used to improve child health is requested in the project area.

- To expect a longer-term program impact, behavior change communication and enhancing awareness for child nutrition targeting family members (husband and mothers-in-law) need to be strengthened, because main barriers of participation in PD/Hearth and ED program were their housework and conflicted relationship among the family members.

- The project can also promote the case studies on different critical issues related to maternal & child health & nutrition so that people would be motivated to follow those learning.

- Like baseline survey result, the result of several indicators was poor in Dhamoirhat upazila. Focus should be given on the community especially on the ethnic community of this upazila in order to ensure the achievement of project goals.

- The project is working to enhance capacity of the local government bodies like CG, CSG and union WATSAN committee. The major interventions are orientation and meeting with these committees. In order to function as well as performing effective meeting of CSG following suggestions are from CHCP and CG members;

    - Reform the CSG facilitating government authority with active members
    - Arrange training/orientation for each CSG member on their role and responsibilities
    - Enhance follow-up and monitoring of CSG activities by government entitle personnel
    - Assign responsibility to the CHCP and CG for arranging CSG meeting formally as per operation guideline.

Appendices

Appendix A: Percentage Distribution Table

Table 1: Percentage of children under age 5 classified as malnourished according to three anthropometric indices of nutritional status: height-for-age, weight-for-height, and weight-for-age

	Height-for-age(Stunting)				Weight-for-height (Wasting)				Weight-for-age (Underweight)			
	below -3 SD	below -2 SD	above +2SD	Mean Z score	below -3 SD	below -2 SD	above +2SD	Mean Z score	below -3 SD	below -2 SD	above +2SD	Mean Z score
Study Area												
Baseline	17.3	36.1	2.5	-1.46	7.2	18.2	8.4	-0.53	8.2	31.0	1.3	-1.25
Midline	6.6	28.8	2.4	-1.45	2.8	10.9	8.5	-0.07	1.8	15.2	1.6	-0.92
Age in month (midline)												
6-11 months	3.6	33.1	2.4	-1.22	1.8	8.9	3.0	-0.05	1.2	10.1	-	-0.76
12-23 months	9.4	33.1	2.8	-1.44	6.1	14.9	2.8	-0.73	3.3	23.8	-	-1.22
Sex (midline)												
Boy	10.5	34.5	3.1	-1.23	6.1	17.5	6.6	-0.42	2.2	17.9	-	-1.04
Girl	3.3	24.0	1.8	-1.01	4.4	11.8	4.8	-0.30	1.5	12.9	-	-0.83
Mother's Education (midline)												
1-9 (No. of years completed)	6.5	29.3	2.4	-1.08	5.4	15.2	5.7	-0.40	1.1	16.3	-	-0.93
SSC/Dakhil/ equivalent	10.5	24.6	3.5	-1.16	1.8	7.0	5.3	-0.05	-	12.3	-	-0.75
HSC/Alim/ equivalent	8.3	30.6	-	-1.37	-	5.6	8.3	0.00	2.8	8.3	-	-0.85
Graduate/equivalent	-	-	-	-0.54	-	33.3	33.3	0.36	-	-	-	-0.13
Post graduate/equivalent	-	25.0	-	-0.71	-	25.0	-	-0.47	-	-	-	-0.87
Upazila (Midline)												
Joypurhat Sadar	7.2	28.3	0.6	-1.19	3.6	12.0	6.0	-0.15	0.6	11.4	-	-0.80
Panchbibi	4.8	22.8	4.8	-0.88	7.8	15.0	4.8	-0.46	3.6	13.2	-	-0.90
Dhamoirhat	7.8	35.3	1.8	-1.26	4.2	16.2	6.0	-0.47	1.2	21.0	-	-1.08

Table 2: Percentage Distribution of Food Groups Received by 6-23 months Infants according to PD/Hearth guideline

	Target Respondent	UPAZILLA NAME		
	Total	Joypurhat Sadar	Panchbibi	Dhamoirhat
1 group item consumed	8.3	5.2	5.1	14.5
2 group items consumed	20.6	19.0	13.7	29.1
3 group items consumed	20.6	26.7	14.5	20.5
4+ group items consumed	50.6	49.2	66.7	35.9
n	**350**	**116**	**117**	**117**

Table 3: Percentage distribution table on the sessions that the children attended

Session attended	Children of PD/Hearth+ED HH
1	54.4
2	45.6
n	**485**
Mean	1.5

Table 4: Percentage distribution table on Opinion of ED beneficiaries on effectiveness of PD/Hearth Session

Opinion of ED beneficiaries on effectiveness of PD/Hearth Session	Percentage
Very useful	59.0
Useful	40.2
Neither useful nor useless	0.4
Useless	0.2
Very much useless	0.2
n	**485**

Table 5: Percentage distribution table on Opinion of ED beneficiaries on how applicable the lesson for child caring and feeding

Opinion of ED beneficiaries on how applicable the lesson for child caring and feeding	Percentage
Very applicable	55.1
Applicable	44.7
Neither applicable nor inapplicable	0
Very much inapplicable	0
n	**485**

Table 6: Percentage distribution table on the extent the ED beneficiaries practice the lessons learned PD Hearth session for child caring and feeding

The extent the ED beneficiaries practice the lessons learned PD Hearth session for child caring and feeding	Percentage
Always	35.1
Usually	44.3
Often	13.2
Rarely	7.2
Never	0.2
n	**485**

Table 7: Percentage distribution table on whether the ED beneficiaries shared lessons from PD Hearth with neighboring mothers

Have you shared lessons from PD Hearth with neighboring mothers	Children of PD/Hearth+ED HH
Yes	86.4
No	13.6
n	**485**

Table 7.1: Percentage distribution table on how often do you share lessons from PD Hearth sessions in the past year

How often do you share lessons from PD Hearth sessions in the past year	Children of PD/Hearth+ED HH
Once a week	24.6
Once a month	26.3
A total of 5-10 times	21.0
A total of 3-4 times	15.5
A total of 1-2 times	12.6
n	**419**

Table 8: Percentage distribution table on whether the ED Beneficiaries received swing machine and fabric kit or small business items from World Vision in the past 12 months

Whether the ED Beneficiaries received swing machine and fabric kit or small business items from World Vision in the past 12 months	Percentage
Yes	12.4
No	87.6
n	**485**

Table 9: Percentage distribution table on utilization of additional Income

Utilization of additional Income	Percentage
Bought nutritious foods for the beneficiaries	76.9
Bought nutritious foods for beneficiaries' child	87.0
Bought a better health care/treatment for the beneficiaries	56.2
Bought a better health care/treatment for beneficiaries' child	65.7
n	**347**

Table 10: Percentage distribution table on whether the ED beneficiaries saved money before WV saving training

Have you saved money before WV saving training	Percentage
Yes	53.0
No	47.0
n	**485**

Table 11: Percentage distribution table on how much money did the ED beneficiaries saved after the saving training so far

How much money did you save after the saving training so far	Percentage
No saving	10.3
Less than BDT 1,000	7.8
BDT 1,000-2,500	30.5
BDT 2501-5,000	34.6
Above BDT 5,000	16.7
n	**485.0**
Mean Score	**3427.1**

Table 12: Percentage distribution table on what is your HH planning to do with the savings

What is your HH planning to do with the savings	Percentage
Purchase of goods	37.1
Purchase of lands	1.0
Purchase of seeds	0.2
Purchase of livestock	5.6
Purchase of foods	39.4
General living expense	27.0
Health care for adults	11.8
Hearth care for kids	16.7
Education cost for kids	6.2
Business fund	18.8
Did not withdraw money	1.6
Not Applicable	10.3
n	**485**

Table 13: Percentage distribution table on whether the ED program/saving training useful to manage your assets

Was the ED program/saving training useful to manage your assets	Percentage
Very useful	55
Useful	42
Neither useful nor useless	2
Useless	1
n	**485**

Table 14: Percentage distribution table on whether the ED HH completed the Economic Development (ED) group/saving training

Did your HH complete the Economic Development (ED) group/saving training	Children of PD/Hearth+ED HH
Yes	96
No	4
n	**485**

Table 15: Percentage distribution table on whether they have sold household income by selling any products you made with swing machine/selling small business items

Have you sold household income by selling any products you made with swing machine/selling small business items	Children of PD/Hearth+ED HH
Yes	77.0
No	23.0
n	**485**

Appendix B: Project Goals & Indicators

The project has set some goals & indicators for phase II of and below is the list of goals and indicators set for the phase II of the project as:

	Goal and Outcomes	Indicators
Project Goal:	Reduce the incidence of malnutrition in children under five years of age living in three Upazilas: Dhamoiraht, Phanchibibi, Joypurhat	Prevalence of stunting in children under 5 years 2) Prevalence of wasting in children under 5 years 3) Prevalence of underweight in children under 5 years
Outcome 1	Improve nutritional status of children under 5 years	1) Proportion of children receiving exclusively breastfed until 6 months of age 2) Percentage of children achieving + 400g within 30 days of participating in the PD/Hearth program
Outcome 2	Strengthening partners(community facilitators, government bodies, WV staff)' capacity building on health &WASH in the community	1) Percentage of CG and CSG are functioned 2) % increased access to services from Government health facilities 3) Percentage of children aged 6-23 months receiving minimum dietary diversify according to PD/Hearth guideline
Outcome 3	Improving behavior through supporting income generating activities	1)Percentage of the underweight children aged under 5 of the households benefited project income generation interventions 2)Proportion of children aged 6-23 months receiving minimum dietary diversity among the HHs who received IGA support 3)Proportion of women receiving minimum adequate diet among the HHs who received IGA support
Output:1.1	Implementation of growth monitoring for children aged 0-59 months and monitoring their health/ nutrition status	1)# of children aged 0-59 months participating in the GMP (Growth Monitoring and Promotion session
Output:1.2	Implementation of PD/Hearth program for malnourished children aged 0-59 month	1)# of children participating in the PD/Hearth program
Output:2.1	Capacity building on health/ WASH/ nutrition behavior change	1) # of HH orientation session (where primary caregiver is oriented with maternal health care) conducted by CF (community facilitators)
Output:2.2	Conduct CVA training for community group	1) Number of CVA groups conducting health centre monitoring activities over 3 months
Output:3.1	Support for income generation activity	1) # of households whose assets are distributed 2) # of persons acquired training
Output:3.2	Targeted HHs have capital to invest in their food production and income earning activities	# of target HH that achieved their target saving amount for 3 consecutive months