

Endline Assessment of  
**Digital Technology Enabled and Community Driven  
Integrated Agriculture and Nutrition Intervention to  
Promote Maternal and Child Nutrition in Odisha**

Conducted by Digital Green

Under Technical Assistance from London School of  
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In Partnership with DCOR Consulting Pvt. Ltd.

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## ABBREVIATIONS

ANM	Auxiliary Nurse Midwife
ASHA	Accredited Social Health Activist
AWC	Anganwadi Centre
AWW	Anganwadi Worker
BPL	Below Poverty Line
CRP	Community Research Person
CSP	Community Service Provider
DG	Digital Green
ICT	Information and Communication Technologies
LSHTM	London School of Hygiene and Tropical Medicine
MIYCN	Maternal, Infant and Young Child Nutrition (MIYCN)
NGO	Non-Government Organisation
OBC	Other Backward Class
PLA	Participatory Learning Action
RCT	Randomized Controlled Trial
SBCC	Social and Behavior Change Communications
SC	Scheduled Caste
SHG	Self Help Group
SPRING	Strengthening Partnerships, Results, and Innovations in Nutrition Globally
ST	Scheduled Tribe
WASH	Water, Sanitation and Hygiene

## Chapter I

# 1. Introduction

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### 1.1 Background

Digital Green builds and deploys information and communication technologies (ICT) to amplify the effectiveness of the development efforts around the world, affecting sustained social changes. Its approach combines technology with social organizations to share locally-relevant livelihood practices among rural communities in a cost-effective manner. Digital Green works with partners to effectively share relevant livelihood practices among rural communities using locally-produced videos and mediated dissemination.

Digital Green has been working with VARRAT, an NGO, based in Keonjhar district of Odisha, for the last four years with a focus on community-based approaches to agricultural development. In 2012, VARRAT partnered with Digital Green in a 12 months pilot intervention in 30 villages (October, 2012 onwards) to test the feasibility of integrating nutrition and hygiene aspects into its agricultural programs with technical assistance from the Strengthening Partnerships, Results, and Innovations in Nutrition Globally Project (SPRING). This intervention promoted key practices for improving MIYCN (including water, sanitation, and hygiene (WASH), age-appropriate dietary practices and maternal and child care), building on the Digital Green agricultural model. Ten locally produced MICYN-focused videos were developed and disseminated to female farmers participating in the bi-weekly self-help group (SHGs) meetings, as a part of an on-going Digital Green-VARRAT agriculture program.

A feasibility study of the integration of nutrition and hygiene into agriculture programs, conducted in 2013-14, revealed a high demand for health and nutrition information and that the DG approach catered well to meet the needs of health and nutrition information. The program also resulted in the improvement and retention of knowledge disseminated through the DG approach. The study identified further areas for strengthening, including:

#### **Summary of the recommendations of the feasibility study**

- i) Increase participation of women in group meetings to develop a common and shared understanding of MIYCN, identifying capabilities, motivations and opportunities for behavioral changes related to MIYCN practices;
- ii) Enhance the agriculture-nutrition nexus of the intervention, by closely aligning the local agriculture-food system and its relationship to nutrient availability, affordability and consumption patterns;
- iii) Capacity enhancement of VARRAT and frontline workers.

## 1.2 BIRAC Grand Challenge India Program

The BIRAC Grand Challenge India program titled as “Digital Technology Enabled and Community-Driven Integrated Agriculture and Nutrition Intervention to Promote Maternal and Child Nutrition in Odisha” was implemented in 30 villages in Ghatagaon and Patna Blocks in Keonjhar district with an aim to strengthen and engage women’s groups to address MIYCN, produce and disseminate a series of nutrition-specific participatory videos to address nutrition-specific behaviours, locally feasible solutions as well as expenditure patterns to improve maternal and child diet quality. The program aimed to assess the impact of the enhanced intervention on select operational and behavioural indicators at the program, women’s groups and household levels using a cluster Randomized Controlled Trial (RCT) design.

In addition to Digital Green video extension model, the program adopted Participatory Learning and Action (PLA) to identify how the current agriculture-food system could be improved for optimal maternal and child diet quality and what motivations and opportunities of women’s groups could be leveraged to improve maternal and child dietary practices. The Indian civil society organization Ekjut<sup>1</sup> was engaged to plan a structured meeting cycle with women’s groups using PLA<sup>2</sup> to identify how the current agriculture-food system could be improved for optimal maternal and child diet quality and what motivations and opportunities could be leveraged to improve maternal and child dietary practices.

The PLA cycle, typically, had four phases, illustrated here in relation to maternal and child nutrition. In the first phase, the group members identified and prioritized locally salient maternal and child nutrition problems (e.g. diarrhoea). In the second phase, they discussed the causes and solutions to the prioritized problems using story-telling and picture cards; then identified locally feasible strategies to implement these solutions, which then were shared through production of and dissemination through low cost-videos. In the third phase, groups implemented their chosen strategies and reviewed their progress. In the fourth phase, they evaluated the results of their actions. This approach has already shown to improve maternal and newborn survival in India and other settings<sup>3,4</sup>. This BIRAC Grand Challenge program integrated a modified PLA for nutrition for better uptake of the enhanced integrated agriculture and nutrition intervention. This enabled coupling of effective nutrition-specific programs with nutrition-sensitive interventions.

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<sup>1</sup><http://www.ekjutindia.org>

<sup>2</sup>Mukherjee N. *Participatory Learning and Action: With 100 Field Methods*. New Delhi: Concept Publishing Company; 2002.

<sup>3</sup>Prost A, Colbourn T, Seward N, et al. Women’s groups practising participatory learning and action to improve maternal and newborn health in low-resource settings: a systematic review and meta-analysis. *Lancet* 2013;381(9879):1736-46. doi:10.1016/S0140-6736(13)60685-6.

<sup>4</sup>Tripathy P, Nair N, Barnett S et al. Effect of a participatory intervention with women’s groups on birth outcomes and maternal depression in Jharkhand and Orissa, India: a cluster-randomised controlled trial. *Lancet* 2010;375:1182–92.

## 1.3 Activities Carried-out in the Intervention and Control Villages

### Activities Carried-out in the Intervention Villages

- All the three phases of the PLA trainings were completed by Ekjut. The participants of these training programs were the 6 CSPs who conducted the PLA meetings in the intervention villages and the 3 CRPs who produced the videos to be disseminated in the same villages. The project co-ordination staff of VARRAT also participated in these training programs.
- Three videos based on the community response and outcomes of the PLA meetings were produced and disseminated during the last 3 PLA meetings. The three videos produced are:
  - Video # 1 - *Importance of diverse diet during complementary feeding stage* - This video describes the importance of introducing complementary feeding at the right age and how diverse diet is important to meet all types of nutrient requirements for a child's growth and development. The video also highlights the various sources of availability of diverse diet like establishing a nutritional garden.
  - Video # 2 - *Care and feeding of a sick child* - This particular video highlights the importance of taking a sick child to the nearest health centre immediately in case of its refusal to feed, weakness, persistent loose motion, vomiting, convulsions, congestion and high fever. It is also advocated to continue breast feeding and complementary feeding even if the child is sick, in order to avoid weight loss and ensure responsive feeding along with family support, helping the child to regain its weight and health post illness.
  - Video # 3 - *Homecare strategies for prevention of illness in a child* - This video emphasizes on hand washing with soap before preparing food and feeding the child as the most effective way to prevent many diseases. It also details out the importance of safe handling of food items, use of safe drinking water, safe disposal of faeces, use of toilets and use of footwear while going to toilet or open defecation as the important measures, which should be taken in order to prevent illness of a child.
- After 4 rounds of PLA meetings and one village level sharing meeting, these videos were disseminated in 3 subsequent PLA meetings. In total, 90 video disseminations were conducted in 54 groups in 15 intervention villages.

### Activities Carried out in the Control Villages

- A community level consultation workshop was undertaken, involving AWWs, ASHAs, SHG representatives, CSPs of the control villages and the CRPs to identify the broad contents for the

control villages. These contents were highlighted by the participants considering the ground level challenges/problems around children's (6 to 60 months) dietary quality.

- Out of all the contents that came out of the community consultation process, 3 contents were selected, based on the priority set by the community and the videos were produced:
  - Video # 4 - *Age appropriate complementary feeding* - This video highlights the importance of giving appropriate quantity, frequency, consistency and diversity of complementary feeding at the right age group of a child for ensuring proper growth and development of a child. It also emphasizes on use of clean utensils and hand washing before preparing food and before feeding a child.
  - Video # 5 - *Compound hygiene and safe drinking water* - Clean compound, proper disposal of faecal matters in case of open defecation, keeping domestic animals away from the young children and use of safe drinking water have been emphasized in this video in order to protect the children from any kind of disease infestation.
  - Video # 6 - *Prevention of diarrhea and worm and care of a sick child* - Worm and diarrhea are commonly prevalent in children in rural areas and both preventive and control measures should be taken at the right time. Use of toilets, wearing foot wears during defecation, hand washing with soap before preparing food, before feeding the child and after using toilets are some of the important aspects highlighted in order to prevent worm and diarrhoea. Use of ORS and worm prevention medicines are suggested here as control measures against diarrhoea and worm infestation. Responsive feeding and continuation of breastfeeding and complementary feeding during illness have been stressed in this video.

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## Chapter II

# 2. Study Objectives & Methodology

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## 2.1 Study Objectives

The study objectives are to:

- a) Identify and address nutritional gaps in the community by strengthening women's groups through a participatory learning and action (PLA) approach, and
- b) Test the effectiveness of this enhanced intervention on select nutritional knowledge and practice indicators at the program, women's group and household levels.

## 2.2 Methodology

### 2.2.1 Study Arms

The study has two arms: i) Comparison arm and ii) Intervention arm.

- a) **Comparison arm** (Agriculture and nutritional videos): Women's groups, in this arm, received the integrated Digital Green agriculture extension intervention with nutrition-related social and behaviour change communications (SBCC). This arm included the existing approach of video production and dissemination among women's group as detailed in the feasibility study report<sup>5</sup>.
- b) **Intervention arm** (Agriculture and nutritional videos combined with strengthening of nutrition videos): Women's groups, in this arm, received a strengthened version of the above intervention more strongly responding to the intervention development nature of the Grant. Specially, this arm focused on a) strengthening women and community members' capacities to improve MIYCN by engaging women's groups through a cycle of participatory learning and action (PLA) meetings and b) based on the capabilities, opportunities and motivations identified through these meetings (PLA) to improve production and dissemination of a series of videos aimed at locally feasible solutions to improve agricultural practices as well as practices to improve maternal and child diet quality.

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<sup>5</sup>Kadiyala, S., Roopnariane, T., Margolias, A., Cyriac S. *Using a community-led video approach to promote maternal, infant, and young child nutrition in Odisha, INDIA*. Arlington, VA; 2014.

### 2.2.2 Study design

An external operational pilot study<sup>6</sup> using a cluster randomized controlled trial (RCT) design was adopted in 30 villages in Patna and Ghatgoan block of Keonjhar district where Digital Green intervention was operational and where the feasibility study was carried-out, providing a baseline for operational and uptake-related outcomes. Out of the 30 villages, 15 villages each were randomly allocated to the intervention group and the comparison group. The design included data collection at baseline and endline.

***This report presents the findings of the endline study carried-out in all the 30 study villages of intervention and comparison arms. The endline study assessed the effectiveness of this enhanced intervention on select nutritional knowledge and practice indicators at the program, women’s group and household levels.*** A series of modules was administered to capture information on the topics from the key groups viz. mothers of 6-24 months children and women’s groups.

### 2.2.3 Study Participants at Endline

The endline study repeated the survey of the same women’s groups as covered in the baseline. Four women’s group (mostly Women Self Help groups) in each of 30 intervention and control villages were surveyed. Additionally, mothers of 6-24 months children were surveyed in the endline.

### 2.2.4 Sampling

A total of 109 women’s groups were surveyed in the 30 study villages, out of which 53 were in the intervention arm and 56 were in the comparison arm. Table 1 presents the block and village-wise number of women’s groups covered in both baseline and endline survey.

<b>Name of Blocks</b>	<b>Name of Intervention Village</b>	<b>No. of women’s group</b>	<b>Name of Comparison Village</b>	<b>No. of women’s group</b>	<b>Total no. of women’s group</b>
<b>Ghatagaon</b>	LaxmiPosi	4	Ambuapada	4	<b>42</b>
	Parsurampur	3	Ghuntijhari	4	
	Asanabani	4	Chhatia	4	
	ToraniPokhari	4	Raghubeda	3	

<sup>6</sup>Pilot studies are a small scale versions of large studies that run to test whether the components of the main study can all work together. They focus on the processes of the main study, for example recruitment, randomisation, treatment, and follow-up assessments. An internal pilot is a pilot that may be the first phase of the substantive study and data from the pilot phase may contribute to the final analysis. An external pilot is one where the data may be analysed but set aside in respect of the substantive study. [http://www.nihr.ac.uk/CCF/RfPB/FAQs/Feasibility\\_and\\_pilot\\_studies.pdf](http://www.nihr.ac.uk/CCF/RfPB/FAQs/Feasibility_and_pilot_studies.pdf)

<b>Table 1: Block and village-wise number of women's group covered in both baseline and endline survey</b>					
<b>Name of Blocks</b>	<b>Name of Intervention Village</b>	<b>No. of women's group</b>	<b>Name of Comparison Village</b>	<b>No. of women's group</b>	<b>Total no. of women's group</b>
	Baghaghar	3	Bhandaripasi	3	
	Dwarikapasi	2	Gandasila	4	
	<b>Block Total</b>	<b>20</b>		<b>22</b>	
<b>Patna</b>	BadaMahuladia	4	Ghatabali Jodi	4	<b>67</b>
	RudhiaPada	3	Palanghati	4	
	Baidabaja	3	Jamulei Beda	3	
	Erendi	4	Kothaghar	4	
	Tando	4	Begunakhaman	4	
	Pichhulbeda	4	Malliposi	4	
	Rohiniduma	4	Nuapada	4	
	Kalighai	4	Kumudabahali	3	
	Banamahuldia	3	Godhirampada	4	
		<b>Block Total</b>	<b>33</b>		
<b>Grand Total</b>		<b>53</b>		<b>56</b>	<b>109</b>

The survey of mothers of 6-24 month children was carried-out in all the 30 study villages. The number of mothers interviewed in each arm is presented in the Table 2.

<b>Table 2: Number of Mothers of Children of 6-24 months covered in the endline survey</b>			
	<b>Intervention</b>	<b>Comparison</b>	<b>Total</b>
Mothers of 6-24 month children	285	256	541

### 2.2.5 Data Collection

Preparation of the survey instruments: Structured interview schedule was prepared and canvassed for the survey of both women's group and mothers of 6-24 months children. The study instruments were finalized after the pre-testing of the tools. The instruments were translated in Odia for the data collection.

Training of the survey team: The survey team constituted of one survey coordinator, two field supervisors and sixteen field investigators. Prior to the data collection, the survey team was given three days' orientation, including two days' classroom and one day's field training (in non-study villages of Ghatagaon Block).

House listing: Prior to the survey of mothers of 6-24s month children, listing of mothers was carried out in all the 30 villages in consultation with the ASHAs and AWWs.

Data collection: The endline data collection in the field was carried out from the end of January, 2016.

Ethical consent: Prior to collecting data, verbal ethical consent was obtained from the study participants after reading out the consent form to the participants and clearly explaining them about the study purpose, objectives, benefits, confidentiality and seeking voluntary participation. The field investigators signed the consent form on behalf of the study participants.

Quality assurance during data collection: The following steps were undertaken for quality assurance during data collection.

- Visual observation or spot-checking of at least 50 percent of interviews of each interviewer was done on daily basis. The discrepancies found during spot-checking were immediately complied with the concerned field investigator.
- At least 10 percent of the interviews were back-checked by the supervisors in every sampled location. Similar to spot-checking, the discrepancies found during back-checking were immediately complied with the concerned field investigator.
- Data scrutiny of all the filled-up questionnaires was done on daily basis to ensure that all information recorded is clear and consistent.

## 2.2.6 Data entry and analysis

The data was entered in MS-Excel, which was then exported to SPSS 20 for the analysis. Prior to the analysis, data cleaning was done through application of range, consistency and validity checks. Both frequency distribution and cross tabulation techniques were used to analyze the quantitative data.

## 2.2.7 Report preparation

The report preparation involved interpretation of the data analysis outputs. The quantitative data outputs are presented in the form of data tables and graphs in the report.

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## Chapter III

# 3. Findings of the Endline Study

This chapter presents the findings of the endline survey conducted with the mothers of 6-24 months children and women's group in the intervention and comparison arms. The findings presented here are structured into two parts:

- i) Nutrition knowledge and attitude of the mothers of 6-24 months children
- ii) Nutrition knowledge and attitude of the leaders of women's groups

## 3.1 Nutrition Knowledge and Practices of the Mothers of 6-24 Month Children

The endline survey covered a total sample of 256 and 285 mothers of 6 to 24 months children in the intervention and comparison arms respectively. This section presents their background characteristics, participation in the video disseminations and PLA meetings and their nutrition knowledge and practices, which are specifically dealt in the trial.

### 3.1.1 Background Profile of the Mothers of 6-24 Months Children

Caste/Ethnicity: Table 3 presents the caste/ethnic background of the mothers of 6 to 24 months children. In both the intervention and comparison arms, more than two-third belonged to Scheduled Tribes (STs) (i.e. 67.6 percent and 68.4 percent STs in the intervention and comparison arms respectively). Followed by STs, the next highest belonged to Other Backward Class (OBC) i.e. 21.5 percent in the intervention arms and 20.4 percent in the comparison arms. Scheduled Castes (SCs) comprised of 10.2 percent and 10.5 percent of the mothers of 6 to 24 months children interviewed in the intervention and comparison arms respectively. Less than one percent of the mothers belonged to other/general castes. In brief, the trial catered to the most vulnerable communities in terms of their caste/ethnicity as majority of the mothers belonged to STs and SCs. Table 3 also shows that the proportion of the mothers belonged to STs, SCs, OBCs and other castes between the intervention and comparison arms are more or less same.

Castes	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Scheduled Caste	26	10.2%	30	10.5%
Scheduled Tribe	173	67.6%	195	68.4%
Other Backward Class	55	21.5%	58	20.4%

Castes	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
None of the above	2	.8%	2	.7%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Education: Slightly more than one third of the mothers of 6 to 24 months children i.e. 34.4 percent in the intervention and 35.8 percent in the comparison arm had never attended school. Next highest i.e. 23.8 percent in the intervention arm and 23.9 percent in the comparison arm had completed education up to 9<sup>th</sup> standard. 13.3 percent in the intervention arm and 15.8 percent in the comparison arm had education of 10<sup>th</sup> standard or more.

Sources	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Currently in class 1	2	.7%	0	0.0%
Completed class 1	6	2.1%	2	.8%
Completed class 2	7	2.5%	5	2.0%
Completed class 3	10	3.5%	7	2.7%
Completed class 4	12	4.2%	9	3.5%
Completed class 5	7	2.5%	8	3.1%
Completed class 8	6	2.1%	9	3.5%
Completed class 7	9	3.2%	20	7.8%
Completed class 8	11	3.9%	13	5.1%
Completed class 9	68	23.9%	61	23.8%
Completed class 10	17	6.0%	14	5.5%
Completed class 11	13	4.6%	7	2.7%
Completed class 12	7	2.5%	11	4.3%
BA/BSc/BCom	7	2.5%	2	.8%
MA/MSc/MCom and above	1	.4%	0	0.0%
Never attended School	102	35.8%	88	34.4%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Poverty status: Around half of the mothers of 6 to 24 months children in both the intervention (49.2 percent) and comparison (51.2 percent) arms possessed Below Poverty Line (BPL) card issued by the Government. The survey did not find much difference in this between the arms, though the proportion of mothers belonging to BPL families in the comparison arms is higher by a negligible 2 percent over the intervention arms.

<b>Table 5 Status of the BPL cards possessed by the households of mothers of 6-24 months children</b>				
<b>Status</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	126	49.2%	146	51.2%
No	130	50.8%	139	48.8%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Housing: Slightly higher i.e. around 95 percent of the mothers of 6 to 24 months children in the intervention arms were residing in their own houses as compared to 89 percent in the comparison arms. There was a difference of 6 percent of the mothers staying in their own houses between the arms.

<b>Table 6 Status of house owned by the households of mothers of 6-24 months children</b>				
<b>Status</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	243	94.9%	254	89.1%
No	13	5.1%	31	10.9%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Although maximum mothers in both the arms were staying in mud/kaccha houses, relatively greater proportion of them in the comparison arm (59.6 percent) was residing in mud/kaccha house than the intervention arm (52.0 percent). It appears from the housing data, the mothers in the intervention arm are marginally better off in terms of their economic conditions than the comparison arm.

<b>Table 7 Type of house owned by the households of mothers of 6-24 months children</b>				
<b>House Type</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Mud/Kaccha	133	52.0%	170	59.6%
Semi-Pucca	92	35.9%	86	30.2%
Pucca (Brick/Stone)	31	12.1%	29	10.2%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Agriculture Land ownership: Similar to the house ownership, maximum of the households of the mothers of 6 to 24 months children owned agriculture land in both the arms, though the proportion was 12 percent higher in the intervention arm (88.3 percent) as compared to the comparison arm (76.1 percent). Since land ownership is one of the key economic indicators, 12 percent more households owning agriculture land in the intervention arm indicates their fairly better economic conditions than the comparison arm. This also indicates that the maximum households in both the arms pursued agriculture.

	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	226	88.3%	217	76.1%
No	30	11.7%	68	23.9%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Electricity connection: Electricity connection of the houses also indicates that the households have the affording capacity to avail the facility. Less than half of the households in both the arms had electricity connection to their houses, though marginally higher proportion of the households of mothers of 6 to 24 months children in the intervention arm (46.9 percent) had electricity connection than the comparison arm (44.2 percent).

	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	120	46.9%	126	44.2%
No	136	53.1%	159	55.8%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Sources of drinking water: More than two third of the households of mothers of 6 to 24 months children in both the arms (69.5 percent in intervention and 70.5 percent in comparison arm) had access to tube well, which is an improved source of drinking water. Next highest i.e. 17.2 percent in intervention and 15.4 percent in comparison arm had to fetch drinking water from the unprotected dug wells. The survey did not find much difference in the sources of drinking water between the mothers of 6 to 24 months children in the intervention and comparison arms.

<b>Sources</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Piped into building	0	0.0%	1	.4%
Piped into yard/plot	1	.4%	2	.7%
Public tap/stand pipe	5	2.0%	10	3.5%
Tube well/bore hole	178	69.5%	201	70.5%
Protected dug well	18	7.0%	13	4.6%
Unprotected dug well	44	17.2%	44	15.4%
Protected spring	1	.4%	0	0.0%
Unprotected spring	5	2.0%	4	1.4%
Cart with small tank	0	0.0%	0	0.0%
Surface water (river/dam/Lake/pond/	4	1.6%	8	2.8%

Sources	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
stream/canal/ Irrigation channel)				
Bottled water	0	0.0%	2	.7%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Little more than one third of the mothers of 6 to 24 months children in both the arms (37.5 percent in intervention and 41.4 percent in comparison arm) reported that they treated the water for making it safer to drink. Of them, the majority said that they boiled the water before using for drinking purpose, though a slightly greater percentage practice this in the intervention arm than the comparison arm.

Treatment Status	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Yes	96	37.5%	118	41.4%
No	160	62.5%	167	58.6%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

	Intervention (N=96)		Comparison (N=118)	
	Count	Column N %	Count	Column N %
Boil	87	90.6%	99	83.9%
Use alum	1	1.0%	2	1.7%
Add bleach/chlorine tablets	1	1.0%	15	12.7%
Strain through a cloth	14	14.6%	10	8.5%
Use water filter (ceramic/Sand/composite/etc.)	1	1.0%	3	2.5%
Use electronic purifier	1	1.0%	2	1.7%
Let it stand and settle	0	0.0%	1	.8%

Ownership of livestock: Except 10.5 percent in the intervention arm and 13.3 percent in the comparison arm, the remaining households own livestock. The highest i.e. more than two third owned hens/chickens (69.5 percent in intervention and 68.4 percent in comparison arm) followed by goats (46.9 percent in intervention and 45.3 percent in comparison arm), bullock (40.2 percent in intervention and 37.9 percent in comparison arm), milch cows (27.7 percent in intervention and 35.4 percent in comparison arm) and sheep (5.9 percent in intervention and 11.9 percent in comparison arm). The

survey did not find much difference in various livestock owned by the households between the two arms.

Livestock	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Hens/chickens	178	69.5%	195	68.4%
Sheep	15	5.9%	34	11.9%
Goats	120	46.9%	129	45.3%
Cows	71	27.7%	101	35.4%
Pigs	0	0.0%	3	1.1%
Ducks	7	2.7%	15	5.3%
Bullock	103	40.2%	108	37.9%
Buffalo	20	7.8%	6	2.1%
No livestock	27	10.5%	38	13.3%

Ownership of movable assets: The various assets owned by the households of mothers of children 6-24 months are presented in Table 14. Assets such as bicycles, mobile phones, cots/beds and chairs were owned by the maximum no. of the households in both the arms, though cots/beds, chairs and wrist watches by the maximum no. in the intervention arm as compared to the comparison arm. Assets like colour televisions and electric fans were owned by lesser number of families in both the arms.

Assets	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
A Radio or transistor	6	2.3%	22	7.7%
A colour television	52	20.3%	75	26.3%
A black & white television	4	1.6%	3	1.1%
A computer / laptop without internet	2	.8%	1	.4%
A computer / laptop with internet	0	0.0%	0	0.0%
A land line phone only	1	.4%	2	.7%
A mobile phone only	138	53.9%	163	57.2%
A washing machine	1	.4%	2	.7%
A refrigerator	5	2.0%	11	3.9%
A sewing machine	6	2.3%	9	3.2%
A watch or clock	114	44.5%	137	48.1%
A bicycle	195	76.2%	210	73.7%
A motorcycle or scooter or moped	28	10.9%	38	13.3%
A car / jeep / van	4	1.6%	1	.4%

Assets	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
A tractor	3	1.2%	0	0.0%
A water pump / tube	4	1.6%	6	2.1%
A cart driven by animal well	1	.4%	2	.7%
A cart driven by machine	0	0.0%	0	0.0%
Other cart	0	0.0%	0	0.0%
A Thresher	4	1.6%	3	1.1%
A Fan	88	34.4%	108	37.9%
A Cooler	1	.4%	1	.4%
An Air-conditioner	0	0.0%	0	0.0%
A Mattress	50	19.5%	53	18.6%
A Pressure cooker	30	11.7%	26	9.1%
A Chair	161	62.9%	155	54.4%
A Cot/bed	210	82.0%	192	67.4%
A Table	74	28.9%	68	23.9%
A Clock/watch	37	14.5%	59	20.7%

Defecation practices: The majority of the households in both the arms (93.4 percent in intervention and 90.2 percent in comparison arm) was using open space or field for defecation. The entire family members in only 2.3 percent households in intervention arm and 3.9 percent in the comparison arm were using toilet for defecation.

Toilet Type	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Flush to piped sewer system	0	0.0%	3	1.1%
Flush to Septic tank	0	0.0%	6	2.1%
Flush to pit latrine	3	1.2%	3	1.1%
Flush to somewhere else	1	.4%	0	0.0%
Flush to don't know where	0	0.0%	0	0.0%
Ventilated improved pit (VIP) biogas latrine	0	0.0%	1	.4%
Pit latrine with slab	3	1.2%	2	.7%
Pit latrine without slab/open pit	4	1.6%	12	4.2%
Twin pit/composting toilet	5	2.0%	1	.4%
Dry toilet	1	.4%	0	0.0%

<b>Table 15 Kind of toilet facility the members of the households of mothers of 6-24 months children usually use</b>				
<b>Toilet Type</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
No facilities/uses open space or field	239	93.4%	257	90.2%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

<b>Table 16 Status of all the members of the households of mothers of 6-24 months children using toilets</b>				
<b>Status</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	6	2.3%	11	3.9%
No	250	97.7%	274	96.1%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Hand washing practices: The majority of the households of mothers of 6-24 months children in both the arms (95.7 percent in intervention and 93.7 percent in comparison arm) could show the place where they wash their hands.

<b>Table 17 Observation of place where members of the households of mothers of 6-24 months children often wash their hands</b>				
<b>Observation status</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Observed	245	95.7%	267	93.7%
Not observed, not in dwelling/yard/plot	7	2.7%	15	5.3%
Not observed, no permission to see	0	0.0%	1	.4%
Not observed, other reason	4	1.6%	2	.7%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

However, availability of water at the hand-washing site was observed in the houses of only 28.9 percent of households in the intervention and 29.1 percent in the comparison arm.

<b>Table 18 Availability of water at the place where members of the households of mothers of 6-24 months children often wash their hands</b>				
<b>Availability of Water</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Water is available	74	28.9%	83	29.1%
Water is not available	182	71.1%	202	70.9%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Slightly less than half of the mothers of 6-24 month children reported that their household members are not using anything to wash their hands (46.5 percent in intervention and 43.5 percent in comparison arm). Use of soap or detergent to wash hands was reported by 43.0 percent and 46.3 percent of the households in the intervention and comparison arms respectively.

The survey did not find much difference in the hand washing practices of the households of mothers of 6-24 months children between the two arms.

<b>Table 19 Materials used by the members of the households of mothers of 6-24 months children for washing their hands</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Soap or detergent	110	43.0%	132	46.3%
Bar, liquid, powder, paste	8	3.1%	11	3.9%
Ash, mud, sand	19	7.4%	18	6.3%
None	119	46.5%	124	43.5%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Food security status: In the past 30 days, at least 21.5 percent in the intervention arm and relatively higher i.e. 36.5 percent of the households of mothers of 6-24 months children in the comparison arm were worried that they would not have enough food to eat.

<b>Table 20 In the past 30 days, the members of the households of mothers of children 6-24 months worried that they would not have enough food</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	55	21.5%	104	36.5%
No	201	78.5%	181	63.5%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Of them, 41.8 percent in the intervention arm and 31.7 percent in the comparison arm were worried for at least 3 to 10 times in the past 30 days.

<b>Table 21 In the past 30 days, number of times the members of the households of mothers of children 6-24 months worried that they would not have enough food</b>				
	<b>Intervention (N=55)</b>		<b>Comparison (N=104)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Rarely (1-2 times)	32	58.2%	70	67.3%
Sometimes (3-10 times)	23	41.8%	33	31.7%
Often (>10 times)	0	0.0%	1	1.0%

<b>Table 21 In the past 30 days, number of times the members of the households of mothers of children 6-24 months worried that they would not have enough food</b>				
	<b>Intervention (N=55)</b>		<b>Comparison (N=104)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
<b>Total</b>	<b>55</b>	<b>100.0%</b>	<b>104</b>	<b>100.0%</b>

The survey findings also show that 14.8 percent of the households of mothers of 6-24 months children did not have food at all in the past 30 days as there did not have resources. Almost two times i.e. 28.8 percent of households had the same experience in the comparison arm.

<b>Table 22 In the past 30 days, households of mothers of children 6-24 months did not have food at all as there were no resources</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	38	14.8%	82	28.8%
No	218	85.2%	203	71.2%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Of them, while two third of the households in both the arms i.e. 63.2 percent in the intervention and 64.6 percent in the comparison arm did not have food at all for at least 1 to 2 times in the past 30 days, 34.2 percent in the intervention and 28.0 percent in the comparison arm experienced this at least 3 to 10 times in the past 30 days.

<b>Table 23 In the past 30 days, number of times the households of mothers of children 6-24 months did not have food at all as there were no resources</b>				
	<b>Intervention (N=38)</b>		<b>Comparison (N=82)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Rarely (1-2 times)	24	63.2%	53	64.6%
Sometimes (3-10 times)	13	34.2%	23	28.0%
Often (>10 times)	1	2.6%	6	7.3%
<b>Total</b>	<b>38</b>	<b>100.0%</b>	<b>82</b>	<b>100.0%</b>

### 3.1.2 Knowledge and Participation of the Mothers of 6-24 Months Children in Video Disseminations and Participatory Learning and Action (PLA) Meetings

An attempt was made in the survey to know the knowledge and participation of the mothers of 6-24 months children in the video disseminations and PLA meetings conducted under the trial.

The survey findings revealed that only 19.9 percent and 14.4 percent of the mothers of 6-24 months children were members of an SHG in the intervention and comparison arms respectively. In the

intervention arm, around 5 percent higher proportion of the mothers was member of an SHG as compared to the comparison arm. The findings revealed more than 80 percent of the mothers of 6-24 months children in both the arms were not members of the SHGs.

This is important to note here that the scope of conducting the video disseminations and PLA meetings was limited to only 4 SHGs (2 SHGs per video dissemination and / or PLA point) in a village (having an average of 12 members per SHG) in both the intervention and comparison arms.

<b>Table 24 Mothers of 6-24 months children, who were members of an SHG in the village</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	51	19.9%	41	14.4%
No	205	80.1%	244	85.6%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Marginally higher proportion of the mothers of 6-24 months children in the comparison arm (34.4 percent) was aware of the video dissemination shows held in the villages as compared to the intervention arm (31.6 percent).

<b>Table 25 Mothers of children 6-24 months, who were aware about the video dissemination shows held on agriculture and nutrition in the villages</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	81	31.6%	98	34.4%
No	175	68.4%	187	65.6%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

The proportion of the mothers of 6-24 month children who participated in the video disseminations was more or less the same in the two arms (20.3 percent in intervention and 19.3 percent in comparison arm). This also revealed that the mothers of 6-24 months children, who were not members of any SHG, also attended the video disseminations.

<b>Table 26 Mothers of children 6-24 months, who participated in the video dissemination shows held on agriculture and nutrition in the villages</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	52	20.3%	55	19.3%
No	204	79.7%	230	80.7%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

It was expected that the information communicated through the video disseminations and PLA meetings would be diffused from the captive audience (SHG members) to the rest of the community. In this regard, the survey revealed that out of those who did not participate in the video disseminations, 9.8 percent of the mothers of 6 to 24 months children in the intervention arm and 13.0 percent in the comparison arm received information on the messages/topics discussed in the video disseminations held in the village.

<b>Table 27 Mothers of children 6-24 months, those who did not participate, received information on the messages/topics discussed in the video dissemination shows held in the village</b>				
	<b>Intervention (N=204)</b>		<b>Comparison (N=230)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	20	9.8%	30	13.0%
No	184	90.2%	200	87.0%
<b>Total</b>	<b>204</b>	<b>100.0%</b>	<b>230</b>	<b>100.0%</b>

Of those mothers of 6 to 24 months children, who participated in the video dissemination shows, nearly three-fourth (73.1 percent in intervention and 70.9 percent in comparison arm) rated as 'good' and one-third (19.2 percent in intervention and 25.5 percent in comparison arm) rated as 'very good' in both the arms.

<b>Table 28 Rating of the video dissemination shows held on agriculture and nutrition in the villages by mothers of children 6-24 months</b>				
	<b>Intervention (N=56)</b>		<b>Comparison (N=51)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Very Poor	0	0.0%	1	1.8%
Poor	1	1.9%	0	0.0%
Average	3	5.8%	1	1.8%
Good	38	73.1%	39	70.9%
Very Good	10	19.2%	14	25.5%
<b>Total</b>	<b>52</b>	<b>100.0%</b>	<b>55</b>	<b>100.0%</b>

In the intervention arm, although the PLA meetings were combined with the video disseminations, only 9.4 percent could recall the PLA meetings held in the village. It is important to note here that these villages were receiving video disseminations since the last few years, whereas PLA meetings were conducted for the first time for a period of three months. This could be one of the reasons why only 9.4 percent could recognize the PLA meetings as compared to 20.3 percent participated in the video disseminations.

### 3.1.3 Assessment of the Nutrition Knowledge of the Mothers of 6-24 Months Children

This sub-section presents the comparative assessment of the nutrition knowledge of the mothers of 6 to 24 months children between the intervention and comparison arms. The knowledge of only those messages communicated through the video disseminations and PLA meetings (outlined in Section 1.3) have been assessed, analyzed and presented here.

Table 29 presents the knowledge of the mothers of 6-24 months children about the age of a young child when different food items can be given other than the breast milk.

Higher proportion of the mothers of 6-24 months children in the comparison arm (38.7 percent) knew that a child at the age of 6 months should be given semi-solid foods than the intervention arm (29.7 percent). More than half i.e. 53.3% in the comparison arm knew that water or other clear liquids (e.g. honey, broth, juices, etc.) could be given to the child at the age of 6 months as compared to 49.6 percent in the intervention arm. In comparison to the intervention arm, much higher proportion of mothers in the comparison arm knew that the child could be given eggs and animal meat/fish at the age of 6 months. But the overall knowledge of the mothers of 6-24 months children about the age of a young child when different food items can be given was quite low in both the arms (Table 29).

<b>Table 29 Knowledge of the mothers of children 6-24 months about the age of a young child when the following foods can be given</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
<b>Water or other clear liquids (e.g. honey, broth, juices, etc.)</b>				
6 Months	127	49.6%	152	53.3%
<b>Milk or other than breast milk</b>				
6 Months	113	44.1%	140	49.1%
<b>Semi-solid foods (e.g. Lito, Jaulo, Khichadi, etc.)</b>				
6 Months	76	29.7%	109	38.2%
<b>Solid foods (e.g. Rice, Vegetable, Roti, etc.)</b>				
12 Months	12	4.7%	25	8.8%
<b>Eggs</b>				
6 Months	29	11.3%	73	25.6%
<b>Animal meat/Fish</b>				

<b>Table 29 Knowledge of the mothers of children 6-24 months about the age of a young child when the following foods can be given</b>					
		<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
		<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
6 Months		14	5.5%	53	18.6%

As compared to the intervention arm, higher percentages of the mothers of 6-24 months children in the comparison arm knew the number of times that the child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food (Table 30). More than half i.e. 51.9 percent in the comparison arm as compared to 46.5 percent in the intervention arm could correctly mention that the child at the age of 6 months should be given soft and semi-solid foods for 2 to 3 times in 24 hours. Similarly higher proportion of the mothers of 6-24 months children in the comparison arm could correctly say that the child of 9 to 12 months age group should be given soft and semi-solid foods for 3 to 4 times in 24 hours in comparison to 31.3 percent in the intervention arm. Feeding of solid foods to the child of 12 to 24 month was known to higher proportion of the mothers of 6-24 months children in the comparison arm (37.9 percent) than the intervention arm (30.9 percent).

But, the overall knowledge of the mothers of 6-24 months children regarding the number of times that the child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food was fairly low in both the arms.

<b>Table 30 Knowledge of the mothers of children 6-24 months about the number of times that the child of following age group should be fed soft, semi-solid and solid food</b>					
		<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
		<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
6 Month	2 to 3 times in 24 hours	119	46.5%	148	51.9%
9-12 Month	3 to 4 times in 24 hours	80	31.3%	110	38.6%
12-24 Month	4 to 5 times in 24 hours	79	30.9%	108	37.9%

More percentages of the mothers of 6-24 months children in the comparison arm were aware of the child feeding practices (viz. feed an extra meal daily, feed more food than usual, give more liquid than usual and increase frequency of breastfeeding) that a mother should do to recover the child from illness as compared to the intervention arm (Table 31). Higher i.e. 36.5 percent in the comparison arm mentioned that the child should be fed more food than usual to recover him/her from illness as compared to the 26.6 percent intervention arm. Feeding an extra meal was mentioned by a larger proportion of the mothers of 6-24 months children in the comparison arm (19.6 percent) than the intervention arm (11.3 percent). However, the overall awareness of the mothers of 6-24 months children about the child feeding practices to recover from illness was extremely low in both the arms.

<b>Table 31 Knowledge of the mothers of children 6-24 months about the child feeding practices that a mother should do to recover from illness</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Feed an extra meal dally	29	11.3%	56	19.6%
Feed more food than usual	68	26.6%	104	36.5%
Give more liquid than usual	57	22.3%	82	28.8%
Increase frequency of breastfeeding	30	11.7%	50	17.5%

The proportion of the mothers of 6-24 months children knew the ways to protect a child from getting worms, specifically on washing hands of child (61.7 percent in intervention and 61.4 percent in comparison arm) and washing hands before feeding (44.1 percent in intervention and 46.0 percent in comparison arm), almost the same in both the arms (Table 32). But a higher proportion of the mothers in the intervention arm (39.8 percent) knew that the child should wear sandals to protect them from getting worms as compared to the comparison arm (34 percent). Overall, a larger proportion of mothers in both the arms were unaware of the ways to protect a child from getting worms.

<b>Table 32 Knowledge of the mothers of children 6-24 months about the ways to protect a child from getting worms</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Wash hands of child	158	61.7%	175	61.4%
Wash hands before feeding child	113	44.1%	131	46.0%
Children should wear sandals	102	39.8%	97	34.0%

Only 6.3 percent of the mothers of 6-24 months children in the intervention arm and 5.6 percent in the comparison arm were aware of the age when a child should be started deworming medication. The survey did not find much difference in the proportion of mothers of 6-24 months children, who knew about the age when child should be started deworming medication between the intervention and comparison arms.

<b>Table 33 Knowledge of the mothers of children 6-24 months about the age when child should be started deworming medication</b>				
<b>Age of Child in Months</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
12 month	16	6.3%	16	5.6%

As compared to the knowledge about the age when child should be started deworming medication, relatively higher proportion of the mothers of 6-24 month children in both the arms (24.6 percent in

intervention and 16.1 percent in comparison arm) knew correctly that the child should be dewormed in every six month. Around 8 percent more mothers of 6-24 month children in the intervention arm knew the correct frequency of deworming medication over comparison arm. But overall a quite low percentage of mothers in both the arms knew the same.

<b>Table 34 Knowledge of the mothers of children 6-24 months about the frequency of children should be dewormed</b>				
<b>Frequency</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Every 6 months	63	24.6%	46	16.1%

A marginally higher proportion of mothers of 6-24 months children in the comparison arm (81.1 percent mentioned hand washing after defecation, 54.4 percent said after cleaning the child's bottom and 67.4 percent mentioned before feeding the child) knew the critical moments when she should wash her hands as compared to the intervention arm (75.8 percent mentioned hand washing after defecation, 48.8 percent said after cleaning the child's bottom and 64.1 percent mentioned before feeding the child).

<b>Table 35 Knowledge of the mothers of children 6-24 months about when she should wash her hands</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
After defecation	194	75.8%	231	81.1%
After cleaning the child's bottom	125	48.8%	155	54.4%
Before preparing food/cooking	44	17.2%	40	14.0%
Before feeding the child	164	64.1%	192	67.4%
After cleaning the house/compound	97	37.9%	103	36.1%
After disposing garbage	86	33.6%	106	37.2%

In both the intervention and comparison arms, the majority of the mothers of 6-24 months children (84.8 percent in intervention and 82.1 percent in comparison arm) knew that they should use detergent/soap/shampoo to wash their hands. The survey did not find much difference in the knowledge of mothers of 6-24 months children to wash their hands with detergent/soap/shampoo between the two arms.

<b>Table 36 Knowledge of the mothers of children 6-24 months about the materials that they should normally use to wash hands</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Detergent/Soap/ Shampoo/Liquid hand wash	217	84.8%	234	82.1%
Sand	5	2.0%	15	5.3%

<b>Table 36 Knowledge of the mothers of children 6-24 months about the materials that they should normally use to wash hands</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Ash	11	4.3%	34	11.9%
Mud	10	3.9%	26	9.1%
Plain water	95	37.1%	80	28.1%
None	3	1.2%	12	4.2%

### 3.1.4 Assessment of the Nutrition Practices of the Mothers of 6-24 Months Children

While it is early to assess the effects of the information communicated through the video disseminations and PLA meetings on the nutrition behavior and practices of the mothers of 6 to 24 months children, an attempt was made in the survey to understand their current practices in the intervention and comparison arms.

The survey findings revealed that only 44.6 percent in the comparison arm and 36.3 percent in the intervention arm first gave fluids to the child other than the breast milk at the age of 6 month. As compared to the intervention arm, around 8 percent more mothers in the comparison arm first gave fluids to the child other than the breast milk at the age of 6 months.

<b>Table 37 Age of the index child when he/she was first given fluids other than breast milk</b>				
<b>Age of Child in Months</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
1	2	.8%	2	.7%
2	3	1.2%	4	1.4%
3	19	7.4%	27	9.5%
4	41	16.0%	32	11.2%
5	12	4.7%	11	3.9%
6	93	36.3%	127	44.6%
7	84	32.8%	72	25.3%
8	1	.4%	3	1.1%
10	0	0.0%	1	.4%
Not yet started	1	.4%	6	2.1%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Marginally 2 percent more mothers in the comparison arm (37.2 percent) first gave semi-solid foods to the child at the age of 6 months over the intervention arm (35.2 percent).

Age of Child in Months	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
1	0	0.0%	1	.4%
2	1	.4%	0	0.0%
3	5	2.0%	14	4.9%
4	17	6.6%	18	6.3%
5	14	5.5%	13	4.6%
6	90	35.2%	106	37.2%
7	76	29.7%	82	28.8%
8	35	13.7%	38	13.3%
9	15	5.9%	6	2.1%
10	1	.4%	0	0.0%
12	0	0.0%	1	.4%
Not yet started	2	.8%	6	2.1%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Age of Child in Months	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
3	0	0.0%	3	1.1%
4	3	1.2%	2	.7%
5	8	3.1%	3	1.1%
6	50	19.5%	90	31.6%
7	66	25.8%	49	17.2%
8	59	23.0%	49	17.2%
9	21	8.2%	26	9.1%
10	20	7.8%	24	8.4%
11	0	0.0%	3	1.1%
12	15	5.9%	19	6.7%
13	1	.4%	0	0.0%
15	0	0.0%	1	.4%
16	1	.4%	0	0.0%
Not yet started	12	4.7%	16	5.6%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Almost all the mothers of 6 to 24 months children in the intervention (97.3 percent) and comparison (98.9 percent) arms breastfed their children during the day or night on yesterday of the date of survey.

	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Yes	249	97.3%	282	98.9%
No	7	2.7%	3	1.1%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Majority of the mothers of 6 to 24 months children in the intervention (91.0 percent) and comparison (92.6 percent) arms gave the child to eat or drink aside from the breast milk since yesterday.

	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Yes	233	91.0%	264	92.6%
No	23	9.0%	21	7.4%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Marginally higher proportion of the mothers of 6 to 24 months children in the comparison arm (91.9 percent) gave cereals to the child as compared to the intervention arm (87.9 percent). Vitamin A rich vegetables and tubers were given to eat by 51.6 percent of the mothers in the comparison arm than 35.5 percent in the intervention arm, which was higher by 16 percent in the intervention arm. More than two third i.e. 69.1 percent in the intervention arm gave white tubers and roots or other starchy foods than the 55.1 percent in the comparison arm. Slightly higher proportion of the mothers of 6 to 24 months children in the comparison arm (67.0 percent) gave oils/fats to the child as compared to the intervention arm (64.5 percent). While 30.5 percent of the mothers in the comparison arm gave eggs to the child, only half of the same i.e. 15.2 percent gave the eggs to the child in the intervention arm. Meats and fishes were given by only 10.2 percent and 9.5 percent of the mothers in the comparison arm as compared to a negligible 4.3 percent and 6.6 percent gave the same in the intervention arm respectively.

Except cereals, food items like egg, meat, fish, Vitamin A rich vegetables and tubers, oils/fats, etc. were given to the child by a lesser proportion of the mothers in both the arms, though the proportion of mothers, which gave different foods to the child, was higher in the comparison arm than the intervention arm.

Food Items	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Cereals (rice, bread made of wheat, puffed rice, pressed rice, noodles, or any other rice, wheat, maize/corn)	225	87.9%	262	91.9%

**Table 42 Foods given to the index child to eat in the last 24 hours**

Food Items	Intervention (N=256)		Comparison (N=285)	
	Count	Column N %	Count	Column N %
Vitamin A rich vegetables and tubers (pumpkin, carrots, sweet potatoes that are orange and yellow inside)	91	35.5%	147	51.6%
White tubers and roots or other starchy foods (potatoes, white yams, white sweet potato (not orange inside), potato crisps or other root foods (not orange or yellow))	141	55.1%	197	69.1%
Dark green leafy vegetables (spinach, red/green amaranth, puishak, laushak, kumrashak, kolmishak, mustard leaves, yam leaves, koloishak, dhekishak, demishak)	54	21.1%	95	33.3%
Other vegetables (squash, eggplant, green papaya, cauliflower, cabbage, onion, radish, sheem/boboti (beans))	103	40.2%	142	49.8%
Vitamin A rich fruits (ripe mangoes, ripe papaya/pawpaw, jack fruit)	23	9.0%	41	14.4%
Other fruits (banana, apples, guava, oranges, other citrus fruits, pineapple, shakalu, watermelon, olives, grapes, jambura berries, kamranga, tamarind, plum)	50	19.5%	62	21.8%
Meats (beef, goat, lamb, chicken, duck, or other birds; liver, kidney, heart, or other organ)	11	4.3%	29	10.2%
Eggs (eggs of different birds – chicken, duck, turkey etc.; with yolk, without yolk)	39	15.2%	87	30.5%
Fish (big/small fresh or dried fish or shellfish (e.g prawn, crab etc.))	17	6.6%	27	9.5%
Pulses (beans, peas, lentils, other pulses, soybeans)	58	22.7%	50	17.5%
Nuts and seeds	46	18.0%	47	16.5%
Milk and milk products (milk, cheese, yogurt)	22	8.6%	52	18.2%
Oils and fats (oil, fats or butter added to food or used for cooking including ghee)	165	64.5%	191	67.0%
Sweets (sugar, molasses, honey, misti, cold drinks, chocolates, candies, biscuits)	145	56.6%	127	44.6%
Spices, condiments, beverages	63	24.6%	76	26.7%

<b>Table 42 Foods given to the index child to eat in the last 24 hours</b>				
<b>Food Items</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Spices (cumin, coriander, salt), condiments (pickles, chutney), coffee, tea, coke, etc.)				

The last time when they defecated, the faeces of only 10.2 percent of children in the intervention arm and 6.0 percent children in the comparison arm were disposed in the toilet.

<b>Table 43 The last time the index child defecated, place where were his/her faeces disposed</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Open defecation	230	89.8%	268	94.0%
Toilet facility	26	10.2%	17	6.0%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Slightly higher proportion of mothers in the intervention arm (47.3 percent) were using soap/ash to wash their hands as compared to the comparison arm (45.3 percent). But more than half in both the arms was not using soap to wash their hands.

<b>Table 44 Mothers of children 6-24 months usually do to wash their hands</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Uses running water	28	10.9%	28	9.8%
Uses clean water including from a pot	180	70.3%	194	68.1%
Uses soap/ash	121	47.3%	129	45.3%
Rubs hands together only once	95	37.1%	106	37.2%
Rubs hands together at least 3 times	112	43.8%	122	42.8%
Scrub in between fingers, under nails, and backs of only 1 hand	77	30.1%	55	19.3%
Scrub in between fingers, under nails, and backs of both hands	121	47.3%	104	36.5%
Washes both hands	140	54.7%	121	42.5%
Dries hands hygienically, by air or by using a clean cloth	39	15.2%	48	16.8%

Around one fifth i.e. 19.5 percent of the children in the intervention arm and 13.0 percent in the comparison arm had diarrhoea (loose stools more than 3 times a day) in the last 2 weeks.

<b>Table 45 Status of Index child had diarrhoea (loose stools more than 3 times a day) in the last 2 weeks</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	50	19.5%	37	13.0%
No	206	80.5%	248	87.0%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Of those who had diarrhea, the majority i.e. 80 percent in the intervention arm was given ORS as compared to only 45.9 percent in the comparison arm.

<b>Table 46 Status of Index child given a fluid made from a special packet called ORS at any time since the diarrhea started</b>				
	<b>Intervention (N=50)</b>		<b>Comparison (N=37)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	40	80.0%	17	45.9%
No	10	20.0%	20	54.1%
<b>Total</b>	<b>50</b>	<b>100.0%</b>	<b>37</b>	<b>100.0%</b>

While ill with diarrhea, higher proportion of the children in the intervention arm (62 percent) was given more liquid than usual as compared to the comparison arm (45.9 percent).

<b>Table 47 Quantum of liquid given to the Index child to drink while ill with the diarrhoea</b>				
	<b>Intervention (N=50)</b>		<b>Comparison (N=37)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Nothing to drink	2	4.0%	0	0.0%
Less than usual	9	18.0%	7	18.9%
Same as usual	8	16.0%	13	35.1%
More than usual	31	62.0%	17	45.9%
<b>Total</b>	<b>50</b>	<b>100.0%</b>	<b>37</b>	<b>100.0%</b>

Around one fifth of children in the intervention (20.3 percent) and comparison arm (22.8 percent) had a fever in the last 2 weeks.

<b>Table 48 Status of Index child had a fever in the last 2 weeks</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	52	20.3%	65	22.8%
No	204	79.7%	220	77.2%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Less than one fifth of the children in the intervention (18.0 percent) and comparison arm (16.1 percent) had a cough and breathing difficulties (such as atypical breathing/laboured breathing/stridor/nasal flaring and chest in-drawing) along with a fever in the last 2 weeks.

<b>Table 49 Status of Index child had had a cough and breathing difficulties (such as atypical breathing/laboured breathing/stridor/nasal flaring and chest in-drawing) in combination with a fever in the last two weeks</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	46	18.0%	46	16.1%
No	210	82.0%	239	83.9%
Don't Know	0	0.0%	0	0.0%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

Only 3.1 percent in the intervention arm and 6.7 percent in the comparison arm gave more foods than usual during illness.

<b>Table 50 Practice of feeding to index child during illness</b>				
<b>Food Items</b>	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Feed an extra meal daily	23	9.0%	29	10.2%
Feed more food than usual	8	3.1%	18	6.3%
Give more foods than usual	8	3.1%	19	6.7%
Increase frequency of breastfeeding	13	5.1%	17	6.0%

The survey findings show, 38.7 percent in the intervention arm and 31.2 percent in the comparison arm were given deworming medication.

<b>Table 51 Status of deworming medication taken by the index child</b>				
	<b>Intervention (N=256)</b>		<b>Comparison (N=285)</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Yes	99	38.7%	89	31.2%
No	151	59.0%	193	67.7%
Don't Know	6	2.3%	3	1.1%
<b>Total</b>	<b>256</b>	<b>100.0%</b>	<b>285</b>	<b>100.0%</b>

## 3.2 Nutrition Knowledge and Attitude of the Leaders of Women's Groups

### 3.2.1 Background Profile of Women's Groups

A total of 109 women's groups were surveyed in the 30 study villages, out of which 50 were in the intervention arm and 59 were in the comparison arm. On an average, these women's groups had 12 members per group. Nearly two-third had 10 to 20 members and the remaining had less than 10 members. None of the women's group had more than 20 members. There was no such difference marked in the proportion of members between the arms.

According to the baseline data, nearly two-thirds i.e. 65.8% (n=840) of the members of the women's groups belonged to Scheduled Tribes (STs) and 7.8% (n=100) belonged to Scheduled Castes (SCs). The rest 26.3% (n=336) belonged to other castes. The proportion of STs was much higher in the intervention arm (77.1%, n=442) as compared to the comparison arm (56.6%, n=398). In contrast, the proportion of other castes in the comparison arm (33.9%, n=238) was almost double of that in the intervention arm (17.1%, n=98).

The highest number i.e. 36.1% (n=461) of the members was illiterate or never attended school. The proportion of those who never attended school in both the arms was almost the same. The next highest i.e. 26.8% (n=342) of the members completed Class-VIII or more years of education.

### 3.2.2 Comparative Assessment of the Nutrition Knowledge of the Leaders of Women's Groups between the Baseline and Endline

The nutrition knowledge and attitude of the most active leaders of the women's groups were assessed both at the baseline and endline.

Table 52 presents the knowledge of the women's group about the age of a young child when various foods can be given. In both the arms, higher percentages of the women's group at the endline as compared to the baseline were aware that a child at the age of 6 months should be given semi-solid foods, eggs and animal meat/fish. But the proportion of increase in the knowledge of the women's group from the baseline to the endline was quite high in the comparison arm than the intervention arm. In the comparison arm, 30 percent more women's groups at the endline survey knew that the child at the age of 6 months should be fed semi-solid foods as compared to only 10 percent increase evident in the intervention arm.

<b>Table 52 Knowledge of the women's group about the age of a young child when the following foods can be given</b>									
		<b>Intervention (N=53)</b>				<b>Comparison (N=56)</b>			
		<b>Baseline</b>		<b>Endline</b>		<b>Baseline</b>		<b>Endline</b>	
		<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Water or other clear liquids (e.g. honey, broth, juices, etc.)									
6 Months		47	88.7%	52	98.1%	49	87.5%	55	98.2%
Milk or other than breast milk									
6 Months		39	73.6%	48	90.6%	43	76.8%	54	96.4%
Semi-solid foods (e.g. Lito, Jaulo, Khichadi, etc.)									
6 Months		27	50.9%	32	60.4%	31	55.4%	49	87.5%
Solid foods (e.g. Rice, Vegetable, Roti, etc.)									
12 Months		23	43.4%	25	47.2%	17	30.4%	20	35.7%
Eggs									
6 Months		5	9.4%	10	18.9%	10	17.9%	30	53.6%
Animal meat/Fish									
6 Months		0	0.0%	2	3.8%	0	0.0%	4	7.1%

At the endline, higher percentages of the women's groups in the comparison arm as compared to the intervention arm knew the number of times that a child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food (Table 53). But the overall percentage of women's groups aware of this was fairly high in both the arms.

<b>Table 53 Knowledge of the women's group about the number of times that the child of following age group should be fed soft, semi-solid and solid food</b>									
		<b>Intervention (N=53)</b>				<b>Comparison (N=56)</b>			
		<b>Baseline</b>		<b>Endline</b>		<b>Baseline</b>		<b>Endline</b>	
		<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
6 Months	2 to 3 times in 24 hours	23	43.4%	44	83.0%	32	57.1%	48	85.7%
9-12 Months	3 to 4 times in 24 hours	24	45.3%	40	75.5%	39	69.6%	50	89.3%
12-24 Months	4 to 5 times in 24 hours	23	43.4%	41	77.4%	29	51.8%	49	87.5%

At the endline, higher proportion of women's groups in the intervention arm as compared to the comparison arm was aware of the child feeding practices (viz. feed an extra meal dally, feed more food than usual, give more liquid than usual and Increase frequency of breastfeeding) that a mother should do to recover from illness (Table 54). Greater improvement in this was seen in both the arms from the baseline to the endline.

	<b>Intervention (N=53)</b>				<b>Comparison (N=56)</b>			
	<b>Baseline</b>		<b>Endline</b>		<b>Baseline</b>		<b>Endline</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Feed an extra meal dally	13	24.5%	36	67.9%	15	26.8%	41	73.2%
Feed more food than usual	10	18.9%	24	45.3%	5	8.9%	23	41.1%
Give more liquid than usual	12	22.6%	29	54.7%	2	3.6%	28	50.0%
Increase frequency of breastfeeding	10	18.9%	27	50.9%	15	26.8%	30	53.6%

In both the arms, the knowledge about the ways to protect a child from getting worms improved from the baseline to the endline (Table 55). At the endline, the majority i.e. 90.6 percent in the intervention arm knew that the mother should wash hands before feeding the child as compared to three fourth of women's group i.e. 76.8 percent in the comparison arm.

	<b>Intervention (N=53)</b>				<b>Comparison (N=56)</b>			
	<b>Baseline</b>		<b>Endline</b>		<b>Baseline</b>		<b>Endline</b>	
	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>	<b>Count</b>	<b>Column N %</b>
Wash hands of child	45	84.9%	52	98.1%	49	87.5%	54	96.4%
Wash hands before preparing food	18	34.0%	33	62.3%	13	23.2%	16	28.6%
Wash hands before feeding child	40	75.5%	48	90.6%	28	50.0%	43	76.8%
Cut nails	20	37.7%	38	71.7%	19	33.9%	35	62.5%
Children should wear pants	23	43.4%	33	62.3%	34	60.7%	46	82.1%
Wash fruits and vegetables	10	18.9%	16	30.2%	8	14.3%	12	21.4%
Children should wear sandals	44	83.0%	51	96.2%	49	87.5%	55	98.2%
Give them treated water	29	54.7%	34	64.2%	18	32.1%	24	42.9%

At the endline, the majority of the women's groups in both the arms were aware of the five critical moments of hand washing.

**Table 56 Knowledge of the women’s group about when should a caretaker of a young child (less than 2 years of age) wash his/her hands**

	Intervention (N=53)				Comparison (N=56)			
	Baseline		Endline		Baseline		Endline	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Before eating	51	96.2%	52	98.1%	53	94.6%	56	100.0%
After using the toilet	39	73.6%	53	100.0%	47	83.9%	53	94.6%
Before feeding the child	48	90.6%	52	98.1%	54	96.4%	54	96.4%
After cleaning a child who was defecated	29	54.7%	46	86.8%	31	55.4%	50	89.3%
Before cooking/preparing food	26	49.1%	33	62.3%	40	71.4%	48	85.7%

In both the arms, the majority of the women’s groups at the endline was aware of using detergent/soap/ shampoo to wash hands.

**Table 57 Knowledge of the women’s group about the materials that a person should normally use to wash hands**

	Intervention (N=53)				Comparison (N=56)			
	Baseline		Endline		Baseline		Endline	
	Count	Column N %	Count	Column N %	Count	Column N %	Count	Column N %
Detergent/Soap/ Shampoo / Liquid hand wash	50	94.3%	50	94.3%	56	100%	56	100%
Sand	19	35.8%	31	58.5%	24	42.9%	31	55.4%
Ash	42	79.2%	42	79.2%	45	80.4%	46	82.1%
Mud	23	43.4%	31	58.5%	23	41.1%	31	55.4%
Plain water	39	73.6%	40	75.5%	44	78.6%	47	83.9%
None	3	5.7%	1	1.9%	0	0.0%	0	0.0%

### 3.2.3 Qualitative Responses of Women’s Groups on the Video Disseminations in the Intervention and Comparison Arms

Apart from assessing the knowledge, the survey also made an attempt to elicit the responses/views of women’s groups on attending video dissemination held in their villages. Their responses/views on the followings were collected and presented in Table 58.

- Experience of attending the video disseminations
- Discussions held during the video disseminations
- Five key messages that the members of SHG learnt by participating in the video disseminations
- Messages learnt in video disseminations new to SHGs (have never heard them before)
- Liked most during the video disseminations
- Liked least during the video disseminations
- Effects of video disseminations

**Table 58 Qualitative Responses of Women’s Groups on the Video Disseminations**

	<b>Intervention Arm</b>	<b>Comparison Arm</b>
Experience of attending the video disseminations	<ul style="list-style-type: none"> <li>The video dissemination and video shows are conducted in the middle of the village. The video shows are organised by the staff of Varat (NGO)</li> <li>The video shows are arranged well and most people attend the video shows.</li> <li>ASHA and AWW support to organise the video shows.</li> </ul>	<ul style="list-style-type: none"> <li>Two groups watched the video shows together.</li> <li>The sound quality of the video dissemination was very good.</li> <li>Video dissemination is held fortnightly</li> </ul>
Discussions during the video disseminations	<ul style="list-style-type: none"> <li>The nutrition video contained complementary feeding, pregnant mother and childcare and hygienic practices such as covering the food.</li> <li>Precautionary measures to protect child from worm infestation.</li> <li>Use mosquito net while sleeping to protect from malaria.</li> </ul>	<ul style="list-style-type: none"> <li>Importance of 1000 days.</li> <li>Process of hand washing.</li> <li>Benefits of IFA tablets, care of pregnant woman and diet of pregnant women which included minimum three meals a day.</li> <li>Breast feeding practices.</li> </ul>
Five key messages that the members of the SHGs learnt by participating in the video disseminations	<ul style="list-style-type: none"> <li>How to prevent child from malnutrition?</li> <li>How to prevent from loose motion?</li> <li>What diet should be given the child during illness?</li> <li>What precautionary measures should be taken to prevent from malaria?</li> <li>Generated awareness on supplementary food, including pattern of food consumption and rest of pregnant woman</li> </ul>	<ul style="list-style-type: none"> <li>Feeding of babies aged six months to two years.</li> <li>Care of babies of working women.</li> <li>Proper hand washing methods.</li> <li>Care of pregnant women.</li> <li>Use of iodized salt.</li> </ul>
Messages learnt in the video disseminations new to the SHGs (have never heard them before)	<ul style="list-style-type: none"> <li>Importance of Anna Prasanna day.</li> <li>Importance of colostrums feeding.</li> <li>Use of six processes of hand washing.</li> <li>Importance of 1000 days.</li> <li>Importance of IFA tablet.</li> <li>Importance of supplementary feeding for the pregnant mother and complementary feeding for the child.</li> </ul>	<ul style="list-style-type: none"> <li>Complementary feeding to babies above six months.</li> <li>Process of hand washing.</li> <li>Dietary needs of the pregnant and lactating women.</li> </ul>
Liked the most during the video disseminations	<ul style="list-style-type: none"> <li>Importance of 1000 days.</li> <li>Importance of breast feeding.</li> <li>Intake of green vegetable and food rich with vitamin during pregnancy.</li> </ul>	<ul style="list-style-type: none"> <li>Importance of 1000 days.</li> <li>Proper rest of women during pregnancy and supplementary feeding.</li> </ul>

	<b>Intervention Arm</b>	<b>Comparison Arm</b>
Liked the least during the video disseminations	<ul style="list-style-type: none"> <li>The villagers liked all the video dissemination and there was no video which the villagers liked the least.</li> </ul>	<ul style="list-style-type: none"> <li>The People liked all the videos.</li> </ul>
Effects of the video disseminations	<ul style="list-style-type: none"> <li>The People are aware about nutrition and issues and effects of malnutrition.</li> <li>The Mothers are aware about good food and need of adequate rest during pregnancy through the video shows.</li> <li>Before the video shows, the mothers were not aware about the need of good food intake, but after the video shows, the mothers are now aware of good food intake and there is change in food intake practices.</li> <li>After the video dissemination, the mothers are aware about diseases and childcare.</li> <li>Superstitions have reduced after the video dissemination.</li> <li>After the video dissemination, there is improvement in health and hygiene and environment.</li> <li>After the video shows, there is change in hand washing practices.</li> <li>After the video shows, there is change in care of neonates and also changes observed in complementary feeding of child above six month.</li> <li>The video dissemination has resulted in change of knowledge of the SHGs.</li> <li>After the video dissemination, the SHG members have assumed active role in motivating and mobilising pregnant and lactating mothers to eat good food and take rest.</li> </ul>	<ul style="list-style-type: none"> <li>After the video dissemination, the people are aware of the nutritional needs of the pregnant and lactating women.</li> <li>The nutrition practices based on traditional superstitious cultures have changed. For example, prior to participation in the video dissemination, usually the people did not give the mother food with a misconceived notion that the neonate would suffer from loose motion if the mother ate food. Such practices seemed to have changed now.</li> <li>Before any work, now the women wash their hands.</li> <li>Before the video dissemination, the people had no knowledge about nutrition.</li> <li>After the video dissemination, changes have been observed in nutrition behavior.</li> <li>The SHG women advised the women to take rest and adequate nutrition during pregnancy.</li> <li>The People have gained new learning on health and nutrition and the knowledge is very useful.</li> <li>The People learnt about the care of the mother and child from the video dissemination.</li> </ul>

### 3.2.4 Qualitative Responses of Women’s Groups on the PLA Meetings in the Intervention Arms

The responses and views of women’s groups on the PLA meetings are presented in Table 59.

<b>Table 59 Qualitative Responses of Women's Groups on the PLA Meetings</b>	
	<b>Intervention Arm</b>
Experience of attending the PLA meetings	<ul style="list-style-type: none"> <li>• The PLA meetings are conducted either in the AWC or at a central place like the community hall in the village.</li> <li>• The NGO Varat organises the PLA meeting. The meetings are organised well.</li> </ul>
Discussions during the PLA meetings	<ul style="list-style-type: none"> <li>• In the PLA meetings, it was taught that unity is power. Stick game was used to teach this message.</li> <li>• The piggy bank game of the PLA meeting has taught people to be self dependent.</li> <li>• Through the bridge game, the people have learnt how to resolve the problems of health with the help of the front line workers like ASHA and AWW.</li> <li>• The people have learnt about complementary feeding and intake of nutritious food for the pregnant and lactating women and children.</li> <li>• Through stone game, the people have learnt how to identify and prioritize problems and resolve the problems through collective community action.</li> </ul>
Five key messages that the members of the SHGs learnt by participating in the PLA meetings	<ul style="list-style-type: none"> <li>• The people learnt about proper hand washing processes from the PLA meetings.</li> <li>• They learnt about methods of prevention of malaria and diarrhea.</li> <li>• They also learnt about complementary feeding for pregnant and lactating women and children.</li> </ul>
Messages learnt in PLA meetings new to the SHGs (have never heard them before)	<ul style="list-style-type: none"> <li>• Prior to the PLA meetings, the people used black magic and the services of quacks to treat a disease. After participation in the PLA meetings, changes have been observed in the health seeking behaviour of the people. The people are now seeking medical services.</li> <li>• Giving complementary food after a child attained six months of age.</li> <li>• Prevention of malnourishment of the children and seeking help of ASHA and AWW.</li> </ul>
Effects of the PLA meetings	<ul style="list-style-type: none"> <li>• People are more aware about diseases now.</li> <li>• Hand wash practices have changed. The people use mosquito nets and keep their children clean.</li> <li>• Superstitions related to health have reduced.</li> <li>• Superstitions have reduced.</li> <li>• The people are more aware about the problem identification and resolution.</li> <li>• Adoptability has increased among the people.</li> <li>• The poor women have learnt how to seek medical services during pregnancy and other health emergencies.</li> <li>• The people have learnt that unity is power and changed practices. This has enhanced community cohesion.</li> <li>• There is improvement in food intake of the mothers and children</li> <li>• After the PLA meetings, more cohesion has been observed in the SHGs and the SHG members are now doing all the activities jointly.</li> <li>• The SHG members have learnt many new things such as proper hand washing methods, mosquito net usage etc., which they were not aware of before.</li> </ul>

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## Chapter IV

# 4. Summary, Recommendations and Conclusion

## 4.1 Summary of the Endline Study Findings

“Digital Technology Enabled and Community-Driven Integrated Agriculture and Nutrition Intervention to Promote Maternal and Child Nutrition” trial was implemented in 30 villages in Ghatagaon and Patna Blocks in Keonjhar district of Odisha with an aim to strengthen and engage women’s groups to address MIYCN, produce and disseminate a series of nutrition-specific participatory videos to address nutrition-specific behaviours, locally feasible solutions as well as expenditure patterns to improve maternal and child diet quality. The program adopted PLA approach to identify how the current agriculture-food system could be improved for optimal maternal and child diet quality and what motivations and opportunities of women’s groups could be leveraged to improve maternal and child dietary practices.

Out of the 30 villages covered under this program, 15 villages received agri-nutrition inputs through video disseminations combined with PLA (termed here as intervention arm under the trial) and the remaining 15 villages received similar inputs through the video disseminations only (termed as comparison arm under the trial). The endline study findings of both the arms discussed in the previous chapter are summarized hereunder.

**Table 60 Summary of the endline study findings**

Thematic Areas	Summary of Endline Study Findings
<b>A. Findings of the endline survey of mothers of 6-24 months children</b>	
Background characteristics of the households of mothers of 6-24 months children	<ul style="list-style-type: none"><li>• The caste/ethnicity, possession of BPL card, source of drinking water, hand washing and open defecation practices of the households of mothers of 6-24 months children between the intervention and comparison arms are more or less the same.</li><li>• Ownership of the house and agriculture land by the households of mothers of 6-24 months children was slightly higher in the intervention arm than the comparison arm.</li><li>• Greater proportion of the households of mothers of 6-24 months children had experience of food insecurity in the comparison arm than the intervention arm.</li></ul>
Knowledge and participation of the mothers of 6-24 months children in	<ul style="list-style-type: none"><li>• The survey findings revealed that only 19.9 percent and 14.4 percent of the mothers of 6-24 months children were members of an SHG in the intervention and comparison arms respectively.</li><li>• The proportion of the mothers of 6-24 month children who participated in the</li></ul>

**Table 60 Summary of the endline study findings**

Thematic Areas	Summary of Endline Study Findings
the video disseminations and PLA meetings	<p>video disseminations was more or less the same in the two arms (20.3 percent in intervention and 19.3 percent in comparison arm). This also revealed that the mothers of 6-24 months children, who were not members of any SHG, also attended the video disseminations.</p> <ul style="list-style-type: none"> <li>• Out of those who did not participate in the video disseminations, 9.8 percent of the mothers of 6 to 24 months children in the intervention arm and 13.0 percent in the comparison arm received information on the messages/topics discussed in the video disseminations held in the village.</li> <li>• Of those mothers of 6 to 24 months children, who participated in the video dissemination shows, nearly three-fourth rated as 'good' and one- third rated as 'very good' in both the arms.</li> <li>• In the intervention arm, although the PLA meetings were combined with the video disseminations, only 9.4 percent could recall the PLA meetings held in the village. It is important to note here that these</li> </ul>
Nutrition knowledge of the mothers of 6-24 months children	<ul style="list-style-type: none"> <li>• Higher proportion of the mothers of 6-24 months children in the comparison arm knew that a child at the age of 6 months should be given semi-solid foods, eggs, animal meat/fish than the intervention arm. But the overall knowledge of the mothers of 6-24 month children about the age of a young child when different food items can be given was quite low in both the arms.</li> <li>• As compared to the intervention arm, higher percentages of the mothers in the comparison arm knew the number of times that the child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food. But, the overall knowledge of the mothers on the frequency of feeding was fairly low in both the arms.</li> <li>• Likewise, more percentages of the mothers in the comparison arm were aware of the child feeding practices that a mother should do to recover the child from illness as compared to the intervention arm. However, the overall awareness of the mothers on this was extremely low in both the arms.</li> <li>• The survey did not find any difference in the proportion of mothers who knew the ways to protect a child from getting worms, specifically on washing hands of child and washing hands before feeding.</li> <li>• Higher proportion of mothers in the intervention arm knew that the child should wear sandals to protect them from getting worms as compared to the comparison arm.</li> <li>• Overall, a large proportion of mothers in both the arms were unaware of the ways to protect a child from getting worms.</li> <li>• Only a negligible percentage of mothers in both the arms were aware of the age when child should be started deworming medication. The survey did not find much difference in their knowledge on the same between the two arms.</li> </ul>

**Table 60 Summary of the endline study findings**

Thematic Areas	Summary of Endline Study Findings
	<ul style="list-style-type: none"> <li>• Relatively higher proportion of mothers in both the arms knew correctly that the child should be dewormed in every six month. But overall a quite low percentage of mothers in both the arms knew the same.</li> <li>• As compared to the intervention arm, a marginally higher proportion of mothers in the comparison arm knew the critical moments (e.g. hand washing after defecation, after cleaning the child's bottom and before feeding the child) when she should wash her hands.</li> <li>• In both the arms, majority of mothers knew that they should use detergent/soap/shampoo to wash their hands. The survey did not find much difference on their knowledge to wash hands with detergent/soap/shampoo between the two arms.</li> </ul>
<p>Nutrition behavior/ practices of the mothers of 6-24 months children</p>	<ul style="list-style-type: none"> <li>• As compared to the intervention arm, around 8 percent more mothers in the comparison arm first gave the fluids to the child other than breast milk at the age of 6 months, though the overall percentage in both the arms was fairly less.</li> <li>• Marginally more mothers in the comparison arm first gave the semi-solid foods to the child at the age of 6 months over the intervention arm.</li> <li>• Almost all the mothers of 6 to 24 months children in the intervention and comparison arms breastfed the child during the day or night on yesterday of the date of survey.</li> <li>• The majority of the mothers of 6 to 24 months children in the intervention and comparison arms gave the child to eat or drink besides the breast milk since yesterday.</li> <li>• Except cereals, food items like eggs, meat, fish, Vitamin A rich vegetables and tubers, oils/fats, etc. were given to the child by lesser proportion of mothers in both the arms, though the proportion of mothers, who gave different foods to the child, was higher in the comparison arm than the intervention arm.</li> <li>• The last time when they defecated, the faeces of a negligible percentage of children in the intervention and comparison arms were disposed in the toilet.</li> <li>• Of those who had diarrhea, the majority in the intervention arm was given ORS as compared to less than half in the comparison arm.</li> <li>• While ill with diarrhea, the higher proportion of children in the intervention arm was given more liquid than usual as compared to the comparison arm.</li> <li>• Only a negligible percentage of mothers in both the arms gave more foods than usual during illness.</li> <li>• Slightly higher proportion of mothers in the intervention arm were using soap/ash to wash their hands as compared to the comparison arm. But more than half in both the arms was not using soap to wash their hands.</li> </ul>

Table 60 Summary of the endline study findings	
Thematic Areas	Summary of Endline Study Findings
<b>B. Findings of the endline survey of women's groups</b>	
Background profile of women's groups	<ul style="list-style-type: none"> <li>• A total of 109 women's groups were surveyed in the 30 study villages, out of which 50 were in the intervention arm and 59 were in the comparison arm.</li> <li>• On an average, these women's groups had 12 members per group.</li> <li>• Nearly two-third had 10 to 20 members and the remaining had less than 10 members. None of the women's group had more than 20 members.</li> </ul>
Nutrition knowledge of the women's groups	<ul style="list-style-type: none"> <li>• Higher percentages of the women's group at the endline as compared to the baseline were aware that a child at the age of 6 months should be given semi-solid foods, eggs and animal meat/fish.</li> <li>• In the comparison arm, three times more women's groups at the endline survey knew that the child at the age of 6 month should be fed semi-solid foods as compared to the increase in the knowledge evident in the intervention arm.</li> <li>• At the endline, higher percentages of the women's groups in the comparison arm as compared to the intervention arm knew the number of times that a child of 6 month, 9-12 month and 12-24 month should be fed soft, semi-solid and solid food. But the overall percentage of women's groups aware of this was fairly high in both the arms.</li> <li>• At the endline, higher proportion of women's groups in the intervention arm as compared to the comparison arm was aware of the child feeding practices that a mother should do to recover from illness, though greater improvement in this was seen in both the arms from the baseline to the endline.</li> <li>• At the endline, the majority in the intervention arm knew that the mother should wash hands before feeding the child as compared to three fourth of women's group in the comparison arm, though the increase in the knowledge of hand washing was recorded in both the arms.</li> <li>• At the endline, the majority of the women's groups in both the arms were aware of the five critical moments of hand washing.</li> <li>• In both the arms, the majority of the women's groups at the endline was aware of using detergent/soap/ shampoo to wash hands.</li> </ul>

## 4.2 Conclusion and Recommendations

It appears from the endline study findings that the nutrition knowledge of the women's groups on select indicators improved in both the intervention and comparison arms. The study findings also brought out a greater improvement in the nutrition knowledge of women's groups on indicators such as feeding of semi-solid foods to the child at the age 6 months; and number of times that a child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food in the comparison arm than the

intervention arm. On the other side, more proportion of women's groups in the intervention arm as compared to the comparison arm were aware of the child feeding practices that a mother should do to recover from illness. Knowledge on the five critical moments of hand washing improved in both the arms.

The endline study also revealed that a higher proportion of the mothers of 6 to 24 months children in the comparison arm were aware of most of the nutrition knowledge indicators (e.g. feeding of semi-solid foods, eggs, animal meat/fish; number of times that the child of 6 months, 9-12 months and 12-24 months should be fed soft, semi-solid and solid food; and child feeding practices that a mother should do to recover the child from illness) than the intervention arm. A greater proportion of the mothers in the intervention arm knew that the child should wear sandals to protect them from getting worms as compared to the comparison arm. The study did not find much difference or found minimal difference between the two arms on the knowledge indicators like the ways to protect a child from getting worms, specifically on washing hands of child and washing hands before feeding; age when child should be started deworming medication; and five critical moments (e.g. hand washing after defecation, after cleaning the child's bottom and before feeding the child) when the mother should wash her hands.

But, the overall knowledge of the mothers on these indicators was found to be fairly low in both the arms, which could be due to only one fifth of the mothers participated in the video disseminations in both the arms. One of the other reasons could be due to the smaller duration of implementation period and also due to the limited scope of implementation with 4 SHGs per village. Nonetheless, the trial showed indications of improvement in the knowledge of the target population. The trial also indicated improvements in the comparison arm (inputs given through the video disseminations only) than the intervention arm (inputs provided through the video disseminations combined with PLA approach).

But to establish the effectiveness of inputs provided in the two arms through different approaches, the following recommendations may be considered, which would enable to enhance the reach of the trial and also help to assess the outcomes and impacts of the trial: i) Implementing the program for a longer duration; ii) Covering all the women's groups (not restricted to women SHGs only) under the trial; iii) Engaging women's groups to mobilize and ensure non-members and target groups attending the disseminations; iv) Engaging women's groups to monitor and reinforce behavior change in the community; v) Encouraging participation of the frontline workers (AWW, ASHA and ANM) in the disseminations; vi) Adequate sample size to detect change in the nutritional status of target groups; and vii) Inclusion of a control arm apart from the existing two arms for measuring the change between the arms and between the baseline and endline.

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