USING A COMMUNITY-LED VIDEO APPROACH TO PROMOTE MATERNAL, INFANT, AND YOUNG CHILD NUTRITION IN ODISHA, INDIA

RESULTS FROM A PILOT AND FEASIBILITY STUDY

September 2014

ABOUT SPRING

The Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project is a five-year USAID-funded Cooperative Agreement to strengthen global and country efforts to scale up high-impact nutrition practices and policies and improve maternal and child nutrition outcomes. The project is managed by JSI Research & Training Institute, Inc., with partners Helen Keller International, The Manoff Group, Save the Children, and the International Food Policy Research Institute. SPRING provides state-of-the-art technical support and focuses on the prevention of stunting and maternal and child anemia in the first 1,000 days.

RECOMMENDED CITATION

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OTHER CONTRIBUTING AUTHORS

This project and the report would not have been possible without the key contributions of Satyanarayan Mohanty (DCOR), Andy Jones (University of Michigan), and Laura Miller (University of Michigan). Mohanty led the data collection, quality assurance and data coding with his team at DCOR. Jones was key to the development of study design and led analyses pertaining to diffusion of MIYCN messages. Miller contributed to the analyses pertaining to diffusion of MIYCN messages.

Cover Photos: left and bottom right photos, John Nicholson, SPRING; top right, Kristina Beall, SPRING

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Contents

Acronyms

AWW	Anganwadi Worker
ASHA	Accredited Social Health Activist
BCC	behavior change communications
BMGF	Bill and Melinda Gates Foundation
BMI	body mass index
COCO	Connect Online, Connect Offline
CRP	Community Resource Persons
CSP	Community Service Providers
DCOR	Development Corner
EBF	exclusive breastfeeding
ICT	information communications technology
IFA	iron folic acid
IFPRI	International Food Policy Research Institute
IYCF	infant and young child feeding
MDG	Millennium Development Goals
MIYCN	maternal, infant, and young child nutrition
NFHS	National Family Health Survey
NKT	nutrition knowledge test
POP	package of practices
SBCC	social and behavior change communications
SC	scheduled castes
SHG	self-help group
SPRING	Strengthening Partnerships, Results, and Innovations in Nutrition Globally
ST	scheduled tribes
USAID	United States Agency for International Development
VARRAT	Voluntary Association for Rural Reconstruction and Appropriate Technology
VHND	village health and nutrition day

1. Executive Summary

DIGITAL GREEN APPROACH FOR AGRICULTURE

Digital Green Foundation and Trust, a non-profit organization, uses information communications technology (ICT) with women's and farmers' groups to strengthen agriculture extension. The Digital Green approach for agriculture involves (a) participatory identification of content and local production of low-cost videos to improve agriculture practices; (b) group discussion that uses the videos as a basis for mediated instruction, where a mediator encourages the audience to discuss the video content; and c) follow-up home visits to support and monitor the adoption of the practices or behaviors being promoted through the videos. This approach builds on existing community organizations such as self-help groups (SHGs) and public systems and is aimed at amplifying their efforts at rural development. To date, Digital Green has reached 300,000 farmers across India, Ethiopia, and Ghana, and through collaborations with the Bill and Melinda Gates Foundation (BMGF), the United States Agency for International Development (USAID), and the Government of India, is slated for rapid growth.

In Odisha, Digital Green has partnered with the Voluntary Association for Rural Reconstruction and Appropriate Technology (VARRAT) for the past three years to produce and disseminate videos focused on improved agricultural and livelihoods practices. Working in 130 rural villages in the Keonjhar District in northern Odisha, Digital Green and VARRAT have employed four full-time, community-based Community Resource Persons (CRPs) to develop, shoot, and edit short videos as well as 37 Community Service Providers (CSPs) to facilitate weekly or bi-weekly video screenings and discussions with members of village-level self-help groups (SHGs) and serve as a resource for individuals seeking to change their practices.

SPRING/DIGITAL GREEN COLLABORATIVE APPROACH PILOT

The success of Digital Green in increasing the adoption of agriculture practices has attracted interest from other sectors, including nutrition. In October 2012, the Strengthening Partnerships, Results, and Innovations in Nutrition Globally (SPRING) project, funded by the United States Agency for International Development (USAID) began a collaboration with Digital Green and VARRAT which resulted in a 12-month pilot intervention in 30 villages in Keonjhar district of Odisha. The goal of the pilot was to test the feasibility of leveraging the Digital Green approach for agriculture to promote maternal, infant and young child nutrition (MIYCN) related behaviors and care practices including child feeding, care during pregnancy, and handwashing.

The specific objectives of the pilot intervention were to:

- build local NGO capacity in MIYCN with a focus on strengthening their capacity to produce MIYCN videos and facilitate effective MIYCN discussions during video dissemination sessions;
- develop and disseminate 10 locally produced videos that motivate the adoption and promotion of recommended MIYCN behaviors; and

- assess the feasibility of using the Digital Green approach for promoting MIYCN-related behaviors among participants in women farmer SHGs.

During the one year intervention, 10 locally produced MIYCN-focused videos were developed and disseminated in bi-weekly SHG meetings as part of an on-going Digital Green-VARRAT agriculture program.

The Feasibility Study

To address the pilot's third objective, the International Food Policy Research Institute (IFPRI) initiated the feasibility study in June 2013. The study examined the feasibility of using the SPRING/Digital Green collaborative approach to promote select MIYCN practices over the course of the pilot intervention. The key research topics for the feasibility study focused both on processes and uptake. The key objectives of the study are listed below.

Process-Related Objectives:

1. Examine the capacity of VARRAT to produce MIYCN video content and facilitate MIYCN video dissemination, using the SPRING/Digital Green collaborative approach in an existing agriculture program.
2. Explore the key factors, both enabling and limiting, affecting the application of the SPRING/Digital Green collaborative approach to MIYCN promotion, focusing particularly on the transition in content, presentation style, time and workload issues, technical challenges, the process of adoption verification and scaling-up.

Uptake-Related Objectives:

3. Explore retention and comprehension of video content viewed by SHG members.
4. Assess the reception and acceptability of the MIYCN topics covered and practices promoted in the piloted videos for SHG members and other key stakeholders. Report on SHG members' experiences with trials of new behaviors and identify their motivations for experimenting (or not) with new behaviors.
5. Understand intra-community diffusion of MIYCN messages promoted in the pilot MIYCN videos.

Methodology

Sampling

The 30 pilot study villages were stratified according to the predominance of scheduled castes (SC) and scheduled tribes[4] (ST): Highest (where SC/ST population was greater than 90%); medium (where the SC/ST population was between 50-75%) and low (where the SC/ST population was below 40%). From each of these strata, five villages were randomly selected: thus, the total number of villages that included in the

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[4] Scheduled caste and scheduled tribes are officially recognized by the Constitution of India as historically disadvantaged groups.

study was 15. From each of the three strata, 10 SHG women were included in the study. These included pregnant women and two lactating women, mothers of adolescent girls, mothers with children between 6-24 months of age, and women that did not belong to any of these categories per stratum. Thus, to address the uptake-related objectives of the feasibility study, the final number of SHG study participants was 42, after oversampling to account for data quality and potential drop-out of participants from the study. In those households where SHG study participants had spouses and/or mothers-in-law, these were also included in interviews.

All Digital Green and VARRAT technical staff directly involved in relevant field operations were included in the sample. These included 12 CSPs and four CRPs (VARRAT), as well as key informants from VARRAT, SPRING, and Digital Green. The sample also included seven protagonists who were featured in the nutrition videos and one Anganwadi worker (AWW) and one Accredited Social Health Activist (ASHA) per each of the three strata (a total of six frontline workers).

Data Collection Methods

The data collection was led by Development Corner (DCOR), based out of Bhubaneswar, Odisha. For process related objectives, in-depth interviews were conducted with CSPs, CRPS and other technical /operational staff and key informants from SPRING, Digital Green and VARRAT. The CSPs and CRPs were also administered a nutrition knowledge test (NKT) which was a closed-ended questionnaire aiming to capture the knowledge of the key frontline staff on topics related to the 10 videos on MIYCN to assess their capacity. In addition, 10 structured observations of dissemination were conducted. The structured dissemination observation guide was an adapted version of the structured observation tool that Digital Green routinely uses for monitoring dissemination. In-depth semi-structured interviews with frontline workers and the protagonists (i.e. the featured actors in the videos) supplemented further information on program processes (as well as uptake) related objectives.

For uptake-related objectives, SHG study participants were interviewed using in-depth semi-structured interview techniques. In addition, they were administered NKTs as well as a structured questionnaire to assess the diffusion of messages espoused in the MIYCN videos. Short in-depth interviews with mothers-in-law and husbands were also conducted.

Results and Recommendations

The results of this study show that the approach is highly promising and offers an excellent opportunity to respond to key human development needs in nutrition and agriculture. The Digital Green videos are shown to be one of the key sources of nutrition-related information within the communities. The demand for videos is high and acceptability of the intervention by SHG members and their families as well as the frontline health workers is strong. The frontline workers view the intervention as complementary to their role. The SHG members' knowledge of the nutrition messages promoted in the videos is high on infant and young child feeding, but weak on care during pregnancy and use of iron and folic acid supplements (although it is beyond the scope of this study to attribute this solely to the intervention). Despite the fact that the intervention is nascent and this study was not designed to measure behavior change, there are distinct indications of trial of behaviors promoted in the videos as well as some sharing of the video

messages with other non-viewers of videos. The key results and the implications for the next phase of the intervention development are presented below in Table A.

Table A. Key Findings of the Feasibility Study and Recommendation

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	

Examine the capacity of VARRAT to produce MIYCN video content and facilitate MIYCN video dissemination, using the SPRING/Digital Green collaborative approach in an existing agriculture program.	• CSP and CRPs are enthusiastic on taking nutrition onboard.
	• They have an amicable relationship with community members, and are regarded as credible sources of knowledge related to health and nutrition (regardless of the sex) by SHG members, mothers-in-law, husbands and frontline workers interviewed.
	• CRPs are capable of producing nutrition videos, with technical backstopping from SPRING.
	• CSPs and CRPs articulated specific challenges (technical, knowledge, and protagonist issues) in taking MIYCN onboard, but are able to innovate and overcome many of these.
		• The quality of CSPs' communication and facilitation during dissemination sessions appears to be mixed.
		  o Encouraging feedback from earlier sessions, encouraging the group to generate ideas and providing appropriate responses to questions raised by SHG members during the dissemination sessions are particularly weak.
		• CSPs had accurate knowledge of optimal breastfeeding practices. But their knowledge on optimal. complementary feeding practices, care during pregnancy and handwashing requires further strengthening.
		• In some cases, CSPs we reported to have poor skill in the local dialect.
			• Invest in ongoing nutrition training to continue to improve MIYCN related knowledge and skills among CSPs and CRPs.
			• Invest in further training in communication and facilitation skills for CSPs and videography for CRPs
			  o The above trainings must be tailored to equip CSPs and CRPs with problem-solving capabilities, especially on challenging issues when producing and disseminating MIYCN videos.
			• Provide opportunities for peer-to-peer learning (for example, strengthen the nutrition focus of the bi-monthly meetings; regular interactions with frontline workers).
			• Ensure that the language/dialect skills of the SHGs members and CSPs match.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	Current challenges	

Explore the key factors, both enabling and limiting, affecting the application of the Digital Green approach to MIYCN promotion, focusing particularly on the transition in content, presentation style, time and workload issues, technical challenges, the process of adoption verification and scaling-up.	• The videos are one of the key sources of nutrition information in these communities.
	• The strong technical collaboration with SPRING is valued by Digital Green and VARRAT staff (including CSPs and CRPs).
	• SHG members underscore the following as the key strengths of the video dissemination sessions: the pace, the flow, the mediation and (sociocultural) familiarity with the cast.
	• The proactive efforts to build strong synergies with government's frontline workers (in training, choosing topics, storylines and the cast, and casting them as protagonists) is valued both by VARRAT and the frontline workers.
	  o Frontline workers view the nutrition videos as job aids, reinforcing their efforts at promoting MIYCN within their communities.
		• Unlike agriculture, the abstract nature of the topic as well as the sociocultural beliefs makes it difficult for people to relate to cause and effect, which in turn affects comprehension, willingness to try the disseminated practices and share information.
		• Content identification and selection of MIYCN messages to be disseminated is more challenging given the intangible nature of the topic.
		• Production of videos is more complex from technology, storyboarding and shooting points of view.
		  o Nutrition videos have several people complicating the requirement for the film shooting venue, voice modulation and lighting. Several women, especially young mothers, are usually too shy to talk on the camera.
		• The current process of adoption checks/verifications is challenging for nutrition. Verification of adoptions rely on self-reporting and CSPs rely on probing and triangulation. Relying on probing and triangulation using proxies and other techniques by the CSPs, whose MIYCN knowledge is also fairly rudimentary, is problematic.
			• Continue with strong technical collaborations on MIYCN.
			• Sustained and committed investment in strong MIYCN resource persons at VARRAT/frontline level is critical for technical accuracy, local relevance of the messages and scaling-up.
			• Resolving several of the challenges elucidated here will require investing in CSP and CRP trainings and on-going support as elaborated above.
			• Strengthen the follow-up visits to households to reinforce messages and maintain community engagement rather than for adoption checks.
			• Test various nutrition monitoring approaches for adoption verification.
			• Continue the fruitful synergies with existing government systems and frontline workers.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	Current challenges	
Explore retention and comprehension of video content viewed by SHG member attendees. (Note: the idea here is to assess if mothers have accurate knowledge of the messages disseminated in the videos. The results not attributable to the intervention)	• Majority of the mothers accurately demonstrated handwashing; but only a third could recall all the 3 critical times for handwashing. • Knowledge regarding breastfeeding is high. • Over a three-quarter of the mothers possess accurate knowledge of timely initiation of liquids and semi-solid foods.	• Knowledge of use of iron folic acid (IFA) supplements during pregnancy and adolescence is low. • Only about half of the mothers interviewed have appropriate knowledge of care during pregnancy (rest and an extra meal/day).	• Increase exposure to the messages by repeating the videos and creating new videos to disseminate these messages. • Reinforce the messages through other mechanisms (e.g. discussions during other SHG meetings, village health and nutrition days; through frontline workers and through other SHG members).

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	Current challenges	

Assess the reception by SHG members and other key stakeholders of the MIYCN topics covered and practices promoted in the piloted videos. Report on SHG members' experiences with trials of new behaviors and identify their motivations for experimenting (or not) with new behaviors.	• Belief in the topics and messages presented was extraordinary high: in effect, all household informants emphasized to interviewers that they found the messages disseminated during the pilot to be highly believable, and this finding was supported by responses from frontline workers and CSPs.
	• Acceptability of the intervention by SHG members and their families is strong; Husband and mothers-in-law generally support women's participation in dissemination.
	• The frontline workers responded affirmatively to the positive influence of nutrition videos and are optimistic in their view of the nutrition education this approach.
		• Trials of behaviors are taking place, but economic constraints and entrenched sociocultural taboos remain significant barriers to behavior changes (This is also to be expected given that the intervention is nascent and behavior change requires long-term investments).
		• Supply-side constraints could also limit behavior change (for example, poor quality food supplements by the government; or lack of stock of IFA in health clinics).
			• The content and the style of the future MIYCN videos need to be further responsive to local livelihood-food systems and sociocultural issues to inspire behavior change.
			• The videos should identify solutions that are locally feasible and improve MIYCN problem solving skills among SHG members.
			• Strengthen SHG institutions themselves to:
			  o Champion the cause -- a critical step to alter community norms.
			  o Assist mothers in adopting optimal MIYCN behaviors (for example helping negotiate sociocultural norms; peer-to-peer support groups).
			  o Resolve supply-side issues by building (or using if they exist) constructive mechanisms of grievance and redress.
			• engage other mechanisms (such as local governments and committees, doctors and traditional healers, schools) to bring MIYCN on the community agenda.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	
Understand intra-community diffusion of MIYCN messages promoted in the pilot MIYCN videos.	• Over two-thirds of the interviewed SHG members shared information on any of the videos they viewed with at least one other person. • A third of the sharing resulted in second degree diffusion to a third individual.	• Social tensions between community members, lack of time, and the perception that the community was already aware of the information presented in the videos were cited as reasons why information was not shared outside of the immediate family. • While agriculture videos are immediately relevant to a wide section of the population, the nutrition messages pertain primarily to young girls, pregnant women and mothers of young children—a group that is a minority in the SHGs. The participation of mothers of newborn children could be problematic for two reasons. Mothers tend to spend time in maternal homes during late pregnancy and early lactation periods; they spend most of their time with their newborn child at home. Thus unlike agriculture, wider adoption of practices to promote MIYCN hinges on diffusion of the messages.	• Improve facilitation to encourage women to share information and encourage explicit commitments to share information. • The above recommendations of strengthening the SHGs are also critical of diffusion of messages. • Investigate the necessary and sufficient conditions under which SHGs could be the change-agents for MIYCN (SHGs have successfully harnessed to reduce infant and maternal mortality in India, including Odisha).

2. Introduction

2.1. MATERNAL, INFANT, AND YOUNG CHILD NUTRITION IN INDIA

Maternal and child undernutrition has serious health, development and economic implications in the short-, medium-, and long-term. Undernutrition in early life is responsible for 45 percent of under-five child deaths;[5] it also reduces cognitive development, curtails educational attainment, and substantially increases the likelihood of being poor in adulthood. The burden of maternal and child undernutrition in India is far higher than in any other country in the world. Almost one in two Indian children is stunted (low height-for–age), one in five is wasted (low weight- for- height) and 40 percent are underweight (low weight-for-age). One-third of all Indian women and over a quarter of men are underweight with body mass index (BMI) less than 18.5 kg/m^2. Rates of micronutrient deficiencies are extremely high, with almost 80 percent of children and 56 percent of women being anemic (Table 1). Not only are the absolute numbers high, but the fact that the undernutrition burden has changed so little through the last two decades is of enormous concern. India is off track for achieving the Millennium Development Goal (MDG) 1 of halving the proportion of underweight children by 2015.

Table 1: Undernutrition in India

Nutrition Indicators	NFHS II(1998-99)	NFHS II(2005-06)
Stunting (children <3 years of age)	51%	45%
Wasting (children <3 years of age)	20%	23%
Underweight (children <3 years of age)	43%	40%
Anemia (<11.0g/dl) (children 6–35 months of age)	74%	79%
Vitamin A deficiency (children <5 years of age)	NA	57%
Women with BMI <18.5 Kg/m^2	36%	33%
Men with BMI <18.5 Kg/m^2	NA	28%
Women with anemia (<12.0g/dl)	52%	56%
Men with anemia (<13.0g/dl)	NA	24%

Source: National Family Health Survey (NFHS)-3 (2005–2006)

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[5] Black, R et al. (2013): Maternal and child undernutrition and overweight in low-income and middle-income countries. *The Lancet*. 15-30

Although some states have reduced undernutrition substantially between 1992 and 2005 (the periods over which comparable data are available to assess trends), other states have seen little reduction during this period (Figure 1).

It is now widely recognized that nutrition outcomes are determined by a complex interaction between individual dietary intake and health status, household food security, caring capacity and practices, hygiene practices, access to adequate health services, and a healthy environment – all underpinned by deeper social, economic, and political processes that drive and enable these preconditions. Globally,[6] and in India,[7] there is now a general consensus on nutrition-specific interventions that are effective at improving nutrition. Figure 2 below shows the status of this set of essential nutrition-specific interventions in India;[8] it highlights the large gap between expected coverage and reach of the 10 nutrition-specific interventions listed in the Lancet Nutrition Series 2008[9] (including infant and young child feeding (IYCF)) practices required to improve MIYCN in India.

2.2 NUTRITION IN ODISHA

The Indian state of Odisha, comprised of 30 districts on the east coast of India, has seen only modest declines in undernutrition between 1992-93 and 2005-06 (Figure 1). The prevalence of child stunting, for example, declined by only seven percentage points between 1992-93 and 2005-06. However, since mid-2000s, Odisha has stepped up its efforts to improve health and nutritional status of its people (Box 1). The state is beginning to see evidence of some gains: the maternal mortality ratio is down from 303 deaths per 100,000 live births in 2004-6 to 258 per 100,000 in 2007-9, and infant mortality fell from 75 per 1,000 live births in 2005 to 61 per 1000 in 2009.[10] Utilizations of antenatal and postnatal care services as well as institutional deliveries and immunization rates have also improved, even among the most vulnerable groups such as ST. However, according to a nutrition baseline survey conducted to support the Nutrition Operation Plan in 211, 39 percent (in "high burden districts") and 32 percent (in "non-high burden districts") of children under five years of age are underweight.[11]

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[6] Bhutta, Z.A., Das, J.K., Rizvi, A.R., Gaffey, M.F., Walker, N., Horton, S., Webb, P., Lartey, A., R.E. Black. 2013. Evidence-based Interventions for Improvement of Maternal and Child Nutrition: What Can Be Done and at What Cost? *The Lancet*. 384 (9890) 452-477.

[7] Swaminathan SM. Undernutrition in infants and young children in India: A leadership agenda for action. IDS Bulletin 2009;40(4):103-10. (the list, by The Coalition for Sustainable Nutrition Security in India (CSNSI) is currently under revision by CSNI, following the launch of Lancet series on Maternal and Child Nutrition, 2013)

[8]Bhutta ZA, Ahmed T, Black RE, et al, for the Maternal and Child Undernutrition Group. What works? Interventions for maternal and child undernutrition and survival. *Lancet* 2008; **371:** 417–40.

[9] Swaminathan SM. Undernutrition in infants and young children in India: A leadership agenda for action. IDS Bulletin 2009;40(4):103-10. (the list, by The Coalition for Sustainable Nutrition Security in India (CSNSI) is currently under revision by CSNI, following the launch of Lancet series on Maternal and Child Nutrition, 2013)

[10] http://www.nrhmorissa.gov.in/writereaddata/upload/Editor/OHSP.pdf

[11] http://www.nrhmorissa.gov.in/writereaddata/Upload/Documents/OHSP.pdf

Figure 1: Changes in stunting prevalence among children <3 years of age in India (1992-93 and 2005-06).
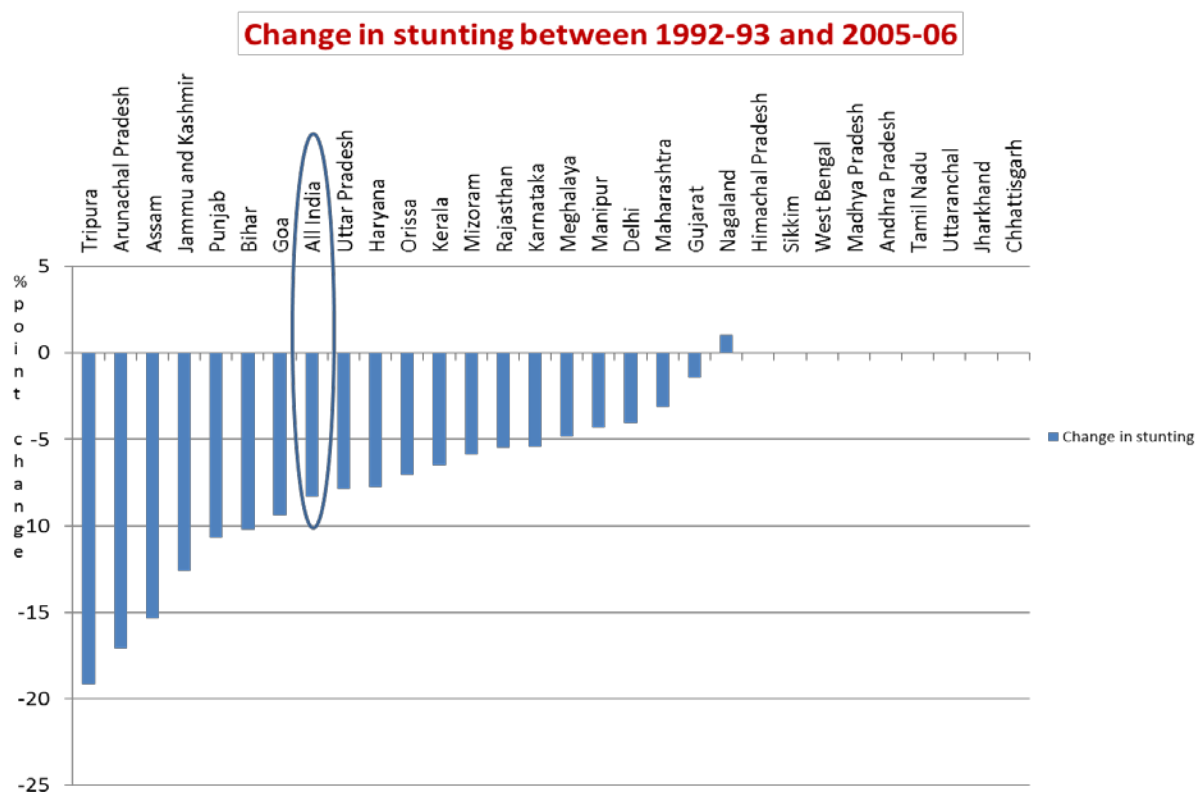
Source: Menon, Raabe, Bhaskar, IDS Bulletin, 2009.

BOX 1: ODISHA'S NUTRITION OPERATION PLAN

In 2010, the Department of Women and Child Development began implementing a Nutrition Operational Plan to address the high levels of undernutrition among children across the State, particularly in 15 high burden districts. Strategies include strengthening of state systems and nutrition service delivery, decentralized planning, community participation, result based monitoring, interdepartmental convergence and integrated behavior change communications (BCC) interventions.

Figure 2 shows the status of IYCF practices in Odisha, according to the National Family Health Survey (NFHS)-3 in 2005-06. The indicators of IYCF show that, while Odisha performance for many indicators is above the national average (as seen in Figure 3), several indicators, especially exclusive breastfeeding for the first six months, and diet quality (as seen in the indicators for diet diversity, minimum acceptable diet, and consumption of iron-rich foods) continue to be low.

Figure 2: IYCF practices in Odisha, 2005-06
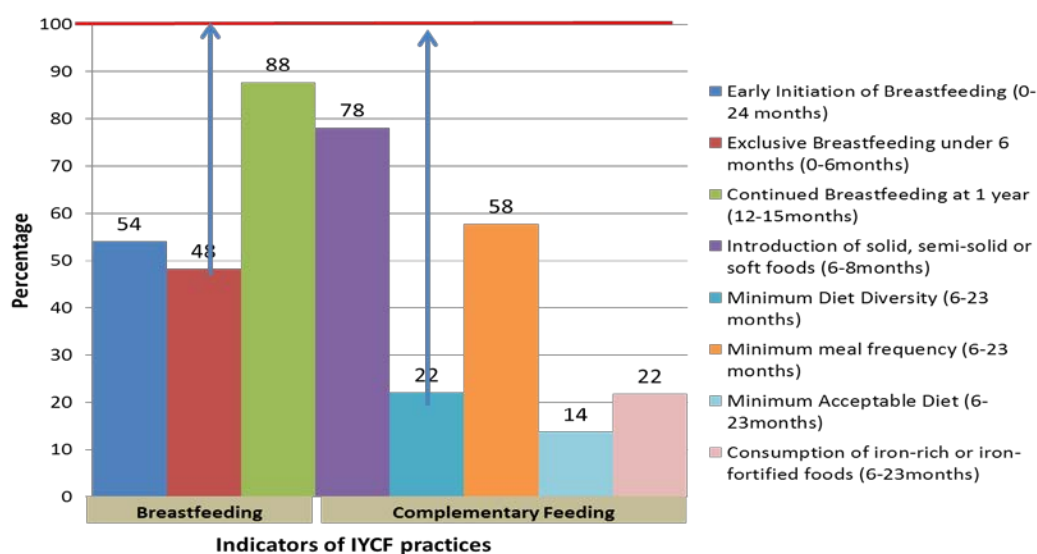
Source: POSHAN, 2013[12]

Figure 3: Status of essential nutrition-specific interventions
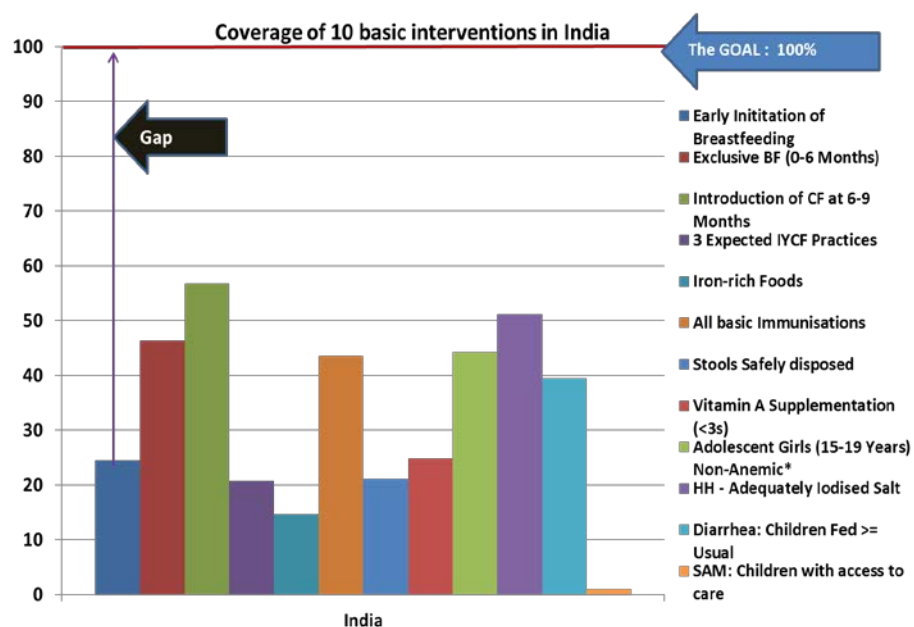
Source: Menon, Raabe, Bhaskar, IDS Bulletin, 2009.

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[12] Source: POSHAN presentation at Working Towards Addressing Undernutrition in the State of Odisha, October 9, 2013, Bhubaneswar, Odisha

Keonjhar, the district where the feasibility study was conducted is categorized as a high burden district by the Government of Odisha. In terms of demography, the district has a large population of SC and ST who constitute 56 percent of the total population.[13] Literacy levels in the district are reported to be lower than state and national figures. Male literacy is reported at 79.2 percent, whereas female literacy rate is lower at 58.7 percent. In Keonjhar, underweight prevalence is approximately 46 percent,[14] stunting prevalence is 52.4 percent, and exclusive breastfeeding rates are under 25 percent.[15]

2.3. THE PROGRAM

Digital Green, SPRING, and VARRAT conducted a 12-month pilot intervention in 30 villages in Keonjhar District starting in November, 2012 to test the feasibility of SPRING/Digital Green collaborative approach in leveraging the agricultural model for MIYCN-related messages (section 2.3.2).

2.3.1. Digital Green Approach for Agriculture

The Digital Green approach is a techno-social platform for disseminating agriculture extension information through low-cost videos and has been introduced in India, Ethiopia, and Ghana to date. The videos feature local actors selected, where possible, according to a 'positive deviance' criteria (discussed below), and are shown in communities, at mediated dissemination sessions, with the aim of encouraging local farmers to adopt best practices and thereby increase their productivity. In this way, traditional agricultural extension systems are amplified by technological innovation. This set of practices is not static, but rather is adapted across implementing regions based on the needs and operations of the community-level intermediary organizations with whom Digital Green partners. The Digital Green approach, then, seeks to add value to the existing activities of these organizations and encompasses the following (see Figure 4):

1. A participatory process for video production on improved livelihood practices,
2. A human-mediated learning model for video dissemination and training,
3. A hardware and software technology platform for data management customized to limited or intermittent internet and electrical grid connectivity, and
4. An iterative model to progressively address the needs and interests of the community with analytical tools and interactive phone-based feedback channels.

In Odisha, Digital Green has partnered with VARRAT for the past three years to produce and disseminate videos focused on improved agricultural and livelihoods practices. Working in 130 rural villages in the Keonjhar District in northern Odisha, Digital Green and VARRAT have employed four full-time, community-based CRPs to develop, shoot and edit short videos as well as 37 CSPs to facilitate weekly or

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[13] http://kendujhar.nic.in/aboutkeon/poplf.htm

[14] Source: CCM data ,Government of Odisha

[15] Source: Annual Health survey 2010-2011

bi-weekly video screenings and discussions with members of village-level SHGs and serve as a resource for individuals seeking to change their practices. SHGs are community groups consisting of 10-15 women who communally organize around income-generating and continuing education activities. These women range in age from adolescents to senior community members.

Figure 4: The Digital Green Approach for Agriculture
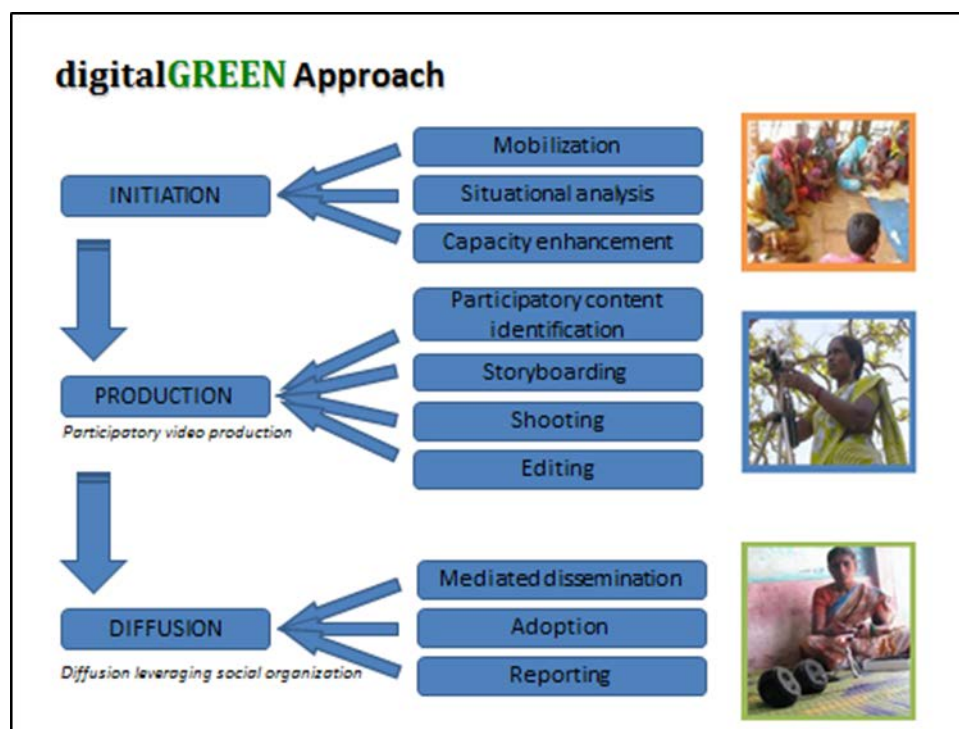
Digital Green generally relies on a positive deviance approach. Farmers who are early adopters of certain agricultural practices or who demonstrate innovation or positive outcomes on their farms are invited to "star" in demonstration, discussion or testimonial extension videos. Videos are created by CRPs in consultation with community members and technical experts that verify the technical content of the videos including the recommended behaviors. The farmer "stars" are either from the same village where videos are then disseminated or are from villages within the block or very close proximity. The content or focus of the videos may originate from the local implementing partner or may be community driven. In either case, however, community feedback is solicited following each video screening to understand what topics should be featured in subsequent videos. During dissemination, CSPs use a mediation script to facilitate discussions, periodically pausing the video at pre-determined stopping points where review questions are posed to viewers to enhance comprehension. These question and answer sessions help to reinforce critical points covered in each video.

In addition to using simple, low-cost audio and video equipment for the production of community videos, and low cost battery-operated pico projectors for their dissemination, this approach is unique in that it systematically monitors its efforts and provides access to data through an online portal. Data on intention to adopt, adoption of practices discussed during previous video screenings, and questions about video content are all documented by CSPs during video dissemination. CSPs also follow up through home visits with community members who express a willingness to adopt a new practice in order to confirm whether

they have indeed adopted the new practice. Verifications are then cross checked by the implementing partner and/or Digital Green staff to ensure accuracy. However, it should be noted that this verification of adoption generally occurs within a very short time period of just a few weeks following original exposure to information in the video dissemination. Due to the short timeline, it is of interest to determine whether an "adoption" actually constitutes long-term behavior change rather than simply initial testing of new behaviors. Digital Green's "Connect Online Connect Offline" (COCO) interface allows Digital Green and implementing partner staff to upload these monitoring data to a commonly accessible database. When internet access is not available, data can be entered offline and will automatically be uploaded when next online.

In a randomized controlled evaluation in the state of Karnataka in India, Digital Green's approach was found to be 10 times more cost-effective and uptake of new practices seven times higher compared to traditional agriculture extension services.[16]

2.3.2. Integrating MIYCN into the Digital Green Approach

The success of Digital Green in increasing the adoption of agriculture practices showed promise for other sectors like nutrition, where household uptake of key MIYCN and other health-related practices is an essential component in addressing undernutrition. The goal of the pilot was to test the feasibility of leveraging the SPRING/Digital Green collaborative approach for promoting MIYCN-related behaviors in an agricultural program. Specific objectives were to:

- build local NGO capacity in MIYCN and related dissemination/facilitation skills;
- develop and disseminate 10 locally produced videos that motivate the adoption and promotion of recommended MIYCN behaviors and (see Box 2: The Ten MIYCN Video Topics);
- assess the feasibility of using the SPRING/Digital Green collaborative approach for promoting MIYCN-related behaviors among participants in women farmer SHGs.

The pilot intervention covered 30 villages chosen from a sample of 130 villages where Digital Green and VARRAT have been working over the past three years. These 30 villages were purposively selected during the design phase of the study based on three criteria: 1) close proximity to the VARRAT "hub" office in Keonjhar, 2) existence of strong, well-functioning SHGs, and 3) presence of a strong CSP. It is important to note that these criteria assume ideal programmatic conditions for the implementation of the adapted Digital Green model. The selected villages are located in Patna and Ghatgaon, two district blocks of Keonjhar located north of Bhubaneswar. Eighteen of the intervention villages are situated in the Patna block and twelve are located in Ghatgaon.

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[16] Gandhi, R. *et al.* (2009). Digital Green: Participatory Video and Mediated Instruction for Agricultural Extension. *Information Technologies and International Development* Volume 5, Number 1, Spring, 2009, 1–15.

<div style="border: 1px solid; padding: 10px;">

BOX 2: THE 10 MIYCN VIDEO TOPICS

1. Importance of handwashing with soap
2. Importance of the first 1,000 days
3. Importance of IFA supplementation during adolescence and pregnancy
4. Maternal diet and food taboos
5. Maternal workload during pregnancy and breastfeeding
6. Exclusive breastfeeding for the first 6 months
7. Accommodating breastfeeding for working mothers
8. Introduction of complementary feeding
9. Complementary feeding (6 - 24 months): quantity, frequency, diversity, consistency
10. Importance of and strategies to improve dietary diversity

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Since the launch of the intervention in November 2012, SPRING, with Digital Green and VARRAT, accomplished the following:

- Completed a formative research study to inform the intervention (i.e. topics to be prioritized for SBCC through video production and dissemination, influencing groups for nutrition practices, taboos and cultural norms around optimal MIYCN-related behaviors).
- Developed a MIYCN training package and conducted (4) two-day trainings to build nutrition capacity of VARRAT staff (CSPs and CRPs), as well as the frontline workers (ASHA and AWWs) to both ensure consistency of nutrition messages and not undermine existing health systems.
- Identified potential video topics, and selected 10 priority video themes, after extensive consultations with stakeholders (Box 2).
- Developed a Package of Practices (POPs) for each topic, highlighting the behavior, and non-negotiable points for each (Annex 1).
- Modified the verification process and developed questions to verify adoption as well as the promotion of MIYCN-related behaviors (Annex 2).
- Assisted local teams in storyboarding and video production and monitored the technical integrity of the videos produced.
- Initiated verification visits and the tracking/recording of data related to adoption and/or promotion of key behaviors.

Following the formative research, MIYCN trainings, and production of the first videos, dissemination began while subsequent videos were produced. All 10 videos were rolled out over a six month period of time, from April through September 2013. Two SHGs, of approximately 10-15 women per SHG, in each of the 30 villages, were officially included in the pilot intervention. Each SHG participated in two nutrition-focused video screenings or "dissemination" per month so that each of the 10 videos were screened in all 30 villages during the intervention period. Each video was only shown once in each SHG during the study period, though in principle, it is not uncommon for SHGs to request to see a video more than once.

Each village has on average approximately 200 individuals, 10-15 of whom are likely to be within the 1,000 day period, i.e.—pregnancy to 2 years of age of the child. As each video dissemination was expected to reach approximately 20 women in each SHG, it is expected that some of these women will be pregnant or lactating, and thus the material presented and select MIYCN practices promoted in each video is of particular relevance. Non-pregnant and lactating women may soon become pregnant or live in households with a pregnant or lactating mother. It is expected that these SHG members may share

information gained in video sessions with other mothers within their communities and households and through other social networks.

The Digital Green approach to agriculture extension has been shown to successfully promote the initial adoption of improved agricultural practices.[17] However, the feasibility of using this approach for promoting nutrition-related behavior change has not been assessed. As part of this pilot, the International Food Policy Research Institute (IFPRI) led a study to assess the feasibility of this collaborative approach outlined above.

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[17] Gandhi, R. *et al.* (2009). Digital Green: Participatory Video and Mediated Instruction for Agricultural Extension. *Information Technologies and International Development* Volume 5, Number 1, Spring 2009, 1–15.

3. The Feasibility Study: Objectives

IFPRI initiated the feasibility study in June, 2013. The study examined the feasibility of using the SPRING/Digital Green collaborative approach to promote select MIYCN practices over the course of a 10-month pilot intervention. The key research topics for the feasibility study focused both on processes and uptake of information and behaviors. The key objectives of the study are listed below.

3.1. PROCESS-RELATED OBJECTIVES

1) Examine the capacity of VARRAT to produce MIYCN video content and facilitate MIYCN video dissemination, using the SPRING/Digital Green collaborative approach in an existing agriculture program.
2) Explore the key factors, both enabling and limiting, affecting the application of the SPRING/Digital Green collaborative approach to MIYCN promotion, focusing particularly on the transition in content, presentation style, time and workload issues, technical challenges, the process of adoption verification and scaling-up.

3.2. UPTAKE-RELATED OBJECTIVES

3) Explore retention and comprehension of video content viewed by SHG members.
4) Assess the reception and acceptability of the MIYCN topics covered and practices promoted in the piloted videos for SHG members and other key stakeholders. Report on SHG members' experiences with trials of new behaviors and identify their motivations for experimenting (or not) with new behaviors.
5) Understand intra-community diffusion of MIYCN messages promoted in the pilot MIYCN videos.

4. Methodology

The primary data for this study was collected using a range of principally qualitative techniques, including in-depth interviews with SHG members and a range of key informants. Other methods used included direct, systematic observation of dissemination sessions; nutrition knowledge tests administered to CSPs and the SHG audience; and shorter interviews conducted with men, mothers-in-law, and non-SHG members.

4.1. SAMPLING

The sampling frame was the 30 villages (2 SHGs where the videos were being disseminated/ village) of the pilot intervention in Patna and Ghatgaon blocks of Keonjhar. The study villages were stratified according to the predominance of SC and ST: Highest (where SC/ST population was greater than 90 percent); medium (where the SC/ST population was between 50-75 percent) and low (where the SC/ST population was below 40 percent). From each of these strata, five villages were randomly selected: thus the total number of villages that included in the study was 15 (Table 2). The next step included study participant selection. From each of the three strata, 10 SHG women were included in the study. These included: three pregnant women, two lactating women, one mother of an adolescent girl, two women with children between 6-24 months of age, and two women that did not belong to any of these categories per stratum.

In order to account for possible anomalies during data collection, we oversampled the original target sample to include 14 SGH women from the high category villages (3 pregnant, 3 complementary feeding mothers, 2 lactating mothers, 2 mothers of adolescent girls and 4 other category) 13 from the medium category villages (2 pregnant, 3 complementary feeding mothers, 2 lactating mothers, 2 mothers of adolescent girls and 4 other category) and 15 from the low tribal category villages (3 pregnant, 4 complementary feeding mothers, 2 lactating mothers, 2 mothers of adolescent girls and 4 other category) The final number of SHG study participants was 42. In those households where SHG study participants had spouses and/or mothers-in-law, these were also included in interviews.

All Digital Green and VARRAT technical staff directly involved in relevant field operations were included in the sample. These included 12 CSPs and four CRPs (VARRAT), as well as key informants from VARRAT and Digital Green. Given the central role of SPRING as the technical partner in this pilot intervention, key informants from SPRING were also included in the sample. The sample also included seven protagonists who were featured in the nutrition videos and one AWW and one ASHA per each of the three strata (a total of 6 frontline workers).

Table 2: Sampling Scheme

30 Intervention Villages					
HIGH ST population intervention villages: 90% and above		MEDIUM ST intervention villages: 50-75%		LOW ST intervention villages: 40% and below	
Five villages randomly chosen		Five villages(and the intervention SHGs) randomly chosen		Five villages (and the intervention SHGs) randomly chosen	
Total Number of Villages =15					
3 pregnant women 2 lactating women 1 mother of an adolescent girl 2 complementary feeding mothers 2 other women	*sampling changes in the field* 3 pregnant women 2 lactating women 2 mothers of an adolescent girl 3 complementary feeding mothers 4 other women	3 pregnant women 2 lactating women 1 mother of an adolescent girl 2 complementary feeding mothers 2 other women	*sampling changes in the field* 2 pregnant women 2 lactating women 2 mothers of an adolescent girl 3 complementary feeding mother 4 other women	3 pregnant women 2 lactating women 1 mother of an adolescent girl 2 complementary feeding mothers 2 other women	*sampling changes in the field* 3 pregnant women 2 lactating women 2 mothers of an adolescent girl 4 complementary feeding mothers 4 other women
42 SHG members after oversampling 38 mothers-in law; 35 husbands					
4 CRPs 12 CSPS 6 Protagonists 6 Frontline workers 6 Key informants from Digital Green, SPRING and VARRAT					

4.2. DATA COLLECTION METHODS

The data collection was led by Development Corner (DCOR). For process related objectives, in-depth interviews with CSPs, CRPS and other technical /operational staff and key informants from SPRING, Digital Green, and VARAAT were conducted using semi-structured questionnaires to collect qualitative data. The CSPs and CRPs were also administered a NKT which was a closed-ended questionnaire aiming to capture the knowledge of the key frontline staff of topics related to the 10 video topic on MIYCN and assess capacity on these topics. In addition, 10 structured observations of dissemination sessions were also conducted. The structured dissemination observation guide was an adapted version of the structured observation tool that Digital Green routinely uses for monitoring dissemination (Annex 3). In-depth

interviews with frontline workers and the protagonists using semi-structured questionnaires supplemented further information on program processes (as well as uptake) related objectives.

For uptake-related objectives, SHG study participants were interviewed using in-depth semi-structured interview techniques. In addition, they were administered NKT as well as a structured questionnaire to assess the diffusion of messages espoused in the MIYCN videos. Short in-depth interviews with mothers-in-law and husbands were also conducted (Table 3).

Table 3: Study Participants and Data Collection Methods and Tools

Study Participants	Data collection methods/tools administered
CSP	In-depth interviews NKT Structured observations of dissemination sessions
CRP	In-depth interviews NKT
Digital Green, VARRAT, SPRING	Key informant interviews
SHG members	In-depth interviews NKT Diffusion module
Husbands and mother-in-laws	Short semi-structured interview
Protagonist	In-depth interviews Diffusion module
Frontline workers (AWW and ASHA)	In-depth interviews

The study obtained ethical clearance from the IFPRI's institutional review boards and the Indian Institute of Public Health, in Bhubaneswar, India.

4.2.1.   Field Logistics

Data collection commenced on the 29th of August, 2013. The DCOR survey firm established a temporary headquarters in Ghatgaon, Odisha, in order to facilitate access to villages and diminish travel time and cost. A challenge that emerged in fieldwork was that the lists provided by VARRAT on village inhabitants were out of date, and some women listed as pregnant were no longer in gestation. As a result, some villages did not have the number of pregnant women expected. For these villages, having exhausted the population of pregnant SHG members, we included non-pregnant and non-lactating SHG members to complete the sample.

Another challenge was to ensure that notes from structured observations were completed immediately after the video dissemination. Understandably, it was difficult to complete notes during the session due to the darkened conditions required for video screenings. Therefore, DCOR research staff were asked to complete their notes directly after the sessions instead of waiting until later in the evening, as key details might have by then been forgotten or overlooked. In collaboration with the visiting IFPRI staff, the team worked to creatively re-frame "why" probing during interviews to encourage timid respondents to share more information. Additionally, the team discussed requesting bystanders to leave the interview area, in order to avoid the risk of others intervening or disrupting the interview.

4.3. DATA PROCESSING AND ANALYSIS

Each evening, audio files were transferred to Odia transcribers in the field, and subsequently a transcribed Oriya hard copy was sent to the capital, Bhubaneswar, for English translation. Quality checks were conducted by DCOR supervisors between audio and transcripts to identify word skips or errors of translation between Odia and English. Nutrition knowledge tests were performed in all the households interviewed, and this data was entered into a computer-based data entry system. IFPRI researchers also worked with local Bhubaneswar DCOR staff on practice transcripts using NVivo 10 qualitative research analysis software to ensure that staff understood essential coding techniques and to resolve coding-related questions.

A detailed a priori descriptive code list in English was created, based upon categories of interest. The code list was discussed among all team members, refined and edited before being loaded into QSR NVivo 10 qualitative data analysis software. The English interview transcripts were then also loaded into NVivo 10 and systematically coded by the trained DCOR research team.

Once the transcripts were coded, the next phase of analysis involved generating outputs of coded results using "queries" in NVivo 10. Queries are code-based search commands. NVivo 10 permits the construction of many different types of queries, including Boolean logic sentences which relate or contrast themes in the data by identifying connections between material coded at specified thematic nodes.

Material output from these queries was in English. Once final revisions and edits were complete, the summary reports were used to write the full report document.

5. Results

5.1. PROCESS-RELATED

5.1.1. VARRAT Capacity

Objective: Examine the capacity of VARRAT to produce MIYCN video content and facilitate MIYCN video dissemination, using the SPRING/Digital Green collaborative approach.

An important component of the feasibility analysis is the assessment of the capacity of local implementing partner VARRAT to support the transition to a nutrition-focused video platform. SHG members, AWWs, VARRAT and Digital Green staff were interviewed on the roles, responsibilities and performance of CSPs and CRPs with respect to MIYCN video dissemination. VARRAT's interaction and collaboration with implementing partners as well as with local communities was also assessed. Additionally, other issues such as the level of support needed to conduct VARRAT activities were also addressed.

5.1.1.1. CSP Capacity for Carrying Out Dissemination

CSPs have an amicable relationship with community members, and are regarded as legitimate possessors of knowledge related to MIYCN based on our interviews with the study participants. They are, on the whole, able to address and fix technical issues with video projection equipment, sound, and batteries. Data from the 10 structured observations on infrastructure quality show that the CSPs were generally able to set up the equipment in a technically error free manner (Figure 5).

Figure 5: Infrastructure Quality of Dissemination
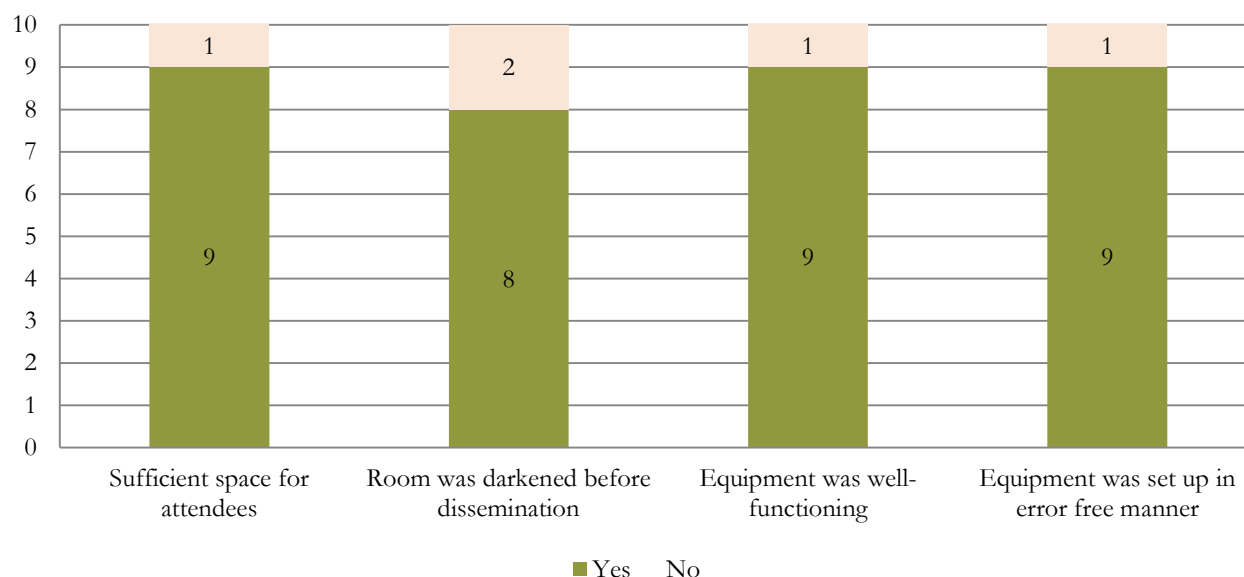
CSPs are widely recognized in the communities where videos are disseminated, including among those who do not participate. While participants acknowledge that CSPs may be a different gender, age or marital status than other SHG members, training and acquired knowledge are acceptable substitutes for

personal experience. Some SHG members allude to a social hierarchy within the group as defined by criteria such as language, age and educational level. In these cases, a dichotomy appears between the "educated guy" (CSP) and the "*the foolish people who ask questions*" (SHG member, Parsurampur), who are "naïve" or "without education." These distinctions were not articulated by CSPs; rather it appears to be an independent intra-group dynamic. However, these distinctions suggest the existence of a vertical rather than horizontal CSP-SHG relationship and may be an impediment to greater participation and dialogue.

The communication skills of CSPs are particularly important to connect and engage with the SHG audience. As an SHG member in Laxmiposi described the CSP in her community, "*He explains as a mother can understand.*" CSPs may have to explain content 2-3 times or repeat the showing of the video when there are difficulties in comprehension among members. The level of support and length of discussion varies by CSP. Some CSPs invest a great deal of time in engaging members, while others spend only 10 minutes post-screening; "*He stays for one hour after the video. He goes after explaining to us.*" (SHG Laxmiposi),

Findings from the structured observations reveal mixed findings of CSPs communication and facilitation skills. While eight out of 10 CSPs observed invested time in proper introductions and initiation to the topic, stimulating discussion around adoption of practices from previous videos was poor (Figure 6a). Only about half the CSPs initiated discussion and encouraged participation, summarized points at the end of each discussion point and at the end of dissemination (Figure 6b). While SHG members appear to be comfortable in speaking in six out of 10 dissemination sessions observed, six of the CSPs who were being observed failed to provide what the research team believed was an appropriate response to one or more of the questions posed by the SHG members. Only in five disseminations out of ten observed did the CSP encourage all of the silent members to participate beyond the video prompts (Figure 6c), and in only three dissemination sessions did the CSP provide adequate encouragement for idea generation and discussion (Figure 6d). Taken together, the findings reveal that CSPs' capacity in facilitating the discussions requires further improvement.

Figure 6A: CSP Interactions During Disseminations

Legend:
- Partial introductions, unclear purpose, feedback not shared
- Complete introductions, clear purpose, feedback invited and shared

Category	Complete introductions, clear purpose, feedback invited and shared	Partial introductions, unclear purpose, feedback not shared
Introduction and initial discussion	8	2
Sharing screening purpose	7	3
Feedback invited on adoption of previous messages	10	
Feedback shared by adopters of previous message	2	8

Figure 6B: Knowledge of Material and Facilitation Skills of CSP

Legend: Yes | No

Category	Yes	No
Initiates discussions and encourages participation	5	5
Summarizes at the end of each discussion point	6	4
Summarizes at the end of dissemination	6	4
Provides appropriate responses to questions	3	7
SHG members are comfortable in asking questions	6	4
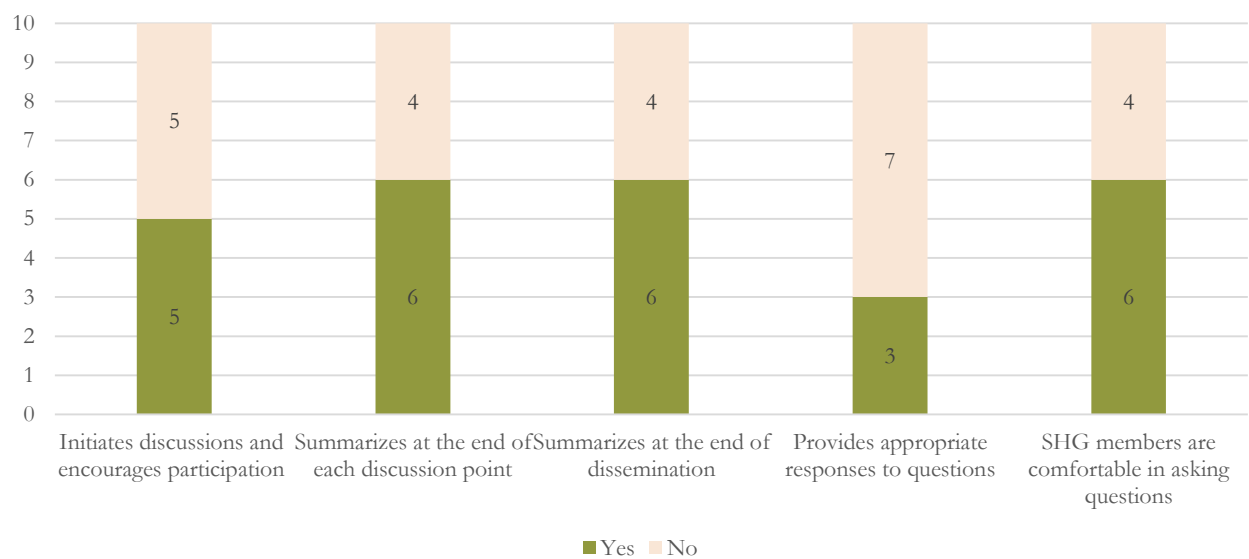
Figure 6C: Initiation of Relevant Questions from Audience Beyond Video Prompts by the CSP

- Encouraged all silent members
- Encouraged some silent members
- No encouragement
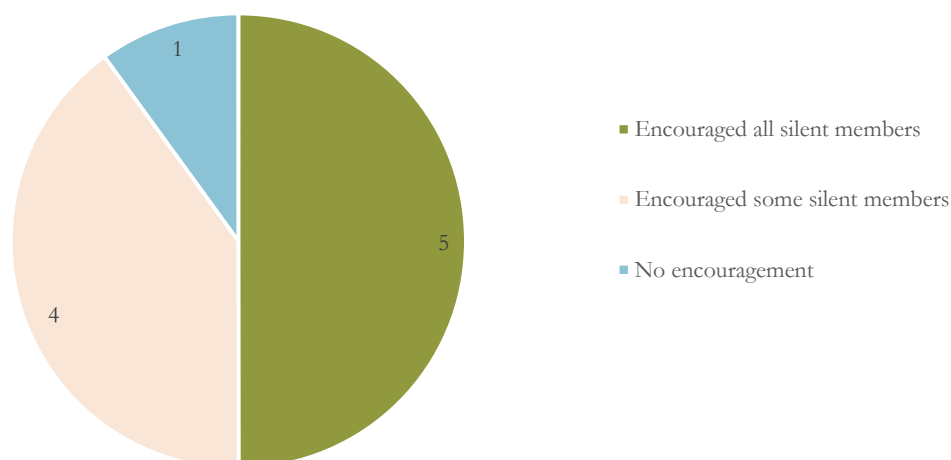
Figure 6D: CSP Encouragement for Discussions and Idea Generation

- Encouraged to generate ideas
- Encourages some discussion, can improve
- No discussion encouraged
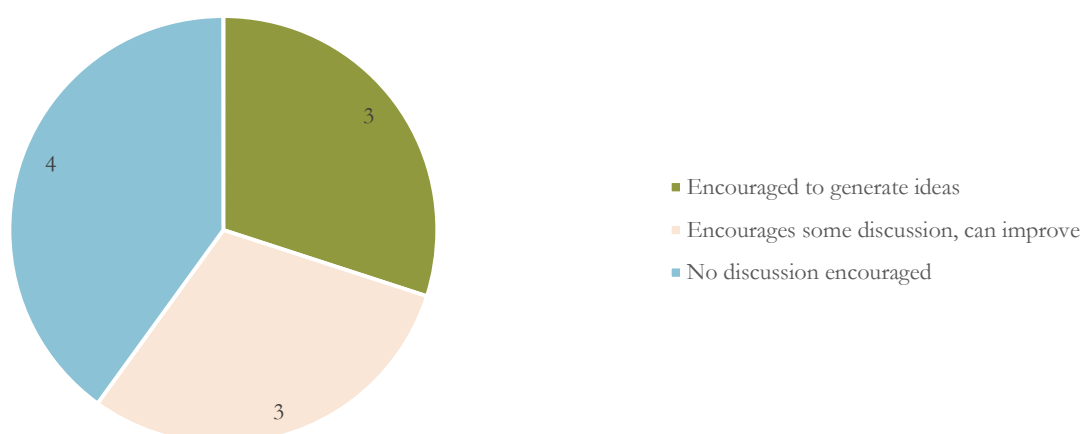
There was an overall positive response to the video medium, as well as to the nutrition content, which was seen as educational and informative. "*The video is like a serial, we like it*" (SHG Parsurampur). While in some cases content was different from traditional practices, it may be welcomed as it supports helpful new behaviors. For example, pregnant women were open to the idea of decreasing work burdens during pregnancy, and the encouragement of support from their mothers and mother-in-laws.

> "*During pregnancy, pregnant mothers used to work a lot. Those who did hard work now they are free. Mother-in-law brings water for cooking, clothes, she sweeps house...pregnant mother will be only cooking" (SHG, Laxmiposi).*

CSPs are broadly viewed by community members to be capable and knowledgeable individuals who share information on health and nutrition topics during video dissemination. Although somewhat contradictory

with the structured observations (Figures 6b-6d), SHG respondents describe the interactions as participatory, with the CSP interspersing questions during video screenings. While CSPs are viewed as knowledgeable, on occasion there are questions from the audience that they cannot answer, in particular more technical questions regarding nutrition subject areas (Figure 6b).

5.1.1.2.   CSP Demographics, Experience and Training

Based on results of nutrition knowledge tests administered to CSPs, it appears that CSPs are well-versed in the basic content of dissemination topics of MIYCN information, although we observe a few lacunae (Table 4). All the 12 CSPs we interviewed correctly identified the 1,000 days or responded with all four periods covering the 1000 days (Pregnancy, Lactation, 0-6months, 6-24 months), although one respondent included all periods inclusive of 24-59 months. All but one CSP correctly and fully identified the most important period for child nutrition and were able to give a complete explanation of why that period was the most important ("*The first 1,000 days is important because this is the time when most physical and mental development of the body happens*").

The CSPs had accurate knowledge of optimal breastfeeding practices, including timely initiation of breastfeeding, use of colostrum and exclusive breastfeeding until 6 months of age. All CSPs identified the 7th month (completion of six months) as the time to begin introducing water or other clear liquids after the period of exclusive breastfeeding. 10 CSPs also correctly identified the 7th month as the period during which semi-solid foods should be introduced, with one identifying 9 months and one identifying 10 months. These responses show that there is strong consistency in the knowledge on these topics among CSPs. However, there is less consistency on the timing of the introduction of solid foods, with three CSPs identifying 7-8 months, one identifying 9 months, one identifying 10 months and seven identifying 12 months and higher as the age to introduce solid foods. The knowledge regarding introduction of meat/fish among CSPs with over half of them responding that the right age for the introduction of these foods is over 10 months of age, according to national guidelines reflected in the video.

Nine out of 12 CSPs interviewed correctly responded that pregnant women need to rest during pregnancy, and consistently disagreed with the statement that pregnant women need to work more to ensure easy delivery. Almost all of them had accurate knowledge of the number of extra meals that pregnant and lactating women must consume (1 and 2 extra meals respectively). While all the CSPs had accurate information that 10—19 year old girls should consume IFA tablets, only eight of them correctly identified that pregnant women should take IFA tablets everyday starting second trimester. When demonstrating handwashing, half of the CSPs used clean or running water and soap and had correct knowledge on the three critical times that one must wash hands (Table 4).

SHG members commented on CSP traits that were helpful in communicating information and facilitating dialogue, including patience, good humor and tolerance of children or other disruptions during dissemination. Most respondents commented on the approachable and friendly nature of CSPs, who easily integrated themselves with the local groups by communicating with all members and providing explanations without anger. AWW stated that while medical doctors may be preferable facilitators for videos on health and nutrition, they do not have the availability to travel to different villages to conduct sessions.

Table 4: CSP and CRP Knowledge of Practices Critical for MIYCN

Topic	Number of CSPs (*n*=12)	Number of CRPs (*n*=4)
Gave correct explanation of first 1,000 days	11	4
Accurate Knowledge Regarding Breastfeeding		
Exclusive breastfeeding in the first 6 months	12	4
Timely initiation of breastfeeding within 1 hour of birth	12	4
Knows that colostrum should be fed	12	4
Accurate Knowledge Regarding Complementary Feeding		
Age of introduction of other milk, clear liquids, and water at 6 months	12	4
Age of introduction of semi-solid foods at 6 or 7months	10	4
Age of introduction of meat and fish at 9-10 months	2	2
Accurate Knowledge Regarding Workload and Diet During Pregnancy and Lactation		
Understands the need for rest during pregnancy	9	3
1 extra meal during pregnancy	11	4
2 extra meals during lactation	12	4
Accurate Knowledge Regarding IFA Supplementation		
Adolescent girls between 10-19 years of age should take IFA tablets	12	3
Pregnant women should take IFA tablets everyday starting 2nd trimester	8	2
Accurate Knowledge Regarding Handwashing		
Mentions washing before preparing/handling food	7	2
Mentions washing before eating	12	4
Mentions washing before handling baby	11	3
Mentions all 3 adoption points	6	2
Demonstrates handwashing with running/clean water and soap	6	3

Although some of the CSPs live in the communities where they work, while others are recruited from nearby villages, they are well accepted among SHG members since they are familiar with the local area and traditions. SHG members offer mixed reactions to age differences in CSPs. While most SHG members did not display an age preference for CSPs, explaining that education and ability to explain were more important, some respondents did express skepticism for the potential of a younger or unmarried facilitator to present information to elders. The gender of the CSP was not mentioned as a major problem by Digital Green or VARRAT staff. However, comments were made concerning shyness both on the part of the facilitator and by SHG members on specific sensitive topical areas such as those surrounding women's health such as breastfeeding.

> *"We tell them all the things about importance of IFA, how to breastfeed, etc. Initially we used to feel a bit shy of all these issues, but now it has turned into a habit. No more shame. Actually they [SHG members] fear to ask us questions. They are afraid that may be, anything wrong will come out from the mouth! They are a bit shy too." –CSP, Raghubeda*

While community members reported feeling comfortable with CSPs and their delivery of most information, on occasion CSPs felt uncomfortable leading discussions on women's health. For example, one AWW was asked by a CSP to help explain IFA tablet benefits.

> *"He asked me to come and to say the details regarding the benefits that the adolescents can get by taking iron tablets as he stayed outside…I feel he knew the things but could not say openly why menstrual cycle would be regular and clear after taking the iron tablets" - Anganwadi worker, Maliposi*

In some cases, CSPs were related by blood or family ties to SHG members, which made a handful of participants shy. However, these issues were not echoed by all SHG participants, and most SHG members communicated being comfortable with the majority of video content.

5.1.1.3. CSP Skills in MIYCN Messaging

CSPs state they practice messaging by watching videos several times at home prior to dissemination. Despite this preparation, CSPs felt unsure in articulating the MIYCN messages in the initial stages of the pilot. VARRAT staff noted that CSPs were progressing in messaging skills and in their confidence as the study progressed.

Digital Green staff acknowledged that CSPs need to improve their ability to effectively disseminate nutrition messages, as well as to gain capacity to conduct adoption verification for practices espoused in MIYCN videos. Additionally, Digital Green staff noted a need for CSPs to improve their abilities in using the COCO system as well as performing data entry for both the agricultural and nutrition content. Digital Green staff estimated that with agricultural videos, CSPs were "*80 percent confident in their messaging skills versus 50-60 percent confident on nutrition messaging*". Due to the quantity of information to be communicated, and the basic knowledge level of most CSPs in nutrition, the two-day nutrition training did not delve into highly technical detail but instead, provided an opportunity for CSPs and CRPs to gain a basic understanding of MIYCN and hygiene, with a focus on the first 1,000 days "window of opportunity", and enhanced facilitation skills around this content. Certain subjects were universally understood and easily communicated by CSPs, such as exclusive breastfeeding. Digital Green staff found on-going technical support from SPRING to be a useful and necessary component of the pilot; however, this

support could eventually be phased out as further internal and local capacity is developed. Also noted by Digital Green staff was the need to repeat the two-day nutrition training as a refresher course and to provide additional capacity-building opportunities to enhance knowledge gained during the initial two-day training. SPRING staff reinforced the importance of having Digital Green nutrition technical staff locally accessible either full-time or part-time as support for the local staff at VARRAT and CSP development in particular.

SHG members confirmed that CSPs were able to clearly communicate messages, however, SHGs do not always reveal what they do not understand. Although almost all the SHG members state feeling comfortable in MIYCN video dissemination sessions, there is notable variability in the level of reported comfort felt by SHG members in asking questions during sessions. "*They will say that who are you to ask question...That is why out of fear I am speaking anything to anybody.*" (SHG member, Baidabaja). However, the fear or discomfort with raising questions does not seem to originate from CSP influence, rather from perceived socio-cultural norms or individual reticence due to personality traits or lack of educational background.

> "*Most of our mothers are illiterate. So they don't do that much queries.*" -CSP, Raghubeda

> "*Our people hardly say anything. People from Munda community never say anything, they only listen.*" -SHG member, Baidabaja

In some cases, the ability of the CSPs to explain video content is hampered by linguistic barriers. One example is the case of CSPs who do not speak the local *munda* tribal dialect, wherein content then had to be communicated by other SHG members who speak both the local tribal dialect and Odia. However, as CSPs do not all speak the local tribal dialect, they are unable to verify the accuracy of this content transmitted within the group. In some communities, particularly in high tribal areas, as much as half of the SHG members present were said to be non-participatory (i.e. do not participate actively) during sessions due to the language barrier. This non-participation occurs despite encouragement by CSPs; "*As they are mothers from rural areas so [they] cannot say things openly*" (*AWW*, Maliposi).

> "*The language has to be regional [i.e. local] there. If the actors are from their locality, it's even better. Suppose there lives more people from munda community, then the actors should be from munda community and the language also should the munda language. Similarly, in case of majhi people, the same thing should be done, etc.*" – CSP Raghubeda

> "*In a group, 13 members were there and among them 5 members only were able to understand Odia language. The CSP does not know the munda language which is the local language. So, the 5 members who understood both Odia and Munda translated the Odia information for understanding of those who were unable to understand Odia*" – SHG Baidabaja

Based on feedback from participants, it's understood that not all content is immediately grasped by audience members. The question and answer period, as well as intermittent group discussions in the presence of the CSP or post-dissemination are important forums for information-sharing and clarification of doubts. Despite reticence to participate, SHG participants are aware of the importance of queries to CSPs. "*We are supposed to ask. It would have been better if we had asked, when we don't know*

something…but nobody says anything" (SHG member, Jamuleibeda). SHG members also state that ASHAs, AWWs or doctors could also transmit similar information on health and nutrition messaging.

5.1.1.4.   CSP Work, Motivation, Support and Autonomy

The main motivations of CSPs to participate in the program center on helping rural communities, enjoyment of teaching, and financial considerations. Some CSPs previously worked for VARRAT or related NGOs in the region, or had been recommended by friends who worked with VARRAT.

The activities engaged in by CSPs vary by village. In some villages, the CSP stops by households to follow up and verify why SHG members were not present at a video dissemination sessions or to remind members of an upcoming showing. Other CSPs play a more informational role when they make occasional visits outside of videos sessions, such as casually chatting with households about content. "*When he comes to our home, he tells us about washing hands with soap. He says to keep water like this and to wash your hands outside the room…he comes to my home and tells me that, 'khudi, do things like this.'*" (SHG member, Parsurampur). While many CSPs work in the same village where they live, some cover more than one village and may not always be available to answer questions from SHG members and other community members.

CSPs attended bi-monthly meetings organized by VARRAT where they were able to discuss issues encountered during dissemination or unanswered questions. However, the time spent on reviewing nutrition content was limited to several hours and CSPs requested further opportunity for support. Payment of salaries was deemed to be consistent and timely, although some CSPs did mention that if the number of dissemination sessions increased, salaries would have to be increased proportionally. Brief, straight-forward questions that CSPs garnered from the dissemination were able to be immediately answered via phone query, while more complex issues had to be resolved upon a trip to the office (these queries could take 2-7 days to resolve). CSPs expressed a desire for more support on answering the difficult questions, for which they sometimes felt unprepared to answer. Technical problems with the pico projectors were also brought to the office but were generally resolved quite rapidly.

Communication with SHG members was an essential role for CSPs, and broadly they were able to carry out those duties within their purview. However, some CSPs noted they were promised a cell phone allowance in order to facilitate this communication with members, but were not allotted these funds. Other CSPs noted they could have used support for transportation in the form of a bicycle to access more remote villages, or receive financial support for petrol costs. CSPs mentioned they needed more support on issues around video topics, particularly on the technical side, as well as tips on how to better motivate SHG members to participate in asking questions during dissemination. CSPs emphasized that the relationships with Digital Green and VARRAT were good, and that they sometimes even received support from CRPs on tasks such as calling participants.

CSPs note that sometimes the time constraints for their work affect the management of their own household responsibilities. However, there is a consensus among all CSPs that they highly value the work they do and the impact it has on local communities. CSPs report that their work is personally rewarding in that they feel they are helping others, bringing awareness and causing positive change. "*I came to know the things, which were unknown to me, previously. Then I knew that after becoming aware ourselves we can make others aware. For that, I feel proud*" (CSP, Begunakhaman). Those CSPs who previously did not have

employment, particularly note how the work has allowed them to meet new people from other villages, interact, and build relationships among SHG members, medical staff and foreigners. CSPs say the work helps them financially to support themselves and their families, including paying for their children's studies. Some CSPs mention a desire for an increased salary, particularly if the program is scaled up to further villages and they were to acquire a heavier workload. Many CSPs spoke about how they had grown in their role as CSP in the communities, and how community members regularly approached them outside of dissemination to ask questions. This increased contact with SHGs means that occasionally members have approached CSPs with other requests beyond their delineated duties, such as asking for group loans.

> "When I went to the VHND 3-4 times before, they called me by my name as I am the daughter of the village. But when I go these days, they call me as 'namaskar didi' as they do to the supervisor madam." – CSP, Badamahuldiha

Reservations expressed by CSPs regarding their responsibilities include anxieties about transmitting erroneous messages or possessing insufficient knowledge to respond to the doubts of SHG members. CSPs say they feel this responsibility and related pressure from both participants and from their supervisors. For example, when on occasion a mother cannot attend, the CSP may worry that it will reflect badly upon them if they do not know all the content. This sense of responsibility is amplified by the perception that participants have less background knowledge in nutrition, and thus CSPs feel that their role as knowledge disseminator is more crucial. Some CSPs also mentioned that they feel they should be providing more than information. In this case, they suggested that it would be helpful to give funds, medicine or other materials such as soap, to support adoption of suggested nutrition practices. Finally, CSPs expressed concern about returning late in the evening after dissemination sessions.

While CSPs have some autonomy in adjusting their work to personal constraints such as health issues, or in response to village requests or unusual circumstances such as weather events, generally approval is required from the office to make any major decisions. For example, if CSPs receive a request to initiate a video showing beyond the scheduled villages or to other actors, they must have permission. VARRAT staff acknowledge that the beginning period of the program required much handholding by Digital Green with CSPs, as well as involvement by SPRING. However, staff believe that CSPs should now be able to act more independently with knowledge and experience gained through the pilot phase. Digital Green staff explained that while CSPs were very independent with regards to the agricultural content for dissemination, they had yet to gain confidence with the nutrition content. The lack of confidence required more support and monitoring, although during dissemination sessions CSPs were expected to independently facilitate and manage content and queries. CSPs mentioned it might be helpful to compile lists of questions asked during sessions and compile them into a didactic document. Some of those technical questions that CSPs were unable to answer included several queries on IFA tablets for different age cohorts, and breastfeeding problems, such as a lack of milk or how to feed infants in hot weather in the fields.

5.1.1.5.   CSP Transition from Agriculture to Nutrition

According to CSPs, the primary difference between the new content and the agricultural videos was previous practical experience and training background. Many CSPs have had little exposure to nutrition

content; by contrast, they have experience in agriculture which they might have acquired from their own livelihood activities, from members of their household or other family members or from Digital Green training. The handful of CSPs who had previous exposure to nutrition content generally had participated in Village Health Nutrition Day (VHND), viewed content on television or radio or had contact with health workers in a previous period of employment. Initially some CSPs felt reluctant to adapt to the change in content. VARRAT and Digital Green staff commented that initially many CSPs were hesitant with the novel content and felt tense in presenting during dissemination sessions, particularly as there were many visitors during the pilot. However, Digital Green and VARRAT staff related that while there was still much for CSPs to learn, they were gaining confidence in the material and had supporting manuals and feedback sessions to aid them in their work.

In terms of the nutrition content itself, CSPs were excited to learn new concepts, skills, and information and were happy to share this new knowledge in local communities. Although CSPs could not remember all content shared in video sessions, they referred to their notes and the SPRING nutrition manual for guidance. CSP response to the nutrition training was positive, however, the general consensus was that the two days was too short to cover all the material in-depth. In particular, CSPs enjoyed the practical elements of the training and role-playing. However, they acknowledged that many questions that emerged during dissemination were beyond the scope of their training. CSPs overwhelmingly supported the idea of having more frequent training sessions, more opportunities to share questions and answers and training materials. Another idea raised was to have more regular contact with health workers in order to facilitate further knowledge transfer. Health workers noted that videos helped reinforce their messages and contributed to villagers taking the content more seriously.

Adoption Verification Process

Another notable difference in the transition from agricultural to nutrition content was the adoption verification process. CSPs note that verification visits are logistically easier for nutrition content as they relied solely on household visits, rather than visits to agricultural fields. On the other hand, CSPs related that the actual process of verification for nutrition practices was difficult even with the use of the critical point checklist, as they were unable to confirm whether self-reported practices were truthful. In contrast, adoption of agricultural practices could be substantiated visually upon examination of farmlands. CSPs also reported that more in-depth and lengthy explanations were necessary for messaging on nutrition content as the content was less familiar to participants. In this sense, CSPs felt a greater sense of responsibility to provide information.

Nutrition Videos

One issue reported regarding the nutrition content was related to the sequencing or progression of video content. In contrast with the agricultural videos, which typically proceeded through the stages of the farming process, from seedlings, planting, fertilization, and harvest; nutrition videos on occasion were not sequential. For example, a CSP explained that it was more difficult to proceed from a video on handwashing to a session on the 1,000 days, as the connection between the two was less clear and made the progression between dissemination appear disjointed.

Workload

Not surprisingly, due to the novel nature of the content, CSPs had perceptions of an increased workload. VARRAT staff noted that the pressure generated by the pilot program required a greater time dedication from CSPs than was funded. While CSP activity was delineated on an eight-month timeline, VARRAT staff stated that one year of activity would have been preferable to complete the necessary tasks. The increase in workload for nutrition videos was estimated by some CSPs to be approximately three times that of agriculture. One CSP stated that salaries were decreased from agriculture videos and that they would only increase upon better performance. The new content also took more time to be absorbed and understood by community members. However, as the nutrition content was part of a pilot, it is possible that over time CSP workload would decrease from the initial amount due to familiarity with concepts and streamlining of the operational process.

5.1.1.6. CRP Capacity for Producing Videos

In the following sections, the focus is on the CRPs who carry out the video production tasks for VARRAT. It should be noted at the outset that the information in these sections is based on a limited number of sources: interviews with the four CRPs themselves, together with responses from questions included in interviews with two Digital Green staff members (see Box 3), six frontline workers, one senior VARRAT staff member and a group discussion with SPRING personnel.

> **BOX 3: INTERVIEW ON CRP CAPACITY WITH DIGITAL GREEN STAFF**
>
> No, at this point *in* time if you are asking me if they [the CRPs] are completely ready, I would say no, because again everybody has to learn. So that's why these 10 contents [the topics covered in the pilot] were like a learning exercise for us. And they are learning because what happens typically - even in agriculture – *as* the content is finalized, they have to grasp something based on their idea. And, you ask them anything on nutrition, *and* they will draft *(the content)*. They will grasp better than a nutrition person. But the technical thing has to be (*supported*). You know, I mean, the subject matter specialist has to actually finalize that thing, (*to ensure*) everything is ready and all those things. But in the first video they were not very clear how exactly they are going to do these videos. But now after making 6 or 7 videos, now they are sort of thorough. You give them content, I am telling you, I am sitting here, I am not discussing with them, they will make a storyboard. At least I am telling you that storyboard will be 60 percent correct. (Interview with Avinash Upadhyay, Regional Program Coordinator, Digital Green, August 20, 2013)
>
> It's a switch over from agriculture to nutrition but yes, they have started because they have to be thorough in the content. It's not exactly everything but yes they are trying their best because they are part of the QA team. So they are going to verify the adoption. They are going to see the dissemination. Obviously they are prepared. (Interview with Tapaswini Swain, Nutrition Program Manager, Digital Green, August 21, 2013)

5.1.1.7.   CRP Background, Experience, and Training

The four CRPs are enthusiastic about their work. Although they did not have prior experience in either nutrition or the technical aspects of video production (shooting, lighting, storyboarding and editing) before joining Digital Green, they now feel confident in their work, having participated in three trainings on video production and having worked extensively in the production of Digital Green agriculture videos. Table 4 shows that the four CRPs are well informed about the MICYN messages covered during training.

Perhaps demonstrating a slight lack of awareness or buy-in with regard to the assertively low-tech nature of the Digital Green video approach, CRPs lamented on the limitations of the technology they were provided with, suggesting that they would like to work with more sophisticated cameras capable of filming in poor light and better audio; they would also prefer to work with more elaborate software in order to create more complex and higher-quality video work. The CRP cadre also received nutrition training at the VARRAT center, and reported that it was both enjoyable and useful, and helpful in understanding concepts such as the first 1,000 days. In interviews, CRPs were asked to detail the steps they took for each video production. The results of this line of questioning were extremely encouraging, with each CRP being able to provide a detailed account of the steps in producing a nutrition video.

The CRPs feel that they would benefit from further training, both in more advanced videography techniques, and on nutrition topics. One CRP confessed that *"we do not have many ideas about nutrition"*: receiving more training would allow them to become more involved in storyboarding and would improve their ability to translate nutrition concepts to video. These sentiments in large part echo the opinions offered by Digital Green's technical staff above.

5.1.1.8.   CRP Motivation and Support

CRPs work as part of a team, involving technical support on nutrition from SPRING and Digital Green personnel, and support in dissemination carried out by CSPs. All four CRPs reported feeling positive and happy with their work and role in the project. They cited their enjoyment of the technical aspects of video production and the contact with people which they gain through their jobs. One of the CRPs raised the point that they do not have much control over the process by which their work is disseminated, citing the fact that the CSP is working in a crowd of people and that sometimes playback does not go as planned. Another noted that he felt happy that the videos were helping to benefit people by communicating important messages. CRPs recognize that they have considerable autonomy and decision-making power in the technical areas, such as shot selection and editing, while content development and storyboarding is still done in collaboration with VARRAT and Digital Green nutrition experts who, while not always participating in the actual process of storyboarding, nonetheless check the material for factual or messaging errors.

The VARRAT manager, Mr. Mishra, described this process as follows: *"There is a project coordinator, then someone from Digital Green, the nutrition specialist, and then I myself used to sit. All the 10 videos I haven't sat* [I have not been present in all 10 productions]. *But these two are mandatory and then the CRP. They have to sit and then review the storyboard and then approve. Once storyboard is approved, they can go for the shooting, again editing will be done in a storyboard also. There is the nutrition specialist of Digital Green and then the CRP, the person who takes the shots and the project coordinator"*. Note that Mr. Mishra flags

the fact that CRPs are always accompanied by the Project Coordinator and by the Nutrition Specialist from Digital Green when they produce storyboards and shoot and edit videos.

5.1.1.9. CRP Transition from Agriculture to Nutrition

Digital Green was initially designed as a platform for agricultural extension communication. The transition to MIYCN behavior change and messaging brought challenges at several levels, which became evident over the course of the pilot project. Issues particularly identified by CRPs included the following main points:

- Technical issues: agriculture videos tend to be shot outdoors, where there is ample natural light; nutrition videos, on the other hand, are often shot indoors, which can be difficult. Conditions can also be complicated by the multiple actors necessary to achieve the content communication.
- Knowledge issues: CRPs say that because they are less familiar with the nutrition material, it is harder for them to edit and sequence the takes properly.
- Protagonist issues: it is harder to find appropriate protagonists to demonstrate the nutrition and health practices.
- Workload: three of the four CRPs felt that the move into nutrition videos had had the effect of increasing their workload.

None of these is insurmountable, but they are important issues which will require attention when the project is taken to scale.

5.1.2. The DG Approach: Strengths and Challenges

Objective: Explore the key factors, both enabling and limiting, affecting the application of the SPRING/Digital Green collaborative approach to MIYCN promotion, focusing particularly on the transition in content, presentation style, time and workload issues, technical challenges, the process of adoption verification and scaling-up.

5.1.2.1. Transition in Content

Production of nutrition videos is more complex than production of videos on agriculture. Although health education is high in demand, the key informants report that the community members are often unable to articulate the health-related topics they would like to have more information about with specificity. Unlike agriculture, which is a "tangible topic"-- where people watch crops grow or fail; experience profit or loss; experiment with technologies—nutrition is more abstract. The key informants stressed that investment in facilitating discussion to understand the demand for new content and specific information needs is critical to ensure that the content is contextually meaningful.

> "If there is some problem in terms of insect attack, then they will let you know or if they wanted to do something new or may be something existing in a different way, then they will ask you.....But in nutrition videos, the problem at this point of time is that the people may not articulate." (Key informant, Digital Green).

Several CSPs felt that the while the broader topics were contextually appropriate, the content should have aimed at demystifying taboos and age-old harmful traditions and producing videos that aim to change behavior around these taboos.

> *"Something is there. But not to give mango, as it will cause boils and not to give fish during pregnancy, these are not present in video. Video only tells that the mothers should take all vegetables, according to the season and to take 4 times in a day". (CSP, Begunakhaman)*

While economic determinants are predominant in agriculture, for MIYCN, socio-cultural determinants (like the taboos mentioned above) also play a critical role. This makes creating storyboards for effective "messaging" more complex, requiring the videos to squarely address not only economic considerations but to embed the messages in the prevailing sociocultural and health/nutrition system context. Thus, the nutrition videos tend to have a cast of characters and several layers of messages that require clear and concise scripts.

The process of ensuring comprehension of disseminated material appear to be more complex with nutrition messages than they were for agriculture messages. Key informants often noted that, unlike agriculture, nutrition being an abstract concept makes it difficult for people to relate to cause and effect, which in turn affects comprehension, willingness to try the disseminated practices and share information.

5.1.2.2.   Presentation and Style

Overall, there is positive response to the videos by community members as a medium for health and nutrition education. Contrasting the video dissemination sessions with messages through television, several SHG members underscore the key strengths of the video dissemination sessions: the pace, the flow, the mediation and (sociocultural) familiarity with the cast.

> *"In detail, they show in video. There is no difficulty in understanding. In TV show only a little which is difficult to understand. In video villagers act, ASHA maa, anganwadi didi, they talk explain and talk taking rest while in TV they talk in a flow which is not understandable"*
> *(SHG member, Maliposi)*

Several viewers compared the nutrition videos with "serials" and suggested more dramatization, music, and dance be included. A few viewers recommended complementing the videos with street drama.

The response to the protagonists in the videos was largely positive and inspirational. *"Very pleasuring. How she is able to talk! It is very decent to see. We think how it can be possible that, we can also talk. See, we think how it can be possible that we can also talk"*. The data does not indicate a clear pattern of preference towards the type of protagonist, although there is some indication that ASHA and AWWs are trusted sources of information. The same is the case with the type of video: demonstrations vis-à-vis testimonials.

5.1.2.3.   Target Audience

Although not a widely voiced concern, the use of the SHG platform requires further investigation. While agriculture videos are immediately relevant to a wide section of the population, the nutrition messages pertain primarily to young girls, pregnant women and mothers of young children—a group that is a minority in the SHGs. The participation of mothers of newborn children could be problematic for two reasons. Mothers tend to spend time in maternal homes during late pregnancy and early lactation periods; they spend most of their time with their newborn child at home. "*It has been only 4 days since I came from the hospital. Couldn't go there leaving the kid alone*" (Mother of a new born child, Baidabaja). Thus unlike agriculture, wider adoption of practices to promote MIYCN hinges on diffusion of the

messages: "*There is no mother of a small child or a pregnant woman in my SHG. So, it doesn't make sense to tell those mothers, who are in the SHG. Suppose, there is an aged woman and there is one pregnant woman, near her home. She is not able to tell her, properly. At last, I have to come and tell the pregnant mother*" (CSP, Badamahuldiha).

5.1.2.4.   Time and Workload

From an organizational point of view, the key informants from VARRAT said that the pilot phase was intense and they felt pressured to deliver. VARRAT was aware that the success of the project depends heavily on their ability to deliver. "*Because this is a pilot and lot of the people will be coming for the studies. So that was a pressure for us, that how the people will come and say*" (Key informant, VARRAT).

SHG members seem to be able to find solutions to make time for video disseminations, in spite of their heavy work load both on and off-farm. The tension between completion of domestic chores for women means they can view video disseminations only later in the evening. However, this appears be problematic for others who live farther from the dissemination venue. Video dissemination during peak farming seasons and some respondents said that they had little time to pay attention to the message or discuss with anyone else.

Most of the mothers-in-law and husbands also appear to support mothers in attending video dissemination sessions. As one mother-in-law said, a two day commitment in a month is viable: "*She is going on a day or two.... so wouldn't refuse for works.... of course we will refuse if she goes daily.... on certain days her group calls and she goes*". (Mother-in-law of SHG member, Kothaghara). While a minority of mothers-in-law accompanied their daughters-in-law to video disseminations, most found it impractical, given their workload at home.

Although busy, some respondents suggested the videos could be longer, underscoring the demand and acceptability of the nutrition videos.

5.1.2.5.   Technical Challenges

Adapting the Digital Green approach for agriculture to nutrition requires non-trivial adaptations and investments, which the organizations (Digital Green, VARRAT and SPRING) seem to be knowledgeable about and working towards overcoming the challenges. Some of these challenges were also identified by CRPs above.

As noted above, the first technical challenge is content identification and selection. The agriculture video content identification and selection is, largely demand driven. "*70-80 percent feedback comes from the community*" (Key informant, Digital Green). Given the nascent nature of the nutrition intervention and the abstract nature of the topic, the role of CSPs and CRPs, VARRAT staff, as well the SPRING as the technical partner in content identification and selection has been quite central. Storyboarding too, is a more complicated process, involving discussions with a diverse set of people (for example, ASHA, AWWs, mothers-in-law) and requires more creativity as the sociocultural constructs need to be woven with technical information and cross-referring key messages across the different videos.

Production of nutrition videos presents additional challenges. Agriculture videos typically feature one or two people in the video. But nutrition videos have several people complicating the requirement for the

film shooting venue, voice modulation and lighting. Several women, especially young mothers, are usually too shy to talk on the camera. The quote below from a CRP encompasses several of these challenges.

> "We saw some places have people but Anganwadi didi is not perfect as her voice is not good, she is unable to explain, she can't say properly. In some cases we saw that Anganwadi didi is perfect but beneficiary is not. While talking, she talks slowly and not talking freely. Like this by watching selection is carried out. Then lastly we finalized this place as space is here and there is no problem of trees." (CRP, VARRAT)

Given these issues, the production of nutrition videos tend to take longer than agriculture videos. Thus having adequate lighting to shoot the video appears to be problematic. CRPs mentioned that although they use reflectors, they are "good for nothing" (CRP, VARRAT). Thus, the issue of having adequate facilities for lighting has implications for the selection of the film shoot venue. "Suppose you selected a site that means in that house sufficient windows must be there and then they have to find a house with a lot of windows." (CRP, VARRAT). One CRP suggested that they should be provided with emergency lighting to overcome this problem.

The CRPs reported that initially, they felt nervous about editing the film: the nutrition videos had lot more clips than the agriculture one. However, they appear to be gaining confidence and are well equipped to innovate and produce nutrition videos.

Though both the CSPs as well as the audience broadly agree that the technology is "*alright*", they mentioned that the screen is too small and the sound projection mediocre, affecting the experience of the people sitting at the back of the room. Another important concern voiced includes the language of the video not being sufficiently local (often referred to as "regional" by the respondents). Where the audience is unable to comprehend the messages due to the language barrier, the CSPs explain the message in the relevant tribal language when possible though many do not speak the tribal dialect. But this additional step of translation adds to the mediated discussion time and could potentially affect comprehension and retentions of messages. This point is of course relevant to agriculture videos as well, although it might be less of a problem given the relative familiarity of the audience with agricultural themes.

An important concern voiced by the CSPs and the SHG members (again, relevant to agriculture as well as nutrition content) is the inability to re-view the videos on demand as they claim that the unscheduled videos are deleted from the Pico projector. "Most of them cannot remember all the things and ask us to show the video again. We say that the order is to show only a single video. And of that video couldn't be shown on that particular date, they delete it from the Pico in the meetings". (CSP, Ragubeda). It is important to note however that although the videos are deleted from the pico projector, they are catalogued and uploaded on to the Digital Green website.

5.1.2.6. Adoption Verification

The SPRING/Digital Green collaborative approach includes several layers of adoption checks to assess if a particular practice has been adopted. CSPs visit all those who intend to adopt a practice to check if the person has indeed adopted and to discuss their experience with adoption. Other VARRAT and Digital Green personnel re-verify a smaller proportion of these for quality assurance. In agriculture, this means checking for physical evidence of adoption, which is feasible. This data is captured in Digital Green's adoption verification form and then entered into the COCO system. Given that both adoption and

diffusion are key objectives of the pilot, and that adoption for MIYCN behaviors are largely unobservable, the verification forms were adapted for MIYCN to include "promotion", i.e. if any of the participant SHG members shared the information espoused in the videos with other people.

However, the challenge of adoption checks for nutrition is rather unwieldy. CSPs and other key informants said that adoption checks for nutrition rely primarily on self-reporting. The CSPs practice probing, based on the video they plan to disseminate, in their fortnightly meetings. They find these practice sessions to be an important aspect of their ongoing training. For the most part, the CSPs are aware of the pitfalls of self-reporting and are in fact devising ways to overcome some of these. These include triangulation of information from various sources and observation. CSPs often mentioned discussing the behavior they are conducting the adoption check for with other members of the household, for example, the husband and mothers-in-law. "*I go to their houses. Suppose there is a daughter –in-law, her mother-in-law, her husband, then her brother –in-law, her sister-in-law, whoever in their family, I also ask them that what their daughter-in-law eats, what you give to her and to her child*". (CSP, Badamahuldiha). A few CSPs mentioned going to the homes of SHG members during meal times to observe their diets.

> "*How many times the child is being fed; it also can't be known. But it could be known, if it is asked that how many times the child urinates?*" (CSP, Parsurampur)

However, relying on probing and triangulation using proxies and other techniques by the CSPs, whose nutrition-relevant knowledge is also fairly rudimentary, can be problematic. Some CSPs said that they make deductions on whether someone adopted a behavior or not based on the health status (or growth) of the child. There appears to be some confusion between checking for behavior adoption vis-a-vis the nutrition outcomes. The CSPs seemed to be more comfortable talking about checks that could be observed or somehow physically verified; hand washing and IFA were the two most often quoted topics while discussing adoption checks.

Follow-up visits to households to reinforce messages and maintain community engagement are some of the advantages of the current adoption check approach. But monitoring behaviors through this modality appears to be sub-optimal. Overall, adoption checks, as understood in the SPRING/Digital Green collaborative approach, for nutrition pose a challenge and its adaptability and utility for health and nutrition requires further investigation.

5.1.2.7.   Synergies with Local Health and Nutrition Promotion

After consultations with the stakeholders, the pilot intervention was designed to establish synergies with local health and nutrition promotion efforts. "*To make sure that the community health agents responsible for maternal, infant, young child nutrition in their communities were engaged and were empowered and did not feel marginalized by introducing nutrition videos*" (Key informant, SPRING). The key efforts in this direction were a) including frontline workers, ASHAs and AWWs, in a two day training on nutrition related issues, b) consulting frontline workers in in the process of finalizing the 10 topics for video production, c) engaging with frontline workers in identification of protagonists and storylines. "*The video that has been made, how should we make that, what we should make, whom we should take to make so that it would be better? About these things we discuss [with VARRAT]*" (AWW, *Maliposi*) and d) featuring frontline workers as protagonists in the videos.

5.1.2.8.   Scale-Up

Key informants and VARRAT personnel are optimistic about scaling-up the intervention. The Digital green model of partnering with local organizations is considered as key to scaling-up; however, Digital Green will need to continue investing in capacity of local partners, given that nutrition knowledge is not as strong as agricultural knowledge.

CSPs and CRPs are concerned with the workload in expanding to more villages and stress on the need to ensure the program is adequately staffed, other key informants stressed the need to ensure appropriate technical expertise at various levels. Having a technical expert at Digital Green to ensure technical accuracy of the messages and at VARRAT to ensure the socio-cultural relevance of the messages are mentioned as critical for successful scaling up of the nutrition component of the Digital Green intervention.

Making context-specific nutrition videos is a challenge, according to some key informants. *"So it will be intensive and most of the time you have to see the situation, see the community context as you are taking to area or you have like community may not be very open to having male folks as mediators. Everywhere you have to pre-test."* (Key informant, Digital Green). Key informants from SPRING mentioned that the current 10 videos and the non-negotiable points within those 10 topics could spawn new videos on these topics. However, key informants from SPRING, Digital Green and VARRAT recognize that scaling-up to new topics, for example, strengthening the linkages between agriculture and nutrition, will be a non-trivial task. Incremental scale-up was mentioned by several key informants as key for scaling-up.

5.2. UPTAKE-RELATED

5.2.1.   Knowledge and Retention among SHG Members

Objective: Explore retention and comprehension of video content viewed by SHG member attendees

In order to understand if the SHG audience understood and retained the messages and information provided in the videos, a nutrition knowledge test was administered to all the 42 SHG members interviewed. This section presents the results of this survey (Table 5). It is important to note that because we did not collect baseline data, it is not possible to assess change in knowledge or to attribute such change to the pilot intervention, as this was not the expressed purpose of this feasibility study. Information presented in this section is therefore illustrative and indicative rather than conclusive.

About 28 of the respondents have heard about the concept of the first 1,000 days. Of those participants who had familiarity with the concept of the 1,000 days (66.7%), 13 (46.42%) were able to correctly and fully identify the most important period for child nutrition were able to give a complete explanation of why that period was the most important ("The first 1,000 days is important because this is the time when most physical and mental development of the body happens"). This data suggests that while most participants are familiar with the idea of the 1,000 days, approximately half of respondents appear to have difficulty recalling a more detailed description of the concept (Table 5).

Most of the SHG members had accurate knowledge of optimal breastfeeding practices, including timely initiation of breastfeeding, use of colostrum and exclusive breastfeeding until 6 months of age. Thirty-seven (88.1%) SHG members identified the time between 6th and 7th month as the time to begin

introducing water or other clear liquids after the period of exclusive breastfeeding. Thirty-three (73.8%) SHG members also correctly identified the 7th month (after completing six months) as the period during which semi-solid foods should be introduced, with five identifying '8-9 months' and three identifying 'more than 10 months'. For introduction of solid foods about 17 SHG members identified '6-8 months', 10 SHG members identified '9-10months' and 15 SHG members identified 'more than 10 months' as the correct time.

It is clear from this data that they have all understood the concept of exclusive breastfeeding and the timely introduction of other liquids and semi-solid foods. Twenty-four out of 42 SHG women interviewed correctly responded that pregnant women need to rest during pregnancy. Almost half of the interviewed women had accurate knowledge of pregnant women should consume one extra meal, but 36 of the 42 interviewed said that women should eat more than usual during pregnancy. However only 18 of the 42 interviewed (42.9%) knew that lactating women should eat two extra meals per day. While almost half of the women (47.6%) correctly identified that pregnant women should take IFA tablets everyday starting second trimester, only 11 (26.2%) had accurate information that 10—19 year old girls should consume IFA tablets. When demonstrating handwashing, 34 SHG members (81%) used either running or clean water along with soap, but only 14 (33.3%) of them had correct knowledge on all the three critical times that one must wash hands. (Table 5).

Table 5: SHG Women's Knowledge of Practices Critical for MIYCN

Topic	Number of SHG members (N=42)	Percentage of SHG members (%)
Gave correct explanation of first 1,000 days	13	31.0
Accurate Knowledge Regarding Breastfeeding		
Exclusive breastfeeding in the first 6 months	35	83.3
Timely initiation of breastfeeding within 1 hour of birth	31	73.8
Knows that colostrum should be fed	37	88.1
Accurate Knowledge Regarding Complementary Feeding		
Age of introduction of clear liquids and water between 6 to 7 months	37	88.1
Age of introduction of other milk between 6 to 7 months	31	73.8
Age of introduction of semi-solid foods at 6 or 7 months	33	78.6
Accurate Knowledge Regarding Workload and Diet During Pregnancy and Lactation		
Understands the need for rest during pregnancy	24	57.1
1 extra meal during pregnancy	24	57.1
2 extra meals during lactation	18	42.9
Accurate Knowledge Regarding IFA Supplementation		
Adolescent girls between 10-19 years of age should take IFA tablets	11	26.2
Pregnant women should take IFA tablets everyday starting 2nd trimester	20	47.6
Accurate Knowledge Regarding Handwashing		
Mentions washing before preparing/handling food	25	59.5
Mentions washing before eating	40	95.2
Mentions washing before handling baby	21	50.0
Mentions all 3 adoption points	14	33.3
Demonstrates handwashing with running/clean water and soap	34	81.0

5.2.2.   Reception: Acceptability and Behavior Change

Objective: Assess the reception by SHG members and other key stakeholders of the MIYCN topics covered and practices promoted in the piloted videos. Report on SHG members' experiences with trials of new behaviors and identify their motivations for experimenting (or not) with new behaviors.

Data requirements for the following section were met with responses to a series of questions about acceptability and new behavior trial included in both household (SHG members and families) and key

informant interviews (see box 4: Acceptability). Because they were more prominent in the sample, findings from household interviews are also emphasized here.

> ### BOX 4: ACCEPTABILITY
>
> Q. Did you feel shy when it is shown how to squeeze-out breast milk to keep?
> A. No.
>
> Q. Why?
> A. Because this is for our child, their stomach will not fill if we feel shy.
>
> Q. Only female persons are watching the video or male persons are also watching?
> A. Male persons are also watching.
>
> Q. Didn't you feel shy when video was showing about how the mother will keep breast milk for baby?
> A. No
>
> *--SHG member, complementary feeding household, Baidabaja Village (high ST/SC)*

A key issue in this feasibility study concerns the sociocultural acceptability of the MIYCN video topics disseminated during the pilot. Acceptability, together with economic factors, lies at the heart of the question of feasibility of trying or adopting new recommended behaviors. While the Digital Green approach has been shown to be an effective and relatively unproblematic way of disseminating information on best practices in agriculture, it is important to understand that nutrition and health topics—often concerned with the body, with notions of cleanliness, with processes of reproduction, birth and child feeding—are often more culturally encumbered and sensitive than agriculture topics. Firstly, because the topics themselves fall into areas which are often delicate and burdened with taboos, and secondly because much of the material is targeted at women, who may be subject to greater concerns about modesty and shame than men, particularly in more conservative rural or tribal communities. SHG members and members of their households, together with a selection of key informants, were asked to discuss the issue of acceptability across a range of questions.

Although the household interviews were stratified both by proportion of ST/SC households in the community, and by the 'type' of SHG member in the household (pregnant, lactating etc.—see methodology section), there were no appreciable differences in types or orientation of response along either stratification axis; for this reason, we have presented aggregated findings.

Respondents were asked questions about the acceptability of the video topics. Encouragingly, the great majority of respondents indicated that the topics disseminated in the pilot had not in fact proved problematic. In general, SHG members said they 'liked' the topics, 'felt good' about them, were not ashamed to see them portrayed in public, and would implement them where possible and relevant to their situation. One SHG member suggested that the topics were so acceptable that they should be shown to everyone in the community. These positive assessments were shared by the key informants who were asked to comment on the issue: ASHAs and AWWs were of the opinion that understanding was high, and that on the whole the videos did not provoke feelings of shame, although the presence of fathers-in-law or boys in the disseminations might cause some women to feel uncomfortable as noted in the quote featured in the Box 3 below. Also noted by a health worker was the fact that the less educated women in the SHG would tend to experience greater feelings of shame. We did not stratify on an education level

variable in this study, so cannot comment on this point. According to the CSPs, all the video topics are suitable for all types of viewer, and indeed the videos had generated a kind of communication momentum, in which people were discussing the topics outside of the context of the dissemination sessions and genuine behavior change was taking place. One CSP noted that sometimes mothers-in-law disagree with the messages in the videos and ask for the AWW to confirm their correctness. One CSP also felt that there was some shame and shyness around the videos touching on the topic of pregnancy. The CRPs who were asked about acceptability concurred in their opinion that the videos did not pose a problem, although one CSP felt it would take longer to get messages through to ST/SC households.

Box 5 illustrates a situation where the presence of boys in the dissemination, together with a male CSP, caused the respondent to feel "shy" when the topic of breastfeeding was discussed.

BOX 5: SHYNESS

A. That makes us a little shy.

Q. Which topic?
A. That pregnant lady, that…

Q. That video you watched, how to keep milk for the child? When mother goes for work, what you got in that video shy?
A. When she keeps milk.

Q. Why you feel shy?
A. Feels shy, like…should we give milk like this…..I looked like she gave milk in front of, not like…..

Q. As you are saying, is there anybody present during videos? Which made you feel shy?
A. Yes, girls were there, so felt shy. Such videos are shown, so feeling shy. That they were showing, were instructing us not to shy, to watch comfortably, they say.

Q. Were they also feeling shy, who were showing the video?
A. No, they weren't……We feel shy…

Q. She was acting there, you have seen that?
A. When she fed milk to the baby, I felt shame when I saw boys were standing at backside.

Q. If it was shown by a girl then?
A. We wouldn't feel shame.

-- *(SHG member, mother of an adolescent girl, Rohiniduma Village (medium ST/SC)*

A smaller number of household respondents expressed concerns about the acceptability of some video topics, particularly those which focused on breastfeeding (potentially a problem for men, but not for boys). One SHG member from Rohiniduma Village explained that she had overcome her initial embarrassment and now was happy to participate in dissemination sessions, even when these were run by a male CSP: *"Earlier, it used to be embarrassing. When somebody used to tell anything, it was embarrassing. But, now we don't feel embarrassed"*. Another said that she still felt shy about asking questions. One of the husbands interviewed said that he felt uncomfortable in the sessions. Finally we should note that some resistance was encountered among a few mothers-in-law, one of whom asked her daughter-in-law not to watch the videos, while another was opposed to some of the practices, such as pregnant women resting more.

While the video topics were on the whole considered to be acceptable in the communities, it is important to note that particular challenges exist in moving from acceptance to meaningful and sustained MIYCN behavior change. In large part, this statement is related to the point made at the beginning of this section, namely that several MIYCN topics were associated with taboos and restrictions. An example of this is found in the area of exclusive and early-initiated breastfeeding. These recommendations come into conflict with existing beliefs which stipulate discarding the important colostrum, and administering sugar water or honey to the child with a finger, as well as offering babies goat's or cow's milk. And while the recommendation for women to do less work while pregnant was well-received by pregnant women, several mothers-in-law pointed out that *"it wasn't like that in their day"* and that pregnant women should, as tradition dictated, shoulder a full workload. It should be noted here that this reaction can be understood in the context of the virilocal residence pattern, which tends to situate younger women as a source of labor in the homes of their mothers-in-law: a recommendation that daughters-in-law should do less physical labor thus implies more work for mothers-in-law. Another problematic topic concerns IFA tablets for pregnant women: there is a strongly held belief in all of the study communities that these tablets have the effect of enlarging the head or body of the fetus, rendering childbirth painful and/or dangerous. This excerpt from an interview with a lactating mother in Badamahuladiha Village illustrates this worry:

> *A. They tell [say] if you take iron pill, then the baby will become fat and during delivery, she [the mother] might have to face a lot of pain.*
>
> *Q. Do they say like this even now?*
>
> *A. They say even now.*

In addition to this belief about IFA tablets, other beliefs and taboos exist around the issue of pregnant women's diets. It is believed that these should be restricted both in quantity and quality: pregnant women should eat no more than twice a day because if they do, their bodies will get fat and obstruct the free movement of the fetus in the womb: it will not be able to 'play' in the womb. This clearly contradicts one of the key messages about ensuring that pregnant women are fed an adequate diet. Pregnant women's abilities to implement the messages about dietary diversity are also potentially undermined by belief about restricting the range of foods they are allowed to eat during pregnancy: sour foods should not be consumed as they hurt the stomach, nor should corn, eggs, jackfruit, papaya or eggplant (said to make the child darker or to produce a black vein). Ripe fruits cause problems with the baby's head. Some of these taboos are illustrated in the excerpt below, from an interview with a lactating SHG mother from Ghuntijhari Village:

> *A. They say not to take corn foods. Also they deny taking ripe jackfruit, ripe papaya etc. By taking ripe fruits they think there would be ripe in the baby's head.*
>
> *Q. What will be there in the baby's head?*
>
> *A. Wounds, so they deny those ripe fruits.*
>
> *Q. How many times to eat according to them?*
>
> *A. To take rice 2 times a day.*
>
> *Q. What will happen if she eats more than two times? Why they deny taking more foods?*

A. By taking more foods, the child won't play freely inside the womb.

Q. Now no one does like that. Or some people do these secretly.

A. Some might be doing this. Who can say anything to these mother-in-laws!

Interviews with mothers-in-law were, as the last line of the excerpt suggests, especially fruitful in illuminating some of the cultural practices and beliefs which contextualize the issues the pilot has focused on. In the following case (see Box 6 below), a mother-in-law from a household currently practicing complementary feeding in Dwarakaposi Village touches on many of these conflicts and contrasts between the past and the present, and upon tensions between the natal and post-marital homes:

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BOX 6: A MOTHER-IN-LAW RECALLS HOW THINGS WERE DONE IN THE PAST

When the woman was pregnant, she was boiling paddy. In big pots one has to boil paddy and handle the process. Our mothers-in-law used to explain to us, if one holds big pots the child will be active and healthy. They also say if one beats paddy with the traditional equipment (*Dhinki*) then the child will be healthy. I used to get water, used to do everything. Now the daughters-in-law after getting water for 2-3 times would say we are having pain in back and stomach. At that time we were not feeling like this. The child birth was happening on its own at home. It was happening nicely. I had given birth to three children. All have taken birth nicely. Only my mother-in-law was with me. No one else was there. When my oldest son was born, somebody got some goat milk from the neighborhood. I have fed him goat milk. In early morning I said that I will feed him my breast milk...Then I fed him. After taking my milk he got quiet. Milk was coming. Sufficient milk came. Seeing this people from the neighborhood said "See, she has not taken anything and this is her first delivery and milk is coming. But how!" Everybody was surprised. He took milk from that day till he was 21 days older. From that day someone did something that I took bath and so did the child. We both caught cold. We had high fever. The child cried a lot and there was no milk after that. The breasts were having no milk. It became like, as it appears now. People were surprised how it became like this. And told there is no milk. Then my in-laws scolded me and said "she is a male buffalo. She couldn't make milk".

</div>

Taking this complex sociocultural context into account, the Digital Green videos produced and disseminated during the pilot are successfully engaging with prevailing socio-cultural norms, even when these are in contradiction to the video messages, and in general, managing to achieve some behavior change in spite of these. To return to the previous point about daughter-in-law providing labor within their mother-in-law's house, we can see evidence of ongoing change. As one CSP explained *"there are some old mothers-in-law, who were ...bringing wood from the jungle. They say that as they were doing, so the daughters-in-law should do also. But, since they were made aware through video, it has reduced, bringing water, wood, everything."* Key informants state that video dissemination sessions are well-attended by SHG members, and interest in the topics is high; ASHA and AWW informants echoed the CSPs in saying that they had seen discussion of video topics outside of the context of the dissemination, and further observed that despite some degree of inter-generational resistance, learning and change were being facilitated and promoted by the videos in the form of active testing or adoption of recommended practices. Column 5 of Table 5, below illustrates this point quantitatively.

SHG members generally liked the videos and said they were interested in them. The handwashing video was particularly well-received—respondents explained that they liked the fact that it emphasized keeping the family free of germs and disease. Indeed handwashing was found to be the most 'popular' practice to be tried.

Among those respondents with whom information was shared on a specific MIYCN topic, approximately two-thirds or more reported testing the behavior promoted in the message. For example, all respondents who received information about the benefits of handwashing reported testing one or more behaviors related to proper handwashing (e.g. use of soap, rubbing palms together, washing hands before preparing foods). Respondents explained that they liked the fact that it emphasized keeping the family free of germs and disease. Similarly, 86 percent of respondents who were eligible for IFA supplementation and received information about the importance of IFA tablets reported having taken these tablets.

ASHAs and AWWs also report that they have observed positive examples of behavior change: more handwashing, better breastfeeding habits, and improved diets for pregnant women: as one ASHA from Pasurampur stated *"by seeing video they are now neat and clean. Their diet has improved. Before there was restriction, now they do not deny. They are not listening to the mother-in-laws or anybody. They are having enough rice…I roam in the village. Earlier the village was so untidy, dirty and also, the clothes they were wearing were dirty. Now it's clean. Even in the group, everybody sit wearing clean sarees."*

AWWs also report an upsurge in demand for IFA tablets, which mothers are encouraging their adolescent daughters to take; again, this finding is mirrored in the quantitative data. AWWs and CSPs additionally note a significant increase in attendance at the video dissemination sessions following the introduction of MICYN topics; one CSP felt that this was a result of the fact that people tended to have a solid existing knowledge of agriculture, but with the nutrition topics, they were really learning something new. The CSP from Rohiniduma Village said: *"we are showing videos; those people, who are in a group, when we call them, all the people are coming from the street. From that, we know that everyone have interest. The person who came once, that person again comes, surely. They discuss that, we will go there to watch the video, then they are coming to watch and they think this is good"*. Also encouraging is the synergy between messages promoted by Anganwadi Centers and the videos, as this ASHA notes: *"Before they were not feeding the baby. They are doing it now. They can do easily. What I am teaching them they are watching that on screen. In the medical doctors also say. Hearing the same thing repeatedly, how can they go away from this?"*

Interviewers tried to elicit specific data on any videos which caused shame, or provoked extra discussion, or which were disliked, but this line of questioning did not produce significant results, with the exception of the observation that the few cases where respondents expressed any degree of discomfort tended to be focused on the breastfeeding topics. Belief in the topics and messages presented was extraordinary high: in effect, all household informants emphasized to interviewers that they found the messages disseminated during the pilot to be highly believable, and this finding was supported by responses from ASHAs, AWWs and CSPs—although one of the latter felt that while believability would be high among SHG members, it would be harder outside of the group. Finally we note that husbands, mothers-in-law and SHG mothers were all asked questions about SHG members' attendance at dissemination sessions, and whether, for work, childcare, or other reasons such attendance might be frowned upon by someone in the family. Again, here the findings were encouraging and unequivocal: no respondent expressed any

reluctance or objection to women's attendance at the video dissemination sessions; indeed, in some cases, husbands stressed that they themselves felt the women's attendance was critical.

Synergies and Behavior Change

The data shows that the strategy to pro-actively engage frontline workers has had significant influence on acceptance and credibility of the pilot intervention. The ASHAs and AWWs we interviewed unequivocally voiced their support to the production and dissemination of nutrition videos. They valued not only the two day training, but often mentioned that the nutrition videos help them to refresh their knowledge. ASHAs and AWWs consider CSPs as a valuable resource related to nutrition education. One CSP, for example, mentioned an AWW reaching out to them for information. "*She had asked me about two topics, that if the mother will not eat during pregnancy, what would be the impact on the child. When I had been to her, I had taken the list. She saw and told that she would also write". (CSP, Badamhuildia).* In some instances, the frontline workers mentioned that their supervisors suggested they watch the video to understand specific MIYCN related issues. Given the poor state of refresher training of frontline workers in India, the pilot nutrition intervention appears to partly fill the void.

> "*From training we listen and come. Many things we used to forget. To see again it gives pleasure. Little more things stay in memory. We recollect it. Everything you cannot do always. You have forgotten something by seeing automatically it will come to your mind. Suppose taking the weight of the child, first listen in the training and here see in the video it increases our knowledge. You people have done a great help to us. When we do not understand we repeat the program and try to understand". - (ASHA, Ghuntijhari).*

ASHA and AWWs also appear to view the nutrition videos as job aids, reinforcing their efforts at promoting MIYCN within their communities. "*To explain them, it was very difficult. But by watching the video, it has become easy.* (AWW, Parsurampur). Several of the frontline workers underscored the value of disseminating cohesive and harmonized nutrition messages from different sources to promote behavior change. *"What I am teaching them they are watching that on screen. Hearing the same thing repeatedly, how can they go away from this"? (ASHA,* Parsurampur*).* The VARRAT personnel mentioned several instances of requests for nutrition video to be disseminated during the Village Health and Nutrition Days.

The frontline workers, unequivocally, responded affirmatively to the positive influence of nutrition videos and are optimistic in their view of the nutrition education through DG approach promoting behavior change. These include a reported increased in demand for immunizations and IFA tablets. "*If you say about changes, our girls did not use to take iron tablets before. Now after when the mothers got to know, they are forcing their daughters to take the tablets, you would be benefitted like this after taking".* They also mentioned increased awareness of the government's Mamata scheme[18] and its uptake. There is substantial potential for the Digital Green nutrition videos to increase the demand for nutrition related services provided by the government. However, the data indicates some supply side issues that could

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[18] MAMATA is a conditional cash transfer maternity benefit scheme targeted to pregnant women and lactating mothers in Odisha. This scheme provides monetary support to the pregnant and lactating women to enable them to seek improved nutrition and promote health seeking behavior.

compromise the effectiveness of the intervention. Two specific supply side issues identified in the data include availability of IFA and poor quality *chatua*, the supplementary food provided by the government through AWWs. One CSP mention the following, *"when we came next time to show video, they told that, we ask for iron tablet, but they did not give us".* The issue of poor quality *chatua* also resulted in substantial discussion during the dissemination with SHG members complaining that *chatua* provided by the government is inedible and infested with worms. Empowering SHGs and building mechanism to resolve supply-side issues will be critical for the Digital green nutrition intervention to realize its potential.

5.2.3. Diffusion: Message Sharing

Objective: Understand intra-community diffusion of MIYCN messages promoted in the pilot MIYCN videos.

Nearly all of the SHG respondents confirmed that they had shared information from the videos disseminated by VARRAT and Digital Green with family and community members. Pathways of diffusion within communities were diverse. Exchanges between spouses, especially wife to husband, and between in-laws, especially daughter-in-law to mother-in-law, were particularly common channels of diffusion. However, key informants frequently reported sharing information broadly with other family members and neighbors, and many specific family relations were mentioned throughout interviews (e.g. daughter, aunt, sister, sister-in-law), albeit, none consistently. It is clear though, that aside from spousal exchanges, most diffusion pathways were gender segregated such that MIYCN messages remained within the domain of women and girls.

Of the 42 SHG women interviewed, over two thirds shared information on any of the videos they viewed with at least one another person (information was elicited on seven videos which were disseminated throughout the study villages when the study was conducted). We assessed if an SHG member directly shared information with another person (first degree diffusion) and if the recipient of the message from the SHG member (i.e. first degree recipient) shared the message with another person, which we refer to as 2nd degree diffusion. Over half of the SHG members shared information only to the first degree. About a third of the sharing resulted in second degree diffusion (the person who received information from the SHG member, i.e. the first degree was asked if he/she shared the information with someone else, i.e. the second degree).

Information related to the benefits of handwashing and the importance of IFA supplementation emerged as the overwhelming MIYCN messages that were diffused by SHG members, followed by the message on importance of breastfeeding, maternal diet and taboos, and maternal workload during pregnancy (Table 6). One woman noted, "My daughter-in-law had gone to see and was telling me. Wash hands before taking food, wash the child's hand and clean it, must clean the child's hand and body. She was telling all these were shown in the video." Handwashing after field work, when handling food, and before touching a baby were frequently referred to in interviews as key messages that were diffused. Women also frequently reported sharing information about "diet" and "eating" with others, however, these themes were not mentioned as frequently and the content of the information shared was frequently ambiguous. Message on the concept of 1,000 days resulted in no diffusion, which aligns with the results from in-depth interviews, where mothers were least likely to remember watching the video and if watched, remembering the message.

Table 6: Diffusion of Messages by MIYCN Video

Video	Sharing of messages by the SHG member to a non-video audience (First Degree Diffusion)	Further sharing of messages by a recipient of first degree diffusion (Second degree diffusion)	Total Number of times the video messages were shared (n)	Percentage of First Degree diffusion in total sharing (%)	Percentage of Second Degree diffusion in total sharing (%)
Handwashing	20	9	29	69.00%	31.00%
First 1,000 Days	1	0	1	100.00%	0.00%
Iron Folic Tablets	18	9	27	66.70%	33.30%
Maternal Diet and Food Taboos	7	3	10	70.00%	30.00%
Maternal Workload during Pregnancy	5	2	7	71.40%	28.60%
Importance of Exclusive Breastfeeding	8	4	12	66.70%	33.30%
Managing Exclusive Breastfeeding by Working Mother	2	0	2	100.00%	0.00%

These qualitative findings from key informant interviews align with data on diffusion collected from 55 respondents using structured closed-ended questionnaires among whom nearly two-thirds reported that someone in their community had shared information with them about the benefits of handwashing and the importance of IFA tablets (64% and 65%, respectively). Less than half reported receiving information about the importance of exclusive breastfeeding (EBF) (40%), maternal diet (29%), and maternal workload during pregnancy (29%).

Washing one's hands and taking a supplement are concrete behaviors that require simple and discrete actions steps to complete. Breastfeeding on the other hand, and dietary changes during pregnancy, are more complex behaviors that require a constellation of inter-related behavior changes that may require the actions of others to complete. For example, infants may display heterogeneous feeding behavior that could present barriers to the successful implementation of exclusive breastfeeding even if a mother is knowledgeable and engaged with the practice. Perhaps for these reasons, handwashing and taking IFA tablets emerged as the most clearly diffused MIYCN messages.

When SHG members were asked why they chose to share information with family and community members, SHG members consistently cited feeling a sense of personal responsibility for the diffusion of these MIYCN messages. One informant stated, "*I consider this as my own responsibility to share these things with others. I always consider this as a good job to tell people on these issues.*" Interviewees also emphasized that they shared information with others to promote the health of their communities and families.

Though few respondents reported not sharing information for the videos with others, among those who did, generational divides and gender relations were the most frequently cited reasons. Older women noted that when their daughters or daughters-in-law returned home from attending the video dissemination sessions, they would often not tell them what they had learned, and the older women were hesitant to ask because the younger women believed that the older generation would not accept new information. With respect to spousal exchanges, if wives returning from video dissemination sessions did not openly share information with their husbands, the men would not commonly inquire about what was discussed at the sessions. The exception to this was when the topic of the video was related to agriculture. Several respondents noted that men and women should "attend to their own business" given their gender roles. Social tensions between community members, lack of time, and the perception that the community was already aware of the information presented in the videos were also cited as reasons why information was not shared outside of the immediate family. Clear caste differences in the diffusion of information did not emerge from the analysis of the key informant interview data. SHG members attending the same video dissemination sessions were reported as being from the same caste, which may have contributed to the lack of variability observed.

6. Conclusions and Recommendations

The SPRING/Digital Green collaborative approach incorporating MIYCN has many strengths. The results of this study show that the approach is highly promising and offers an excellent opportunity to respond to key human development needs in nutrition and agriculture. Table 8 summarizes the key findings and recommendations for improving the program.

In summary, Digital Green's approach for nutrition responds to the demand for nutrition and health education. While the pilot intervention aimed to disseminate nutrition videos in two SHGs in each of the 30 villages, video dissemination had to be expanded to almost double the number of SHGs to respond to the growing demand for these videos. The nutrition video sessions are a key source of information related to health and nutrition within the communities.

The approach benefits from high levels of trust and enthusiasm from CSPs and CRPs as well as community members ad frontline workers. Belief in the topics and messages presented was extraordinary high. Acceptability of the intervention by SHG members, their families and the frontline workers is strong. It is possible that this level of confidence in the approach is an inheritance of goodwill generated in agriculture work.

CRPs and CSPs have an amicable relationship with community members, and are regarded as credible sources of knowledge related to health and nutrition (regardless of the sex) by SHG members, mothers-in-law, husbands and frontline workers interviewed. But the quality of CSPs' communication and facilitation during dissemination sessions appears to be mixed. Overall, their knowledge on MIYCN topics covered in the videos require further strengthening. CSP's in-depth technical knowledge on specific topics that go beyond the scripts is often limited.

The SHG members' knowledge of the nutrition messages promoted in the videos is high on infant and young child feeding, but weak on care during pregnancy and use of IFA supplements (although it is beyond the scope of this study to attribute this solely to the intervention). There are tentative indications of behavior change, though it is difficult to concretely confirm yet to what extent this is occurring or the sustainability of such changes as well as some sharing of these messages with other non-viewers of videos. However, economic constraints and entrenched sociocultural taboos remain significant barriers to behavior change.

The study identified several interesting issues with respect to integrating nutrition into the Digital Green platform.

- Unlike agriculture which is a more "tangible topic", nutrition is abstract. Production of nutrition videos is therefore more complex than production of videos on agriculture. Specifically, content identification and selection of specific MIYCN messages can be challenging and requires substantial investments in time and resources to develop new content.
- While economic determinants are predominant in agriculture, for MIYCN, socio-cultural determinants (like the taboos mentioned above) also play a critical role. This makes creating storyboards for effective "messaging" more complex, requiring the videos to squarely address not only economic considerations but to embed the messages in the prevailing sociocultural and

health/nutrition system context. Thus, the nutrition videos tend to have a cast of characters (agriculture videos tend to her just one protagonist) and several layers of messages that require clear and concise scripts.

- The abstract nature of the topic as well as the sociocultural makes it difficult for people to relate to cause and effect, which in turn affects comprehension, willingness to try the disseminated practices and share information
- The cast of characters in the MIYCN videos complicates the requirement for the film shooting venue, voice modulation and lighting. Several women, especially young mothers, are usually too shy to talk on the camera.
- Adoption checks, as understood in the Digital Green approach for agriculture, pose a challenge in its adaptability and utility for health and nutrition which requires further attention. As adoption for MIYCN behaviors are largely unobservable, the verification forms were adapted for MIYCN to include "promotion", i.e. if any of the participant SHG members shared the information espoused in the videos with other people. However, these checks rely on self-reporting and triangulation. Relying on probing and triangulation using proxies and other techniques by the CSPs, whose nutrition-relevant knowledge is also fairly rudimentary, can be problematic.
- While agriculture videos are immediately relevant to a wide section of the population, the nutrition messages pertain primarily to young girls, pregnant women and mothers of young children—a group that is a minority in the SHGs. The participation of mothers of newborn children could be problematic for two reasons. Mothers tend to spend time in maternal homes during late pregnancy and early lactation periods; they spend most of their time with their newborn child at home. Thus unlike agriculture, wider adoption of practices to promote MIYCN hinges on diffusion of the messages

Based on the results of this study, the process of incorporating nutrition into the existing Digital Green agriculture platform requires additional considerations detailed below, some of which are specific to the demands of production and dissemination of the videos and adoption checks related to MIYCN practices while others are more generic (Table 8).

Continued investments in improving MIYCN related capacity among VARRAT staff is critical. Such investments should be directed towards: maintaining strong technical collaborations; ensuring that adequately trained resource persons are available for technical back-stopping, quality control and supportive supervision of CSPs and CRPs to especially that of CSPs and CRPS; providing on-going nutrition for CSPs and CRPs in nutrition; training CSPs in communication and facilitation skills and CRPs in technological skills and provide peer-to-peer learning opportunities. Such investments are not only critical to ensure effective production and dissemination of MIYCN videos, but are also central to tackling issues that arise with integrating nutrition into the Digital Green platform.

The valuable synergies with existing government systems and frontline workers should be continued and avenues for strengthening them further should be explored. Although the current adoption verifications are sub-optimal for nutrition, the follow-up visits to households should be strengthened to reinforce messages and maintain community engagement rather than for adoption checks. Testing various nutrition/health monitoring approaches for adoption verification will be important as Digital Green ventures into integrating health and nutrition into its agenda and platform.

Continued efforts are required to address entrenched social barriers to behavior change. The content and the style of the future MIYCN videos need to be made further responsive to local livelihood-food systems, sociocultural issues and locally feasible solutions to inspire behavior change. Increasing exposure to messages by repeating the videos and creating new videos to disseminate these messages and reinforcing them through other mechanism will be essential to improve their diffusion and enable behavior change.

The success of the SPRING/Digital Green collaborative approach for MIYCN hinges on the strength of SHGs as institutions and their ability to stimulate social change required for MIYCN. Therefore, efforts should be stepped-up considerably to strengthen SHGs to become the change agents to help young mothers to negotiate sociocultural barriers, demystify negative cultural norms, and establish mechanisms to support mothers adopt optimal MIYCN practices, ensure optimal implementation of government programs and engage other mechanism to bring MIYCN on to the community agenda. Further assessments of the necessary and sufficient conditions under which SHGs could be the change-agents for MIYCN (SHGs have successfully harnessed to reduce infant an maternal mortality in India, including Odisha) are required.

Table 8. Key Findings of the Feasibility Study and Recommendation

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	

Examine the capacity of VARRAT to produce MIYCN video content and facilitate MIYCN video dissemination, using the SPRING/Digital Green collaborative approach in an existing agriculture program.	• CSP and CRPs are enthusiastic on taking nutrition onboard.
	• They have an amicable relationship with community members, and are regarded as credible sources of knowledge related to health and nutrition (regardless of the sex) by SHG members, mothers-in-law, husbands and frontline workers interviewed.
	• CRPs are capable of producing nutrition videos, with technical backstopping from SPRING.
	• CSPs and CRPs articulated specific challenges (technical, knowledge, and protagonist issues) in taking MIYCN onboard, but are able to innovate and overcome many of these.
		• The quality of CSPs' communication and facilitation during dissemination sessions appears to be mixed.
		  o Encouraging feedback from earlier sessions, encouraging the group to generate ideas and providing appropriate responses to questions raised by SHG members during the dissemination sessions are particularly weak.
		• CSPs had accurate knowledge of optimal breastfeeding practices. But their knowledge on optimal. complementary feeding practices, care during pregnancy and handwashing requires further strengthening.
		• In some cases, CSPs we reported to have poor skill in the local dialect.
			• Invest in ongoing nutrition training to continue to improve MIYCN related knowledge and skills among CSPs and CRPs.
			• Invest in further training in communication and facilitation skills for CSPs and videography for CRPs
			  o The above trainings must be tailored to equip CSPs and CRPs with problem-solving capabilities, especially on challenging issues when producing and disseminating MIYCN videos.
			• Provide opportunities for peer-to-peer learning (for example, strengthen the nutrition focus of the bi-monthly meetings; regular interactions with frontline workers).
			• Ensure that the language/dialect skills of the SHGs members and CSPs match.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	

Explore the key factors, both enabling and limiting, affecting the application of the Digital Green approach to MIYCN promotion, focusing particularly on the transition in content, presentation style, time and workload issues, technical challenges, the process of adoption verification and scaling-up.	• The videos are one of the key sources of nutrition information in these communities.
	• The strong technical collaboration with SPRING is valued by Digital Green and VARRAT staff (including CSPs and CRPs).
	• SHG members underscore the following as the key strengths of the video dissemination sessions: the pace, the flow, the mediation and (sociocultural) familiarity with the cast.
	• The proactive efforts to build strong synergies with government's frontline workers (in training, choosing topics, storylines and the cast, and casting them as protagonists) is valued both by VARRAT and the frontline workers.
	  o Frontline workers view the nutrition videos as job aids, reinforcing their efforts at promoting MIYCN within their communities.
		• Unlike agriculture, the abstract nature of the topic as well as the sociocultural beliefs makes it difficult for people to relate to cause and effect, which in turn affects comprehension, willingness to try the disseminated practices and share information.
		• Content identification and selection of MIYCN messages to be disseminated is more challenging given the intangible nature of the topic.
		• Production of videos is more complex from technology, storyboarding and shooting points of view.
		  o Nutrition videos have several people complicating the requirement for the film shooting venue, voice modulation and lighting. Several women, especially young mothers, are usually too shy to talk on the camera.
		• The current process of adoption checks/verifications is challenging for nutrition. Verification of adoptions rely on self-reporting and CSPs rely on probing and triangulation. Relying on probing and triangulation using proxies and other techniques by the CSPs, whose MIYCN knowledge is also fairly rudimentary, is problematic.
			• Continue with strong technical collaborations on MIYCN.
			• Sustained and committed investment in strong MIYCN resource persons at VARRAT/frontline level is critical for technical accuracy, local relevance of the messages and scaling-up.
			• Resolving several of the challenges elucidated here will require investing in CSP and CRP trainings and on-going support as elaborated above.
			• Strengthen the follow-up visits to households to reinforce messages and maintain community engagement rather than for adoption checks.
			• Test various nutrition monitoring approaches for adoption verification.
			• Continue the fruitful synergies with existing government systems and frontline workers.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	
Explore retention and comprehension of video content viewed by SHG member attendees. (Note: the idea here is to assess if mothers have accurate knowledge of the messages disseminated in the videos. The results not attributable to the intervention)	• Majority of the mothers accurately demonstrated handwashing; but only a third could recall all the 3 critical times for handwashing. • Knowledge regarding breastfeeding is high. • Over a three-quarter of the mothers possess accurate knowledge of timely initiation of liquids and semi-solid foods.	• Knowledge of use of iron folic acid (IFA) supplements during pregnancy and adolescence is low. • Only about half of the mothers interviewed have appropriate knowledge of care during pregnancy (rest and an extra meal/day).	• Increase exposure to the messages by repeating the videos and creating new videos to disseminate these messages. • Reinforce the messages through other mechanisms (e.g. discussions during other SHG meetings, village health and nutrition days; through frontline workers and through other SHG members).

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	Current challenges	

Assess the reception by SHG members and other key stakeholders of the MIYCN topics covered and practices promoted in the piloted videos. Report on SHG members' experiences with trials of new behaviors and identify their motivations for experimenting (or not) with new behaviors.	• Belief in the topics and messages presented was extraordinary high: in effect, all household informants emphasized to interviewers that they found the messages disseminated during the pilot to be highly believable, and this finding was supported by responses from frontline workers and CSPs.
	• Acceptability of the intervention by SHG members and their families is strong; Husband and mothers-in-law generally support women's participation in dissemination.
	• The frontline workers responded affirmatively to the positive influence of nutrition videos and are optimistic in their view of the nutrition education this approach.
		• Trials of behaviors are taking place, but economic constraints and entrenched sociocultural taboos remain significant barriers to behavior changes (This is also to be expected given that the intervention is nascent and behavior change requires long-term investments).
		• Supply-side constraints could also limit behavior change (for example, poor quality food supplements by the government; or lack of stock of IFA in health clinics).
			• The content and the style of the future MIYCN videos need to be further responsive to local livelihood-food systems and sociocultural issues to inspire behavior change.
			• The videos should identify solutions that are locally feasible and improve MIYCN problem solving skills among SHG members.
			• Strengthen SHG institutions themselves to:
			  o Champion the cause -- a critical step to alter community norms.
			  o Assist mothers in adopting optimal MIYCN behaviors (for example helping negotiate sociocultural norms; peer-to-peer support groups).
			  o Resolve supply-side issues by building (or using if they exist) constructive mechanisms of grievance and redress.
			  o engage other mechanisms (such as local governments and committees, doctors and traditional healers, schools) to bring MIYCN on the community agenda.

Uptake-Related Research Objective	Key Findings		Recommendations
	Working well	**Current challenges**	
Understand intra-community diffusion of MIYCN messages promoted in the pilot MIYCN videos.	• Over two-thirds of the interviewed SHG members shared information on any of the videos they viewed with at least one other person. • A third of the sharing resulted in second degree diffusion to a third individual.	• Social tensions between community members, lack of time, and the perception that the community was already aware of the information presented in the videos were cited as reasons why information was not shared outside of the immediate family. • While agriculture videos are immediately relevant to a wide section of the population, the nutrition messages pertain primarily to young girls, pregnant women and mothers of young children—a group that is a minority in the SHGs. The participation of mothers of newborn children could be problematic for two reasons. Mothers tend to spend time in maternal homes during late pregnancy and early lactation periods; they spend most of their time with their newborn child at home. Thus unlike agriculture, wider adoption of practices to promote MIYCN hinges on diffusion of the messages.	• Improve facilitation to encourage women to share information and encourage explicit commitments to share information. • The above recommendations of strengthening the SHGs are also critical of diffusion of messages. • Investigate the necessary and sufficient conditions under which SHGs could be the change-agents for MIYCN (SHGs have successfully harnessed to reduce infant and maternal mortality in India, including Odisha).

7. Annexes

ANNEX 1

Verification Job Aid for Nutrition Videos

SPRING Video 1: Importance of Handwashing with Soap
Non-Negotiable Points
1. Demonstrates or explains that hands should be washed with soap and clean, running water. 2. Explains that a critical time for handwashing is before preparing/handling food. 3. Explains that a critical time for handwashing is before eating. 4. Explains that a critical time for handwashing is before feeding a baby. 5. Explains that hand washing minimizes the risk of infection.
Questions
1. Can you show or explain to me how you wash your hands? *CSP OBSERVES:* Allow the person to demonstrate without any probing. 2. When should people wash their hands? *CSP PROBES, IF NECESSARY:* Can you tell me the 3 most critical times? 3. What is the benefit of handwashing with soap? *CSP PROBES, IF NECESSARY:* Any other reasons? 4. **ASK ALL:** Did you promote (explain) this information to someone else? *RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"*
SPRING Video 2: Importance of the First 1,000 Days
Non-Negotiable Points
1. Explains that the first 1,000 days include pregnancy through two years of life. 2. Explains that the first 1,000 days is when most mental development of the baby happens. 3. Explains that the first 1,000 days is when most physical development of the baby happens.
Questions
1. What is meant by the first 1,000 days? *CSP PROBES, IF NECESSARY:* Can you tell me when the first 1,000 days begins and ends? Or can you tell me who is affected during the first 1,000 days? 2. Why are the first 1,000 days so important? *CSP PROBES, IF NECESSARY:* Think about what is happening during the first 1,000 days. 3. **ASK ALL**: Did you promote (explain) this information to someone else? *RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"*

SPRING Video 3: Importance of IFA Supplementation during Adolescence and Pregnancy

Non-Negotiable Points

1. Explains that pregnant women should take one IFA tablet each day, starting by the second trimester.
2. Explains that adolescent girls should take one IFA tablet each week, between 10 and 19 years.
3. Explains at least ONE of the following benefits of taking IFA tablets: mother will be healthy and give birth to a healthy child, baby will not be prematurely born , will not be of low birth weight.
4. Explains at least ONE of the following ways of reducing side effects of taking IFA tablets: taking IFA with the evening meal, not taking IFA on an empty stomach, drinking plenty of water, and/or eating vegetables/fruits.

Questions

1. When should pregnant women take IFA tablets?
   CSP PROBES IF NECESSARY: How often and during what period of time?
2. When should adolescent girls take IFA tablets?
   CSP PROBES IF NECESSARY: How often and during what period of time?
3. What are the benefits of taking IFA tablets ?
4. What are some ways to prevent side effects from taking IFA tablets?
   CSP PROBE IF NECESSARY: Anything else?
5. What did you do with this information?
   RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"
   ASK ADOLESCENT GIRLS OR PREGNANT WOMEN: Are you taking IFA tablets?
   CSP PROBES IF NECESSARY: Are you taking the tablets given by the AWW or ASHA?
   ASK ALL: Have you promoted IFA supplements to any adolescent girl or pregnant woman?
   CSP PROBES IF NECESSARY: Are you promoting the tablets given by the AWW or ASHA?

SPRING Video 4: Maternal Diet and Food Taboos

Non-Negotiable Points

1. Explains that pregnant women should eat one extra meal each day.
2. Explains that breastfeeding women should eat two extra meals each day.
3. Explains that pregnant and breastfeeding women should eat the following foods: any animal source food (for example eggs, fish, and meat); seasonal ripe fruits; and green leafy vegetables.
4. Explains at least ONE of the following risks of not eating a proper diet during pregnancy: the baby might be born too early (premature) and/or the baby might have a low birth weight.

Questions

1. How many extra meals should pregnant women eat each day?
   CSP PROBES, IF NECESSARY: How often should they eat?
2. How many extra meals should breastfeeding women eat each day?
   CSP PROBES, IF NECESSARY: How often should they eat?
3. What should pregnant and breastfeeding women eat?
   CSP PROBES, IF NECESSARY: What kinds of foods are important?
4. What could happen if a pregnant woman does not eat a proper diet?
5. What did you do with this information?

RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"
ASK PREGNANT WOMEN: Are you trying to follow a proper diet yourself?
ASK ALL: Have you promoted the proper diet for pregnant or breastfeeding woman to anyone?

SPRING Video 5: Maternal Workload during Pregnancy

Non-Negotiable Points

1. Explains that pregnant women need more rest during pregnancy, especially during the third trimester, to save energy for labor.
2. Explains that if a pregnant women continues to do strenuous work during the third trimester of pregnancy.
   - Baby will be born prematurely
   - Baby will be of low birthweight
3. Reports that family members can do to help ensure that pregnant women get more rest or avoid strenuous work: other family members can do some of her work for her and/or
   Other family members can switch chores with her to give her work where she can sit and rest more often.

Questions

1. Why do pregnant women need more rest during pregnancy, especially during the third trimester?
2. What will happen if pregnant woman will indulge in doing strenuous work during the last trimester of her pregnancy?
3. How can the family or household help pregnant women to take more rest and avoid strenuous work?
4. What did you do with this information?
   RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"
   ASK PREGNANT WOMEN: Are you taking more rest during your pregnancy and/or reducing your strenuous work?
   ASK ALL: Have you promoted the importance of pregnant women taking more rest and/or reducing strenuous work, especially during the third trimester, to anyone?

SPRING Video 6: SHG Women's Knowledge of Practices Critical for MIYCN

Non-Negotiable Points

1. Explains that babies should be put to the breast within one hour after birth. Babies should be given only breast milk and should not be given honey, or any other liquids, not even water.

2. Explains that babies should be fed only breast milk during the first 6 months.

3. Explains that a mother should breastfeed frequently, 'on demand', both day and night. Breastfeeding frequently stimulates breast milk production and helps ensure adequate supply.

Questions

1. What should babies be given (or fed) during the first hour after birth?
2. What should babies be given or fed during the first 6 months of life?
3. How often should a mother breastfeed her baby and why?
4. What did you do with this information? RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"
   ASK RESPONDENTS WITH BABIES UNDER 6 MONTHS: Are you feeding your baby only breast milk and no other liquids, not even water?
   ASK ALL: Have you promoted the importance of exclusive breastfeeding to any women with children under 6 months, or to anyone else?

SPRING Video 7: Managing Exclusive Breastfeeding by Working Mother

Non-Negotiable Points

1. Explains that when a mother is with her baby, "in the morning and night" she can breastfeed more number of times and for longer duration.

2. Explains any two of the following:
   - Family members can share in the mother's workload in the house and outside of the house also.
   - A family member can bring the baby to the mother to breastfeed in the field (or other workplace).
   - A family member can accompany the mother to the field during the day to help take care of the baby while the mother works.

3. Explains that expressed breast milk can be given to a baby when the mother is away and expressing helps the mother maintain her milk supply.

Questions

1. How can a working mother can breastfeed her baby?
2. How can families best support mothers so that they can exclusively breastfeed their babies until 6 months, and continue to breastfeed for up to two years or more?
3. Why is learning "how to express breast milk for her baby" important for a mother?
4. What did you do with this information?
   RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?"
   ASK RESPONDENTS WITH BABIES UNDER 6 MONTHS: Have you discussed the ideas presented in this video with anyone from your family?
   ASK ALL: Have you promoted exclusive breastfeeding to a working mother?

SPRING Video 8: Introduction of Complementary Food for the Baby After Six Months

Non-Negotiable Points

1. Explains that babies should be given complementary foods along with breast milk after completion of six months.
2. Explains that the baby should be fed 2 to 3 times a day with 2 to 3 tablespoons per feed during the first 10 to 12 days.
3. Explains that one should wash hands with clean water and soap, use clean utensil, bowl and spoon. Use boiled milk or water.
4. Explains that the complementary food for the baby should be thick.

Questions

1. What should be given to the baby after completing six months?
2. After completing six months, how much should the baby should be fed during the first 10 to 12 days?
3. What are the important things to do before preparing food for and feeding the baby?
4. Should the complementary food for the baby be watery or thick?
5. What did you do with this information?
   RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?
   ASK RESPONDENTS WITH BABIES BETWEEN SIX AND 24 MONTHS: Have you discussed the ideas presented in this video with anyone from your family?
   ASK ALL: Have you promoted this information to any mothers with children between six and 24 months?

SPRING Video 9: Age Appropriate Complementary Feeding for Babies 6 to 24 Months

Non-Negotiable Points

1. Explains that babies should continue to breastfeed until they are at least 2 years.
2. Explains that they should start feeding the baby animal source foods starting at 9 months.
3. Explains that both the quantity and frequency of complementary feeds increases as the baby grows.

Questions

- How long should babies continue to breastfeed after they start complementary feeding at 6 months?
- When should you start feeding your baby animal source foods?
- How does the quantity and frequency of complementary feeding change as the baby grows?
- *PROBE IF NECESSARY:* How does the complementary feeding pattern change as the baby grows?
- What did you do with this information?
   RECORD THIS RESPONSE IN THE COLUMN TITLED "What did you do with this information?
   ASK ALL: Have you promoted this information to any mothers with children between six and 24 months?

SPRING Video 10: Importance of Eating a Diverse Diet
Non-Negotiable Points
1. Explains why it is importance to eat a variety of foods. (Respondent should note at least one of the following) • For better health and nutrition • To ensure proper child growth • To prevent sickness and malnourishment 2. Explains that eating a diverse diet means eating food from at least 4 different food groups each day and having a ''colorful plate''. 3. Explains at least one of the ways below that a family can ensure that their diet contains a good variety of foods. • Plant a kitchen garden with a variety of vegetables. • Raise domestic animals to provide food for the family. • Purchase fresh vegetables and fruits easily available from the market.
Questions
1. Why is it important to eat a variety of foods? 2. What does it mean to eat a diverse diet? 3. Name at least one way that a family can ensure that their diet contains a good variety of foods. 4. What did you do with this information? *RECORD THIS RESPONSE IN THE COLUMN TITLED* "*What did you do with this information?* **ASK ALL:** Has your family adopted or have you promoted "any specific ways of ensuring a diverse diet of at least four food groups every day for your family"?

ANNEX 2

SPRING/digital**GREEN**											
Adoption Verification Form											

Village								Block			

Verified by (Name and Post)			VA / CA / CC				DG/Partner				

Video Title											

S/N	Farmer Name	Group Name	Verifications						What did you do with this information?		Remarks	Date
			Non-negotiables									
			1	2	3	4	5	A	P			
1												
2												
3												
4												
5												
6												

ANNEX 3

Mediation Observation Form			
Observation Date			
Mediator			
Village, District			
Group			
Verified by (Name and Post)	☐ Partner		
	☐ DG		
SN		**Score**	**Guiding principles**
Equipment (___/6)			
1	Condition of equipment		(3): All equipment in working condition, (2): Minimal malfunction in equipment, (1): Significant malfunction in equipment, (0): Some equipment not transferred
2	Proper usage of equipment during screening		(3): Set up, connected & operated equipment without errors, (2): Set-up, connected & operated equipment with some errors, (1): Set-up, connected & operated equipment with significant errors, (0): Unsuccessful usage of equipment
Introduction (___/12)			
3	Introduction & initial discussion to put members at ease		(3): Introduced external attendees & name of video, (2): Made most of the introductions, (1): Made some of the introductions, (0): Started screening without any introductions
4	Making the meeting environment physically comfortable		(3): Comfortable seating arrangement, no distractions & darkened space (in case of Pico projector), (2): Needs some improvement, (1): Needs significant improvement, (0): Improper seating/ too many distractions/ not dark
5	Inviting feedback on experiences on adoptions based on last video		(3): Feedback invited and experiences shared by all adopters, (2): Feedback invited and experiences shared by some of the adopters(1): Feedback invited but experiences not shared (0): Feedback not invited
6	Sharing the purpose of screening a video on the specific topic		(3): Sharing the need for information on the practice, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable

Facilitating Collective Exploration (___/21)			
7	Asking relevant questions & discussion to encourage members to share their experiences		(3): Open-ended questions (when appropriate) & purposefully led conversation, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable
8	Listening effectively		(3): Attentive posture, acknowledging the respondent's responses, restating and reflecting the respondent's meaning/s, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable
9	Appropriate response to community questions		(3): Well-informed & clear response, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable
10	Maintaining eye contact		(3): Always, (2): Mostly, (1): Sometimes, (0): Never
11	Encouraging the silent participants to express their views		(3): Always, (2): Mostly, (1): Sometimes, (0): Never
12	Encouraging members to adopt practice		(3): Helping generate ideas/options to enable adoption of practice, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable
13	Summarizing at the end of each discussion point and dissemination		(3): Clear and concise summary, (2): Needs some improvement, (1): Needs significant improvement, (0): Unacceptable
Documentation (___/3)			
14	Information collection in prescribed dissemination form (Attendance, interest, questions, comments, adoptions, signatures)		(3): Complete and accurate entries in prescribed dissemination form, (2): Partial or inaccurate entries in prescribed dissemination form, (1): Form filled but not in prescribed format, (0): No form filled
Overall score			(___/42) If any of the highlighted points get '0' then overall grade to be D: A= 42-36 (Excellent), B= 35-29 (Needs some improvement), C= 28-22 (Needs significant improvement), D= 21-0 (Unacceptable)
Overall grade			
Remarks: (Back page)			_____ (Signature)