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THE EFFECTIVENESS OF DESIGNING INTERGRATED INTERVENTIONS TO IMPROVE HEALTH AND NUTRITION BEHAVIOURS ISIOLO COUNTY DECEMBER 2021.

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FINAL REPORT

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ACRONYMS AND ABREVIATIONS

ANC	Ante-natal care
CF	Complementary Feeding
CHMT	County Health Management Team
CHVs	Community Health Volunteers
CNC	County Nutrition Coordinator
EBF	Exclusive breastfeeding
FGD	Focus Group Discussions
IFAS	Iron, folic acid supplementation
IYCF	Infant and Young Child Feeding
IYCN	Infant and Young Child Nutrition
KABP	Knowledge, Attitudes, Beliefs and Practices
KIIs	Informed Key Interviews
MAD	Minimum Acceptable Diet
MDD	Minimum Dietary Diversity
MMD-W	Minimum Dietary Diversity for women of reproductive age
MIYCN	Maternal Infant and Young Child Nutrition
MMF	Minimum Meal Frequency
MOH	Ministry of Health
NGO	Non-governmental Organization
NSO	Nutrition Support Officer
ODK	Open Data Kit
PNC	Post-natal care
PLW	Pregnant and Lactating women
SCNC	Sub-County Nutrition Coordinator
IEC	Information Education and communication

EXECUTIVE SUMMARY

The project aims to contribute towards increased resilience to drought and other negative impacts of climate change for vulnerable groups and reduce number of children under 5 years who are stunted. The survey took place in the month of December 2021 with the aim to analyze the effectiveness of an integrated intervention in improving health and nutrition indicators in 11 communities within Isiolo County. The findings are envisaged to make decisions to improve maternal child nutrition and care practices in the community as well as support DRIC project in strengthening the advocacy component for increased financial commitment by the several sectors involved in the project.

The survey adapted a mixed methodology consisting of desk review, quantitative data as well as qualitative data collection. Quantitative data was collected using ODK platform using a MIYCN questionnaire that was uploaded on the online platform and analysed using SPSS. Qualitative data was collected through FGDs and KIIs composed of project stakeholders as well as beneficiaries. Data was then transcribed in English and coding capturing emerging themes.

The survey found out that Majority of the mothers (96.2%) practiced exclusive breastfeeding of infants under 6 months of age, 73.6% (148) of the mothers received practical support or advice to help them start breastfeeding during the first 3 days after their child was born, feeding on colostrum was done to 98% (197) of the babies. mothers in the community initiate breast feeding immediately after delivery or within the first hour though there was a practice that breast feeding should start mostly after naming of the child which is one day after delivery. Feeding of 72.5% of the children was done from a container in the previous day during the day or night. A large proportion of children 6-8 months old (80.7%) were introduced to solid, semi-solid or soft foods at the appropriate age. The percentage of both breastfed and non-breastfed children who attained the Minimum Meal Frequency (MMF) was 48.7% that was low while only 26.3 of children between 6-23 months old who received a Minimum Acceptable Diet (MAD) was at 26.3% signifying a low trend. The percentage of women who attained the MDD was 22.9% (5 or more food groups showing poor access to certain types of food that may affect their health. Women lacked enough money to purchase food and also some food types are not available in the area where the community live.

100% (13) pregnant women had at least seen service provider for antenatal care during the pregnancy. Majority received first antenatal care by the fourth month of pregnancy, majority at 81.6% of mothers delivered from the hospital, however only 39.1% took between 2week and a month to take the baby for a clinic after birth of the baby an area that needs to be emphasized.

On matters livelihood, household doing pasture rangeland benefited with 31.7% stating they had increased livestock production, 20.5% had increased milk production and 19.6% had increased income from sale of hay. Households utilized income they obtained from pasture rangeland to buy food and income to access health services.

To get water 47.6% cover a distance of less than 500m (less than 15 minutes), 41.5% covers more than 500m to less than 2km (15m to 1 hour) and 10.9% covers more than 2km (1-2 hours). At the water source 29.6% que for less than 30 minutes, 25.1% don't que at the water source, 22.8% que for more than 1 hour and 22.5% que for 30-60 minutes. This demonstrates the need to increase water access among households. There was only 47.2% of the household treating water to make it safe for drinking, which is another action that should be considered considering hygiene and nutrition go hand in hand. On hand washing only 32% of the households had hand washing equipment which is the other aspect of the project that could be enhanced.

Summary of the Results

Indicator	Results
Infant and Young Child Feeding Practices	
Timely initiation of breastfeeding: Percentage of live children born in the last 24 months who were put to the breast within 1 hour of birth	85.6%
Feeding colostrum Percentage of children ages 0–23 months who were fed colostrum	98.0%
Pre-lacteal feeding Percentage of children ages 0–23 months who received a pre-lacteal feeding within the first 3 days of life	3.0%
Exclusive breastfeeding: Percentage of infants ages 0–5 months who are fed exclusively with breast milk	96.2%
Continued breastfeeding at 1 year: Percentage of children aged 12-15 months who continue to receive breastmilk	97.1%
Bottle feeding: Percentage of children 0-23 months old who were fed with a bottle during the previous day	72.5%
Complementary Feeding Practices	
Introduction of solid, semi-solid or soft foods: The proportion of all infants 6-8 months of age who receive solid, semisolid or soft foods.	80.7%
Minimum dietary diversity (MDD)-children: Proportion of children ages 6-23 months who received foods from four or more food groups	36.4%
Minimum meal frequency(MMF)-children: Proportion of breastfed and non-breastfed children ages 6-23 months who receive solid, semi-solid, or soft foods (but also include milk feeds for non-breastfed children) the minimum number of times or more	48.7%
Minimum acceptable diet (MAD)-children: Proportion of breastfed and non-breastfed children ages 6-23 months who received a minimum acceptable diet, apart from breastmilk.	26.3%
Appropriate Sick Child Care	
Continued Feeding: Percentage of sick children ages 6-23 months in the 2 weeks preceding the survey who were offered more than usual to eat	42.0%

Continued Fluids (breast milk): Percentage of sick children ages 6-23 months in the 2 weeks preceding the survey who were breastfed more than usual	32.5%
Antenatal Care for Mother with Children 0 - 23 Months	
Antenatal care (1+ visit): Percentage of mothers of children aged 0–23 months who received one or more antenatal care visits from a skilled health provider	94.7%
Antenatal care (4+ visits): Percentage of mothers of children aged 0–23 months who had four or more antenatal visits while pregnant with their youngest child	56.4%
Iron tablets (possession): Percentage of mothers of children aged 0–23 months who received or purchased any iron tablets or syrup during the most recent pregnancy while pregnant with their youngest child	88.1%
Iron tablets (consumption): Percentage of mothers of children aged 0–23 months who received or purchased iron tablets or syrup and took them for 90 or more days while pregnant with their youngest child	11.0%
Dietary Diversity	
Minimum Dietary Diversity Score of women (MDD-W): Percentage of women consuming foods from five or more or the MDD-W ten food groups	22.9%
Post-Natal Practices	
Facility birth: Percentage of children age 0–23 months who were born in a health facility	81.6%
Water, Sanitation and Hygiene (WASH)	
Coverage by an improved source for drinking water Percentage of households using an improved source for drinking water	57.9%

Conclusion

The aim of DRIC project is to contribute towards increased resilience to drought and other negative impacts of climate change for vulnerable groups and reduce number of children under 5 years who are stunted.

The causes of malnutrition were many and include, but were not limited to, suboptimal child feeding practices, inadequate diet among young children, and the low socioeconomic status many households. Diets of PLW were too poor to offer adequate amounts of macro and micronutrients.

The empirical evidence from this study and the local context at hand validates the relevance of the project to be implemented as designed. Notwithstanding the comprehensiveness of the interventions, as already hinted DRIC project is threatened by climate change and poor

weather conditions typical of the recent years that thwart people's efforts to harvest adequate food for own consumption.

As part of the nutrition-sensitive agriculture, We World and its consortium partners should through easy to understand IEC materials, include resilience-building activities that communities need to prevent, prepare and manage shocks and repercussions of natural disasters.

Recommendations

- Conduct training to the key teacher on the school livelihood activities to enable scale up and sustainability of the project.
- Sustained health education at the health facilities and at community health unit level on consumption and benefits of iron folate during pregnancy.
- Promote kitchen garden at household level to provide nutrient foods for household members and provide training on dietary diversification through mother support groups and CHVs.

- Continued support to mother with information on breast feeding practices to counter the bad cultural practice compromising exclusive and early initiation of breast feeding.
- Promote engagement with the community on CLTS to address open defecation
- Promote health education on hand washing and water treatment before use

1.0 INTRODUCTION

Background Information

Isiolo County is among the arid and semi-arid lands of Kenya, located in the Pastoral North East cluster covering 25,336km2 with an estimated population of 185,417(Source: DHIS). It consists of three Sub Counties namely Isiolo Central, Garbatulla and Merti. The county is characterized by recurrent droughts, hot and dry climate with low and erratic rainfall patterns. It has 3 main livelihood zones; Pastoral, Agro-pastoral and Firewood/Formal employment representing 67%, 26% and 7% respectively.

Child stunting, an indicator of chronic malnutrition, is a global public health problem. Malnutrition during pregnancy and the first 2 years of life undermines the survival, growth, and development of children [Lancet, 2013]. Infant and young child feeding practices have been known to directly affect the nutritional status of children under two years of age and, ultimately, impact on child survival. According to the Kenya Demographic Health Survey (KDHS, 2014), in Kenya, the prevalence of stunting is 26% and affects an estimated two million children. Stunting is as a result of extended periods of inadequate food intake, poor dietary quality, increased morbidity, poverty, low maternal education or a combination of these factors

The current nutrition status of children in Isiolo County is critical (IPC AMN Phase 4) a deterioration compared to the previous year's (January 2019) serious phase classification (Phase 2). The February 2020 SMART survey unveiled a Global Acute Malnutrition (GAM) and Severe Acute Malnutrition prevalence of 16.7 % (13.4 - 20.6 95% C.I.) and 1.5 % (0.7 - 3.4 95% C.I.) respectively, with a significant difference (P=00015) compared to February 2019 which recorded a GAM and SAM prevalence of 9.2% (6.6 - 12.6 95% C.I.) and 0.7 % (0.2 - 2.4 95% C.I.) respectively. This is attributed to increased morbidity among under-fives, poor household dietary diversity and food consumption. Proxy coverage indicated that 66.7% (2 out of 3) of SAM and 30% (6 out of 20) of MAM cases were already in the IMAM program. The prevalence of acute malnutrition is higher in boys than girls.

UNICEF's Conceptual Framework on the Determinants of Maternal and Child Nutrition, (2020) builds on previous conceptual work by UNICEF, that not only acknowledges the triple burden of malnutrition driven by poor diets and poor care services and practices, but also their enabling determinants related to resources, norms and governance that should also be targeted in prevention of malnutrition in all its forms. Nutrition interventions have been acknowledged as being among the most effective preventive actions for reducing mortality among children under the age of five years.
The DRIC project takes a multi-sectoral approach to foster sustainable food production systems and implement resilient agricultural practices that increase productivity and production. The project aims to contribute towards increased resilience to drought and other negative impacts of climate change for vulnerable groups and reduce number of children under 5 years who are stunted.

Survey objectives

To analyze the effectiveness of an integrated intervention in improving health and nutrition indicators in 11 communities within Isiolo County.

Specific objectives of the consultancy.

1. To determine the maternal, infant and young child nutrition (MIYCN) indicators among women of reproductive age and children below 2 years in the 11 target project sites.
2. To determine the knowledge and practice of health providers, caregivers, teachers and pupils on delivery of nutrition programs in target Health facilities, HH and schools respectively as well as the support provided by county officials (Health, Education and Agriculture) in integration of nutrition programming.
3. To assess the extent to which nutrition information is recorded, analyzed and used by the sectors involved in the project (Health, Education and Agriculture).
4. To identify opportunities to integrate the most impactful DRIC supported interventions into existing county programming and to use these identified opportunities to advocate for a sustainable strategy that will increase commitments to nutrition programming in Isiolo.

Significance of the Survey

The findings will be used to make decisions to improve maternal child nutrition and care practices in the community as well as support DRIC project in strengthening the advocacy component for increased financial commitment by the several sectors involved in the project.

2.0 METHODOLOGY

Secondary data collection

The consultants conducted secondary data analysis using desk review of peer-reviewed and grey literature on maternal nutrition and infant and young child nutrition practices (i.e. with a focus on complementary feeding and first 1000 days) in Kenya, using online databases from 2010 to date. The firm examined project documents such as the proposal, log frame, previous situation reports; relevant documents published at national and county such as
Isiolo County integrated development plans, Isiolo County nutrition action plan and Isiolo County MICs, research reports. The documents were sourced and reviewed to identify existing relevant MIYCN data while establishing gaps and lessons learnt. The information gathered informed gaps addressed in primary data collection to enrich planning and implementation of *DRIC program*.

Primary data collection

Sample Size and Sampling Procedure

To compute the sample size, the sampling parameters were combined as follows;

$$Sample\ size(n) = \frac{r * D[(Z+z)^2 * (P_1(1-P_1) + P_2(1-P_2))}{(P_2 - P_1)^2}$$

The aim of sampling was to get a representative sample weighted by the distribution of beneficiaries in sectors of project influence.
A Sample frame was identified by the We World M&E team to enable the consultant estimate the feasible sample size in line with the parameters below. These parameters were adjusted to reflect the context of the sector. An estimated sample size was obtained from sample framework.

Table 1 Sample framework

			Assumptions
Non-response	r	1.03	Assume a non-response rate of 3%
Design effect assumed to be 3 because of partial randomization	Deff	1.2	The sampling process is far from a simple random sample because of significant subjectivity in target beneficiaries and control group leading to loss of sampling efficiency. This deff can be adjusted downwards
The estimated level of an indicator measured as a proportion at the time of the first survey or for the control area	P1	0.50	Assume that only 50% of households had just the minimum amount of the outcome during the baseline
The expected level of the indicator either at some future date or for the project area such that the quantity (P2P1) is the size of the magnitude of change as it is desired to be able to detect.	P2	0.60	Assume that We WORLD will improve outcomes by at least 10% points from 50% of actual potential to 60%.
The Z-score corresponding to the degree of confidence with which it is desired to be able to conclude that an observed change of size (P2-P1) would not have occurred by chance (a— the level of statistical significance)	Za	1.96	Assume the value at 95% due to resource constraint
The z-score corresponding to the degree of confidence with which it is desired to be certain of detecting a change of size ((P2-P1)) if one actually occurred (0 — statistical power)	Zo	0.8	Assume the minimum value (80%) to assure sufficient power
Total Sample size		462	

Methods of data collection Quantitative data:

Researcher administered questionnaire was used to obtain information in relation to the key indicators from the caregivers to children 0-23 months. The data was collected using ODK platform using a MIYCN questionnaire that was uploaded on the online platform. The survey adopted the June 2015 Version of the MIYCN KAP Survey Tool recommended by the

Nutrition Information Working Group in the thematic areas of metadata, dietary practices, child illness and health seeking behavior

Qualitative data collection method

Key Informant Interviews (KIIs)

Key informant interviews were conducted with social influencers and decision makers, at the community, health facility and county levels.

Focus Group Discussions (FGDs)

FGDs were carried out with males and females in separate groups due to social cultural barriers as well as the fact that they seek strength in numbers. Each of the FGDs consisted of 8 people and run for a period of 90 minutes each using a predefined FGD guide in villages from which the participants were selected.

Data quality control

Data quality during data collection was done by checking completeness of all questionnaires before uploading and the same repeated on all uploaded data at the end of each day and ensuring completeness of the data. This was done using the daily data monitor and scanning of uploaded data. The enumerators were required to take GPS after every interview to determine the location and time of data collection. The teams were communicated to every morning before data collection commenced for any quality observations made.

Qualitative data quality was assessed by checking the recorded and transcribed data. In order to ensure data quality at all levels, data quality checks measures and spot checks were put in place including during training that involved various hands-on instructional methods that promoted interactive sessions such as role plays, discussions and report back session as well as experiential learning. There was a field pre-test of tools and procedures in one of the project targeted villages that was not sampled. Field supervision of data enumerators was conducted by consulting team and supporting partners. Qualitative data quality was assessed by consultant sitting in during the group discussions and individual key informant interviews. The transcribed work was sent to the consultant daily for quality monitoring and feedback communicated every morning before field work commenced.

Survey Team

The survey was conducted for 7 days. Quantitative data collection had 14 teams of 2 enumerators each and 5 supervisors (1 per ward). For qualitative data collection, 5 teams of 2 members each (a facilitator/moderator and a note taker) and 4 transcribers who were specifically trained to conduct the FGDs, IDIs and KII. The survey teams trained for 2 days which also included pretesting of tools and post training test (Exam). Survey co-ordination was supported by 1 DCNC and 1SNO and 8 CHVs that doubled as mobilizers and village guide.

Recruitment and training of survey enumerators

Recruitment of the various players in the survey was undertaken based on laid down criteria (tertiary education, age, sex, computer literacy and experience). Enumerators recruited based on the teams required for specific wards so as to collect data in their wards as partial fulfilment for requirements of COVID 19 transmission prevention. Before the fieldwork, the various teams were trained for 2 days virtually to ensure quality data collection and uniformity in collection of data from the different wards. A detailed training manual was used to guide the training process on all topical areas as well as the tools used for each of the approach capturing the interviewing techniques and procedures. Dummy runs were undertaken to practice on interviewing skills, moderating skills, audio recording and note taking while also coordinating a session. The pilot was done with participants outside the study area.

Pre- test of tools and survey procedure

Data collection procedure and tools was pre- tested in one village that had not been sampled to be part in the survey. Each team took part in the pre- test on the second day of the enumerator training. The aim of the enumerator pre-testing was to provide a clear understanding of the process of data collection, clarity of questions, recording and timing of the questionnaire. De-briefing on this pre-test was undertaken to enhance quality of the data collection.

Data Entry, analysis and reporting

Quantitative data: Since data was collected using ODK, the data was cleaned with the help of team leaders and uploaded into the server on a daily basis. At end of data collection, the uploaded data was downloaded into excel and exported to SPSS version 22 for analysis. Weighting of data was done as appropriate. Categorical indicators were summarized into frequencies and percentages while interval indicators summarized using mean and standard deviations. Tests of significance using chi-square, regressions and ANOVA were generated to determine strength of associations and relationships between variables. Data was presented using tables and graphs as appropriate.

Qualitative data: All interviews were recorded during data collection in the field. Data was then transcribed in English. The coding process captured emerging themes and also enabled us to continue to make discoveries about deeper realities in the data that were referenced by the codes. Data was analyzed using these themes to identify connections between the themes, and between the themes and the respondents. Data from FGDs was transcribed in the language of the interview and then translated into English for analysis Qualitative data was triangulated with quantitative data for in-depth understanding of the context of the study findings.

3.0 FINDINGS

3.1 MATERNAL CHARACTERISTICS

The survey met with 490 women of reproductive age with an average age of 25±6.5 years. Majority at 82.4 percent of the women of reproductive age were married where 83.7 percent were lactating. The result indicates 60.6% of women of reproductive age have been to school where 57.2 percent had primary school level, 23.6 percent had Secondary school level, 11.1 percent had less than primary school and 8.1 had a college level. A bigger proportion at 34.5% were pastoralist, 33.1% housewife and 12.4 were casual labors as their main occupation.

Table 2 Maternal Characteristics

Maternal characteristics	N= 490	
Age mean	25±6.5	
Physiological status	n	%
Pregnant	10	2
Lactating	410	83.7
Pregnant & Lactating	3	0.6
Not pregnant / Not Lactating	67	13.7
Marital status	n	%
Currently married	404	82.4
Cohabiting	1	0.2
Separated/divorced	26	5.3
Widowed	10	2
Single/never married	49	10
Education	n	%
Less than primary school	33	11.1
Primary school	170	57.2
Secondary/High school	70	23.6
College/Pre-university/University	24	8.1
Religion	n	%
Christian	157	32
Muslim	320	65.3
Traditional	13	2.7
Main Occupation	n	%
Formal Employment	11	2.2
Informal employment / jua kali	3	0.6
Casual labor	61	12.4
Own business	27	5.5
Petty trading / hawking	9	1.8
Farming	2	0.4
Pastoralist	169	34.5
Dependant	31	6.3
Housewife	162	33.1
other Specify	15	3.1

3.2 CHILD CHARACTERISTICS

The survey covered 211 children aged 0-23 years where 53.7% were female and 46.3 were Male. Majority (97.5%) there age was verified by health card. The results indicate that 72.1% of the children were born in the hospital, 18.4% in a dispensary/clinic and 8% at home as shown in table 3.

Table 3 Child characteristics

Child Average age	11±6.6	
Sex of the child	**n**	**%**
Male Female	93 108	46.3 53.7
Age Verified by	**n**	**%**
Health card Birth certificate	97.5 2.5	97.5 2.5
Place of birth	**n**	**%**
In the hospital In the health centre, doctor's office, private clinic Dispensary/clinic In the home In the midwife's home	145 2 37 16 1	72.1 1 18.4 8 0.5

3.3 INFANT AND YOUNG CHILD FEEDING PRACTICES

Infant feeding and complementary feeding practices were determined based on a 24-hour recall as recommended by WHO (2010) and the Kenya Ministry of Health (MoH) guidelines.

3.3.1 BREAST FEEDING PRACTICES

Breastfeeding was almost universally (97.5%) practiced among the interviewed mothers for children 0-23 months of age, with 85.6% of them initiating it within one hour of child's birth as recommended

Exclusive breastfeeding means that the infant receives breast milk (including expressed breast milk or breast milk from a wet nurse – a caregiver who is not the biological mother of the child) and allows the infant to receive ORS, drops, syrups (vitamins, minerals, medicines), but nothing else.

The World Health Organization (WHO) recommends that infants should be exclusively breastfed from birth to 6 months of age (180 days). Breast milk provides all the energy and nutrients needed for healthy growth. It contains anti-infective substances which protect the child from diarrhea and other illnesses.

Majority of the mothers (96.2%) practiced exclusive breastfeeding of infants under 6 months of age as demonstrated in figure1.

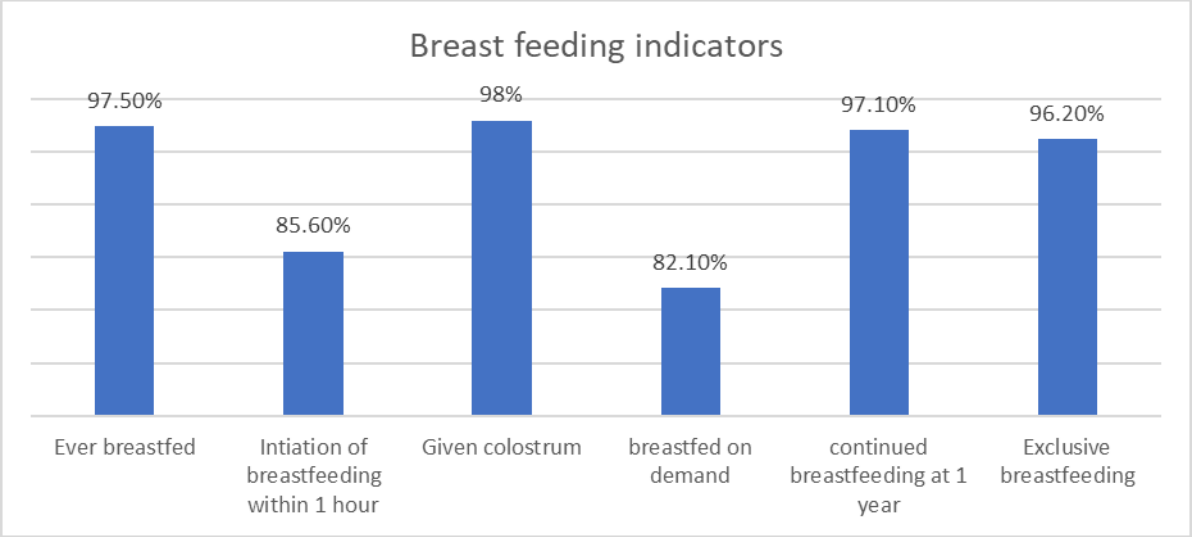

Figure 1 Breastfeeding practices for children 0-23 months old

Breast milk is an important source of energy and children aged 6-23 months. It can provide half or more of a child's energy needs between the ages of 6 and 12 months, and one third of energy needs between 12 and 24 months.
Babies should continue to be breastfed for up to 2 years of age or beyond. When provided along with appropriate and adequate complementary food, breast milk continues to be an important source of nutrition and fluids and immunological protection for the child after 6 months of age. The continued bonding between mother and child provided by breastfeeding encourages optimal psychosocial development. It was noted that 97.1% of mothers were still breastfeeding their children at 1 year (12-15 months) meaning that only 2.9% of the children had stopped.

pre-lacteal feeds were given to 3% of the children where 50% were given milk and 33.3% were given sugar/glucose as shown in table 4.

Table 4 Pre- lecteal feeds

	N=201	
	N	%
Given pre-lacteal feeds	6	3%
Pre-lacteal feeds given	N	%
Milk (other than breastmilk) Plain water Sugar/glucose water Infant formula	3 1 2 1	50% 16.7 33.30% 16.70%
Why Given pre-lacteal feeds	N	%
Not enough breastmilk Baby cried too much Cultural reasons Weather too hot Other (specify)	3 1 1 1 3	50% 16.70% 16.70% 16.70% 50.00%

Maternal Knowledge on breastfeeding

Early initiation of breast feeding and feeding on colostrum

About 73.6% (148) of the mothers received practical support or advice to help them start breastfeeding during the first 3 days after their child was born. Majority 91.5% (184) agreed that a baby should be put to the breast immediately they were born. Also 96.5% (194) agreed that a baby should be given the very first milk (colostrum) from the breast at birth or soon after.

Feeding on colostrum was done to 98% (197) of the babies. Various benefits were pointed out were 67.5% said it is nutritious to the baby, 65% said it prevents diseases/infections and 58.9% said it cleans baby's stomach as highlighted in figure 2. From FGDs, the benefits of colostrum were mentioned as being highly nutritive and rich in protective factors, it reduces newborn morbidity mortality and it prevent Post-partum hemorrhage.

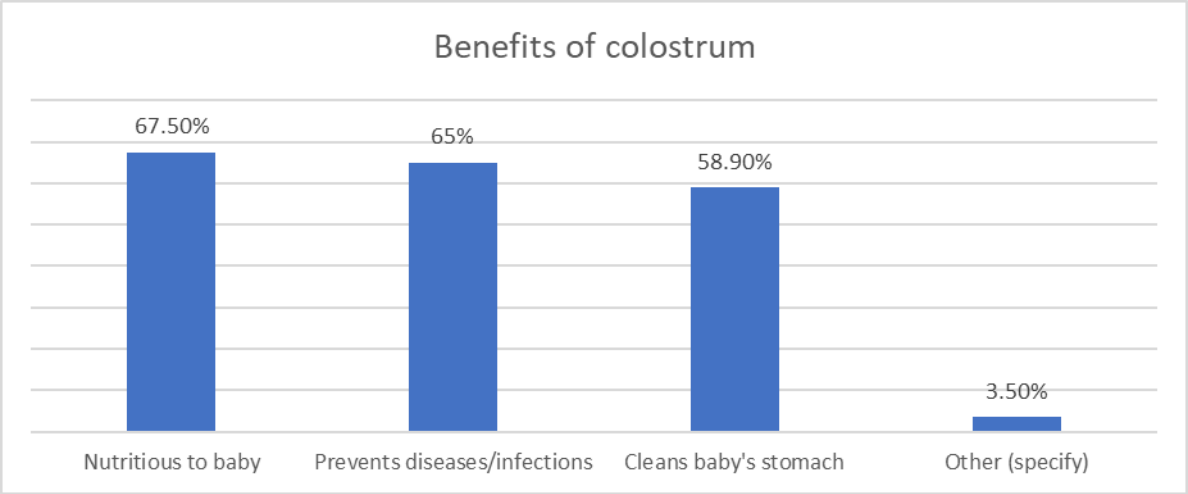

Figure 2 benifits of colostrum

The findings showed that 99% (198) of the mothers would feed their babies on colostrum. When asked on how long after birth should a child/baby be put to the breast 88.5% said immediately/less than 1 hour which is the recommended and 10.5% said after 1 hour. From FGDs it was evident that they have knowledge on early initiation of breast feeding, they concurred that a baby should be breastfed immediately after delivery or within the first hour. From FGD early initiation of breast feeding is important for the new born because it gives protection the child from diseases.

"It's important to breastfeed a baby as soon as they are born, for nutritional benefits and health development."- FGD Gaaba

Exclusive breastfeeding

About 82% agreed it is important for a baby to be breastfed for 6 months without being introduced to anything else to eat or drink including water. From FGDs the children should be exclusively breast fed from birth up to six months of age.

"Breastmilk is hugely important because it is nutritious, helps the baby develop very well, and helps the babies have strong immunity against diseases". FGD Kinna

Maternal beliefs on breastfeeding

Early initiation of breast feeding and feeding on colostrum

A bigger portion 83% of mothers don't believe that colostrum is dirty and should not be fed to new born babies, 94% don't believe that within the first 3 days after delivery, a baby should be given something to drink/eat other than breast milk, 76% don't believe that a baby cannot survive on exclusive breastfeeding for six months, 83.4% do not agree to the believe that a new born baby should be given other liquids/semi-solids before initiating breastfeeding and 82% disagreed with the believe that a young child should not be breastfed up to 2 years. From FGDs there was a strong belief amongst the community that early breastfeeding helps in controlling menstrual period.

"We believe that breastfeeding immediately may help in controlling the heavy menstrual blood flow or completely stop menstrual flow forming a platform for family planning."- FGD Kinna.

Exclusive breastfeeding

"There was belief also that when the couple is sexually active the breastmilk becomes less thick and loses its nutritional value"- FGD Kinna

Practices on breast feeding

Early initiation of breast feeding and feeding on colostrum

From FGDs mothers in the community initiate breast feeding immediately after delivery or within the first hour though there was a practice that breast feeding should start mostly after naming of the child which is one day after delivery.

"There are mothers who refuse to breastfeed because during the first instance of breastfeeding the mothers feel that there is a nipple tickling sensation that puts them off pretty first." - FGD Gaaba

Exclusive breastfeeding

From FGDs some mothers exclusively breastfed the babies during their first six months of life.

Facilitators of breast feeding

During FGDs, it was noted that there was encouragement by health staff and community health volunteers to initiate breast feeding early. Community have the perception that EBF helps a child in physical development and health.

Barriers of breast feeding

- Lack of information about breastfeeding
- Breast pain or abnormalities of the mother
- Customary and cultural belief- Breastfeed after naming

3.3.2 BOTTLE FEEDING PRACTICES

Feeding of 72.5% of the children was done from a container in the previous day during the day or night where 30.3% used a cup with holes, 25.5 used cup/bowl and a spoon or a cup with spout and 11.7% used a cup with no cover only as demonstrated in figure 3 below.

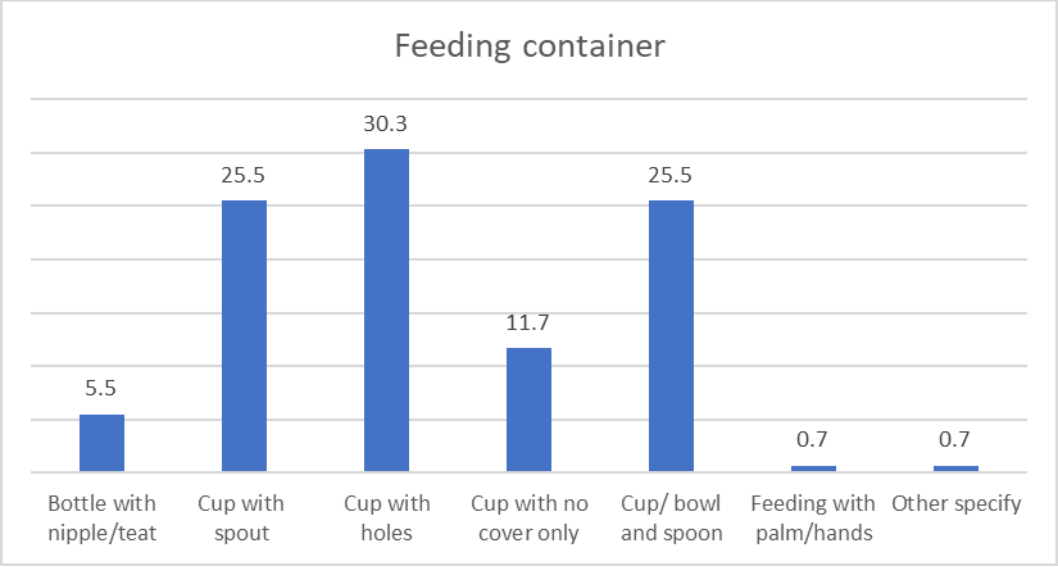

Figure 3 feeding containers

Knowledge of bottle feeding

As shown in table 5, when mothers asked, what should be used to feed LIQUIDS to the baby 26.5% said a cup with spout, 18% said a cup/bowl and a spoon, 17.5% said a cup with holes, 16% said a cup only and 7.5 said bottle with nipple/teat.

Table 5 bottles for feeding

Type	Percent
Bottle with nipple/teat	7.5
Cup with spout	26.5
Cup with holes	17.5
Cup only	16
Cup/ bowl and Spoon	18
Other specify	14.5

3.3.3 COMPLEMENTARY FEEDING PRACTICES

Introduction of solid, semi solid or soft foods and responsive feeding (children 0 - 23 months)

A large proportion of children 6-8 months old (80.7%) were introduced to solid, semi-solid or soft foods at the appropriate age as highlighted in table 6. About 61% of the children eat any solid, semi-solid, or soft foods the previous during the day or at night where majority 55.7% eat three time in a day

Table 6 introduction to solid, semi-solid or soft foods

#of times, they eat	**Percent**
Once	2.5
Twice	28.7
Thrice	55.7
Four times	10.7
Five times	2.5

Majority at 98% of baby's mother decides on what their children should and should not eat. From FGDs influencers of complementary feeding were Husbands, grandmothers and health workers.

Maize, rice, wheat, porridge, sorghum, bread, or other foods made from grains were mostly taken by 64% of the children, 505 took white potatoes, white yams, cassava, or any other foods made from roots 36% any dark green vegetables took and 29.5 took ripe mangoes, papayas, pawpaw guava (yellow or orange on the inside of fruit)

Table 7 Types of foods eaten the previous day by children 6-23 months

Food taken yesterday	N=200	
	n	%
Any fortified baby food like cerelac	13	6.5
Maize, rice, wheat, porridge, sorghum, bread, or other foods made from grains	128	64
Pumpkin, carrots, squash, or sweet potatoes that are yellow or orange inside	67	33.5
White potatoes, white yams, cassava, or any other foods made from roots	100	50
Any dark green vegetables	72	36
Ripe mangoes, papayas, pawpaw guava (yellow or orange on the inside of fruit)	59	29.5
Any other fruits or vegetables	56	28
Liver, kidney, heart or other organ meats	27	13.5
Any meat such as beef, pork, lamb, goat, chicken, or duck	60	30
Eggs	44	22
Fresh or dried fish or shellfish	1	0.5
Any foods made from beans, peas, lentils, or nuts	50	25
Cheese or other food made from milk	5	2.5
Any other solid, semi solid or soft foods	102	51

The percentage of both breastfed and non-breastfed children who attained the Minimum Meal Frequency (MMF) was 48.7%. The result indicates 36.4% of the children attained the Minimum Dietary Diversity (MDD). The percentage of children 6-23 months old who received a Minimum Acceptable Diet (MAD) was at 26.3%.

Knowledge Introduction of solid, semi solid or soft foods

Majority at 80% of mother had received information about feeding a baby, where 60.6% was from health worker, 56.3% was from community health volunteer and 27.5% was from mother/mother in law. From FGDs complementary feeding help the child meet the energy and nutrients required in the body and is appropriate after EBF

Table 8 Source of the information about feeding

Source	Percent
Mother/mother in law	27.50%
Other relative	8.10%
Neighbour/friend	12.50%
Day Care Centre	0.60%
Siblings	6.90%
health worker	60.60%

community health volunteer	56.30%
print media	1.90%
electronic media	0.60%
Others (specify	0.60%

"The breastmilk alone will not help the baby much after the six months but when the baby is given solid or semi solid food then the baby shall get a good platform to grow and develop on."- FGD Kinna
"Food given to the toddlers include mashed potatoes, mashed and sieved fruit such as avocado, pawpaw, mashed ugali with milk."- FGD Kinna
"Mothers are told to give babies goat meat because it will help the baby to start talking early"- FGD Kinna

Beliefs on Introduction of solid, semi solid or soft foods
Mothers of 74% children do not agree with the believe that certain foods are taboo and should not be fed to a child.

Practice on Introduction of solid, semi solid or soft foods
From FGDs complementary foods are introduced at 6 months in small amounts and quantity increased as the child gets older, while maintaining breastfeeding. Some of the food given include: potatoes, fruits, ugali and livestock milk.
"Some people introduce the food to the baby when they reach 4 months that is when most people feel the baby is able to digest food well." - FGD Kinna

Practice on Introduction of solid, semi solid or soft foods
Lack of enough money to purchase food

Responsive feeding of children 6-23 months old
A proportion of 88% of children Caregivers fed their babies in the previous day before the interview. Of those who were fed, 28% ate all the food that the caregivers thought they should during their main meal. To ensure they eat, 64.5% of the caregivers did something to encourage the Child to eat where 69% encouraged the child verbally to eat as demonstrated in table 9.

Table 9 Ways to encourage the child to eat.

Ways to encourage	percent
Offered another food or liquid	20.90%
Encouraged verbally	69%
Modelled eating (with or without toy)	15.50%
Ordered strongly or forced the child to eat	9.30%
Another person helped feed child	5.40%
Another form of encouragement	16.30%
Does not know	0.80%

Majority at 76.6% praised the child, 22.6% told child that she liked the food, 13.1% ordered the child to eat, 11.7% talked about the food and 8% asked the child questions

Table 10 Actions taken to ensure the child ate

Action	Percent
Ordered child to eat	13.10%
Praised child	79.60%
Asked child questions	8%
Talked about the food	11.70%
Told child that she liked the food	22.60%
Talked about other things	6.60%
Does not know	1.50%

A proportion of 10.7% children self-fed themselves during the main meal where 47.3% did a little bit of the time.

Table 11 How the Child self-fed him/herself

How the Child self-fed him/herself	percent
All the time	10.9
Half of the time	30.9
Little bit of time	47.3
Does not know	10.9

Feeding children 6-23 months old during illness

The last time the child was sick, 51% of the caregivers breastfed them less than compared when they are healthy because the child did not want it while32.5% breastfed the child more as shown in table 12.

Table 12 Breast feeding the sick children

Less, because the child did not want it	51.0
Less, because of mother's decision	.5
More	32.5
The same	2.0
Child never breastfed or child breastfeeding before last illness	.5
Child has never been sick	10.0
Does not know	3.5

The last time the child was sick, 70% were offered less amount of foods than when healthy and 16.5% never fed foods, this is highlighted in table 13.

Table 13 Food given when sick

Amount	Percent
Less, because the child did not want it	70.0
Less, because of mother's decision	3.0
More	3.0
The same	4.0
Child never fed foods	16.5
Does not know	3.5

As shown in table 14, after the illness, 42% were offered more amount of food while 30% were offered less because the child did not want it and 11% were offered the same amount of for as when healthy.

Table 14 Food offered after illness

Amounts given	percent
Less, because the child did not want it	30.0
Less, because of mother's decision	4.0
More	42.0
The same	11.0
Does not know	13.0

When feeding the baby 50% have few times/once in a while food remained on the plate/bowl, 32% never, 10% often/several times and 7.5% most of the time/always have food remained in the plate.

For the food that remain on the plate when the child fails to finish 34.1% of the caregivers put it elsewhere to feed the baby later, 24.4% give the food to other children, 23% throw the food away and 15.6% put the food in a cupboard to feed the baby later. For the most of the day 95.5% of the caregiver are never/few days away from the baby for more than half a day.

Table 15 Times a caregiver is away when a child is sick

Period of time	**Percent**
Often/many days (4-5) days per week)	1.5
Sometimes/A few days (2-3 days/week)	2.5
Never/few days (0-1 day per week)	95.5

3.4 ANTENATAL CARE (FOR PREGNANT WOMEN)

100% (13) pregnant women had at least seen some for antenatal care during the pregnancy. Majority received first antenatal care by the fourth month of pregnancy, for pregnant mother who went for ANC 46.2% received three times, 30.8% received two times and 23.1% received four times.

Majority at 61.5% received antenatal care at public health center and 23.1% received from public hospital as described in figure 4. In the place of receiving antenatal care, 92.3% were attended by a nurse and 7.7 were attended by a doctor.

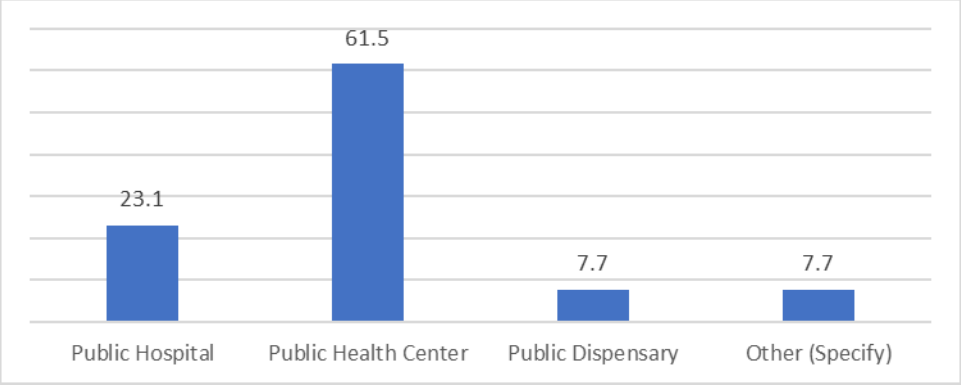

Figure 4 Place of receiving antenatal care

During the antenatal care visit several services were offered to the pregnant mother as shown in table 16 below;

Table 16 Services offered

Services	percent
Height measurement	84.60%
Weight measurement	100%
BP measurement	100%
Iron Folate supplementation	53.80%
Anti-malaria drugs	23.10%
Urine sample	100%
Blood sample	92.30%
Tetanus vaccine	61.50%
Deworming Tablets	23.10%
HIV Test	100%
Mosquito net	46.20%
MUAC	15.40%

During antenatal care visits for the pregnant mothers they were given information or counseled about various things as shown by the table below

Table 17 Information offered

Information type	Percentage
Tests during pregnancy	92.30%
Birth planning	100%
Place of delivery	100%
Your own health & hygiene	100%
Your own nutrition	100%
HIV/AIDS	100%
Breastfeeding	100%
Infant feeding	100%
IFAS	100%
growth monitoring	100%

Pregnant mothers got the information from a nurse as said by 76.9%, from community health worker as said by 23.1% and 7.7% from doctor and midwife/ auxiliary midwife.

3.5 IRON and FOLIC ACID SUPPLEMENTATION

92.3% had heard or seen any information on IFAS that is iron and folic acid supplementation for pregnant women

Those who had information on IFAS 83.3% sourced from health staff of health facility/clinic, 25% from community health volunteers and 8.3% from IEC materials as shown in table 18.

Table 18 IFAS Information

Source of information	Percent
Health staff of health facility/clinic	83.30%

Community Health Volunteers	25%
IEC materials	8.30%

The findings indicate that 92.3% received Iron tablets/syrup, Folic acid tablets, Combined iron and folic during their pregnancy. After receiving IFAS 80% of the pregnant women consumed for 30-90 days.

Knowledge of IFAS by Pregnant women

When asked the benefits of the IFAS some women could not share any benefits of IFAS. Less than half 42.6% of the pregnant mothers had days that they had IFA supplements at home. This because of side effect as said by 50%, they didn't know the benefit of taking IFAS as said by 42.9% and others forgot as said by 16.7%.

Belief of maternal nutrition by pregnant women

Majority at 78.6% disagreed the believe that certain foods are taboo and should not be fed to a pregnant woman.

3.6 ANTENATAL CARE MODULE FOR MOTHER WITH CHILDREN 0 - 23 MONTHS

For mothers with children 0-23 months 94.7% (392) attended antenatal clinic. Majority attended first antenatal clinic visit between month one and four. From the results 56.4% of the women attended antenatal care clinic for four time which is the requirement in every pregnancy, 31.1% attended three times, 7.9% attended two times and 3.1% attended once.

Table 19 ANC attendance for monthers with 0-23 months

Months	Percent
1	16.8
2	4.8
3	16.3
4	38.0
5	13.3
6	6.6
7	2.8
8	.8

During any of the antenatal care visits women were given information or counselled about the following as shown in the table.

Table 20 Information provided

Information type	n	percent
Tests during pregnancy	378	96.4
Birth Planning	367	93.90%
Place of delivery	381	92.70%
Own health & Hygiene	379	96.70%
Your own nutrition	377	96.20%
HIV/AIDS	385	98.20%
Breastfeeding	384	98%
Infant feeding	358	91.30%

Iron Folic acid Supplementation	375	95.70%
Growth Monitoring	370	94.40%

Table 21 shows antenatal care services pregnant women received at least once

Table 21 Services provided

Service	n	Percent
Weight measurement	388	99%
BP measurement	389	99.20%
Iron/folate tablets	366	93.40%
Anti-malaria drugs	120	30.70%
Urine sample	373	95.40%
Blood sample	370	94.60%
Tetanus vaccine	323	82.60%
Deworming tablets	227	58.10%
HIV Test	381	97.40%
mosquito net	330	84.40%
MUAC Measurement	264	67.50%

3.7 IRON and FOLIC ACID SUPPLEMENTATION FOR MOTHER WITH CHILDREN 0 - 23 MONTHS

A bigger proportion at 90.3% (n=373) had heard or seen any information on iron and folic acid supplementation for pregnant women. Source of information was 89.8% from health staff of the health facility and 60.6% from community health volunteers.

Table 22 information on iron and folic acid supplementation for pregnant women

Source of the information	n	Percent
Health staff of health facility/clinic	336	89.80%
Community Health Volunteers	226	60.60%
Community members (Barraza /church/ neighbour	22	5.90%
friend/support group	25	6.70%
Husband/Male partner	10	2.70%
Other family member	17	4.60%
IEC materials	31	8.30%
Mass media (Radio/TV)	10	2.70%

Women received IFAS during their pregnancy, 88.1% (n= 363) received Iron tablets/syrup, Folic acid tablets, Combined iron and folic when they were pregnant. Consumption of IFAS is important during pregnancy, 89% consumed IFAS for 1-90 days, 9.7% consumed for 91180 days and 1.3% consumed for 181-270 days.

After receiving IFAS 41.2% had days that they had IFA supplements at home but did not take any during their pregnancy. This was because 48% forgot to take, 35.1% had side effects and

12.4% Felt better and did not think they needed IFAS anymore.

Reason	n	Percent
Forgot	82	48%
Side effects	60	35.10%
Felt better and did not think I needed them anymore	21	12.40%
Did not know for how long I should take the tablets	3	1.80%
Did not know the benefits of taking IFAS	8	4.70%
Other, specify	8	4.70%

3.8 DIETARY DIVERSITY FOR PLW

Information was collected to establish the quality of dietary intake by mothers. Twenty-four-hour (24 hour-recall) method was used to collect information on dietary intake so as to establish the types of foods eaten and the dietary diversity of the women. Majority eat cereals, white roots and tubers, vegetables, Milk and milk products, oils and fats, sweets, spice and condiments beverages. From FGDs the influencers of dietary diversity among PLW were husbands, grandmothers and health workers.

Maternal dietary diversity

Consumption of a minimum of foods from at least 5 out of 10 food groups based on FAO guidelines (FAO, 2016) is considered an attainment of minimum dietary diversity (MDD) for the women of reproductive age (MDD-W). The percentage of women who attained the MDD was 22.9% (5 or more food groups) and 77.1% (less than 5 food groups) this is highlighted in table 23.

Table 23 Dietary intake by mothers

Food Taken	n	Percent
Cereals	463	94.5
White roots and tubers	366	74.7
Vitamin a rich vegetables and	334	68.2
Dark green leafy vegetables	399	81.4
Other vegetables	450	91.8
Vitamin a rich fruits	248	50.6
Other fruits	185	37.8
Organ meat	274	55.9
Flesh meat	303	62
Eggs	214	43.7
Fish and seafood	30	6.1
Legumes, nuts, and seeds	310	63.3
Milk and milk products	373	76.1
Oils and fats	434	88.6
Sweets	416	84.9
Spices and condiments, beverages	432	88.2

Knowledge on dietary diversity for PLW

From FGDs, PLW Require a more nutrient-dense diet. Pregnant and breastfeeding women have special consideration because their requirements for most nutrients are high. In addition to normal food they take liver and meat soup. Breastfeeding mothers take more fluids (tea, meat and soup) and Liver to boost Hb Level.

"Pregnant women and breastfeeding women should be given nutritional food"- FGD Kinna

"The medical practitioners and the community health volunteers should educate the community on importance of good nutrition for the pregnant women and breastfeeding mothers."- FGD Kinna

Barriers or challenges on dietary diversity for PLW

From FGDs it was found that there is lack of enough money to purchase food and also some food types are not available in the area where the community live.

"Pregnant mother should not take plenty of food it will make the Baby too Be Big."- FGD Kinna

3.9 POST-NATAL PRACTICES

Majority at 81.6% delivered from the hospital and 7.3 delivered at home by traditional birth attendant, this is highlighted in figure 5.

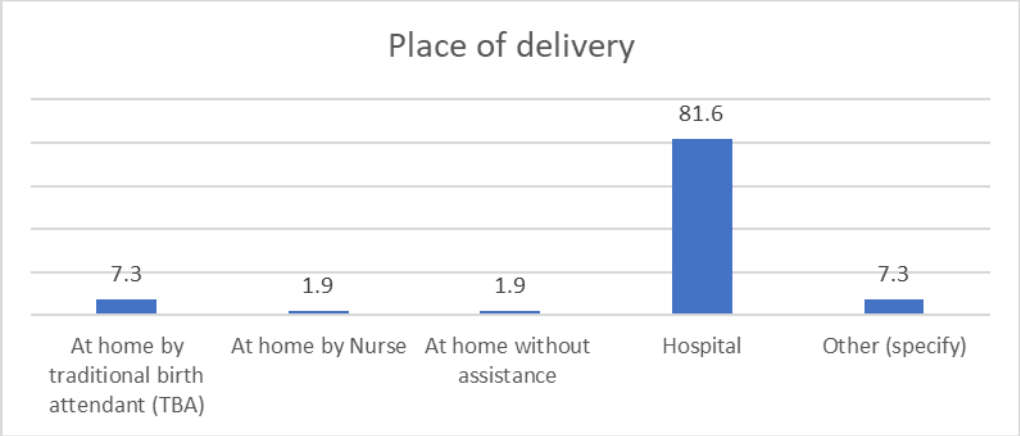

Figure 5 Place of delivery

After birth of the baby 39.1% took between 2week and a month to take the baby for a clinic, 37 took the baby for clinic within two weeks and 17.4% went for baby clinic after a month of delivery as demonstrated in figure 6.

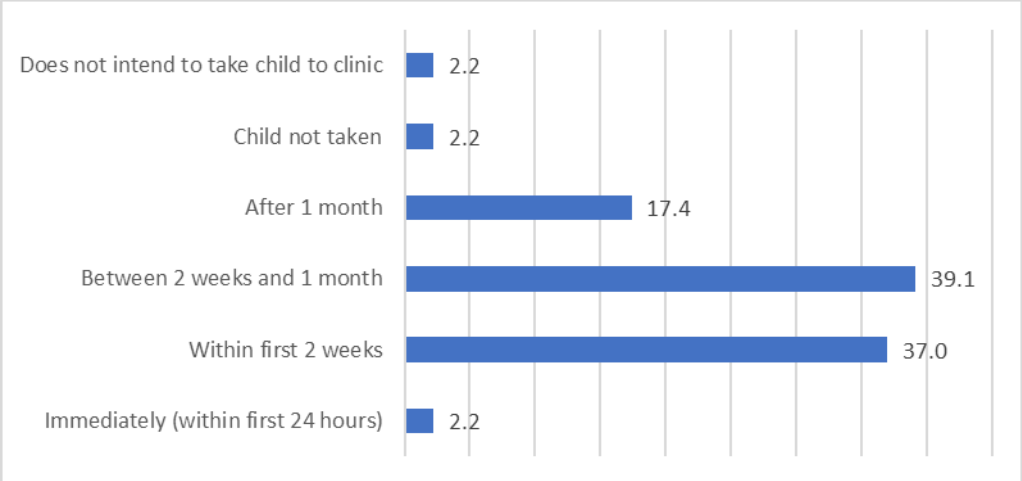

Figure 6 Attendance of clinic after birth

Communication channels

FGDs conducted showed that the most used communication channels were mother to mother support meetings, One on one counselling, Community group meetings and local

radio station (Aagaf). The most preferred was through home visits by Health workers, community health volunteers and through community dialogues.

"The best mode/channel that can reach us well is the use of the community health volunteers who are the constant link between us and the Kinna health center."-FGD Kinna

3.10 LIVELIHOOD AND NUTRITION

Majority of the household at 71.2% were doing livestock production, 7.5% were doing crop farming and 21.3% were not doing any agricultural production/ food security activities.

Figure 7 shows only a few households 8.1% have received training on pasture rangeland management where 82.1% were trained on natural pasture conservation, 28.2% were trained on pasture harvesting and 17.9% were trained on pasture utilization.

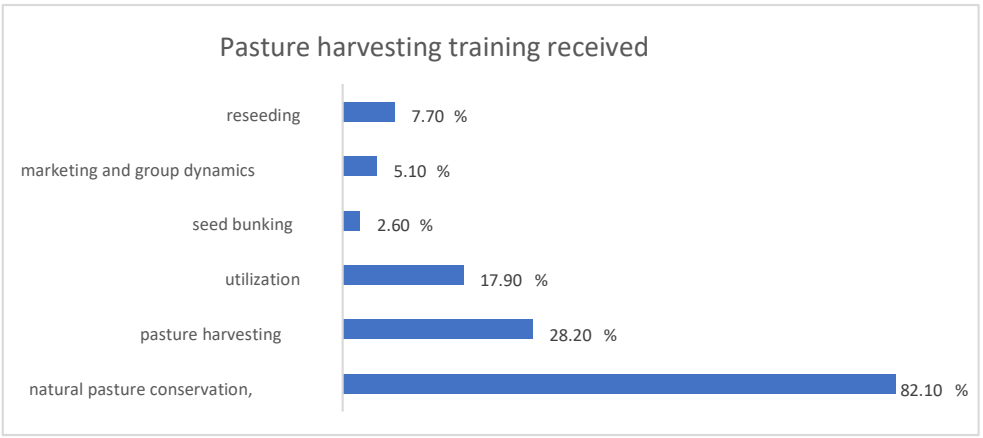

Figure 7 Pasture production

The findings indicate that 6.9% are in a group that is practicing range land management, 16.1% of the households have land that they have kept for pasture production.

Household doing pasture rangeland benefited with 31.7% stating they had increased livestock production, 20.5% had increased milk production and 19.6% had increased income from sale of hay as described in figure 8.

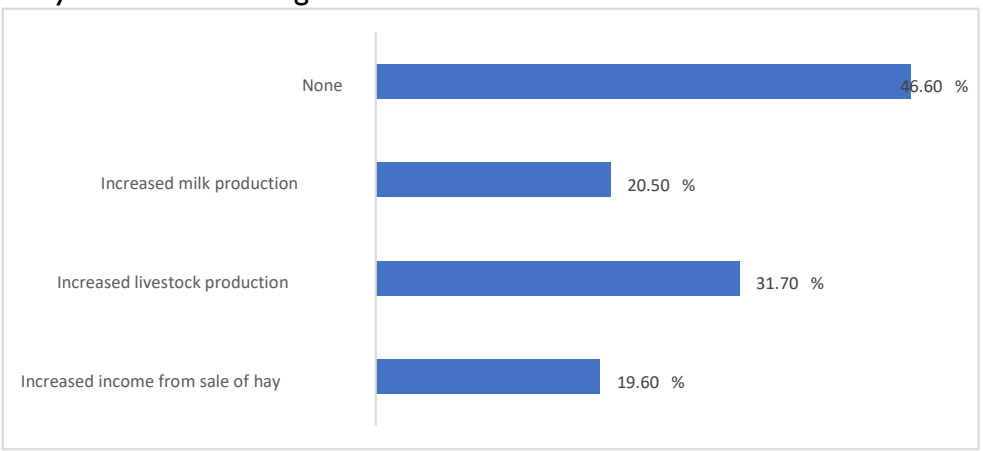

Figure 8 Benefits received from doing pasture production

Figure 9 shows that 49.1% of households utilized income they obtained from pasture rangeland to buy food, 30.3% used the income to access health services and 25.7% used the income to pay school fees.

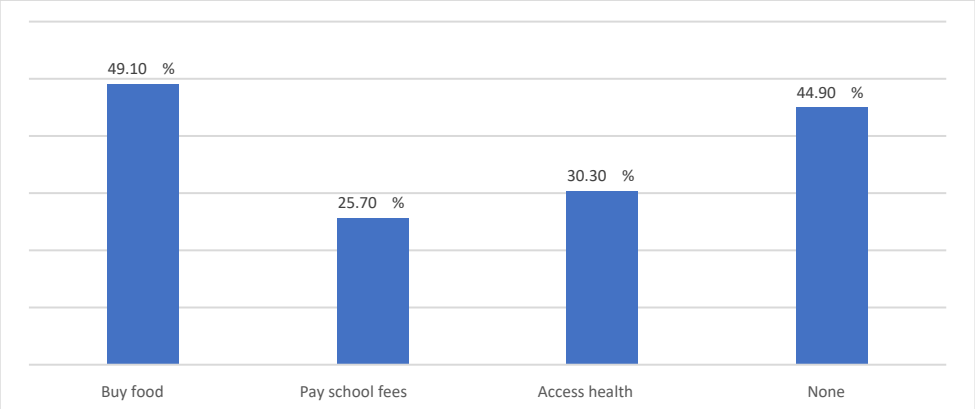

Figure 9 utilization of income obtained from pasture rangeland

Livestock production

Of the 71.4% of the household practicing livestock production, 48% of the household had goats, 31% had cows, 20% had poultry and 1% Camel. Households have been practicing improved livestock production practices where 62.9% were practicing controlled herd size, 45.6% were practicing breeding management, 24% were practicing strategic livestock marketing off take and 20.8% were practicing livestock insurance.

Practice	Percent
controlled herd size	62.90%
Breeding management	45.60%
livestock insurance	20.80%
strategic livestock marketing off take	24%

A few households 1.5% were engaged in Camel milk production and value addition. The households received training on milk handling and hygiene as said by 85.7%, training on running a bulking center as said by 14.3% and value addition as said by 28.6%

Benefits of livestock production

Households have benefited from livestock production, majority 49.3% have benefited from increased milk production for household utilization, 44.3% have benefitted from increased income from sale of livestock and 31.9% benefited from increased sale of milk. A bigger proportion 73.7% utilized the income from livestock production to buy food, 49.1% to access health and 38.2% to pay school fees.

Nutrition

Majority at 72.9% according to table 24 had received information on good nutrition, food security, food production and preparation. Health facility was a source of the information at 77.9%, CHV at 65%, community member and NDMA at 13.8 and ministry of agriculture at 8.3%.

Table 24 information on good nutrition

Source	Percent
CHV	65%
Health facility	77.90%
Community member	13.80%
Teacher	0.90%
NDMA	13.20%

Ministry of agriculture	8.30%
Other	2%

Most of the community members have heard of the term malnutrition. The female caregivers said it is caused by inadequate food consumption, poor feeding practices, food insecurity and Illiteracy. The community stated that malnutrition can be solved through adequate dietary energy intake, Growth Monitoring and Promotion (GMP) of children under, Nutrition education and counseling on Essential Nutrition Actions, Timely health seeking, Consumption of clean sufficient water and Exercising.

Interventions can the community or households undertake that can promote nutrition

Promoting and establishing community/school/home gardens, facilitate learning and promote income generating activities, fruit tree planting, livestock keeping, provision of relief food and facilitating and promoting learning were mentioned as some of the interventions that can be undertaken.

"Teach them how to farm."-FGD Kinna School pupil

"Majority of Kinna population are farmers, we do encourage people to farm vegetable plants, fruits and other highly nutritious crops in the farm such that they are readily to those pregnant and lactating mothers." - FGD Kinna

3.11 SCHOOL INTERVENTIONS

During teachers KII one school mentioned they had received training on resilience, school gardening, nutrition & food security, from school pupil FGD some of the activities being implemented through WE WORLD were School gardening, tree Planting, Life skills training, poultry farming and keeping the environment clean. The activities benefited through increasing the availability of nutritive rich food crops and improved their skills through the trainings offered. The pupil had received trainings and education on food production.

"We have kitchen garden hence reducing the usage of transport as we go to the market." FGD Elsa school pupil

"We have known how to plant on the nursery beds then we sell them and earn cash, selling seedlings,"- FGD Elsa school pupil

The challenges mentioned during project implementation by teachers KII were;

1. Inadequate water supply requiring more water tanks and more pipes
2. Insecurity requesting proper fencing should be done
3. Inadequate farm inputs & tools
4. Lack of trainings on the activities being implemented to the relevant teachers in the schools
5. Lack of team work from the school administration
6. Weak community and stakeholder participation
7. Wild animals and pests
8. Competing activities 9. Inadequate land size 10.

"Insecurity due to lack of proper fencing in school e.g. watermelon seedlings were stolen. This can be catered for if they have more security personnel and proper fencing."- KII Elsa teacher.

"When students are requested to bring farm tools, from home the parents do not give them the tools."-KII Teacher Algani.

"No trainings done to the relevant teachers on the activities being implemented in the school. They need to be trained and contacted directly"-KII Teacher Algani.

3.12 WATER, SANITATION AND HYGIENE (WASH)

~~Slightly less than half 48% use piped water, 20.7% use surface water (river, dame, lake, stream)~~ and 15.9 get water from unprotected dug well as demonstrated in figure10.

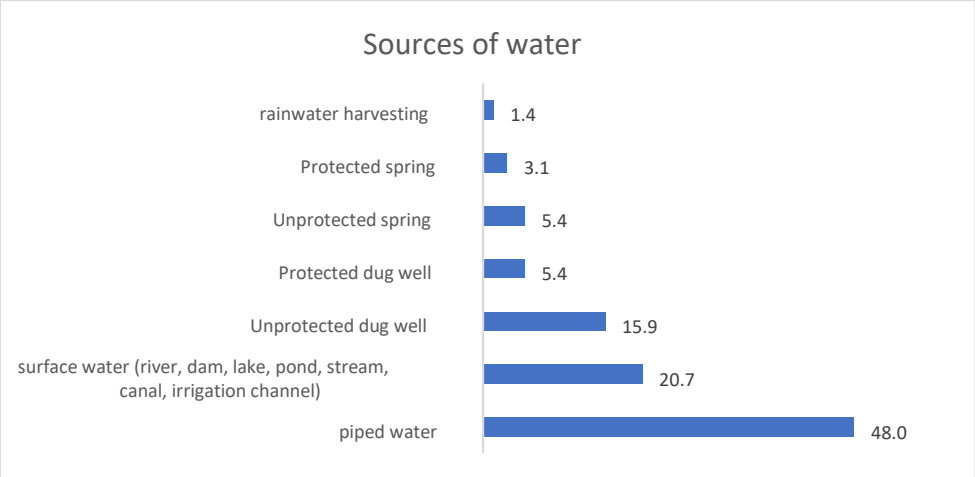

Figure 10 sources of water

To get water 47.6% cover a distance of less than 500m (less than 15 minutes), 41.5% covers more than 500m to less than 2km (15m to 1 hour) and 10.9% covers more than 2km (1-2 hours). At the water source 29.6% que for less than 30 minutes, 25.1% don't que at the water source, 22.8% que for more than 1 hour and 22.5% que for 30-60 minutes.

Water treatment

After getting water from the source as demonstrated in figure 11, 47.2% of the household treat water to make it safe for drinking. Majority at 76.5% boiled the water to make it safe for drinking and 38.5% added bleach/ chlorine to make the water safe for drinking.

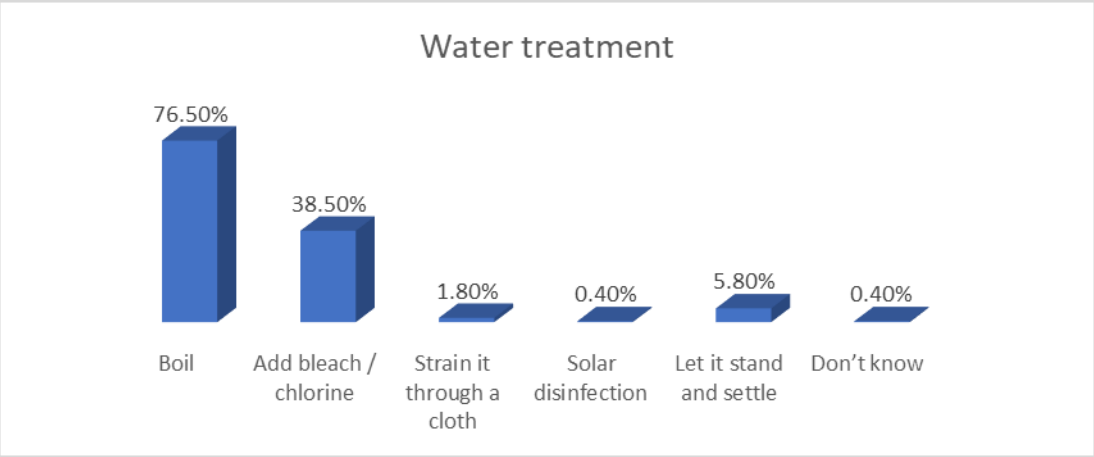

Figure 11 Water treatment

To ensure good hygiene 32.2% of the household had a hand washing facility. Household members washed their hand at different times, 88.5% washed hand before eating, 84.8% washed hands after visiting the toilet, 75.8% washed before food preparation, 69.1% after cleaning the baby bottom and 3.8% never washed their hands.

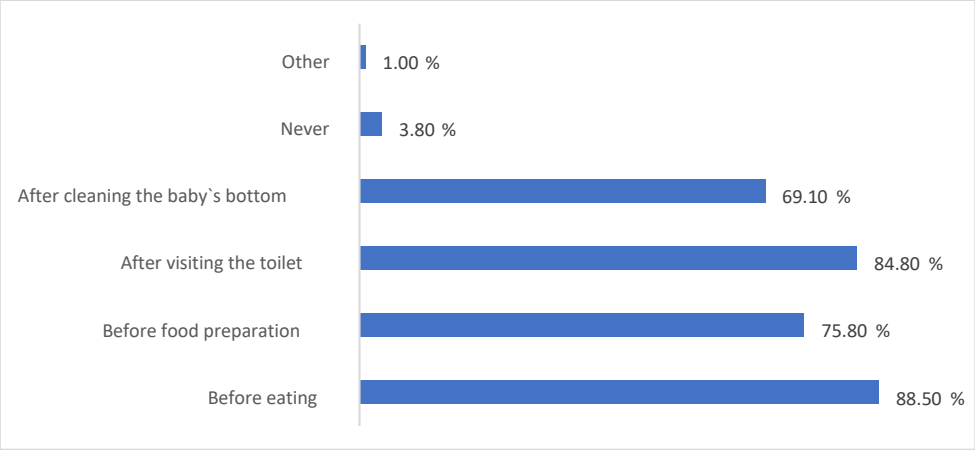

Figure 12 hand washing

During washing of hands 61.6% used running water with soap, 29.5% used water in a basin and water and 8.9% used water in a basin only. Majority 71% of the households were using pit latrine while 28.9% had no facility to relieve themselves.

3.13 NUTRITION INFORMATION RECORDING, ANALYSIS AND USAGE BY THE SECTORS INVOLVED IN THE PROJECT (HEALTH, EDUCATION AND AGRICULTURE)

The extent to which nutrition information is recorded, analyzed and used by the sectors involved in the project (Health, Education and Agriculture), with the health sector the data is collected by the community health workers right at the link facility where through routine monthly meeting they do conduct mentoring of mothers. The community health information systems at the link facility collects information on vitamin A supplementation, immunization, deworming growth monitoring and counselling.

This information is used in the management of severe acute malnutrition (SAM) and moderate acute malnutrition (MAM), where for SAM this is managed through an outpatient plan and MAM through supplementary feeding clinic where the children weigh is 11.5 and less than 12.5kg.

This information is further shared to the sub county level for consumption where they plan together with the facilities for kitchen gardens and cooking demos support and capacity building the facility staff to build resilience in the management, further the information is utilized for decision making, ordering food and identifying capacity gaps among the facility staff and strengthening various processes geared towards addressing malnutrition at the county. Overall this information is very beneficial to the county health management team for improvement and monitoring malnutrition trends in the county.

In the education sector the information is used especially in the early childhood development education through the malezi bora initiative to undertake vitamin A supplementation and deworming and provide training to ECDE teachers on screening for vitamin A and deworming and data capture of the same. The teachers' capacity is equally built to enable them create awareness among children and parents

The agricultural sector further utilizes this information to conduct cooking demos and kitchen gardens through the mother to mother support groups while undertaking mentorship among the community health volunteers through the agricultural extension workers.

This information is of great use to the county nutrition technical forum regarding the management of county nutrition interventions such as provision of seeds inputs and improvement of the county nutrition programs.

3.14 PROJECT MOST IMPACTFUL INTERVENTION FOR AND INTEGRATION TO COUNTY PROGRAMING

There identified opportunities as the most impactful DRIC supported interventions **are exclusive breast feeding, antennal care and range improvement,** how well is the project planning to integrate this into the existing county programming and to use these identified opportunities to advocate for a sustainable strategy that will increase commitments to nutrition programming in Isiolo.

Exclusive breastfeeding practices, optimal complementary feeding and maternal nutrition – the project implements baby friendly community initiative in 11 community units in collaboration with MoH Isiolo.

a) To address the low coverage of nutrition services, poor dietary diversity, late uptake of ANC services among pregnant women, low micronutrient coverage (IFAS) and low coverage of vitamin A supplementation, and further improve on breastfeeding and complementary feeding practices, We World project activities are aligned with the National Nutrition Action Plan , Isiolo County Nutrition Action 2018 – 2022, kenya Agri- nutrition Implementation Strategy 2020 – 2025 and common programme framework for ending drought emergencies

b) DRIC project activities continue to reinforce current nutrition efforts by mobilizing county and sub-county government authorities and civil society actors to accelerate progress toward elimination of malnutrition among children under five years and Pregnant and Lactating women.

To achieve this, DRIC project is addressing the key determinants of malnutrition through: (a)community mobilization, participatory planning, and awareness raising about malnutrition leading to improved social accountability, community-led demand for and delivery of nutrition-specific (e.g. Baby Friendly Community Initiative-BFCI) and sensitive interventions through the Community Health Strategy (CHS); and (c) enhanced bi-directional referral for nutrition-sensitive interventions.

c) Identified opportunities to advocate for a sustainable strategy that will increase commitments to nutrition programming in Isiolo

- The DRIC project has developed Isiolo Nutrition Advocacy Pack
- Training of Multi stakeholder Platform for Nutrition representatives on nutrition advocacy
- In collaboration with Isiolo County authorities, DRIC project Supports quarterly Multi stakeholder platform for Nutrition Meetings. The DRIC project has also established Isiolo MSP platform with TOR
- DRIC project holds MCAs Bi-Annual sensitization forums on Food and Nutrition Security budgeting
- DRIC project has trained Chiefs and Assistant County Commissioners on Food and Nutrition advocacy improving their capacity on nutrition advocacy. The DRIC project conducts through chiefs, CHAs, HCWs and CHVs Bi Annual advocacy meetings at community level to disseminate nutrition and health education messages
- The DRIC project conducts Quarterly Community meetings to promote good nutrition/hygiene, food preparation and good agriculture practices.
- The project continues to support Quarterly Isiolo County Nutrition Technical Forums / coordination meetings as well as sub-county nutrition coordination meetings
- The DRIC project is working with National SUN CSA. The project has established Isiolo SUN CSA chapter and bi-annual meetings are held as part of advocacy efforts scale up MIYCN issues.

- The DRIC project supports bi-annual Malezi bora campaigns to ensure all children under five years are reached with High Impact nutrition interventions. Also support World breastfeeding week to promote, protect and defend breastfeeding practices.
- The DRIC project conducts Quarterly Community awareness through radio campaigns- where we disseminate information on improved food production techniques, High impact nutrition interventions
- The project has trained HCWs, CHEWs and CHVs on baby friendly community initiatives, disease surveillance and response, community led total sanitation.
- DRIC project has trained Isiolo county officials on Kenya Agri-Nutrition Implementation Strategy 2020-2025 geared towards offering technical guidance to addressing malnutrition from an agricultural perspective. This will also ensure the county departments accelerate the implementation of Agri-nutrition related components in the county CNAP and CIDP. The implementation of ANIS will also ensure that the agricultural sector successfully mainstream dietary diversity into the priority value chain.
- CHVS trained on nutrition sensitive toolkit
- Project working with mother to mother support groups to promote, protect and defend exclusive breastfeeding practices in target communities.

4.O CONCLUSIONS

The mothers are highly practicing breast-feeding practices to children of 0-23 years though there are a few who are giving pre-lacteal feeds to their babies before 6 months of exclusive breast feeding. Mothers were knowledgeable on breastfeeding though there was a cultural practice to initiate breastfeeding after naming the child which is usually after a day. There is need to share more information to the mother to address the delayed initiation of breast feeding. Health staff and community health volunteers play a key role of sharing information which plays as a credible source of information for mothers. Mothers are not using the recommended bottle feeding of using a cup and a spoon. Sensitization should be done to avoid the risk of the child taking contaminated food due to the nature of feeding container used to feed the baby. More than half had age appropriate introduction of solid, semi solid or soft foods. The mothers use credible source of information (Health staff, mother/mother in law and community health volunteers) about feeding the baby. Women receive IFAS from health facilities, however they need to get information on benefits of IFAS during their pregnancy to support IFAS consumptions to the recommended number of days.

5.0 RECOMMENDATIONS

1. Conduct training to the key teacher on the school livelihood activities to enable scale up and sustainability of the project.
2. Sustained health education at the health facilities and outreach sites on consumption and benefits of iron folate during pregnancy.
3. Promote kitchen garden at household level to provide nutrient foods for household members and provide training on dietary diversification through mother support groups and CHVs.
4. Continued support to mother with information on breast feeding practices to counter the bad cultural practice compromising exclusive and early initiation of breast feeding.
5. Promote engagement with the community on CLTS to address open defecation.
6. Promote health education on hand washing and water treatment before use.
7. Scale up use of local radio stations to pass key messages to caregivers and the community to enhance MIYCN practices.

8. Scale up the implementation of BFCI in target community health units to promote breastfeeding, complementary feeding and maternal nutrition
9. Support Health community units to enhance home visits by CHVs.
10. Nutrition education for women on benefits and adherence of IFAS,
11. Nutrition education and counseling on nutritious diets for pregnant and lactating women
12. In all sub-counties, encourage mothers to exclusively breastfeed for 6 months. Community-based nutrition counseling on benefits of exclusive breastfeeding to sustain the current high knowledge, attitude and practice.
13. Nutrition education and counseling on nutritious diets for children including community recipe development,

APPENDIX:
DATA COLLECTION TOOLS
FOCUS GROUP DISCUSSION

FGD GUIDE: FEMALE CAREGIVERS, MOTHER TO MOTHER SUPPORT GROUPS, AND GRANDMOTHERS

DATA SHEET

County/Sub-County/Ward: _____
Venue: _____
Date: _____
Start Time: _____ End Time: _____

Name of interviewer: _____
Name of translator (if used):
Digital recording code: _____

01: General: Family Structure

1. **Family formation**: What are the different routes to marriage and having children? What are the norms around having children?
2. **What is the typical family structure?** Father/mother/mother-in-law/children. What is the typical number of children in a family? Probe for ages and gender of children in the home.

02: Projects' beneficiaries.

1. Are there groups that have been formed by Organization in this locality? *If yes, when and how were the groups formed? (Probe for organization, government departments, community participation)*
2. Who are the group members and how were they selected? (Recruitment process? Probe if there were some who were not happy with the recruitment process and for those who were satisfied, why was it so?)
3. What are the various activities that have been undertaken by the group?
4. Who supported the activities (agencies/donors)?
5. How many projects do you know that are being implemented here (probe for organization, beneficiaries, selection criteria and any impact it could have had)

03: Early Initiation of Breastfeeding

Knowledge	1. When should breastfeeding start? 2. Why is it important to breastfeed a baby as soon as they are born?
Attitude	3. What are your views concerning when breastfeeding should start? **Probe**: What are the reasons for those views?
Practice	4. When do/did you start breastfeeding your baby? **Probe:** **a)** For those who breastfeed within one hour after birth, what/who encouraged you to do they do this? **b)** For those who DO NOT breastfeed within one hour after birth, why?
Cultural and traditional practices	5. What is the practice in this community regarding how soon a baby is breastfed after birth? What are the main reasons for this practice? **Probe** for cultural reasons (any benefits or disadvantages?)
Barriers and facilitators	6. What are the common barriers and facilitators to practicing breastfeeding a baby within first hour after birth?

Social norms and influencers	7. What are your social norms and beliefs on early initiation of breastfeeding? **Probe**: what do you think others do? What do you think others expect you to do? What is the positive or negative opinion of others concerning early initiation of breastfeeding? Do these beliefs about early initiation of breastfeeding really matter? What are the consequences of breaking these norms/social rules? Under what circumstances would it be acceptable to break these norms? 8. Who has the most influence on caregivers in this community concerning when breastfeeding should start? 9. How do community leaders influence early initiation of breastfeeding? 10. Do mothers receive any support from household members to encourage breast feeding within the first hour after delivery? Probe for grandmothers and spouses? 11. What are the gender roles and responsibilities relating to the practices of breastfeeding/ early initiation of breastfeeding?
Community solutions and community-led interventions	12. What are some of the ways in which early initiation of breastfeeding can be improved in this community? Probe for community-owned and community-led solutions or interventions.

04: Exclusive breastfeeding

Knowledge	1. For how long should a baby be fed breastmilk only?
Attitude	2. What is your feeling towards the practice of exclusive breastfeeding for 6 months? Why do you say so? 3. What is your feeling about expressing breast milk to feed the baby while the mother is away? Why do you say so?
Practice	4. How many in this group have given breastmilk only to their baby in the **Pr** rst 6 months of baby's life? **obe**: a) For those who practiced exclusive breastfeeding for 6 months, what was the reason for you giving the baby milk alone? What /who encouraged you? Probe for household support from grandmothers and spouses as well b) For those who did not practice exclusive breastfeeding for 6 months, what were the reasons that made you to start giving other foods before child reached 6 months?
Cultural and traditional practices	5. What is the common practice in your community regarding how long a baby is breastfed? Why? (Probe for barriers and enhancers to EBF). **Probe** for cultural beliefs about breastfeeding duration. 6. Are there any current taboos related to breastfeeding in this community? **Probe** for any taboos and get reasons behind each of the taboos.
Barriers and facilitators	What are the barriers and facilitators to practicing exclusive breastfeeding?

Social norms and influencers	7. What are the social norms and beliefs in this community concerning giving a baby breastmilk only for the first 6 months of their life? 8. Who mostly influences caregivers in this community concerning exclusive breastfeeding practice? 9. How do community leaders influence the practice of exclusive breastfeeding of babies? 10. Do mothers receive any support from household members to encourage them to give breastmilk alone for the first 6 months of a baby's life? Probe for male partners/spouses and grandmothers. 11. What are the gender roles and responsibilities relating to the practice of exclusive breastfeeding?
Community solutions and community-led interventions	12. What are some of the ways in which the exclusive breastfeeding up to 6 months can be improved in this community? Probe for community owned and community-led solutions or interventions.

05: Complementary feeding

Knowledge	1. What is the importance of giving babies complementary (solid) food?
Attitude	2. What is your feeling about complementary feeding? Why do you say so?
Practice	3. For most mothers, when are other solid foods other than milk normally introduced into baby's diet? **Probe** for the reason for the introduction of these other foods at the time indicated. 4. What solid foods are commonly given to babies? **Probe** for the reasons for the particular foods being given to baby.
Cultural and traditional practices	5. Are there any current taboos related to foods that should or should not be given to babies and young children? **Probe** for which taboos and the reasons behind each of the taboos.
Barriers and facilitators	6. What are the barriers and facilitators to appropriate complementary feeding among children aged 6-23 months?
Social norms and	7. Who influences mothers on when to introduce complementary feeds?
influencers	Probe for grandmothers, spouses or peers 8. What are the gender roles and responsibilities relating to the practices of breastfeeding/ early initiation of breastfeeding?
Community solutions and community-led interventions	9. What are some of the ways in which complementary feeding practices can be improved in this community? Probe for community-owned and community-led solutions or interventions.

06: Dietary diversity for pregnant and breastfeeding women

Knowledge	1. What are the most important things to consider in the diet of a pregnant woman? 2. What are the most important things to consider in the diet of a breastfeeding woman?
Attitude	3. What is your feeling about feeding practices for pregnant and breastfeeding women?

Practice	4. Do pregnant and breastfeeding women have any special consideration on how they feed in this community? If yes, explain 5. What do pregnant and breastfeeding mothers normally eat in their daily diets in this community 6. Which foods do breastfeeding mothers in this community eat to enhance breast-milk production? Why?
Cultural and traditional practices	7. Which foods are recommended for pregnant women in this community? Why? 8. Which foods are NOT recommended for pregnant women in this community? Why?
Barriers and facilitators	9. What are the barriers and facilitators for proper feeding practices for pregnant women? 10. What are the barriers and facilitators for proper feeding practices for breastfeeding women? **Probe for barriers and facilitators related to:** a. Availability of foods b. Maternal workload c. Socio-economic status d. Cultural influence e. Roles of women versus men f. Decision making power regarding MIYCN g. Household resource control h. Male attitude and engagement on maternal and child nutrition
Social norms and influencers	11. Who in the family typically makes decisions on matters concerning feeding practices or diet of pregnant and breastfeeding women? 12. What are the gender roles and responsibilities relating to feeding practices of pregnant and breastfeeding women?
Community solutions and community-led interventions	13. What are some of the ways in which the dietary diversity can be improved for pregnant and breastfeeding women in this community? **Probe** for community-owned and community-led solutions or interventions.

07: Communication channels and delivery platforms

1. What modes of communication channels are currently commonly used to target caregivers of children under 2 years, pregnant and breastfeeding women with information? (Probe for the favorite channel e.g., one-on-one counseling, community group meetings, radio, TV, mobile phone, posters, leaflets, mother to mother support groups, church forums, etc.)
2. What are the most preferred ways in which caregivers of children under 2 years, men/fathers, pregnant and breastfeeding women can be reached with messages touching on nutrition?

08: Malnutrition pathways:

1. Have you ever heard of the term malnutrition *(probe for definition and possible causes?)*
2. How do you think malnutrition can be solved?
3. Do you think the activities being implemented here can help solve that?
4. What interventions can the community or households undertake that can promote nutrition *(Probe for agricultural and business opportunities, health and WASH services,)*

Are these activities/ interventions being undertaken, if not, why are they not undertaken? *(probe as per replies i)*

FGD GUIDE: FATHERS

DATA SHEET

County/Sub-County/Ward: _____

Venue: _____

Date: _____

Start Time: _____End Time:

Name of interviewer: _____

Name of translator (if used):

Digital recording code: _____

01: General: Family Structure

1. **Family formation**: What are the different routes to marriage and having children? What are the norms around having children?
2. **What is the typical family structure?** Father/mother/mother-in-law/children. What is the typical number of children in a family? Probe for ages and gender of children in the home.

02: Projects' beneficiaries.

1. Are there groups that have been formed by Organization in this locality? *If yes, when and how were the groups formed? (Probe for organization, government departments, community participation)*
2. Who are the group members and how were they selected? (Recruitment process? Probe if there were some who were not happy with the recruitment process and for those who were satisfied, why was it so?)
3. What are the various activities that have been undertaken by the group?
4. Who supported the activities (agencies/donors)?
5. How many projects do you know that are being implemented here (probe for organization, beneficiaries, selection criteria and any impact it could have had)

03: Early Initiation of Breastfeeding

Knowledge	1. When should breastfeeding start? 2. Why is it important to breastfeed a baby as soon as they are born?
Attitude	3. What are your views concerning when breastfeeding should start? When should it start? What are the reasons?
Practice	4. Following the birth of a baby, when should a woman start breastfeeding her baby? **Probe:** What are the reasons for the answer given?
Cultural and traditional practices	5. What is the practice in this community regarding how soon a baby is breastfed after birth? What are the main reasons for this practice? **Probe** for cultural reasons (any benefits or disadvantages?)
Barriers and facilitators	6. What are the common barriers and facilitators to practicing breastfeeding a baby within first hour after birth?

Social norms and influencers	7. What are the social norms and beliefs in this community concerning early initiation of breastfeeding within the first hour after birth? 8. Who mostly influences caregivers in this community concerning when breastfeeding should start? 9. How do community leaders influence the period when breastfeeding is started after the birth of a baby? 10. Do mothers receive any support from household members to encourage breast feeding within the first hour after delivery? Probe for male partners/spouses and grandmothers. 11. What are the gender roles and responsibilities relating to the practices of breastfeeding/ early initiation of breastfeeding?
Community solutions and community-led interventions	12. What are some of the ways in which early initiation of breastfeeding can be improved in this community? **Probe** for community-owned and community-led solutions or interventions.

04: Exclusive breastfeeding

Knowledge	1. For how long should a baby be fed breastmilk only?
Attitude	2. What is your feeling towards the practice of exclusive breastfeeding for 6 months? Why do you say so? 3. What is you're feeling about expressing breast milk to feed the baby while the mother is away? Why do you say so?
Practice	4. What is the common practice among women in this community regarding the practice of giving breastmilk only to their baby in the first 6 months of the baby's life?
Cultural and traditional practices	5. What is the common practice in your community regarding how long a baby is breastfed? Why? (Probe for barriers and enhancers to EBF). **Probe** for cultural beliefs about breastfeeding duration. 6. Are there any current taboos related to breastfeeding in this community? **Probe** for any taboos and get reasons behind each of the taboos.
Barriers and facilitators	7. What are the barriers and facilitators to the practice of giving breastmilk alone for the first 6 months after birth?
Social norms and influencers	8. What are the social norms and beliefs in this community concerning giving a baby breastmilk only for the first 6 months of their life? 9. Who mostly influences caregivers in this community concerning
	exclusive breastfeeding practice? 10. How do community leaders influence the practice of exclusive breastfeeding of babies? 11. Do mothers receive any support from household members to encourage them to give breastmilk alone for the first 6 months of a baby's life? **Probe** for male partners/spouses and grandmothers. 12. What are the gender roles and responsibilities relating to the practice of exclusive breastfeeding?
Community solutions and community-led interventions	13. What are some of the ways in which exclusive breastfeeding can be improved in this community? Probe for community-owned and community-led solutions or interventions.

05: Complementary feeding

Knowledge	1. What is the importance of giving babies complementary (solid) food?
Attitude	2. What is your feeling about complementary feeding of children? Why do you say so?

Practice	3. When other solid foods other than milk are normally introduced into baby's diet in this community? **Probe** for the reason for the introduction of these other foods at the time indicated. 4. What solid foods are commonly given to babies? **Probe** for the reasons for the particular foods being given to baby.
Cultural and traditional practices	5. Are there any current taboos related to foods that should or should not be given to babies and young children? **Probe** for which taboos and the reasons behind each of the taboos.
Barriers and facilitators	6. What are some of the barriers/challenges to appropriate complementary feeding among children aged 6-23 months?
Social norms and influencers	7. Who influences mothers on when to introduce complementary feeds? Probe for grandmothers, male partners/spouses or peers 8. What are the gender roles and responsibilities relating to the practices of breastfeeding/ early initiation of breastfeeding?
Community solutions and community-led interventions	9. What are some of the ways in which complementary feeding can be improved in this community? Probe for community-owned and community-led solutions or interventions.

06: Dietary diversity for pregnant and breastfeeding women

Knowledge	1. What are the most important things to consider in the diet of a pregnant woman? 2. What are the most important things to consider in the diet of a breastfeeding woman?
Attitude	3. What is your feeling about feeding practices of pregnant and breastfeeding woman?
Practice	4. Do pregnant and breastfeeding women have any special consideration on how they feed in this community? If yes, explain 5. What do pregnant and breastfeeding mothers normally eat in their daily diets in this community 6. Which foods do breastfeeding mothers in this community eat to enhance breast-milk production? Why?
Cultural and traditional practices	7. Which foods are recommended for pregnant women in this community? Why? 8. Which foods are NOT recommended for pregnant women in this
	community? Why?
Barriers and facilitators	9. What are the barriers and facilitators of proper feeding practices for pregnant women? 10. What are the barriers and facilitators of proper feeding practices for breastfeeding women? **Probe for:** i. Availability of foods j. Maternal workload k. Socio-economic status l. Cultural influence m. Roles of women versus men n. Decision making power regarding MIYCN o. Household resource control p. Male attitude and engagement on maternal and child nutrition

Social norms and influencers	11. Who in the family typically makes decisions on matters concerning feeding practices or diet of pregnant and breastfeeding women? 12. What are the gender roles and responsibilities relating to feeding practices of pregnant and breastfeeding women?
Community solutions and community-led interventions	13. What are some of the ways in which dietary diversity can be improved for pregnant and breastfeeding women in this community? **Probe** for community-owned and community-led solutions or interventions.

07: Communication channels and delivery platforms

1. What modes of communication channels are currently commonly used to target caregivers of children under 2 years, pregnant and breastfeeding women with information? (Probe for the favorite channel e.g., one-on-one counseling, community group meetings, radio, TV, mobile phone, posters, leaflets, mother to mother support groups, church forums, etc.)
2. What are the most preferred ways in which caregivers of children under 2 years, men/fathers, pregnant and breastfeeding women can be reached with messages touching on nutrition?

08: Malnutrition pathways:

1. Have you ever heard of the term malnutrition *(probe for definition and possible causes?)*
2. How do you think malnutrition can be solved?
3. Do you think the activities being implemented here can help solve that?
4. What interventions can the community or households undertake that can promote nutrition *(Probe for agricultural and business opportunities, health and WASH services,)*

Are these activities/ interventions being undertaken, if not, why are they not undertaken? *(probe as per replies i)*

FGD GUIDE: COMMUNITY HEALTH VOLUNTEERS (CHVS)

DATA SHEET

County/Sub-County/Ward: _____

Venue: _____

Date: _____

Start Time: _____ End Time: _____

Name of interviewer: _____

Name of translator (if used): _____ Digital recording code: _____

01: General: Family Structure

1. **Family formation**: What are the different routes to marriage and having children? What are the norms around having children?
2. **What is the typical family structure?** Father/mother/mother-in-law/children. What is the typical number of children in a family? Probe for ages and gender of children in the home.

02: Early Initiation of Breastfeeding

Knowledge	1. When should breastfeeding start? 2. Why is it important to breastfeed a baby as soon as they are born?
Attitude	3. What are your views concerning when breastfeeding should start? 4. What are the perspectives and norms held by health workers providing information and support on early initiation of breastfeeding?

Practice	5. When do women in this community start breastfeeding their babies? **Probe:** a. For those who breastfeed within one hour after birth, why do they do this? b. For those who DO NOT breastfeed within one hour after birth, why?
Cultural and traditional practices	6. What is the attitude, perception and practice in this community regarding the time when a baby is breastfed? **Probe** for reason for this cultural practice (any benefits or disadvantages?)
Barriers and facilitators	7. What are the common barriers and facilitators to practicing breastfeeding a baby within first hour after birth?
Social norms and influencers	8. Who has the most influence on caregivers in this community concerning when breastfeeding should start? 9. What are the roles of different members of household in supporting breast feeding the baby, such as grandmothers, fathers/partners and peers? 10. How do community leaders influence the practice of early initiation of breastfeeding? 11. What are the gender roles and responsibilities relating to the practice of early initiation of breastfeeding?
Community solutions and community-led interventions	12. What are some of the ways in which early initiation of breastfeeding can be improved in this community? **Probe** for community-owned and community-led solutions or interventions.

03: Exclusive breastfeeding

Knowledge	1. For how long a baby should be fed breastmilk only?
Attitude	2. What is your feeling towards the practice of exclusive breastfeeding for 6 months? Why do you say so? 3. What is your feeling about expressing breast milk to feed the baby while the mother is away? Why do you say so?
Practice	4. What is the common practice by women in this community concerning giving breastmilk alone for the first 6 months of a baby's life? **Probe**: i. For those who practice exclusive breastfeeding for 6 months, what are the reasons for their giving the baby milk only? ii. For those who do not practice exclusive breastfeeding for 6 months, what are the reasons that made them to start giving other foods before their babies reached 6 months?
Cultural and traditional practices	5. What cultural beliefs, attitudes and practices are still held in this community concerning the issue of giving breastmilk only to a baby? 6. Are there any current taboos related to breastfeeding in this community? **Probe** for any taboos and get reasons behind each of the taboos.
Barriers and facilitators	7. What are the major barriers and facilitators to practicing exclusive breastfeeding in this community? 8. What are some of the challenges you face with promotion of exclusive breastfeeding in this community?

Social norms and influencers	9. What are the gender roles and responsibilities relating to the practice of exclusive breastfeeding in this community? 10. Who has the most influence on caregivers in this community concerning when breastfeeding should start? 11. What are the roles of different members of household in supporting breast feeding the baby, such as grandmothers, fathers/partners and peers? 12. How do community leaders influence the practice of early initiation of breastfeeding?
Community solutions and community-led interventions	13. What are some of the ways in which exclusive breastfeeding practices can be improved in this community? Probe for community-owned and community-led solutions or interventions.

04: Complementary feeding

Knowledge	1. What is the importance of giving babies complementary (solid) food?
Attitude	2. What is your feeling about complementary feeding? Why do you say so?
Practice	3. For most mothers, when are other solid foods other than milk normally introduced into baby's diet? **Probe** for the reason for the introduction of these other foods at the time indicated. 4. What solid foods are commonly given to babies? **Probe** for the reasons for the particular foods being given to baby. Probe for dietary diversity in foods provided 5. How many times do caregivers feed their children in a day? Probe for number of meals and the reason for the numbers given.
Cultural and traditional practices	6. Are there any current taboos related to foods that should or should not be given to babies and young children? **Probe** for which taboos and the reasons behind each of the taboos.
Barriers and facilitators	7. What are the barriers and facilitators to appropriate complementary feeding among children aged 6-23 months?
Social norms and influencers	8. What are the gender roles and responsibilities relating to the appropriate complementary feeding among children aged 6-23 months? 9. Who influences caregivers/mothers the most on when to introduce complementary feeds? Probe for grandmothers, fathers/partners or peers.
Community solutions and community-led interventions	10. What are some of the ways in which complementary feeding practices can be improved in this community? Probe for community-owned and community-led solutions or interventions

05: Dietary diversity for pregnant and breastfeeding women

Knowledge	1. What are the most important things to consider in the diet of a pregnant woman? 2. What are the most important things to consider in the diet of a breastfeeding woman?
Attitude	3. What is your feeling towards feeding practices for pregnant and breastfeeding women?
Practice	4. Do pregnant and breastfeeding mothers feed adequately in this community? Why do you say so? 5. Which foods are recommended for pregnant women in this community? Why? 6. Which foods are NOT recommended for pregnant women in this community? Why? 7. Are there specific foods that breastfeeding mothers in this community eat to enhance breast-milk production? Why?

Cultural and traditional practices	8. Which foods are recommended for pregnant women in this community? Why? 9. Which foods are not recommended for pregnant women in this community? Why?
Barriers and facilitators	10. What are the barriers and facilitators for proper feeding practices among pregnant women? 11. What are the barriers and facilitators for proper feeding practices among breastfeeding women? **Probe for:** a. Availability of foods b. Maternal workload c. Socio-economic status d. Cultural influence e. Roles of women versus men f. Decision making power regarding MIYCN g. Household resource control h. Male attitude and engagement on maternal and child nutrition
Social norms and influencers	12. Who in the family or community typically makes decisions on matters concerning the feeding practices or diet of pregnant and breastfeeding women? 13. What are the gender roles and responsibilities relating to feeding practices of pregnant and breastfeeding women? 14. What role do you play as CHVs in this community in promoting dietary diversity in diets of pregnant and breastfeeding women? 15. What are the greatest challenges in your role in providing services and information relating to the diet and feeding practices of pregnant and breastfeeding women?
Community solutions and community-led interventions	16. In what way can you improve your current role in providing services and information to the community related to promoting dietary diversity for pregnant and breastfeeding women? 17. What are some community-owned and community-led solutions that will help promote this practice of dietary diversity among pregnant and
	breastfeeding women?

06: Communication channels and delivery platforms

1. What modes of communication channels are currently commonly used to target caregivers of children under 2 years, pregnant and breastfeeding women with information? (Probe for the favorite channel e.g., one-on-one counseling, community group meetings, radio, TV, mobile phone, posters, leaflets, mother to mother support groups, church forums, etc.)
2. What are the most preferred ways in which caregivers of children under 2 years, men/fathers, pregnant and breastfeeding women can be reached with messages touching on nutrition?

07: Training on MIYCN

i. What training have you received on maternal, infant and young child nutrition? Probe specific areas of early initiation of breastfeeding, exclusive breastfeeding, complementary feeding, feeding practices for pregnant and breastfeeding women, etc.
ii. Do you have any materials that you use to guide the information you share on MIYCN? Probe: What materials do you use when training community members on MIYCN?

FOCUS GROUP DISCUSSION FOR SCHOOL PUPILS

1. When and how the group was formed?*(probe for organization, government departments, community participation)*
2. How did you join the group (*Recruitment process? Probe if there were some who were not happy with the recruitment process and for those who were satisfied, why was it so?)*
3. What are the various activities that have been undertaken by the group since you joined?
4. Who supported the activities *(agencies/donors)?*
5. How much time do you devote to the group (*Probe for how often they meet and how much time they spend)?*
6. Apart from activities in this group, what other donor/NGO/ Government funded activities are you involved in? (*Probe for layering of activities by different partners by asking who are implementing the activities and what is being offered)*
7. How many projects do you know that are being implemented here *(probe for organization, beneficiaries, selection criteria and any impact it could have had)*

8. Have you benefited from the group? *If yes, Probe how*
9. How has the project affected you, your household and the community?

(Probe for change in source of income, amount of time spent taking care children and elderly , feeding practices, water supply (quantity, source and quality), access to markets, access to health and Nutrition services, food consumption patterns, prices of foods in the market, Decision making power, livestock market development, livestock management services)

10. Have you attended any trainings since joining the group?(probe for which ones and when and if they have impacted.

FOOD SOURCES *(socio-cultural issues, infrastructure and markets issues targeted*):

11. What food do you mainly consume in your household?
12. Where do you get the foods from?
13. What cultural or economic barriers inhibit access to or utilization of different food?

Malnutrition pathways:

14. Have you ever heard of the term malnutrition *(probe for definition and possible causes?)*
15. How do you think malnutrition can be solved?
16. Do you think the activities being implemented here can help solve that?
17. What interventions can the community or households undertake that can promote nutrition *(Probe for agricultural and business opportunities, health and WASH services,)*

KEY INFORMANT INTERVIEWS WITH FRONTLINE SERVICE PROVIDERS, TEACHERS AND SOCIAL INFLUENCERS

This KII will be administered to the following:

1. Male and female social influencers (Religious leaders/Chief/Community Elder)
2. 1 Nutritionists
3. 2 MCH Nurses
4. 1 Facility Manager level
5. Teachers
6. BoM Members

DATA SHEET

County/Sub-County/Ward:

Venue: _____

_____

_____End Time:_____

_____

Date:
Start Time:

Name of interviewer: Name of translator (if used): _____ Digital recording code: _____

01. <u>MIYCN Knowledge and Support</u>

1. Please describe your current position/role and responsibilities.
2. What are the main MIYCN needs/challenges in this community? Probe for needs related to early initiation of breastfeeding, exclusive breastfeeding, complementary feeding and dietary intake of pregnant and breastfeeding women
3. In what ways are you involved in improving maternal, infant and young child nutrition (MIYCN) in this community? Probe for involvement in policy making, guideline development, implementation of MIYCN activities, monitoring and evaluation
4. What are the perspectives and norms held by health workers providing (Early initiation, EBF, dietary diversity among children 6-23 months, pregnant and breastfeeding women [PLW] caregivers)?
5. What social norms can be targeted to improve on (Early initiation, EBF, dietary diversity among children 6-23 months, pregnant and breastfeeding women [PLW] caregivers)

02. <u>Health seeking behavior</u>

1. Where do most mothers seek services related to maternal, infant and young child nutrition? Why is it so?
2. How do you ensure optimal access to MIYCN information and services by pregnant and breastfeeding women and caregivers of children under 2 years in this facility?
3. How is the uptake of ANC services by pregnant women in this community? why do you say so?
4. How is the uptake of PNC services by breastfeeding women with children less than 2 years? Why do you say so?

03. <u>Uptake of desired MIYCN practices</u>

Please tell us about the communities' attitudes, perceptions and practices as regards each of the following (discus each individually and probe to ensure the responses capture all the three aspects (attitudes, perceptions/beliefs and practices):

a. Early initiation of breastfeeding

1. Is early initiation of breastfeeding within the first hour after birth a common practice in this community?
2. What are your views about early initiation of breastfeeding?
3. What are some of the factors that promote early initiation of breastfeeding in this community?
4. What are some of the factors that may pose challenges to early initiation of breast feeding in this community?

b. Exclusive breastfeeding

1. Is exclusive breastfeeding a common practice in this community?
2. What are your views about exclusive breastfeeding?
3. What are some of the factors that promote exclusive breastfeeding in this community?

4. What are some of the factors that may pose challenges to exclusive breast feeding in this community?

c. Complementary feeding practices

1. At what age are children introduced to other foods and drinks other than breastmilk in this community? (If less than 6 months probe, if more than 6 months probe for reasons)
2. In your opinion, are the complementary feeding practices adequate? Probe for reasons

d. Dietary diversity among pregnant and breastfeeding women

1. What do pregnant and breastfeeding mothers normally eat in their daily diets in this community

   Probe for:

   a. What factors influence the feeding practices of pregnant women?
   b. Which foods are recommended for pregnant women in this community? Why?
   c. Which foods are NOT recommended for pregnant women in this community? Why?
   d. What factors influence the feeding practices of breastfeeding women?
   e. Which foods do breastfeed mothers in this community eat to enhance breast-milk production? Why?

2. What challenges do families in this community face in ensuring that pregnant and breastfeeding women eat properly?

   (Ensure you collect information on both pregnant and breastfeeding women.)

   Probe for:

   a. Availability of foods
   b. Maternal workload
   c. Socio-economic status
   d. Cultural influence
   e. Roles of women versus men
   f. Decision making power regarding MIYCN
   g. Household resource control
   h. Male engagement and attitudes towards MIYCN

04: Key Influencers, Communication Channels and Delivery Platforms

1. Who in the family or community typically makes decisions on matters concerning maternal, infant and young child nutrition?
2. What are the gender roles and responsibilities relating to the practices of breastfeeding/ early initiation of breastfeeding?
3. What modes of communication channels are currently commonly used to target caregivers of children under 2 years, pregnant and breastfeeding women with information? (Probe for the favorite channel e.g., one-on-one counseling, mother-to-mother support groups, CHVs house visits and group talks, community group meetings, radio, TV, mobile phone, posters, leaflets, mother to mother support groups, etc)
4. What are the most preferred ways in which caregivers of children under 2 years, pregnant and breastfeeding women are reached with messages?
5. What are the greatest challenges in your role in providing services and information in MIYCN?
6. In what way can you improve your current role in providing MIYCN services and information to the community?

05: Support by county officials (Health, Education and Agriculture) in integration of nutrition programming

1. How many County departments are involved in We World project?
2. What do you know about the work of We World Partners and your thoughts
3. Have you been involved in any way? If Yes, How?
4. What training did you receive from We World on integration? What was the most useful thing about this training
5. What hindered or would hinder projects like DRIC implementation and How can the challenge be overcome

06: Nutrition information

1. Where do you get nutrition information and support from ?
2. How does the communication work between DRIC partners and MOH ?
3. What do you think worked or didn't work well in terms of nutrition information sharing under DRIC Project?
4. Are there existing or proposed mechanisms for facilitating coordination and communication among stakeholders(Yes/No)
5. How often are the Nutrition County coordination meetings held

07: Opportunities to integrate the most impactful DRIC supported intervention to increase commitments to nutrition programming

1. What is your understanding of Integration
2. What is Malnutrition and its indicators
3. Have you been involved in the Nutrition projects?
4. Which projects/ interventions have been integrated and how are they tracked?(Probe for nutrition integration)
5. How do you think the projects being implemented here can help address the chronic high GAM rates in the county?
6. What are the some of the integration Opportunities in the focus areas ?
7. What do you think worked or didn't work well under DRIC?
8. Comparison of AMAL to experiences from other related projects
9. Recommendations/way forward for improvement

08: Recommendations

1. What are some of the ways in which the following practices can be improved in this community?
    a. Early initiation of breastfeeding
    b. Exclusive breastfeeding for 6 months
    c. Introduction of diverse foods in diets of children above 6 months
    d. Intake of diverse foods by pregnant and breastfeeding women
    e. Male engagement in supporting MIYCN practices
    f. MIYCN communication to men, grandmothers, caregivers, community in general

09: Knowledge, training and data requests

1. Do you feel you know enough about the maternal, infant and young child nutrition needs, practices and services in the County?
2. Do you feel you have enough training to support work on MIYCN? Would you like more training or support? If so, what kind? Probe for specific areas in MIYCN and social behaviour change approaches.

KEY INFORMANT INTERVIEWS FOR COUNTY GOVERNMENT

This KII will be administered to the following:

a. County Nutrition Coordinator (1)
b. Sub County Nutrition Coordinator (3)
c. Agriculture Extension Officer (1)
d. Education Officer(1)
e. Social Protection Officer(1)
f. NDMA Officer(1)
g. Local implementing partners (2)

DATA SHEET

County/Sub-County/Ward: _____

Venue: _____

Date: _____

Start Time: _____ End Time: _____

Name of interviewer: _____

Name of translator (if used):

Digital recording code: _____

01: Background

1. Please describe your current position/role and responsibilities.
2. In what ways are you involved with maternal, infant and young child nutrition (MIYCN)? **Probe** for involvement in policy making, guideline development, implementation of MIYCN activities, monitoring and evaluation

02: Programme coordination

1. Is there a mechanism for alignment across partners supporting maternal, infant and young child nutrition programs that guides joint learning and actions? **Probe**:
   a. Would it be necessary to have this alignment? Explain
   b. If not, how do you think this alignment can occur at County and Sub-County level)

03: Support by county officials (Health, Education and Agriculture) in integration of nutrition programming

6. How many County departments are involved in We World project?
7. What do you know about the work of We World Partners and your thoughts
8. Have you been involved in any way? If Yes, How?
9. What training did you receive from We World on integration? What was the most useful thing about this training
10. What hindered or would hinder projects like DRIC implementation and How can the challenge be overcome

04: Nutrition information

6. Where do you get nutrition information and support from ?
7. How does the communication work between DRIC partners and MOH ?
8. What do you think worked or didn't work well in terms of nutrition information sharing under DRIC Project?
9. Are there existing or proposed mechanisms for facilitating coordination and communication among stakeholders(Yes/No)
10. How often are the Nutrition County coordination meetings held

05: Opportunities to integrate the most impactful DRIC supported intervention to increase commitments to nutrition programming

10. What is your understanding of Integration
11. What is Malnutrition and its indicators
12. Have you been involved in the Nutrition projects?
13. Which projects/ interventions have been integrated and how are they tracked?(Probe for nutrition integration)
14. How do you think the projects being implemented here can help address the chronic high GAM rates in the county?
15. What are the some of the integration Opportunities in the focus areas ?
16. What do you think worked or didn't work well under DRIC?

17. Comparison of AMAL to experiences from other related projects
18. Recommendations/way forward for improvement

06: Budgeting

1. Is funding for maternal, infant and young child nutrition activities available? From where? Is the funding sufficient for MIYCN programming needs at county/sub county levels? If not, what has been the barriers?
2. What can be done to increase the funding or resource allocated to MIYCN activities in the county and sub county levels?

07: Programme policies and implementation

1. What are the existing county government policies, strategies and guidelines that apply to MIYCN? Probe and outline the specific policies, strategies and guidelines being used at county/sub county level to guide MIYCN activities.
2. Have any of these policies related to MIYCN been disseminated and/or adopted in the County/Sub County? Which policies have been disseminated over the past 2 years (from December 2020 to date)? Was dissemination of these MIYCN policies and guidelines done at all levels? (Probe, County, Sub-County, Ward and Institutional level)
3. What specific MIYCN activities are being implemented in the county/sub county? Probe: What is working well and what is not working well in terms of MIYCN programmes?
4. What programming challenges is the County facing in addressing the MIYCN needs among caregivers, pregnant and breastfeeding women?
5. How best can these programmatic challenges be addressed by all stakeholders at county and sub county level?
6. What are the perspectives and norms held by health workers providing (Early initiation, EBF, dietary diversity among children 6-23 months, pregnant and breastfeeding women [PLW] caregivers)?
7. What social norms can be targeted to improve on (Early initiation, EBF, dietary diversity among children 6-23 months, pregnant and breastfeeding women [PLW] caregivers)?

08: Knowledge, training and data requests

1. Do you feel you know enough about the maternal, infant and young child nutrition needs, practices and services in the County?
2. Do you feel you have enough training to support work on MIYCN? Would you like more training or support? If so, what kind?
3. Do you need additional data on the MIYCN status in the County? What can be done to strengthen the County DHIS data on MIYCN?

Household Questionnaire

List of Wards by Sub counties.

SUB COUNTY	WARDS
Merti	Cherab
Merti	Chari
Garbatulla	Kinna
Garbatulla	Sericho
Isiolo Central	Burat
Isiolo Central	Oldonyiro

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WHO, 2010, Indicators for assessing infant and young child feeding practices part 2: measurement. World Health Organization. Dept. of Child and Adolescent Health and Development. ISBN 978 92 4 159929 0 (NLM classification: WS 120)

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