



KNOWLEDGE ATTITUDES AND PRACTICES (KAP) AND COMMUNICATION FOR DEVELOPMENT (C4D) ASSESSMENT IN TURKANA COUNTY



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ACRONYMS AND ABBREVIATIONS

ANC	Ante Natal Care
ASF	Animal Sourced Food
BCC	Behavior Change Communication
C4D	Communication for Development
CBO	Community Based Organization
CDOL	Catholic Diocese of Lodwar
CHW	Community Health Worker
CSG	County Steering Group
FGD	Focus Group Discussion
HIV	Human Immunodeficiency Virus
IDP	Integrated Development Plan
IEC	Infant Education Communication
KI	Key Informants
MIYCN	Maternal Infant and Young Child Nutrition
MoH	Ministry of Health
MtMSG	Mother to Mother Support Group
MUAC	Mid Upper Arm Circumference
NGO	Non-Governmental Organization
PNC	Post Natal Care
SMART	Standardized Monitoring and Assessment of Relief and Transition
TBA	Traditional Birth Attendant

EXECUTIVE SUMMARY

Introduction

This section summarizes the findings of a Maternal Infant and Young Child Nutrition (MIYCN) survey undertaken in Turkana County during the period of June 2014. The survey was meant to generate information necessary to improve uptake of optimal MIYCN practices through integration of C4D approaches in the County.

Objectives

1. To generate and document existing knowledge, attitudes and practices on MIYCN
2. To describe vulnerabilities and gaps in knowledge, attitudes and practices among different socio-economic groupings and geographic areas of Turkana.
3. To generate baseline data on existing attitudes and practices in MIYCN, and as part of a framework for monitoring progress.
4. To provide essential data for formulation of key messages and required areas of focus for county MIYCN interventions.
5. To identify existing communication channels and networks into which MIYCN communication for behaviour and social change can be integrated using C4D (Communication for Development).

Methodology

The survey employed both quantitative and qualitative data collection methods to establish the prevalence of MIYCN practices. The survey applied a three stage stratified cluster sampling with the clusters being selected using the probability proportional to population size (PPS). The sub-locations constituted the sampling frame. The target population was mothers/caregivers of children 0-23 months of age in Turkana County where MoH implements a health and nutrition programme in collaboration with IRC, WVK, SCI, KRCS, & APHIA Plus. Based on the CARE manual protocol, the breastfeeding indicator with the highest sample size of 186 was chosen. This sample was then multiplied by four to cater for the 4 age groups within 0-23 months (0-5 months, 6-11 months, 12-17 months, and 18-23 months), giving a total sample size of 744 children aged 0-23 months.

Qualitative data on MIYCN influencers was collected through 40 FGDs and 4 KIIs.

Summary of key findings

RESPONDENT AND HOUSEHOLD CHARACTERISTICS		
Total women interviewed	779	
Children aged 0-23months	744	
Gender of the head of the household member	N=779	
Male		80.1
Female		19.9
Respondents characteristics	N	%
Marital status of respondent	N=716	
Currently married		76.4
Currently living together		16.2
Separated/divorced		3.6
Widowed		2.0
Single/never married		1.8
Respondent has ever been to school	N=757	21.4
Highest level of education completed	N=197	
Less than primary		45.2
Primary school		41.1
Secondary/ high school		9.6
College/pre-university/university		4.1
Religion	N=762	
Christian		93.4
Muslim		0.7
Traditional		5.8
Other		0.1
Main source of livelihood	N=761	
Informal employment		56.8
Formal employment		6.8
Rural agriculture		7.4
Urban agriculture		0.1
Remittances		8.1
Employment Jua kali		0.4
Employment office		1.1
Other e.g. charcoal burning		19.3
Current occupation	N=772	
Unemployed/housewife		85.0
Employed informal		3.4
Employed formal (8-5 job)		1.3
Student		1.0
Serves in church/mission		0.4

Other		8.9
Mean age of respondents		27.7 years
Average Household size		5.4
MATERNAL BIRTH HISTORY		
	N	%
Respondent has ever been pregnant	N=762	97.9
Respondent has ever given birth	N=728	95.8
Respondent has given birth and child is alive	N=731	96.9
Number of alive children	N=711	
0		1.3
1		16.9
2		14.9
3		22.5
4		15.2
5		13.1
6		8.7
7		5.2
8		2.0
9		0.1
10		0.1
Respondent has given birth and child is not alive	N=723	13.9
Number of births not alive	N=276	
0		63.0
1		23.9
2		6.9
3		2.5
4		1.8
5		1.1
6		0.7
Births both alive and dead	N=679	
0		1.6
1		15.3
2		13.3
3		22.7
4		15.5
5		12.5
6		7.7
7		5.7
8		4.7
9		0.4
10		0.3
12		0.3
PHYSIOLOGICAL STATUS OF THE RESPONDENT		
	N	%

physiological status	N=776	
Pregnant		11.9
Lactating		81.1
Pregnant and lactating		1.2
Not pregnant/not lactating		5.8
Duration of pregnancy for pregnant women (those that new age of pregnancy)	N=16	%
2		12.5
4		18.8
6		6.3
7		25.0
8		25.0
9		12.5
CHARACTERISTICS OF THE CHILD		
	N	%
Gender of the child	N=748	
Male		53.1
Female		46.1
Verification of child's age	N=748	
Health card		78.7
Birth certificate		0.8
Baptism calendar		1.5
Seasonal calendar		19.0
Child age category	N=748	
Children aged 0-5 months		27.4
Children aged 6-11 months		23.8
Children aged 12-17 months		24.6
Children aged 18-23 months		24.2
Place child was born	N=747	
In the hospital		16.5
In the health center, doctor's office, private clinic		2.7
In the home.		77.0
In the midwife's home		3.6
Other e.g. road side, collecting firewood		0.3
Child ever breastfed	N=727	99.2
Why child was never breastfed	N=50	
Baby ill		34.0
Baby unable to suckle		4.0
Baby refused to suckle		4.0
Mother refused		6.0
Spouse refused		2.0
Mother was sick		4.0
No/inadequate milk		12.0
Advice by health professional		6.0
Advice by other person		4.0
Other e.g. cultural practices, child was small		24.0

FEED OF THE CHILD WITHIN THE FIRST THREE DAYS AFTER BIRTH		
	N	%
Child given anything other than breast milk in the first 3 days	N=708	26.8
Things given		
Milk (other than breast milk)	N=174	66.7
Plain water	N=166	20.5
Sugar/glucose solution	N=171	19.9
Gripe water	N=155	3.9
Sugar/salt solution	N=159	7.5
Fruit juice	N=154	0.6
Infant formula	N=153	2.0
Tea/infusions	N=153	2.0
Coffee	N=151	0.7
Honey	N=708	0.0
Reasons for giving drinks other than breast milk		
Not enough breast milk	N=165	45.5
Baby cried too much	N=151	22.5
Cultural reasons	N=157	34.4
Work related obligations	N=787	0.0
Weather too hot	N=142	0.7
First milk not good for babies	N=94	1.1
Other e.g. child is too small, mother was sick, cleans the stomach, twins	N=747	1.3
Respondent received practical support or advice to help start breastfeeding	N=731	47.9
NUTRITION KNOWLEDGE AND ATTITUDES		
Attributes	N	%
Baby should be put to the breast immediately they are born	N=697	75.5
Baby should be given xiehaviorxis at birth or soon after	N=734	96.3
Respondent would feed baby on xiehaviorxis	N=685	97.5
Benefits of feeding baby on xiehaviorxis		
Nutritious to baby	N=654	84.0
Prevents diseases/infections	N=531	47.1
Cleans baby stomach	N=450	28.7
Why respondent would not feed baby on xiehaviorxis		
Its dirty milk	N=56	17.9
Not satisfying/sufficient	N=52	30.7
Mother needs to rest	N=64	34.4
Cultural practices	N=52	13.5
Other e.g. malaria in colostrums	N=685	0.5

How long after birth should a baby be put to the breast	N=638	
Immediately		75.5
After a few hours		12.2
After a few days		6.3
Baby should be given anything to drink/eat other than breast milk within the first 3 days	N=661	21.9
What the baby should be given		
Milk (other than breastmilk)	N=146	66.4
Plain water	N=142	22.5
Sugar/glucose solution	N=147	15.6
Gripe water	N=133	3.8
Sugar/salt solution	N=134	5.2
Fruit juice	N=146	0.0
Infant formula	N=132	0.8
Tea/infusions	N=146	0.0
Honey	N=146	0.0
Other	N=146	2.4
What should be used to feed liquids to a baby	N=616	
Bottle with nipple/teat		21.6
Cup with nipple/teat		33.1
Cup with holes		20.0
Cup/ bowl with no cover and spoon		21.4
Feeding with palm/hands		1.3
Other		2.6
Age in months one should introduce solid/semi-solid food	N=509	
0		0.2
1		0.2
3		3.3
4		4.5
5		5.1
6		68.4
7		11.2
8		3.7
9		1.0
10		0.6
12		0.8

INFORMATION AND DECISIONS ABOUT CHILD FEEDING

	N	%
Source of information on child feeding		
Mother	N=522	57.6
Grandmother	N=371	18.9
Other relative	N=369	10.3
House girl	N=787	0.0
Neighbor	N=360	5.3

Day care center	N=379	18.2
No one (self)	N=421	33.5
Siblings	N=354	0.8
Others	N=186	5.9
Decision on child feeding		
Mother	N=664	94.9
Father	N=342	2.6
Grandmother	N=341	2.9
Other relative	N=340	0.3
Day care center	N=338	0.6
No one (self)	N=344	7.8
RESPONSIVE FEEDING OF A CHILD		
	N	%
Child ate all the food	N=561	42.6
Respondent encouraged child to eat	N=505	56.0
What the respondent did to the child		
Offered another food/liquid	N=255	18.8
Encouraged verbally	N=350	62.3
Modeled eating (with/without toy)	N=234	5.1
Ordered strongly/forced child to eat	N=235	7.2
Another person helped feed the child	N=235	7.2
Another form of encouragement	N=239	10.8
Doesn't know	N=138	12.3
Respondent talked to the child during the meal time while feeding	N=530	59.4
What the respondent said/did to the child		
Ordered child to eat	N=236	17.4
Praised the child	N=332	55.1
Asked child questions	N=225	3.5
Talked about the food	N=237	16.0
Threatened the child	N=227	3.1
Told the child that she liked the food	N=229	2.1
Rewarded the child	N=223	0.5
Talked about other things	N=227	6.6
Don't know	N=130	12.3
Child ate by him/herself, using hands or utensil	N=526	50.4
Child fed themselves		
All the time		23.8
Half the time		24.7
Little bit of the time		32.9
Doesn't know		18.5
FEEDING A SICK CHILD		
	N	%
Child offered less, more or the same amount of breast milk as when healthy	N=555	

Less, because the child did not want it		72.3
Less, because mother's decision		1.8
More		4.9
The same		13.5
Child never breastfed or child breastfeeding before last illness		2.2
Child has never been sick		4.5
Doesn't know		0.9
Child offered less, more or the same amount of non-breast milk liquids as when healthy	N=530	
Less, because the child did not want it		73.4
Less, because mother's decision		3.8
More		7.4
The same		11.9
Child never fed non-breast milk liquids		2.1
Doesn't know		1.5
Child offered less, more or the same amount of food as when healthy	N=529	
Less, because the child did not want it		75.8
Less, because mother's decision		0.9
More		4.3
The same		13.8
Child never fed foods		4.2
Doesn't know		0.9
Amount of food offered to the child after the illness as when healthy	N=527	
Less, because the child did not want it		29.4
Less, because mother's decision		0.6
More		43.3
The same		24.1
Doesn't know		2.7
HANDLING OF LEFT-OVER CHILD FOOD		
	N	%
How often food remains on the plate/bowl	N=523	
Most of the times		25.8
Often/several times		18.0
Few times/once in a while		39.6
Never		16.6
food that remains on the plate if child fails to finish		
put in a fridge to feed baby later	N=294	0.9
put in a cupboard to feed baby later	N=294	3.1
put elsewhere to feed baby later	N=351	37.6
thrown away	N=310	14.5
given to other children	N=416	61.5
other e.g. given to chicken,	N=94	3.2
INTERACTION OF MOTHER AND CHILD		
	N	%
How often the mother is away from the baby for most of the day	N=507	

Always/most days(6 days/week)		6.7
Often/many days (4-5days/week)		4.3
Sometimes/a few days(2-3 days/week)		12.6
Never/few days(0-1 day/week)		76.3
BREASTFEEDING PRACTICES		
Breastfeeding	N	%
Child ever breastfed	N=727	99.2
Early initiation of breastfeeding	N=728	69.8
How long after birth the child was put to the breast	N=728	
immediately		44.8
less than 1 hour		25.0
hours		22.5
days		7.7
Exclusive breastfeeding for children aged 0to5 months	N=205	31.6
Continued breastfeeding at 1 year (12 to 15 months)	N=92	18.4
Continued breastfeeding at 2 years (20 – 23months)	N=456	16.0
Predominant breastfeeding for children aged 0-5 months	N=748	27.4
COMPLEMENTARY FEEDING PRACTICES		
Complementary feeding for breastfed child	N	%
Introduction of appropriate complementary foods for child aged 6 to 8 months	N=91	60.4
Appropriate child dietary diversity score (4 or more food groups child aged 6 to 23 months)	N=427	9.5
Minimum meal frequency for breastfed child aged child aged 6 to 8 months (2 times)	N=64	45.3
Minimum meal frequency for breastfed child aged child aged 9 to 23 months (3 times)	N=284	31.3
Minimum acceptable diet	N	
Child aged 6 to 8 months	64	6.3
Child aged 9 to 23 months	284	6.8
Appropriate complementary feeding for children aged 6 to 23 months (fed solid and breastfeeding)	N=543	51.8
Given iron rich foods or fortified foods and supplements (6-23months)	N=499	24.2
Bottle feeding practice for children 0-23months	N=748	9.9
ANC FOR PREGNANT WOMEN		
	N	%
Respondent has seen someone for ANC during pregnancy	N=102	74.5
Months pregnant when respondent received first ANC for the pregnancy	N=77	
0		5.2
1		1.3
2		6.5
3		19.5
4		27.3

5		20.8
6		11.7
7		2.6
8		2.6
Total received ANC care during the pregnancy	N=73	
0		2.7
1		17.8
2		26.0
3		27.4
4		17.8
5		4.1
6		1.4
7		1.4
Whom did you see	N=74	
Doctor		6.8
Nurse		86.5
Traditional birth attendant		2.7
Other		4.1
Measurements taken and tests done		
Height measurement	N=77	57.1
Weight measurements	N=81	85.2
BP measurements	N=78	79.5
Iron folate supplementation	N=81	86.4
Anti-malaria drugs	N=79	70.9
Urine sample	N=76	44.7
Blood sample	N=77	53.2
Tetanus vaccine	N=81	74.1
Deworming tablets	N=80	56.3
HIV test	N=80	73.8
Mosquito net	N=76	34.2
MUAC	N=74	43.2
Ultra sound SCAN	N=67	10.4
Information given on		
Test during pregnancy	N=79	68.4
Place of delivery	N=79	73.4
Your own health(weight gain)	N=79	78.5
Your own nutrition	N=80	70.0
HIV/AIDS	N=80	81.3
Breastfeeding	N=76	75.0
Infant feeding	N=74	58.1
Iron tablets/iron folic supplementation	N=67	32.8
Source of information		
Doctor	N=61	8.2
Midwife/auxiliary midwife	N=56	1.8
TBA	N=58	6.9
Relative/friend/neighbor	N=56	8.9
CHW	N=62	25.8
NGO/CBO	N=34	5.9

IRON FOLATE SUPPLEMENTATION FOR PREGNANT WOMEN		
	N	%
Respondent was given/bought iron and folic acid supplements	N=105	62.9
Days respondent took iron and folic acid supplements	N=93	
0		16.1
1		4.3
2		2.2
3		1.1
4		1.1
5		3.2
7		4.3
14		2.2
18		1.1
20		3.2
21		2.2
28		2.2
30		28.0
42		1.1
45		1.1
60		12.9
75		1.1
90		6.5
120		5.4
180		1.1
Median duration of iron/folate intake	30 (SD=36.2)	
Why respondent didn't take iron and folic acid supplements	N=24	
Not given at the health facility		16.7
Ignored advice from health worker		4.2
React to them		4.2
Can't afford to buy		12.5
Other e.g. didn't attend ANC, health facility is far, misplaced in the house		62.5
PREGNANT WOMEN CURRENTLY TAKING ANY PRODUCT		
	N	%
Currently taking		
Nutritional supplements (fortified (CSB, Advantage Plus, Unimix..)) (RUSF...	N=80	8.8
Herbal supplements	N=72	4.2
Soil/mineral stones	N=72	8.3
ANC FOR LACTATING WOMEN WITH CHILD 0-23 MONTHS		
	N	%
Respondent attended ANC	N=721	85.0
months pregnant when respondent attended first ANC visit	N=630	
0		2.2
1		1.3

2		6.0
3		12.3
4		21.8
5		26.1
6		16.6
7		7.3
8		3.0
9		0.8
Times respondent received ANC during the pregnancy	N=629	
1		2.2
2		8.7
3		16.2
4		25.3
5		25.9
6		9.7
7		5.2
8		1.1
9		0.2
10		0.3
15		0.5
20		0.3
Why respondent didn't attend ANC	N=104	
not aware of the existence/importance of ANC		28.9
Health facility too far		47.1
Unfriendly health workers		1.0
TBA services adequate		1.9
Cultural barriers e.g. staff too young, male staff e.t.c		2.9
Other		18.3
Information given during ANC		
Testing during pregnancy	N=615	80.9
Place of delivery	N=600	74.9
Your own health	N=612	80.4
Your own nutrition(IFAs, Balanced Diet)	N=595	77.1
HIV/AIDS	N=627	82.0
Breast feeding	N=586	71.0
Infant feeding	N=563	59.3
Measurements taken, tests done and things given		
Weight measurements	N=634	90.2
BP measurements	N=611	83.5
Iron folate supplementation	N=639	91.1
Anti-malaria drugs	N=600	79.5
Urine sample	N=594	52.7
Blood sample	N=594	61.3
Tetanus vaccine	N=630	84.6
Deworming tablets	N=596	74.7
HIV test	N=545	72.7
Mosquito net	N=481	31.2
Ultra sound SCAN	N=448	16.1
Other	N=787	0.1

IRON FOLATE SUPPLEMENTATION FOR LACTATING WOMEN WITH CHILD AGED 0-23 MONTHS

	N	%
Respondent was issued/bought iron tablet/ iron folate supplementation	N=667	79.6
Total days the responded took the iron folate supplement	N=607	
0		6.4
1		1.2
2		1.0
3		1.6
4		1.8
5		2.1
6		0.8
7		5.0
8		0.3
10		1.3
12		0.2
13		0.3
14		7.6
15		1.2
16		0.3
18		0.3
19		0.2
20		3.5
21		1.8
22		0.2
23		0.2
24		.2
25		0.5
27		0.5
28		1.3
30		23.9
31		0.2
36		0.2
40		1.0
45		0.5
50		0.7
58		0.2
60		10.4
70		0.2
85		0.2
90		9.6
98		0.2
100		0.2
110		0.2
120		8.7
150		2.5
180		1.0
Median intake of iron/folate supplements	30 (SD=41.9)	

Why respondent didn't take iron and folic acid supplements during the pregnancy	N=94	
Not given at the health facility		24.5
Ignored advice from healthcare worker		6.4
Threw them away		12.8
React to them		10.6
Can't afford to buy		9.6
Other e.g. didn't attend ANC, health facility is far,		36.2
LACTATING WOMEN WITH CHILD AGED 0-23 MONTHS CURRENTLY TAKING ANY PRODUCTS		
	N	%
Currently taking		
Nutritional supplements (fortified (CSB, Advantage Plus, Unimix..) (RUSF...	N=505	10.1
Herbal supplements	N=451	2.2
Soil/mineral stones	N=443	3.4
POST NATAL PRACTICES		
	N	%
Where respondent delivered	N=718	
At home by TBA		24.0
At home by Nurse		1.0
At home without assistance		56.3
Hospital		18.5
Other		0.3
How long the respondent took before taking the child to the hospital	N=591	
Immediately(within first 24 hours)		18.0
Within first 2 weeks		46.9
Between 2 weeks and 1 month		8.3
After 1 month		16.6
Child not taken		9.0
Does not intend to take child to clinic		1.4
MATERNAL DIETARY DIVERSITY		
	N	%
Food consumed		
Starches	N=773	92.8
Vitamin dark vegetables	N=787	14.7
Vitamin A rich fruits and vegetables	N=787	7.1
Other fruits and vegetables	N=787	3.2
Organ meats	N=787	13.6
Meats and fish	N=787	4.8
Eggs	N=787	5.3
Legumes and nuts	N=787	56.5
Milk	N=787	52.7
	N	%
Meal or snack eaten outside the home	N=767	10.3

Use of fortified foods and food products	N=718	37.7
Types of fortified foods		
Maize flour	N=547	74.6
Wheat flour	N=442	23.7
Margarine	N=405	8.9
Cooking fats and oils	N=557	71.2
Salt	N=609	81.5
Sugar	N=554	55.3
Coffee or tea taken during or right after eating meals	N=707	21.5
MATERNAL AND CHILD NUTRITIONAL STATUS BY MUAC		
	N	%
Child MUAC	N=596	
Severely malnourished (11.5cm)		2.7
Moderately malnourished (11.5-12.4cm)		17.6
At risk (12.5 – 13.4cm)		38.4
Nourished (>13.4cm)		41.3
Maternal MUAC	N=766	
Malnourished (<21cm)		11.0
Nourished (>21cm)		89.0

Barriers and reinforcers of MIYCN

Barriers	Reinforcers
<ul style="list-style-type: none"> - Twins separated after birth hence one doesn't get to benefit from the mother. - Low hospital delivery rates. - Cultural practice of giving fat from goat or milk before breastfeeding. - High food insecurity affecting complementary feeding and maternal nutrition. - Women do most of the work, hence work becomes a burden to them. - Grandmothers insist on children being brought up the old traditional way. - Cultural practice of first performing the child naming ceremony before initiating breastfeeding. 	<ul style="list-style-type: none"> - Grandmothers have reportedly provided wet nursing where the mother is away. - High breastfeeding knowledge among mothers. - Men willing to be trained on MIYCN - CHWs reported as a major source of information on nutrition.

Communication for Development (C4D) Assessment

Communication for development strategies, activities and M&E

Objective	Strategies	Activities	M&E Indicators
1, 4 & 5	<ul style="list-style-type: none"> - Train male health workers on MIYCN - Mobilize men and village elders and engage them through Community Conversations on MIYCN training and changing cultural practices to support women and children. - Develop communication materials on, <u>pre-lacteal feeding</u>, <u>maternal and young child nutrition</u>, and <u>good eating practices for women and children</u>, and <u>responsive feeding</u> targeting men and village elders 	<ul style="list-style-type: none"> - Development of training materials on MIYCN targeting men and village elders (church leaders, teachers, elders). - Training of male health workers on MIYCN - Mobilization of men and village elders - Community Conversations on EBF with men and village elders - Community Conversations on food culture as it related to women and children with men and village elders 	<ul style="list-style-type: none"> - Training materials for men and village elders developed on relevant themes - No of trainings for male health workers on MIYCN - Meetings held and no of men and village elders mobilized - No of training groups formed for men and village elders - No of Community Conversations held per month per area - Content taught per session
2, 3, 4, 5 & 6	<ul style="list-style-type: none"> - Development of MIYCN materials content specific to <u>pre-lacteal feeding</u>, <u>maternal and young child nutrition</u>, and <u>good eating practices for women and children</u>, and <u>responsive feeding</u> - Training of health care workers on content above - Strengthening MTMSG's with specific focus on the above topics. - Development of communication material on the above content through folklore, community 	<ul style="list-style-type: none"> - Development of training materials on MIYCN targeting women and children on stated content/themes. - Training of health workers on MIYCN - Formation of MTMSG's - Establishment of quarterly forums to engage with Grandmothers, TBAs, mothers in law - Road shows and film sessions targeting market days in different villages show casing songs, dances, films, community broadcasts on stated content/themes. 	<ul style="list-style-type: none"> - Training materials developed based on stated content/themes. - No of trainings held for health care workers including CHWs based on agreed content/theme. - No of MTMSG formed and frequency of meetings per month. - No of forums established for engaging grandmothers, mother in laws. - No of quarterly meetings held with grandmothers/mothers in law per agreed schedule.

	broadcasts, and local-based films.		<ul style="list-style-type: none"> - No of songs, dramas developed on content/theme. - No of road shows held and target markets covered as agreed.
7	<ul style="list-style-type: none"> - Promote partnership between Health workers and the custodians of culture and women 	<ul style="list-style-type: none"> - Train TBAs on identification and early referral of obstetric complications - Train TBAs on emotional support of pregnant women - Establish an incentive program for TBAs bringing mothers to facilities in a timely manner. - Engage on elders on cultural change to encourage health facility delivery and substitute placenta burying at home. 	<ul style="list-style-type: none"> - No of TBA trainings on referral done. - No of trainings to TBAs on emotional support to pregnant mothers using folklore, songs, and meetings. - Status of incentive program. - No of meetings and activities held with elders
All	<ul style="list-style-type: none"> - Sensitization and advocacy meetings and talks with county leaders, chiefs and headmen on MIYCN and the role of culture. - Sensitization meetings held with the County steering group (CSG) - Sensitization and partnership building meetings with other partners on the ground including NGO's, CBOs 	<ul style="list-style-type: none"> - Quarterly meetings with county leaders, chiefs and head men on MIYCN and the need to change cultural practices. - Quarterly meetings with CSG. - Mapping out all the relevant stakeholders and partners needed to integrate MIYCN. - Targeting and arriving at working partnerships with other stakeholders on MIYCN related activities. 	<ul style="list-style-type: none"> - No of county leaders, chiefs and headmen targeted. - No of quarterly meetings held per agreed schedule. - No of partnerships formed. -

CONCLUSION

Women in Turkana County have high illiteracy levels and are to a large extent financially dependent, this is likely to impact their decision making capacity as primary caregivers of infants and young children.

Majority of births in Turkana county take place at home both with and without the assistance of TBAs and nurses. Since some mothers do not intend to take the child to the clinic and others

delay the clinic visit, taking the home delivered babies to the hospital promptly after delivery remains a challenge for many women in the county

While mostly illiterate women utilize different sources of MIYCN information but are ultimately the key decision makers about child feeding habits.

Women in the county seem to be well informed about breastfeeding, but mixed feeding remains a problem and to a lesser extent the initiation of breastfeeding and the benefits and risks of xxivehaviorxxivs remain unclear. The biggest challenge however lies in complementary feeding where gaps exist in the knowledge of responsive feeding, food handling, appropriate feeding utensils, appropriate complementary foods, appropriate feeding frequencies, and providing iron rich foods.

Maternal dietary diversity remains a problem in MIYCN, starches and protein foods are consumed in relatively adequate proportions but fruits, vegetables and other vitamin containing foods like organ meats remain the least consumed foods.

Information on the feeding of the young child during sickness and in recovery is evidently lacking in the country.

Community health workers are the primary source of information on maternal health and nutrition for pregnant women in the county.

ANC and iron-folate supplementation adherence are key issues in maternal and child health and nutrition. Distance from facilities and lack of awareness about the importance of ANC are big hindrances to accessing ANC services. Majority of women also attend their first antenatal visit late in pregnancy and usually attend few visits for the duration of the pregnancy. For more than half of the respondents iron tablets/iron-folate supplements are available either but compliance remains low.

While weight measurements, iron folate supplementation and HIV testing remain some of the readily available ANC services, mosquito net, MUAC readings, urine tests and ultra sound scans remain mostly unavailable in Turkana County.

Maternal nutritional status is generally good in this county but childhood malnutrition and the risk of malnutrition remain cumulatively affects more than 50% of the children.

Communication channels exist to reinforce positive MIYCN activities as well as overcome barriers to optimal maternal and child nutrition practices in Turkana County.

RECOMMEDATIONS

ISSUE	RECOMMENDATION	RESPONSIBLE
High illiteracy levels	- There is need to invest in education both adult education and formal school going for children	MoH, partners and CSG
High home delivery	- Increase the number of health facilities - Engage elders and leaders on need to change harmful cultural practices - Awareness and BCC on need for skilled birth attendance	MoH, partners and CSG
Mixed feeding and poor complementary feeding	- Awareness and knowledge on optimal breastfeeding practices and complementary feeding. - Appropriate BCC activities on appropriate breastfeeding support and complementary feeding	MoH, partners and CSG
Poor maternal and child dietary diversity	- Engage on BCC to change of harmful cultural practices. - Food security initiatives to improve access and utilization of sufficient, nutritious and appropriate foods - Development of locally appropriate recipes for maternal and child feeding.	MoH, partners and CSG
Inadequate ANC and PNC services	- Provide all ANC services including provision of mosquito nets in malaria endemic zones, regular anthropometric measures for women attending clinics, and urine tests.	MoH, partners and CSG
Optimal MIYCN barriers	Implement the C4D strategy to improve MIYCN in Turkana County	MoH, partners and CSG

INTRODUCTION

Background

Turkana County is located in the North West region of the country and covers approximately 77,000 square kilometers with an estimated population of 855,399 people (2009 census) with about 111,579 children under five years. The region consists of six districts namely; Turkana North, Turkana West, Turkana South, Loima, Turkana Central and Turkana East.

Turkana is classified as Arid and Semi-Arid Lands (ASALs) with four main livelihood zones; pastoral accounting for 60% of the population, agro pastoral accounts for 20% mainly found in the Riverine areas of Kerio and Turkwel, the fisher folks situated along the shores of Lake Turkana account for 12% of the population while the remaining 8% consists of formal/casual waged labor/business and trade and are located in the major towns including Lodwar, Lokichar, Kakuma and Lokichogio.

The living standards of the Turkana region are low with majority people living below the poverty line since the area is remote.

Low number of functional health facilities and high staff turnover of the qualified nurses affects the health and nutrition situation in the county. This is also compounded by poor community health seeking behavior and poor infrastructure.

Objectives

The overall objective of the survey will be to generate information necessary to improve uptake of optimal MIYCN practices through integration of C4D approaches in Turkana County.

The specific objectives included:

1. To generate and document existing knowledge, attitudes and practices on MIYCN
2. To describe vulnerabilities and gaps in knowledge, attitudes and practices among different socio-economic groupings and geographic areas of Turkana.
3. To generate baseline data on existing attitudes and practices in MIYCN, and as part of a framework for monitoring progress.
4. To provide essential data for formulation of key messages and required areas of focus for county MIYCN interventions.

5. To identify existing communication channels and networks into which MIYCN communication for behaviour and social change can be integrated using C4D (Communication for Development).

Justification

There is need to develop a comprehensive baseline report for MIYCN activities for the county to help in evidence based programming.

METHODOLOGY

The survey employed both quantitative and qualitative data collection methods to establish the prevalence of MIYCN practices, focusing on the knowledge, attitude, and practices relating to maternal nutrition, infant and young child feeding, and Hygiene promotion interventions. The survey further explored the Communication for Development (C4D) approaches to drive social and behavior change towards adopting optimal MIYCN practices.

Study Design

The survey applied a three stage stratified cluster sampling with the clusters being selected using the probability proportional to population size (PPS). The sub-locations constituted the sampling frame since they are the most feasible due to vastness of the county and based on previous surveys. Segmentation of these sub-locations was to determine the villages/segments to determine households by SRS.

Target Population

The target population was mothers/caregivers of children 0-23 months of age in Turkana County where MoH implements a health and nutrition programme in collaboration with IRC, WVK, SCI, KRCS, & APHIA Plus.

In addition, fathers, grandmothers/mothers in law, CHWs, men, pregnant and lactating women, and health facility staff were also targeted because they are considered to be major stakeholders on IYCN practices.

Sample Size Determination

The estimated prevalence is based on the 2012 and 2013 SMART survey finding of key indicators. The selected prevalence was for the one that gave the highest sample size per indicator.

Based on the CARE manual protocol, the breastfeeding indicator with the highest sample size of 186 was chosen; giving a sample size of 186 children aged 0- 5 months. That was then multiplied by four to cater for the 4 age groups within 0-23months (0-5months, 6-11months, 12-17 months, and 18-23months). A total sample size of 744 children aged 0-23months was obtained enabling us to capture substantial sample sizes per age group during analysis. This translated to 15.5 approximately 16 children aged 0-23months per cluster per day.

A total of 40 FGDs were selected from the 48 clusters, broken as follows; Pregnant and lactating women 8, men 7, CHWs 9, grandmothers 8, and community leaders 8. A total of 4 KII were done with partners and 1 KII with a health worker at the facility.

Sampling Procedure

A three-stage sampling methodology was used to select the study participants (mothers/care givers) of children 0-23 months old.

Stage 1.

At stage one the clusters were sampled with probability proportional to size. The National Census (2009) data per sub location projections based on annual population growth rate for Turkana were used. All sub-locations along with their respective populations were entered into the ENA software and clusters selected accordingly using the SMART ENA software.

All clusters will be included in the initial sample selection.

Stage 2.

At stage two, segmentation of the sub-locations to determine villages/segments from where households were sampled. Each of the villages was listed together with its total population. The cumulative population was then calculated and used in the computation of a population proportional to size (PPS) sampling design to identify the specific villages to be covered by the survey. After computing the cumulative population, the sampling interval was determined by dividing the total cumulative population by the 48 clusters required. A random number (equal to or less than the sampling interval) was then selected from a Table of Random Numbers and the village where the random number fell was the first cluster to be selected for the survey. Subsequent villages were selected by adding the sampling interval to the number first selected. Through this process, the locations of the sampled villages/clusters were identified.

Stage 3.

Stage three involved the selection of 16 households per cluster based on a household listing to be generated at the cluster. The required 16 households were thereafter selected through simple random sampling. Once a house was selected, the survey team visited the household and verified if the target child aged 0-23 months of age was present. If the target population was found and

respondent was willing to participate in the survey, then the relevant data was collected from the respondent. The same procedure was used in each of the selected 16 sampled households.

All children 0-23 months old in a household were included in the sample.

Data Collection Tools

The MoH 2014 MIYCN tool was used, this is the same tool that was used in West Pokot by ACF.

Both quantitative and qualitative data was collected. Structured questionnaires (see Annex 2) were used to collect quantitative data. The indicators captured in the questionnaire were:

1. Early initiation of BF (0-23 months)
2. EBF under 6 months (0-5 months)
3. Continued BF at 1 year (12-15 months)
4. Bottle feeding (0-23 months)
5. Timely complementary feeding (6-9 months)
6. Introduction of solid/semi-solid/soft foods (6-8 months)
7. Minimum dietary diversity (6-23 months)
8. Minimum meal frequency (6-23 months)
9. Minimum acceptable diet (6-23 months)
10. Consumption of Iron rich foods (6-23 months)
11. Women birth history
12. ANC and PNC maternal practices
13. Maternal dietary diversity
14. Maternal and child nutrition status based on MUAC results

The qualitative component comprised of purposive selection of Key Informant Interviews (KII) for interviews done among all the partner organizations and stakeholders (Health workers and MIYCN focal persons). 21 clusters were randomly selected for the Focus Group Discussions (FGDs) targeting fathers, grandmothers/mothers in law, CHWs, men, pregnant and lactating women, which were done separately to establish the community's perceptions on IYCN practices as well as the cultural, socio-economic, and other factors influencing these practices. It also

explored the Communication for Development (C4D) approaches to drive social and behavior change towards adopting optimal MIYCN practices.

Implementation of the survey

Survey Team

The survey was coordinated and supervised by an external consultant.

Recruitment of the survey team was done in collaboration with the County Nutrition Working group to give ownership and participation in the assessment. The survey was conducted using 8 teams; each team comprising 4 members, inclusive of a team leader/supervisor. The team leader and one member conducted the FGDs and KIIs whereas the other two members will administer the questionnaires and record the responses.

Data collection team members were largely drawn from community members with post-secondary school level of Education (KCSE) and with prior experience in surveys. The team leader was in charge of the data quality control in the team. Each team was assisted by a cluster guide (recruited at the village level) to guide the survey team in locating the boundaries of the clusters and also with the population statistics for the households in the cluster.

Training of Team members

Two-days of training on data collection were conducted before the commencement of the survey by the consultant in collaboration with MoH, IRC, WVK, SCI, KRCS, & APHIA Plus. The training focused on the objectives of the survey, methodology, interviewing techniques, accurate recording of responses, data collection tools and data entry. Role-plays on how to administer the questionnaire and record responses were also conducted for both quantitative and qualitative methods. One pilot of the tools was done on the second day of training. This was done in a nearby village from the training area, and in a village that had not been selected as a survey cluster for inclusion in the survey. Thorough debriefing after the field activity was conducted and feedback shared.

Field pre-test of the survey tools

During the field pilot exercise the consultant, MoH, IRC, WVK, SCI, KRCS, & APHIA Plus representatives accompanied and observed the teams during the pre-testing in order to identify

the weaknesses and strengths of the teams. The survey teams also piloted the survey procedures; sampling, interviewing techniques, and the duration taken to sample and interview one household noted. All the filled in questionnaires were checked by the consultant. The survey team met to give feedback on the pre-testing exercise and the necessary adjustments were made to the questionnaire.

Data Quality Control during collection and data entry

The quality of data was controlled as follows:

- Two day training of teams to ensure standardized interviews and other data collection procedures;
- Field level cross checking of the questionnaires by the team leaders before leaving the households to ensure that they were filled correctly and completely;
- Spot checks by supervision team during data collection and making necessary corrections where necessary;
- Daily review of filled questionnaires followed by feedback to specific teams based on issues of concern
- The concurrent data collection and data entry provided early opportunity for individual feedback to enumerators on quality of data collected.
- Daily debrief meetings helped manage the teams, maintain team work and resolve any challenges resulting from group dynamics.
- The data entry team was involved in the preparation of the data template in SPSS. This helped build their confidence and competence in working with the data.
- The data entry team, practiced data entry with the pilot questionnaires before using the actual survey data.
- Upon completion, the data entry teams did double entry for 10% of the total questionnaires which were selected at random in batches, then descriptive outputs were compared for any variations. This helped check the quality of data entry overall and by each data entry clerk. The quality was found to be good.

In the end, the data collection and entry exercise was considered highly satisfactory.

RESULTS

The following are the key findings generated from the survey.

Respondent and household characteristics

Out of the women interviewed 92.6% were in any kind of union while 7.4% were single, divorced or widowed. Only 21.4% of the respondents had been to school. Of those who had been to school 86.5% had primary school education or less, with only 13.7% with completed secondary education and higher. Most of the women, 85%, were unemployed. Informal employment was the main source of livelihood for 56.8% of the households. Both the low literacy levels and low employment rates among the women is likely to impact nutrition and health seeking behaviors and perspectives.

Table 1: Respondent and household characteristics

Total women interviewed	779	
Children aged 0-23months	744	
Gender of the head of the household member	N=779	
Male		80.1
Female		19.9
Respondents characteristics	N	%
Marital status of respondent	N=716	
Currently married		76.4
Currently living together		16.2
Separated/divorced		3.6
Widowed		2.0
Single/never married		1.8
Respondent has ever been to school	N=757	21.4
Highest level of education completed	N=197	
Less than primary		45.2
Primary school		41.1
Secondary/ high school		9.6
College/pre-university/university		4.1
Religion	N=762	
Christian		93.4
Muslim		0.7
Traditional		5.8
Other		0.1
Main source of livelihood	N=761	
Informal employment		56.8

Formal employment		6.8
Rural agriculture		7.4
Urban agriculture		0.1
Remittances		8.1
Employment Jua kali		0.4
Employment office		1.1
Other e.g. charcoal burning		19.3
Current occupation	N=772	
Unemployed/housewife		85.0
Employed informal		3.4
Employed formal (8-5 job)		1.3
Student		1.0
Serves in church/mission		0.4
Other		8.9
Mean age of respondent in years		27.7
Average Household size		5.4

Maternal birth history

Majority of the women had either ever given birth 95.8% or been pregnant 97.9%. Out of the respondents, 96.9% had given birth and the child was alive while 13.9% reported that they had given birth and the child was not alive. Sixty three percent reported that none of their children had died, 36.9% reported that at least one of their children had died.

Table 2: Maternal birth history

	N	%
Respondent has ever been pregnant	N=762	97.9
Respondent has ever given birth	N=728	95.8
Respondent has given birth and child is alive	N=731	96.9
Number of alive children	N=711	
0		1.3
1		16.9
2		14.9
3		22.5
4		15.2
5		13.1
6		8.7
7		5.2
8		2.0
9		0.1
10		0.1
Respondent has given birth and child is not alive	N=723	13.9
Number of births not alive	N=276	
0		63.0

1		23.9
2		6.9
3		2.5
4		1.8
5		1.1
6		0.7
Births both alive and dead	N=679	
0		1.6
1		15.3
2		13.3
3		22.7
4		15.5
5		12.5
6		7.7
7		5.7
8		4.7
9		0.4
10		0.3
12		0.3

Current physiological status of respondent

At the time of the survey, majority of the mothers were lactating (81.1%). The pregnant women were 11.9% and those both pregnant and lactating were 1.2%. Of the pregnant women, 62.5% were in their seventh to ninth month of pregnancy.

Table 3: Physiological status of the respondent

	N	%
physiological status	N=776	
Pregnant		11.9
Lactating		81.1
Pregnant and lactating		1.2
Not pregnant/not lactating		5.8
Duration of pregnancy (pregnant women that could remember age of pregnancy)	N=16	%
2		12.5
4		18.8
6		6.3
7		25.0
8		25.0
9		12.5

Child characteristics

There were 53.1% boys and 46.1% girls aged 0-23 months in this survey. For 81% of the children, age was verified through documented proof, this contributes to validity of age reporting of the children. Most of the children, 77%, were delivered at home and 19.2% in a health facility. This is a major concern, especially given that evidence shows that skilled birth attendants contribute to lower maternal and child mortality. During the FGDs the following reasons were cited for high home delivery: long distance to health facility, hospital fee for delivery, lack of ambulances, need for cultural requirement to bury placenta in the homestead and most importantly the cultural practice of unassisted delivery at home. As one respondent stated at an FGD, *‘women who deliver in hospitals are considered cowards’*.

Majority of the children in this survey (99.2%) were ever breastfed. For the children who were never breastfed, 34% of them cited illness of the baby as the main reason, followed by 24% giving other reasons such as cultural practices and children being small, and 12% reported that milk was inadequate. Spouse refusal ranked the least at 2% as a reason for failure to breastfeed children.

Table 4: Characteristics of the child

	N	%
Gender of the child	N=748	
Male		53.1
Female		46.1
Verification of child’s age	N=748	
health card		78.7
birth certificate		0.8
baptism calendar		1.5
seasonal calendar		19.0
Child age category	N=748	
Children aged 0-5 months		27.4
Children aged 6-11 months		23.8
Children aged 12-17 months		24.6
Children aged 18-23 months		24.2
Place child was born	N=747	
In the hospital		16.5
In the health center, doctor’s office, private clinic		2.7
In the home.		77.0
In the midwife’s home		3.6
Other e.g. road side, collecting firewood		0.3
Child ever breastfed	N=727	99.2
Why child was never breastfed	N=50	

Baby ill		34.0
Baby unable to suckle		4.0
Baby refused to suckle		4.0
Mother refused		6.0
Spouse refused		2.0
Mother was sick		4.0
No/inadequate milk		12.0
Advice by health professional		6.0
Advice by other person		4.0
Other e.g. cultural practices, child was small		24.0

Child feeding in the first three days after birth

About a quarter of the respondents reported giving the child anything other than breast milk in the first 3 days. Milk other than breast milk was the most common food given to children as reported by 66.7% of the women, followed by plain water reported by 20.5% and sugar/glucose solution at 19.9%. Not having enough milk was the reason 45.5% of the women opted to give additional foods, while 34.4% were influenced by cultural reasons. None of the women cited work related obligations as a hindrance to exclusive breastfeeding. However, majority cited other reasons as being the main reason including the child being too small, mother being sick, cleaning the stomach or twins as hindrances to exclusive breastfeeding in the first three days after birth. During FGDs several barriers to exclusive breast feeding were cited as follows; *‘twins are usually separated so one of them doesn’t benefit from the mother’*, *‘children need to be given fat from goat meat or milk before breastfed, especially at night when they have to wait for the child to be named in the morning before being breastfed’*.

Table 5: Feed of the child within the first three days after birth

	N	%
Child given anything other than breast milk in the first 3 days	N=708	26.8
Things given		
Milk (other than breastmilk)	N=174	66.7
Plain water	N=166	20.5
Sugar/glucose solution	N=171	19.9
Gripe water	N=155	3.9
Sugar/salt solution	N=159	7.5
Fruit juice	N=154	0.6
Infant formula	N=153	2.0
Tea/infusions	N=153	2.0
Coffee	N=151	0.7
Honey	N=174	0.0
Reasons for giving drinks other than breast milk		
Not enough breast milk	N=165	45.5

Baby cried too much	N=151	22.5
Cultural reasons	N=157	34.4
Work related obligations	N=787	0.0
Weather too hot	N=142	0.7
First milk not good for babies	N=94	1.1
Other e.g. child is too small, mother was sick, cleans the stomach, twins	N=787	98.7
Respondent received practical support or advice to help start breastfeeding	N=731	47.9

Nutrition knowledge and attitude

Most women believed that a baby should be put to the breast immediately after birth (75.5%), given colostrum at birth or immediately after (96.3%) and 97.5% of the women would feed the baby on colostrum. While many of the women were aware of the benefits of colostrum to the baby, among the 2.5% that would not give colostrums, fears such the transmission of diseases like malaria via colostrum , beliefs that colostrum was insufficient in nutrients, and perceptions that a mother is too tired to breastfeed. This indicates that while majority of the women had some information on breastfeeding, there were still gaps in addressing the myths and fears of women in ANC and similar forums.

About a fifth of the women (21.9%) supported giving the baby foods and drinks other than breast milk within the first three days. Milk other than breast milk was proposed as an alternative by 66.4% of the women, 22.5% thought plain water should be given and 15.6% proposed sugar or glucose solution. Based on these findings, there are gaps on knowledge and support on exclusive breastfeeding.

Nearly three quarters of the respondents (74.7%) would feed liquids to the baby using cups or bottles with nipples/teats or holes and only 21.4% would use a cup/uncovered bowl with a spoon which is the ideal recommended practice. It is evident that information of appropriate feeding equipment for complementary feeding is unavailable to women in this county, there is need to address such gaps.

Solid and semi-solid foods should be introduced to the baby at 6 months or older according to 85.7% of the respondents (68.4% at 6 months and 17.3% after six months). From the reports of the respondents, most of the women have received information on beginning complementary feeding. However, the perception that complementary feeding should be delayed to beyond six months needs to be addressed to prevent the potential negative impact on the nutritional and

health status of the infant. As one respondent reported ‘*you don’t introduce foods early, you wait until the child starts to sit*’.

Table 6: Nutrition knowledge and attitudes

Attributes	N	%
Baby should be put to the breast immediately they are born	N=697	75.5
Baby should be given colostrum at birth or soon after	N=734	96.3
Respondent would feed baby on colostrum	N=685	97.5
Benefits of feeding baby on colostrum		
Nutritious to baby	N=654	84.0
Prevents diseases/infections	N=531	47.1
Cleans baby stomach	N=450	28.7
Why respondent would not feed baby on colostrum		
Its dirty milk	N=56	17.9
Not satisfying/sufficient	N=52	30.7
Mother needs to rest	N=64	34.4
Cultural practices	N=52	13.5
Other e.g. malaria in colostrum,	N=787	98.7
How long after birth should a baby be put to the breast		
Immediately	N=638	75.5
After a few hours		12.2
After a few days		6.3
Baby should be given anything to drink/eat other than breast milk within the first 3 days	N=661	21.9
What the baby should be given		
Milk (other than breastmilk)	N=146	66.4
Plain water	N=142	22.5
Sugar/glucose solution	N=147	15.6
Gripe water	N=133	3.8
Sugar/salt solution	N=134	5.2
Fruit juice	N=146	0.0
Infant formula	N=132	0.8
Tea/infusions	N=146	0.0
Honey	N=146	0.0
Other	N=85	2.4
What should be used to feed liquids to a baby		
Bottle with nipple/teat	N=616	21.6
Cup with nipple/teat		33.1
Cup with holes		20.0
Cup/ bowl with no cover and spoon		21.4
Feeding with palm/hands		1.3
Other		2.6
Age in months one should introduce solid/semi-solid food	N=509	

0		0.2
1		0.2
3		3.3
4		4.5
5		5.1
6		68.4
7		11.2
8		3.7
9		1.0
10		0.6
12		0.8

Child feeding information and decisions

The mother was reported as the source of information on child feeding for 57.6% while grandmothers and other relatives provided child feeding information for 29.2% of the women and day care centers for 18.2% of the mothers. Despite relying on different sources of information on child feeding, mothers were reported by 94.9% of the women to be the key decision makers on child feeding. This justifies the need to continue including pregnant and lactating women in IYCN programming. Close to a fifth of the respondents reported grandmothers and day care centres. Upon inquiry it emerged that day care centers referred to here are sites in the community where feeding centers target places where women perform their chores and so food is provided and cooking done by select mothers who feed the children and at times receive feeding education. Also grandmothers and mothers in law are critical to target in programming.

Table 7: Information and decisions about child feeding

	N	%
Source of information on child feeding		
Mother	N=522	57.6
Grandmother	N=371	18.9
Other relative	N=369	10.3
House girl	N=787	0.0
Neighbor	N=360	5.3
Day care center	N=379	18.2
No one (self)	N=421	33.5
Siblings	N=354	0.8
Others	N=186	5.9
Decision on child feeding		
Mother	N=664	94.9
Father	N=342	2.6
Grandmother	N=341	2.9
Other relative	N=340	0.3

Day care center	N=338	0.6
No one (self)	N=344	7.8

Responsive feeding of child

Less than half of the respondents (42.6%) reported their children to have eaten all the food. Children were encouraged to eat by 56% of the women. Verbal encouragement was the most common action used by the respondents (62.3%) followed by offering of other food/liquid (18.8%). More than half of the respondents (55%) praised the child while 17.4% ordered the child. Some of the respondents (12.3%) reported not knowing what was said or done to the child during feeding. There is need to discourage forced feeding as it is a harmful practice. Mothers lack of involvement in child feeding was also reported during FGDs with one respondent reporting that *‘the child feeds from other children’s plate as they breastfeed’*.

For 50.4% of the respondents, the child ate by himself or herself. Children were reported to feed themselves at least half the time in by 48.5% of the respondents. About a fifth of the respondents (18.5%) reported not knowing whether the child fed himself or herself. There is a distinct gap in knowledge of responsive feeding especially in the lack of involvement of mothers in the feeding of their infants and the continued used of actions that negatively affect feeding.

Table 8: Responsive feeding of child

	N	%
Child ate all the food	N=561	42.6
Respondent encouraged child to eat	N=505	56.0
What the respondent did to the child		
Offered another food/liquid	N=255	18.8
Encouraged verbally	N=350	62.3
Modeled eating (with/without toy)	N=234	5.1
Ordered strongly/forced child to eat	N=235	7.2
Another person helped feed the child	N=235	7.2
Another form of encouragement	N=239	10.8
Doesn’t know	N=138	12.3
Respondent talked to the child during the meal time while feeding	N=530	59.4
What the respondent said/did to the child		
Ordered child to eat	N=236	17.4
Praised the child	N=332	55.1
Asked child questions	N=225	3.5
Talked about the food	N=237	16.0

Threatened the child	N=227	3.1
Told the child that she liked the food	N=229	2.1
Rewarded the child	N=223	0.5
Talked about other things	N=227	6.6
Don't know	N=130	12.3
Child ate by him/herself, using hands or utensil	N=526	50.4
Child fed themselves	N=449	
All the time		23.8
Half the time		24.7
Little bit of the time		32.9
Doesn't know		18.5

Feeding a sick child

Majority of the respondents (74.1%) offered the child less milk when sick than when healthy while 13.5% offered the same amount when sick as when healthy. Only 4.9% offered more breast milk to the sick child. The same trend was observed with non-breast milk liquids, where 77.2% of the respondents offered the sick child less than they gave the child when healthy, 11.9% offered the sick child the same amount they gave the child as healthy and only 7.4% giving the sick child more of the non-breast milk liquids than when healthy. Less food was also given to the child when sick than when by 76.7% of the respondents, 13.8% of the women gave the same amount of food while 4.3% gave the child more food when sick than when healthy. During the convalescence period, 43.3% of the respondents gave more food to the child, 24.1% gave the same amount of food while 30% gave less food to the recovering child. These findings indicate that majority of the mothers lack information on how to meet the nutritional needs of a sick and recovering child. As one respondents reported at the FGD, *'you give less when the child is sick as he has no interest due to the illness'*.

Table 9: Feeding the sick child

	N	%
Child offered less, more or the same amount of breast milk as when healthy	N=555	
Less, because the child did not want it		72.3
Less, because mother's decision		1.8
More		4.9
The same		13.5
Child never breastfed or child breastfeeding before last illness		2.2
Child has never been sick		4.5
Doesn't know		0.9
Child offered less, more or the same amount of non-breast milk liquids as when healthy	N=530	

Less, because the child did not want it		73.4
Less, because mother's decision		3.8
More		7.4
The same		11.9
Child never fed non-breast milk liquids		2.1
Doesn't know		1.5
Child offered less, more or the same amount of food as when healthy	N=529	
Less, because the child did not want it		75.8
Less, because mother's decision		0.9
More		4.3
The same		13.8
Child never fed foods		4.2
Doesn't know		0.9
Amount of food offered to the child after the illness as when healthy	N=527	
Less, because the child did not want it		29.4
Less, because mother's decision		0.6
More		43.3
The same		24.1
Doesn't know		2.7

Food handling

More than half of the respondents (56.2%) reported that food was rarely or never left on the plate or bowl. In 61.5% of the respondent reports, the remain food was given to other children, in 41.6% of the respondents the food was stored to feed the baby later, while 17.7% reported disposing of the food. Given the chronic food insecurity situation in the region, most of the food remaining is thus shared out with other children, with only a third kept aside to feed the child later.

Table 10: Handling of left-over food for the child

	N	%
How often food remains on the plate/bowl	N=523	
Most of the times		25.8
Often/several times		18.0
Few times/once in a while		39.6
Never		16.6
food that remains on the plate if child fails to finish		
put in a fridge to feed baby later	N=294	0.9
put in a cupboard to feed baby later	N=294	3.1
put elsewhere to feed baby later	N=351	37.6
thrown away	N=310	14.5
given to other children	N=416	61.5
other e.g. given to chicken,	N=94	3.2

Mother child interaction

For most of the respondents (76.3%), the mother was rarely away from the child from the baby for most of the day and only 6.7% of the women reported being frequently away from the child. This is a positive practice that ensures the mother provides not only nutritional but psychosocial bonding with the child, critical to the development of the child.

Table 11: Interaction of the mother and child

	N	%
How often the mother is away from the baby for most of the day	N=507	
Always/most days(6 days/week)		6.7
Often/many days (4-5days/week)		4.3
Sometimes/a few days(2-3 days/week)		12.6
Never/few days(0-1 day/week)		76.3

Breastfeeding and complementary feeding practices

Almost all the women (99.2%) reported that they had breastfed their children. For 69.8% of the respondents, breastfeeding was initiated early. The baby was put to the breast immediately after birth or in less than 1 hour by 69.8% of the respondents, this is critical given the cultural challenge of breastfeeding the child after it has been named. Breastfeeding practices were reported by the respondents as follows: exclusive breastfeeding (31.6%), continued breastfeeding at one year (18.4%), continued breastfeeding at two years (16%) and predominant breastfeeding (27.4%). Optimal breastfeeding and complementary feeding practices are important in the maintenance of child nutrition status and long term growth, development and health. Identified gaps in these practices provide an opportunity for minimizing long term health risks. As some respondents reported during FGDs; *‘if you practice exclusive breastfeeding the child may become malnourished’*, *‘within the first four days after birth the baby should be given the traditional milk cream’*. Some harmful practices were also reported during the FGDs that could be harmful to be the mother and the infant such as alcohol use, one man reported *‘my wife likes alcohol because when she takes it, breast milk comes a lot’*.

Table 12: Breastfeeding practices

Breastfeeding	N	%
Child ever breastfed	N=727	99.2
Early initiation of breastfeeding	N=728	69.8
How long after birth the child was put to the breast immediately	N=728	44.8

less than 1 hour		25.0
hours		22.5
days		7.7
Exclusive breastfeeding for children aged 0to5 months	N=205	31.6
Continued breastfeeding at 1 year (12 to 15 months)	N=92	18.4
Continued breastfeeding at 2 years (20 - 23months)	N=456	16.0
Predominant breastfeeding for children aged 0-5 months	N=748	27.4

The complementary feeding practices reported by the respondents were inadequate. They included: the introduction of appropriate complementary foods (60.4%), child diet appropriately diverse (9.5%), minimum meal frequency for breastfeeding child 6-8 months and 9-23 months (45.3% and 31.3% respectively), appropriate complementary feeding for children 6-23 months (51.8%), minimum acceptable diet for children 6-8 months and 9-23 months (6.3% and 6.8% respectively). Dietary diversity is therefore very low which contributes to the very low acceptable diet. During FGDs food insecurity featured as a major modifier of foods given to children, as one respondent stated *'tea has become milk for young children because of drought and famine.'*

Table 13: Complementary feeding practices

Complementary feeding for breastfed child	N	%
Introduction of appropriate complementary foods for child aged 6 to 8 months	N=91	60.4
Appropriate child dietary diversity score (4 or more food groups child aged 6 to 23 months)	N=427	9.5
Minimum meal frequency for breastfed child aged child aged 6 to 8 months (2 times)	N=64	45.3
Minimum meal frequency for breastfed child aged child aged 9 to 23 months (3 times)	N=284	31.3
Minimum acceptable diet Child aged 6to 8 months	N= 64	6.3
Child aged 9 to 23 months	284	6.8
Appropriate complementary feeding for children aged 6 to 23 months (fed solid and breastfeeding)	N=543	51.8
Given iron rich foods or fortified foods and supplements (6-23months)	N=499	24.2
Bottle feeding practice for children 0-23months	N=748	9.9

ANC for pregnant woman

Nearly three quarters of the respondents (74.5%) accessed ANC during pregnancy. However the respondents who used ANC services (59.8%) had their first ANC visit after the third month, missing the critical period where the risk of possible birth defects is averted. Majority of the respondents (86.5%) received their ANC services from a nurse. Weight measurements and iron-

folate supplementation represent the most common ANC services offered as reported by 85.2% and 86.4% respondents respectively. Mosquito nets and ultra sound SCANS were the least available ANC services reported only by 34.2% and 10.4% of the respondents respectively. This clearly highlights the gap areas in terms of service delivery that revamping.

Information on HIV was the most readily provided (81.3%) while information of infant feeding and iron tablets/iron folic supplementation was availed only to 58.1% and 32.8% of the respondents respectively. Information on maternal health/weight gain, maternal nutrition and breastfeeding was available to at least 70% of the respondents. Community Health Workers were the primary source of information for 25.8% of the respondents followed by relatives/friends for 8.9%. Therefore infant feeding and iron/folate supplementation shows huge gaps in terms of information access.

Table 14: ANC for pregnant women

	N	%
Respondent has seen someone for ANC during pregnancy	N=102	74.5
Months pregnant when respondent received first ANC for the pregnancy	N=77	
0		5.2
1		1.3
2		6.5
3		19.5
4		27.3
5		20.8
6		11.7
7		2.6
8		2.6
Total received ANC care during the pregnancy	N=73	
0		2.7
1		17.8
2		26.0
3		27.4
4		17.8
5		4.1
6		1.4
7		1.4
Whom did you see	N=74	
Doctor		6.8
Nurse		86.5
Traditional birth attendant		2.7
Other		4.1
Measurements taken and tests done		
Height measurement	N=77	57.1

Weight measurements	N=81	85.2
BP measurements	N=78	79.5
Iron folate supplementation	N=81	86.4
Anti-malaria drugs	N=79	70.9
Urine sample	N=76	44.7
Blood sample	N=77	53.2
Tetanus vaccine	N=81	74.1
Deworming tablets	N=80	56.3
HIV test	N=80	73.8
Mosquito net	N=76	34.2
MUAC	N=74	43.2
Ultra sound SCAN	N=67	10.4
Information given on		
Test during pregnancy	N=79	68.4
Place of delivery	N=79	73.4
Your own health(weight gain)	N=79	78.5
Your own nutrition	N=80	70.0
HIV/AIDS	N=80	81.3
Breastfeeding	N=76	75.0
Infant feeding	N=74	58.1
Iron tablets/iron folic supplementation	N=67	32.8
Source of information		
Doctor	N=61	8.2
Midwife/auxiliary midwife	N=56	1.8
TBA	N=58	6.9
Relative/friend/neighbor	N=56	8.9
CHW	N=62	25.8
NGO/CBO	N=34	5.9

Iron folate supplementation

Iron supplements were available to 62.9% of the respondents. Iron folate supplementation compliance however was a problem: 16.1% of the respondents did not take the supplements while majority of the respondents (55.1%) took the tables for 30 days or less. Failure to attend ANC, long distance from health facility and misplacement of the supplements were the reasons given by 62.5% of the respondents for their failure to take the supplements. During the FGDs the same reasons were cited as well as factors such as; ‘we do not value supplementation’, ‘the smell is very unfriendly and they bring nausea and vomiting’.

Table 15: Iron/folate supplementation for pregnant women

	N	%
Respondent was given/bought iron and folic acid supplements	N=105	62.9
Days respondent took iron and folic acid supplements	N=93	
0		16.1

1		4.3
2		2.2
3		1.1
4		1.1
5		3.2
7		4.3
14		2.2
18		1.1
20		3.2
21		2.2
28		2.2
30		28.0
42		1.1
45		1.1
60		12.9
75		1.1
90		6.5
120		5.4
180		1.1
Median iron/folate supplement intake	30 (SD=36.2)	
Why respondent didn't take iron and folic acid supplements	N=24	
Not given at the health facility		16.7
Ignored advice from health worker		4.2
React to them		4.2
Can't afford to buy		12.5
Other e.g. didn't attend ANC, health facility is far, misplaced in the house		62.5

Currently taking any products

Very few of the respondents reported taking any products at the time the survey was taken. Respondents reported consuming products as follows: nutritional supplements (8.8%, N=80) soils and mineral stones (8.3%, N=72) and herbal supplements (4.2%, N=72).

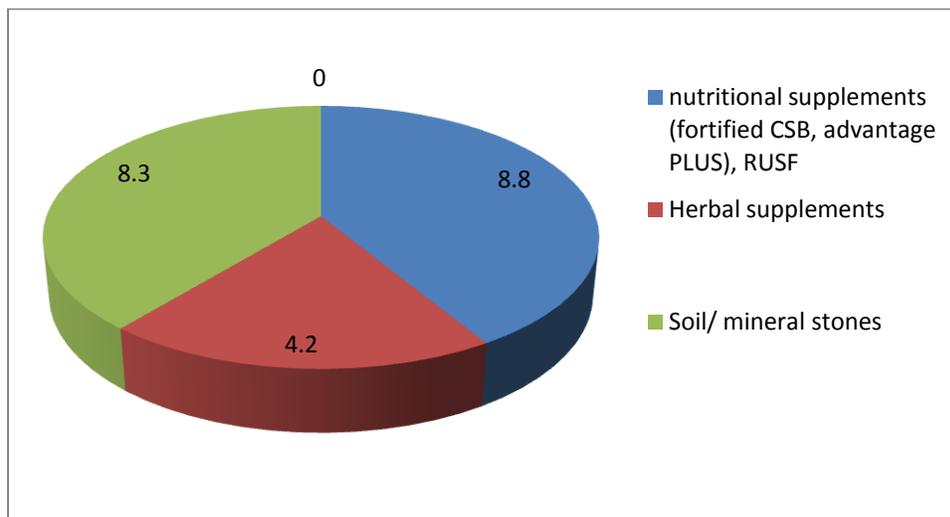


Figure 1: Percent pregnant women currently taking any products

ANC for mothers with child 0-23 months

Respondents who attended ANC were 85%. The highest number of respondents (26.1%) had their first visit at their fifth month of pregnancy. Most respondents received (67.4%) 3 to 5 ANC visits. Out of those that did not attend ANC, 47.1% reported that distance from the health facility prevented them from attending ANC, while 28.9% cited lack of awareness of the importance of ANC as their primary reason. HIV was the most available information as reported by 82% of the respondents while infant feeding information was reported by 59.3% of the respondents. Information on breastfeeding, place of delivery, maternal health and maternal nutrition was available to at least 70% of the respondents. Weight and iron-folate supplementation ANC services were available to more than 90% of the respondents while ultra sound scans and mosquito net ANC services were available only to 16.1% and 31.2% of the respondents respectively.

Table 16: ANC for lactating women with child 0-23months

	N	%
Respondent attended ANC	N=721	85.0
months pregnant when respondent attended first ANC visit	N=630	
0		2.2
1		1.3
2		6.0
3		12.3
4		21.8
5		26.1
6		16.6

7		7.3
8		3.0
9		0.8
Times respondent received ANC during the pregnancy	N=629	
1		2.2
2		8.7
3		16.2
4		25.3
5		25.9
6		9.7
7		5.2
8		1.1
9		0.2
10		0.3
15		0.5
20		0.3
Why respondent didn't attend ANC	N=104	
not aware of the existence/importance of ANC		28.9
Health facility too far		47.1
Unfriendly health workers		1.0
TBA services adequate		1.9
Cultural barriers e.g. staff too young, male staff e.t.c		2.9
Other		18.3
Information given during ANC		
Testing during pregnancy	N=615	80.9
Place of delivery	N=600	74.9
Your own health	N=612	80.4
Your own nutrition(IFAs, Balanced Diet)	N=595	77.1
HIV/AIDS	N=627	82.0
Breast feeding	N=586	71.0
Infant feeding	N=563	59.3
Measurements taken, tests done and things given		
Weight measurements	N=634	90.2
BP measurements	N=611	83.5
Iron folate supplementation	N=639	91.1
Anti-malaria drugs	N=600	79.5
Urine sample	N=594	52.7
Blood sample	N=594	61.3
Tetanus vaccine	N=630	84.6
Deworming tablets	N=596	74.7
HIV test	N=545	72.7
Mosquito net	N=481	31.2
Ultra sound SCAN	N=448	16.1
Other	N=787	0.1

Iron folate supplementation

Even though nearly 80% of the respondents had access to iron tablets or iron folate supplements, compliance was low with only 23.9% taking the supplement for 30days. The reason provided by 24.5% of the respondents was that they were not issued with the tablets, while 12.8% admitted to having thrown away the pills.

Table 17: Iron/folate supplementation for lactating women with child aged 0-23months

	N	%
Respondent was issued/bought iron tablet/ iron folate supplementation	N=667	79.6
Total days the responded took the iron folate supplement	N=607	
0		6.4
1		1.2
2		1.0
3		1.6
4		1.8
5		2.1
6		0.8
7		5.0
8		0.3
10		1.3
12		0.2
13		0.3
14		7.6
15		1.2
16		0.3
18		0.3
19		0.2
20		3.5
21		1.8
22		0.2
23		0.2
24		.2
25		0.5
27		0.5
28		1.3
30		23.9
31		0.2
36		0.2
40		1.0
45		0.5
50		0.7
58		0.2
60		10.4
70		0.2
85		0.2
90		9.6

98		0.2
100		0.2
110		0.2
120		8.7
150		2.5
180		1.0
Median iron/folate supplements intake	30 (sd=41.9)	
Why respondent didn't take iron and folic acid supplements during the pregnancy	N=94	
Not given at the health facility		24.5
Ignored advice from healthcare worker		6.4
Threw them away		12.8
React to them		10.6
Can't afford to buy		9.6
Other e.g. didn't attend ANC, health facility is far,		36.2

Currently taking any products

Relatively few respondents were taking additional products. Respondents reported taking additional products as follows: nutritional supplements (10.1%, N=505), herbal supplements (2.2%, N=451), soil/mineral stones (3.4%, N=443).

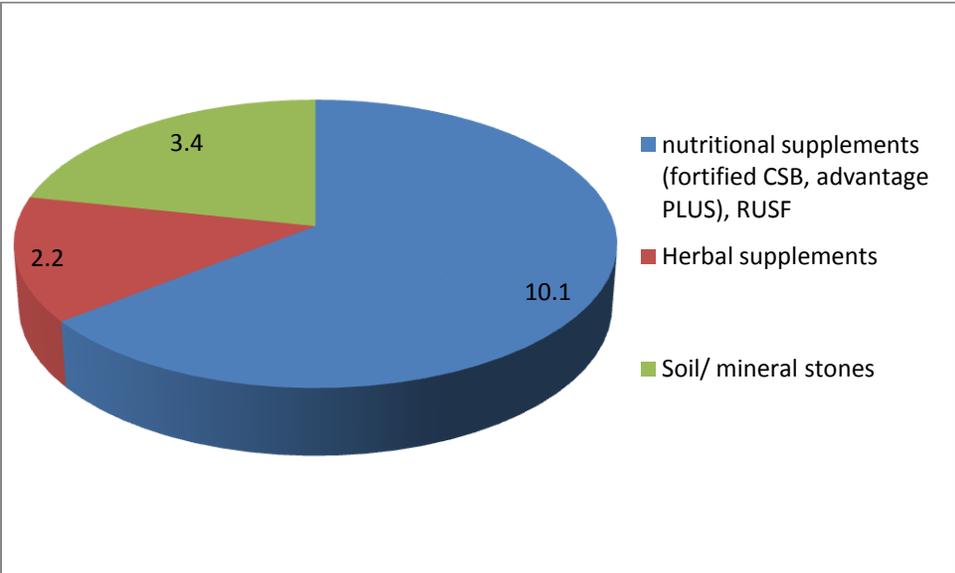


Figure 2: Percent lactating women with child 0-23months currently taking any products

Post natal practices

Majority of the respondents (81.3%) delivered at home; 56.3% had no assistance, 24% were attended by Traditional Birth Assistants, while 1% had the assistance of nurse. Hospital deliveries were reported by 18.5% of the respondents. For 64.9% of the respondents, the baby was taken to the hospital between the first 24 hours and 2 weeks. Those who reported that they neither took the child to the clinic nor intended to comprised 10.4% of the respondents. Hospital deliveries are associated with increased chances of maternal and child survival. Prompt hospital/clinic visits for neonates improves survival rates. Delayed or foregone clinic visits for home delivered babies increases the risk of death due to preventable causes. Therefore these findings indicate gaps exist in terms hospital deliveries under skilled birth attendants, as well as post natal care seeking. There is need to educate the community on the role of skilled birth attendants and clarify that TBAs are not trained as such. During the FGDs one male respondent reported '*TBAs are like doctors, they know what a woman should eat and what to do to be well*'.

Table 18: Post-natal care practices

	N	%
Where respondent delivered	N=718	
At home by TBA		24.0
At home by Nurse		1.0
At home without assistance		56.3
Hospital		18.5
Other		0.3
How long the respondent took before taking the child to the hospital	N=591	
Immediately(within first 24 hours)		18.0
Within first 2 weeks		46.9
Between 2 weeks and 1 month		8.3
After 1 month		16.6
Child not taken		9.0
Does not intend to take child to clinic		1.4

Maternal dietary diversity

Starches were consumed by 92.3 % of the respondents. Cumulatively, fruits and vegetables were consumed by 25% of the respondents, while meats and fish including organ meats were consumed by 1.4% of the women. Legumes were the primary protein source for 56.5% of the women. In addition, only slightly more than half of the women (52.7%) had milk as part of their diets.

Only 37.7% of the women consumed fortified foods. The most commonly consumed food was salt (81.5%) followed by maize flour (74.6%) and cooking fats/oils (71.2%). Maternal dietary diversity affects pregnancy outcomes and maternal health. Poor dietary diversity and the low consumption of fortified foods shown in this survey indicate a high risk of poor maternal nutritional status, poor pregnancy outcomes and poor maternal health. Among the challenges noted from the FGDs included socio-cultural as follows; *'we exclude foods like egg, fish due to the baby getting big in the womb during pregnancy'*, *'pregnant women are not supposed to take intestines because she will miscarry'*, *'culture demands that lactating women avoid foods like millet because it will affect the child'*. Intra-household food distribution is also a challenge, men are served first and whatever food remains is what will be shared amongst women and children, as one man reported at the FGD *'when there is little food to be served, husband is given first priority, served all the food and children and mothers wait for leftovers'*.

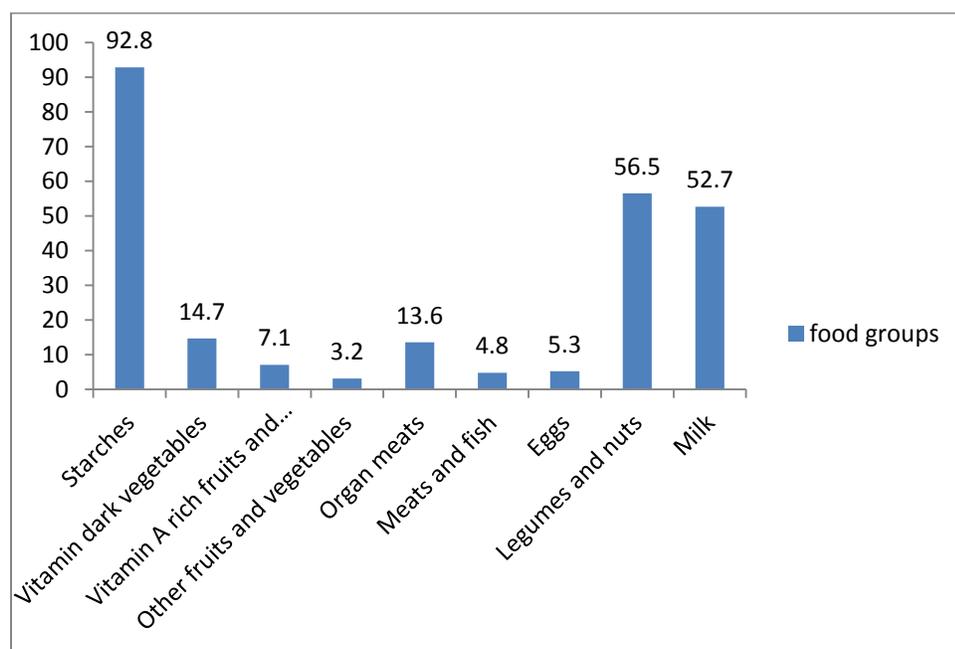


Figure 3: Percent maternal dietary diversity

Mean maternal dietary diversity was 2.39 (range 0-9), this is very low when compared against a total of 9 food groups possible. Food insecurity and some of the cited socio-cultural practices need to be addressed.

Table 19: Foods consumed that are fortified or have potential for fortification

	N	%
Meal or snack eaten outside the home	N=767	10.3
Use of fortified/fortifiable foods and food products	N=718	37.7

Types of fortified/fortifiable foods consumed		
Maize flour	N=547	74.6
Margarine	N=442	23.7
Cooking fats and oils	N=405	8.9
Salt	N=557	71.2
Sugar	N=609	81.5
	N=554	55.3
Coffee or tea taken during or right after eating meals	N=707	21.5

Maternal and child nutritional status by muac

Maternal nutritional status was good for majority of the women (89%). Child nutritional status was poor for 20.3% of the children, with 38.4% of the children at risk of malnutrition. Findings from the latest SMART survey for the county indicated high GAM rates for children and given the high food insecurity in the county the situation could further deteriorate.

Table 20: Maternal and child nutritional status by MUAC

	N	%
Child MUAC	N=596	
Severely malnourished (11.5cm)		2.7
Moderately malnourished (11.5-12.4cm)		17.6
At risk (12.5 – 13.4cm)		38.4
Nourished (>13.4cm)		41.3
Maternal MUAC	N=766	
Malnourished (<21cm)		11.0
Nourished (>21cm)		89.0

Barriers and reinforcers of miycn

Findings from the FGDs and KII reveal the following barriers and reinforcers to MIYCN in the county.

Table 21: Barriers and reinforcers to MIYCN in Turkana County

Barriers	Reinforcers
<ul style="list-style-type: none"> - Twins separated after birth hence one doesn't get to benefit from the mother. - Low hospital delivery rates. - Cultural practice of giving fat from goat or milk before breastfeeding. - High food insecurity affecting 	<ul style="list-style-type: none"> - Grandmothers have reportedly provided wet nursing where the mother is away. - High breastfeeding knowledge among mothers. - Men willing to be trained on MIYCN - CHWs reported as a major source of

<p>complementary feeding and maternal nutrition.</p> <ul style="list-style-type: none"> - Women do most of the work, hence work becomes a burden to them. - Grandmothers insist on children being brought up the old traditional way. - Cultural practice of first performing the child naming ceremony before initiating breastfeeding. 	<p>information on nutrition.</p>
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MIYCN communication channels

The following communication channels were identified during the course of the FGD's and KIIs for use in promoting MIYCN activities in Turkana county;

- Access to formal media (radio and TV) is uneven and only concentrated around Turkana Central and West where local radio coverage is available. Radio *Akicha* run by the Catholic diocese of Lodwar and *Maata* radio do not broadcast across the entire vast county. With high poverty levels also, very few households outside of lodwar town own any radio. However, for those households in Lodwar and its environs that have access to radio it is a promising opportunity for MIYCN messaging, these stations have previously been used for social development and civic activities in the community.
- Men and village elders are important stakeholders when it comes to MIYCN as they play an important role in as heads of households and decision makers. During the men FDGs, expression of interest was shown towards MIYCN. As some of the men were quoted saying during the FGDs, *'we need to be trained on MIYCN, we have been left behind for long'*, *'educate a man to help a mother and child'*. The channels of communication would be served reached through the palces men spend most of their time. In Turkana most men will be found sitting in groups talking, resting or playing games, as one woman reported in an FGD *'men sit under the tree playing 'peyarei''*. Structured BCC activities could involve number of meetings held in forums like this to sensitize them and engage them in MIYCN activities and talks.
- The chief is highly regarded and his/her baraza's resolutions taken seriously by the community. Inducting chiefs through MIYCN training presents an avenue, thus engagement with the community leaders on MIYCN and use of their forums is a great opportunity.
- With devolution of governance, county government forums are a key channel to use in MIYCN promotion. Political good will from the governor to the ward representative would take the MIYCN agenda higher in terms of convincing the community to take up positive practices while lobbying for allocation of more county resources towards the drivers and determinants of optimal MIYCN such as increased reach to health facilities

through more construction of health centres, mobile clinics, and ambulances, and investing in MIYCN communication support.

- Use of folklore media would be highly recommended as one of the channels. Most of the households living outside the major towns are more closely attached and practicing traditional practices. Engagement with the women, grandmothers, and children in development and adoption of songs and dance around MIYCN themes such as good pregnancy practices, skilled birth attendance and other health seeking practices, maternal and child nutrition amongst others would help entrench these practices while promoting their uptake, and acting as a channel of education especially given the low literacy rates.
- Markets and market centers are a focal point in community trade exchanges. Communication activities should be tailor made to coincide with market days, where better coverage and access is assured. Here promotion of drama activities, MIYCN contextualized films, and audio shows could help highlight MIYCN and its positive benefits to not just maternal and child survival, but that of the entire community. Investing in such innovative MIYCN BCC ventures could be a game changer in not just community engagement, but promotion of positive practices.
- The concept of MTMSGs is in use as part of MIYCN programming. Minimal mention was received during the FGDs by the respondents. Some even had negative comments about the CHWs, *'they discuss what was said by clients to others in the community'*. There is thus need to critically evaluate the role and impact of MtMSGs and the CHWs and find out the challenges and weaknesses of the concept and support.
- Majority of the community members are Christians, there is need to organize sensitization, awareness and seminars on MIYCN among church leaders. This will likely have a trickle-down effect to the community as they engage with the community in church. Of special note is the wide presence and coverage by the Catholic Diocese of Lodwar (CDOL), in the region. There is need to engage the CDOL to also play a lead role in promotion of MIYCN. This could be through stronger partnerships and joint planning with the Ministry of Health, involvement in MIYCN capacity building training, and mainstreaming MIYCN in their development agendas.
- Illiteracy is quite high among the community, there is therefore need to tailor make IEC materials in local languages, also enhanced use of pictorials and songs to help those who cannot read. A drive across the county one only encounters huge billboards with numerous writings, the question is whether in a community with such high illiteracy levels this is meaningful. A quick response from a BCC point of view would be that this is less likely to be the best approach. Development of pictorial based materials with a huge local and contextual involvement including school children during production would be more widely accepted, beneficial and have a huge impact.

County government and devolution context

The Turkana Integrated Development Plan 2013-2018 proposes several flagship projects aimed at enhancing the standard of living among its residents. Of special interest to MIYCN are the Health, water and agriculture where several region specific projects aim at improving service

delivery and development outcomes. Health infrastructure stands out as an initiative that could improve most indicators pertaining to health seeking behaviors of the community through proximity to well equipped health facilities. Currently there are 124 health facilities (4 level four-hospitals, 9 health centers and 71 dispensaries), the county plan proposes to expand, construct, upgrade and equip all dispensaries in the 30 wards alongside health centers and hospitals. Other priority outcomes include;

- Develop a critical pool of specialists in medical and nutrition professions.
- Increase the level of skilled birth attendance.
- Increase the proportion of women attending at least 4 ANC visits.
- Increase the percent of women up taking post natal care within 2 weeks after birth.
- Increase the IYCF indicators on breastfeeding and complementary feeding.

COMMUNICATION FOR DEVELOPMENT (C4D) ASSESSMENT AND ANALYSIS

C4D is a BCC strategy that aims at developing skills and capabilities to manage one's own health and development, its success has been well documented by UNFPA in East and South-East Asia, and by UNICEF in Immunization programs (UNFPA2006, UNICEF/WHO, 2010).

The following steps use the C4D concept to assess, analyze and come up with a BCC strategy.

Problem analysis

It is important to identify and distinguish behavioral from non-behavioral problems to be targeted in BCC interventions.

Table 22: C4D problem analysis

Problem: Poor Maternal Infant and Young Child Nutrition (MIYCN) in Turkana County			
Manifestation	<ul style="list-style-type: none"> - Low exclusive breastfeeding rates - Low ANC attendance and frequency - High home deliveries - Poor child and maternal dietary diversity - Poor acceptable diet and low iron consumption - Poor responsive feeding and feeding a sick child practices 		
Level of causality	Behavioural causes	Non-behavioural causes	Sources of information
Immediate causes	<ul style="list-style-type: none"> - Cultural practice of giving prelacteal feeds - Naming ceremony before initiation of 	<ul style="list-style-type: none"> - Food insecurity - Women's workload - Poverty 	<ul style="list-style-type: none"> - Integrated SMART surveys 2012, 2013. - Turkana County IDP report

	<ul style="list-style-type: none"> - breast feeding - Low uptake of FP services - Lack of participation among men and village elders on MIYCN - Preference for home delivery - Intra household food distribution and food taboos - Lack of active engagement of child during feeding and illness 		
Underlying causes	<ul style="list-style-type: none"> - High levels of illiteracy - Low prioritization of MIYCN over IMAM and CMAM activities 	<ul style="list-style-type: none"> - Poor transport infrastructure - Low nutrition staff numbers in health facilities 	<ul style="list-style-type: none"> - Integrated SMART surveys 2012, 2013. Turkana County IDP report
Basic causes	<ul style="list-style-type: none"> - Low outreach level - Lack of integration and coordination of MIYCN to other existing programs 	<ul style="list-style-type: none"> - Lack of sufficient funds 	<ul style="list-style-type: none"> - KII

Problem statement: Turkana County has poor maternal infant and young child nutrition. This is as a result of the following: low literacy, food insecurity, harmful cultural practices related to naming of child before initiating breastfeeding, pre-lacteal feeding especially using animal fat and milks, high home deliveries due to the cultural practice of perceiving it as a sign of courage and need to burry placenta at home, low ANC attendance and frequency due to low health infrastructure and ignorance, lack of involvement of men and village elders, leading to low exclusive breastfeeding rates under 6 months of age, poor maternal and child dietary diversity, poor acceptable diet and low in iron, and inadequate responsive feeding and feeding practices during illness.

Behavior rating and prioritization

Based on; relevance, occurrence and impact of the behaviors. A review is done on the changeability and importance rating.

Table 23: C4D behaviour rating and prioritization

Rating	More important	Less important
More changeable	Priority 1: <i>More changeable and important behaviours</i> <ul style="list-style-type: none"> - Ignorance among men and elders on MIYCN - Giving of pre-lacteal feeds - Poor intra-household food allocation choices for women and children - Poor dietary diversity of children and 	Priority 3: <i>More changeable but less important behaviours</i> <ul style="list-style-type: none"> - Low prioritization of MIYCN promotion funds at county level

	<p>women partly due to food taboos and hunger</p> <ul style="list-style-type: none"> - Active engagement of children during feeding - Preference for home delivery as a sign of courage and need to bury placenta at home 	
Less changeable	<p>Priority 2: <i>Less changeable but more important behaviour</i></p> <ul style="list-style-type: none"> - Low level of outreach reported in vast county with also low MtMSG coverage at 49 groups only formed 	<p>Priority 4: <i>Less changeable and less important behaviours</i></p> <ul style="list-style-type: none"> - Low literacy among women and men

Behavior analysis worksheet

Aims at a better understanding of the selected behaviours to be promote in place.

Table 24: C4D Behaviour analysis

Problem behaviour	Manifestation	Behaviours to promote	Barriers to ideal behaviour	Factors promoting ideal behaviour
Ignorance among men and KI on MIYCN	Men and village elders having very minimal involvement on BF practices and support	Men and village elder involvement in MIYCN activities and support	<ul style="list-style-type: none"> - Negative traditional believe that those are women issues - Lack of proper knowledge on MIYCN 	<ul style="list-style-type: none"> - Men and village elders willingness to learn - Acceptance by men and KI of need to become supportive
Giving of prelacteal feeds	Introduction of animal fat and animal milk before initiating breastfeeding	Initiation of breast milk immediately after birth only	<ul style="list-style-type: none"> - Negative traditional practice of first naming child before initiating breastfeeding 	<ul style="list-style-type: none"> - Men willingness to participate in MIYCN activities could lead to awareness and negotiations to drop harmful practices without necessarily dilluting culture
Poor intra household food allocation and choices by sex and age	Restriction of meats like intestines to women, lack of diverse and nutrient dense foods including ASF in children's diet.	<ul style="list-style-type: none"> - Increased intake of ASF by women and children - Balanced food distribution in the household with first priority given to all HH members 	<ul style="list-style-type: none"> - Negative traditional believes that it could lead to still births and barrenness, and birth problems - Predominant use of animals for sell and not food 	<ul style="list-style-type: none"> - ASF are available - Use of ASF part of the community - Men and elders willing to participate in MIYCN activities and local leaders
Poor breastfeeding complementary feeding practices	Low EBF and poor complementary feeding frequency	<ul style="list-style-type: none"> - EBF - Appropriate complementary feeding 	<ul style="list-style-type: none"> - Prelacteals - Perception of inadequacy of breast milk - Low nutrition knowledge 	<ul style="list-style-type: none"> - Some women have practiced EBF so would be positive promoters/deviants

Poor maternal and child dietary diversity	Very limited diversity in diet consumed	- Improvement in local diets through diets and recipes that add diversity	- Limited livelihood options in some regions where only pastoral activities are viable. - Negative traditional practices on food allocation	- Some regions are rich in food availability and access to be harnessed through proposed irrigation activities. - Men and other stakeholders willing to listen
Active engagement of children during feeding and feeding a sick child	Minimal active engagement of young children during feeding	- Active engagement of mothers and caregivers during child feeding	- Women's workload	- Mothers receptive to learn
Preference for home delivery	High deliveries	- Promote partnerships with TBA - Engage elders both men and women on need to have skilled birth attendance	- Few and far health facilities in some of the areas - Viewed as a sign of courage and pride in the community - Grandmothers wish to stick to the old ways of home deliveries as they did.	- Community leaders willingness to participate in MIYCN - MIYCN activities factored in the County IDP report and acceptance of the challenge posed by harmful cultural practices by policy makers.

Participant analysis

This involves identification of target audience, partners or allies, plus organizations that can support communication efforts.

Table 25: C4D Participant analysis

Problem behaviour	Participants		Social mobilization Partners/allies	Advocacy Partners
	Program communication Primary target	Secondary audience		
Ignorance among men and village elders on MIYCN	Men, village elders	Religious leaders,	Chiefs and headmen, Health workers	Health workers, county leaders, other NGOs
Giving of pre-lacteal feeds	Women	Grandmothers, mother in law, Elders	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders
Poor intra household food allocation and food taboos by sex and age	Men , women, village elders	Community leaders, county leaders	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders

Poor breastfeeding complementary feeding practices	Women and children	Men	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders
Poor maternal and child dietary diversity	Women and children	Men	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders
Inactive engagement of children during feeding and illness	Women and children	Grandmothers, mothers in law, men	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders
Preference for home delivery	Women	Men, grandmothers and TBAs	Chiefs, headmen, men, health workers	Health workers, other NGOs, county leaders

Channels/media analysis

A review and mapping of communication channels is made. Assessment of their strengths and weakness and effective reach is important to consider.

Table 26: C4D Channels/media analysis

Target audience	Group affiliation	Where do they spend substantial time?	Whom do they consult on health matters?	Who else can influence them on health related matters?	Channels to be used in communication
Problem behavior 1: <i>Ignorance among men and village elders on MIYCN</i>					
Men, village elders	Men's groups	Under a tree playing 'peyarei'	- Health workers at facility, - Traditional healers	- County leaders - Chiefs and headmen	- Talks and meetings - IEC materials - Community broadcasts and conversation
Problem behavior 2: <i>Giving of prelacteal feeds before child naming</i>					
Women of reproductive age, grandmothers and mother in laws	- Women's groups	In the homestead, watering points, and markets	- Health workers - TBA's - CHW	- County leaders - Chiefs and headmen	- Talks and meetings - IEC materials - Cultural rites and ceremonies
Problem behavior 3: <i>Poor intra household food allocation and food taboos by sex and age</i>					
Men, women, village elders	- Women's groups. - Elders forums - Men's groups	In the homestead, under trees and markets	- Health workers - TBA's - CHW	- County leaders - Chiefs and headmen	- Talks and meetings - IEC materials - Community broadcasts and conversation - Cultural rites and ceremonies
Problem behavior 4: <i>Poor breastfeeding and complementary feeding practices</i>					
Women, grandmothers, men, children	- Women's groups - schools	- In the homestead, and markets	- Health workers - TBA's	- County leaders - Chiefs and headmen	- Folk media (songs, dances,

		- Schools	- CHW - Teachers		drama) - IEC materials - Short Films - Community broadcasts
Problem behavior 5: <i>Poor maternal and child dietary diversity</i>					
Men, women	- Men's groups - Women's groups	In the homestead, and markets	- Health workers - TBA's - CHW	- County leaders - Chiefs and headmen	- IEC materials - Talks and meetings - Community broadcasts
Problem behavior 6: <i>Inactive engagement of children during feeding and illness</i>					
Women, grandmothers, children	- Women's groups - schools	- In the homestead, and markets - Schools	- Health workers - TBA's - CHW - Teachers	- County leaders - Chiefs and headmen	- Folk media (songs, dances, drama) - IEC materials - Short Films - Community broadcasts
Problem behavior 7: <i>Preference for home delivery</i>					
Women, grandmothers, men and TBAs	Women's groups	Homesteads, watering points	- Health workers at times	- County leaders - Headmen - Health workers	- Folk media (songs, dances, drama) - Talks and meetings

Communication objectives, strategies, activities and M&E

Objectives

1. Men and village elders will support and encourage exclusive breastfeeding up to 6 months of age.
2. Women and caregivers will stop giving prelacteal feeds to children at birth and naming practices will change for the sake of EBF.
3. Breast feeding mothers will exclusively breastfeed for six months and provide appropriate complementary feeding.
4. Intra household food allocation will not discriminate on women and children while food taboos will be dropped.
5. Women and children's diet will incorporate more food groups including animal source foods.
6. Active and supportive feeding of children and during illness will become a common practice in the community.
7. The practice of home delivery and burying of placenta in the homestead will be reviewed by the community to encourage health facility delivery.

Strategies and activities

Table 27: C4D Strategies, activities and M&E

Objective	Strategies	Activities	M&E Indicators
1, 4 & 5	<ul style="list-style-type: none"> - Train male health workers on MIYCN - Mobilize men and village elders and engage them through Community Conversations on MIYCN training and changing cultural practices to support women and children. - Develop communication materials on, <u>pre-lacteal feeding</u>, <u>maternal and young child nutrition</u>, and <u>good eating practices for women and children</u>, and <u>responsive feeding</u> targeting men and village elders 	<ul style="list-style-type: none"> - Development of training materials on MIYCN targeting men and village elders (church leaders, teachers, elders). - Training of male health workers on MIYCN - Mobilization of men and village elders - Community Conversations on EBF with men and village elders - Community Conversations on food culture as it related to women and children with men and village elders 	<ul style="list-style-type: none"> - Training materials for men and village elders developed on relevant themes - No of trainings for male health workers on MIYCN - Meetings held and no of men and village elders mobilized - No of training groups formed for men and village elders - No of Community Conversations held per month per area - Content taught per session
2, 3, 4, 5 & 6	<ul style="list-style-type: none"> - Development of MIYCN materials content specific to <u>pre-lacteal feeding</u>, <u>maternal and young child nutrition</u>, and <u>good eating practices for women and children</u>, and <u>responsive feeding</u> - Training of health care workers on content above - Strengthening MTMSG's with specific focus on the above topics. - Development of communication material on the above content through folklore, community broadcasts, and local-based films. 	<ul style="list-style-type: none"> - Development of training materials on MIYCN targeting women and children on stated content/themes. - Training of health workers on MIYCN - Formation of MTMSG's - Establishment of quarterly forums to engage with Grandmothers, TBAs, mothers in law - Road shows and film sessions targeting market days in different villages show casing songs, dances, films, community broadcasts on stated content/themes. 	<ul style="list-style-type: none"> - Training materials developed based on stated content/themes. - No of trainings held for health care workers including CHWs based on agreed content/theme. - No of MTMSG formed and frequency of meetings per month. - No of forums established for engaging grandmothers, mother in laws. - No of quarterly meetings held with grandmothers/mothers in law per agreed schedule. - No of songs, dramas developed on content/theme. - No of road shows held and target markets

			covered as agreed.
7	<ul style="list-style-type: none"> - Promote partnership between Health workers and the custodians of culture and women 	<ul style="list-style-type: none"> - Train TBAs on identification and early referral of obstetric complications - Train TBAs on emotional support of pregnant women - Establish an incentive program for TBAs bringing mothers to facilities in a timely manner. - Engage on elders on cultural change to encourage health facility delivery and substitute placenta burying at home. 	<ul style="list-style-type: none"> - No of TBA trainings on referral done. - No of trainings to TBAs on emotional support to pregnant mothers using folklore, songs, and meetings. - Status of incentive program. - No of meetings and activities held with elders
All	<ul style="list-style-type: none"> - Sensitization and advocacy meetings and talks with county leaders, chiefs and headmen on MIYCN and the role of culture. - Sensitization meetings held with the County steering group (CSG) - Sensitization and partnership building meetings with other partners on the ground including NGO's, CBOs 	<ul style="list-style-type: none"> - Quarterly meetings with county leaders, chiefs and head men on MIYCN and the need to change cultural practices. - Quarterly meetings with CSG. - Mapping out all the relevant stakeholders and partners needed to integrate MIYCN. - Targeting and arriving at working partnerships with other stakeholders on MIYCN related activities. 	<ul style="list-style-type: none"> - No of county leaders, chiefs and headmen targeted. - No of quarterly meetings held per agreed schedule. - No of partnerships formed. -

CONCLUSION

Women in Turkana County have high illiteracy levels and are to a large extent financially dependent, this is likely to impact their decision making capacity as primary caregivers of infants and young children.

Majority of births in Turkana county take place at home both with and without the assistance of TBAs and nurses. Since some mothers do not intend to take the child to the clinic and others delay the clinic visit, taking the home delivered babies to the hospital promptly after delivery remains a challenge for many women in the county

While mostly illiterate women utilize different sources of MIYCN information but are ultimately the key decision makers about child feeding habits.

Women in the county seem to be well informed about breastfeeding, but mixed feeding remains a problem and to a lesser extent the initiation of breastfeeding and the benefits and risks of colostrum remain unclear. The biggest challenge however lies in complementary feeding. In complementary feeding, gaps exist in the knowledge of responsive feeding, food handling, appropriate feeding utensils, appropriate complementary foods, appropriate feeding frequencies, and providing iron rich foods.

Maternal dietary diversity remains a problem in MIYCN, starches and protein foods are consumed in relatively adequate proportions but fruits, vegetables and other vitamin containing foods like organ meats remain the least consumed foods.

Information on the feeding of the young child during sickness and in recovery is evidently lacking in the country.

Community health workers are the primary source of information on maternal health and nutrition for pregnant women in the county.

ANC and iron-folate supplementation adherence are key issues in maternal and child health and nutrition. Distance from facilities and lack of awareness about the importance of ANC are big hindrances to accessing ANC services. Majority of women also attend their first antenatal visit late in pregnancy and usually attend few visits for the duration of the pregnancy. For more than half of the respondents iron tablets/iron-folate supplements are available either but compliance remains low.

While weight measurements, iron folate supplementation and HIV testing remain some of the readily available ANC services, mosquito net, MUAC readings, urine tests and ultra sound scans remain mostly unavailable in Turkana County.

Maternal nutritional status is generally good in this county but childhood malnutrition and the risk of malnutrition remain cumulatively affects more than 50% of the children.

Communication channels exist to reinforce positive MIYCN activities as well as overcome barriers to optimal maternal and child nutrition practices in Turkana County.

RECOMMEDATIONS

Table 28: Recommendations

ISSUE	RECOMMENDATION	RESPONSIBLE
High illiteracy levels	- There is need to invest in education both adult education and formal school going for children	MoH, partners and CSG
High home delivery	- Increase the number of health facilities - Engage elders and leaders on need to change harmful cultural practices - Awareness and BCC on need for skilled birth attendance	MoH, partners and CSG
Mixed feeding and poor complementary feeding	- Awareness and knowledge on optimal breastfeeding practices and complementary feeding. - Appropriate BCC activities on appropriate breastfeeding support and complementary feeding	MoH, partners and CSG
Poor maternal and child dietary diversity	- Engage on BCC to change of harmful cultural practices. - Food security initiatives to improve access and utilization of sufficient, nutritious and appropriate foods - Development of locally appropriate recipes for maternal and child feeding.	MoH, partners and CSG
Inadequate ANC and PNC services	- Provide all ANC services including provision of mosquito nets in malaria endemic zones, regular anthropometric measures for women attending clinics, and urine tests.	MoH, partners and CSG
Optimal MIYCN barriers	Implement the C4D strategy to improve MIYCN in Turkana County	MoH, partners and CSG

REFERENCES

1. UNFPA (2006) Planning BCC interventions: A practical handbook. UNFPA CST, Bangkok.
2. UNICEF/WHO (2001) Communication handbook for polio eradication and routine EPI. New York.

APPENDICES

APPENDIX 1: Training program

Turkana KAP & C4D Survey: Data collectors Training

Turkana County

June 17th – 18th 2014

Training Purpose:

The purpose of the training is to orient and build competence among the Data Collectors (DC) and Data Entry (DE) team to the survey methodology and survey instruments so that they are able to collect high quality data.

Objectives and learning outcomes:

By the end of the training, the DC's and DE's should be able to:

- DA's demonstrate understanding of the survey instruments based on the questionnaire, KII and FGD guide and note taking sheets.
- DA's demonstrate their skills in use of HH instrument and FGD/KII guides to collect high quality data based on the methodology outline.
- DE's understand the SPSS data entry template, refine quality data entry skills and competency.

Methodology

- Presentation
- Group work/discussion
- Role play
- Demonstrations
- Field work

Proposed Agenda

DAY 1:

TIME	ACTIVITIES	FACILITATOR
8:30 - 9:00	Register/Sign-In & Assemble	MoH & Partners
9:00 – 9:15	Introductions, expectations group norms	MoH & Partners
9:15 – 9:30	Logistics and housekeeping issues	MoH & Partners
9:30- 10:45	Review of HH survey instrument	Consultant

10:45 – 11:00	Break	
11:00 – 12: 00	Review of HH survey instrument cont'd	Consultant
12:00 – 1:00	Group Work & discussion on survey instruments – Translation to Swahili and local dialect	Consultant
1:00 -2:00	Lunch	
2:00 – 3.30	Role play & discussion on survey instruments and plenary recap	Consultant
4:00 – 4:15	Break	
4:15 – 5:30	<ul style="list-style-type: none"> - Introduction to FGDs & note taking in FGDs - Role play on FGDs and note taking - Piloting plans <p><i>(data entry team moves into dummy data entry on SPSS template here.. working with the consultant assistant)</i></p>	Consultant, MoH & Partners
5:30	Adjourn	

DAY 2:

TIME	ACTIVITIES	FACILITATOR
8:00 - 8:15	Assemble and any housekeeping	MoH & Partners
8.15 – 8.45	Survey design and data collection approach	Consultant

8:45- 11:00	Field visit to Pilot instruments – at least 2 HH’s per team in a nearby village not included in data collection	MoH & Partners and Consultant
3.30-4.00	Feedback on field Visit/pre-testing survey instrument – debrief <i>(data entry team works with consultant assistant to enter field pilot data as part of training – this activity continues until through day one of data collection so as to have the data entry team proficient and ready for actual data entry starting day 2 after commencement of data collection)</i>	Consultant
4:00 – 4:15	Break	
4:15 – 5:15	<ul style="list-style-type: none"> - Calendar of events generation - Ethics and data collection - Review of final Data Collection Fieldwork plan including movement plan 	Consultant and MoH & Partners
5:15	Closing	MoH & Partners

APPENDIX 2: Household survey questionnaire



Microsoft Office
Excel 2003 Workshee

APPENDIX 3: FGD and KII guides

MIYCN & COMMUNICATION FOR DEVELOPMENT (C4D) FORMATIVE RAPID ASSESSMENT PRIMARY DATA COLLECTION TOOLS

CONSENT FORM

The Ministry of Health in collaboration with partners are conducting a KAP assessment to determine factors that influence Maternal Infant and Young Child Nutrition (MIYCN) practices in Turkana County. The information generated would inform the designing of Behaviour Change Communication intervention and messages to influence positive behavioural outcomes. Kindly provide as much information as possible. The information you provide will be treated with confidentiality. With your consent, I will appreciate your participation in the FGD/KII. Thank you.

FGD AND KII TOOLS FOR VARIOUS TARGET GROUPS

1. FGD tool for pregnant & lactating women, mother in laws and grand mothers

1. Please tell us about MIYCN practices in this community. (Probe for: breastfeeding & complementary feeding practices, Iron and folate supplementation, ANC & PNC attendance, linkage to mother support groups, facility delivery, family planning e.t.c. under the respective age cohorts- early pregnancy, late pregnancy, labour and delivery, 0-6 months, 6-23 months)
2. Probe for appropriateness and inappropriateness of the MIYCN practices listed in question 1. (Probe for the reasons for response given why the mothers consider the practise as appropriate or inappropriate).
3. How do pregnant and lactating mothers, infants and young children normally fed in this community? (Probe for the reasons for response given).
4. Decision making on MIYCN at the household and the community level
 - a. Who makes decisions on MIYCN and health in the household and the community?
 - b. What specific role do the major decision makers play in MIYCN (what do they influence you to do)

5. Who/What are the sources of infant feeding information in the community? [Probe for role of; TBAs, CHWs, health facilities, family, friends, media, mother to mother support groups and other social networks in the communication network] [Rank with the order of importance]
 - a. What are the common messages communicated on MIYCN? (what do they tell)
 - b. Is the message relevant/useful to you? (Probe for responses).
6. What are the main challenges you face in providing good nutrition to children and mothers: (PROBE for: Probe for; cultural, socio-economic, livelihood, mother's workload, influence from decision makers in the household, access and utilization of health facilities services, breastfeeding issues, knowledge, frequent pregnancies, mother's nutritional status e.t.c) Record responses based on the cohorts
7. Please make suggestions for the way forward in the efforts to improve IYCF practices in the community?

2. FGD tool for incentive workers (MIYCN counselors and CHWs)

1. Please tell us about MIYCN practices in this community. (Probe for: breastfeeding & complementary feeding practices, Iron and folate supplementation, ANC & PNC attendance, linkage to mother support groups, facility delivery, family planning e.t.c. under the respective age cohorts- early pregnancy, late pregnancy, labour and delivery, 0-6 months, 6-23 months)
2. Probe for appropriateness and inappropriateness of the MIYCN practices listed in question 1. (Probe for the reasons for response given why the mothers consider the practise as appropriate or inappropriate).
3. How do pregnant and lactating mothers, infants and young children normally fed in this community? (Probe for the reasons for response given).
4. Decision making on MIYCN at the household and the community level
 - a. Who makes decisions on MIYCN and health in the household and the community?
 - c. What specific role do the major decision makers play in MIYCN?
5. How do you pass messages in the community? (probe the following channels; role models, mentors, IEC materials, cooking demonstrations, group health talks, sensitization sessions e.t.c)

- a. How do you engage mothers to improve on their health and nutrition status and that of their children?
 - b. What challenges do you face in passing information and skills and effecting positive behaviour change in MIYCN and how can you overcome these challenges?
 - c. How do MTMSGs embrace/ like MIYCN messaging channels (probe the following channels; role models, mentors, IEC materials, cooking demonstrations, group health talks, sensitization)
6. a) What are the main challenges you face in engaging communities/mothers to improve nutrition of children and mothers: (Probe for: cultural, socio-economic, livelihood, mother's workload, influence from decision makers in the household, access and utilization of health facilities services, breastfeeding issues, knowledge, frequent pregnancies, mother's nutritional status e.t.c) Record responses based on the cohorts
 7. Please make suggestions for the way forward in the efforts to improve MIYCN practices in the community?

4. KII tool for religious and community leaders

1. Please tell us about MIYCN practices in this community. (Probe for: breastfeeding & complementary feeding practices, Iron and folate supplementation, ANC & PNC attendance, linkage to mother support groups, facility delivery, family planning e.t.c. under the respective age cohorts- early pregnancy, late pregnancy, labour and delivery, 0-6 months, 6-23 months)
2. Probe for appropriateness and inappropriateness of the MIYCN practices listed in question 1. (Probe for the reasons for response given why the mothers consider the practise as appropriate or inappropriate).
3. How do pregnant and lactating mothers, infants and young children normally fed in this community? (Probe for the reasons for response given).
4. Decision making on MIYCN at the household and the community level
 - a. Who makes decisions on MIYCN and health in the household and the community?
 - b. What specific role do the major decision makers play in MIYCN
5. Who/What are the sources of infant feeding information in the community? [Probe for role of; Religious leaders, community leaders, TBAs, CHWs, health facilities, family, friends,

media, mother to mother support groups and other social networks in the communication network] [Rank with the order of importance]

- a. Are they adequate in improving MIYCN practices? (Probe for reasons).
 - b. What are the common messages communicated on MIYCN?
 - c. Is the message relevant/useful to you? (Probe for responses).
6. Describe what the Koran says about feeding practices in the cohorts. What are other cultural beliefs that exist regarding MIYCN in this community (probe for myths and misconception related to MIYCN).
 7. What are the main challenges that mothers and families in this community face providing good nutrition to children and mothers: (PROBE for: Probe for; cultural, socio-economic, livelihood, mother's workload, influence from decision makers in the household, access and utilization of health facilities services, breastfeeding issues, knowledge, frequent pregnancies, mother's nutritional status e.t.c) Record responses based on the cohorts
 8. Please make suggestions for the way forward in the efforts to improve MIYCN practices in the community?

5. KII for coordinators and partner staff

1. What is your role in supporting and coordinating MIYCN communication for development/behaviour change communication activities in your camp?
2. How would you rate the scale and effectiveness of messaging on appropriate MIYCN practices in the community? (Probe for level of coverage of mothers, fathers, the elderly, religious leaders, TBAs, CHWs, mother to mother support groups e.t.c).
3. In your opinion what is the status of pregnant & lactating women and caregivers health seeking behaviour during pregnancy and postpartum care in this community. Is it appropriate? (Probe for practices and for reasons).
4. What factors influence MIYCN practices?
 - a. Barriers/predisposers,
 - b. Reinforcers/ facilitators(Probe for; cultural, socio-economic, livelihood, mother's workload, influence from decision makers in the household, access and utilization of health facilities services, breastfeeding issues, knowledge, frequent pregnancies, mother's nutritional status e.t.c)

5. In your opinion has information that you have been giving regarding MIYCN brought any changes in maternal, infant and young child feeding practices in this community? (for partners only)
6. a) In your opinion do you feel that you have the necessary knowledge and skills to effect positive MIYCN behaviour in the community? (Probe the responses) If not what is are the most feasible ways to ensure that you have the necessary knowledge and skills?
b) Could use of regular SMS updates or reminders be helpful? Explain pros and cons.
7. As a coordinator/partner focal point, what would you recommend to be done to improve communication towards adoption of appropriate MIYCN practices in the community?

APPENDIX 4: Seasonal calendar

TURKANA COUNTY CALENDAR OF EVENTS (JULY 2014)

	Annual	2012	2013	2014
January	-School opening		17 IEBC vetting Verification of voters	5 Happy new year(Ekaru Kitelet) Angar Angisukulio
February	(Hot season)		16 Campaigns School buses by Nanok	4 New vehicle for Turkana County Government (Ngamotogae a county)
March	(Hot season)		15 Elections	3 T.T vaccination (Emutu loa ugaber) 4 kpr killed, 4 AP killed(Kalemungorok) Lopetun
April	(long rains)		14 Easter holiday	2 Easter holiday (Akinumnum na adeporet) Bodaboda day OCS killed bodaboda driver during bodaboda strike
May			13 Governors swearing in Death of Fr. Manzi	1 Raila back from the US (Abongu na Raila Kenya)
June			12 Home coming for Ekwee	0 Mpeketoni Massacre SMART survey Ruto Lowarengak Ruto in AIC Mlimani
July	(Cool cloudy season)	23 Saitoti/Ojode Helicopter crash Nutrition Survey Dayah Bus Accident in Kamatina	11 SMART survey	
August		22 Ocampo 6	10 HSNP by Oxfam and Helpage -	

		Polio Campaign	start	
September		21 MP Turkana South Suicide St. Leo School Bus Accident	9 Trachoma/TT campaigns Teachers' strike	
October	(short rains)	20 Trachoma Campaign Teacher's Strike	8 HSNP ended	
November		19 Baragoi Massacre Oxfam HH Registration	7 Solar eclipse Doctors' strike	
December (Christmas)		18 VoterRegistration Obama Wins KakumaAtanaeche Measles Campaign	6	

Any child who was born between **July 2012** and **December 2013** is eligible for MUAC measurements