

# 2016 SOMALI INFANT AND YOUNG CHILD NUTRITION ASSESSMENT



Infant and young child nutrition practices,  
barriers and facilitators

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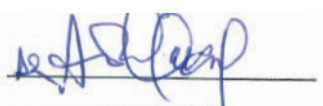
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## FOREWORD

Malnutrition is an underlying cause of high mortality rates among children below the age of five in Somalia. It also has a devastating effect on their health, development and normal body functions, with vitamin A and iron deficiencies common among children under five and women of reproductive age.

As chronic and acute malnutrition, as well as micronutrient deficiencies, are associated with poor infant and young child nutrition (IYCN) practices, promoting and supporting recommended IYCN practices is key to positively changing the nutrition status of many Somali children. Somalia has put in place an infant and young child feeding strategy (2013-2017), but there has been no national data collection to gauge the progress of IYCN interventions since the micronutrient survey of 2009 was conducted. A multi-indicator cluster survey in 2011 only covered Somaliland and Puntland, excluding regions of Central South Somalia, and since then no zonal level data has been collected on IYCN practices.

The findings presented in this 2016 Somalia IYCN survey will provide current estimates that can be used to monitor IYCN practices and inform the development and revision of appropriate strategies, policies and programmes. The Federal Ministry of Health of Somalia, the Ministry of Health in Puntland, and the Ministry of Health in Somaliland participated in the planning, execution and validation of the assessment and its findings, in collaboration with the Food Security and Nutrition Analysis Unit (FSNAU) of the UN's Food and Agriculture Organization (FAO) and the United Nations Children's Fund (UNICEF), as well as other nutrition partners.



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## ABBREVIATIONS AND ACRONYMS

EBF	Exclusive breastfeeding
FSNAU	Food Security and Nutrition Analysis Unit
IDMC	Internal displacement monitoring centre IDPs Internally displaced people
IYCN	Infant and young child nutrition KII Key informant interviews
MICS	Multi-indicator cluster survey
MoH	Ministry of Health
SPSS	Statistical package for social scientists
TBAs	Traditional birth attendants
UNICEF	United Nations' Children's Fund
UNFPA	United Nations Population Fund
WHO	World Health Organization



## EXECUTIVE SUMMARY

### Background

This report presents estimates of, and provides context for, infant and young child nutrition (IYCN) practices in Somalia, based on the results of an assessment conducted across the country between December 2015 and February 2016. The understanding of IYCN practices in Somalia, including what encourages and hinders them, is imperative to inform policy and programming, as well as for evaluative purposes. The link between poor infant and young child nutrition, malnutrition, morbidity and mortality is well documented. Recent analysis indicates suboptimal breastfeeding practices, including low rates of exclusive breastfeeding, contribute to 11.6 per cent of deaths among children aged below five. The introduction of complementary foods is also important when children reach six months, in addition to nutrients they continue to obtain from breast milk.

In 2009, a national micronutrient and anthropometric nutrition survey conducted by the Food Security and Nutrition Analysis Unit (FSNAU), in conjunction with the University College of London, assessed IYCN practices in Somalia. Unfortunately, the indicators measured were limited in scope and their definition was not consistent with IYCN indicators, which were developed and recommended by the World Health Organization (WHO) the following year.

### Objectives of the 2016 Somalia IYCN survey

1. To understand current IYCN practices for children aged 0-23 months
2. To explore knowledge, attitudes and beliefs related to IYCN practices in Somalia
3. To identify barriers to, and facilitators (or drivers) of, recommended IYCN practices
4. To provide recommendations to policy makers and IYCN programmers that help improve current IYCN practices among mothers in Somalia

### Methodological approaches

The assessment was a cross-sectional survey using both quantitative and qualitative methods of data collection. The target population were mothers or caregivers in households with children aged up to 23 months. In Somaliland, 30 clusters were covered; in Puntland, 25 clusters; and in regions of Central South Somalia, 35 clusters. From each cluster, 30 households were randomly sampled, while ensuring a predetermined number of mothers of children in the following age groups were enumerated: 0-5 months, 6-8 months, 9-11 months, 12-15 months, 16-19 months and 20-23 months. The primary source of information was a household survey, designed using a WHO 2010 standard questionnaire modified to include aspects of knowledge attitude and practices.

The tool was used to collect data on child level indicators, which included: if the child was ever breastfed; the timely initiation of breastfeeding; exclusive breastfeeding; predominant breastfeeding; continued breastfeeding at one year; continued breastfeeding at two years; length of breastfeeding; age-appropriate breast feeding; the introduction of solid, semi-solid or soft foods; minimum dietary diversity; minimum meal frequency; minimum acceptable diet; consumption of iron-rich foods; bottle feeding; the child feeding index; and maternal micronutrient supplementation.

Focus group discussions (among mothers and fathers) and key informants' interviews (for grandmothers, community leaders, religious leaders, health workers and traditional birth attendants) were used to collect maternal and community IYCN knowledge and attitudes.

## Findings: Estimates of key IYCN indicators

	Indicator	Infant and young child nutrition weighted			
		National	Central South Somalia	Somaliland	Puntland
<b>A</b>	<b>Breastfeeding indicators</b>				
	Those who ever breastfed (0-23 months old)	98	98	98	98
	Timely initiation of breastfeeding (BF) (0-23 months old)	80	75	89	84
	Exclusive breastfeeding (EBF) under 6 months (0-5 months old)	33	21	56	39
	Continued breastfeeding at 1 year (12-15 months old)	46	39	56	52
	Continued breastfeeding at 2 years (20-23 months old)	15	12	18	22
<b>B</b>	<b>Complementary feeding indicators</b>				
	Introduction of solid/semi-solid/soft foods (6-8 months old)	81	84	77	76
	Minimum meal frequency (6-23 months old)	69	66	74	71
	Minimum dietary diversity (6-23 months old)	15	21	7	9
	Consumption of iron-rich foods (6-23 months old)	48	60	22	42
	Minimum acceptable diet (6-23 months old)	9	11	6	7
	Bottle feeding (0-23 months)	50	51	50	45
	Child feeding index (6-23 months old)				
	All	25	26	14	26
	6-8	63	69	51	63
	9-11	36	41	19	47
	12-23	7	9	0	10
<b>C</b>	<b>Maternal micronutrient supplementation coverage</b>				
	Iron tablets/syrup	58	62	54	48
	Folic acid tablets	32	37	22	26
	Combined iron and folic acid	20	22	14	19
	Multiple micronutrient tablets	15	18	10	8

## Conclusions

Somalia has high rates of breastfeeding, with 98.2 per cent of children 0-23 months included in the survey having received breast milk a day before the survey. The country has made exponential progress in the timely initiation of breastfeeding and exclusive breastfeeding, when compared to the previous micronutrient survey of 2009 and the multi-indicator cluster survey of 2011; three out of 10 children were exclusively breastfed and up to eight in 10 children were put to the breast within an hour of birth. However, more than half of the mothers did not continue to breastfeed for the first one year of their child's life, with rates reducing drastically to 15 per cent as the child reaches two years. By the age of six to eight months, 8 out of 10 Somali children had been introduced to solid, semi-solid or soft foods. Providing the recommended number of meals, and ensuring those meals contain at least four food groups (as per the minimum acceptable diet) as well as iron-rich foods, is still a challenge in most parts of Somalia. Bottle feeding, which is not a recommended practice, was found to be common among around half of the mothers who participated in the survey. Various factors impact whether sound IYCN practices are implemented, such as cultural beliefs, and are identified within this report.

## Recommendations

### Programming considerations

	Key findings	Recommendations
<b>A</b>	<b>Exclusive breastfeeding</b>	
<b>1</b>	EBF coverage in Somalia is below the global rate of 46% (regions of Central South Somalia were at 21%, Puntland at 39%) and the World Health Assembly target of 50%. Lowest is in regions of Central South Somalia (21%) zone, where access to health facilities and IYCN knowledge is poor.	Scale-up communication aimed at positively changing EBF behaviour, using multiple channels and effective routine activities across Somalia, to achieve national EBF rates of at least 50% in regions of Central South Somalia, Somaliland and Puntland, and to maintain or increase Somaliland's relatively high EBF rates.
<b>2</b>	Maternal and community barriers to EBF do exist and are mainly due to negative perceptions and beliefs.	Breastfeeding counselling and promotion at health facility and community level should: emphasise the sufficiency of breast milk for infants less than 6 months; eliminate myths and beliefs regarding breastfeeding, including its negative impact on a woman's beauty; work to counter the tendency to stop breastfeeding when a child is sick.
<b>B</b>	<b>Continuous and length of breastfeeding</b>	
<b>3</b>	By the time they reach one year, less than half of the children surveyed were still being breastfed. By 2 years, only about 15% are breastfed.	Prioritise counselling and breastfeeding promotion for 2 years and beyond using community-based and health facility system
<b>4</b>	<ul style="list-style-type: none"> <li>□ Breastfeeding is viewed as a religious obligation by mothers as the Quran supports breastfeeding up to 2</li> <li>□ Fathers and mothers-in-law are important influencers of breastfeeding practice, as they provide opinions on how long children should be breastfed.</li> </ul>	<ul style="list-style-type: none"> <li>• Develop a national strategy for IYCN communications and advocacy.</li> <li>• As part of the communications and advocacy strategy, incorporate the Quran's perspective on breastfeeding practice and reinforce ideal breastfeeding practices using the Quran as a reference point among mothers, fathers, grandmothers and religious leaders.</li> </ul>
<b>C.</b>	<b>Complementary feeding</b>	
<b>5</b>	By the age of 6-8 months, 8 out of 10 children had been introduced to solid, semi-solid or soft foods. Providing the recommended number of meals, and ensuring those meals contain at least four food groups (as per the minimum acceptable diet).	<p>Improve the quality, availability and affordability of local complementary foods, and optimise the use of these local foods.</p> <p>Implement social protection programmes: vouchers, provision of fortified complementary foods</p>
<b>6</b>	Mothers easily influence each other and consult each other on what foods they should give to their children.	Increase the coverage of mother-to-mother support groups or care groups to support more formal discussions among mothers on IYCN practices (breastfeeding and complementary feeding practices)
<b>7</b>	Mothers in rural areas, as well as first time mothers are more likely to give less diverse food to their children aged 6-23 months old.	Scale-up awareness using locally-tailored behaviour change communication and communication strategies to provide diverse food to children 6-23 months old.
<b>8</b>	<p>Consumption of iron-rich food is low, particularly in Somaliland and Puntland, while iron deficiency anaemia had previously been found to be a public health problem in the country.</p> <p>Offal is consumed by Somali communities but negative beliefs prevent mothers from giving some offal (eg kidney and liver) to children aged 6-23 months.</p>	<p>Consider scaling up home fortification with micronutrient powders to increase iron intake among children aged 6-23 months. Promote increased offal consumption as one of the feasible ways to increase dietary iron intake among children aged 6-23 months</p> <p>Include the importance of consuming iron-rich food in the IYCN communication and advocacy strategy.</p>
<b>9</b>	There is limited coverage of multiple micronutrient powders for children aged 6-23 months, across all zones.	Scale up support for the procurement and distribution of multiple micronutrient powders, to supplement their dietary iron intake and other micronutrients. This should include developing a home fortification strategy and scale-up plan.
<b>10</b>	About half of children across Somalia are fed using bottles and this is common even in hospitals or health facilities.	As part of the IYCN communication and advocacy strategy, discourage the use of bottles for feeding children 0-23 months old by increasing awareness of the side effects for young children's health.
<b>D</b>	<b>Maternal nutrition</b>	
<b>11</b>	While iron supplements are taken by 58% of mothers, only 32% of them take a folic acid supplement. About 20% take the combined iron-folate supplements.	Consider the policy of distributing combined forms of iron-folate supplements rather than single dosages, to increase folate intake and compliance.
<b>12</b>	The completion of micronutrient supplement (iron and folic acid) doses is hampered by negative mother perception, forgetfulness and a lack of knowledge about these supplements' importance.	As part of the IYCN communication and advocacy strategy, design innovative and effective programmes that encourage mothers to complete iron and folate supplement dosages. This may include, but not be limited to, SMS reminders to mothers regarding when to take and complete the dose.
<b>E.</b>	<b>Multi-sectoral approaches linked to IYCN</b>	
<b>13</b>	<b>Education:</b> The higher the maternal education, the more likely a mother is to provide acceptable diets, take iron-folate supplements and complete those doses.	In collaboration with the education sector, increase girl's enrolment in school and promote adult learning programmes (both Quranic and basic schools) for adolescents and middle-aged mothers.
<b>14</b>	<b>Food security/livelihood:</b> Food security is linked to and is a key determinant of IYCN practices	Integrate IYCN programmes with food security and livelihood interventions programmes for households, to cope with acute and chronic shock.
<b>15</b>	Health systems support: Delivery at a health facility or a hospital (skilled delivery) is associated with a likelihood to initiate breastfeeding within one hour, exclusively breastfeed, introduce complementary foods to infants and complete maternal micronutrient doses.	<p>Increase access to maternal and child health care by supporting the building of more functional health facilities (with health staff and equipment).</p> <p>Increase proportion of institutional deliveries by skilled birth attendants</p> <p>Promote counselling &amp; support for IYCN by providing care within existing health systems (integrated IYCN counselling)</p> <p>Scale-up community IYCN programs, including targeting community-based health workers such as the traditional birth attendants.</p>

	Key findings	Recommendations
16	Family planning: Lack of child spacing is a hindrance to sound breastfeeding practices. Breast feeding is reduced during pregnancy. Family planning may significantly contribute to longer periods	Intensify family planning interventions and use this platform to advocate recommended breastfeeding and complementary feeding practices.
17	<b>HIV and other infectious diseases:</b> The Somali community believes when a mother is diagnosed with HIV and other infectious diseases, she should cease breastfeeding.	Promote and update in-country guidelines on breastfeeding, in the context of HIV, as recommended by WHO 2016 follow-up guidelines on HIV and infant feeding. Support prompt diagnosis and treatment of other infectious diseases.

### Policy considerations

	Key findings	Recommendations
18	Mothers who work outside the home are less likely to exclusively breastfeed their infants. Nationally, about 26% of all mothers either work in the formal sector (eg employed by government) or as casual labourers.	Update and scale-up a national strategy on IYCN that includes activities at all levels: policy, facility and community Initiate workplace policy on breastfeeding to promote and support breastfeeding for working mothers, including in the informal sectors. This may include paid maternity and paternity leaves, introducing flexible hours, or making working places more conducive to breastfeeding.
19	The high availability and use of infant formulas in Somalia is a hindrance to exclusive breastfeeding, as they are viewed as convenient and nutritious.	Institute, and effectively monitor, a national code on breastmilk substitutes to regulate their marketing and distribution. Encourage the adoption of a breastfeeding policy for the health system to support the implementation of the code.

### Research/ assessments considerations

	Key findings	Recommendations
20	IYCN surveys in Somalia are not conducted regularly. Maternal indicators significantly influence infant and young child nutrition	Conduct national IYCN assessments, which include key maternal indicators, every 5 years, using the standard WHO/UNICEF indicator guidelines and definitions.
21	There is a lack of district or regional level IYCN data/ surveys to inform locally-based IYCN programming.	Support district- and region-specific IYCN surveys to inform and guide benchmarking, and the implementation and monitoring of localised IYCN efforts.
22	The EBF rates by maternal recall are subject to recall bias and overestimations.	Consider accompanying radioisotope assessment of EBF in a subsample of Somalia national IYCN surveys, to come up with a correction factor for EBF rates found by maternal recall.
23	Seasons affect IYCN indicators. For instance, extremely dry seasons may increase water intake among children aged below 6 months (to quench their thirst) or may reduce availability of optimal complementary foods (diversity and frequency). IYCN surveys are conducted across different seasons and this confounds the results, particularly when analysing trends.	<input type="checkbox"/> Synchronise national IYCN surveys, to be conducted in similar seasons for valid comparisons. <input type="checkbox"/> Conduct assessment highlighting the effects and influence of seasons on IYCN practices.

The 2016 Somalia IYCN assessment had the following strengths:

1. This is the first national survey to collect a full range of IYCN indicators, as defined by WHO.
2. The study used both quantitative and qualitative methods of data collection, allowing more in-depth understanding of the local context when considering IYCN practices in Somalia. This is different from a strict knowledge, attitudes and practice survey, or an IYCN practice assessment survey.

The 2016 Somalia IYCN assessment has the following limitations:

1. The study was cross-sectional and relied on maternal recall to estimate the prevalence of all IYCN practices. There is also a risk that some mothers who had been exposed to IYCN messaging may answer questions in line with ideal behaviour as opposed to what they practice
2. The cluster sampling framework did not include areas inaccessible due to insecurity, particularly problematic in regions of Central South Somalia. The map shown in Appendix 2 shows areas that were and were not accessed during the survey.
3. The lack of a population profile for different age groups of children aged 0-23 months limited the sampling process.
4. The comparisons of current estimates with past surveys were done with caution, due to seasonality differences (timing of the field work) and differences in some indicator definitions.

# 1 INTRODUCTION

## 1.1 Background

### 1.1.1 Geography history and population

Somalia is in the Horn of Africa, and lies along the Gulf of Aden and the Indian Ocean. It borders the Indian Ocean to the east, Kenya to its south-west, Djibouti to the Somaliland and Ethiopia to the west. Somalia is divided into three zones: Central South Somalia, the north-west – Somaliland, and the north-east – Puntland. Based on current estimates, Somalia has a population of 12.3 million<sup>1</sup>. Internally displaced people represent nine per cent (1.1 million) of the total population<sup>2</sup>. The country has experienced more than two decades of conflict, violence, human rights violations and natural disasters, all of which have triggered repeated waves of displacement<sup>3</sup>.

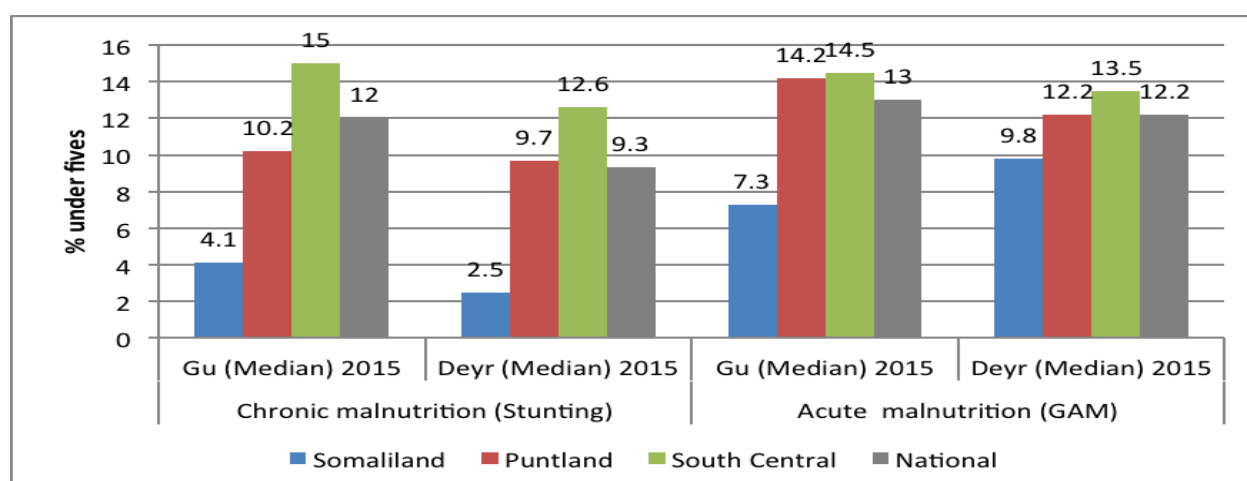
Somalia remains one of the world's longest running humanitarian crises. Insecurity, livelihood and food crises caused by perennial droughts and floods have been complicated by persistent violent conflict. Somaliland and Puntland are relatively better accessed by health, nutrition and food security interventions than regions of Central South Somalia, where persistent insecurity<sup>4</sup> presents a challenge. Somalia's general health infrastructure is damaged, with a depleted workforce and with unacceptable standards of care. Many do not have access to primary health care services.

### 1.1.2 Nutrition landscape

Childhood malnutrition is a major public health concern for children in Somalia. In a national anthropometric survey of 2009, 23.2 per cent (21.0-25.4 per cent) of children below the age of five were stunted<sup>5</sup>. At that time, regions of Central South Somalia had the highest stunting prevalence at 31.6 per cent (27.2-36.2 per cent), while Puntland had the lowest stunting prevalence, at 10.7 per cent (8.6-12.7 per cent). A meta-analysis by the FSNAU shows a long-term national stunting mean of 24.9 per cent<sup>6</sup>. According to the WHO, a stunting prevalence above 20 per cent poses a public health concern<sup>7</sup>.

After the Gu rains of 2015, the average national stunting rate was 12 per cent and the median for regions of Central South Somalia (15 per cent) was the highest of the three zones, and higher than the national average (Table 1.1). This was the case following the 2015 Deyr, too, when the national figure was 9.3 per cent, while regions of Central South Somalia remained highest, with a median of 12.6 per cent. As shown in Table 1.1, Somaliland has consistently held the lowest stunting rate of the three zones. Acute and chronic malnutrition levels in regions of Central South Somalia are always the highest and are attributed to a high morbidity burden, a complex socio-political situation and frequent conflict, which cause population displacements and a loss of livelihoods. Wasting in Somalia is greatly influenced by seasons, with higher prevalence experienced in the long dry periods<sup>8</sup>.

**Figure 1.1: 2015 Post-Gu and Post-Deyr median stunting and wasting rates**



1 UNFPA, 2014

2 UNFPA, 2014

3 IDMC, 2016

4 UNHCR, 2013

5 FSNAU, 2009

6 FSNAU, 2012

7 WHO 2012

The national micronutrient and anthropometric nutrition survey was last conducted in 2009<sup>9</sup>. The measurements among school-going children and mothers in this survey indicated anemia prevalence, as well as iron and vitamin A deficiencies, as public health concerns in Somalia (Table 1.1). The country has some way to go to increase micronutrient status to levels the WHO considers acceptable.

**Table 1.1: Micronutrient prevalence in Somalia (2009)**

Micronutrient deficiency	Women	Children 6-11 years old	WHO cut-offs
Prevalence of visible goiter	2.0%	0.7%	-
Prevalence of anaemia	49.1%	29.8	No public health problem is 4.9%, 5.0-19.9% is mild public health problem, 20-39.9 is moderate, >=40% is severe <sup>2</sup>
Prevalence of iron deficiency	41.5%	20.8	
Prevalence of vitamin A deficiency	54.4%	31.9	Mild ≤2%–<10%, Moderate ≤10%–<20%, severe ≥20% <sup>3</sup>
Median urinary iodine concentration	325.1µg/L	417.1µg/L	<sup>4</sup> Target population median is 100–199 µg/L of urinary iodine

### 1.1.3 Malnutrition and infant and young child nutrition practices

Worldwide, malnutrition is a significant public health concern, since it is a factor in half of child deaths within the first month of life<sup>10</sup>. Improvements in nutrition significantly contribute to the second and third Sustainable Development Goals – zero hunger, and good health and well-being<sup>11</sup>, respectively. Chronic malnutrition is associated with decelerated linear growth in young children, as well as poor cognitive development and a propensity for inferior economic productivity when they become adults. Malnutrition is also an underlying cause of deaths due to childhood diseases, such as measles, diarrhea, and acute respiratory infectious diseases. Many of these deaths have possible associations with inappropriate feeding practices during early life. Recent analysis indicates sub-optimal breastfeeding, contribute to 11.6 per cent of deaths of children aged below five<sup>12</sup>. The Lancet 2003 child survival series estimated if 90 per cent of infants are exclusively breastfed (EBF) for the first six months, and 90 per cent are continuously breastfeeding for 12 months, child mortality could be reduced by 13 percent<sup>13</sup>. It also estimated that timely and appropriate complementary feeding could avert 6 percent of under-five deaths. Later, the Lancet 2008 nutrition series estimated optimal breastfeeding practices for up to two years could potentially save 1.4 million lives annually<sup>14</sup>.

The link between poor IYCN practices, malnutrition, morbidity and mortality is well demonstrated in the UNICEF conceptual model of causes of malnutrition. Care practices remain a particularly important determinant of malnutrition, morbidity and mortality. The Somalia 2007 Infant and Young Child Feeding (IYCF) knowledge, attitudes and practice study; 2009 micronutrient and anthropometric nutrition survey; and multi-indicator cluster survey (MICS) in 2011, revealed widespread sub-optimal IYCN practices, which were influenced by a lack of knowledge and negative cultural beliefs and practices.

Table 1 depicts the national and zonal figures for some key infant and young child nutrition indicators, as found by surveys in the last six years. While breastfeeding is common practice among mothers in Somalia, five years ago the rate of exclusive breastfeeding was way below the global average of 46 percent and the target of 50 per cent<sup>15</sup>. As shown in Table 1.2, the rates of EBF in the survey were highest in Somaliland. Between 2009 and 2011, EBF rates had remained fairly stable, while continued breastfeeding had declined: it is now on the increase. Before this survey, only one point data existed showing geographical estimates for how long children were breastfed. Previous reporting of complementary feeding practices, at national and zonal level, was limited to only a few indicators. The introduction of solid and semi-solid food has been relatively steady in Somaliland, but doubled in Puntland between 2009 and 2011.

<sup>9</sup> FSNAU, 2009

<sup>10</sup> WHO, 2016

<sup>11</sup> UNDP, 2016

<sup>12</sup> WHO and UNICEF, 2016

<sup>13</sup> Jones G, Steketee RW, Black RE et al., 2003

<sup>14</sup> The Lancet, 2008

<sup>15</sup> WHO and UNICEF, 2016

Table 1.2: Previously reported IYCN practices

#	Indicator	Previous estimates on IYCN practices					
		2009 (Micronutrient Survey) <sup>5</sup> , %				2011 (MICS, 2011) <sup>6, 7*</sup>	
		National	Central South Somalia	Somaliland	Puntland	Somaliland	Puntland
	<b>Breastfeeding indicators</b>						
1	Ever breastfed	87.5	91.4	77.2	87.4	91.3	88.8
2	Timely initiation of breastfeeding (BF)	23.4	17.4	39.8	27.0	60.9	56.0
3	Exclusive breastfeeding (EBF)	5.3	2.8	12.7	6.3	12.8	4.8
4	Predominant BF	-	-	-	-	32.7	26.9
5	Continued BF at 1 year	60.8	64.4	60.3	45.0	46.3	42.5
6	Continued BF at 2 years	26.8	34.9	6.4	8.3	19.2	24.0
7	Age appropriate BF	-	-	-	-	20.6	18.2
8	Median duration of BF in months	-	-	-	-	14.7	14.5*
	<b>Complementary feeding indicators</b>						
9	Introduction of solid/semi-solid/soft foods	17.1	12.5	38.3	11.6	32.5	35.4
10	Minimum meal frequency (6-23 months olds)	-	-	-	-	53.5	57.0
11	Bottle feeding (0-23 months)	-	-	-	-	50.8	48.3

\*For children 0-35 months old

¥MICS was not conducted in South Central

This is the first time an IYCN survey has fully adhered to the WHO/UNICEF IYCN indicator definitions and considered the full range of key indicators. In previous surveys (in 2009 and 2011), questions were posed differently. In the 2009 and 2011 surveys, mothers were asked two set of questions: whether they were still breastfeeding the infants and if they had given any other food the day and night preceding the survey. The current survey adopted the standard WHO question, which asks what was given to the child the day and night preceding the survey.

Since 2011, the Somali Ministry of Health (MoH) has been supported by UNICEF and partners to scale-up IYCN interventions, in line with national IYCF strategies<sup>16, 17, 18</sup>. These strategies and action plans run between 2012 and 2017, with the results of the present survey providing an important benchmark and insight into the impact of the five-year investment made. Based on UNICEF annual reports, IYCN action between 2010 and 2015 is summarised in Appendix 3. However, the adequacy and scale of these interventions could not be determined.

Understanding the current IYCN practices, as well as barriers and facilitators to recommended practices in Somalia, is imperative to the planning and benchmarking of future IYCN and related programmes in Somalia.

## 1.2 Objectives

### 1.2.1 Overall objective

The overall objective of the IYCN survey was to understand IYCN practices in Somalia as the basis of reviewing and improving current programmes and strategies.

### 1.2.2 Specific objective

1. To understand current IYCN practices for children aged 0-23 months
2. To explore knowledge, attitudes and beliefs related to IYCN practices in Somalia
3. To identify barriers and facilitators (or drivers) for recommended IYCN practices
4. Provide recommendations (to policy makers and IYCN programmers) to improve current IYCN practices among Somali mothers

### 1.2.3 Key survey/study questions

1. What are the current estimates in Somalia for the seven breastfeeding and seven complementary feeding indicators? These indicators are shown in Table 1.
2. What are the barriers to the recommended IYCN practices?
3. What are the facilitators (drivers) for the recommended IYCN practices?
4. What needs to be done to improve coverage of IYCN practices in Somalia?

16 MOH, 2013.

17 MOH Puntland, 2012.

18 MOH Somaliland, 2012

## 2 METHODOLOGICAL APPROACHES

### 2.1 Study Design

The assessment was a cross-sectional survey that used quantitative and qualitative methods of data collection. The primary source was a household survey, using a structured questionnaire for mothers/caregivers of infants and children aged 0-23 months. Focus group discussions and interviews with key informants were used to collect mothers and community IYCN knowledge, as well as to get a feel for whether attitudes were barriers or facilitators. Surveyed households were identified through a two-stage cluster sampling method, where the survey clusters and then the households were identified.

### 2.2 Survey timing

Data was collected in Somaliland during December 2015 and January 2016, during the transition between the 2015 Deyr rainy season (October-December) and the 2016 Jilaal dry season (January-March), while the field work for regions of Central South Somalia and Puntland were conducted during February (Jilaal season). It is worth noting the previous survey (the results of which are reflected in Table 1.2) and current survey were conducted during different seasons. The field work for the 2009 micronutrient survey was done between March and August, cutting across three seasons: part of Jilaal, the main dry season; Gu, the main rainy season that takes place between April and June; and part of Hagaa, the cool dry windy season between July and September. For Puntland's MICS survey in 2011, some clusters were covered in April and May (Gu), others in July and August (Hagaa), and the rest in December (Deyr - short rain season). In Somaliland, MICS 2011 data was collected in June and July, during the transition between Gu and Hagaa.

### 2.3 Survey groups

The target population for this survey were mothers and/or caregivers in households with children aged up to 23 months. A household was defined as a shelter or more, whose residents eat from the same cooking pot. Key community groups that play a crucial role in IYCN and maternal health also formed part of the target study group for qualitative data collection. These were mothers and fathers of children below 60 months, elderly women (grandmothers/mothers-in-law), community leaders, religious leaders, health workers and traditional birth attendants (TBAs).

### 2.4 Sample Size Determination

The proportion of mothers engaged in each of the IYCN practices (current prevalence), based on national estimates obtained from the 2009 micronutrient study<sup>19</sup>, was key. Other factors included desired precision, projected design effect, average household size, the percentage of children aged below two years, and the percentage expected to be non-responsive. As shown in Appendix 5, different sample sizes were computed for various IYCN indicators in each geographical area (zone). In each zone, the highest sample sizes of all the indicators were considered. A contingency number of households – 25 per cent in regions of Central South Somalia and 15 per cent in each of the other two zones, were factored in. The contingency rate for regions of Central South Somalia was higher because of greater insecurity there.

The final minimum sample sizes were therefore 1,065 households of infants and young children aged up to 23 months old for regions of Central South Somalia, 927 for Somaliland and 790 for Puntland. In Somaliland, 30 clusters were covered, whereas in Puntland and regions of Central South Somalia, 25 and 35 clusters were covered, respectively. The clusters are listed in Appendix 3. From each cluster, 30 households were sampled. The number of households per cluster was pre-determined and distributed among the age groups, proportionate to the age group ranges (Appendix 5). The age group ranges were 0-5 months, 6-8 months, 9-11 months, 12-15 months, 16-19 months and 20-23 months. Those with children aged up to five months had the highest age group range (six) and so the highest sample size. For each cluster, a quota number of children per age group was targeted.

### 2.5 Sampling Techniques

Somalia was stratified into three zones: Central South Somalia, Puntland and Somaliland. Clusters considered for the surveys were drawn from the three sub-strata of residence: rural, urban and IDP areas. In Central South Somalia, areas that could not be accessed due to security challenges were excluded from the sampling frame (see access map in Appendix 2).

#### 2.5.1 Cluster and household selection

Based on their population distributions in each of the sub-strata, the number of clusters to be drawn from each were pre-determined, using probability proportional to size methodology. In each of the sub-strata, all existing clusters (as per the FSNAU list of villages/clusters) and their estimated populations were entered into ENA for SMART sampling software (15 April 2015 version), to select the target cluster shown in Appendix 6. To select the households to be interviewed, the survey teams walked to the approximate centre of the clusters and a pen was then spun to determine a random direction. The enumerators moved along the determined direction, visiting all households and only considering those with children aged up to 23 months. In each household visited, the youngest child was considered until the quota for an age group was reached. When the minimum numbers had not been achieved were considered. If the mother/caregiver was not home, the household was skipped. If the target numbers were not achieved after the enumerators reached the edges of the clusters, the team returned to the centre of the cluster/ village again and spun a pen to determine a new random direction.

This was repeated until the target number for each of the age groups was reached.

<sup>19</sup> FSNAU, 2009

### 2.5.1 Sampling for qualitative data collection

In each of the strata (rural, urban and IDP residence), two clusters were randomly selected for qualitative data collection. Focus group discussion (FGD) participants were purposively selected. Fathers and mothers of children aged up to 59 months, available in the village at the time of the visit and willing to participate in the discussions, were recruited for the FGDs. This age bracket was selected to expand the report to include the community's views, dimensions and perspectives, rather than limiting feedback to those with children aged up to 23 months. Each FGD was composed of eight to 12 participants. In total, 12 FGDs were conducted per zone, six with mothers and six with fathers. Elderly women/grandmothers, religious groups, community leaders, health workers and the TBAs, available at the time of the cluster visit and willing to participate, were interviewed separately.

## 2.6 Study Variables and Data Collection Techniques

A structured household questionnaire was used to collect quantitative data from mothers/caregivers of infants and young children aged up to 23 months. This is a standard IYCN questionnaire<sup>20</sup>, contextualised for Somalia (Appendix 9) and for the collection of additional IYCN practice indicators, shown in Table 2. Definitions for these indicators are shown in Appendix 5 and are based on WHO 2010 indicator definitions<sup>21</sup>. The child feeding index (CFI) as an indicator has been described by Arimond and Ruel<sup>22</sup>. Its scores are useful for those interested in a summary statistic reflecting average changes across different child feeding practices for those aged 6-23 months. A CFI, ranging from 0 to 9, is calculated by adding up all the component scores as follows: breastfeeding score + bottle use score + 24-hour diversity score + frequency of feeding score + 7-day quasi-food frequency score.

Age-group-specific terciles are constructed for the CFI score. At an individual child level, a higher CFI score (maximum is nine) indicates relatively better feeding practices. At a population level, the proportion of those in the upper tercile can be used to compare overall feeding practices by background characteristics.

**Table 2.1: Indicators covered in the assessment**

	Indicator	Children age group in months
<b>A</b>	<b>Breastfeeding</b>	
1	Child ever breastfed	0-23
2	Early initiation of breastfeeding	0-23
3	Exclusive breastfeeding	0-5
4	Predominant breastfeeding	
5	Continued breastfeeding at 1 year	12-15
6	Continued breastfeeding at 2 years	20-23
7	Length of breastfeeding	0-23
8	Age appropriate breast feeding	0-23
<b>B</b>	<b>Complementary feeding</b>	
9	Introduction of solid/semi-solid/soft foods	6-8
10	Minimum dietary diversity	6-23
11	Minimum meal frequency	6-23
12	Minimum acceptable diet	6-23
13	Consumption of Iron rich foods	6-23
14	Bottle feeding	0-23
15	Child feeding index	6-23

Additionally, data on maternal access to micronutrient supplements and adherence to the dosage regimen for the supplements was also captured. Data on knowledge level, attitudes, beliefs, social norms and community perceptions related to IYCN were collected from the study area through various approaches, to clarify the barriers and facilitators to best IYCN practices. FGD guides, and questions for key informants' interviews (KIIs) are shown in appendices 11 and 12).

### 2.7 Pre-tasting Training and Tools

Five-day training sessions for team leaders and enumerators were conducted in each zone by the FSNAU, in collaboration with the MoH, and UNICEF in Garowe, Gedo, Hargeisa, Kismayu and Mogadishu. The training focused on the objectives of the survey, as well as the methodology, interviewing techniques, data collection tools, the accurate recording of responses, and ethical considerations. Role plays and simulations regarding how to administer the questionnaire and record responses were completed for both quantitative and qualitative tools. Plenary sessions, group exercises and discussions, as well as brainstorming, were the key training methods used. Following the training sessions, the tools were pre-tested in non-survey clusters. Pre-test feedback from the survey teams informed final tool adjustments and helped refine techniques for recording responses.

<sup>20</sup> WHO, 2010

<sup>21</sup> WHO, 2010

<sup>22</sup> Arimond M and Ruel M, 2002.

## 2.8 Field Work Organization and Quality Control

In Somaliland, data was collected in December 2015 and January 2016, while information from regions of Central South Somalia was gathered in February. Teams of four (one team leader/supervisor and three enumerators) were formed. A cluster was visited by one team for both the household survey and qualitative data collection. One day was allocated for a cluster visit for the household survey and a different day was used for a cluster visit and qualitative data collection. FSNAU regional analysts supervised. During field data collection, data quality was ensured by supervisors, who:

- Spot checked during data collection. Each team of three members had a supervisor who visited each team when they were in every cluster.
- Cross-checked questionnaires before leaving the cluster, to ensure they were complete. Adherence to the skip pattern was also checked.
- Worked overnight on the questionnaires to spot errors and completeness. There were instances where households were re-visited to repeat some questions.
- Held daily debrief meetings to resolve any issues identified during the previous day's fieldwork.

## 2.9 Data Entry and Analysis

### 2.9.1 Data entry and quality check

Household survey data was entered in Epi info 7 software and transferred to MS-Excel for cleaning. Double-entry of data was completed for 10 per cent of the questionnaires, which were selected at random in batches, before the two entries were compared and used to ascertain entry. Three questionnaires (1.1 per cent) showed discrepancies for three variables. The entries for the three variables on all the questionnaires were re-checked and cleaned again. Post-data cleaning was done by randomly sampling five questionnaires from each of the clusters visited. All data entries from these questionnaires were compared with the data on the hard copy of the questionnaires and confirmed as identical.

To check for translation bias, three groups of four enumerators (one from each zone) who participated in the survey assembled and translated some selected questions from English to Somali. The selected questions were for the following indicators: ever breastfed, initiation of breastfeeding, exclusive breastfeeding, continuous breastfeeding, and the introduction of solid, soft and semi-solid foods. The translated questions in Somali were then re-translated back to English by a Somali non-nutrition technical person who was not involved in the survey. The translation matched the questions, as they were administered in English during the survey (Appendix 10).

Quantitative data was transferred to version 20 of the Statistical Package for Social Scientist for analysis.

### 2.9.2 Data analysis

The general characteristics were computed and presented by proportion and means. Estimates of IYCN indicators were generated, as per the WHO indicator definitions (Appendix 7), and disaggregated by general characteristics of residence areas (rural, urban and internally displaced people (IDPs), child's gender, caregivers' marital status, maternal age, place of delivery, gravidity, and maternal education. National (Somalia) figures were also reported for each of the IYCN variables.

Analyses of all the indicators were weighted based on the zones' population sizes. In computing the estimates for residence (rural, urban and IDPs), weighting was calculated based on their relative national population sizes. The population figures were sourced from the recent UNFPA population estimates survey in Somalia<sup>23</sup>. All information presented in this report was weighted. The weighted sample sizes (n) are not presented, however, aside from the general characteristics tables.

Qualitative data was analysed using theme categorisation methods, to bring out knowledge, attitude and perceptions towards recommended IYCN practices. Social triangulation was used for data generated from different sources (the FGDs and the KII). For each of the guide questions (FGDs and KIIs), responses were classified into barriers and facilitators to IYCN practices.

## 2.10 Ethical Considerations

Ethical approval was sought from the Ministry of Health and the Federal Government of Somalia and written approvals were issued (Appendix 4). Further permissions were obtained from the Ministries of Health of the respective zones. Informed consent was obtained from the study participants after explaining the purpose of the study. Participation of all respondents in the assessment was voluntary and respect, dignity, confidentiality, and freedom of each assessment participant was maintained during and after the survey. No names have been mentioned in this report, or in other document presentations prepared as part of this assessment.

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<sup>23</sup> UNFPA, 2014

### 2.11 Study Strengths

The strengths of the 2016 Somalia IYCN assessment include:

1. For the first time in a national survey, the collection of a full range of IYCN indicators, as defined by WHO<sup>24</sup>
2. Both quantitative and qualitative methods of data collection, allowing more in-depth understanding of the local context surrounding IYCN practices in Somalia.

### 2.12 Study Limitations

The assessment had the following limitations:

1. It was cross-sectional and relied on maternal recall to estimate the prevalence of IYCN practices. Caregivers who are aware of ideal IYCN practices may answer as they feel things should be, rather than the way they are.
2. The cluster sampling frame did not include areas inaccessible due to insecurity. Regions of Central South Somalia were worst affected. The map shown in Appendix 2 highlights the areas accessed during the survey.
3. There was a lack of population profile for the different child age groups within the 0-23-month sample.
4. Seasonality differences (timing of the field work), and differences in some indicator definitions, mean comparisons of the current estimates with past surveys should be done cautiously. The survey was also not designed to detect result differences with previous surveys.

## 3 ESTIMATES OF IYCN PRACTICES

The information presented in this chapter is an analysis of data collected from the mothers or caregivers of infants and children 0-23 months old. An overview of the demographic and socioeconomic characteristics of the households sampled is first presented. Subsequently, the estimates of the IYCN practices as maternally recalled are presented. In this survey, a household was defined as a person or group of persons, related or unrelated, who usually live together, who acknowledge one adult member as the head of the household, and who had common cooking arrangements.

### 3.1 Number of Households Surveyed

Table 3.1 depicts the numbers of children covered by the surveyed. Each of the age group was represented by the specific sample size used to compute the age-specific IYCN indicators. Total of 1,066 children of age group 0-23 month's olds was sampled from South Central zone, 900 from Somaliland and 790 from Puntland. The age group with the highest number sampled was 0-5 months old due to the high age range of this group as compared to other groups. Compared to target predetermined numbers (as shown in the Appendix 5), in none of the age groups was there less than 90% achievement rate. The survey teams also managed to achieve about the minimum number of planned sample sizes required from each of the three zones.

**Table 3.1: Number of children reached by the survey**

	Number of Infant/children						
Age in months	0-5	6-8	9-11	12-15	16-19	20-23	Total
<b>Central South Somalia</b>							
Rural	55	29	28	33	28	36	209
Urban	184	94	101	121	86	121	707
IDPs	42	20	19	24	21	24	150
<b>Sub-total</b>	<b>281</b>	<b>143</b>	<b>148</b>	<b>178</b>	<b>135</b>	<b>181</b>	<b>1066</b>
<b>% achieved</b>	<b>94.8</b>	<b>93.1</b>	<b>89.9</b>	<b>99.7</b>	<b>131.5</b>	<b>98.1</b>	<b>100.0</b>
<b>Somaliland zone</b>							
Rural	47	25	25	31	20	33	181
Urban	174	92	85	112	112	83	658
IDPs	16	10	7	10	12	6	61
<b>Sub-total</b>	<b>237</b>	<b>127</b>	<b>117</b>	<b>153</b>	<b>144</b>	<b>122</b>	<b>900</b>
<b>% achieved</b>	<b>97.8</b>	<b>91.2</b>	<b>99.0</b>	<b>101.0</b>	<b>107.3</b>	<b>126.6</b>	<b>97.1</b>
<b>Puntland zone</b>							
Rural	55	29	29	34	28	37	212
Urban	120	62	60	80	63	73	458
IDPs	29	18	16	20	16	21	120
<b>Sub-total</b>	<b>204</b>	<b>109</b>	<b>105</b>	<b>134</b>	<b>107</b>	<b>131</b>	<b>790</b>
<b>% achieved</b>	<b>96.8</b>	<b>90.6</b>	<b>94.0</b>	<b>98.3</b>	<b>123.1</b>	<b>100.5</b>	<b>100.0</b>
<b>Total (National)</b>	<b>722</b>	<b>379</b>	<b>370</b>	<b>465</b>	<b>386</b>	<b>434</b>	<b>2756</b>

<sup>24</sup> WHO, 2010

### 3.2 Household, Maternal and Child Characteristics

Maternal and child characteristics determine IYCN practices in a household. In Somalia, mothers tend to make decisions on how their children are fed. The 2016 IYCN survey asked respondents about some household socio-demographic characteristics, as well as maternal education and economic engagement (as shown in tables 3.2 and 3.3). On average, the households sampled had around six members in each of the three zones targeted. Most of the respondents (98.7 per cent) were the biological mothers of the index children and were 20 to 39 years old. Most mothers/caregivers were married and of these, one-third were in polygamous arrangements. About 38 per cent of women sampled delivered in the hospital, while 48.1 per cent delivered in the homes of midwives. A greater and statistically significant proportion of mothers in Somaliland zone (68.2 per cent) than in other zones, delivered their children in the hospitals/health facility, and this is a proxy indication of the level of access to health services in Somaliland, compared to other zones. Only around 12 per cent of mothers were new mothers, the rest were multigravida. By the time of the survey, about two-thirds of the mothers were lactating, and about one quarter were pregnant.

**Table 3.2: Household, maternal and child background characteristics**

Background characteristics	Proportion or value, n			
	National n=2756	Central South Somalian=1066	Somaliland n=900	Puntland n=790
Mean number of household members	5.8	5.9	5.8	5.6
Child sex (% female)	48.3	49.2	45.9	48.9
Child-caregiver relationship (%)				
Mothers	98.8	99.4	97.2	99.1
Grandmother	0.9	0.6	1.6	0.9
Older sister	0.2	0.0	0.8	0.0
Other relative	0.0	0.0	0.4	0.0
Age of the mother in years (%)				
15-19	7.2	6.8	6.5	10.8
20-29	55	57.4	48.8	55.0
30-39	32.5	31.2	37.4	28.8
40-49	4.9	4.4	6.1	5.4
50+	0.4	0.2	1.2	0.0
Place of delivery				
Health facility	37.7	26.5	68.2	34.3
Midwife's home	48.1	55.6	24.7	57.4
At home	14.1	17.8	7.1	8.3
Gravidity (% primagravida)	11.9	10.9	13.7	13.8
Maternal physiological status (%)				
Pregnant	21.8	23.8	18.0	19.3
Lactating	59.8	57.8	63.6	62.4
Pregnant & Lactating	2.5	3.1	1.2	1.8
Not pregnant / Not Lactating	15.9	15.3	17.2	16.5
Marital status (%)				
Single	0.8	0.6	1.2	0.9
Married	92.6	92.1	96.0	88.2
Divorced	4.9	5.5	1.6	9.1
Widowed	1.6	1.8	1.2	1.8
Proportion in polygamous arrangements (%) <sup>a</sup>	33.4	39.1	21.2	29.9

<sup>a</sup> only for those who are in married arrangements

A large proportion of the sampled caregivers did not have any formal education (39 per cent), while around 18 per cent surveyed had received primary school education. Only around 7.4 per cent had attended secondary school education and beyond (Table 3.3). Caregivers in rural areas had the least access to education (45.2 per cent), when compared to those in urban areas or IDPs. A greater proportion of those in urban areas attended primary school than those in rural and IDP areas. Nearly half of the mothers surveyed (45.7 per cent) were housewives, though this phenomenon was much less common in Somaliland (21.4 per cent) and disproportionately and statistically higher in Puntland (68.2 per cent). More mothers in Somaliland were formally employed (20 per cent) or engaged in casual labour (28 per cent) than in the other areas. Casual labour was more common among IDP mothers (24 per cent), while those in urban areas had better access to formal employment (11 per cent).

Table 3.3: Maternal education and economic pre-occupation

General characteristics	Zones, n				Residence area, n		
	National n=2756	Central South Somalia n=1066	Somaliland n=900	Puntland n=790	Rural n=602	Urban n=1823	IDPs n=331
<b>Education level*</b>							
No formal education	39.3	39.6	42.6	30.0	45.2	35.7	36.7
Quranic school	31.6	31.9	28.1	37.3	35.3	30.7	33.3
Primary school	18.4	16.1	20.1	27.3	15.2	23.3	16.7
Secondary/high	6.2	6.2	6.8	4.5	3.4	7.5	0.0
Tertiary <sup>□</sup>	1.2	1.3	1.2	0.9	0.3	1.6	0.0
Others	3.4	4.9	1.2	1.0	0.3	1.2	13.3
<b>Main economic pre-occupation**</b>							
Formal Employment	8.2	4.2	20.4	2.7	5.6	10.8	6.9
Casual labour	17.7	14.9	28.2	10	15.3	17.2	24.1
Own business	9.0	6.4	15.9	8.2	9.4	10.9	6.9
Petty trading / hawking	8.9	10.1	6.5	7.3	9.0	8.1	6.9
Farming	3.4	5.2	0.4	0.0	6.3	1.1	0.0
Pastoralism	2.9	3.9	1.2	0.9	5.6	1.2	1.5
Remittance/dependence	2.0	2.9	4.5	1.8	1.0	3.7	3.4
Housewife	45.7	51.5	21.2	68.2	46.1	46.1	51.7
Others	1.0	0.8	1.6	0.9	1.7	0.9	0.0

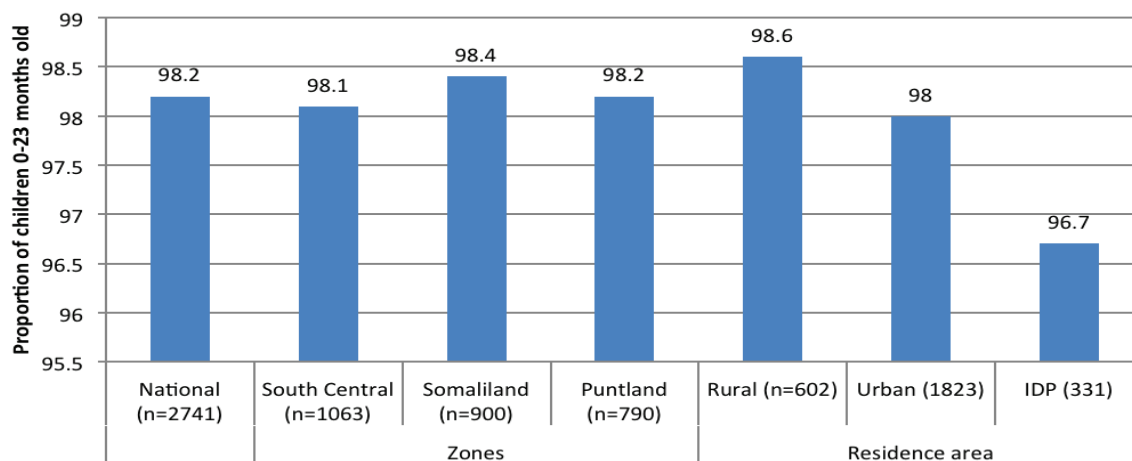
<sup>□</sup> Includes college and university education

### 3.3 Breastfeeding Practices

#### 3.3.1 Breastfed Children

In Somalia, 98 per cent of children aged up to 23 months had been breastfed, with the numbers consistently high across all three surveyed areas. Rates were slightly lower among IDP children than those living in rural and urban areas, but the difference was not statistically significant.

Figure 3.1: Proportion of children ever breastfed



#### 3.3.2 Timely initiation of breastfeeding and provision of colostrum

Table 3.4 shows the proportions of ever breastfed children born in the two years preceding the survey based on the timings of initial breastfeeding after birth - within 1 hour, within 1 day and after one day. Eighty three per cent (83%) of children in Somalia are started on breastfeeding within one hour after birth. A lesser proportion of mothers in South Central zone (79.5%) initiate breastfeeding within one hour as compared to other two zones. The differences in the three zones are statistically significant. Conversely, a greater proportion of the same South Central mothers introduce breastfeeding within one day (13.6%) and after one day postpartum (6.9%), and again the differences between the zones are statistically significant. The differences in initiation of breastfeeding by other background characteristics are negligible.

As shown in Figure 3.4, majority (91.2%) of ever breastfed children are fed with colostrum. There are no significant differences between the zones. In South Central, 94.4% of children are fed with colostrum while in Somaliland and Puntland, 90.4% of the children are fed with colostrum. The proportion of children given colostrum in the rural areas (86.4%) is less than that in the urban areas (92.6%) and in the IDP (93.1%). The difference between three residential areas is statistically significant.

Table 3.4: Initiation of breastfeeding

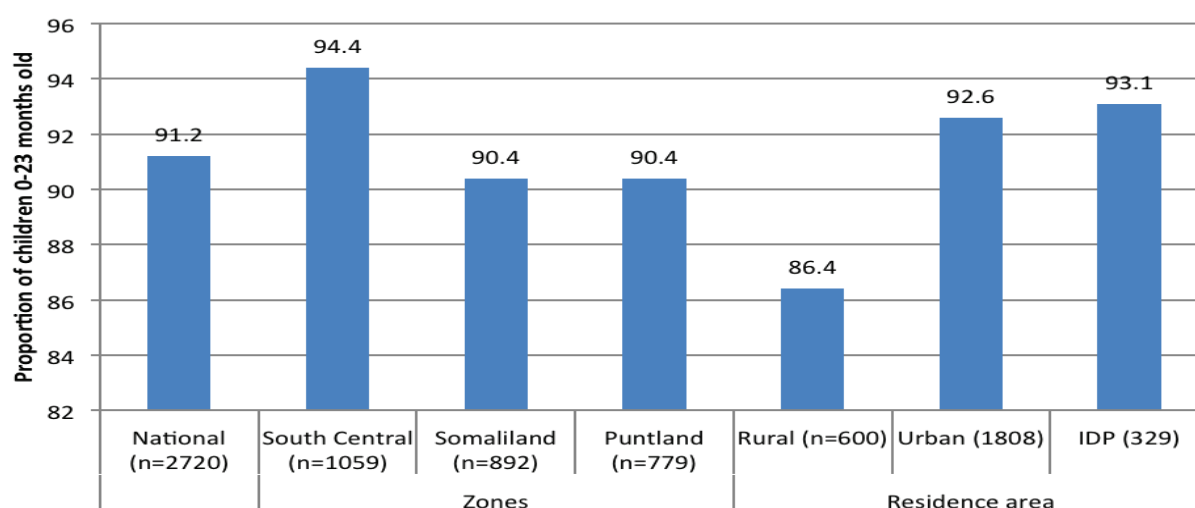
	Initiation of breastfeeding (%)					N
	Never breastfed	Within 1 hour	After 1 hour within 1 day	After 1 day	Total	
<b>Overall</b>	1	80	12	7	100	2,756
<b>Zone</b>						
Central South Somalia	0	75	16	9	100	1,067
Somaliland	2	89	7	2	100	900
Puntland	2	84	8	6	100	789
<b>Area of residence</b>						
Rural	1	76	15	9	100	602
Urban	1	83	10	5	100	1,823
IDPs	1	87	8	3	100	331
<b>Gender of child</b>						
Male	1	81	11	6	100	1,415
Female	1	78	13	8	100	1,308
<b>Marital status of mother/caretaker</b>						
Married	1	81	12	6	100	2,527
Single/divorced/widowed	3	69	18	10	100	214
<b>Age of mother/caretaker</b>						
<20 years	1	77	13	9	100	227
20-29 years	1	81	12	6	100	1,472
30-39 years	1	80	13	6	100	883
40+ years	5	71	9	15	100	153
<b>Gravidity of mother</b>						
Primigravidas	0	80	15	5	100	345
Multigravidas	1	80	12	7	100	2,387
<b>Place of delivery</b>						
Health facility	2	85	10	4	100	1,130
Midwife's home		0	83	9	7	100
Home/other	0	76	15	9	100	1,242
<b>Education of mother/caretaker</b>						878
No formal education	1	76	14	9	100	1,032
Quranic school	1	83	12	4	100	878
Primary school	1	83	8	7	100	562
Secondary school	1	83	12	4	100	159
Tertiary/other	0	86	7	8	100	95

<sup>a</sup>Singleness connotes not having a living official male partner and includes widowed and divorced women.

<sup>α</sup>Primagravida: New mothers as opposed to those who have given birth before (multigravida)

<sup>∞</sup> The denominator for initiation of breastfeeding is only those children who have ever been breastfed (Appendix 7)

Figure 3.2: Proportion of children provided with colostrum



### 3.3.3 Exclusive breastfeeding

Mothers were asked what they gave their infants during the day and night preceding the survey. As shown in Table 3.5, around a third of infants in Somalia aged below six months are exclusively breastfed. EBF is significantly lower in regions of Central South Somalia (21 per cent) than in Puntland (39 per cent) and Somaliland (56 per cent). Conversely, the proportion of infants predominantly breastfed was highest in the Central South Somalia area and this is statistically significant (63.8 per cent). The proportion of infants given milk other than breast milk, as well as non-milky liquids, was highest in Central South Somalia.

**Table 3.5: Proportion of infants 0-5 months old exclusively breastfed**

	Exclusive breastfeeding	Predominant breastfeeding	n
<b>Overall</b>	33	63	722
<b>Zone</b>			
Central South Somalia	21	57	281
Somaliland	56	79	237
Puntland	39	55	204
<b>Area of residence</b>			
Rural	29	62	157
Urban	40	67	478
IDP	24	48	87
<b>Gender of the child</b>			
Male	36	66	360
Female	30	61	353
<b>Marital status of mother/caretaker</b>			
Married	34	64	691
Single/divorced/widowed	(15)	(48)	30
<b>Age of mother/caretaker</b>			
<20 years	34	70	86
20-29 years	32	61	418
30-39 years	36	64	189
40+ years	*	*	22
<b>Gravidity of mother</b>			
Primigravida	33	63	154
Multigravida	33	63	565
<b>Place of delivery</b>			
Health facility	39	62	331
Midwife's home	30	69	74
Home/other	29	62	295
<b>Education of mother/caretaker</b>			
No formal education	28	63	239
Quranic school	35	65	239
Primary school	42	62	164
Secondary school	(47)	(74)	47
Tertiary/other	(15)	(51)	25

### 3.3.4 Continued and appropriate breastfeeding

Around 46 per cent of Somali infants are still breastfed on their first birthday. No considerable differences are observed between the three locations, though the proportion of infants in Central South Somalia (39 per cent) breastfed at one year of age is below the national average. Higher proportions of older women tend to breastfeed one year postpartum than younger mums (Table 3.6). The proportion of Somali children breastfed at two years (20-23 months old) reduces three-fold compared to one year, at only 14.7 per cent. The proportion of children breastfed at two years in regions of Central South Somalia remains below the national average at 10 per cent, with negligible differences in breastfeeding at two years, according to their reported social and economic backgrounds (Table 3.6).

Table 3.6: Number of mothers who continued breastfeeding for one and two years

	Breastfeeding at 1 year		Breastfeeding at 2 years	
	Yes	No	Yes	No
<b>Overall</b>	46	465	13	434
<b>Zone</b>				
Central South Somalia	39	179	10	181
Somaliland	56	153	16	122
Puntland	52	133	24	131
<b>Area of residence</b>				
Rural	49	98	11	106
Urban	46	313	18	277
IDP	28	54	6	51
<b>Sex of the child</b>				
Male	46	239	12	229
Female	45	220	16	199
<b>Marital status of mother/caretaker</b>				
Married	48	429	14	374
Single/divorced/widowed	(27)	31	13	55
<b>Age of mother/caretaker</b>				
<20 years	24	28	13	20
20-29 years	51	254	15	210
30-39 years	38	155	11	156
40+ years	(58)	25	(15)	44
<b>Gravidity of mother</b>				
Primigravida	(66)	36	(23)	30
Multigravida	44	423	13	398
<b>Place of delivery</b>				
Health facility	51	179	17	151
Midwife's home	34	53	(16)	44
Home/other	45	214	12	228
<b>Education of mother/caretaker</b>				
No formal education	49	185	13	167
Quranic school	40	137	19	134
Primary school	46	100	12	93
Secondary school	*	19	*	15
Tertiary/other	*	17	*	16

\*Only those who stopped breastfeeding

Among those who did not breastfeed the day and night preceding the survey, the median length of breastfeeding stands at 17 months nationally, including across the zones surveyed (Figure 3.3). As shown in the same figure, children living in rural and IDP areas are breastfed for slightly longer than those in urban areas (17 months).

Figure 3.3: Median length of breastfeeding

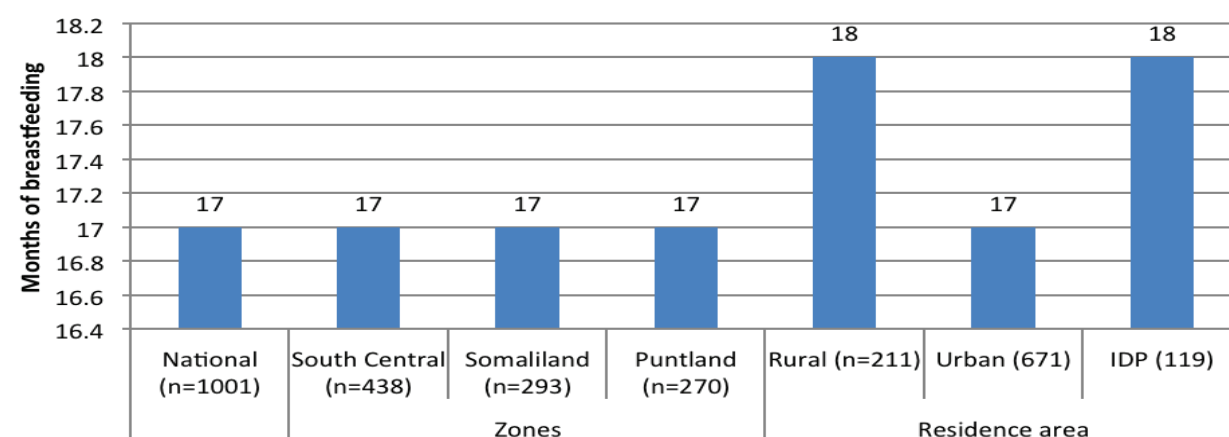


Table 3.7 shows breastfeeding by age group. A lesser proportion of children are exclusively breastfed as they age.

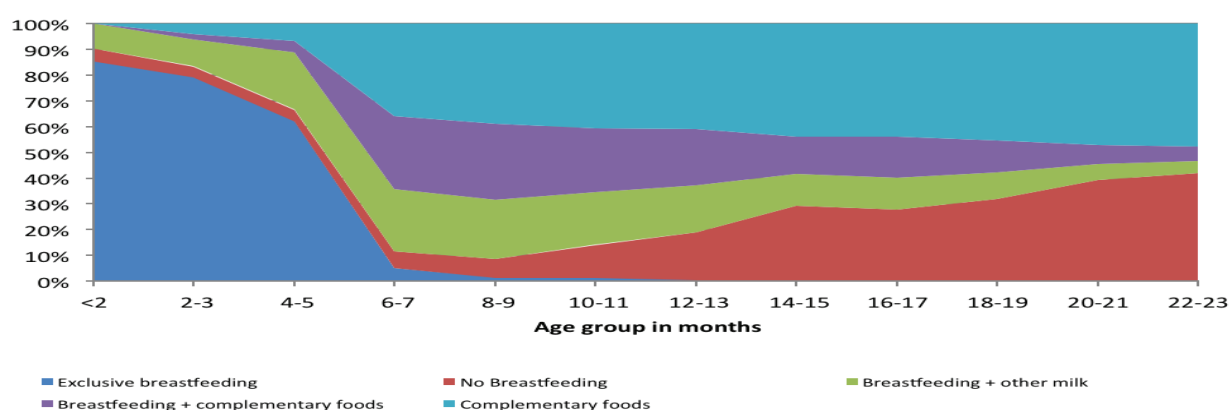
Fewer children aged four to five months are exclusively breastfed (25.7 per cent) than their younger counterparts (41.9 per cent of children less than two months old). By the time a child is six months old, EBF is unpopular among mothers, and by 23 months postpartum no mother surveyed exclusively breastfed her child. Giving complementary feeds (or milk feeds) while breastfeeding was more common among caregivers of children aged 6-11 months (63.4 per cent for 6-8 month olds, and 60.9 per cent for 9-11 month olds) and declined thereafter. Breastfeeding was uncommon among children aged 20-23 months. Figure 3.4 shows feeding practices by child age.

Table 3.7 shows breastfeeding by age group. In general, within the EBF age bracket, the rates reduce by age. Giving complementary feeds (or milk feeds) while breastfeeding is more common for parents of children aged 6-11 months and then declines. Somali children older than one year are less appropriately breastfed. In the first half of infancy, those in the borderline age (4-5 months) are less exclusively breastfed than their younger counterparts. Breastfeeding is uncommon among children aged 20-23 months.

**Table 3.7: Breastfeeding practices by age group**

Age group	Proportion of children- %					n
	No Breastfeeding	Exclusive breastfeeding	Breastfeeding and other milk	Breastfeeding and complementary foods	Complementary foods	
<2	2.4	41.9	4.7	0	0	139
2-3	1.9	36.2	4.8	0.9	1.9	296
4-5	1.9	25.7	9.2	1.8	2.8	287
6-8	2.3	32.9	7.0	1.2	1.9	722
9-11	14.9	7.1	51.9	63.4	82.1	379
12-13	26.0	3.8	48.9	60.9	93.3	370
14-15	97.6	0.4	23.7	28.7	97.4	1285
16-17	83.4	0.0	10.8	13.3	96.8	437

**Figure 3.4: Infant feeding practices by age**



### 3.4 Complementary Feeding Practices

#### 3.4.1 Introduction of solid foods

Table 3.8 depicts the proportion of Somali children 6-8 months old provided with solid, semi-solid or soft food 24 hours preceding the survey. On average, 81 per cent of children aged 6-8 months are fed solid or semi-solid food. There are no remarkable differences in the three zones, the residence type or other background characteristics. Nationally, the proportions of children aged 6-8 months given solid, semi-solid or soft foods while breastfeeding is generally lower (80 per cent) than those who are not breastfeeding (88 per cent).

**Table 3.8: Introduction of solid, semi-solid or soft foods for 6-8 months old children**

	Solid/semi-solid/soft foods:		Solid/semi-solid/soft foods:		Solid/semi-solid/soft foods:	
	all		breastfeeding		not breastfeeding	
	Yes	No	Yes	No	Yes	No
<b>Overall</b>	81	379	80	326	88	50
<b>Zone</b>						
South Central	84	143	83	118	89	25
North West	77	127	76	116	*	11
North East	76	109	75	92	*	14
<b>Area of residence</b>						
Rural	79	83	79	72	*	10
Urban	83	248	81	212	94	34
IDP	79	48	78	42	*	6
<b>Sex of the child</b>						
Male	82	178	80	158	*	19
Female	80	196	80	163	81	31
<b>Marital status of mother/caretaker</b>						
Married	80	354	79	309	88	44
Single/divorced/widowed	*	23	*	17	*	6
<b>Age of mother/caretaker</b>						
<20 years	76	43	77	37	*	5
20-29 years	79	191	78	165	86	25

30-39 years	84	129	83	113	*	15
40+ years	*	15	*	10	*	5
<b>Gravidity of mother</b>						
Primigravida	83	58	83	53	*	4
Multigravida	81	318	80	272	88	45
<b>Place of delivery</b>						
Health facility	82	172	80	151	*	19
Midwife's home	83	56	80	47	*	9
Home/other	80	147	80	124	*	22
<b>Education of mother/caretaker</b>						
No formal education	81	146	79	125	*	19
Quoranic school	79	117	81	102	*	15
Primary school	78	73	75	64	*	9
Secondary school	90	30	88	25	*	5
Tertiary/other	*	10	*	8	*	2

### 3.4.2 Minimum meal frequency

Table 3.9 shows the proportion of children 6-23 months given the minimum number of meals appropriate for their age, during the day and night preceding the survey. About 69 per cent of Somali children aged 6-23 months receive a minimum frequency of meals per day. This differs significantly by geographical location, with more than half of the children surveyed in Central South Somalia (66 per cent) less likely to receive the recommended meals per day than those in Somaliland (74 per cent) and Puntland (71 per cent). An even lower proportion of children living in IDP areas (48 per cent) receive meals to the recommended frequency than those living in rural (78 per cent) and urban areas (63 per cent).

WHO recommends gradually increasing the amount and frequency of food given to a child as they get older. Table 3.9 shows that as children get older, they are more likely to receive less than the recommended meal frequency. Of those infants aged 6-8 months, 70.9 per cent eat the minimum recommended meal frequency and there are no variations by background characteristics. Around 53 per cent of children in Somalia aged 9-23 months old receive the recommended meal frequency. The proportion of children, aged 9-23 months, who receive meals at the minimum frequency in Central South Somalia is significantly lower (47.3 per cent) than in Somaliland (60 per cent) and Puntland (64.2 per cent).

**Table 3.9: Minimum meal frequency**

	Minimum meal frequency: all children, regardless of whether they are breastfed		Minimum meal frequency: breastfeeding		Minimum meal frequency: not breastfeeding	
	Yes	n	Yes	n	Yes	n
<b>Overall</b>	69	2,034	92	1,056	47	952
<b>Zone</b>						
Central South Somalia	66	786	89	358	46	426
Somaliland	74	663	94	376	48	270
Puntland	71	585	93	322	46	256
<b>Area of residence</b>						
Rural	78	445	94	238	62	203
Urban	63	1,345	91	690	35	633
IDP	48	244	79	128	20	116
<b>Sex of the child</b>						
Male	69	1,055	90	567	47	475
Female	69	955	93	477	47	466
<b>Marital status of mother/caretaker</b>						
Married	70	1,836	91	980	47	837
Single/divorced/widowed	63	184	97	74	47	107
<b>Age of mother/caretaker</b>						
<20 years	74	141	95	82	49	56
20-29 years	69	1,054	91	558	46	483
30-39 years	68	694	92	353	47	335
40+ years	67	131	94	56	52	72
<b>Gravidity of mother</b>						
Primigravida	74	191	94	131	45	56
Multigravida	68	1,822	91	919	47	885
<b>Place of delivery</b>						
Health facility	70	799	93	454	39	330
Midwife's home	66	237	88	122	44	115
Home/other	69	947	91	455	49	482
<b>Education of mother/caretaker</b>						
No formal education	74	793	94	415	57	365
Quoranic school	65	639	89	331	38	303
Primary school	65	398	92	213	34	183
Secondary school	67	112	95	63	31	48
Tertiary/other	45	70	65	25	34	44

<sup>a</sup> Breastfed children who receive solid, semi-solid or soft foods for at least the minimum number of times during the previous day; and non-breastfed children who receive solid, semi-solid or soft foods, or milk feeds, for at least the minimum number of times during the previous day. Minimum is defined as twice for breastfed infants 6-8 months old, three times for breastfed children 9-23 months old and four times for non-breastfed children aged 6-23 months.

### 3.4.3 Minimum dietary diversity

Table 3.10 shows the proportion of children aged 6-23 months given at least four food groups during the day and night preceding the survey. This is disaggregated by children's breastfeeding status. On average, about 15 per cent of Somali children aged 6-23 months are given the minimum recommended number of food groups (at least four).

**Table 3.10: Minimum dietary diversity**

	Min. diet. diversity: all		Min. diet. diversity: breastfeeding		Min. diet. diversity: not breastfeeding	
	Yes	n	Yes	n	Yes	N
<b>Overall</b>	15	2,034	15	1,056	16	952
<b>Zone</b>						
Central South Somalia	21	786	20	358	22	426
Somaliland	7	663	9	376	5	270
Puntland	9	585	10	322	8	256
<b>Area of residence</b>						
Rural	10	445	10	238	10	203
Urban	21	1,345	19	690	23	633
IDP	22	244	21	128	23	116
<b>Gender of the child</b>						
Male	14	1,055	14	567	15	475
Female	17	955	16	477	18	466
<b>Marital status of mother/caretaker</b>						
Married	16	1,836	15	980	17	837
Single/divorced/widowed	13	184	15	74	13	107
<b>Age of mother/caretaker</b>						
<20 years	22	141	17	82	29	56
20-29 years	16	1,054	14	558	17	483
30-39 years	14	694	15	353	13	335
40+ years	16	131	14	56	17	72
<b>Gravidity of mother</b>						
Primigravida	11	191	14	131	7	56
Multigravida	16	1,822	15	919	17	885
<b>Place of delivery</b>						
Health facility	17	799	18	454	16	330
Midwife's home	16	237	15	122	17	115
Home/other	15	947	12	455	17	482
<b>Education of mother/caretaker</b>						
No formal education	13	793	13	415	14	365
Qur'anic school	17	639	14	331	20	303
Primary school	19	398	17	213	21	183
Secondary school	26	112	32	63	18	48
Tertiary/other	14	70	13	25	14	44

<sup>a</sup>Children who receive foods from > 4 food groups the day preceding the survey

The proportion of children given at least four food groups is higher in Central South Somalia (21 per cent) than in other zones. The proportion of children given four food groups is lower among rural dwellers (10 per cent) than among those living in urban areas (21 per cent) and IDPs (22 per cent). The proportion of male children given the minimum diversity of food is also lower (14 per cent) than that given to female children (17 per cent). Generally, as observed from Table 3.11, children who are not breastfed are given a more diverse diet than children who are.

### 3.4.4 Types of complementary foods

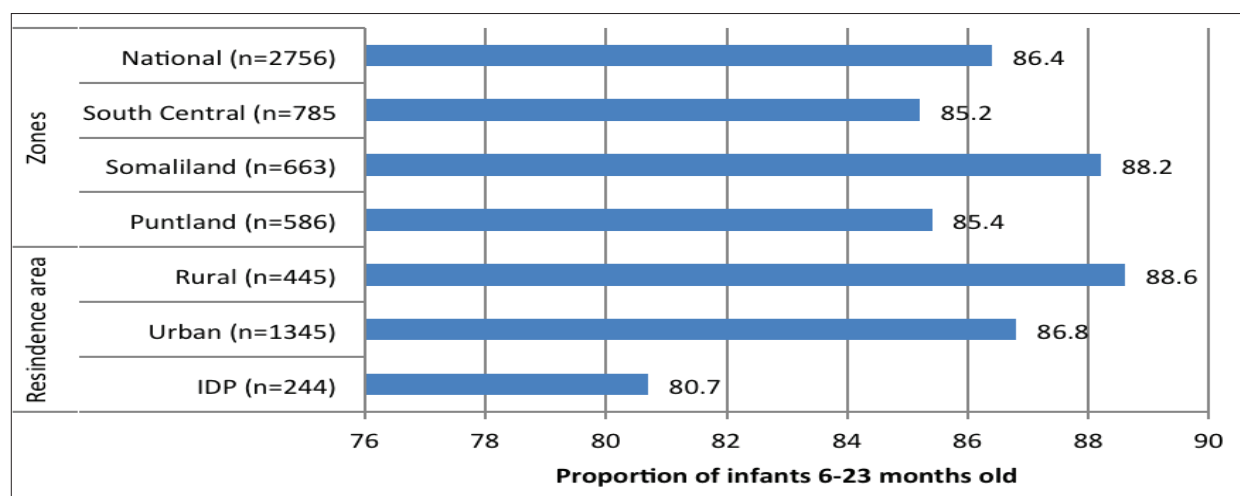
As shown in Table 3.11, the most common foods given to Somalia children aged 6-23 months are those made from grains, roots and tubers (93.5 per cent), dairy products (75.2 per cent), vitamin A-rich fruits and vegetables (52.8 per cent) and meat-based foods (41.4 per cent). The same group of children are also fed protein-rich foods, such as legumes and nuts (14 per cent), fortified baby foods (7.2 per cent) and eggs (5.5 per cent). The use of multiple micronutrient powders in children's diets is not common in Somalia. Just 0.1 per cent of children aged 6-23 months were given multiple micronutrient powders the day and night preceding the day of the survey. Some variations on foods exist by location. For instance, legumes, nuts and vitamin A-rich vegetables are consumed more frequently in Central South Somalia (64.4 per cent) than in Somaliland (35.7 per cent) and Puntland (26.8 per cent). Fruits and vegetables, as well as fortified baby foods, are less commonly (24.8 per cent) given to children in rural areas. Age group is also an important factor when determining the type of food given: a greater proportion of older children consumed grains (and roots and tubers), dairy products, meat-based food, and fruits and vegetables, than younger children.

**Table 3.11: Food groups consumed by children 6-23 months old**

Background characteristics	Food groups consumed by children 6-23 months old the day preceding the survey- %									
Zones	Grains, roots and tubers	Legumes and nuts	Dairy products <sup>a</sup>	Flesh foods <sup>a</sup>	Eggs	Vitamin A rich fruits and vegetables	Other fruits and vegetables	Fortified baby foods	multiple micronutrient	Number of children (n)
Central South Somalia	94.5	17.6*	69.5*	52.7	6.8	64.4*	41.4	9.7*	0.0	785
Somaliland	91.4	8.1	87.1	16.8	2.2	35.7	33.5	3.2	0.5	663
Puntland	92.7	7.3	80.5	34.1	6.1	26.8	37.8	2.4	0.1	584
<b>Residence</b>										
Rural	93.1	11.4	83.5	32.9	3.2	24.8*	26.1*	1.4*	0.0	445
Urban	92.7	11.7	77.0	38.6	6.0	50.7	42.7	7.4	0.4	1345
IDP	95.5	9.1	77.3	23.8	4.5	45.5	31.8	0.0	0.0	244
<b>Age of child in months</b>										
6-8	82.1*	8.2	65.7*	29.9*	4.5	41.8*	29.9*	8.2	0.0	379
9-11	92.5	12.8	75.9	37.3	4.5	50.0	38.3	7.5	0.0	370
12-24	97.1	15.8	77.9	46.1	6.1	57.0	41.9	6.8	0.2	1285
<b>Total (National)</b>	93.5	14.0	75.2	41.4	5.5	52.8	39.5	7.2	0.1	2034

<sup>a</sup>Milk, yoghurt, cheese<sup>a</sup>Meat, fish poultry, liver/organ meat

The proportion of children given animal-source foods was also calculated. As shown in Figure 3.5, overall, 64 per cent of children aged 6-23 months were given such food. The differences across zones was negligible. Compared to children in rural (88.6 per cent) and urban (86.8 per cent) areas, fewer IDP children (80.7 per cent) were fed animal-source foods.

**Figure 3.5: Consumption of Animal Source Foods**

Animal-source foods include meat, fish, poultry and dairy products.

As Table 3.12 shows, 48.3 per cent of children aged 6-23 months consumed foods rich in iron the day or night preceding the survey. Consumption of iron-rich foods increased with the age of the child. At 6-8 months of age, 36.6 per cent of children are given iron-rich foods, and this increases at 9-11 months to 44.4 per cent, and at 12-23 months to 52.6 per cent. The differences in the consumption of iron-rich food by other background characteristics is negligible. The most common iron-rich food is meat (including offal and poultry) and a greater proportion of children in Central South Somalia (as compared to other zones) receive this iron source, as shown in Figure 3.5. Iron-fortified foods are consumed by 7.2 per cent of children in the region and eggs by just 5.5 per cent. Multiple micronutrient powders are less important as an iron source (consumed by 0.1 per cent of children 0-23 months). Lipid-based nutrition supplements (LNS) are consumed by 1.7 per cent of children aged 6-23 months.

Table 3.12: Iron rich foods provided to children 6-23 months old the day preceding the survey

Background characteristics	Iron-rich foods consumed by children aged 6-23 months the day preceding the survey – %							Number of children
Zones	all <sup>a</sup>	<sup>a</sup> Meat	Fish	Eggs	Iron fortified foods	multiple micronutrient powders	LNS <sup>a</sup>	
Central South Somalia	60.1	46.8*	3.5	6.8	9.7	0.0	1.8	785
Somaliland	22.2	14.6	1.6	2.2	3.2	0.5	1.1	663
Puntland	41.5	31.7	1.2	6.1	2.4	0.0	2.4	586
Residence								
Rural	37.2	29.8	2.3	3.2	1.4	0.0	1.4	445
Urban	46.1	34.3	2.5	6.0	7.4	0.4	1.2	1345
IDP	31.8	22.7	0.0	4.5	0.0	0.2	4.5	244
Child sex								
Male	46.9	34.9	2.1	5.6	7.5	0.3	1.6	1055
Female	50.1	39.9	2.8	5.6	6.7	0.1	1.5	955
Child age in months								
6-8	36.6*	26.1*	3.0	4.5	8.2	0.0	0.8	379
9-11	44.4	33.1	3.0	4.5	7.5	0.0	0.7	370
12-23	52.6	41.2	2.9	6.1	6.8	0.2	2.0	1285
Total (National)	48.3	39.8	2.8	5.5	7.2	0.1	1.7	47

<sup>a</sup>Includes organ meat, poultry<sup>a</sup>Lipid-based Nutrition Supplement

### 3.4.5 Minimum acceptable diet

Table 3.13 shows only nine per cent of children aged 6-23 months in Somalia consume the minimum acceptable diet. This varies by residence, with rates highest among urban dwellers (12 per cent) and lower among rural dwellers (six per cent) and IDPs (10 per cent). Twice as many married mothers (10 per cent) as unmarried women (five per cent) give their children acceptable diets. Generally, a greater proportion of those currently breastfeeding (13 per cent) consume an acceptable diet than those who are not breastfeeding (five per cent).

Table 3.13: Minimum acceptable diet

	Min. accept. diet: all		Min. accept. diet: breastfeeding		Min. accept. diet: not breastfeeding	
	Yes (%)	n	Yes (%)	n	Yes (%)	n
Overall	9	2,034	13	1,056	5	952
Zone						
Central South Somalia	11	786	17	358	7	426
Somaliland	6	663	9	376	1	270
Puntland	7	585	9	322	5	256
Area of residence						
Rural	6	445	8	238	4	203
Urban	12	1,345	18	690	7	633
IDP	10	244	18	128	3	116
Sex of the child						
Male	9	1,055	12	567	6	475
Female	9	955	14	477	5	466
Marital status of mother/caretaker						
Married	10	1,836	13	980	6	837
Single/divorced/widowed	5	184	14	74	1	107
Age of mother/caretaker						
<20 years	17	141	16	82	19	56
20-29 years	9	1,054	12	558	5	483
30-39 years	9	694	15	353	3	335
40+ years	10	131	14	56	7	72
Gravidity of mother						
Primigravida	8	191	13	131	2	56
Multigravida	9	1,822	13	919	5	885
Place of delivery						
Health facility	12	799	18	454	2	330
Midwife's home	9	237	11	122	6	115
Home/other	8	947	11	455	6	482
Education of mother/caretaker						
No formal education	9	793	13	415	6	365
Quranic school	7	639	10	331	4	303
Primary school	12	398	17	213	6	183
Secondary school	20	112	31	63	(5)	48
Tertiary/other	7	70	(13)	25	(4)	44

<sup>a</sup>Breastfed children given the minimum dietary diversity and minimum meal frequency during the previous day; and non-breastfed children who receive two milk feeds and at least the minimum dietary diversity, excluding milk feeds and minimum meal frequency, during the previous day.

### 3.4.6 Bottle feeding

Table 3.14 shows the proportion of all children aged 0-23 months fed using bottles. This has been disaggregated by age group (0-5 months, 6-11 months and 12-23 months) and by background characteristics. Around half (49.7 per cent) of children 0-23 months old are fed using bottles. The use of bottle feeding is more common among those who give birth at the health facility or hospital, and this is true of all children aged 0-23 months (55.9 per cent) and 12-23 months (58.6 per cent).

Table 3.14: Bottle feeding

Background characteristics	Percentage of children aged 0-23 months bottle fed							
	0-23 months old	n	0-5 months old	n	6-11 months old	n	12-23 months old	n
<b>Zones</b>								
Central South Somalia	50.6	1066	46.0	281	55.6	291	50.0	494
Somaliland	49.6	900	27.3	237	61.8	244	55.1	419
Puntland	45.0	790	41.4	204	56.7	214	40.4	372
<b>Residence</b>								
Rural	48.1	602	41.6	157	41.6	165	43.1	280
Urban	48.7	1823	36.3	478	36.3	494	50.8	851
IDP	50.0	331	50.0	87	50.0	90	50.0	154
<b>Child sex</b>								
Male	49.4	214	38.6	360	57.2	382	50.6	673
Female	50.1	2527	43.3	353	56.7	361	50.0	594
<b>Marital status</b>								
Single	50.0	214	60.0	30	52.9	343	46.7	130
Married	49.7	2527	40.1	691	57.4	399	50.9	1145
<b>Maternal age</b>								
15-19 years	51.4	214	42.9	83	59.1	68	55.0	63
20-29 years	50.7	1477	40.5	419	58.8	399	51.9	659
30-39 years	48.3	886	39.7	189	55.2	246	48.1	451
40-49 years	45.8	142	50.0	20	37.5	28	47.1	94
50+ years	60.0	16	100.0	4	50.0	4	50.0	8
<b>Gravidity</b>								
Primigravidae	50.0	345	40.7	154	61.3	95	56.3	96
Multigravidae	49.7	2387	41.1	565	56.6	650	50.0	1172
<b>Place of delivery</b>								
Health facility	55.9	1130	44.9	331	44.9	307	58.6	492
At home	45.1	1239	39.6	295	39.6	334	44.1	610
Midwife's home	48.1	311	35.3	74	35.3	95	50.8	142
<b>Maternal education</b>								
No formal education	48.4	1032	43.2	239	59.0	281	45.5	512
Quoranic school	46.6	878	35.7	239	55.3	244	47.8	395
Primary school	51.1	562	38.9	164	53.3	142	58.0	256
Secondary school	52.5	159	38.9	49	59.1	56	57.9	56
Tertiary	58.3	32	25.0	9	66.7	9	80.0	14
<b>Total (National)</b>	49.7	2756	40.7	722	57.3	749	50.2	1285

### 3.4.7 Child Feeding Index (CFI)

Table 3.15 shows the proportion of children in the upper tercile. Overall, 25 per cent of children aged 6-23 months are in the upper tercile. This proportion decreases with the child's age, from 63.4 per cent for those aged 6-8 months to 6.8 per cent for children 12-23 months. This is consistent with the composite indicators of the minimum acceptable diet (Table 3.14). According to the child feeding index, a greater proportion of children aged 6-23 months in regions of Central South Somalia (25.9 per cent) are better fed than those in Somaliland (13.5 per cent) and Puntland (25.6 per cent). This is consistent with observations for the indicators of minimum dietary diversity and minimum acceptable diets.

Table 3.15: Children 6-23 months in the upper tercile of child feeding index

Background characteristics	Proportion of children in the upper tercile (6-9 score)							
	All (6-23 months old)		6-8 months old		9-11 months old		12-23 months old	
<b>Zones</b>	per cent	n	%	n	%	n	%	n
South Central	25.9*	785	68.7	143	40.7	148	9.1*	494
Somaliland	13.5	663	51.4	127	18.8	117	0.0	419
Puntland	25.6	586	62.5	109	46.7	105	9.6	372
<b>Residence</b>								
Rural	20.6	445	33.7	83	27.5	82	8.0	280
Urban	22.5	1345	63.5	248	36.5	246	6.4	851
IDP	22.7	244	60.0	48	50.0	42	0.0	154
<b>Child sex</b>								
Male	22.0	1055	60.3	178	36.8	204	7.2	573
Female	23.8	955	66.7	196	36.1	105	6.5	594
<b>Marital status</b>								
Single	17.7	184	50.0	23	40.0	31	6.8	130
Married	23.3	1836	64.6	254	35.2	337	6.8	1145
<b>Maternal age</b>								
15-19 years	33.3	131	58.3	43	44.4	25	15.0	63
20-29 years	24.0	1058	63.4	191	40.3	208	6.8	659
30-39 years	20.9	697	68.9	129	28.6	117	5.6	451
40-49 years	14.0	112	20.0	14	33.3	14	8.8	94
50+ years	0.0	12	0.0	1	0.0	3	0.0	8
<b>Gravidity</b>								
Primigravidae	33.9	154	66.7	58	46.2	37	9.7	96
Multigravidae	21.8	565	63.8	318	34.7	332	6.7	1172
<b>Maternal education</b>								
No formal education	24.5	610	65.4	146	36.5	135	9.5	512
Quoranic school	19.3	516	59.4	117	29.5	127	4.3	395
Primary school	23.3	311	65.2	73	42.9	69	6.2	256
Secondary school	39.0	73	66.7	30	54.5	26	10.5	54
Tertiary	20.0	18	100.0	5	50.0	4	0	14
<b>Total (National)</b>	25.0	2034	63.4	379	36.1	370	6.8	1285

### 3.5 Maternal micronutrient supplementation

In this survey, mothers were shown the supplements and asked if they took them during and after pregnancy (ante natal and postnatal). Table 3.16 shows the proportion of mothers who took various forms of micronutrient supplements.

**Table 3.16: Maternal micronutrient supplementation from pregnancy to 23 months after birth**

Background characteristics	Proportion of mothers taken supplements -%				n
	Iron tablets/syrup	Folic acid tablets	Combined iron and folic acid	Multiple micronutrient	
<b>Zones</b>					
Central South Somalia	61.7	37.0	22.3	18.0	1066
Somaliland	53.6	22.0	13.5	10.3	900
Puntland	47.7	25.5	18.9	8.1	790
<b>Residence</b>					
Rural	62.0*	27.8	14.4	9.5	602
Urban	53.9	29.5	17.9	12.2	1823
IDP	50.0	26.7	20.0	20.0	331
<b>Marital status</b>					
Single	52.8	27.8	22.2	15.3	214
Married	58.6	32.2	19.6	14.9	2527
<b>Gravidity</b>					
Primigravidae	52.2	34.5	22.6	12.9	345
Multigravidae	58.7	31.7	19.3	15.2	2387
<b>Age</b>					
15-19	51.4	28.6	22.9	20.0	214
20-29	60.4	33.0	21.6	14.9	1477
30-39	58.3	32.8	16.8	14.2	886
40-49	45.8	20.8	16.7	12.2	142
50+	20.0	20.0	0.0	20.0	16
<b>Place of delivery</b>					
Health facility	54.5	32.8	22.6	16.5	1,130
At home	59.5	30.1	17.1	14.1	1239
Midwife's home	60.0	36.3	20.7	13.3	311
<b>Maternal education</b>					
No formal education	54.7	29.6	18.3	13.6	214
Qur'anic school	58.3	30.6	19.5	14.7	1477
Primary school	60.9	35.2	20.8	15.1	886
Secondary school	63.3	37.3	23.7	26.7	142
Tertiary	75.0	50.0	38.5	23.1	16
<b>Total (National)</b>	<b>58.0</b>	<b>31.9</b>	<b>19.7</b>	<b>14.9</b>	<b>2756</b>

Iron supplements reach 58 per cent of mothers and folic acid reaches 32 per cent. Compared to other zones, a greater proportion of mothers in regions of Central South Somalia have access to iron (61.7 per cent) and folic acid supplements (37 per cent). The proportion of mothers who take iron and folate supplements is statistically different. A greater proportion of mothers in rural areas (62 per cent) have access to the iron supplements compared to those in the urban (54 per cent) and IDP (50 per cent) areas, and differences are statistically significant. Only negligible differences are observed by other background characteristics for separate forms of iron and folate supplements. About one quarter of mothers are supplemented nationally with combined iron and folate supplements, and there is significant difference among the zones, with a greater proportion of mothers supplemented in regions of Central South Somalia (22.3 per cent) than in other zones. Only negligible differences are observed by other background characteristics for combined iron and folate supplements. Multiple micronutrient supplements are accessed by about 15 per cent of the mothers. A greater proportion of the mothers in regions of Central South Somalia (18 per cent) access multiple micronutrients supplements, compared to 10.3 per cent in Somaliland and 8.1 per cent of mothers in Puntland.

Table 3.17 shows that of those who took the supplements, 72 per cent of mothers completed iron supplementation doses, 71.2 per cent folic acid and 79.8 per cent completed combined iron folic acid courses. Around 57 per cent of all mothers in Somalia complete the supplement doses and the variations by background characteristics are insignificant.

**Table 3.17: Proportion of mothers completing micronutrient dosage during pregnancy and after giving birth**

General characteristics	Proportion of mothers who completed the micronutrient doses <sup>a</sup> - %				
	Iron tablets/syrup	Folic acid tablets	Combined iron and folic	Multiple micronutrient	N
<b>Zones</b>					
Central South Somalia Somalia	60.0	75.0	76.8	57.7	192
Somaliland	76.3	48.2	85.3	50.0	93
Puntland	80.6	85.2	90.5	75.0	61
<b>Residence</b>					
Rural	75.2	76.8	76.7	57.1	58
Urban	76.6	68.4	82.5	55.3	222
IDP	80.0	75.0	88.9	66.7	66
<b>Marital status</b>					
Single	72.2	70.0	81.3	54.5	24
Married	71.9	71.5	79.7	57.8	322
<b>Gravidity</b>					

Primigravidae	79.3	72.5	77.8	40.0	41
Multigravidae	71.0	71.1	80.1	59.5	305
<b>Age</b>					
15-19	70.6	75.0	81.3	50.0	32
20-29	71.5	69.5	76.7	56.3	193
30-39	72.7	22.1	86.5	62.2	103
40-49	75.0	8.0	75.0	83.3	15
50+	50.0	0.0	0.0	0.0	2
<b>Place of delivery</b>					
Health facility	76.6	69.7	85.4	52.5	152
At home	70.2	72.7	76.3	61.5	146
Midwife's home	52.6	69.4	75.0	66.7	38
<b>Maternal education</b>					
No formal education	71.4	63.2	80.0	63.5	120
Quranic school	69.6	77.7	78.3	54.5	107
Primary school	72.1	71.4	78.9	53.8	70
Secondary school	81.8	86.9	93.3	50.0	35
Tertiary	66.7	66.7	75.0	33.3	5
<b>Total (National)</b>	<b>71.8</b>	<b>71.2</b>	<b>79.8</b>	<b>57.2</b>	<b>346</b>

<sup>a</sup>Only those who took micronutrient supplements when they were pregnant

## 4 BARRIERS AND FACILITATORS TO RECOMMENDED IYCN PRACTICES

This chapter highlights maternal and community knowledge, beliefs and perceptions, and how these act as barriers or facilitators to the IYCN practices presented in Chapter 3. The information presented in this chapter was collected from the FGDs and KIs conducted as part of the IYCN survey. In some instances, quantitative data (from the household survey) has been presented for triangulation.

### 4.1 Breastfeeding in General

The breastfeeding of infants and young children is common practice in Somalia. This is because the benefits of breastfeeding are well known and articulated by mothers and other key members of Somali communities (fathers, grandmothers, religious leaders and community leaders). The benefits of breastfeeding for children are: it provides the nutrients a child needs, it promotes better child growth, it aids their mental/cognitive development, builds a child's immunity, and promotes the bonding between mother and child. Among the benefits to mothers are that breastfeeding helps prevent post-partum bleeding and is a natural method of child spacing, which is associated with good maternal health. Additionally, the mother fulfills her religious obligation by breastfeeding a child, as the Quran stipulates mothers should breastfeed their children until they reach two.

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*'Breastfeeding is an order from Allah to the mothers'.... A religious leader in Wadhigley, South Central.*

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Nonetheless, there are reasons a child may not be breastfed by their mother in Somalia. These include:

1. Maternal concerns about physical appearance. There is a generally held belief in Somalia that breastfeeding makes breasts 'fall down'.
2. Pregnancy during the lactation period. There is a common perception that when a mother is pregnant again she should stop breastfeeding.
3. Maternal sickness. When a mother falls sick, particularly with infectious illnesses such as HIV or hepatitis, they often stop breastfeeding to protect the baby and help the mother recover or cope with the illness. A mother with sore or cracked nipples also stops breastfeeding, with some claiming their doctors having advised against breastfeeding when they are sick.
4. Childhood sickness. If a child is sick, the mother avoids breastfeeding the child, with some stopping permanently. Such childhood illnesses include diarrhea.
5. Permanent or temporary separation of mother and child. It is common for mothers to be separated from young children following divorce or the parents' separation, a husband's death, as well as disagreements between the mother and the husband, or other relatives.
6. Bottle feeding. In some cases, caregivers claim babies demand bottles and prefer bottle feeding to breastfeeding. Bottle-feeding is

therefore prioritised and eventually replaces breastfeeding.

7. Pressure from men for the mother to conceive. Women avoid or reduce breastfeeding so that they can conceive quickly.

8. Travelling or working mothers often limit or stop breastfeeding altogether, since the perception is that they will not always be available to feed their children.

The influence of other people who live with the mother is evident in Somalia. They are pertinent and critical opinion holders and influence breastfeeding practices in Somali communities. Fathers who want more children may ask the mother not to breastfeed in the first place or to stop, for example: the concept of lactation amenorrhea is well recognised. Grandmothers are frequently consulted on issues of breastfeeding too, and their opinions and views are highly respected. Whatever they say on how the child should be breastfed is taken seriously. They encourage the mothers to breastfeed, reminding them it's one of their religious obligations.

Religious leaders are also critical in reminding mothers of a child's rights, as well as her duties and responsibilities as a mother, which include breastfeeding. The TBAs and health workers are also key in passing important messages about breastfeeding a child. Mothers

*'During Ramadhan, women who are breastfeeding are exempted from fasting so that they do not compromise the health of the child and that of hers'..... A religious leader in Galkayo*

also influence each other easily, particularly when advice is offered by someone whose child is growing well.

#### 4.2 Timely Initiation of Breastfeeding and intake of Colostrum

The timely initiation of breastfeeding is common in Somalia, with rates of about 80 per cent found nationally. A caregiver's knowledge is important. In the household survey, they were asked the right time to initiate breastfeeding for a newborn baby. As shown in Figure 4.1, most (around 75 per cent) were aware breastfeeding should be initiated within an hour of birth. A greater proportion of caregivers in Somaliland than in the other two zones were knowledgeable on this subject, and this was consistent with the relatively higher rate of breastfeeding within an hour of birth in this region (Table 3.2.2). The FGDs indicated most who were counselled before birth on the

*If a mother has previously been counselled on the benefits of starting breastfeeding within an hour, she is most likely to introduce the newborn to breastfeeding as soon as she can... a mother in an FGD in Bossaso, Puntland.*

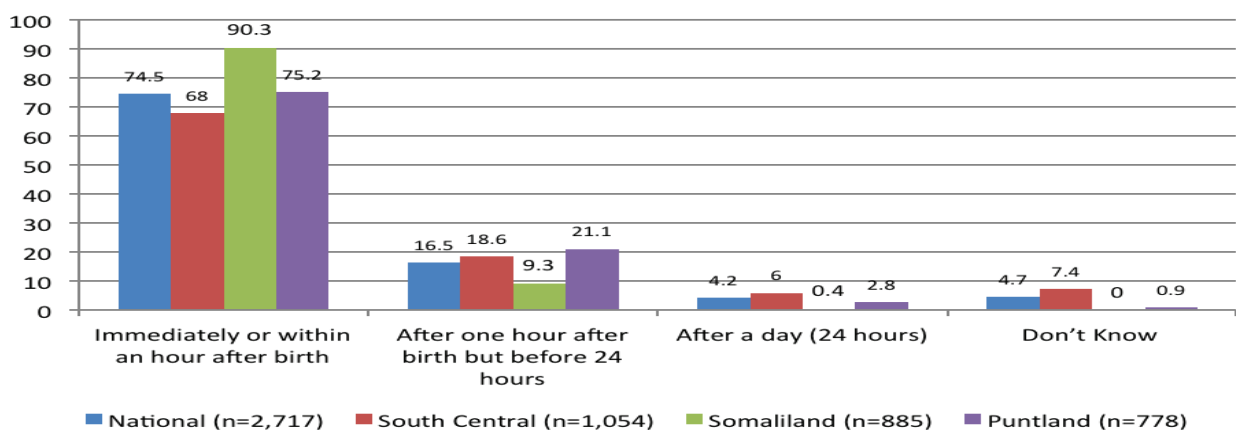
*If a mother gives birth in a hospital, there is a high chance that her newborn baby will be breastfed in the first hour.... a mother in an FGD in Madina, Majadir, Central South Somalia.*

*Campaigns on breastfeeding are important and where they are being conducted mothers want to initiate breastfeeding quickly after birth.....a health worker in Luuq, Central South Somalia*

benefits of initiating breastfeeding within the first hour of a child's life, tend to try to do so.

Mothers surveyed mentioned how instrumental health workers are in initiating breastfeeding within an hour postpartum. These workers agree it is easier to get mothers breastfeeding within an hour of birth if a delivery happens at the hospital or health facility.

Figure 4.1: Mothers knowledge on timely initiation of breastfeeding after birth



The early introduction of breastfeeding ensures newborns are fed colostrum. Mothers and caregivers in Somalia generally seem to be aware of the importance of colostrum, and this may be why initiating breastfeeding within an hour of birth is common practice. Somali mothers associate colostrum with their baby's immune system and consider it the first vaccination. This yellowish fluid in the breast milk is also considered by Somali mothers as rich in nutrients (minerals and vitamins) and therefore good for children's physical and

mental development. Children who consume colostrum are believed to be healthier than those who do not. Some mothers believe that it cleans the babies' gastrointestinal system, helping the baby to pass a stool. Mothers also report it increases their initial bond with the child, which makes the mothers feel good. Nevertheless, some continue to believe colostrum is bad for the baby and express it without giving it to their newborn.

Barriers to initiating breastfeeding within an hour of birth still exist, however. There is the belief in Somaliland, for example, that giving breast milk as an initial food can cause child death for families with 'hereditary illnesses' because it is considered sabab faraq (bad luck), though this phenomenon is found only in a few families. Many Somalis believe a child must be given something besides breast milk when it is first born because breast milk alone would not be sufficient to satisfy a newborn's hunger, so there is a tendency to give sugar water, infant formula or animal milk just after birth to give the child the energy it needs. Other commonly-held beliefs include that a mother's milk production does not start until three days after giving birth and that newborn children are weak and have no energy to suckle. Younger, less experienced mothers find initiating breastfeeding quickly after birth more challenging than older mothers because most are unaware of its importance.

### 4.3 Exclusive Breastfeeding (EBF)

Many caregivers (62.7 per cent) are aware that infants below six months should be breastfed and not given any additional food or drink (in Figure 4.2). This knowledge is higher in Puntland (80 per cent) and Somaliland (71.2 per cent) than in regions of Central South Somalia (56 per cent, according to Table 3.5), explaining – at least in part – why EBF rates are lowest in the latter area. Around 80 per cent of internally displaced mothers are knowledgeable on EBF (Figure 4.2) and this is confirmed by health workers, who reported this group as being more informed on EBF than their host community. Many EBF awareness-raising campaigns are focused on IDPs, who are considered more vulnerable than the host community and predominantly situated in urban areas, making them easier to reach than rural households, who live across a wider area. As shown in Figure 4.2, greater effort is needed to raise EBF awareness levels in rural communities, though health workers report a general increase in EBF practice compared to a few years ago.

The desire for a baby to grow up strong and healthy is critical to encouraging EBF in Somali communities. Religion is also an important influence on breastfeeding practices in Somalia, as the Quran's support for breastfeeding is highlighted by religious leaders. In this survey, some religious leaders interviewed as key informants believed breast milk contains all the nutrients required for a young child

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*The mother decides to give only breast milk until six months because she cares for the health of her child... and wants the child to grow stronger...a FGD participating mother in Gicanlibah, Somaliland.*

*Yes, it is possible to give infants below six months old breast milk only. It is the best way to promote your child's development...grandmother in Awbogays in Somaliland*

*The IDP community is well sensitised on exclusive breastfeeding, compared to their host community.... health worker in Bossasso, Puntland*

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and said it is perceived as a form of maternal religious obligation.

Table 4.1 shows the reasons given by mothers for not exclusively breastfeeding, as stated by various groups considered for the FGDs and KIIs in this survey. Barriers to breastfeeding, which were most commonly mentioned by groups interviewed, include:

1. The belief breast milk alone is insufficient for the child and it needs to be supplemented with other foods. Baby formula, sugar water and animal milk are often given instead. Water is also provided to quench the thirst of young children, particularly in the dry and hot seasons.
2. Work obligations. Working mothers found it difficult to EBF because they were not at home to nurse the children on demand. There is a general perception that is not possible for working mothers to breastfeed exclusively.
3. Other children. Caregivers felt having many children to care for could mean a mother's attention to nursing their child is divided. EBF requires more time to nurse.
4. Mothers' physical appearance and beauty. Women often feel pressure from their husbands to look beautiful. There is a general belief that too much breastfeeding disfigures the breast and that impacts maternal beauty.
5. Adverts for infant feeds and on bottle feeding. These adverts presented formula as attractive and convenient alternatives to breastfeeding, with caregivers in urban areas particularly exposed to them.
6. Illiteracy. Information that is only written down has limited impact on awareness of the importance of EBF for both mother and child where caregivers cannot read.

Figure 4.2: Maternal knowledge of exclusive breastfeeding

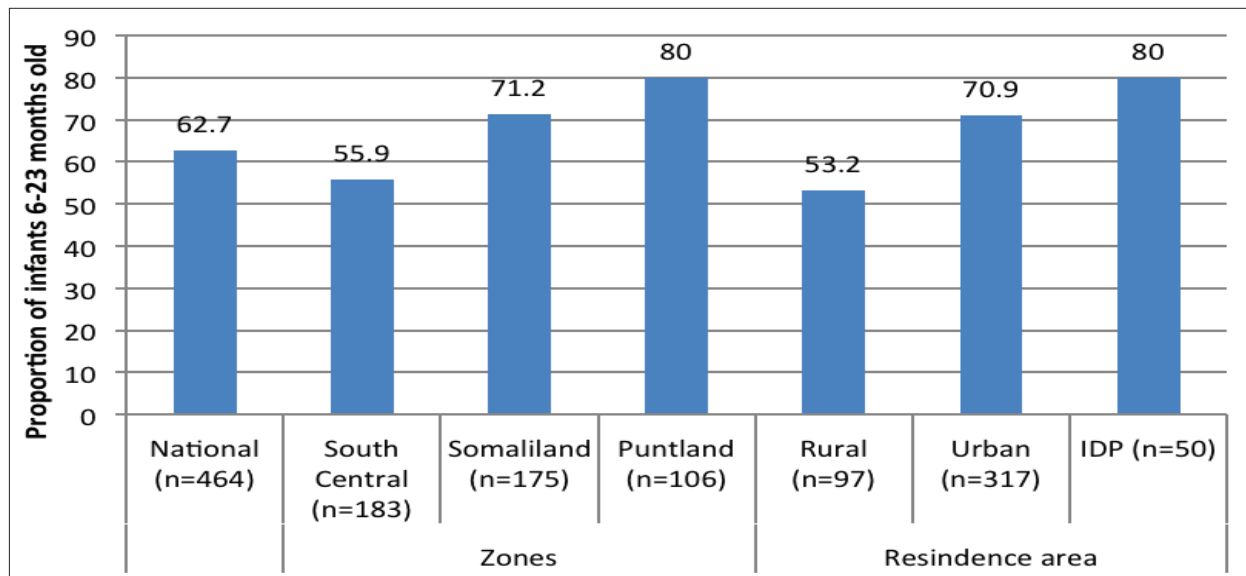


Table 4.1: Reasons for mothers not to exclusively breastfeed

#	Reasons for not exclusively breastfeeding	Mothers	Fathers	Grandmothers	Community leaders	Religious leader	Health workers	TBAs
1	Breast milk is hot so the child needs to cool down by being given water		X		X	X		X
2	Children become thirsty, particularly in hot and dry Seasons, and so they need water				X	X		X
3	Seasons, and so they need water							
4	Perception that it is not practical for mothers to give breast milk only		X	X	X	X		
5	Mothers want to maintain beauty and avoid breastfeeding due perceived breast disfiguration				X	X		
6	Some mothers get pregnant before the child is six months and stop breastfeeding			X		X		
7	Weaning as soon as possible makes the baby adapt to family food as soon as possible	X	X	X	X	X		
8	Increased advertisement and promotion of baby foods or bottle feeding	X			X	X		
9	Perception it is not possible for working mothers to breastfeed exclusively							
10	Easy availability of animal milk, which is perceived to be good for infants	X	X	X	X	X		X
11	Mothers avoid breastfeeding when menstruating believing at that time the milk is dirty for the child	X			X	X		X
12	Some are illiterate or unaware of the need to exclusively breastfeed	X					X	X
13	Breastfeeding makes some mothers weak	X		X	X	X	X	X
14	Mothers negatively influence each other, believing that EBF is not possible	X			X	X	X	X
15	Pressure from grandmothers to introduce other foods when child has not attained 6 months mark			X	X		X	X
16	Mother unavailable due to death or social challenges e.g. disagreement with the husband	X	X	X		X	X	
17	The household is poor and so mother is not having enough food to eat to produce enough milk					X	X	X
18	Mothers have diverted attention and care for other children					X	X	X
19	Illnesses such as sores or cracked nipples	X	X	X	X	X	X	
<b>Key</b>								
	<b>Mentioned</b>							
X	<b>Not mentioned</b>							

#### 4.4 Continued breastfeeding

Breastfeeding is common in Somalia but diminishes as the child gets older. By the time Somali children are two years of age only around 15 per cent are breastfed (Table 3.6). Of those who have stopped breastfeeding, the average breastfeeding duration was 11 months. Most stopped for reasons detailed previously, including: a desire to become pregnant again; illness – either that of mother or child; concerns about its impact on the mother's appearance; work commitments; or personal circumstances. Additional factors included a desire by some men that boys are breastfed longer than girls, and a general belief that as a child approaches two they don't need breastmilk.

*There is no need for breastfeeding since my child is older and can eat other foods...*

**a mother in an FGD in Gicanlibah, Somaliland**

*If a breastfeeding child has continuous diarrhea it is suspected that the mother is pregnant and she stops breastfeeding.... a mother in FGD in Wadhigley, Central South Somalia*

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The Quran supports breastfeeding for up to two years and some verses supporting breastfeeding are shown below. However, there is still a reported lack of knowledge among some mothers on the importance of breastfeeding for at least the first two years, as recommended by WHO/UNICEF.

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**Quran verses:** *“Mothers shall breastfeed their children for two whole years, for those who wish to complete the term” (Surah Baqarah 2:233).*

*“His mother carried him, in weakness upon weakness, and his period of weaning is two years” (Surah Luqman 31:14).*

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#### **4.5 Complementary feeding**

##### **4.5.1 Introduction of solid, semisolid and soft foods**

1. What they have been taught by health workers, community health workers and other ‘experts’ regarding food needs. The level of the caregiver’s education was key to determining the foods they give, with the assumption that the more educated they were, the more likely to give more nutrient-dense foods.
2. The influence of other caregivers. Some specifically consult other more experienced mothers, for example, on what they should initially feed their babies. They also pay attention to what they see being offered to other children.
3. Ease of consumption and safety. Caregivers often consider what is easiest – both for the child to safely consume and in terms of what is available in the household. Soft foods, such as carrots, potatoes and rice are considered popular among young Somali children, with some identifying porridge as an important starter/weaning food.
4. Grandmothers’ and fathers’ opinions on what should be given to the child. The food they mention or prefer for the children tend to be what is given.
5. The financial capacity of the family. Some families are not able to afford baby formula or baby food, so this does not form part of the children’s diet. Caregivers simply select the food they can afford.

##### **4.5.2 Meal frequency and dietary diversity**

The number of meals given to a child aged up to 23 months, and the diversity of their diet, is important. In the FGDs, when caregivers were asked how many times they fed their children daily, besides breastfeeding, their answers ranged from two to eight times. They said a lack of income or resources was what limited how often they fed their children. There was also a general feeling that younger children take small amounts of food more frequently, while older children take much bigger portions but less frequently. The reasons given for poor diversity in children’s diets included insufficient money to purchase different foods, limited food at the markets, and not knowing what foods were best to give the child. There were also beliefs expressed regarding some foods. A health worker reported a belief among caregivers that some foods can be detrimental to children, such as that liver may delay children’s speech, kidneys could prevent a child’s hair from growing, or that many food types are simply too heavy for a child to digest.

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*A child cannot digest and chew many different types of food.... a grandmother Luuq, Central South Somalia*

*Many mothers are ignorant about what they need to give children. They need to be educated... a father in Adaado, Puntland.*

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##### **4.5.3 Bottle feeding**

Bottle feeding is not recommended for children aged 0-23 months because of the disease risk posed by mixing formula with unclean water, or not being able to sterilise bottles. In this survey, caregivers in the FGDs were asked why they considered bottle feeding. Understanding why they choose to bottle feed is important when designing appropriate and effective messages to discourage their use. The reasons they provided include:

1. It is easy for children to use because they can hold the bottle and feed themselves, with minimal assistance.
  2. Children feel like they are suckling a breast because the bottle teats are soft. Caregivers reported that in some cases, children would even bottle feed when they were sleepy, associating the process with breastfeeding.
  3. It allows the mother to rest or to be able to multi-task, attending to other chores. Bottles also allow others in the family to help, giving mum a break.
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4. Bottles restrict milk spillages or waste that often occurs with beakers.
5. Children like the way a bottle looks and so it also acts as a toy or distraction to them.
6. Feeding with a bottle is quicker than feeding a child using other utensils.
7. A bottle is portable and caregivers can travel with it, for example to the market, giving it to baby when as a comforter when if they get upset.
8. Culturally, a father would be considered responsible if they arrived at the hospital carrying a bottle with milk for the newborn.

Fathers who do not carry bottles with them are thought not to love the mother and the child. This is consistent with findings that bottle feeding was associated with delivery at a health facility or hospital.

#### 4.6 Completion of Micronutrient Doses by the Mothers

Improving the micronutrient intake of both mother and child is important, as is ensuring they complete any given micronutrient dose to ensure the supplements work. In this survey, caregivers indicated they were not completing the doses because as the supplements were taken over a long period of time, they would often forget. Some complained about their unpleasant taste, while others were ignorant to the benefits of adhering strictly to the dose while they were not sick. Others had experienced side effects from the supplements that had led to them not completing prescribed doses, including: nausea, dizziness, a metallic iron taste, heart burn and other forms of gastritis. There was also a concern among caregivers that the fetus may become too big when supplements were taken during pregnancy and this may pose delivery complications. Some have the belief that micronutrients may harm babies.

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*So many supplements are given and it takes a long time to complete and they have a bad taste....*

***a mother in an FGD in Wadhigley, Central South Somalia***

*We fear the babies may become big when we take the supplements and this will result in complications during birth....*

***a mother in an FGD in Togdheer***

*Mothers forget to complete the micronutrient supplements... a mother in a FGD in Adaado, Puntland.*

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## 5. DISCUSSIONS

### 5.1 Background and context

This IYCN survey was conducted five years after sub-national surveys, which focused on IYCN indicators, were carried out in Somaliland and Puntland (MICS 2011). In 2009, a micronutrient and nutrition anthropometric survey was also carried out across the country. The results of this 2016 IYCN national report provides the latest data for benchmarking and guiding IYCN programmes and policy. Insecurity continues to be a major challenge when developing nutrition programmes in Somalia, especially in regions of Central South Somalia where the health system is more dilapidated than in other areas. Nevertheless, Somalia's zones are similar in many aspects, including cultural beliefs and religion.

### 5.2 Indications for IYCN programme interventions and investments in Somalia since 2010

Analysis of annual UNICEF plans (Appendix 3) revealed that the 2009 national micronutrient and nutrition anthropometric survey, which depicted poor infant feeding practices, triggered concerns. These concerns led to the drafting and endorsement of the Somali Nutrition Strategy 2011-2013, which included a long-term programme aimed at increasing skilled deliveries for pregnant women, as well as IYCN counselling.

From 2011 to 2013, BBC Media Action implemented a media and communications project to support optimal nutrition, hygiene and health-seeking behaviour in Somalia, in partnership with UNICEF (Appendix 3). In 2012, UNICEF also supported large-scale interpersonal and group counselling for IYCN practices across all zones in Somalia.

Weekly radio programmes with associated outreach activities aimed to address barriers to, and present solutions for, optimal nutrition and hygiene practices. A five-year IYCF strategy and action plan (2012-2016) was established for Somaliland and Puntland and, in 2013, the Infant and Young Child feeding Strategy for South Central Somalia 2013-2017 was launched, while IYCN campaigns continued. In this same year, communication campaigns emphasised the role of men in antenatal and postnatal care.

In 2014, UNICEF initiated home fortification with micronutrient powders in Somaliland. The following year, the coverage of IYCN promotion and counselling services was reported to be relatively high at health facilities in the northern regions of Somalia, but low in communities in general. The home fortification report recommended IYCN interventions at community level were scaled up. While there are indications that IYCN interventions have intensified since 2010, the exact scale and coverage is unknown.

### 5.3 Ever breastfed

Sub-optimal breastfeeding practices can negatively impact a child's mental and physical development. Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. It is also an integral part of the reproductive process, with important implications for mothers' health. Somalia is a breastfeeding country and the dominant religion (Islam) strongly supports breastfeeding. The majority (around 98 per cent) of children aged 0-23 months are breastfed at one point or another. In preceding national surveys, the rates of ever having been breastfed have been high, but not as high as current rates. The last national figure was 87.5 per cent<sup>25</sup> in 2009, indicating a 10 per cent improvement since then and representing a two per cent per annum improvement. Kenya and Ethiopia (neighbouring countries) also have high breastfeeding rates (Appendix 13).

### 5.4 Timely Initiation of breastfeeding and colostrum Intake

It is recommended that breastfeeding starts within an hour of birth. Early suckling stimulates the release of prolactin, which helps in the production of milk and the hormone oxytocin, and is responsible for the ejection of milk. It also stimulates contraction of the uterus after childbirth and reduces postpartum blood loss. This survey found the number of mothers who breastfed soon after birth was higher than during previous surveys (MICS 2011 and Micronutrient Survey 2009). A national rate of 80 per cent was found by this survey, and this is comparable to the 80.8 per cent rate found in north-eastern parts of Kenya, where Somali people also live (Appendix 13). The current national figure is disproportionately higher than national estimates reported in 2009 (23.4 per cent) and depicts significant change in the practice among mothers of newborn children in Somalia. In regions of Central South Somalia, the timely initiation of breastfeeding has significantly improved, from 17.4 per cent in 2009 to the current rate of 75 per cent. There was also a marked rise in Somaliland, from 61 per cent in 2011 to 89 per cent, and in Puntland rates increased from 56 per cent in 2011 to the current rate of 84 per cent.

As has been discussed previously, after 2009 there were targeted IYCN investments and it is apparent that positive changes were observed even earlier. Between 2009 and 2011 in Somaliland a 21.1 per cent improvement in the timely initiation of breastfeeding was recorded, and a 29 per cent increase was noted in Puntland. These progressive improvements may be due to investments in IYCN between 2009 and 2016. More deliveries by skilled health staff at hospitals or health facilities, particularly in Puntland and Somaliland, also partly explain this exponential increase. Despite the high rates of breastfeeding initiation, however, negative perceptions, beliefs and practices still affect how long mothers end up breastfeeding.

### 5.5 Exclusive breastfeeding (EBF)

Available evidence shows exclusive breastfeeding is the optimal way to feed children in their first half of infancy. EBF sees only breast milk fed to a child below six months of age. It promotes growth and cognitive development, and protects against infant mortality resulting from common childhood illnesses, such as diarrhea or pneumonia. It also accelerates recovery from illness. The EBF rate increased rapidly between 2009 and 2016, standing at 33 per cent in Somalia – relatively lower than those reported in neighbouring Kenya (61.4 per cent) and Ethiopia (52 per cent, as shown in Appendix 13). The EBF rate in Somaliland, however, compares well with Kenya and Ethiopia's national rates (Appendix 13). The current national EBF rate is around eight times higher than estimated in 2009 (5.3 per cent) but it is still below the global average of 46 per cent. Somaliland recorded 12.7 and 12.8 per cent in 2009 and 2011 respectively which is about four times less than the current rate of 56 per cent. In Puntland, the rate has increased from 4.8 per cent in 2009 to 6.3 per cent in 2011, standing at 39 per cent. Changes to EBF rates in Puntland accounted for increases between 2009 and 2011, and 2011 and 2016, respectively. Since 2009, in regions of Central South Somalia EBF rates have increased about eight-fold. This exponential rise in EBF practice indicates the level of investment made in IYCN and related programming. It is apparent that since the 2009 results, which painted a grim picture of IYCN indicators, efforts to scale up IYCN programmes have increased and, with time, new approaches and partnerships have been created (Appendix 3)<sup>26</sup>. However, interpretation of these survey's results must be approached with caution owing to possible recall bias and social desirability effects – namely, that EBF campaigns lead to increased knowledge among caregivers, which may increase the temptation for them to report what they know rather than what they practice. This propensity for 'social desirability' increases where mothers want to look fashionable and up-to-date with recommended practices. There is some level of confidence in this argument, since mothers in regions of Central South Somalia are generally less aware of ideal breastfeeding practices (insecurity makes the region less accessible for breastfeeding campaigns) and the rates are significantly lower than in other parts. This means limited campaigns and less knowledge may lead to less recall bias and fewer 'social-desirability effects'. This is also consistent with geographical comparisons in previous surveys. In this survey, knowledge and rates of EBF tend to be lowest in rural areas.

<sup>25</sup> Micronutrient Survey 2009

<sup>26</sup> WHO and UNICEF, 2016

Radioisotopes techniques<sup>27</sup> have been used to objectively measure EBF by quantifying the non-human milk water taken by the infant. This method has been used to validate if what mothers remember of EBF can be used only for a sub-sample of mother-infant pairs, to come up with correction factors for EBF rates in Somalia. This is because this method is cost-prohibitive.

Seasonality may also be an important factor in Somalia's EBF rates. Extreme weather conditions reduce breastfeeding, as has been found in Brazil<sup>28</sup> and Myanmar<sup>29</sup>. In the case of Somalia, the severe drought of 2011 would have led to pastoralist families separating and limiting the environment for mothers to appropriately practice breastfeeding. This would result in suppressed EBF rates. Mothers may feel too exhausted to breastfeed or even give infants water to quench their thirst, as in the case of Myanmar<sup>30</sup>. On the other hand, it can also be argued that during severe drought/hot seasons, breast milk may be the only food available for the child as water is scarce, so EBF rates should increase. The effect of seasons on breastfeeding practices in Somalia is currently a research gap.

## 5.6 Continuous breastfeeding

It is recommended that children should be breastfed for at least two years to achieve optimum growth and cognitive development. A mother's period of postpartum infertility (length of the birth interval and fertility levels) also depends on the intensity and length of breastfeeding. Breastfeeding is common practice in Somalia but diminishes as the child gets older. While Somalia has high rates of breastfeeding and the religion is in full support of breastfeeding up to two years, only about 15 per cent of children are breastfed by the time they reach the age of two. This has barely changed since the last national survey of micronutrient intake in 2009 and MICS 2011 were conducted. It is envisaged that the issue of child spacing, mother not being at home, and the strong influence of mothers-in-law and fathers remain the most common barriers to continuous breastfeeding. These also affect the average duration of breastfeeding, which has remained fairly static since MICS 2011.

## 5.7 Introduction of solid, semi-solid or soft foods

From the age of six months, breast milk alone is no longer sufficient to maintain a child's optimal growth, which is why UNICEF and WHO recommend the introduction of solid or semi-solid food to infants from that age. This is the starting point for the child's transition to eating a family diet and they should be fed small quantities of solid and semi-solid foods throughout the day, while continuing to breastfeed until they reach at least two years. In 2009, the national proportion of children aged 6-8 months introduced to solid and semi-solid foods was about 17 per cent and it was highest in Somaliland (38 per cent). In Puntland that year, the rate was 11.6 per cent. In 2011, while little change was observed in Somaliland, in Puntland the proportion of children aged 6-8 months introduced to these foods has tripled within two years. The current national rate stands at 81 per cent and compares only with the Kenyan national rate of 80 per cent (Appendix 13). In both Somaliland and Puntland, the number has more than doubled since the MICS of 2011. As the introduction of solid, semi-solid and soft foods depends on the food security situation and seasons, it is important to ensure the IYCN survey is conducted at the same time of year to draw fair comparisons with previous surveys.

## 5.8 Minimum meal frequency and dietary diversity

The energy output of complementary foods is important when establishing how frequently children of different age groups should be fed. Infants with low or no breast milk intake need to be fed more frequently than those with high breast milk intake. The balance between feeding frequencies and breastfeeding is important because excessive feeding can result in less breastfeeding. The recommended minimum feeding frequency for children aged 6-8 months has been set at twice daily for breastfed infants, three times for breastfed children aged 9-23 months, and four times daily for non-breastfed children aged 6-23 months. Irrespective of their breastfeeding status, children aged 6-23 months should receive at least four food groups during meals.

In this survey, the consumption of food from each group was sufficient to 'count' as food from the respective group without considering the quantities given to the child. These food groups were: 1) grains, roots and tubers 2) legumes 3) dairy products (milk yoghurt, cheese) 4) flesh foods (meat, fish poultry and liver/organ meat) 5) eggs 6) Vitamin A-rich fruits and vegetables; and 7) other fruits and vegetables. Minimum meal frequency and dietary diversity indicators are largely influenced by seasons and food security. Around 69 per cent of children aged 6-23 months consumed the minimum recommended meals for their age group. Only marginal improvements in this indicator have been observed since the MICS 2011, when about 53.5 per cent of children aged 6-23 months in Somaliland, and 57 per cent in Puntland, ate the recommended minimum number of meals in the day preceding the survey. This assessment revealed a slight increase, with current values at 74 per cent in Somaliland and 71 per cent in Puntland.

<sup>27</sup> IAEA. 2010

<sup>28</sup> González-Chica DA, Gonçalves H, Nazmi A et al., 2012

<sup>29</sup> Thet MM, Khaing EE and Diamond-Smith N et al., 2016.

For the first time in a national survey, data has been collected on dietary diversity. Around 15 per cent of children aged 6-23 months consume at least four food groups. This is also season and food security dependent. One important observation is that while more rural dwellers provide the minimum frequency of meals per day to their child than IDPs and caregivers in urban areas, the food provided is the least diverse. Meal frequency and dietary diversity depend largely on household income, as well as the foods available in the markets and caregivers' knowledge of children need to eat. Eggs are nutritious and a source of protein and micronutrients for children, but are least available and so least consumed.

A child's optimal cognitive development depends on iron. Low iron intake can contribute to anaemia. A micronutrient survey conducted in 2009 showed iron deficiency anaemia is a public health problem in Somalia. Iron requirements are greatest at 6-11 months of age, when growth is rapid. The coverage of multiple micronutrient powders as an important iron (and other micronutrient) source for children 6-23 months old is also limited. Only 0.1 per cent and 1.7 per cent of children sampled had access to multiple micronutrient powders respectively. Overall, less than half (48.3 per cent) of all children 6-23 months old are provided with iron-rich food. The diets of children aged 6-23 months therefore need to be supplemented with iron.

This survey also collected and computed the composite indicators for child feeding and nutrition for the first time in a national survey. The estimates will act as benchmarks and be used to monitor how well children are being fed over a period. These indicators are age-appropriate breastfeeding, minimum acceptable diets, and the child feeding index.

### **5.9 Bottle feeding**

It is difficult to be sure how safe water used by caregivers for bottle feeding is, or how hygienic food and bottle preparation is, which makes bottle feeding young children aged up to 23 months a concern. As around 50 per cent of caregivers in Somalia bottle-feed children aged up to 23 months, the same proportion are vulnerable to being fed in an unhygienic way. This proportion of bottle feeding has not really changed since the MICS 2011, when 51 per cent and 48.3 per cent of children aged 0-23 months were fed from a bottle in Somaliland and Puntland respectively. Efforts need to be made by all stakeholders to reduce the use of bottles in Somalia.

### **5.10 Maternal micronutrient supplementation**

Both mothers and their infants or young children benefit from maternal micronutrient supplementation, particularly as a breastfeeding child benefits from any micronutrient supplements the mother receives. Iron supplementation protects the mother and foetus against anaemia, which is a major cause of perinatal and maternal mortality worldwide. Anaemia also results in an increased risk of premature delivery and low birth weight. Multiple supplements contain micronutrients, including iron, folic acid and vitamin A, which are of public health importance in Somalia. Iron supplements are taken by a greater proportion of mothers than any other supplements. The survey results found a far greater proportion of women in rural areas took iron supplements than in urban parts of Somalia. This could be because more programme support is provided by aid organisations and the relevant health ministry to health facilities in rural Somalia, which could include the provision of supplements. The survey process found supplements were provided for free in rural areas, but mothers in urban locations had to buy them, with some not doing so because they simply couldn't afford to.

Improving women's diets and ensuring they are taking iron supplements as directed is vital. Failing to follow the assigned supplement regime properly, including by taking less than recommended, has been associated with lower serum iron. About a third of mothers were found not to be completing their full course of iron and folate supplements, while close to 40 per cent were not completing the multiple micronutrient supplementation recommended. This requires urgent attention.

## 6 CONCLUSIONS AND RECOMMENDATIONS

### 6.1 Conclusions

Somalia has high rates of breastfeeding, with 98.2 per cent of children 0-23 months included in the survey having received breast milk a day before the survey. The country has made exponential progress in the timely initiation of breastfeeding and exclusive breastfeeding, when compared to the previous micronutrient survey of 2009 and the multi-indicator cluster survey of 2011; three out of 10 children were exclusively breastfed and up to eight in 10 children were put to the breast within an hour of birth. However, more than half of the mothers did not continue to breastfeed for the first one year of their child's life, with rates reducing drastically to 15 per cent as the child reaches two years. By the age of six to eight months, 8 out of 10 Somali children had been introduced to solid, semi-solid or soft foods. Providing the recommended number of meals, and ensuring those meals contain at least four food groups (as per the minimum acceptable diet) as well as iron-rich foods, is still a challenge in most parts of Somalia. Bottle feeding, which is not a recommended practice, was found to be common among around half of the mothers who participated in the survey. Various factors impact whether sound IYCN practices are implemented, such as cultural beliefs, and are identified within this report.

### 6.2 Recommendations

Based on the finding of this IYCN survey, recommendations have been provided for programmatic, policy and research/assessment considerations.

#### 6.2.1 Programmatic considerations

	Key findings	Recommendations
<b>A</b>	<b>Exclusive breastfeeding</b>	
<b>1</b>	EBF coverage in Somalia is 33%, so below the global rate of 46% (in regions of Central South Somalia and Puntland) and the World Health Assembly target of 50% (with regions of Central South Somalia at 21% and a rate of 39% in Puntland). It's lowest in regions of Central South Somalia, where access to health facilities and IYCN knowledge are also lowest.	Scale-up communication aimed at positively changing EBF behaviour, using multichannel and effective routine activities across Somalia, to achieve national EBF rates of at least 50% in regions of Central South Somalia, Somaliland and Puntland, and to maintain or increase Somaliland's relatively high EBF rates.
<b>2</b>	Maternal and community barriers to EBF do exist and are mainly due to negative perceptions and beliefs.	Breastfeeding counselling and promotion at health facilities and within communities should emphasise that breast milk is sufficient for infants less than 6 months old. Myths and untruths regarding breastfeeding, including its impact on women's beauty and that breastfeeding when a child is sick is dangerous, should be tackled.
<b>B</b>	<b>Length of breastfeeding</b>	
<b>3</b>	By the time they reach one year, less than half of Somali children are breastfed and by the age of two, only about 15% are breastfed.	Prioritise promoting and advising the benefits of breastfeeding for at least the first two years of a child's life within local communities, using community-based and health facility systems
<b>4</b>	Breastfeeding is viewed as a religious obligation by mothers, as the Quran supports breastfeeding for the first two years of a child's life. □ Children's fathers and mothers-in-law are important influencers on breastfeeding practice as they provide opinions on how long children should be breastfed.	Develop a national strategy for IYCN communications and advocacy As part of that strategy, incorporate the Quran's perspective on breastfeeding practice and reinforce its use among mothers, fathers, grandmothers and religious leaders.
<b>C.</b>	<b>Complementary feeding</b>	
<b>5</b>	By the age of 6-8 months, 8 out of 10 children had been introduced to solid, semi-solid or soft foods. Providing the recommended number of meals, and ensuring those meals contain at least four food groups (as per the minimum acceptable diet).	Improving the quality, availability and affordability of local complementary foods and ensuring optimal use of these local foods  Social protection programmes: vouchers, provision of fortified complementary foods
<b>6</b>	Mothers easily influence each other and consult among themselves on what foods they need to give to their children.	Increasing the coverage of mother-to-mother support groups or care groups to support more formal discussions among mothers on IYCN practices (breastfeeding and complementary feeding practices)
<b>7</b>	Mothers in rural areas, first-time mothers and younger mothers are more likely to give less diverse foods to children aged 6-23 months.	Increase awareness using a locally tailored BCC and communication strategy on the provision of diverse foods to children aged 6-23 months.

8	Consumption of iron-rich foods is low, particularly in Somaliland and Puntland, while iron deficiency anaemia remains a public health problem for the country.  Offal is consumed by Somali communities but there are negative beliefs preventing caregivers from giving some offal (eg kidney and liver) to children aged 6-23 months.	Include in the IYCN communication and advocacy strategy the importance of consuming iron-rich foods.  Consider a mass food fortification initiative for iron, following study to determine the adequacy of dietary iron intake among children aged 6-23 months.  Promote increased offal consumption as a feasible way to increase dietary iron intake among children aged 6-23 months
9	There is very limited coverage of multiple micronutrient powders and LNS distribution across the country	Enhance support for the procurement and distribution of multiple micronutrient powders (preferred) or LNS to supplement intake of dietary iron and other micronutrients. This should include the development of a home fortification strategy and scale-up plan.
10	Around half of Somalia's children are fed using bottles, a practice that is common in the hospital/health facility set up.	As part of the IYCN communication and advocacy strategy, discourage the use of bottles for feeding children aged up to 23 months by increasing awareness on the risks it poses to young children's health.
D	<b>Maternal nutrition</b>	
11	While iron supplements are taken by 58% of mothers, only 32% of them take folic acid supplements. About 20% take combined iron-folate supplements.	Consider the policy of distributing combined forms of iron-folate supplements rather than single doses, to increase folate intake.
	<b>Key findings</b>	<b>Recommendations</b>
12	Completion of micronutrient supplement doses (iron and folic acid) is hampered by negative perceptions of supplements by mothers, forgetfulness and a lack of knowledge about the benefits.	As part of the IYCN communication and advocacy strategy, design innovative and effective programmes that encourage mothers to complete iron and folate supplement doses. This may include, but not be limited to, ways to remind them when to take them and to keep on doing so until the recommended dosage is complete.
E.	<b>Multi-sectoral approaches linked to IYCN</b>	
13	Education: The higher the maternal education, the higher the likelihood for the mother to provide their child with an acceptable diet, take iron- folate supplements and complete the recommended dosage.	In collaboration with the education sector, increase girl's enrolment in school and promote adult learning programmes (Quranic and basic schooling) for mothers of all ages.
14	Food security/livelihood: Food security is linked to, and is a key determinant of, IYCN practices	Put in place strong safety nets and resilience programmes for households to better cope with acute and chronic shock  Integrate IYCN programmes with food security and livelihood interventions
15	<b>Health systems support:</b> Delivering a baby at a health facility or hospital (skilled delivery) is associated with greater likelihood to initiate breastfeeding within an hour of birth, exclusively breastfeeding, introducing complementary foods to infants at the correct time and completing maternal micronutrient doses.	Increase access to maternal and child health care by supporting the build of more health facilities (with appropriate health staff and equipment)  Improve proportion of institutional deliveries by skilled birth attendants (SBA) in health centres and hospitals by increasing proportion of SBAs in these facilities able to provide quality obstetric care  Support the building of lactation centres in all health facilities with maternity wards  Scale up community IYCN campaigns, including by targeting community-based health workers such as TBAs
16	<b>Family planning:</b> Lack of child spacing is a hindrance to sound breastfeeding practices. Breast feeding is reduced or stopped during pregnancy. Family planning may significantly contribute to longer periods of breastfeeding.	Intensify family planning interventions and use this platform to advocate recommended breastfeeding and complementary feeding practices.
17	<b>HIV and other infectious diseases:</b> The Somali community believes when a mother is diagnosed with HIV and other infectious diseases she should cease breastfeeding.	Promote breastfeeding in the context of HIV, as recommended by the WHO 2016 follow up guidelines on HIV and infant feeding. Support prompt diagnosis and treatment of other infectious disease.
7.1.2	<b>Policy considerations</b>	
	<b>Key findings</b>	<b>Recommendations</b>
18	Mothers who work outside the home are less likely to exclusively breastfeed their infants. Nationally, around 26% of all mothers work in the formal sector (eg employed by government) or as casual labourers.	Update and scale-up a national strategy on IYCN that includes activities at all levels: policy, facility and community  Initiate workplace policy on breastfeeding to promote and support breastfeeding for working mothers, including in the informal sectors. This may include ensuring maternity and paternity leave, introducing flexible hours and making work places conducive to breastfeeding.
19	The high availability and use of infant formulas in Somalia hinders exclusive breastfeeding because they are viewed as attractive, convenient and nutritious.	Institute, enforce and effectively monitor the code on marketing and distribution of breast milk substitutes in Somalia. Encourage the adoption of a breastfeeding policy for the health system, to support the implementation of the international code of breast milk substitutes.

7.13 Research/ assessments considerations		
	Key findings	Recommendations
20	IYCN surveys in Somalia are not conducted regularly. Maternal indicators significantly influence infant and young child nutrition	Conduct national IYCN assessment that will include key maternal indicators every 5 years, using the standard WHO/UNICEF indicator guidelines and definitions
21	There is a lack of district or regional level IYCN data/surveys to inform local IYCN programming.	Support district- and region-specific IYCN surveys to inform and guide the benchmarking, implementation and monitoring of localised IYCN efforts.
22	The EBF rates by maternal recall are subject to recall bias and may overestimate EBF rates.	Consider accompanying radioisotope assessment of EBF in a subsample of Somalia national IYCN surveys, to develop a correction factor for EBF rates found by maternal recall.
23	Seasons affect IYCN indicators. For instance, extremely dry seasons may increase water intake among children less than six months (given to quench their thirst) and reduce availability of complementary foods. IYCN surveys are conducted across different seasons and this confounds the results, particularly when analysing trends.	Synchronise national IYCN surveys so they are done in similar seasons for valid comparisons. Conduct assessment highlighting the effects and influence of seasons on IYCN practices.

## 7 REFERENCES

- BBC, 2014. Radio for child nutrition and health in Somalia: A mixed-methods impact evaluation by BBC Media Action Research and Learning. BBC, London.
- FSNAU, 2009. National micronutrient and anthropometric nutrition survey. Nairobi, Kenya.
- FSNAU, 2012. Malnutrition trends (2001-2011) in Somalia: A meta-analysis study report. Unpublished report
- González-Chica DA, Gonçalves H, Nazmi A et al., 2012. Seasonality of infant feeding practices in three Brazilian birth cohorts. *International Journal of Epidemiology* 41 : 743-752.
- IAEA. 2010. Stable isotope technique to assess intake of human milk in breastfed infants. Vienna: International Atomic Energy Agency; 2010.
- IDMC, 2016. Solutions for IDPs revealed as key for future peace and stability in Somalia. [http://www.internaldisplacement.org/8025708F004BE3B1/\(httpInfoFiles\)/E4DD01C6BDC95CA8C1257BF7002D2659/\\$file/somalia-overview-oct2013.pdf](http://www.internaldisplacement.org/8025708F004BE3B1/(httpInfoFiles)/E4DD01C6BDC95CA8C1257BF7002D2659/$file/somalia-overview-oct2013.pdf) [Accessed 13th January 2016]
- Jones G, Steketee RW, Black RE et al., 2003. How many child deaths can we prevent this year? *Lancet* 2003; 362: 65–71
- Kinyoki KD, Backely JA, Maloney GM, Odundo GO, Kandala N and Noor AM, 2016. Space-time mapping of wasting among children under the age of five years in Somalia from 2007 to 2010. *Spatial and Socio-temporal Epidemiology*. <http://dx.doi.org/10.1016/j.sste.2015.12.002>
- Mary A and Marie R, 2002. Summary Indicators for Infant and Child Feeding Practices: An Example from the Ethiopia Demographic and Health Survey 2000. Food and Nutrition Technical Assistance Project (FANTA). Washington, DC
- Federal MOH 2013. IYCF strategy and action plan for south central Somalia (2013-2017)
- MOH Puntland 2012. Infant and Young Child Feeding strategy for Puntland (2012-2016)
- MOH Somaliland, 2012. Infant and Young Child Feeding strategy for Somaliland (2012-2016)
- The Lancet, 2008. The Lancet's series on maternal and child undernutrition: Executive summary <http://siteresources.worldbank.org/NUTRITION/News%20and%20Events/21616235/LancetNutritionProsperityExecSumENG.pdf> (Accessed 19th March 2016)
- Thet MM, Khainga EE and Diamond-Smith N et al., 2016. Barriers to exclusive breastfeeding in the Ayeyarwaddy region in Myanmar: Qualitative findings from mothers, grandmothers, and husbands. *Appetite* 96: 62–69
- UNDP, 2016. Sustainable Development Goals (SDGs). <http://www.undp.org/content/undp/en/home/sdgoverview/post-2015-development-agenda.html> [Accessed 9th March 2016].
- UNFPA, 2014. The population estimation survey (PESS). United Nations Population Fund (UNFPA), Somalia Country Office, Nairobi, Kenya.
- UNHCR, 2013. Somalia working environment. <http://www.unhcr.org/pages/49e483ad6.html> [Accessed 13th January 2016]
- UNICEF, 2011. Puntland multiple indicator cluster survey (MICS). UNICEF Somalia. Nairobi Kenya
- UNICEF, 2011. Somaliland multiple indicator cluster survey (MICS). UNICEF Somalia. Nairobi Kenya.
- WHO 2004. Iodine status worldwide: WHO global database on iodine deficiency. Geneva, World Health Organization.
- WHO 2008. Worldwide prevalence of anaemia 1993–2005: WHO global database on anaemia. Geneva, World Health Organization.
- WHO 2009. Global prevalence of vitamin A deficiency in populations at risk 1995–2005: WHO global database on vitamin A deficiency. Geneva, World Health Organization.
- WHO 2010. Guidelines for HIV and infant feeding. Principles and recommendations for infant feeding in the context of HIV and a summary of evidence. Geneva, Switzerland.

WHO 2012. Global database on child growth and malnutrition. <http://www.who.int/nutgrowthdb/about/introduction/en/index5.html> [Accessed 28th February 2016]

WHO and UNICEF, 2010. Indicators for assessing infant and young child feeding practices: Part II measurement. World Health Organization Geneva, Switzerland.

WHO and UNICEF, 2016. Global Nutrition Targets 2025: Breastfeeding policy brief

WHO/UNICEF/ICCIDD, 2007. Assessment of iodine deficiency disorders and monitoring their elimination: A guide for programme managers. World Health Organization Geneva, Switzerland. 2007

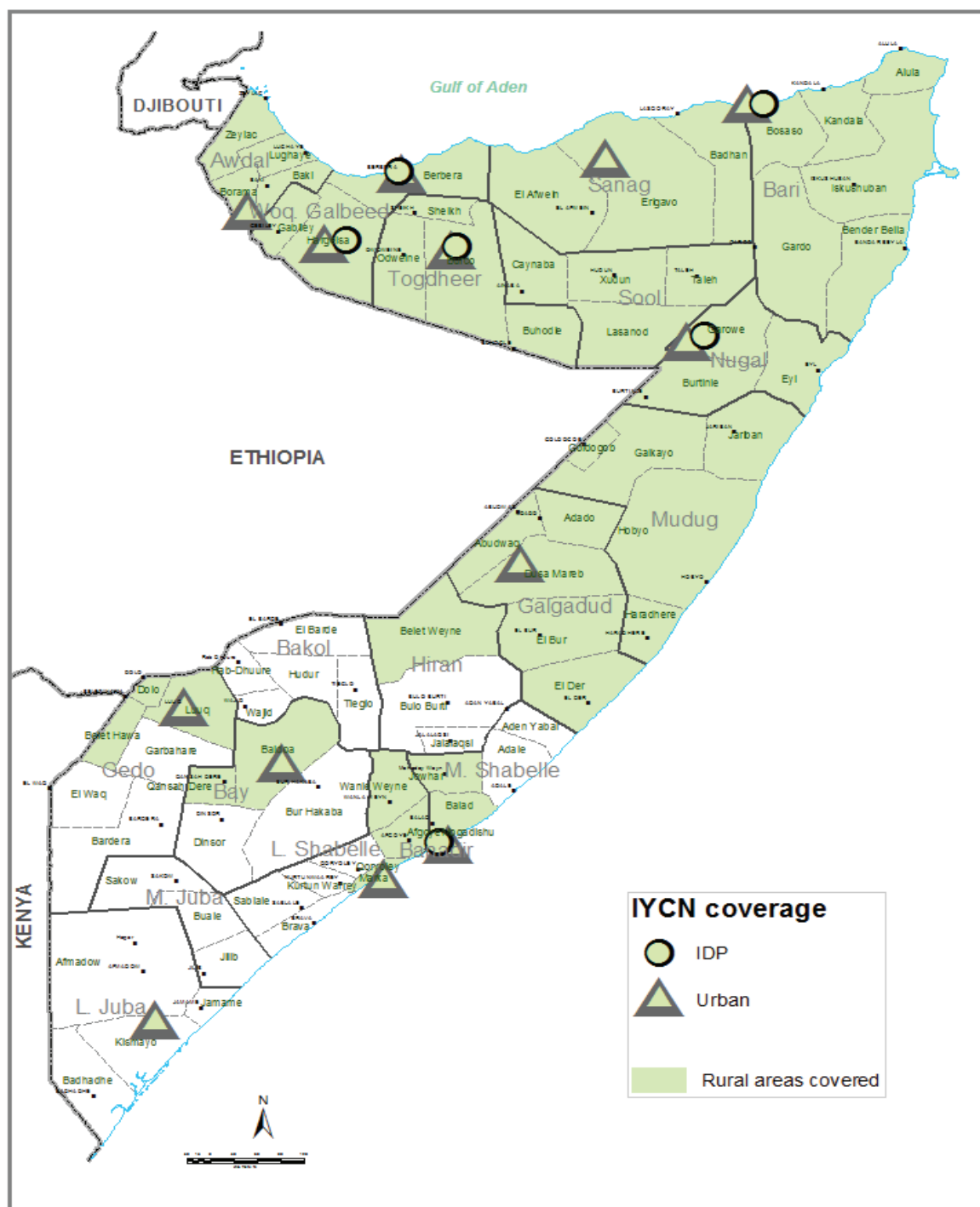
WHO, 2014. Comprehensive implementation plan of maternal, infant and child nutrition.

WHO, 2016. Child Mortality. [http://www.who.int/pmnch/media/press\\_materials/fs/fs\\_mdg4\\_childmortality/en/](http://www.who.int/pmnch/media/press_materials/fs/fs_mdg4_childmortality/en/) [Accessed 11th March 2016]

WHO, 2016. Nutrition: Exclusive breastfeeding. [http://www.who.int/nutrition/topics/exclusive\\_breastfeeding/en/](http://www.who.int/nutrition/topics/exclusive_breastfeeding/en/) [Accessed 17th March 2016]

## APPENDIX

### Appendix 1: Areas covered by the 2016 Somalia IYCN survey



## Appendix 2: Somalia programmatic focus on IYCN since 2010

a) IYCN interventions (2010-2015) as reflected in UNICEF annual reports and other documents

Agency and information source	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015
UNICEF special IYCN focus – UNICEF annual reports	<p>UNICEF provided support to the FSNAU/FAO to conduct nutrition assessments; findings were used to support evidence-based programming and decision-making. The micronutrient and anthropometric survey 2009 provided evidence for scaling-up an integrated nutrition response and highlighted micronutrient deficiencies in public health and the sub-optimal IYCN behaviour contributing to malnutrition and morbidity. For example, the prevalence of exclusive breastfeeding for infants under 6 months is extremely low (5.3%) and only 26.8% of women continue breastfeeding for the recommended 24 months</p>	<p>The Somali nutrition strategy (2011-2013) received final endorsement. A long term programme for increasing skilled delivery and IYCN counselling was initiated. Using UNICEF's new community IYCN package, 8 master trainers, 27 trainers and over 175 counsellors were trained. A 5-year strategy and action plan (2012-2016) was established for Somaliland and Puntland.</p>	<p>UNICEF-supported interpersonal and group counselling for IYCN practices continue on a large scale in all zones. An integrated programme to promote nutrition and hygiene is implemented in nutrition sites, and a weekly radio programme with associated outreach activities addresses barriers and solutions for optimal nutrition and hygiene practices. UNICEF was using a combination of mass media and interpersonal messaging to reinforce behaviour change.</p>	<p>As Somali IYCN indicators are some of the worst in the world, attributable to poor knowledge/skills among caregivers, UNICEF worked with partners to empower mothers and male heads of households in decision-making on family nutrition and child care. Similarly, communication campaigns emphasised the role of men in antenatal and postnatal care.</p>	<p>In July 2014, UNICEF began a pilot project in Somaliland, in partnership with an NGO, to tackle micronutrient deficiency, which is widespread due to poor diets, wrong feeding practices and is a key cause of malnutrition among children. This partnership with the NGO enhanced the social marketing of sachets of powder containing essential micronutrients, which can be sprinkled on food and are sold at a subsidized rate through selected pharmacies. Home fortification activities were initiated in four cities in Somaliland.</p>	<p>While coverage of IYCN promotion and counselling services is relatively high at the health facilities in northern regions, the programme has low coverage in communities across all zones and this is a significant bottleneck to making improvements in IYCN indicators in the country. UNICEF will continue to expand coverage of both facility and community-based IYCN services to ensure that infants derive the most out of the protective benefits of breastfeeding. UNICEF continues to support the roll-out of a five year IYCF strategy for Somalia. One of the key objectives is to improve the low rates of early initiation of breastfeeding (within an hour of birth) and improve the quality of complementary feeding for children aged 6-23 months. With significant improvements in coverage of health facility deliveries in essential package of health services districts, it is expected that the rates of early initiation of breastfeeding will also improve. To address this gap, UNICEF recently signed an agreement with the FAO to conduct a national IYCN assessment in Somalia. The assessment is expected to provide updated quantitative and qualitative information on key IYCN indicators.</p>

Agency and information source	Year 2010	Year 2011	Year 2012	Year 2013	Year 2014	Year 2015
Other initiatives		<p>From 2011 to 2013, BBC Media Action<sup>8</sup> implemented a media and communications project to support optimal nutrition, hygiene and health-seeking behaviour in Somalia, in partnership with UNICEF. The objective of the project was to encourage positive behaviour change with respect to six priority behaviours. If more widely adopted, this would lead to significant improvements in neonatal and child health in Somalia. These priority behaviours were:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Early initiation of breastfeeding</li> <li><input type="checkbox"/> Exclusive breastfeeding for 6 months</li> <li><input type="checkbox"/> Appropriate complementary feeding</li> <li><input type="checkbox"/> Child sickness: increasing food and fluids including the use of oral rehydration salts and zinc</li> <li><input type="checkbox"/> Increasing appropriate hand washing</li> <li><input type="checkbox"/> Safe disposal of faecal matter</li> </ul>	BBC Media Action	BBC Media Action		

## b) Intervention preceding the year 2016 as reported during the 2016 IYCN report dissemination

	Zone	Reported interventions during data dissemination
1	Somaliland	<input type="checkbox"/> Implementation of mass breastfeeding promotion campaign during the commemoration of World Breastfeeding Week, with an emphasis on multi-channel communication such as local radio, popular TV channels. <input type="checkbox"/> Significant advocacy and social mobilisation for developing a Somaliland code of marketing of breast milk substitutes by conducting consultation and orientation workshops/meetings for stakeholders on the importance of breastfeeding. <input type="checkbox"/> IYCN promotion and counselling is fully integrated into other static and mobile nutrition services and in general up to 60% of health facilities have at least two people trained on IYCN promotion and counselling. <input type="checkbox"/> All WFP feeding/nutrition programmes have a component of nutrition education, particularly therapeutic and supplementary feeding programmes, family planning, and IYCN. <input type="checkbox"/> Development and existence of Somaliland IYCN strategy and action plan, which enhanced the multi-sectoral approach and coordination. <input type="checkbox"/> Integration of nutrition, and IYCF in particular, into the Somaliland Health Sector Strategy Plan 2013-2016. <input type="checkbox"/> Rates of early breastfeeding initiation are highest when deliveries take place at health facilities, as regularly reported in the HMIS data.
2	South Central	<input type="checkbox"/> Scaling up of mother-to-mother support groups across the regions of Central South Somalia <input type="checkbox"/> Breastfeeding messages are aired in the media, allowing mothers to access the messages widely. <input type="checkbox"/> Health promotion unit of MoH also scaled-up IYCN interventions where IYCN messages are accompanied with other messages to mothers in the community, as well as health facility level.
3	Puntland	<input type="checkbox"/> IYCN (counselling and promotion) integrated with other health and sanitation services. <input type="checkbox"/> National IYCF strategy for 2012-2016 and action plan developed and costed. <input type="checkbox"/> IYCF working group /taskforce established. <input type="checkbox"/> International code of marketing of breast milk substitutes (English version) disseminated to stakeholders. <input type="checkbox"/> IYCN training materials (manual, information, education and communication materials, as well as job aid materials) developed. <input type="checkbox"/> IYCN reporting template developed and shared with all partners. <input type="checkbox"/> Operational support to roll out IYCN in health facilities and local communities provided to health and nutrition partners. <input type="checkbox"/> BBC Media Action implemented radio drama aimed at improving hygiene, IYCN practices and health behaviours. <input type="checkbox"/> Capacity of 25 trainer-of-trainers from MoH and other partners on communication for development (including IYCN) were enhanced.

### Appendix 3: Ethical Approval Letters

**JAMHUURIYADDA FEDERALKA SOOMAALIYA**  
**Wasaaradda Caafimaadka & Daryeelka Bulshada**  
**XAFIISKA AGAASIMAHHA GUUD**  
**Somali Federal Republic**  
**Ministry of Health & Human Services**  
**Office of Director General**

**جمهورية الصومال**  
**الفيدرالية**  
**وزارة الصحة ورعاية**  
**المجتمع**  
**مكتب المدير العام**

**Ref: MOH& HS/DGO/0005/ 01/20 16** **02/ Jan /2016/ Mogadishu**

**Subject: Research Authorization and Ethical Approval**



Flowing the application for authority to carry out Assessment on "The Development, Implementation, Management and analysis of an Infant and Young Child Nutrition" in Somalia

I am pleased to confirm you that you have being authorized to undertake the assessment

You are advised to report to the Ministry of Health and Human Service before embarking on the research project.

On completion of the research you are expected to submit one hard copy and one soft copy of the study report to our office with in one month

Best Regards

**Dr. Abdiqani Sheikh Omar, MD, DTM, MSc, MPH**  
**Director General, Ministry of Health and Human Service, FGS**  
**Mogadishu, SOMALIA**

**Tel: +2526-1-5577282/E-mail: [dr.abdiqani@hotmail.com](mailto:dr.abdiqani@hotmail.com)/skype omar.abdiqani Mogadishu-Somalia**

<p><b>Dowladda Puntland</b> <b>ee Soomaaliya</b> <i>Wasaaradda Caafimaadka</i></p>	 <b>Puntland Government of Somalia</b> <b>Ministry of Health</b>	<p><b>حكومة بنت لاند الصومالية</b> <b>وزارة الصحة</b></p>
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*Director of Planning and Policy Development*

Ref: -MOH/PL/DP/347/2016

Date: 23<sup>rd</sup> Jan, 2106

**TO: FSNAU-FAO**

**Subject: Research Approval**

Dear colleagues

In reference with the discussion we had earlier with FSNAU Puntland team. Having reviewed the study tools (Questionnaire and Sample frame) of **Infant and Young Child Nutrition (IYCN) in Puntland and Somalia** at large. As Ministry of Health(MOH) we hereby approve this study to be conducted in Puntland .

Furthermore, we are very much enthusiastic in all efforts that may provide additional information on IYCN baseline indicators that will guide better programming and planning of nutrition interventions.

Sincerely,



**Dr Abdirizak Hassan Isse**

**Director Planning and Policy Development**

**Ministry of Health, Garowe, Puntland, Somalia**

Republic of Somaliland

Ministry of Health



Jamhuuriyadda Somaliland

Wasaaradda Caafimaadka

Vice Minister

Ref: MoH/M/

424/2/2016

Date:

12/21/2016

TO: Food Security and Nutrition Assessment Unit/FAO Hargeisa Area Office Somaliland

CC: Head of Nutrition MOH SL

CC: Director of Family Health MOH SL

CC: Director of Planning, MOH SL

CC: Director General MOH SL

CC: Minister of Health, Somaliland

**Subject: Authorization and Ethical Clearance for Somaliland Infant and Young Child Nutrition (IYCN ) Assessment**

In Somaliland the last comprehensive baseline IYCN KAP assessment was conducted in 2007. Since then, interventions based on the 5 years IYCN Strategy 2012-2016 and its action plan was developed and started implementation. The IYCN strategy documents clearly defined undertaking midterm and end period evaluation assessments respectively.

Based on that MOH technical team reviewed on the quality and consistency of the tools developed for the assessment , for this reason I hereby confirm that FSNAU /FAO is given the authorization to go ahead and carryout the IYCN assessment in Somaliland.

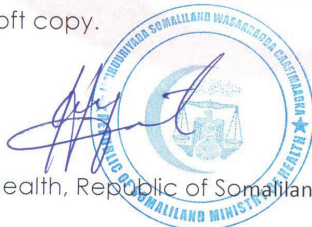
Ministry of Health Somaliland will take the lead the overall coordination of the assessment while FSNAU will be responsible on the technical aspects for the data collection, entry and analysis.

FSNAU should share with MOH SL, the preliminary findings of the assessment prior to it's dissemination after the completion of the assessment and made available adequate final hard copies and a soft copy.

Best regards

Hassan Dahir Dimbil

Vice Minister of Ministry Health, Republic of Somaliland.



Tel: +252 2 523368 Email: mohsomaliland@gmail.com

## Appendix 4: Sample Size Determination for IYCF indicators

Indicator	Puntland		Somaliland		Central South Somalia	
	Current prevalence	Sample size needed	Current prevalence	Sample size needed	Current prevalence	Sample size needed
Exclusive breastfeeding (<6 months) <sup>1</sup>	12.7%	773	6.3%	592	2.8%	427
Introduction of solid, semi-solid or soft food (6-8 months) <sup>1</sup>	38.3%	732	11.6%	525	12.5%	560
Continued breastfeeding at 12 months (12-15 months) <sup>9</sup>	60.3%	742	45%	767	64.4%	710
Minimum dietary diversity <sup>2</sup> (6-23 months)	2.9%	262	2.3%	209	13.8%	276
Minimum acceptable frequency (6-23 months) <sup>10</sup>	37.6%	589	82.1%	576	48.6%	627
Continued breastfeeding at 24 months <sup>1</sup> (20-23 months)	6.4%	418	8.3%	530	34.9%	570
Highest sample for survey		773		767		710
Minimum sample size after contingency adjustment <sup>Ω</sup>		<b>927</b>		<b>790</b>		<b>1,065</b>
Sample size disaggregation by age (based on age group differences)						
0-5		<b>232</b>		<b>198</b>		<b>266</b>
6-8		<b>116</b>		<b>99</b>		<b>133</b>
9-11		<b>116</b>		<b>99</b>		<b>133</b>
12-15		<b>155</b>		<b>132</b>		<b>178</b>
16-19		<b>155</b>		<b>132</b>		<b>178</b>
20-23		<b>155</b>		<b>132</b>		<b>178</b>

<sup>Ω</sup>Contingency adjustment (for no respondents) - 20 per cent for Puntland, 3 per cent for Somaliland and 50 per cent for Central South Somalia

## Appendix 5: Selected Clusters for the Assessment

### a) Cluster surveyed in South Central

	Region	District	Villages	Number of clusters per village
<b>A</b>	<b>Urban</b>			
1	Middle Shabelle	Jowhar	Jowhar town	1
2	Gedo (North)	Dolo	Dolo Urban	1
3	L. Juba	Kismayo	Gulwade	1
4	L. Juba	Kismayo	Shaqalaha	1
5	Banadir	Hodan	Hodan	1
6	Banadir	Wardhiigley	Wardhiigley	1
7	Banadir	Boondheere	Boondheere	1
8	Banadir	Xamar Jajab	Xamar Jajab	1
9	Banadir	Waaberi	Waaberi	1
10	Banadir	Wadajir	Wadajir	2
12	Banadir	Kaaraan	Kaaraan	2
14	Banadir	Yaaqshiid	Yaaqshiid	1
15	Banadir	Shibis	Shibis	1
16	Banadir	Howlwadaag	Howlwadaag	1
17	Banadir	Dharkenley	Dharkenley	2
19	Banadir	Dayniile	Dayniile	1
20	Hiran	Mataban	Mataban	1
21	Galgaduud	Adado	Cadaado	1
<b>B</b>	<b>Rural</b>			
22	Lower Shabelle	Marka	Shalaambood	1
23	Lower Shabelle	Afgoye	Raqeyle	1
24	Gedo (North)	Luuq	Ban Mudule	1
25	Bay	Baidoa	Moroweeb	1
26	Bay	Baidoa	Adable gunre/Kaalmoy/Warmaalin	1
27	Bay	Qansah Dheere	Bakal darey/Bakal darey/Modkusow	1
28	Bay	Qansah dheere	Awdherow	1
29	Galgaduud	Dusamareb	Addun	1
30	Galgaduud	Adado	Addun	1
<b>C</b>	<b>IDP</b>			
31	Banadir	Shangaani	Jabuuti	1
32	Banadir	Madina/Wadajir	J.Daud Siliga	1
33	Banadir	Hodan	Taleex	1
34	Banadir	H.Jajab	J.Duad	1
35	Galgadud	Dusamareb	Dhusamareeb	1

## b) Cluster surveyed in Somaliland (Somaliland)

	Region	District	Villages (clusters)
<b>A</b>	<b>Urban</b>		
1	W0q Galbeed	Hargeisa	KoodBuur
2	W0q Galbeed	Hargeisa	26 June
3	W0q Galbeed	Hargeisa	26 June
4	W0q Galbeed	Hargeisa	Gacan Libaax
5	W0q Galbeed	Hargeisa	Gacan Libaax
6	W0q Galbeed	Hargeisa	Gacan Libaax
7	W0q Galbeed	Hargeisa	Gacan Libaax
8	W0q Galbeed	Hargeisa	Mohamed Haybe
9	W0q Galbeed	Hargeisa	Ahmed Macallin Haarrun
10	W0q Galbeed	Hargeisa	Ahmed Dhagax
11	W0q Galbeed	Hargeisa	Ahmed Dhagax
12	W0q Galbeed	Hargeisa	Mohamed Mooge
13	Awdal	Borama	Sh. Jawhar
14	Awdal	Borama	Sh. A/Salaan
15	Togdheer	Burao	Lixle
16	Togdheer	Burao	Farah Omaar
17	Togdheer	Burao	Mohamed Ali
18	Sool	Caynabo	Burao kibir
19	Sool	Laas caanood	Farxaskule
20	Sool	Laas caanood	Jaamalaaye
21	Sool	Laas caanood	Daami
22	Sool	Laas caanood	Saamaley
	<b>Rural</b>		
23	Woq Galbeed	Bali Gubadle(Hargeisa)	Gumbuur sheek doon
24	Awdal	Lughaya	Gargare
25	Awdal	Lughaya	Lughaya Town
26	Togdheer	Odwein	Harosheikh
27	Togdheer	Caynabo	Gowsaweyne
28	Sool	Hudun	7-Awrbogays
	<b>IDPs</b>		
29	W0q Galbeed	Hargeisa	Mohammed Mooge A
30	W0q Galbeed	Hargeisa	State House D

## c) Cluster surveyed in Puntland (Puntland)

	Region	District	Villages	Number of clusters per village
<b>A</b>	<b>Rural</b>			
1	Bari	Allula	East Golis	1
2	Bari	Alula	East Golis	1
3	Bari	Iskushuban	East Golis	1
4	Nugaal	Dangorayo	Sool plateau	1
5	Nugal	Burtinle	Hawd	1
6	Mudug	Galkacyo	Addun	1
7	Mudug	Galkacyo	Hawd	1
<b>B</b>	<b>Urban</b>			
8	Bari	Alula	Waberi	1
9	Nugaal	Garowe	Hodan	1
10	Nugaal	Burtinle	Hawl wadaag	1
13	Bari	Bossasso	Baalade	3
17	Bari	Bossasso	Boyikulul (7)	4
18	Mudug	Galdogob	LaantaHawada	1
19	Mudug	Galkacyo	Israac	2
20	Mudug	Galkacyo	Garsoor	1
21	Mudug	Galkacyo	Horumar	1
<b>D</b>	<b>IDPs</b>			
22	Nugaal	Garowe	Jilab	1
23	Bari	Bossasso	Absame A	1
24	Bari	Bossasso	Absame B	1
25	Mudug	Galkacyo	Tawakal	1

## Appendix 6: IYCN indicator definitions

#	Indicator	Numerator	Denominator
<b>A</b>	<b>Breastfeeding indicators</b>		
1	Child ever breastfed	Number of children aged 0-23 months ever breastfed	Total number of children aged 0-23 months
2	Timely initiation of breastfeeding	Number of children aged 0-23 months ever breastfed put to breast within one hour of birth	Total number of children aged 0-23 months ever breastfed
3	Exclusive breastfeeding	Infants aged 0-5 months who receive only breast milk during the previous day	Total number of children infants aged 0-5 months
4	Predominant breastfeeding	Infants aged 0-5 months who receive breast milk as a predominant source of nourishment <sup>11</sup>	Total number of children infants aged 0-5 months
5	Continued breastfeeding at 1 year	Number of children aged 12-15 months who received breast milk during the previous day	Total number of children infants aged 12-15 months
6	Continued breastfeeding at 2 years	Number of children aged 20-23 months who received breast milk during the previous day	Total number of children infants aged 20-23 months
7	Length of breastfeeding (median duration of breastfeeding among children less than 24 months of age)	The age in months when 50% of children aged 0-23 months did not receive breast milk during the previous day <sup>12</sup>	-
8	Age appropriate breast feeding	Number of infants aged 0-5 months who received only breast milk during the previous day and Number of children aged 6-23 months who received breast milk as well as solid, semi-solid or soft foods during the previous day	Total number of infants aged 0-5 months and Total number of children aged 6-23 months
<b>B</b>	<b>Complementary feeding</b>		
9	Introduction of solid/semi-solid/soft foods	Number of infants aged 6-8 months who received as solid, semi-solid or soft foods during the previous day	Total number of infants aged 6-8 months

#	Indicator	Numerator	Denominator
10	Minimum dietary diversity	Children aged 6-23 months who received foods from <4 groups <sup>13</sup> during the previous day	Total number of children aged 6-23 months
11	Minimum meal frequency	Number of breastfed children aged 6-23 months who received solid, semi-solid or soft foods the minimum number of times <sup>14</sup> or more during the previous day and Number of non-breastfed children aged 6-23 months who received solid, semi-solid or soft foods or milk feeds the minimum number of times 15 or more during the previous day	Total number of children aged 6-23 months And Total number of children 6-23 months of age
12	Minimum acceptable diet	Number of breastfed children aged 6-23 months who had at least the minimum dietary diversity and the minimum meal frequency during the previous day and Number of non-breastfed children aged 6-23 months who received at least 2 milk feedings and had at least the minimum dietary diversity, not including milk feeds and the minimum meal frequency during the previous day	Total number of breastfed children aged 6-23 months and Total number of non-breastfed children aged 6-23 months
13	Consumption of Iron rich foods <sup>16</sup>	Number of children aged 6-23 months who received an iron-rich food, or a food that was specially designed for infants and young children and was fortified with iron. Or a food that was fortified in the home with a product that included iron during the previous day	Total number of non-breastfed children aged 6-23 months
14	Bottle feeding	Children aged 0-23 months who were fed with a bottle during the previous day	Total number of non-breastfed children aged 0-23 months
15	Child feeding index	Number of children with CFI <sup>17</sup> score ranging from 6 to 9	Total number of non-breastfed children aged 6-23 months
<b>C</b>	<b>Maternal nutrition</b>		
16	Maternal micronutrient supplementation	Number of mothers with children aged 0-23 months supplemented with micronutrient supplements	Total number of mothers with children aged 0-23 months
17	Maternal supplementation completion	Number of mothers with children aged 0-23 months who completed full dose of micronutrient supplements	Total number of mothers with children aged 0-23 months supplemented with micronutrient supplements

## Appendix 7: Calendar of events for age determination

TRADITIONAL MONTHS	Month	SEASONS	2015/1436	2014
Rabiawal (Mowlid-R.Thani (R. dambe)	January	Beginning of Jiilal	11	23
R.Thani((R. dambe)-J.awal	February	Mid of Jiilaal	10	22
J.awal)-J.Ahkir	March	End of Jiilaal	9	21
J.Ahkir-Rajab	April	Beginning of Gu'	8	20
Rajab-Sha'ban	May	Middle of Gu'	7 18 may	19 18 <sup>th</sup> May
Shacabaan-Ramadan(started 18 <sup>th</sup>	June	End of Gu'	6 26 <sup>th</sup> June	18 26 <sup>th</sup> June
Ramadan-Soonfur(shawal) Ramadan ended 16 <sup>th</sup> July	July	Beginning of Xagaa	5	17

Shawal(Soonfur)-Sadataal(D.qa'dah)	August	Middle of Xagaa	4	16
Sadataal-Carafo(Haj)started 14 <sup>th</sup>	September	End of Xagaa	3	15
Carafo-Sako Sako or Muhamaram started 14 <sup>th</sup> Oct	October	Beginning of Deyr	2	14
Sako-Safar	November	Middle of Deyr	1	13
Safar-Rabi-Awal *Mowlid started 12 <sup>th</sup> Dec	December	End of Deyr	0	12

*Jiila*=Dry period; *Gu*=Long rainy season; *Xagaa*=light shower ; *Deyr*=Short rainy

## Appendix 8: Household Questionnaire

### SOMALIA INFANT AND YOUNG CHILD NUTRITION (IYCN) ASSESSMENT

#### HOUSEHOLD QUESTIONNAIRE

##### IMPORTANT INSTRUCTIONS

- ☐ INTERVIEW ONLY THE MOTHER/CAREGIVER OF THE CHILD. IF NOT AVAILABLE, SKIP THE HOUSEHOLD
- ☐ INTERVIEW ONLY MOTHERS/CAREGIVERS WHO HAVE CONSENT TO THE SURVEY
- ☐ SECTION 3 IS ONLY ADMINISTERED TO MOTHERS WITH CHILDREN BELOW 6 MONTHS OLD
- ☐ SECTION 5 IS NOT ADMINISTERED TO CHILDREN BELOW 6 MONTHS OLD

#### CONSENT AND BACKGROUND

##### INFORMED CONSENT

My name is \_\_\_\_\_. I am working with FSNAU. We are conducting a survey about how young children are fed. The information we collect will help to plan for health and nutrition services. Your household was selected for the survey. All the answers you give will be confidential and will not be shared with anyone other than members of our survey team. You don't have to be in the survey, but we hope you will agree to answer the questions since your views are important. If I ask you any question you don't want to answer, just let me know and I will go on to the next question or you can stop the interview at any time.

Do you have any questions?

May I begin the interview now? Circle appropriately 1 = YES 2=NO → **TERMINATE SURVEY**

RECORD START TIME (24HOUR) \_\_\_\_:\_\_\_\_

ZONE		HOUSEHOLD NUMBER	
REGION		TEAM NUMBER	
DISTRICT		ENUMERATOR NAME	
VILLAGE		DATE OF INTERVIEW (DD/MM/YYYY)	
CLUSTER NUMBER			/ /
SURVEY RESULT			
	COMPLETED=01		
	INCOMPLETE=02		

#### 1.0 HOUSEHOLD ROSTER

Please tell me the name and sex of each person who lives here, starting with the head of the household.

List the head of the household in line 1. LIST THE NAMES OF ALL HOUSEHOLD MEMBERS (1.1).

THEN ASK: Does anyone else live here, even if they are not at home now? These may include children in school or household members at work.

IF YES, COMPLETE LISTING. THEN, COLLECT INFORMATION STARTING WITH (1.2) FOR EACH MEMBER, ONE PERSON AT A TIME. ADD A CONTINUATION SHEET IF THERE ARE MORE THAN 12 HOUSEHOLD MEMBERS.

					Eligible for		
					EBF Module (below 6 months old children)	Other IYCN modules (6 months old to below 24 months old)	
	1.1	1.2	1.3		1.4	1.5	1.6
Line No.	Name	Sex Male=1 Female=2	Age in months for less than 2 years. Age in years for over 2 years		Circle line number if child is below 6 months old	Circle line number if child above 6 months and below 24 months old	For each child 0-below 24 months old: Who is the primary caregiver of (NAME)? [Record line number of caregiver]
			Years 2 years & above	Months 0-23			
1					1	1	
2					2	2	
3					3	3	
4					4	4	
5					5	5	
6					6	6	
7					7	7	

8					8	8	
9					9	9	
10					10	10	
11					11	11	
12					12	12	

**IMPORTANT**

**SELECT THE YOUNGEST CHILD IN THE HOUSEHOLD BASED ON THE INFORMATION GIVEN IN COLUMN 1.3.**

**NAME OF THE YOUNGEST CHILD:** \_\_\_\_\_

**2.0 GENERAL CHARACTERISTICS**

	Question	Codes	Response
2.1	Relationship of the respondent with [NAME]	1=Mothers 2=Grandmother 3=Older sister 4=Other relative 5=Other (Specify)	
2.2	Are you currently pregnant or lactating?	1=Pregnant 2=Lactating 3=Pregnant & Lactating 4=Not pregnant / Not Lactating	
2.3	What is your marital status?	1=Single → 2.5 2=Married 3=Divorced → 2.5 4=Widowed → 2.5	
2.4	If married, are you in polygamous arrangement? [Does your husband have more than one wife?]	1=Yes 2=No 98=DON'T KNOW	
2.5	What is the <u>highest level</u> of education that you have <u>completed</u> ?	1=No formal education 2=Quoranic school 3=Primary school 4=Secondary/High school 5=Tertiary 6=Other (Specify)	
2.6	What would you say is your <b>MAIN</b> Occupation/Source of livelihood currently?	1=Formal Employment 2=Casual labor 3=Own business 4=Petty trading / hawking 5=Farming 6=Pastoralist 7=Remittance/dependence 8=Housewife 9=Other (Specify)	
2.7	How many pregnancies have you had?  <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>		□□□
2.8	How many of your own children are still alive? <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>		□□□
2.9	Among your own children who are alive, is _____ the youngest? [Please write the name of the youngest child based on the answer provided in 1.3]  <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>	1=Yes → 2.11  2=No	
2.10	What is birth number is the child among all your living children? <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>		□□□
2.11	What is the sex of [NAME]	1=Male 2=Female	

	Question	Codes	Response
2.12	VERIFY THE AGE AND CORRECT IN THE HOUSEHOLD ROSTER-verified using:	1=Health card 2=Birth certificate 3=Seasonal calendar 4=Other (Specify)	
2.13	Where was the child [NAME] born?	1=In the hospital, clinic, health center or doctors office 2=In the home 3=In the midwife's home 4=Other (specify) 98=Don't Know	

### 3.0 EXCLUSIVE BREASTFEEDING

#### IMPORTANT: ONLY ASK MOTHERS WITH CHILDREN AGED 0-6 MONTHS OLD

3.1	During day and night yesterday, what did you give to your child	Breast milk Plain water Sugar or glucose water Gripe water Sugar, salt water solution Fruit juice Infant formula (eg Milk powder) Tea infusion Honey Milk from cow /camel/goats Porridge Other (Specify)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
	<b>MULTIPLE RESPONSES</b> <b>GIVE MOTHER TIME TO MENTION WHAT SHE GAVE TO THE CHILD.</b>  <b>TICK APPROPRIATELY</b>  Separate module for EBF		
3.2	For how long after birth should a child be given breast milk alone without giving any other food?	1=6 months 2=Other (Specify) 98=Don't Know	

### 4.0 OTHER BREASTFEEDING PRACTICES

	Question	Codes	Response
4.1	Was [NAME] ever breastfed?	1=Yes→4.3 2=No 3=Don't Know	
4.2	What was the main reason why [NAME] never breastfed?	1=Baby ill 2=Baby unable to suckle 3=Baby refused to suckle 4=Mother refused 5=Spouse refused 6=Mother was sick 7=No/inadequate breast milk 8=Mother was away 9=Mother died 10=Sore/cracked nipples 11=Advice by health professional 12=Advice by other person 13=Baby incubated/in nursery 14=Other (Specify) 98=Don't Know	
4.3	How long after birth did you put [NAME] to the breast?  <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>  <b>IF IMMEDIATE, WRITE 1</b> <b>IF LESS 1 HOUR, WRITE 2</b> <b>IF MORE THAN ONE HOUR BUT LESS THAN 24 HOURS, WRITE 3</b> <b>IF MORE THAN 1 DAY, WRITE 4</b>	1=Immediately →4.5 2=Within one hour after birth→4.5 3=Hours 4=Days	

	Question	Codes	Response
4.4	What was the main reason why you did not put child to breast immediately or within one hour after birth?  <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>	1=Baby ill 2=Baby unable to suckle 3=Baby refused to suckle 4=Mother refused 5=Spouse refused 6=Mother was sick 7=No/inadequate breast milk 8=Mother was away 9=Mother died 10=Sore/cracked nipples 11=Advice by health professional 12=Advice by other person 13=Baby incubated/in nursery 14=Other (Specify) 98=Don't Know	
4.5	Was (NAME) fed colostrum (the first yellowish milk)?  <b>[EXPLAIN THAT COLOSTRUM IS THE BREAST MILK THE FIRST FEW DAYS AFTER BIRTH]</b>	1=Yes → 4.7 2=No  98=Don't Know → 4.7	
4.6	If not fed colostrum, what was the main reason for not feeding your baby on colostrum?  <b>ASK ONLY IF THE RESPONDEDNT IS THE MOTHER OF [NAME]</b>	1=It is dirty milk 2=Not satisfying/sufficient 3=Mother needs to rest 4=Other (Specify)	
4.7	How long after birth should a new born be put to breast	1=Immediately or within an hour after birth 2=After one hour after birth but before 24 hours 3=After a day (24 hours) 98=Don't Know	
4.8	Is [NAME] still breastfeeding?	1=Yes 2=No → 4.11 98= Don't Know	
4.9	Was [NAME] breastfed yesterday during the day or at night?	1=Yes 2=No → 4.13 98=Don't Know → 4.13	
4.10	Yesterday was [NAME] breastfed whenever he/she wanted or on fixed schedule	1=Whenever child wanted 2=On a fixed schedule	
4.11	For how many months did the [NAME] breastfeed?  <b>USE THE UNITS THAT HAVE BEEN GIVEN BY THE RESPONDEDNT</b>	Days Weeks Months Don't Know	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>
4.12	What was the main reason why [NAME] stopped breastfeeding?	1=Baby ill 2=Baby unable to suckle 3=Baby refused to suckle 4=Mother refused 5=Spouse refused 6=Mother was sick 7=No/inadequate breast milk 8=Mother was away 9=Mother died 10=Sore/cracked nipples 11=Advice by health professional 12=Advice by other person 13=Baby incubated/in nursery 14=Other (Specify) 98=Don't Know	
4.13	Yesterday during the day or night did [NAME] drink anything from a container	1=Yes 2=No → 5.1 98=Don't Know	
4.14	Which container did (NAME) drink from?  <b>MULTIPLE RESPONSES POSSIBLE</b>  <b>TICK APPROPRIATELY</b>	Bottle with nipple/teat Cup with spout Cup with cover Cup with no cover only Cup/ bowl and spoon Feeding with palm/hands Gourd Other (specify)	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>

## 5.0 COMPLEMENTARY FEEDING PRACTICES

IF A CHILD IS LESS THAN 6 MONTHS OLD, DO NOT ADMINISTER THIS SECTION. GO TO THE NEXT SECTION (SECTION 6)

[illegible]

## Appendix 9: Translations for the Selected Questions Household Tool

QNo'8	Question as designed	Enumerators Somali translation			Back translation		
		South Central	Puntland	Somaliland	South Central	Puntland	Somaliland
4.1	Was [NAME OF CHILD] ever breastfed?	{Cunug Hebal} waligiis mala naas nuujiyay?	<i>Fadumo Weyjeed Ugaalka Ma nuujiyay?</i>	Cunuga magaciisu yahay hebel... weligaa ma nuujiisay naaska?	Did she/he ever had breastfeeding?	Has he/she ever been breastfed?	
4.3	How long after birth did you put [NAME] to the breast?	{Hebal} marka uu dhashay ka dib ilaa intee in la eg ayaad naaska ku duuday?	<i>Fadumo Weyjeed Ugaalka Ma nuujiyay?</i>	Mudo intee leeg kadib ayaad naaska u dhigtay cunuga markii uu dhashay?	When she was born, how long did it take to breastfeed?	After birth, how long did it take to breastfeed the child?	
3.1	During day and night yesterday, what did you give to your child?	Shalay habeenkii iyo maalinkii, maxaad siisay cunugaaga?	shalay iyo xalay maxaad cunuga siisay?	shalay iyo xalay maxaad cunuga siisay?	Yesterday day and night what did you give to your child?	Yesterday day and night what did you give to your child?	
4.10	Was [NAME] breastfed yesterday during the day or at night?	Shalay {Hebal} mala naas nuujiyay maalinkii iyo habeenkiiba?	<i>Fadumo Weyjeed Ugaalka Ma nuujiyay?</i>	Cuniga magaciisu yahay hebel .... ma la siiyay naaska shalay, maanta iyo xalay ama 24 saacadood ee ugu danbeeyay	Did you breastfeed him or her yesterday and last night	Yesterday did you breastfeed the child during day and night	
5.1	Did [NAME] eat any solid, semi-solid, or soft foods yesterday during the day or at night?	Shalay {Hebal} ma cunay Adke, Adke xigeen ama raashin fudud maalinkii iyo habeenkiiba?	<i>Fadumo Weyjeed Ugaalka Ma nuujiyay?</i> <i>Hala jilicsan?</i>	Cunuga ma cunay cunto adag ama yara adag ama jilicsan shalay, maanta iyo xalay	Yesterday or last night, did you give him/her solid food or soft food?	Yesterday did the child eat solid, near soft or soft food?	

## 6.0 MATERNAL NUTRITION

## FINALISATION

RECORD ANY GENERAL COMMENTS
RECORD END TIME (24HOUR) <input type="text"/> <input type="text"/> : <input type="text"/> <input type="text"/>
SUPERVISOR CODE: <input type="text"/> <input type="text"/>
DATE REVIEWED BY SUPERVISOR CODE (DD/MM/YY): <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/> / <input type="text"/> <input type="text"/>
SIGNATURE OF THE SUPERVISOR _____

## Appendix 10: Focused Group Discussion Guides

### MOTHERS OF CHILDREN 0-5 YEARS OLD

#### FOCUSED GROUP DISCUSSIONS (FGD) GUIDE QUESTIONS

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of moderator \_\_\_\_\_ Name of the note taker \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

#### Welcome & Informed Consent

**Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.**

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This is \_\_\_\_\_, and [she/he] is a note-taker. I would want each of your to introduce yourselves now. Only introduce yourself by first name.

We would like to have a discussion today about people's thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions. Please remember that we value your thoughts on these topics. The information that you provide will help us to get key information about the feeding of children in this community..

I will keep everything that you tell me private and confidential, and will not talk to other people about what you have said. I will also keep you and your f names confidential, and not tell anyone that you have talked to me. Your answers will not lead to any favours to be given. If you have any questions about this, you can call us at our office number. All answers and discussion will be kept private by the note-taker and me, although we cannot promise that other members of this focus group will do the same. We ask that each of you agree to respect each other's privacy once outside of this focus group setting, by not revealing the names of the other group members or the content of our discussion together. This discusion will take approximately one hour.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

- ☐ We have a note taker and he/she is going to take notes on what we are going to discuss
- ☐ I will go around the room and ask your consent to participate. Please say yes or no.
- ☐ **Exclude those who say No. Thank them for coming and let them go.**
- ☐ We will begin the discussions now.

#### Guide questions

##### A. General breast feeding

1. What are the benefits of breastfeeding a child?
2. In this community, under what circumstances is a child not breastfed?
3. What cultural and religious beliefs exist in this community that hinders mothers from breastfeeding?

##### B. Initiation of breastfeeding

4. What cultural beliefs are related to initiating breastfeeding as soon as the child is born **[Prompt: ask if the beliefs hinder or promote the quick initiation of breastfeeding after birth]**
5. Are there religious beliefs on initiating to breastfeed new-born children? **[Prompt: Ask for the specific beliefs and list them]**
6. How easy is it to put a new born to breast one hour after birth? **[Prompt: Ask what practical challenges are experienced by mothers in putting the in putting a the infants to breastfeed within an hour after birth]**

**[AT THIS POINT EXPLAIN WHAT COLOSTRUM IS: IT IS BREAST MILK THE FIRST FEW DAYS AFTER BIRTH, AND IS USUALLY YELLOW IN COLOUR]**

7. What are the benefits of feeding colostrum to a baby?

#### **C. Exclusive breastfeeding**

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS; GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOOD OR DRINKS]**

8. How possible is it to give infant below six month old breast milk only? **[Prompt: inquire of the difficulties that mothers go through in exclusive breastfeeding]**
9. What cultural practices do exist in this community that hinder mothers from exclusive breastfeeding?

#### **D. Continuous breastfeeding**

10. Why would a mother stop breastfeeding a child before the child is 2 years old?
11. Are there cultural beliefs and practices that are related to stopping breastfeeding? **[Prompt: Ask and record the beliefs and practices. Encourage the mothers to mention as many as possible ]**
12. Are there religious beliefs and practices that are related to stopping breastfeeding? **[Prompt: Ask and record the beliefs. Encourage the mothers to mention as many as possible]**

#### **E. Complementary feeding**

13. Generally in this community, how do mothers decide what age to start giving solid, soft and semi-solid foods introduced to young children?
14. When a child is introduced to solid/semisolids and soft foods, how do mothers decide which foods to give the child **[Prompt: Ask of what influences the mother to select the foods she to introduces to the child]**
15. Which foods in this community are considered nutritious to introduce to young child? **[Prompt: Give the mothers time to list as many as possible and why they are considered nutritious. For every food given, record the reason why the food is considered nutritious]**
16. Roughly how many times is a child fed in day? Why would mothers give a young child fewer times?
17. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
18. What do mother do to encourage their children to eat?
19. Why do some mothers prefer to bottle-feed?
20. Generally how is feeding a child who is sick different from feeding a child who is not sick?
21. When the sickness of a young child has ended, how is the child fed?

#### **F. Maternal nutrition**

22. When mothers are given micronutrients supplements, what makes them not complete the required dose?
23. Which foods are consumed by pregnant mothers? **[Prompt: Encourage the mothers to list as many foods as possible]**
24. Which foods are consumed by lactating mothers? **[Prompt: Encourage the mothers to list as many foods as possible]**

possible]

## FATHERS OF CHILDREN 0-5 YEARS OLD

## FOCUSED GROUP DISCUSSIONS (FGD) GUIDE QUESTIONS

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of interviewer \_\_\_\_\_ Name of the interviewee \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

## Welcome &amp; Informed Consent

*Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.*

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This is \_\_\_\_\_, and [she/he] is a note-taker. I would want each of your to introduce yourselves now. Only introduce yourself by first name.

We would like to have a discussion today about people's thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions. Please remember that we value your thoughts on these topics. The information that you provide will help us to get key information about the feeding of children in this community..

I will keep everything that you tell me private and confidential, and will not talk to other people about what you have said. I will also keep you and your f names confidential, and not tell anyone that you have talked to me. Your answers will not lead to any favours to be given. If you have any questions about this, you can call us at our office number. All answers and discussion will be kept private by the note-taker and me, although we cannot promise that other members of this focus group will do the same. We ask that each of you agree to respect each other's privacy once outside of this focus group setting, by not revealing the names of the other group members or the content of our discussion together. This discussion will take approximately one hour.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

- ☐ We have a note taker and he/she is going to take notes on what we are going to discuss
- ☐ I will go around the room and ask your consent to participate. Please say yes or no.
- ☐ **Exclude those who say No. Thank them for coming and let them go.**
- ☐ We will begin the discussions now.

## Guide questions

## G. General breast feeding

1. What are the benefits of breastfeeding a child?
2. In this community, under what circumstances is a child not breastfed?
3. What cultural and religious beliefs exist in this community that hinders mothers from breastfeeding?
4. What is the role of fathers in promoting breastfeeding in this community?

## H. Exclusive breastfeeding

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS: GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOOD OR DRINKS]**

5. How possible is it to give infant below six month old breast milk only? **[Prompt: inquire of the difficulties that mothers go through in exclusive breastfeeding]**
6. What cultural practices do exist in this community that hinder mothers from exclusively breastfeeding?

## I. Complementary feeding

1. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
2. What is the role of fathers in ensuring that there is enough food in the community for young children?

## Appendix 11: Key Informants Interview Guides

### GRANDMOTHERS

#### KEY INFORMANTS INTERVIEWS GUIDE QUESTIONS

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of interviewer \_\_\_\_\_ Name of the interviewee \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

#### Welcome & Informed Consent

**Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.**

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This s \_\_\_\_\_, and [she/he] is a note-taker.

We would like to have a discussion today your thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

Do you agree to engage in this discussion? IF NO TERMINATE THE INTERVIEW

#### Guide questions

##### J. General breast feeding

1. What are the benefits of breastfeeding a child?
2. In this community, under what circumstances is a child not breastfed?
3. What cultural beliefs exist in this community that hinders mothers from breastfeeding?
4. What is the role of grandmothers (mother in law of the mothers/caregivers) in promoting breastfeeding in this community?

##### K. Exclusive breastfeeding

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS: GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOODS AND DRINKS]**

5. How possible is it to give infant below six month old breast milk only? **[Prompt: inquire of the difficulties that mothers go through in exclusive breastfeeding]**
6. What cultural practices do exist in this community that hinder mothers from exclusively breastfeeding?

##### L. Complementary feeding

7. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
8. What is the role of grandmothers/mother in laws in ensuring that there is enough food in the community for young children?

**COMMUNITY LEADERS****KEY INFORMANTS INTERVIEW GUIDE QUESTIONS**

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of interviewer \_\_\_\_\_ Name of the interviewee \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

**Welcome & Informed Consent***Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.*

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This is \_\_\_\_\_, and [she/he] is a note-taker.

We would like to have a discussion today your thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

Do you agree to engage in this discussion? IF NO TERMINATE THE INTERVIEW

**Guide questions****M. General breast feeding**

1. What are the benefits of breastfeeding a child?
2. In this community, under what circumstances is a child not breastfed?
3. What cultural beliefs exist in this community that hinders mothers from breastfeeding?
4. What is the role of community leaders in promoting breastfeeding in this community?

**N. Exclusive breastfeeding**

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS: GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOOD OR DRINKS]**

5. How possible is it to give infant below six month old breast milk only? **[Prompt: inquire of the difficulties that mothers go through in exclusive breastfeeding]**
6. What cultural practices do exist in this community that hinder mothers from exclusively breastfeeding?

**O. Complementary feeding**

7. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
8. What is the role of community leaders in ensuring that there is enough food in the community for young children?

## RELIGIOUS LEADERS

### KEY INFORMANTS INTERVIEW GUIDE QUESTIONS

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of interviewer \_\_\_\_\_ Name of the interviewee \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

#### Welcome & Informed Consent

**Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.**

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This is \_\_\_\_\_, and [she/he] is a note-taker.

We would like to have a discussion today your thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

Do you agree to engage in this discussion? IF NO TERMINATE THE INTERVIEW

#### Guide questions

##### P. General breast feeding

1. What are the benefits of breastfeeding a child?
2. In this community, under what circumstances is a child not breastfed?
3. What cultural beliefs exist in this community that hinders mothers from breastfeeding?
4. What is the role of religious leaders in promoting breastfeeding in this community?

##### Q. Exclusive breastfeeding

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS: GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOOD AND DRINKS]**

5. How possible is it to give infant below six month old breast milk only? **[Prompt: inquire of the difficulties that mothers go through in exclusive breastfeeding]**
6. What cultural practices do exist in this community that hinder mothers from exclusively breastfeeding?

##### R. Complementary feeding

7. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
8. What is the role of religious leaders in ensuring that there is enough food in the community for young children?

##### 9. HEALTH WORKERS AND TRADITIONAL BIRTH ATTENDANTS (TBAs)

### KEY INFORMANTS INTERVIEW GUIDE QUESTIONS

Date: \_\_\_\_\_ Cluster \_\_\_\_\_ District \_\_\_\_\_

Name of interviewer \_\_\_\_\_ Name of the interviewee \_\_\_\_\_

Recorder number \_\_\_\_\_ Number of the recording (in the recorder) \_\_\_\_\_

#### Welcome & Informed Consent

**Read the following paragraph to the respondent in SOMALI, and ask if they agree to participate.**

**Read:** We would like to thank everyone for coming to this discussion today, we appreciate your time. My name is \_\_\_\_\_ and I working for FAO Somalia . This is \_\_\_\_\_, and [she/he] is a note-taker.

We would like to have a discussion today your thoughts and opinions about infant and young child feeding practices in your community. Even if you do not have direct experience with some of the questions or scenarios we would like to know your opinions.

Your participation in this discussion is voluntary and there is no need to answer any question that you do not want to; however, what you do say will be very important to us.

Do you agree to engage in this discussion? IF NO TERMINATE THE INTERVIEW

#### Guide questions

##### S. General breast feeding

1. In this community, under what circumstances is a child not breastfed?
2. What cultural and religious beliefs exist in this community that hinders mothers from breastfeeding?

##### T. Initiation of breastfeeding

3. What cultural beliefs are related to initiating breastfeeding as soon as the child is born **[Prompt: ask if the beliefs hinder or promote the quick initiation of breastfeeding after birth]**
4. Are there religious beliefs on initiating to breastfeed new borns? **[Prompt: Ask for the specific beliefs and list them]**
5. How easy is it to put a new born to breast one hour after birth? **[Prompt: As what practical challenges that a mother faces in putting a child to breastfeed immediately after birth]**

##### U. Exclusive breastfeeding

**[EXPLAIN WHAT EXCLUSIVE BREASTFEEDING IS: GIVING ONLY BREAST MILK TO AN INFANT BELOW 6 MONTHS OLD WITHOUT GIVING ANY OTHER FOOD AND DRINKS]**

6. Is exclusive breastfeeding a common practice in this community? **[Prompt: Why is it a common practice or why not – depending on the response given]**
7. What cultural practices do exist in this community that hinder mothers from exclusively breastfeeding?

##### V. Continuous breastfeeding

8. Are there cultural beliefs and practices that are related to stopping breastfeeding? **[Prompt: Ask and record the beliefs and practices]**

##### W. Complementary feeding

9. In this community, what prevents the mothers from giving a young child as diverse or different foods as possible?
10. Generally how is feeding a child who is sick different from feeding a child who is not sick?
11. When sickness has ended, how is the child fed?

##### X. Maternal nutrition

12. In general, what foods do mothers eat when pregnant?
13. In general, what foods do mother mostly eat when lactating?

Appendix 13: Estimates for some selected IYCN indicators in Kenya and Ethiopia

Indicator	Kenya DHS 2014 % (n)		Kenya surveys 2014 % (n)			Ethiopia DHS 2011% (n)	
	National	North Eastern	Mandera (2014)	Wajir (2014)	Garbatula (2013)	National	Somali region
Ever breastfed	98.7% (3,544)	98.7%	-	-	-	97.5% (4453)	96.8% (128)
Initiation of breastfeeding	62.2 (3,544)	80.8% (108)	64.6% (504)	66.1% (522)	91.7%	51.5% (4453)	39.6% (128)
Exclusive breastfeeding	61.4% (806)	-	45.7% (117)	43.6% (96)	86.6%	52.0% (1187)	-
Introduction of solids and semisolid foods	80%	-	60%	48.8%	-	49%	-

**M. survey = micronutrient survey**

(Footnotes)

- 1 The 7 food groups used for tabulation of these indicator as described by WHO (WHO, 2012). These are 1) Grains, roots and tubers 2) Legumes and nuts 3) Dairy products (milk, yoghurt, cheese) 4) flesh foods (meet, fish, poultry and liver/organ meet) 5)Eggs 6) Vitamin- A rich fruits and vegetables 7) Other fruits and vegetables
- 2 WHO 2008.
- 3 WHO 2009.
- 4 WHO 2004, UNICEF and ICCID, 2007
- 5 FSNAU, 2009
- 6 UNICEF, 2011
- 7 UNICEF, 2011
- 8 BBC, 2014.
- 9 FSNAU, 2009
- 10 FSNAU-Nutrition Technical Series Gu 2014
- 11 Given breast milk with water based drinks, fruit juices and ritual fluids but not non-human milk
- 12 This is a modified indicator from the WHO (WHO 2012) definition which considered children below 36 months old and not 0-23 months as was considered in this present assessment. This IYCN study only sampled households with children 0-23 months old.
- 13 The 7 food groups used for tabulation of these indicator as described by WHO (WHO, 2012). These are 1) Grains, roots and tubers 2) Legumes and nuts 3) Dairy products (milk, yoghurt, cheese) 4) flesh foods (meet, fish, poultry and liver/organ meet) 5)Eggs 6) Vitamin- A rich fruits and vegetables 7) Other fruits and vegetables
- 14 Minimum is defined as 2 times for breastfed infants 6-8 months old, 3 times for breastfed children 9-23 months old and 4 times for non-breastfed children 6-23 months old
- 15 Minimum is defined as 2 times for breastfed infants 6-8 months old, 3 times for breastfed children 9-23 months old and 4 times for non-breastfed children 6-23 months old
- 16 Iron rich foods considered: Meat (poultry, meat, liver), fish, eggs, Sprinkles and LNS
- 17 The child feeding index (CFI) scores is useful when interested in a summary statistic, which reflects average changes across different child-feeding practices. CFI, ranging from 0 to 9 is calculated by summing all of the component scores: Breastfeeding score + bottle use score + 24-hour diversity score + frequency of feeding score + 7-day quasi-food frequency score. Age-group-specific terciles are constructed for the CFI score.
- 18 Question number in the questionnaire



# The Information Management Process

## Gathering & processing

- FSNAU has a unique network of 32 specialists all over Somalia, who assess the nutrition and food security situation regularly and 120 enumerators throughout the country, who provide a rich source of information to ensure a good coverage of data.
- Nutrition data is processed and analyzed using the Statistical Package for Social Sciences (SPSS), EPIInfo/ENA and STATA software for meta-analysis.
- FSNAU developed the Integrated Phase Classification (IPC), a set of protocols for consolidating and summarizing situational analysis. The mapping tool provides a common classification system for food security that draws from the strengths of existing classification systems and integrates them with supporting tools for analysis and communication of food insecurity.
- Food security information is gathered through rapid assessments as well as monthly monitoring of market prices, climate, crop and livestock situations.
- Baseline livelihood analysis is conducted using an expanded Household Economy Approach (HEA).
- The Integrated Database System (IDS), an online repository on FSNAU's official website [www.fsnau.org](http://www.fsnau.org), provides a web-based user interface for data query, data import and export facilities from and into MS Excel, graphing, spreadsheet management and edit functions.

## Validation of Analysis

- Quality control of nutrition data is done using the automated plausibility checks function in ENA software. The parameters tested include; missing/flagged data, age distribution, kurtosis, digit preference, skewness and overall sex ratio.
- Quality control of food security data is done through exploratory and trend analysis of the different variables including checks for completeness/missing data, market price consistency, seasonal and pattern trends, ground truthing and triangulation of data with staff and other partner agencies, and secondary data such as satellite imagery, international market prices, FSNAU baseline data, etc.
- Before the launch of the biannual seasonal assessment results (Gu and *Deyr*), two separate day-long vetting meetings are held comprising of major technical organizations and agencies in Somalia's Food Security and Nutrition clusters. The team critically reviews the analysis presented by FSNAU and challenges the overall analysis where necessary. This is an opportunity to share the detailed analysis, which is often not possible during shorter presentations or in the briefs.

## Products and Dissemination

- A broad range of FSNAU information products include, monthly, quarterly and biannual reports on food and livelihood insecurity, markets, climate and nutrition, which are distributed both in print and digital formats including PowerPoint presentations and downloadable file available on the FSNAU site.
- Feedback meetings with key audiences enable us to evaluate the effectiveness of our information products. We constantly refine our information to make sure it is easily understandable to our different audiences.
- FSNAU has also developed a three year integrated communication strategy to ensure that its information products are made available in ways appropriate to different audiences including, donors, aid and development agencies, the media, Somalia authorities and the general public.

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