



FSNAU

Food Security and Nutrition
Analysis Unit - Somalia

Information for Better Livelihood



NUTRITION ANALYSIS

Post *Deyr* 2013/14

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LIST OF ACRONYMS USED

ABBRAVIATIONS	DEFINITIONS
BF	Breast Feeding
CDR	Crude Death Rate
CMR	Crude Mortality Rate
ENA	Energy Networks Associations
FAO	Food and Agriculture Organization of the United Nations
FSNAU	Food Security and Nutrition Analyses Unit for Somalia
GAM	Global Acute Malnutrition
HAZ	Height for Age Z Scores
HIS	Health Information System
IDPs	Internally Displaced Persons
IYCF	Infant and Young Child Feeding
LZ	Livelihood Zones
MDG	Millennium Development Goals
MSF	Médecins Sans Frontières (MSF)
MUAC	Mid Upper Arm Circumference
NE	North East
NW	North West
PLW	Pregnant Lactating Women
SAM	Severe Acute Malnutrition
SMART	Standardized Monitoring and Assessment of Relief and Transitions
U5DR	Under-5 Mortality Rate
UN	United Nations
UNDP	United Nation Development Programme
UNICEF	United Nation Children's Fund
WAZ	Weight for Age Z Scores
WFP	World Food Programme
WHZ	Weight for Height Z Scores
WHO	World Health Organization
ToT	Terms of Trade
IPC	Integrated Food Security Phase Classification

FOREWORD

This *Post Deyr 2013/14* Technical Series Report is the ninth edition of bi-annual nutrition situation technical series launched by the Food Security and Nutrition Analysis Unit (FSNAU) Somalia, in February 2009. The publication complements the FSNAU bi-annual seasonal technical series reports and provides specific focus on current nutrition information and outlook for February - April 2014. The report includes a detailed analysis of the 27 comprehensive nutrition assessments and 13 MUAC assessments across Somalia- by region and rural livelihoods and displaced populations.

We at FSNAU trust that you will find the report informative and useful. Please contact info@fsnau.org with questions, comments, and feedback on this report.

EXECUTIVE SUMMARY

The nutrition status of children under the age of five is generally accepted as one of the best indicators of prevailing poverty and food insecurity in the region/country. The Food Security and Nutrition Analysis Unit (FSNAU) provides a snapshot of current nutrition situation in Somalia through biannual assessment of nutrition status. Between November 2013 and January 2014 (Post Deyr), FSNAU conducted 40 nutrition surveys across Somalia covering all regions & livelihood zones and assesses nutrition status of 27, 581 children (6-59 months). Twenty seven of these surveys were based on SMART methodology and 13 were surveys that used Mid Upper Arm Circumference (MUAC) as an indicator of wasting.

Deyr 2013/14 results indicate that high levels of acute malnutrition persists across Somalia with one out of every seven children (< 5 yrs.) suffering from acute malnutrition. Median Global Acute Malnutrition (GAM) rate of 14.2 percent in the Deyr 2013/14 assessment suggests that nutrition situation in most livelihoods is either sustained or improved since Gu 2013 when Median GAM of 14.4 percent was recorded. However Qardho IDPs and Berbera IDPs were an exception as prevalence of acute malnutrition has increased from serious (10-14.9%) to critical levels (>15%). When current nutrition situation is compared to the situation 12 months back (Deyr 2012/13), there is no change in prevalence of acute malnutrition in most livelihoods, except amongst Garowe IDPs where GAM prevalence deteriorated from serious to critical levels. It was observed that critical levels of GAM were more prevalent among IDP children (15.8%) and in South Somalia (15.1%) compared to North East and North West regions of Somalia.

Deyr 2013/14 results show an increase in Severe Acute Malnutrition (SAM) prevalence. Critical SAM levels (> 4.5 %) were observed in Dolow IDPs, Qardho IDPs and among Bay agro pastorals during Deyr 2013/14 assessment while serious levels (3.5-4.4%) were seen in Doble IDPs, Berbera IDPs, Garowe IDPs and in Beletweyne district. Compared to levels in July 2013 (Gu 2013), increase in prevalence of SAM was noted in Dolow IDPs in South and Qardho IDPs in North East. High SAM prevalence in areas with high GAM prevalence was noted and is reflected by their positive correlation (0.73).

Malnutrition is associated with increased illness and death. Under five Death rate (U5DR) was acceptable or serious in most regions exception Beletweyne where critical levels are seen (>2%). Higher morbidity rate was seen in children with greater prevalence of acute malnutrition. However no significant association was observed between prevalence of GAM and SAM with U5DR and prevalence of morbidity. Morbidity exceeding 50 percent was recorded in some populations: Beletweyne, Mataban and Dolow IDPs.

Similar levels of acute malnutrition can reflect different contributing factors. Understanding the underlying causes is important for the interpretation of the situation. The deterioration in Qardho IDPs is attributed to increase in morbidity (is it 46% now compared to 21.8 % in Gu 2013 or 25 % in Deyr/Dec2012). Even stunting and underweight levels in Qardho are higher in Deyr 2013 compared to Gu 2013 suggesting deterioration in nutrition. For Berbera IDPs, the high GAM prevalence seen in Deyr 2013/14 is a reflection of seasonal trend as well as poor IYCF practices suggested by low dietary diversity. Only 0.4 percent of children aged 6-23 months were reported to have consumed diversified diets comprised of four or more food groups.

Deyr 2013/14 estimates indicate that a total of 202726 children 6-59 months suffer from GAM including 51227 SAM children. The current GAM estimate is slightly lower than the number recorded in Gu 2013 (206100) or Deyr 2012/13 (215050). However the current number of SAM children is 25 percent higher than 40950 seen in Gu 2013 or 12.5 percent higher than the SAM (44600) children recorded in Deyr 2012/13. This suggests an increasing trend of SAM in Somalia. It was also noted that 68 percent of the GAM children (2 out of every 3 acute malnourished Children) are from South Somalia while 6 percent were among IDPs.

Median Stunting rate of 14 percent suggests that it is not a public health problem in Somalia. However pockets of high stunting (≥ 30 %) were seen in Bay Agro pastorals and in Beletweyne in South Somalia and among IDPs: Baidoa and Kismayo in South and Qardho IDPs in North East. Positive association between prevalence of GAM and stunting (0.33) and SAM and stunting (0.45) suggest that acute malnutrition is often superimposed on chronic malnutrition and this further aggravates malnutrition levels in the community.

Very high levels of underweight (>30%) were seen in South Somalia (Bay Agro pastoral, Beletweyne and Kismayo IDPs) and high levels (20-29.9 %) were prevalent among children in IDPs: Baidoa, Dolow, Bossaso, Qardho, Garowe and Galkayo. FSNAU assessments show a strong (0.89) between prevalence of Stunting and underweight in the children surveyed.

Prevalence of malnutrition in Somalia: wasting (GAM), stunting and underweight tended to be significantly higher in boys compared to girls. Age disaggregated data did not show any significant differences in prevalence of acute malnutrition between 6-23 months and 24-59 months. However prevalence of stunting and underweight (indicators of food insecurity, poor IYCF and poverty) was significantly higher in younger children (6-23 months) compared to older children (24-59 months). This suggests that malnutrition efforts should prioritize targeting the younger age group of 6-23 months in both IDP camps and in host communities with special focus on timely introduction of complementary feeding.

Very critical levels of maternal malnutrition (MUAC < 23 cms) were recorded for Dhusamareb IDPs (38.2%) and critical levels in E Golis (31.5%). Marked reductions in child undernutrition can be achieved through improvements in nutritional status of mothers.

Access to safe water did not show any significant association with prevalence of acute malnutrition GAM/SAM.

The projected outlook of nutrition situation for February to April 2014 is deterioration in Northwest Agro-pastoral and Sool plateau from current **Alert** phase to **Serious and** likely improvement among Berbera IDPs. In North East current nutrition situation is expected to be sustained except deterioration is expected in Sool plateau which cuts across NW and NE regions and Bossaso IDPs consistent with seasonal trends. In South Somalia current Serious to Critical situation seen in *Deyr* 2013/14 in the IDPs/ livelihoods is expected to be sustained from Feb –April 2014 including the improvements seen in Bay, Bakool, North Gedo, Juba Pastoral in *Deyr* 2013.

The persistently high rates of acute malnutrition and increasing trends of SAM suggest that **Somalia should take acute malnutrition in children seriously**. There is a strong link between acute and chronic malnutrition, as a single or repeated bouts of acute malnutrition will contribute to growth failure. More efforts must be exerted in order to reduce the current level of acute malnutrition through strengthening the current curative and preventive nutrition programmes. Lack of attention to child nutrition today will result in considerably higher costs tomorrow.

Table 1: Nutrition Situation in Somalia Deyr 2013/14

Population assessed	GAM -WHO/ UNICEF	SAM -FSNAU	Stunted-WHO/ UNICEF	Underweight- WHO/UNICEF	CDR-IPC	U5DR -IPC	Morbidity
SOUTH							
Bay Agropastorals	19.6	5.1	35.2	31.4	0.2	0.6	25.6
BakoolPast	18.5	2.6	8.3	15.1	0.2	0.7	30.4
Baidoa IDPs	14.3	2.5	33	25.3	0.4	0.97	44.4
Mogadishu IDPs	8.2	1.6	20	16.6	0.6	0.5	37.3
Beletweyne District	16.4	3.6	35.1	30.9	1.7	2.72	58.8
Mataban District	12.6	2.9	10.4	10.2	0.2	0.2	54.6
N Gedo pastoral	14.1	1.4	13	8.3	0.8	1.29	21.8
N Gedo Agro-pastoral	12.1	1.9	15.5	10.4	0.9	1.85	34
N Gedo Riverine	13.6	2.5	17.5	11.4	0.8	1.16	28.3
Dolow IDPs	19.7	4.8	27.1	28.5	0.8	1.43	55.2
Dobley IDPs	15.8	4.1	14.9	14.5	0.4	0.4	23.2
Kismayo IDPs	16.2	3.4	30.7	30.1	1.3	1.4	36.4
CENTRAL							
Addun Central	8.9	1.6	12.1	9.9	0.3	0.9	35.9
Hawd Central	13.2	2.4	10.5	10.8	0.3	0.3	16.9
Dhusamreeb IDP's	16.0	4.2	8.4	12	0.1	0.0	46.5
NORTH EAST							
E Golis (NE)	10.5	2.1	9.2	9.2	0.33	0.85	35.7
Coastal Deeh	11.8	1.2	12.9	10.4	0.0	0.3	40.7
Nugal Valley	14.5	2.3	1.6	2.6	0.1	0.3	39
Bossaso IDPs	13.5	2.8	29.5	26.2	0.1	0.3	40.6
Qardho IDPs	18.5	4.9	30.9	27	0.4	0.9	46.4
Garowe IDPs	15.8	4.1	21.4	23.1	0.2	0.3	40.5
Galkayo IDP's	15.0	2.9	19.6	20.6	0.3	0.4	33.4
Addun Central	8.9	1.6	12.1	9.9	0.3	0.9	35.9
Hawd Central	13.2	2.4	10.5	10.8	0.3	0.3	16.9
Sool plateau	8.6	0.5	2	2.9	0.2	0.3	31
Median	13.3	2.3	12.5	10.6	0.2	0.3	
NORTH WEST							
Sool plateau	8.6	0.5	2	2.9	0.2	0.3	31
Hargeisa IDPs	10.6	1.9	7.1	8.6	0.2	0.6	19.9
Burao IDPs	10.0	1.0	2.8	3.7	0.2	0.4	13.6
Berbera IDPs	16.1	3.6	6.1	12	0.2	0.4	9.8
	MUAC <12.5	MUAC <11.5					
Middle Shabelle Riverine	9.5	3.1	-	-	1.01	1.87	
Middle Shabelle Agropastoral	8.0	1.9	-	-	0.5	1.59	
Juba Pastoral	7.2	1.1	-	-	-	-	
Juba Agropastoral	9.9	1.1	-	-	-	-	
Juba Reverine	13.3	1.9	-	-	-	-	
Coastal deeh Central	7.8	1.5	-	-	-	-	
Cowpea Belt	6.5	1.2	-	-	-	-	
NW Agropastoral	2.4	0.2	-	-	-	-	24.4
WGolis/Guban	5.3	1.3	-	-	-	-	34.4
EGolis (NW)	2.2	0.5	-	-	-	-	29.5
South Gedo Pastoral	16.6	2.0	-	-	-	-	
South Gedo Agropastoral	17.1	3.8	-	-	-	-	
South Gedo Riverine	17.8	3.4	-	-	-	-	
Hawd NW	3.7	0.9	-	-	-	-	29.6
Color Code used							
GAM:WHO/UNICEF	Acceptable	Alert	Serious	Critical	Very critical		
SAM:FSNAU	<3 %	3-9.9 %	10-14.9 %	15-19.9 %	>20		
CDR:IPC	<2.5 %	2.5-3.4%	3.5-4.4%	4.5-5.9%	>6		
U5DR: IPC	<0.5	0.5	0.5-1	1-<2	>2		
MUAC <12.5	<1	<1	1-1.9	2-3.9 %	>4%		
MUAC <11.5	<2%	2-5.5%	5.6-8%	8.1-11%	>11%		
Stunting: WHO	<1%	<1%	1-2%	2.1-3%	>3.1		
Underweight: WHO	<20 %-low		20-29.9	30-39.9	>40%		
	<10 %-low		10-19.9	20-29.9	> 30%		

1: BACKGROUND

Somalia is a country with persistently high levels of acute malnutrition, associated with increased illness and death, reduced educational achievements, productivity and economic capacity. It is one of the principle mechanisms behind the transmission of poverty and inequality from one generation to the next. Recognizing this, the overall goal of Somalia's nutrition strategy is to contribute to improved survival and development of Somali people through enhanced nutritional status.¹ FSNAU provides a snapshot of current nutrition situation in Somalia by assessing nutrition status of 27 581 children (6-59 months). Between November 2013- January 2014 (Post Deyr), FSNAU conducted 40 nutrition surveys across Somalia covering all regions & livelihood zones. Twenty seven of these surveys were based on SMART methodology and 13 were surveys that used Mid Upper Arm Circumference (MUAC) as an indicator of wasting. **These** assessments were planned in conjunction with government authorities and partner agencies.

The objectives of the Post Deyr assessment were:

1. To assess the nutrition situation by quantifying the acute and chronic malnutrition in children aged 6-59 months among IDPs and rural Populations
2. To estimate the mortality and morbidity rates in the population.
3. Estimate Coverage with measles vaccination and Vitamin A supplementation
4. To assess infant and young child feeding practices amongst the community among children < 24 months of age.
5. To assess the nutrition situation of the mothers (pregnant, lactating)

Two type of assessments were done:

1. Assessment using SMART² Methodology – Integrated Nutrition & Food Security
2. Representative MUAC based nutrition assessment — Mostly in areas with insecurity

Prior to the actual assessment, details of survey tools and plan was shared with MOH in Mogadishu and all nutrition stakeholders in Somalia and Nairobi for coordination as well as active participation by interested partners.

Survey Limitations

1. Insecurity resulted in **limited access to the population of interest in some areas**: Lower Shabelle and parts of Hiran and Bakool. Populations living in highly insecure areas tend to have a worse nutritional status and higher mortality than those living in more secure areas
2. Use of MUAC for estimating prevalence of acute malnutrition
3. **Under estimation of the magnitude of the malnutrition** in Somalia. FSNAU estimates of the number of malnourished children are made on the basis of UNDP population figures (2005) of 7.5 million people whereas numbers of 10.2 million populations are reported by other sources.

¹ Somalia Nutrition Strategy 2011-2013.

² Standardized Monitoring and Assessment of Relief and Transitions

2: METHODOLOGY

FSNAU and partners conducted 40 nutrition surveys across Somalia covering all regions & livelihood zones between November 2013- January 2014 (Post Deyr). This was a cross-sectional survey, 27 of which were based on comprehensive SMART methodology and 13 were surveys that used Mid Upper Arm Circumference (MUAC) as an indicator of wasting. The target group in the assessments was children aged 6-59 months from 40 livelihoods including 13 IDPs. A majority of nutrition assessments were in South Somalia, 22 percent in North West, 14 percent in Central and 15 percent in North East. The population figures were based on the UNDP 2005 population numbers for Somalia. The under-5 population was estimated at 20 percent of the total population estimates.

Sampling

The anthropometric and mortality sample sizes were calculated using ENA for SMART Software 2011 version (revised Sept 2013) after entering the necessary data. A two-stage cluster sampling method was used. First sampling stage involved the random selection of clusters from an exhaustive updated list of locations of the areas to be surveyed. The clusters were selected using probability proportionate to size (PPS). The second sampling stage entailed the selection of the households which was done on spot within each cluster using simple sampling or modified EPI methods, in some contexts, segmentation was done before being able to apply one of the HH selections methods above. Age of children was determined through the use of a local calendar of events.

Both qualitative and quantitative data collection techniques were used. Quantitative data was collected through a standard household questionnaire for nutrition assessments in Somalia. Retrospective mortality data for 90 days prior to the assessments was also collected among the study households using the mortality questionnaires.

Tools used include :

- Structured standard nutrition questionnaire
- Mortality questionnaire,
- Nutrition rapid weight for height short questionnaires
- MUAC questionnaire

Training and supervision

Prior to data collection, FSNAU conducted (depending on the type of survey) three to five days training of enumerators and supervisors. The training covered interview techniques, sampling procedure, inclusion and exclusion criteria, sources and reduction of errors, taking of accurate measurements (height, weight and MUAC and age determination), diagnosis of oedema and measles, verification of deaths within households, handling of equipment, and the general courtesy during the assessment. During the last day of the training a standardization test was conducted to evaluate performance of each enumerator regarding the precision and accuracy of anthropometric measurements. Each survey team member measured twice at least ten healthy children of age 6-59 months. Pre-testing of the questionnaire and equipment were carried out in non-selected clusters. After the field exercise, views were exchanged to address the difficulties identified, appropriateness of the questions reviewed and final changes were made.

Quality Assurance

This was done by using automated plausibility checks function in ENA for SMART surveys. The following parameters are tested

- Missing/Flagged data
- Age distribution
- Overall sex ratio
- Digit Preference :Weight and Height distribution
- Standard Deviations WFH
- Skewness WFH
- Kurtosis WFH
- Poisson distribution

Table 2: Plausibility Checks

	Missing/ Flagged data	Overall sex ratio	Overall age distribution	Digit Preference score-weight	Digit Preference score-Height	Digit Preference score-MUAC	SD WHZ	Skewness WHZ	Kurtosis WHZ	Poisson Distribution	Overall Score
RATING											
Excellent	0-2.5 (0)	>0.1 (0)	>0.1 (0)	0-7 (0)	0-7 (0)	0-7 (0)	<1.1 & >0.9 (0)	<±0.2 (0)	<±0.2 (0)	>0.05 (0)	0-9
Good	>2.5-5.0 (5)	>0.05 (2)	>0.05 (2)	8-12 (2)	8-12 (2)	8-12 (2)	<1.15 & >0.85 (2)	<±0.4 (1)	<±0.4 (1)	>0.01 (1)	10-14
Acceptable	>5.0-7.5 (10)	>0.001 (4)	>0.001 (4)	13-20 (4)	13-20 (4)	13-20 (4)	<1.20 & >0.80 (6)	<±0.6 (3)	<±0.6 (3)	>0.001 (3)	15-24
Problematic	>7.5 (20)	<=0.001 (10)	<=0.001 (10)	> 20 (10)	> 20 (10)	> 20 (10)	>=1.20 &<=0.80 (20)	>=±0.6 (5)	>=±0.6 (5)	<=0.001 (5)	>25
LOCATION	Northeast & North West										
Bosasso IDPs	0 (2.3 %)	0 (p=0.491)	10 (p=0.000)	0 (4)	0 (7)	0 (7)	0 (1.09)	0 (-0.07)	0 (-0.14)	0 (p=0.061)	10
Garowe IDPs	0 (2.3 %)	0 (p=0.168)	4 (p=0.003)	0 (3)	2 (9)	0 (7)	2 (1.12)	0 (-0.05)	1 (-0.29)	0 (p=0.690)	9
Galkayo IDPs	0 (2.1 %)	0 (p=0.972)	4 (p=0.006)	0 (3)	0 (6)	0 (4)	2 (1.10)	0 (0.09)	0 (-0.16)	0 (p=0.270)	6
Qardho IDPs	0 (1.7 %)	0 (p=0.429)	2 (p=0.098)	0 (7)	0 (6)	0 (7)	20 (1.22)	0 (-0.14)	3 (-0.56)	N/A	25
Hargeisa IDPs	0 (1.6%)	0 (p=0.676)	4 (p=0.031)	0 (4)	0 (6)	0 (7)	0 (1.08)	0 (0.04)	1 (-0.21)	0 (p=0.067)	5
Burao IDPs	0 (1.9%)	0 (p=0.658)	4 (p=0.419)	0 (6)	2 (8)	2 (8)	2 (1.15)	0 (0.15)	1 (-0.37)	3 (p=0.001)	10
Berbera IDPs	0 (1.1%)	0 (p=0.931)	0 (p=0.456)	0 (4)	0 (4)	0 (6)	0 (1.06)	0 (-0.14)	1 (-0.22)	0 (p=0.446)	1
Nugal Valley	0 (2.0%)	0 (p=0.225)	10 (p=0.000)	0 (6)	2 (10)	0 (7)	2 (1.11)	0 (0.10)	0 (-0.18)	0 (p=0.214)	14
Sool plateau	0 (1.6%)	4 (p=0.048)	0 (p=0.221)	0 (3)	0 (7)	0 (5)	0 (1.09)	0 (0.10)	1 (-0.39)	0 (p=0.079)	5
Coastal Deeh	0 (1.9%)	0 (p=0.114)	10 (p=0.000)	0 (4)	0 (5)	0 (6)	0 (1.06)	0 (0.00)	0 (-0.04)	1 (p=0.020)	3
East Golis	0 (1.7 %)	0 (p=0.120)	0 (p=0.898)	0 (3)	2 (8)	0 (4)	0 (1.06)	0 (0.00)	0 (-0.16)	0 (p=0.270)	6
Central											
Dhusamareb IDPs	0 (1.8%)	0 (p=0.785)	10 (p=0.000)	0 (6)	2 (8)	2 (9)	2 (1.13)	1 (-0.32)	0 (-0.15)	N/A	17
Hawd	0 (2.5%)	0 (p=0.220)	0 (p=0.635)	0 (6)	0 (7)	0 (5)	0 (1.04)	0 (-0.19)	1 (-0.14)	0 (p=0.111)	0
Addun	0 (1.4%)	0 (p=0.666)	4 (p=0.006)	0 (6)	2 (8)	0 (7)	0 (1.09)	0 (-0.12)	1 (-0.25)	3 (p=0.010)	10
South											
Mogadishu IDPs	0 (1.8%)	0 (p=0.308)	10 (p=0.000)	0 (4)	0 (7)	0 (5)	0 (1.01)	0 (0.00)	0 (0.01)	0 (p=0.102)	10
Baidoa IDPs	5 (2.6 %)	0 (p=0.676)	0 (p=0.198)	0 (5)	4 (13)	2 (9)	2 (1.13)	0 (0.00)	1 (-0.34)	5 (p=0.000)	19
Dolow IDPs	0 (1.9 %)	0 (p=0.408)	10 (p=0.000)	0 (3)	2 (12)	2 (10)	2 (1.15)	0 (0.17)	0 (-0.19)	5 (p=0.000)	20
Kismayu IDPs	0 (2.1 %)	0 (p=0.641)	10 (p=0.000)	0 (6)	2 (10)	2 (8)	0 (1.07)	1 (0.22)	1 (-0.11)	5 (p=0.000)	21
Dobley IDPs	0 (1.7 %)	0 (p=0.442)	0 (p=0.180)	0 (3)	4 (19)	10 (38)	2 (1.15)	0 (0.13)	1 (-0.37)	N/A	17
Bakool Pastoral	0 (0.5 %)	0 (p=0.968)	10 (p=0.000)	0 (6)	4 (14)	0 (0)	2 (0.86)	0 (0.17)	3 (0.49)	0 (p=0.089)	19
Bay Pastoral	0 (1.4 %)	0 (p=0.947)	10 (p=0.000)	0 (5)	0 (5)	0 (3)	2 (1.15)	0 (0.04)	1 (-0.25)	5 (p=0.000)	20
North Gedo Pastoral	0 (0.8 %)	0 (p=0.261)	4 (p=0.017)	0 (7)	2 (12)	4 (14)	0 (1.05)	0 (0.07)	1 (-0.30)	0 (p=0.051)	11
North Gedo Agro Pastoral	0 (0.6%)	0 (p=0.796)	4 (p=0.001)	0 (10)	4 (16)	2 (12)	2 (1.10)	1 (0.24)	1 (-0.23)	1 (p=0.044)	17
North Gedo Riverine	0 (0.9 %)	0 (p=0.445)	4 (p=0.037)	0 (5)	2 (11)	2 (10)	0 (1.06)	0 (-0.01)	0 (-0.10)	3 (p=0.009)	11
Mataban district	0 (0.3%)	2 (p=0.080)	4 (p=0.007)	0 (4)	0 (7)	0 (5)	2 (1.11)	0 (-0.09)	1 (-0.34)	3 (p=0.002)	12
Beletywe District	0 (0.6%)	0 (p=0.489)	10 (p=0.000)	0 (4)	0 (7)	0 (7)	0 (1.09)	0 (-0.11)	1 (-0.34)	5 (p=0.000)	16

Quality of data was also ensured through:

- a. Supervision of fieldwork by FSNAU coordination team
- b. Cross checking of filled questionnaires on daily basis and recording of observations and confirmation of measles, severe malnutrition and death cases by supervisors. All households sampled were visited and details recorded including empty ones
- c. Daily review was undertaken with the teams to address any difficulties encountered,
- d. Progress evaluation was carried out according to the time schedule and progress reports shared with partners on regular basis,
- e. Monitoring accuracy of equipment (weighing scales) by regularly measuring objects of known weights
- f. Quality assurance during data collection and entry
- g. Data Quality validation by running frequencies.
- h. Defining boundaries for exclusion
 - If Sex is missing the observation is excluded from analysis.
 - If Weight is missing, no WHZ and WAZ are calculated, and the programme derives only HAZ.
 - If Height is missing, no WHZ and HAZ are calculated, and the programme derives only WAZ.
 - For any child records with missing age (age in months) only WHZ will be calculated.
 - If a child has oedema only his/her HAZ is calculated.
- i. Continuous reinforcement of good practices. All measurements were loudly shouted by both the enumerators reading and recording them to reduce errors during recording.

Data Analysis and Interpretation

FSNAU survey results were analyzed in ENA software (2011 version revised in Sept 2013) for anthropometric and mortality data, and Epi Info for cross tabulations and analysis of non-anthropometric data. Interpretation of findings on child growth indicators are based on internationally recognized thresholds, mainly the WHO¹. Household access to a variety of food was estimated through Dietary Diversity, a qualitative measure of food consumption². The Primary data collected through the SMART surveys was triangulated with secondary data: – Morbidity trends and admissions trends of malnourished children into feeding programs. Data was interpreted taking into consideration several factors including :

- Trends and changes
- Seasonality
- Aggravating factors
- Benchmarks, baseline figures,
- Mortality levels.
- CDC calculator was also used for further analysis and comparison of previous surveys to determine if there is a significant change or not.
- Cross tabulation was also done for measure of association. e.g. GAM Vs. Mortality
- Data was disaggregated for age and gender

The contextually relevant analysis forms the basis for data interpretation:

- ☐ Reference Indicators- overall nutrition situation- GAM/SAM/CMR/U5MR/MUAC Children & Adults/HIS trends/ Admissions in feeding centers
- ☐ Immediate Causes-Household Dietary Diversity, Morbidity/Disease outbreak
- ☐ Driving Factors-Breast Feeding practices, complementary feeding, Vitamin A supplementation coverage, Measles immunization coverage, water sanitation access

Reference indicators were categorized into five different phases based on the recognized thresholds: Acceptable, Alert, Serious, Critical and Very Critical³. (Annex 3 and 4). The outcome of the integrated nutrition situation analysis process, the estimated nutrition situation, is based on convergence of evidence of the findings from the multiple indicators. A minimum of two anthropometric indicators (for example global and severe acute malnutrition rates) were used to make an analysis and classification of the situation into one of the five different phases. The overall

¹ The WHO Child Growth Standard available at : <http://www.who.int/childgrowth/standards/en/>

² Guidelines for measuring household and individual dietary diversity. FAO 2011

³ Integrated Food Security Phase Classification. Technical Manual. . The Food and Agriculture Organization of the United Nations. Rome. 2012

analysis is consolidated into the **Estimated Nutrition Situation Map**. In the cartographical presentation, reliability of data source was illustrated through solid colour (for survey data which is quite reliable, R=1), or through slash marks (when statistically representative data is not available, in which case data reliability is lower and, R=2).

Analytical process

To make a statement on the

- Nutrition situation: A minimum of **two Core indicators** were used
- Projected trend: A minimum of two **risk factors (immediate or underlying)** were used

The overall classification of the nutrition situation for a given area was done taking into account historical nutrition and contextual data. Triangulation of all indicators was also undertaken. An attempt is made to look at the bigger picture in terms of where the indicators are currently, where they have come from and where they are likely to go to make the overall statement of the projected situation.

Estimation of number of children with acute malnutrition (caseload)

Caseload numbers is the approximation of the number of children who are acutely malnourished based on the current acute malnutrition prevalence rates that are obtained semi-annually from nutrition assessments conducted in Somalia. The prevalence rates are normally based on Weight for Height and MUAC indicators. The computation of the caseload estimates is dependent on the population estimates and the prevalence rates. This provides the number of malnourished children and pregnant and lactating mothers at the time of assessment. The population figures currently used are the UNDP 2005 estimates of 7.5 million people. Given the global demographic patterns, children under the age of 5 years are estimated to account for 20 percent of the total population. Because of the occurrence of new cases, an Incidence rate is factored in the computation which is the addition of new cases that would occur over time. Currently for Somalia, an incidence factor of 1.8 is applied for 6 months period.

Caseload Presentation The caseload estimates are presented in form of maps and graphs by regions.

Rationale: The caseload estimation is normally done for the whole of Somalia which includes areas that have not been surveyed. For derivation of these numbers, a rationale is developed based on one or more factors including;

- *Use of prevalence rates for similar livelihoods. Where prevalence rates of acute malnutrition is not available the rates observed in similar livelihoods is applied considering also the food security situations.*
- *Seasonal trends analysis is used for a region to derive a median value.*
- *Median value of the nutrition phase for the area is imputed. For example if an area is considered to be likely serious based on other indicators, a value of 12.5 will be applied, if critical a value of 17.5.*

Formula for Caseload computation: $\text{Caseload} = N \times P \times K \times C$

- **N is the size of the population. This is usually the population aged:** between 6 and 59 months which is commonly estimated as 20% of the total population and 5% for P&L mothers.
- **P is estimated prevalence of GAM/SAM/MUAC prevalence.** This is usually estimated using a nutritional anthropometry survey (e.g. a SMART survey).
- **K is a correction factor to account for new (incident cases) over a given time period.**
- **C is expected mean program coverage over a given time period.**
Program coverage may range from 10% to 90%.

- WFH in admitting case-definitions= lower levels of coverage
- MUAC in admitting case-definitions= higher levels

N= At FSNAU the denominator is number of children 6-59 months based on UNDP 2005 census figures (location specific) P=This is obtained from seasonal survey results conducted in Somalia (*Deyr and Gu Surveys*)

Case definitions

- GAM<-2 WHZ or SAM<-3 WHZ
- MUAC< 125 or MUAC <115

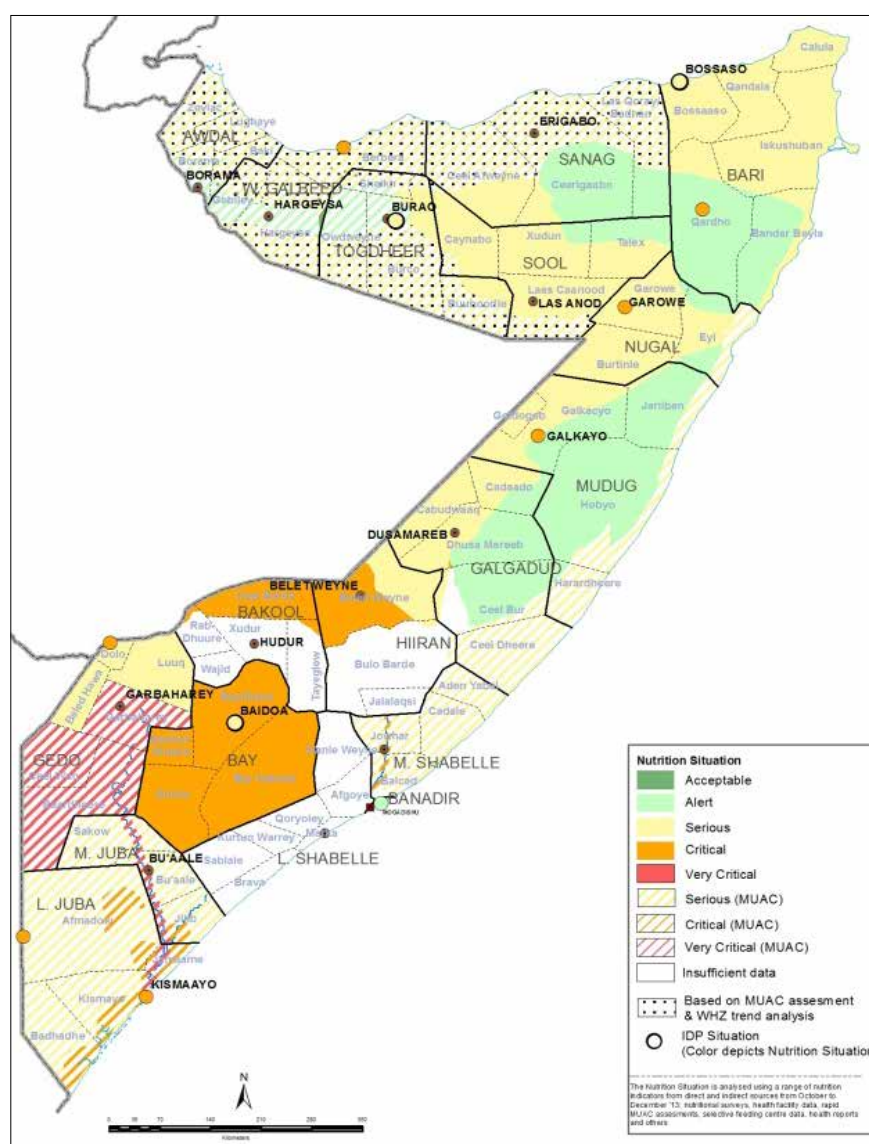
3: FINDINGS OF NUTRITION ASSESSMENT (*Deyr 2013/14*)

Current Nutrition Situation

Situation of persistently high acute malnutrition is sustained in Somalia where 1 in 7 children under the age of five suffer from acute malnutrition at the time of the assessment.

Malnutrition occurs as a consequence of insufficient food consumption and/or the repeated appearance of infectious diseases. Malnutrition may be chronic or acute, or weight-for-age malnutrition. The current nutrition situation is shown in Map X. *Deyr 2013/14* results indicate that nutrition situation has remained unchanged in most of the country (with exception of Qardho IDPs and Berbera IDPs where GAM prevalence has increased). Serious levels of acute malnutrition are sustained in livelihoods of North East and North West except IDPs where situation is serious-critical. In south serious-critical levels of GAM exist in both livelihoods and in IDPs (Mogadishu IDP being an exception). Critical SAM levels (> 4.5 %) were observed in Dolow IDPs, Qardho IDPs and among Bay agro-pastorals during *Deyr 2013/14* assessment while Doble IDPs, Berbera IDPs, Garowe IDPs and Beletweyne district show prevalence of serious levels of SAM (3.5-4.4%). Compared to July 2013, deterioration in SAM prevalence was noted in Dolow IDPs in South and Qardho IDPs in North East. The nutrition situations among the Bakool Agro-pastoral, South Hiran and Lower Shabelle regions which were not assessed in *Deyr 2013* is projected based on the seasonal trends of acute malnutrition in these populations and extrapolation of the results of the assessed similar and adjacent livelihoods.

Map 1: Somalia Estimated Nutrition Situation January, 2014



GLOBAL ACUTE MALNUTRITION (GAM)

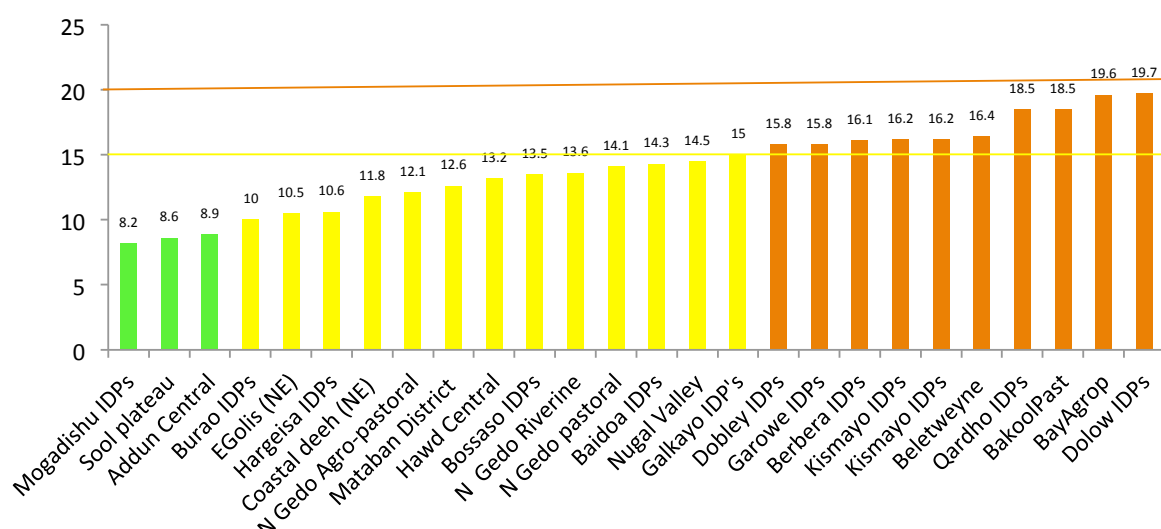
Weight for Height Z score (WHZ) is the preferred nutritional indicator for emergencies because it is indicative of recent or current events; for example, acute food insecurity and/or outbreaks of disease such as diarrhoea or measles. Results of *Deyr* assessment (Table 2) show nutrition situation is stable though higher than acceptable levels of acute malnutrition persist across Somalia (Median GAM of 14.2 %). This implies that one out of every seven children under 5 years in Somalia is suffering from acute malnutrition – a highly preventable and highly treatable condition.

The situation in South Somalia is worse as it accounts for nearly 70 percent of these acute malnourished children. This was also reflected in the critical levels of Median GAM prevalence in South Somalia (15.1 %) compared to serious levels of GAM seen in other regions: 14 percent in North East, 13.2 percent in Central region and 10.6 percent in North West. The most vulnerable are children living in IDP settlements. Median prevalence of GAM in children (6- 59 months) from IDPs was higher (15.8 %-critical levels) compared to non IDP (13.2 %-serious levels) [Figure 1].

Table 3: Median GAM & SAM in different regions

Region/Livelihood	GAM (%)	SAM (%)
Thresholds used	10-14.9 serious	<2.5 acceptable
	15-19.9 critical	2.5-3.4 alert
South	15.1	2.8
Central	13.2	2.4
North East	14.0	2.6
North West	10.6	2.5
Overall Somalia	14.2	2.5
IDPs	15.8	3.4
Non IDPs	13.2	2.4

Figur 1: GAM prevalence (WHZ) in different population groups of Somalia

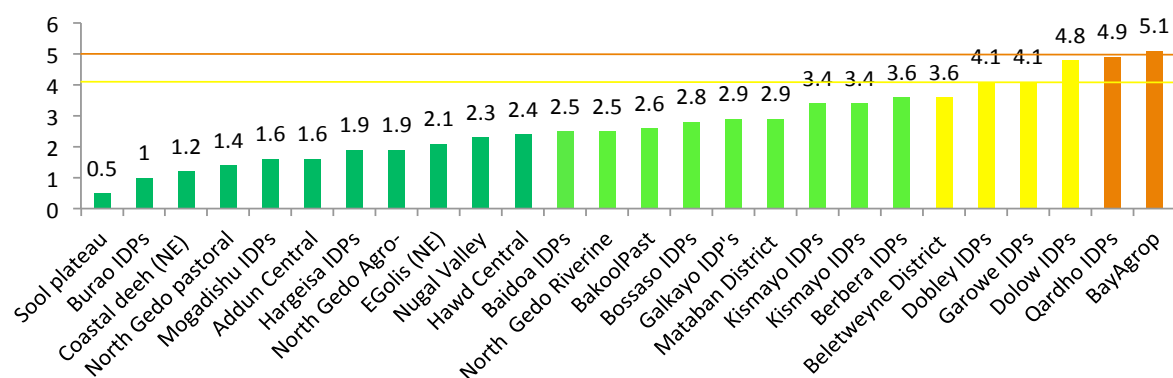


SEVERE ACUTE MALNUTRITION (SAM)

SAM remains a major killer of children under 5. It is associated with loss of a child's body fat and wasting of their skeletal muscle. Many of those affected are already undernourished and are often susceptible to disease. Infants and young children are the most vulnerable as they require extra nutrition for growth and development, have comparatively limited energy reserves and depend on others. *Deyr* 2013/14 results show that SAM prevalence was higher in areas with high GAM prevalence- reflected in significant positive correlation of GAM with SAM ($R^2 = 0.73$). Alert levels of SAM in Somalia were indicated by 2.5 percent median SAM (Table 1) though median SAM prevalence in South Somalia were higher (2.8%) compared to other regions.

Critical SAM levels (> 4.5 %) were observed in Dolow IDPs, Qardho IDPs and among Bay agro pastorals during *Deyr* 2013/14 assessment (Figure 2) while Dobley IDPs, Berbera IDPs, Garowe IDPs and Beletweyne show prevalence of Serious levels of SAM (3.5-4.4%).

Compared to Gu 2013, deterioration in SAM prevalence was noted in Dolow IDPs in South and Qardho IDPs in North East in *Deyr* 2013/14. However when compared to *Deyr* 2012/13, the prevalence of SAM was stable/ improved in all regions/livelihoods. (Annex 8).

Figur 2: SAM Prevalence (WHZ) in different population groups of Somalia

Mid-Upper Arm Circumference (MUAC)

Large-scale treatment and feeding programmes increasingly use MUAC as single screening and admission criteria as it is closely related to the risk of dying and is easy to implement at the community level after minimum training for health workers or even volunteers. There are indications that MUAC could be used adequately as a stand-alone criterion for SAM children to be admitted to and discharged from nutritional rehabilitation programmes¹. FSNAU collects MUAC in all its assessments to assess nutrition in inaccessible/ insecure areas of Somalia where weight/height of young children cannot be measured.

GAM- MUAC (MUAC < 12.5 cms)

Prevalence of GAM using MUAC < 12.5 cms as an indicator is summarized in Table3. 10.6 percent prevalence of Median GAM- MUAC in children < 5 years in South region of Somalia suggests a Critical situation for acute malnutrition exits compared to Serious levels of prevalence seen in other regions: Central, Northwest or Northeast. Details of MUAC < 12.5 recorded in various livelihoods are summarized in Figure3. It is observed that acceptable GAM-MUAC levels were recorded only for Sool Plateau, Nugal Valley and N Gedo Agro pastorals, in other regions acute malnutrition prevalence ranged from Alert to Critical. High prevalence of MUAC < 12.5 cm was seen in livelihoods where prevalence of GAM based on weight/height was high ($r = 0.45$) Significant differences in prevalence of GAM-MUAC were observed between IDPs (Median -10.4 %, Critical levels) and non IDP populations (Median- 6.6%, Serious levels).

Since Gu 2013, deterioration in GAM-MUAC in Deyr 2013/14 is observed in many areas, (Annex 9). When comparison is made with GAM-MUAC levels in Deyr 2012/13, deterioration is seen in Baidaoa IDPs and Addun Central.

SAM-MUAC (MUAC < 11.5 cms)

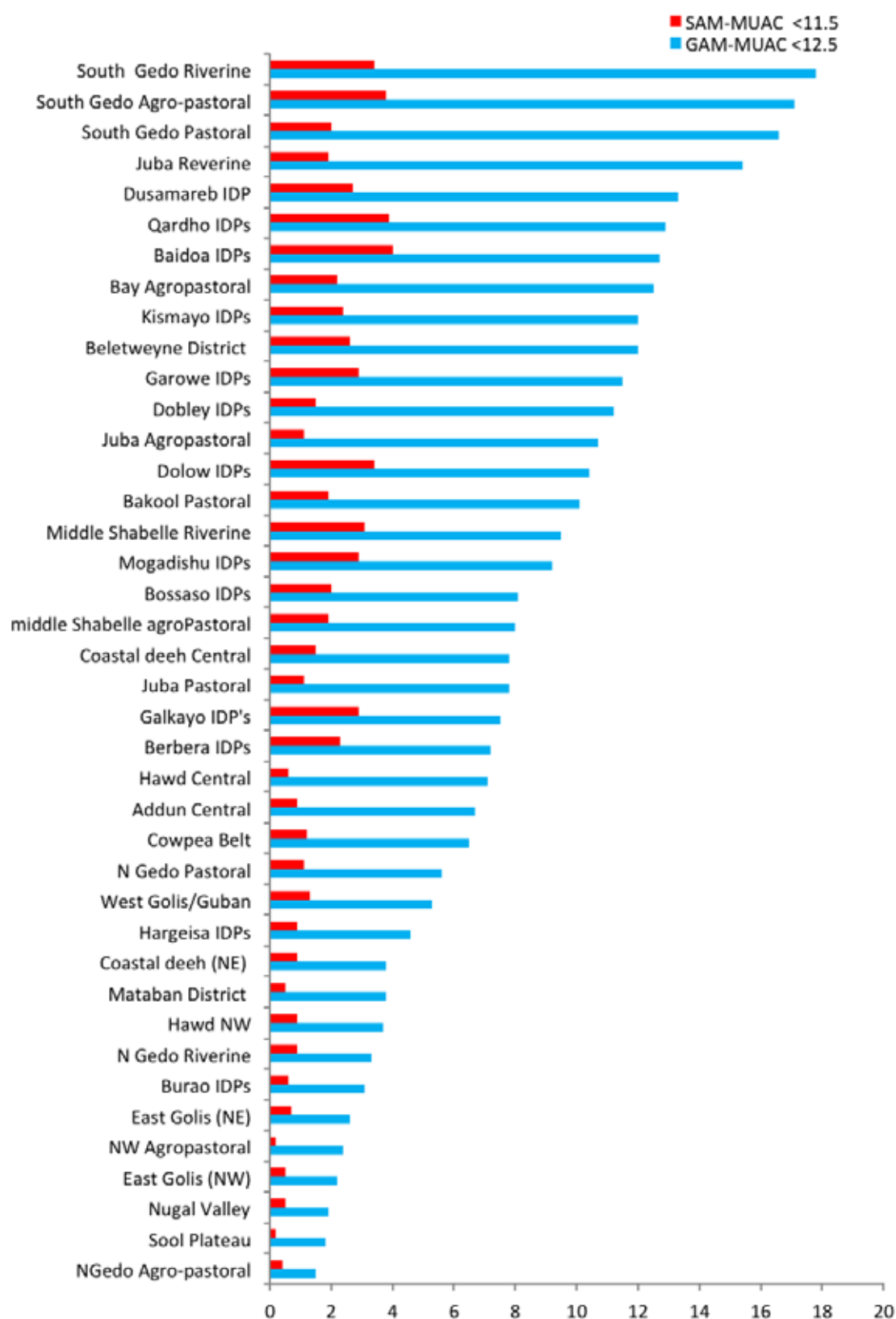
The World Health Organisation (WHO) and UNICEF proposed the use of MUAC less than 11.5 cm as independent criteria for diagnosing non-oedematous severe acute malnutrition (SAM) in children aged 6–60 months. The results of Deyr 2013/14 show a strong positive association (0.64) between GAM-MUAC (< 12.5 cms) and SAM-MUAC (< 11.5 cms). Figure 4 show very Critical levels of SAM-MUAC prevalence in IDPs (Qardho, Dolow, Baidaoa) and Middle Shabelle Riverine, S Gedo Riverine , S Gedo Agro pastorals while Critical levels are seen in IDPs (Galkayo, Garowe, Berbera, Dhusamareb, Mogadishu, Kismayo) as well as Beletweyne District and Bay agro pastoral.

Table 4: Acute Malnutrition (MUAC) in different regions

Region/ population	GAM-MUAC % <12.5 cm Median	SAM-MUAC % < 11.5 cm Median
Thresholds used	Serious 5.6-8 % Critical 8.1-11.0%	Serious 1-2 % Critical 2.1-3 %
South	10.6	2.0
Central	7.1	1.2
North West	3.7	0.9
North East	5.7	1.5
Overall-Somalia	7.8 (6.3-9.2)	1.5 (1.2-1.8)
IDPs	10.4	2.7
Non IDP	6.6	1.1

¹ Use of MUAC vs Weight for height in nutrition rehabilitation programmes: a systematic review of evidence. Dominique Roberfroid et al. Woman & Child Health Research Centre, Institute of Tropical Medicine, Antwerp, Belgium. October 2013

Figur 3: Prevalence of Acute Malnutrition based on MUAC by Population Group



Compared to Gu 2013, an increase in prevalence of SAM-MUAC in 6-59 month old children was observed in Deyr 2013/14 assessment in Beletweyne, S Gedo Agro pastoral, S Gedo Riverine, Baidao IDPs, Kismayo IDPs, Mogadishu IDPs and Dolow IDPs in South; in Berbera IDPs in NW and Qardho IDPs and Galkayo IDPs in Northeast. (Annexe 9). Compared to Deyr 2012/13, 2013/14 Deyr surveys recorded increased SAM-MUAC prevalence levels in Bakool pastoral, Kismayo IDPs and Mogadishu IDPs in South, Dhusamareb IDPs in Central region, Qardho and Garowe IDPs in Northeast

Cost-effective, high impact approaches now exist. In order for these to reach their potential, the treatment of SAM must become more central to the health care agendas in Somalia. Policy makers, health care funders and health professionals must accord SAM an importance and urgency commensurate with its significance as a leading cause of preventable childhood mortality and morbidity.

Malnutrition in different livelihoods

Prevalence of acute malnutrition is lowest in pastorals compared to Agro pastorals/ Riverine livelihoods. Situation in IDPs is worse compared to other population groups (Table 4).

Age and Malnutrition

Poor nutrition in the first two years has permanent effect on growth and development.. Age disaggregated Deyr 2013 data (Table 5) shows no significant difference in prevalence of acute malnutrition in Children < 2 yrs compared to children > 2 yrs. However prevalence of stunting is significantly higher in children < 2 yrs (median 22.4%) compared to median of 15.5% in children 24- 59 months. This is of serious concern as after the age of two years, stunting is largely irreversible, and has an impact on growth and development and cognitive function.

Median prevalence of underweight in children 6-23 months was also significantly higher (21.4%) compared to 13.7 percent in children 24-59 months.

Table 5: MUAC Prevalence in different livelihoods

Livelihood	MUAC <12.5 Median	MUAC <11.5 Median
IDP	10.4	2.6
Agro pastoral	9.4	2.0
Riverine	9.5	3.1
Pastoral	5.6	0.9

Table 6: Comparison of malnutrition in children 6-23 months vs 24-59 months

Indicator	6 - 23 months	24 - 59 months
Wasting	14.5 (12.8-16.3)	14.5(13.4-15.6)
Stunting	22.4(20.6-24.2)	15.5(14.1-16.9)
Under weight	21.4(19.1-23.7)	13.7(11.9-15.4)
Morbidity	43.2(55.1-58.6)	32.6(31.2-33.9)
Vitamin A Supplementation	48.3(45.5-51.2)	55.3(52.5-58.2)
Measles VAC	42.8(39.8-45.8)	52.2(49.0-55.3)

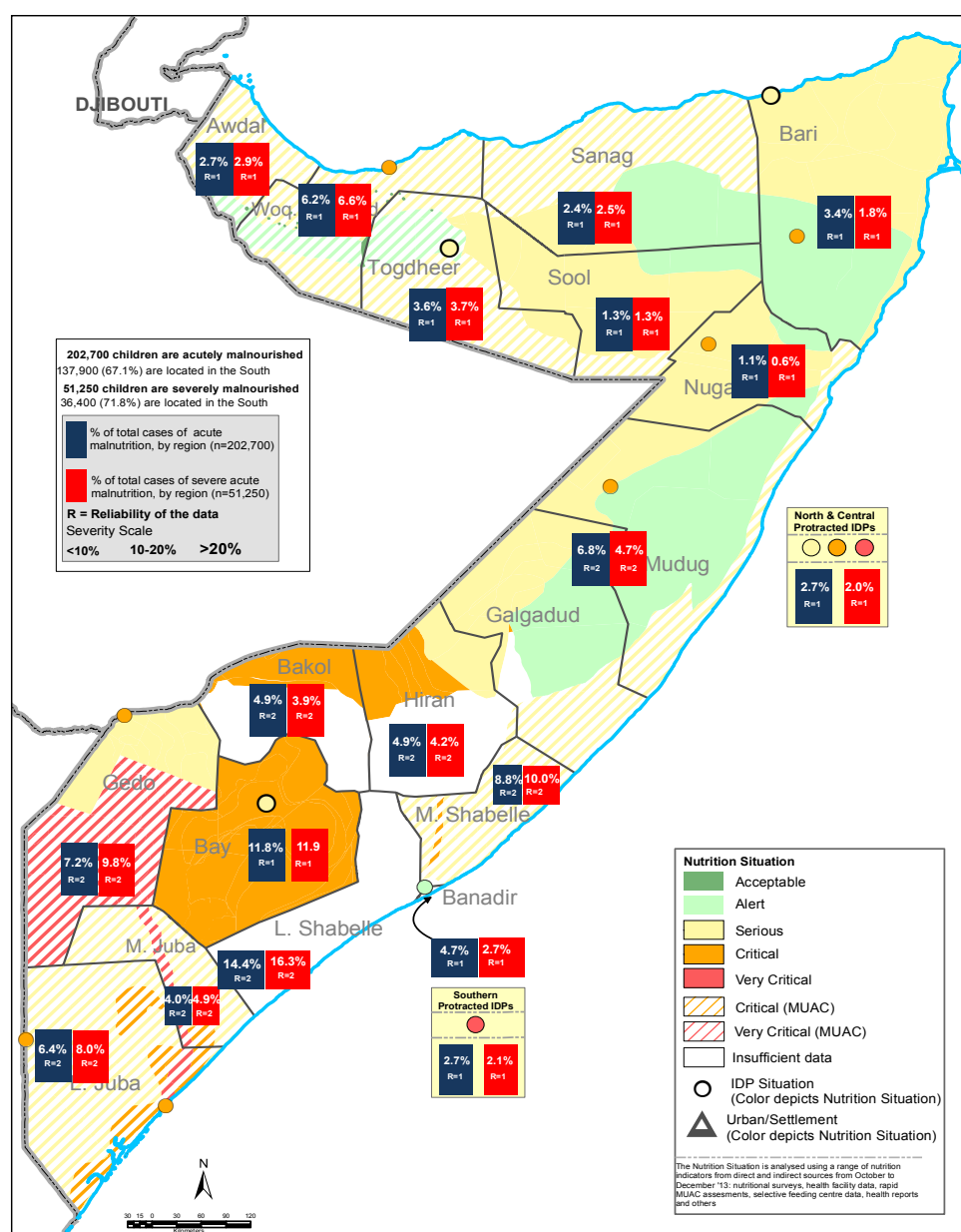
Number and distribution of children with Acute Malnutrition in Somalia

It is estimated that a total of 203000 children 6-59 months are currently suffering from acute malnutrition in Somalia, including 51000 children with severe acute malnutrition (Table 5). The total number of SAM children is 24.4 percent higher than the 41000 SAM children seen in Gu 2013 or 12.5 percent higher than the 45000 SAM children recorded in Deyr 2012/13. This suggests an increasing trend of SAM in Somalia. It was observed that 68 percent of these malnourished children (2 out of every 3) are from South Central Somalia while 6 percent are in IDPs. Although mortality is still low, the critical GAM level and morbidity suggest that treatment of SAM and MAM must become more central to the health care agendas. Multi-sectoral efforts to address the underlying causes of malnutrition are critical and must be supported by continued humanitarian action.

Table 7: Prevalence Estimate of Number of Children with Acute Malnutrition in different Regions (Jan 2014)

	GAM WHZ<-2	% of Total WHZ<-2	SAM WHZ<-3	% of total WHZ <-3	GAM- MUAC < 12.5 cms	% of Total	SAM-MUAC <11.5 cms	% of Total
SOUTH CENTRAL	138 750	68.5%	36 650	71.5%	88 950	80.4	19 400	78.5
NORTH WEST	43 550	21.5%	11 150	21.8%	10 350	9.4	1 950	7.9
NORTH EAST	9 200	4.5%	1 250	2.4%	2 300	2.1	600	2.4
IDPs	11 200	5.5%	2 200	4.3%	9 050	8.2	2 750	11.1
TOTAL PREVALENCE	202 700		51 250		110 650		24 700	

Map 2: Distribution of Proportion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on GAM and SAM Prevalence (January 2014)



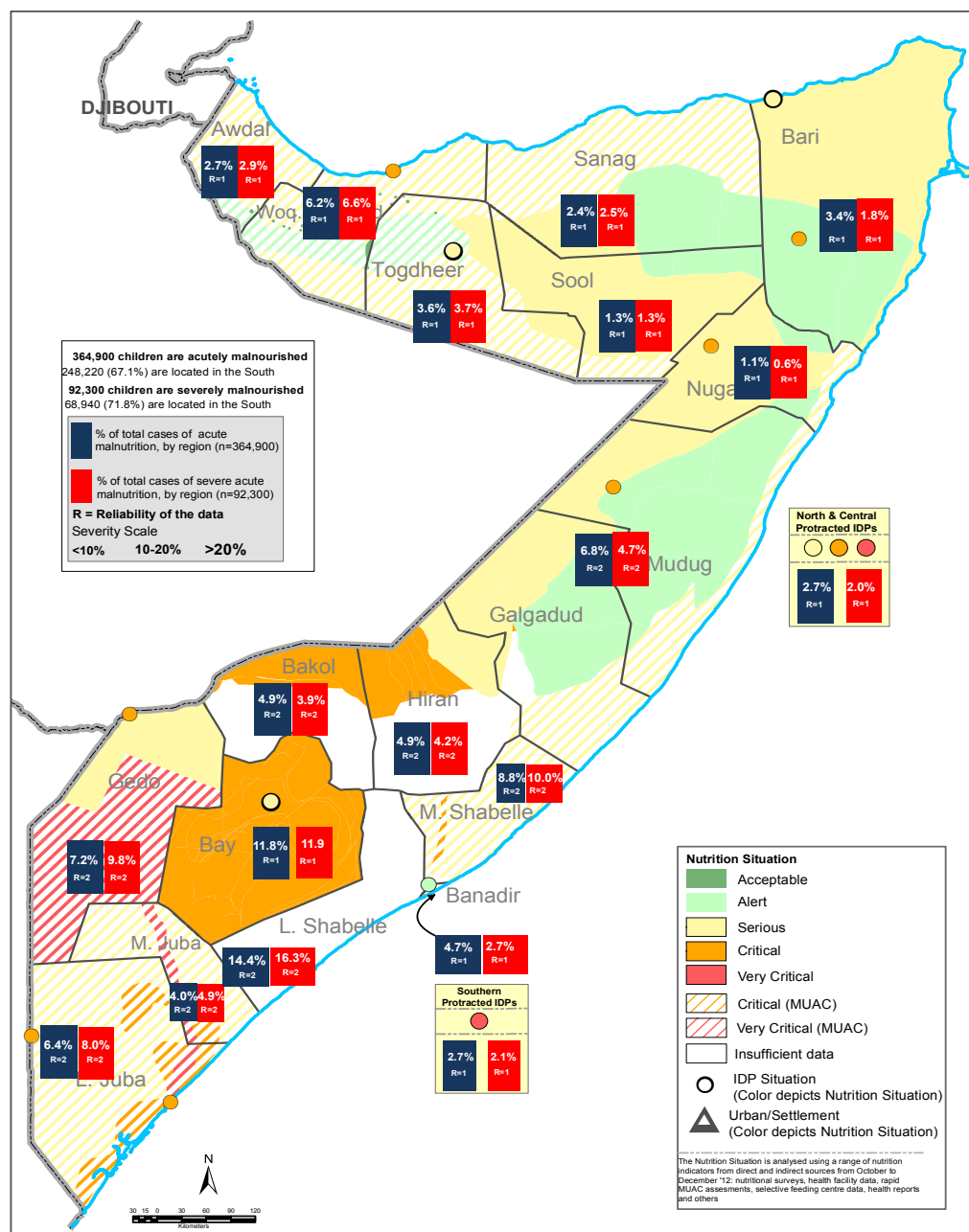
Incidence rate

Incidence rate for acute malnutrition was calculated (number of children who will suffer from GAM/SAM between Jan –June 2014 (6 months) as the management of acute malnutrition is critical for child survival. The estimates shown in Table 6 and Map 3 show those 364860 GAM children including 92250 SAM children will require treatment over next 6 months. Both estimates are substantially lower when using MUAC and require adequate planning and preparation.

Table 8: Estimated Incidence of acute malnutrition in different regions

	GAM WHZ<-2	% of Total WHZ<-2	SAM <-3 WHZ <-3	% of total WHZ <-3	MUAC < 12.5 cms	% of total MUAC < 12.5 cms	MUAC < 11.5 cms	% of Total MUAC <11.5 cms
SOUTH CENTRAL	249 750	68.50%	65 970	71.50%	160 110	80.4	34 920	78.5
NORTH WEST	78 390	21.50%	20 070	21.80%	18 630	9.4	3 510	7.9
NORTH EAST	16 560	4.50%	2 250	2.40%	4 140	2.1	1 080	2.4
IDPs	20 160	5.50%	3 960	4.30%	16 290	8.2	4 950	11.1
TOTAL	364 860		92 250		199 170		44 460	

Map 3: Distribution of Proportion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on Incidence (January - June 2014)



Chronic Malnutrition/Stunting

Chronic malnutrition and underweight reflect underlying nutritional vulnerability. Median Stunting rate of 14 percent (Table 7) suggests that it is not a public health problem in Somalia. However pockets of high Stunting ($\geq 30\%$) are seen in Bay Agro pastorals and in Beletweyne regions of South Somalia and among IDPs: Baidoa IDPs, Kismayo IDPs in South and Qardho IDPs in North East. Acceptable prevalence of stunting was observed in Northwest region (4.5%) and central region (9.7%). Positive association between prevalence of GAM and stunting (0.33) and SAM and stunting (0.45) suggest that acute malnutrition is often superimposed on chronic malnutrition and this further aggravates malnutrition levels in the community.

Table 9: Median Stunting and Underweight in different regions

Zones	Stunting	Underweight
South	18.8	15.9
Central	9.7	10.7
North East	19.6	20.6
North West	4.5	6.2
OVERALL	14.0	12.0
IDPs	20.0	20.6
NON IDP	12.1	10.4

Underweight

Very high levels of underweight (>30%) were seen in South Somalia (Bay Agro pastoral, Beletweyne and Kismayo IDPs) while high levels (>20-<30) were prevalent among IDP: Baidoa, Dolow, Bossaso, Qardho, Garowe and Galkayo (Figure 4a and 4b). Strong association between prevalence of Stunting and Underweight was observed (0.89)..

Figure 4a: Prevalence of Stunting in different populations groups

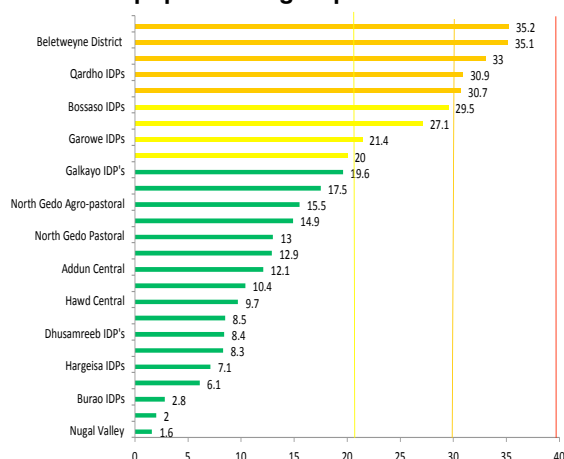
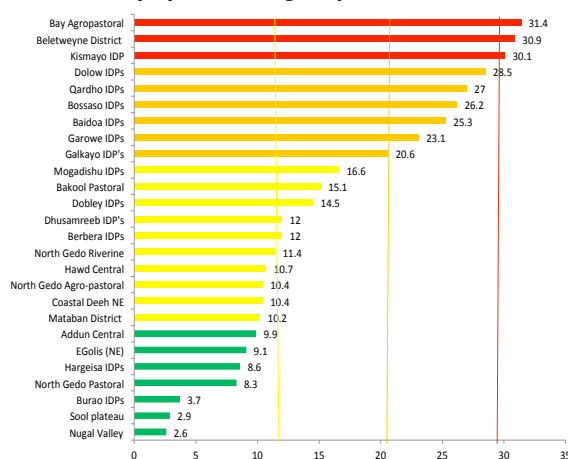


Figure 4b: Prevalence of Underweight in different populations groups



Mortality and Morbidity

Under five Mortality was acceptable or serious in most regions except Beletweyne where Critical levels are seen (Figure 5). Morbidity exceeding 50 percent was recorded in some populations: Beletweyne, Mataban and Dolow IDPs (Figure 6). No significant association of prevalence of GAM/SAM with prevalence of Mortality/ Morbidity was noted.

Figure 5: Under 5 Death Rate in different Population groups

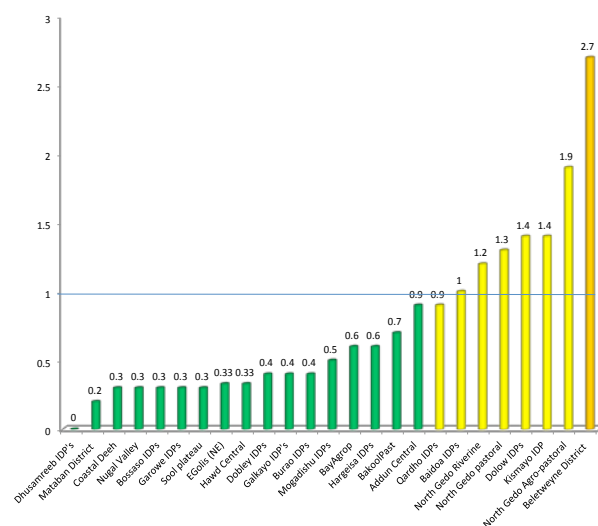
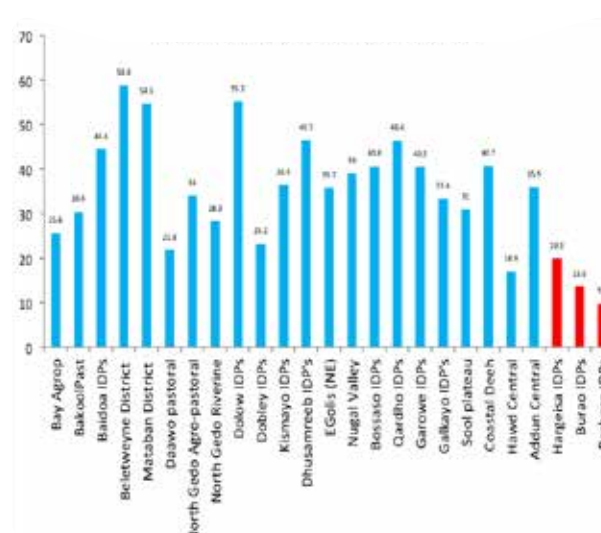


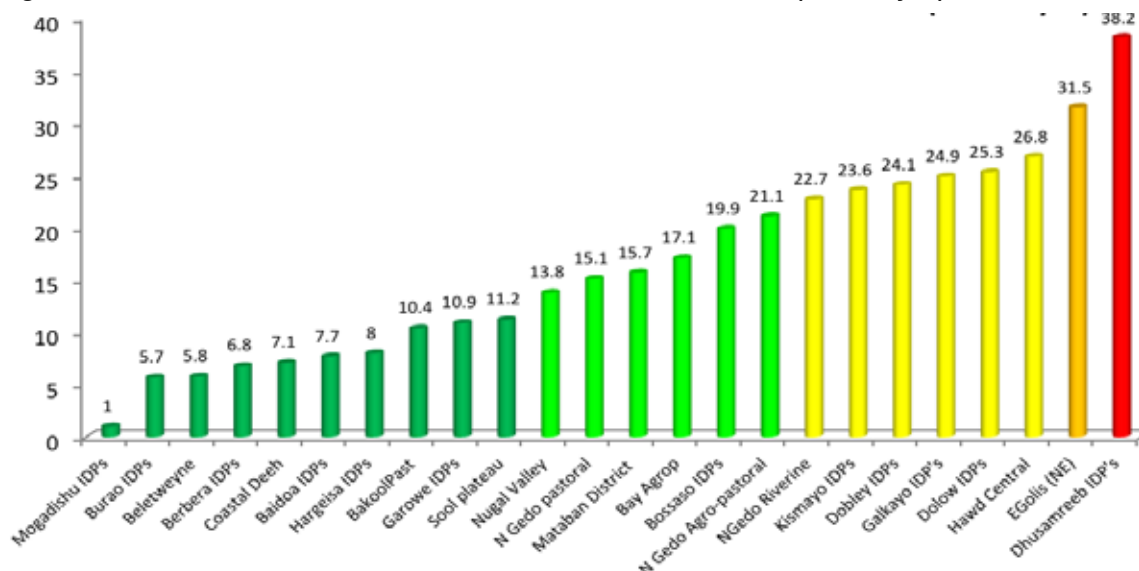
Figure 6: Prevalence of Morbidity in different Population groups



Maternal Malnutrition

A child's future nutrition status is affected before conception and is greatly dependent on the mother's nutrition status prior to and during pregnancy. Very Critical levels of maternal malnutrition were recorded for Dhusamareb IDPS (38.2%) and Critical levels in E Golis (31.5) [Figure 7] which will cause the child to have low birth weight and be undernourished and repeat the cycle of undernutrition if it is a girl child.

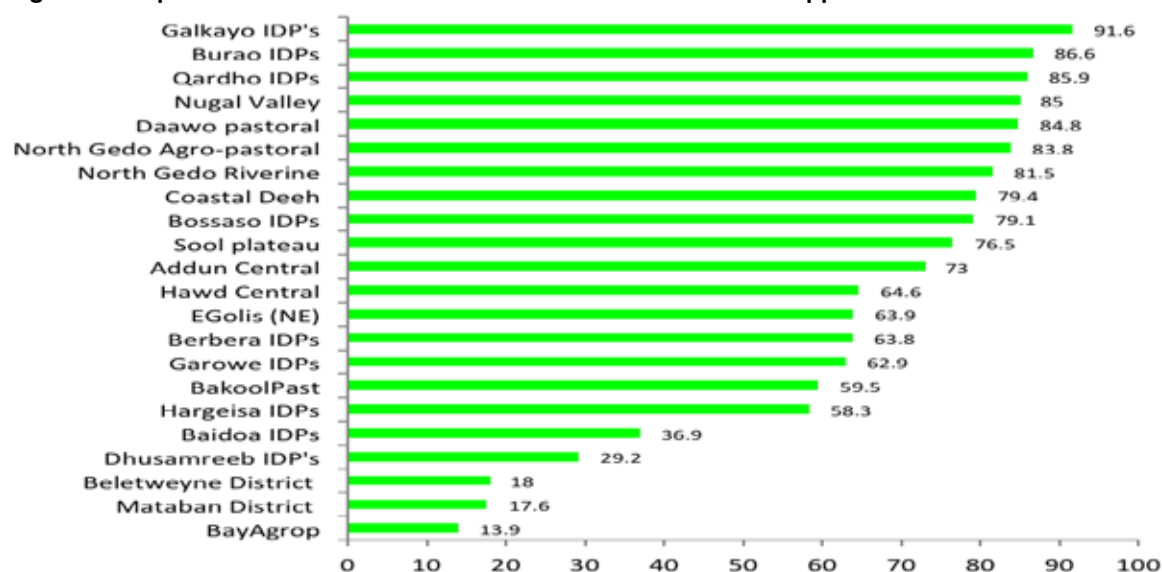
Figure 7: Prevalence of Maternal Malnutrition in different livelihoods (% surveyed)



Vitamin A Supplementation

Infants and children have increased vitamin A requirements to support rapid growth and to help them combat infections. Vitamin A supplementation is recommended in infants and children 6–59 months of age as a public health intervention to reduce child morbidity and mortality. It is estimated that under-five child mortality can be reduced by about 24 percent simply by providing vitamin A supplement to children. The Deyr 2013/14 assessment recorded whether children had received vitamin A supplement prior to survey. The results (Figure 8) show that none of the livelihoods surveyed reported > 95 percent coverage (as per Sphere standards)².

Figure 8: Proportion of underfive children who received Vitamin A supplementation



² The Sphere Project. Minimum Standards in Food Security, Nutrition and Food Aid. In: Humanitarian Charter and Minimum Standards in Disaster Response. 2004

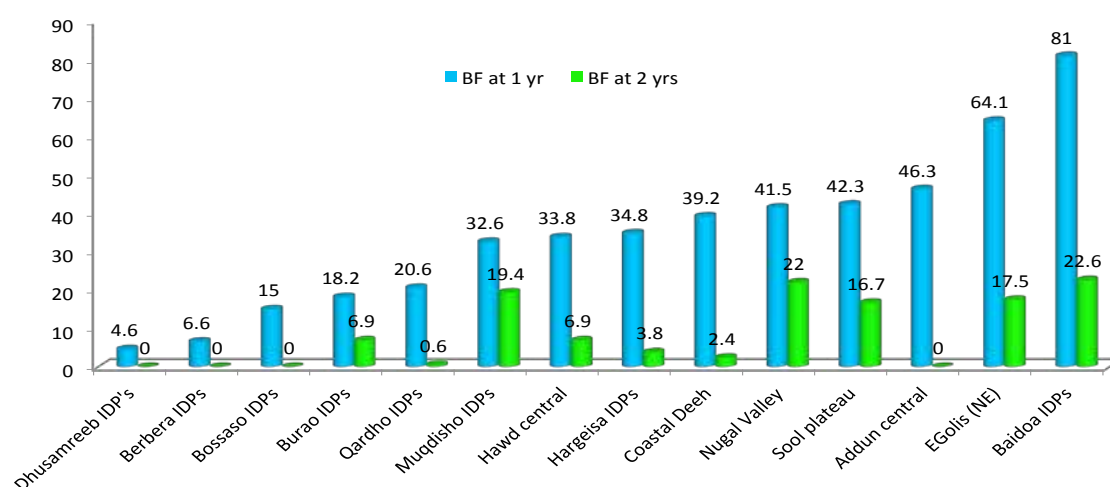
INFANT AND YOUNG CHILD FEEDING

Appropriate complementary feeding promotes growth and prevents stunting among children 6–24 months. It involves a combination of practices to maintain breast milk intake and, at the same time, improve the quantity and quality of complementary foods children consume.

Maintenance of breastfeeding.

WHO/UNICEF recommends that frequent, on-demand breastfeeding until 2 years of age or beyond should continue. Figure 9 shows that proportion of children 12-15 months of age who continued receiving breast milk was low in IDPs (4.6-32.6 %) though Baidao IDPs were an exception (81%). In rural livelihoods continued breast feeding at 12 months of age was reported for 39.2-64.1 percent of children (12-15 months). it was noted that in some IDPs (Dhusamareb, Berbera, Bossaso, Qardho) and in livelihood of Addun Central, the 2 yrs. old were not breast fed while in other regions low rates (< 25%) were observed.

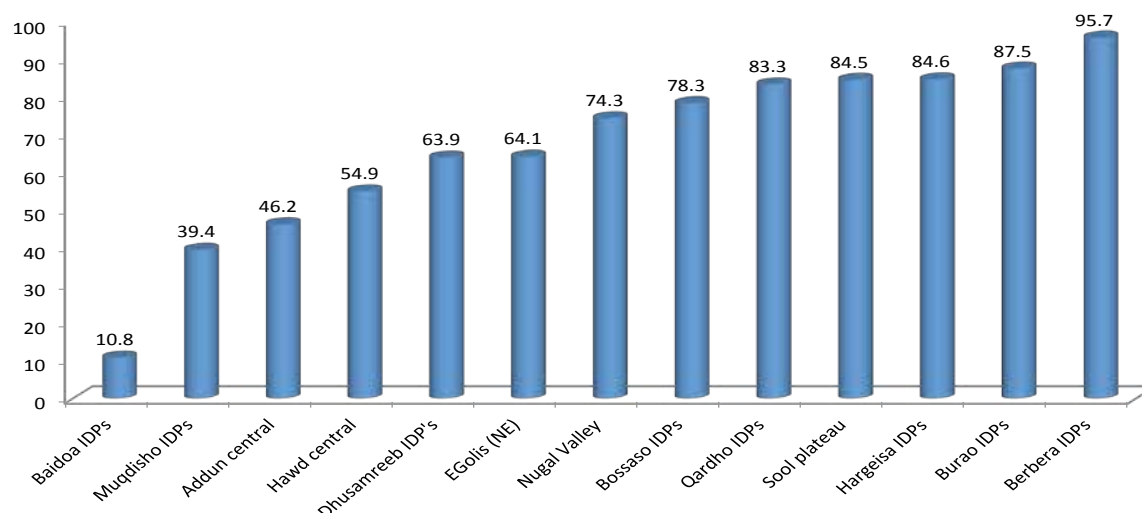
Figure 9: Continued Breastfeeding at 1yr and 2yr in 6-24 month children



Minimum Meal Frequency

The 6–11 month period is an especially vulnerable time because infants are just learning to eat and must be fed soft foods frequently and patiently. The feeding frequency should increase as the child ages. The 6–8 month old infants should receive complementary foods 2–3 times per day and 3–4 times per day for 9–11 month and 12–24 month old children. Figure 10 shows that the minimum meal frequency for young children (< 24 months) was better in IDPs than in rural livelihoods. This may be related to more mothers going out to earn some income and as a result child is not breast fed but receives other foods.

Figure 10: Minimum Meal Frequency in 6-24 month children (% surveyed)

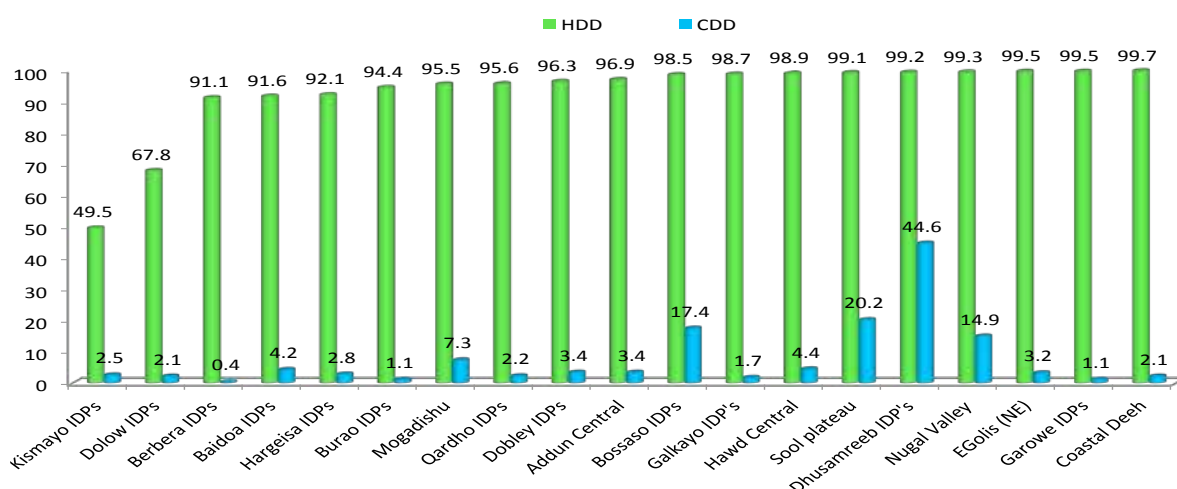


Dietary Diversity

A more varied diet (Dietary diversity) is associated with better nutrition status. Increasing dietary diversity is associated with increased household food access as well as individual probability of adequate micronutrient intake. Information on Household Dietary diversity (the number of different foods or food groups consumed over a given reference period) was collected during the *Deyr* assessment along with information on Child Dietary diversity (for children 6-23 months). The results (Figure 11) show that though more than 90 percent of the households (IDPs: Dolow, Kismayo being an exception) reported consuming foods from more than four food groups, the quality of young children's diets were poor. Poor IYCF practices were suggested by the Child dietary diversity (consumption of 4 or more food groups) which ranged from a low of 0.4 percent in Berbera IDPs to high of 44.6 percent in Dhusmareb IDPs. The results did not show any association between child dietary diversity and prevalence of malnutrition (acute/chronic). Poor child dietary diversity appears to be an important underlying factor for higher rate of prevalence of stunting and underweight seen in children < 24 months compared to older children (6 -23 months).

Food Security

Figure 11: Dietary Diversity for Household and Chddn (<2yrs)



Successive seasons of near to above average rainfall in most parts of Somalia, low food prices and continued humanitarian response have brought down the number of people experiencing food security crisis across the country substantially from its peak of 4 million during the 2011 famine. However, latest assessment findings indicate that the number of people facing acute food security crisis has shown no further improvement since August 2013, exacerbated by rainfall deficit, conflict, floods and cyclone. Acute malnutrition also continues to persist especially in the country's south, with tens of thousands of children facing increased risk of death.

An estimated 857,000 people will be in Crisis and Emergency (IPC Phases 3 and 4)³ requiring urgent humanitarian assistance over the next six month period according to a joint assessment report by the Food Security and Nutrition Analysis Unit for Somalia (FSNAU), a project managed by UN's Food and Agriculture Organization (FAO), and the Famine Early Warning Systems Network (FEWS NET), a project funded by the United States Agency for International Development (USAID). The recent figures represent an **18** percent decline compared to the figures for January 2013 but a mere **1.5** percent decline compared to August 2013. The positive impact of increased livestock prices, increasing livestock herd sizes, improved milk availability, low prices of both local and imported staple food commodities, higher purchasing power from labour income and livestock sales as well as sustained humanitarian interventions over the last six months was undermined by a nearly 20 percent decline in the *Deyr* 2013 cereal harvest compared to the long-term and five-year averages.

The food security condition of over 2 million additional people also remains fragile and is classified as Stressed (IPC Phase 2). This group of households are barely able to meet their own minimal food requirement through

³ The Integrated Food Security Phase Classification (IPC) is a set of analytical tools, and processes, to analyse and classify the severity of a food security situation according to scientific international standards into a five-point scale: IPC Phase 1=Minimal; Phase 2=Stressed; Phase 3=Crisis; Phase 4=Emergency; and Phase 5=Famine.

mid-2014, and they remain highly vulnerable to major shocks that could push them back to food security crisis until their resilience levels are substantially strengthened.

IDPs continue to constitute a majority (74%) of the 857,000 people in Crisis and Emergency (IPC Phases 3 and 4). The challenge faced by IDPs includes reliance on marginal and often unreliable livelihood strategies, poor living and sanitary conditions. Populations experiencing acute food security crisis (IPC Phases 3 & 4) are also found in large numbers in mostly rural and some urban areas in Sanaag, Sool, Bari, Nugaal, North and South Mudug, Galgaduud, Hiran, and Middle Shabelle as well as Middle and Lower Juba regions. Other areas (mostly in South and Central Somalia) that have in the past experienced repeated food security crises and persistently high levels of acute malnutrition also remain a major concern.

Hotspots for Acute Malnutrition in Somalia

The current hotspots for acute malnutrition are summarized in Table 8

Projected Nutrition Outlook: February to April 2014

The nutrition situation outlook for February to April 2014 is inferred from the current estimates of the nutritional situation, seasonal trends, historical disease patterns, and projected food security trends for February to June 2014 (Map). In general, the current nutrition situation is likely to remain stable across the country in the coming three months with exception of the following;

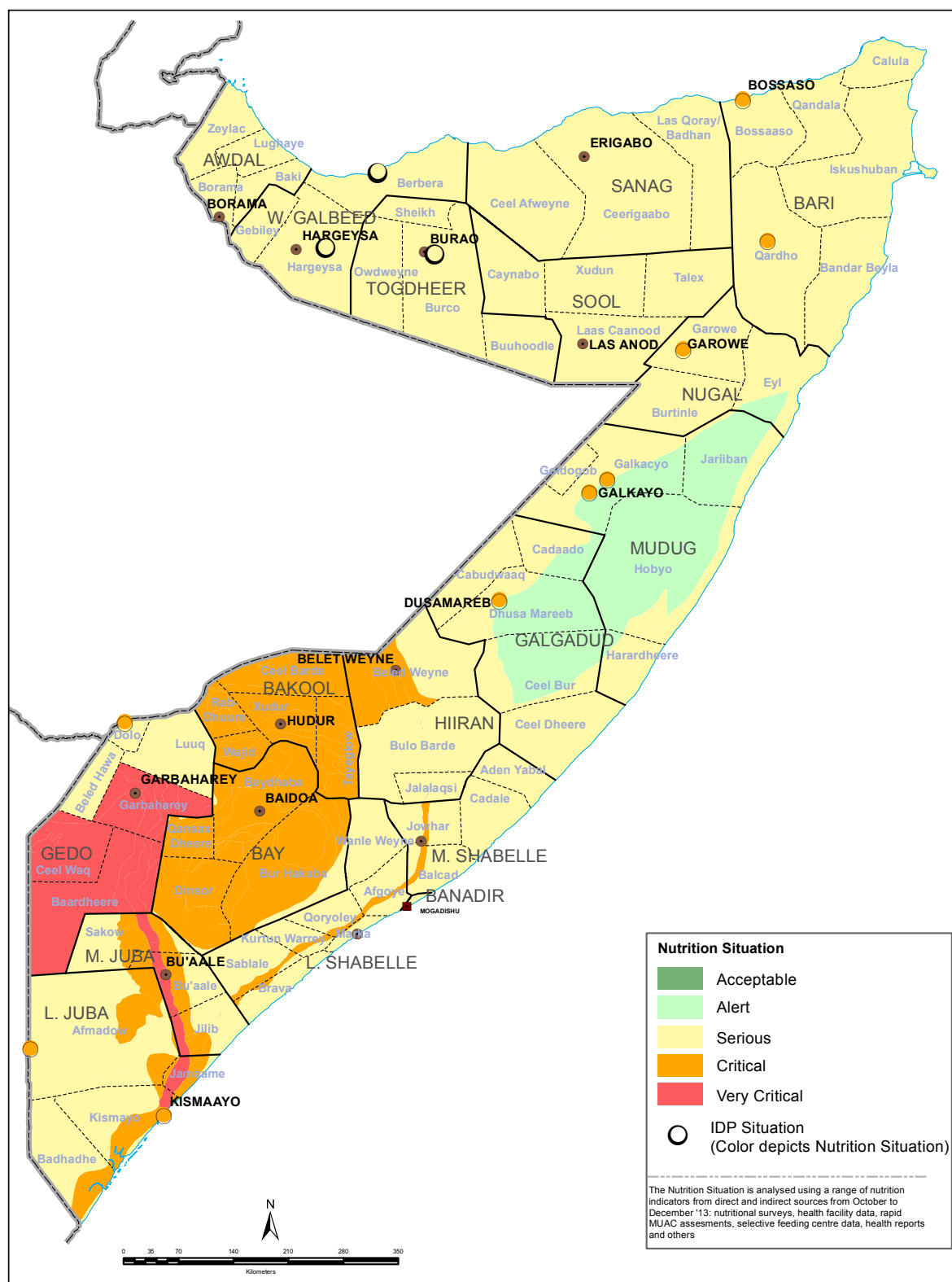
Northwest Agro-pastoral and Sool plateau is likely to deteriorate from current Alert phase to Serious. The expected deterioration among the Agro-pastoral is linked to the below average crop production in Deyr 2013 and reduced cereal stocks which will affect food access. In Sool plateau the deterioration will likely be due to dry Jilaal seasonal factors: reduced water and pasture availability which affects livestock body condition and production and thus a decline in food security situation especially reduced household milk access. Seasonal trends suggest an improvement is likely in Berbera IDPs. Current nutrition situation seen in North East is expected to be sustained from February- April 2014 except deterioration is expected in Sool plateau which cuts across NW and NE regions and Bossaso IDPs because of seasonal changes.

In South Somalia, Serious to Critical situation seen in Deyr 2013/14 among IDPs and rural populations is expected to be sustained from February – April 2014. Even the improvements seen in nutrition situation in Bay, Bakool, North Gedo, Juba Pastoral in Deyr 2013 are expected to be sustained.

**Table 10: Current Malnutrition Hotspots in Somalia:
GAM>15% or GAM- MUAC >8 % or SAM-MUAC>2%**

South	Central	North East	North West
Kismayo IDP Dolow IDPs Dobley IDPs Baidaoa IDPs Mogadishu IDPs Bay Agro pastoral Bakool Pastoral Beletweyne M Shabelle Riverine S Gedo Pastoral S Gedo Agro-pastoral S Gedo Riverine Juba Agro pastoral Juba Riverine	Dhusamreeb IDP's	Qardho IDPs Garowe IDPs Galkayo IDP's Bossaso IDPs	Berbera IDPs West Golis/Guban

Map 4: Somalia Estimated Nutrition situation Feb-Apr, 2014



Conclusion

FSNAU anthropometric surveys conducted biannually provide information about the nature and levels of under nutrition across Somalia. Deyr 2013/14 assessment across all regions of Somalia suggests that high levels of acute malnutrition persist in many parts of the country. Children in Somalia are at substantial increased *risk of* severe acute malnutrition and this requires serious attention paid to SAM. Most vulnerable children (< 5 yrs) are located in South Somalia and in IDP settlements. Even though current child mortality rates are in the acceptable range, many of those already undernourished are often susceptible to disease and this is reflected in high prevalence of morbidity. High prevalence of chronic malnutrition and underweight in livelihoods with high acute malnutrition reflect underlying nutritional vulnerability: food insecurity and poverty

Infants and young children (< 24 months) are the most vulnerable as they require extra nutrition for growth and development, have comparatively limited energy reserves and depend on others. Malnutrition occurs as a consequence of insufficient food consumption and the repeated bouts of infectious diseases. Other factors are just as important, such as failure to breastfeed exclusively, lack of education and information about good or adequate nutrition, and the cost of nutritious food.

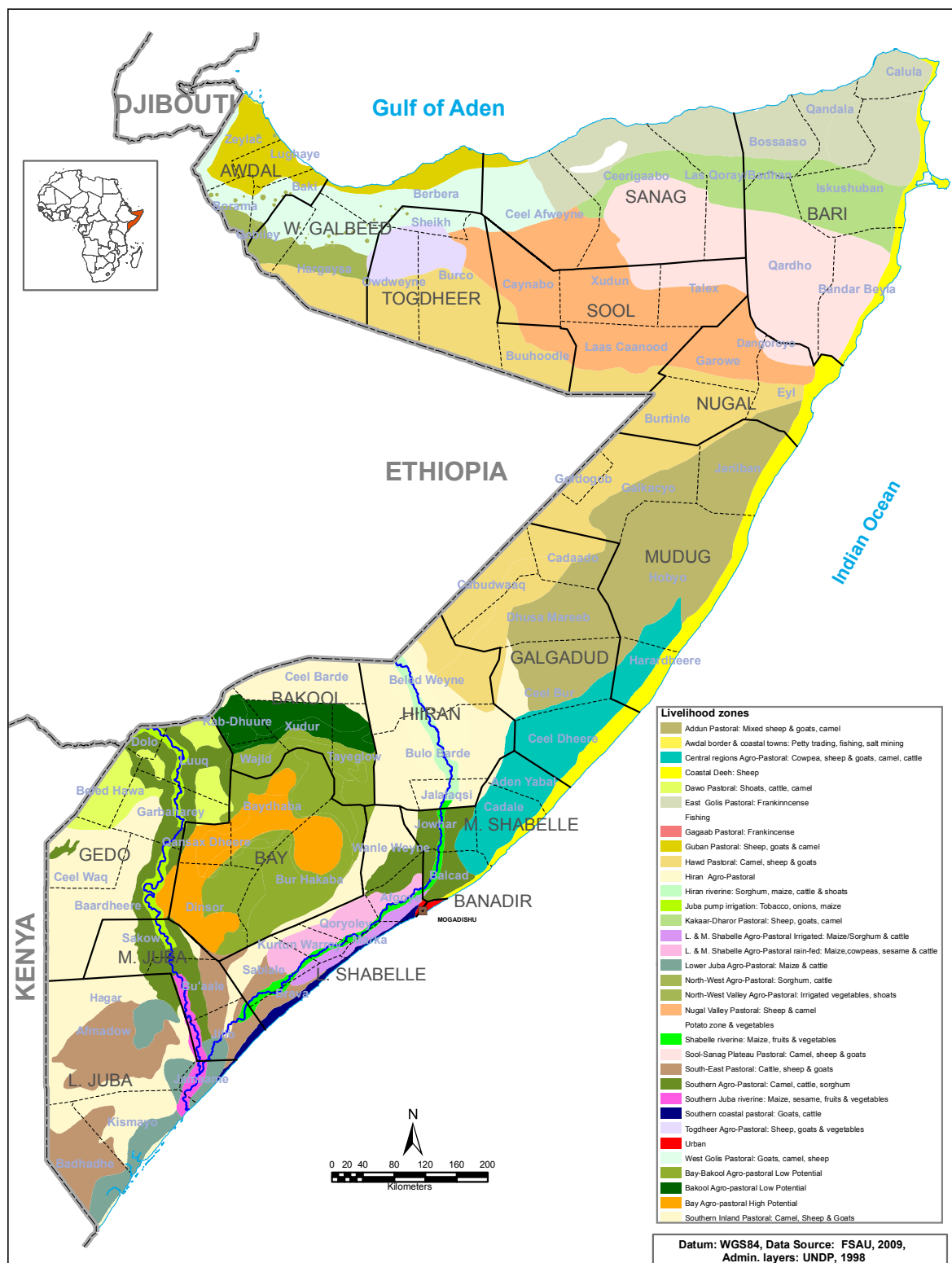
Recommendations

- A Serious-Critical level of acute malnutrition in Somalia presents a more immediate and potentially reversible public health problem, its management or treatment should be prioritised. Treatment of SAM and MAM must become more central to the health care agenda.
- Existing nutrition programs should be expanded to reach more children with special emphasis on the community component (MUAC screening and referral).
- The MAM supplementary feeding programme should be expanded to all fixed and outreach health service delivery sites providing management of SAM.
- Households with acutely malnourished children should be supported through integrated programmes including health and nutrition education and improved access to safe water and sanitation
- Marked reductions in current child malnutrition and, indeed, future cases of acute malnutrition can be achieved through improvements in women's nutrition before and during pregnancy, early and exclusive breastfeeding, and good-quality complementary feeding for infants and young children, with appropriate micronutrient interventions
- Poor access to health services and low rate of immunization suggests a need to undertake wide coverage community campaigns to deliver a minimum package of routine vaccinations, Vitamin A and micronutrient supplementation, and deworming.
- Malnutrition prevention efforts should target the younger age group 6-24 months
- MOH should establish a robust nutrition information monitoring system in the hot spots of acute malnutrition to closely monitor the situation and galvanize delivery of a timely response.

4: REGIONAL NUTRITION ASSESSMENT

FSNAU conducted 40 nutrition surveys and assessed nutrition status of 27,581 children (6-59 months) drawn from different livelihood zones in Somalia (20 in South, 5 in Central, 8 in Northeast and 7 in Northwest). Out of the total 27 nutrition surveys were done among rural populations and 13 among IDPs. The samples for nutrition surveys was done on the basis of regional boundaries and livelihood zones (Map 5).

Map 5: Somalia Livelihood Zones



4.1 NORTHWEST REGIONS

FSNAU conducted 9 nutrition surveys (three IDP and six Rural livelihoods) in North West region of Somalia and assessed nutrition status of 5,140, children aged 6-59 month old (2755 boys and 2447 girls) from 2,623 households. Comprehensive assessment (nutrition and food security) were conducted in IDPs but in four livelihoods nutrition situation was assessed through representative MUAC surveys.

The food security situation of the population at the time of survey in areas where nutrition assessments were done is summarized in Table 10. Food security was reported as **stressed** in rural livelihoods while among IDPs, crisis situation exists. Access to food was reported as borderline, but adequate to meet food consumption requirements. Rainfall was reported as normal but agro pastoral livelihood reported below average crop production and reduction in cereal stocks.

Table 11: Summary of Food Security Situation in Northwest Region

POPULATION ASSESSED	FOOD ACCESS	FOOD SECURITY	RAINFALL	AGGRAVATING FACTORS	REMARKS
Nugal Valley	Borderline adequate to meet food consumption requirements	Stressed	Normal	Below Baseline assets (small ruminant), Poor households have debt in the range of 55 to 234 US\$, Limited social services and poor infrastructure, High morbidity	Stable
Sool Plateau		Stressed	Normal		Stable
Hawd		Stressed	Normal		Stable
West Golis		Stressed	Normal		Stable
East Golis		Stressed	Normal		Stable
Agropastoral	Cereal purchase and food aid	Stressed	Normal	Below average crop production, Reduced cereal stocks	Stable
Hargeisa Idp		Crisis	Normal	Poor environmental sanitation	Stable
Berbera Idp		Crisis	Normal		Stable
Burao Idp		Crisis	Normal		Stable

CURRENT FOOD SECURITY SITUATION POST DEYR 2013/14

The FSNAU Post Deyr 2013/14 integrated food security analysis indicate a **Stressed** (IPC Phase 2) Food security situation in the six major rural livelihoods (West Golis/Guban, East Golis, Hawd, Sool plateau, Nugal Valley and Agro-pastoral) in Northwest region (Map 6). This reflect a stable food security level since Gu 2013 when similar situation was recorded. The stability of food security situation in Northwest regions is attributed to moderate to good rains which improved pasture and water availability, average to good milk production in most livelihoods, increased income from sale of livestock and frankincense (East Golis), high ToT for goat to rice and substantial humanitarian response in the last 6 months of the year 2013.

NUTRITION TRENDS IN NORTHWEST

For the last seven years, the median GAM rates in Northwest regions has ranged from 9.0 to 16.5 percent while the median SAM rate has ranged from 0.95 to 3.8 percent. Overall, the level of acute malnutrition in Northwest region has shown an improving trend since 2012 as indicated in the trend chart (Figure 13).

Map 6: Northwest Food Security Situation (Post Deyr 2013/14)

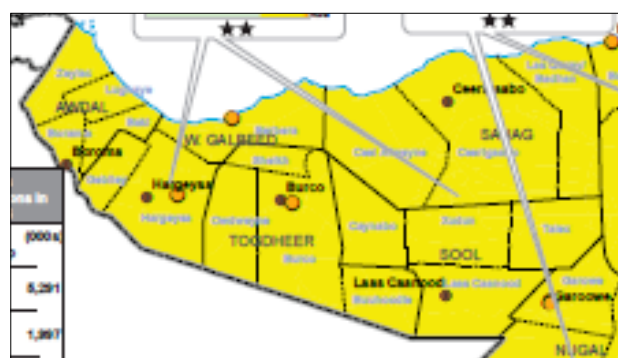
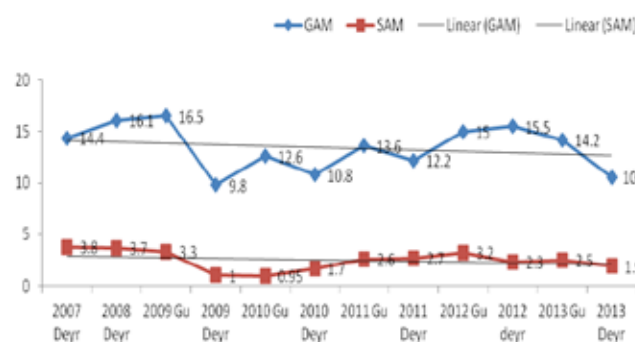


Figure 12: GAM and SAM trends in NW Somalia Gu 2007-Deyr 2013



DEYR 2013 SURVEY RESULTS

The results of the current *Deyr* 2013 nutrition assessments done in North West Somalia are summarized in Tables 13 and 14. Key highlights are discussed below:

Acute Malnutrition

Based on the 5 WFH comprehensive assessments conducted in Northwest regions, median GAM rate of 10.6 percent and SAM rate of 1.9 percent was observed. This is lower than the median GAM rate of 11.4 percent but higher than the SAM rate of 1.7 percent observed in *Gu* 2013. More boys than girls were acutely malnourished but the difference was not statistically significant.

Levels of Acute malnutrition from the nine assessed population groups (three IDPs and six livelihoods) in Northwest regions show a generally stable situation and ranges from **Alert** in Sool plateau and Agro-pastoral to **Serious** in the other livelihoods. The only exception is Berbera IDP where **Critical** level of malnutrition was recorded. The change in prevalence of acute malnutrition in *Deyr* 2013/14 is compared to the situation in *Gu* 2013 as well as *Deyr* 2012/13 (Anexx 6.7) is discussed below:

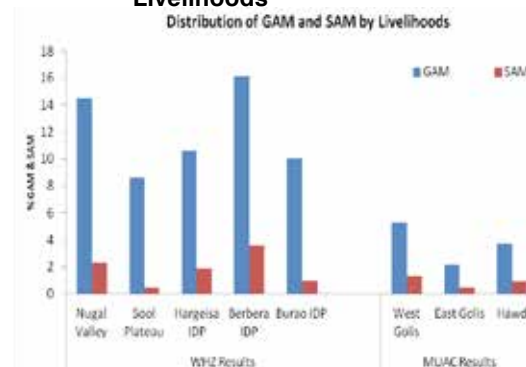
- **Hargeisa IDP** settlement recorded a GAM rate of 10.6 percent and SAM rate of 1.9 percent indicating a **Serious** nutrition situation which is an **improvement** when compared with GAM rate of 18.2 percent recorded in *Gu* 2013 but a stable situation when compared with GAM rate of 10.9 percent recorded in *Deyr* 2012. The improvement is linked to the continued improvement of the humanitarian support in these settlements.
- **Berbera IDP** settlement recorded a GAM rate of 16.1 percent and SAM rate of 3.6 percent indicating a **Critical** nutrition situation which is a **deterioration** when compared with a Serious levels (GAM rate of 10.8 percent) recorded in *Gu* 2013 but a stable situation when compared with GAM rate of 19.9 percent recorded in *Deyr* 2012. The deterioration is partly linked to poor child feeding practices, for example, only 0.4 percent of children under age of two years were consuming diversified diet comprised of 4 or more food groups.
- **Burao IDP** settlement recorded a GAM rate of 10.0 percent and SAM rate of 1.0 percent indicating a **Serious** nutrition situation reflecting a **stable situation** when compared with GAM rate of 14.2 percent recorded in *Gu* 2013 but a an improvement when compared Critical levels recorded in *Deyr* 2012 (GAM rate of 10.9 percent)
- **Sool plateau** livelihood recorded a GAM rate of 8.6 percent and SAM rate of 0.5 percent indicating an **Alert** nutrition situation which is an **improvement** when compared with Serious levels, GAM rate of 10.8 percent recorded in *Gu* 2013 but a stable situation when compared with GAM rate of 8.4 percent recorded in *Deyr* 2012.
- **Nugal Valley** pastoral livelihood recorded a GAM rate of 14.5 percent and SAM rate of 2.3 percent indicating a **Serious** nutrition situation which reflect a **stable** nutrition situation when compared with GAM rates of <15 percent recorded in both *Gu* 2013 and *Deyr* 2012.

Analysis of the distribution of the cases of acute malnutrition between young children aged 6-23 months and those aged 24-59 months show that children aged two years and above were more likely to be acutely malnourished ($p < 0.05$). However, for the four livelihoods where MUAC assessments was conducted, analysis showed that significantly higher number of younger children (6-23 months) than older children (24-59 months) were acutely malnourished ($MUAC < 12.5$ cm).

Table 12: Distribution of Malnutrition and Morbidity by age groups

Age (months)	GAM	SAM	Stunting	Underweight	Morbidity
6-23-(N=977)	8.2	2.1	7.7	8.9	31.3
24-59 (N=1974)	14.1	2.3	2.5	4.6	18.9
	GAM-MUAC	SAM-MUAC			
6-23-(N=827)	7.6	1.8	NA	NA	39.2
24-59 (N=1362)	0.9	0.1	NA	NA	23.5

Figure 13: Distribution of GAM and SAM by Livelihoods



Further analysis showed that significantly higher number ($P<0.05$) of younger children (6-23 months) than older children (24-59 months) were stunted, underweight and been sick two weeks prior to the assessments (Table 12).

Representative MUAC assessments conducted in the West Golis, Hawd and East Golis pastoral livelihoods in Northwest recorded a GAM-MUAC ($MUAC<12.5$ cm) rate of >5.6 percent which when analysed in the context of the previous seasonal assessments where both WFH and MUAC data was collected reflect a likely stable **Serious** nutrition situation. MUAC assessment in the Agro-pastoral population recorded GAM-MUAC rate of 2.4 percent which reflect an **Alert** nutrition situation similar to the situation in *Gu* 2013.

Stunting and Underweight

Low prevalence of stunting and underweight is seen in the assessed population groups of Northwest regions exception being Berbera IDP where medium rates of underweight prevalence (12%) was noted. Stable nutrition situation is also suggested by no change in the prevalence of both underweight and stunting since *Gu* 2013 assessments (Table 13).

Table 13: Distribution of Stunting, Underweight and Mortality rates by Livelihoods in Northwest

Population assessed	Stunted	Underweight	Crude Death Rate	U5DR
Thresholds used	< 20- low	< 10-low 10-19.9-medium	<0.5 acceptable	< 1 acceptable
Hargeisa IDPs	7.1	8.6	0.2	0.6
Burao IDPs	2.8	3.7	0.2	0.4
Berbera IDPs	6.1	12.0	0.2	0.4
Nugal Valley	1.6	2.6	0.1	0.3

Mortality

The Crude and Under Five Death rates in the five assessed population groups in Northwest regions are within the **Acceptable** WHO/UNICEF levels of <0.5 and <1/10,000/day, respectively. This reflect a stable mortality levels since *Gu* 2013 (Annex 6.10).

Morbidity

Morbidity levels in the rural livelihoods of Northwest regions is high and ranges from 24.4 percent among the Agro-pastoral to 39 percent in Nugal Valley. In the IDP settlements, morbidity is equally high but relatively lower than in the rural population ranging from 9.8 percent in Berbera IDP to 19.9 percent in Hargeisa IDP settlements. Similar high levels (>20%) of morbidity was observed in *Gu* 2013, however in East Golis Agro-pastoral and Hawd pastoral population the levels morbidity has increased significantly between the two seasons.

Immunization

The reported Vitamin A supplementation, measles vaccination and Polio immunization (by recall) in the Sool plateau, Nugal Valley and the three IDP settlements in Northwest is generally high (>70%) in most populations assessed though this is below the SPHERE recommended coverage of 95 percent.

Maternal malnutrition

The levels of maternal malnutrition among the pregnant and lactating women in Sool Plateau of 11.2 percent and 13.8 percent indicate an **Alert** situation while malnutrition levels among the three IDP population in Northwest is Acceptable (<9.5 percent).

Dietary diversification

Household dietary diversity measured as the proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Gu* 2013 and *Deyr* 2013/14 seasons, however milk access and consumption has improved in *Deyr* 2013/14 season. Improved milk access and consumption is a key mitigating factor to malnutrition.

A Case study on barriers to optimal breastfeeding, in Hargeisa IDP camp

Infant and young child feeding practices (IYCFP) directly affect the nutritional status of children under two years of age and ultimately impact on their health and survival (Bhutta et al., 2008; Brown, Dewey & Allen 1998, UNICEF 2009). Inappropriate child feeding is a major known cause of both acute and chronic malnutrition (stunting) among the children under the age of two years in developing countries. When stunting occurs during pregnancy and in the first two years of life, it causes damages to physical growth, brain development, and human capital formation that are extensive and largely irreversible¹. There are various barriers to optimal child feeding which ranges from lack of knowledge, cultural reasons etc. The case study below highlights some of the reasons for poor breastfeeding practices in Somalia

Nimo* aged 22 years has been staying in State House IDP camp in Hargeisa for the last three years with her husband and four children. Her husband, Mohamed who is the sole bread winner for the household works as a cleaner in a local restaurant in Hargeisa town.

Her four children were born in closely spaced interval and at the time of the interview they were aged 61, 36, 25 and 15 months. This showed that Nimo has been getting a child per year for the last four years. At the time of the interview, Nimo further confirmed that she was eight months pregnant.

Breastfeeding practices: Asked about the average duration of breastfeeding for her four children, her response was 'I have been breastfeeding my children for six to eight months and then stop'. When probed on the duration of the breastfeeding for the youngest, Nimo recalled that she stopped breastfeeding Abdi, when he was only six months old.



Nimo and Her Children

Reasons for early stoppage of breastfeeding: When asked why she breastfeed for that short period, she explained that she always stop breastfeeding her children the moment she realizes that she is pregnant. On why she doesn't continue breastfeeding during pregnancy, she had this to say "when you breastfeed during pregnancy, the child will become sick and start having diarrhoea and .in addition the baby in the womb will be equally affected and can have some form of disability if you continue breastfeeding".

Complementary feeding: Nimo further explained that she feeds her children for three times in a day and a 24-hour dietary recall showed that her diet and that of her children was predominantly comprised of cereals, oil, sugar and miscellaneous food items such as coffee and tea. This shows that the food is inadequate in both quality and quantity to meet nutritional needs of both the mother and the children.

Poor child feeding can affect the health and nutrition status of the children. Anthropometric screening of Nimo's four children showed that Abdi, the youngest child aged 15 months was acutely malnourished ($WHZ < -2$) and was both severely stunted ($HAZ < -3$) and underweight ($WAZ < -3$). The poor nutrition status could be linked to the poor child feeding practices.

¹ World Bank, 2006. Repositioning Nutrition as Central to Development: A Strategy for Large-Scale Action
• Nimo not her real name

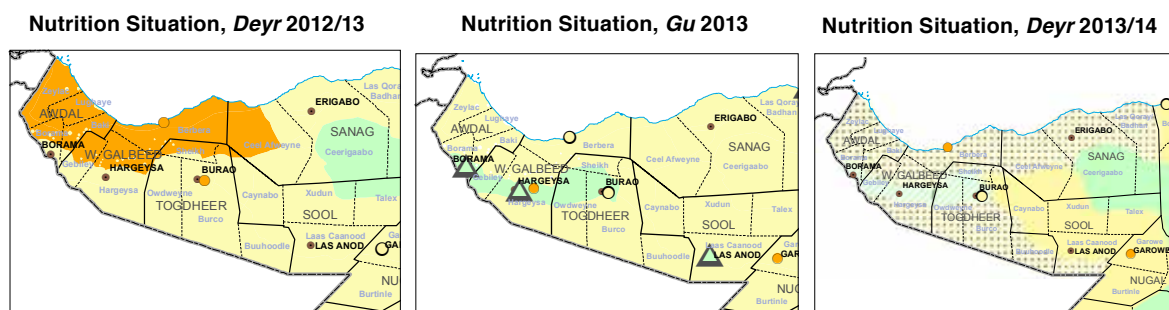
Infant and young child feeding

Infant and young child feeding in terms of continued breastfeeding for up to one year and 24 months, child dietary diversity and frequency of complementary feeding remain sub-optimal in all the assessed population groups. Majority (>78%) of the assessed children were not breastfed up to the recommended 24 months. Dietary diversity was poor where only 0.4 to 20.2 percent were reportedly consuming food from four or more food groups while as many as 89 percent of children in Berbera IDPs were not given complementary food on the recommended frequency which varies with age and breastfeeding status.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr* 2012 to *Deyr* 2013. The nutrition situation among the urban, IDPs and Rural livelihoods in Northwest regions have for the last twelve months (*Deyr* 2012 to *Deyr* 2013) ranged between **Alert** to **Critical** levels. The nutrition situation has largely been influenced by food security factors particularly access to milk among the predominantly pastoral communities and morbidity patterns. The improvement recorded in West Golis/Guban, Sool Plateau and Agro-pastoral livelihoods is attributable to improved household milk access (Figure 14).

Figure 15: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14 in Northwest



HOT SPOT FOR ACUTE MALNUTRITION IN NORTH WEST SOMALIA

Hargeisa IDPs with GAM rate of <15 percent and West Golis with SAM-MUAC of <2 percent are current hotspots for acute malnutrition in Somaliland requiring immediate interventions to both treat the acutely malnourished children and to prevent further deterioration of the nutrition situation.

OUTLOOK FOR FEBRUARY- APRIL 2014

The nutrition situation in Somaliland is largely expected to remain **stable** in the coming three months with exception of the Agro-pastoral and Sool Plateau which is expected to marginally deteriorate to **Serious** levels in line with season trends and below average crop production and reduced cereal stocks recorded in *Deyr* season among the Agro-pastoral population. The maps below show current and projected **Serious** nutrition situation across livelihoods in Somaliland. The current Stressed food security situation in Northwest regions is similarly projected to remain stable up to June 2014.

Figure 15: Nutrition Situation Outlook *Deyr* 2013/14 to April 2014

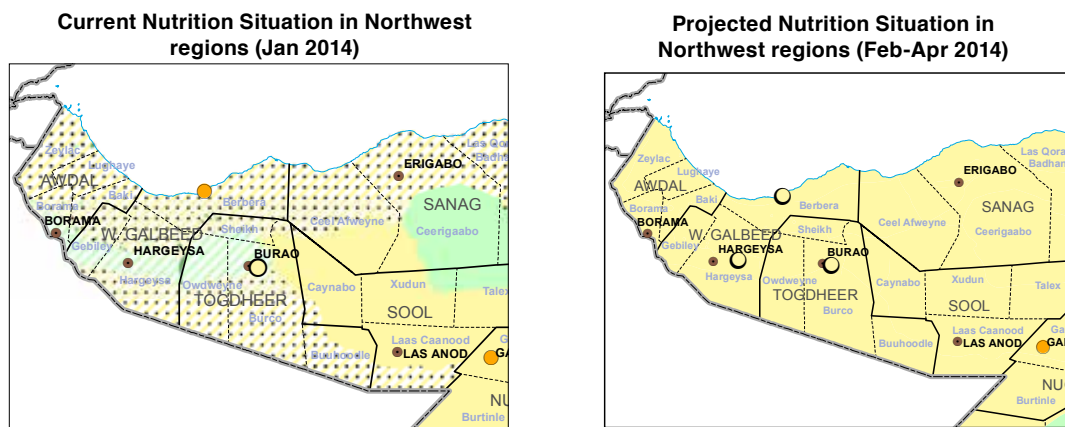


Table 14: Summary of Key Nutrition Findings: Northwest IDPs and Rural Livelihoods from Gu 2013

	Hargeisa IDPs			Burao IDP's			Berbera IDPs			Sool Plateau Clusters 32			Nugal Valley Clusters :35		
	Clusters :30 (N=574: Boys=292; Girls=282)			Clusters:32 (N=619:Boys=315; Girls=304)			Clusters:28 (N=528:Boys=268; Girls=262)			N=613; Boys=331; Girls=282			(N=622:Boys=330; Girls=222)		
indicator	% (CI)			% (CI)			% (CI)			% (CI)			% (CI)		
Child Nutrition Status															
Global Acute Malnutrition (WHZ<-2 or oedema)	10.6 (7.6-14.6)	Improved		10.0 (7.3-13.7)	Sustained		16.1(12.7-20.2)	deteriorated		8.6 (6.1-12.1)	Improved		14.5 (11.2-18.5)	Sustained	
Boys	9.9 (6.5-14.8)			11.0 (7.1-16.5)			16.9(12.3-22.8)			11.7 (8.1-16.4)			14.7 (10.9-19.5)		
Girls	11.4 (7.7-16.4)			9.1 (6.5-13.2)			15.3(11.2-20.5)			5.1 (2.7-9.1)			14.3 (9.7-20.5)		
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.9(0.8-4.6)	Sustained		1.0(0.5 -2.0)	Sustained		3.6(2.1- 6.1)	deteriorated		0.5 (0.2-1.5)	Sustained		2.3 (1.2-4.3)	Sustained	
Boys	1.8(0.6-4.8)			1.3 (0.5-3.3)			3.8(1.8- 8.1)			0.6 (0.2-2.4)			2.8 (1.2-6.4)		
Girls	2.1(0.7-5.9)			0.7 (0.2-2.7)			3.4(1.9- 6.0)			0.4 (0.0-2.7)			1.7 (0.7-4.1)		
Mean of Weight for Height Z Scores	-0.66±1.08	Improved		-0.50±1.15	Improved		-0.97 ± 1.06	Sustained		-0.50±1.09	Sustained		-0.72±1.12	deteriorated	
Oedema	0.2	deteriorated		0.0	Sustained		0.0	Sustained		0.0	Sustained		0.0	Sustained	
Proportion with MUAC<12.5 cm or oedema)	4.6 (2.8-7.5)	Improved		3.1 (1.8-5.1)	Sustained		7.2(5.1-10.0)	deteriorated		1.8 (1.0-3.2)	Improved		1.9 (1.0-3.8)	Improved	
Boys	4.2 (2.0-8.3)			3.2 (1.4-7.3)			6.1(3.7- 9.9)			2.1 (0.9-4.8)			1.5 (0.6-3.5)		
Girls	5.1 (2.8-9.0)			3.0 (1.5-5.7)			8.3(5.6-12.1)			1.4 (0.6-3.6)			2.4 (1.0-5.4)		
Proportion with MUAC<11.5 cm or oedema	0.9 (0.3-2.5)	Improved		0.6 (0.2-1.7)	Sustained		2.3(1.2- 4.2)	deteriorated		0.2 (0.0-1.2)	Sustained		0.5 (0.2-1.5)	Sustained	
Boys	1.0 (0.3-3.2)			0.3 (0.0-2.4)			2.7(1.2- 5.8)			0.0			0.6 (0.1-2.5)		
Girls	0.7 (0.2-3.0)			1.0 (0.3-3.2)			1.9(0.8- 4.3)			0.4 (0.0-2.6)			0.3 (0.0-2.6)		
Stunting (HAZ<-2)	7.1 (3.7-12.9)	Sustained		2.8 (1.5-5.1)	Sustained		6.1(3.8- 9.7)	Sustained		2.0 (1.1-3.6)	Sustained		1.6 (1.0-2.7)	Sustained	
Boys	8.3 (4.5-14.8)			3.8 (2.2-6.6)			5.0(2.7- 9.1)			2.8 (1.5-5.2)			1.2 (0.5-3.0)		
Girls	5.8 (2.7-11.7)			1.6 (0.5-5.8)			7.2(4.0-12.6)			1.1 (0.4-3.2)			2.1 (0.9-4.4)		
Severe Stunting (HAZ<-3)	1.6 (0.7-3.8)			0.5 (0.2-1.5)			0.8(0.3- 2.0)			0.5 90.2-1.5)			0.3 (0.1-1.3)		
Boys	2.1 (0.7-5.8)			1.0 (0.3-2.9)			0.8(0.2- 3.2)			0.6 (0.1-2.5)			0.3 (0.0-2.3)		
Girls	1.1 (0.3-3.4)			0.0			0.8(0.2- 3.0)			0.4 (0.0-2.6)			0.3 (0.0-2.6)		
Underweight (WAZ<-2)	8.6 (5.3-13.7)	Improved		3.7 (2.3-6.1)	Sustained		12.0(9.2-15.6)	deteriorated		2.9 (1.7-4.90)	Sustained		2.6 (1.3-5.1)	Sustained	
Boys	7.9 (4.3-14.0)			4.4 (2.6-7.6)			12.7(9.4-16.9)			3.3 (1.9-5.8)			3.3 (1.5-7.1)		
Girls	9.3 (5.6-15.0)			3.0 (1.5-5.8)			11.4(7.9-16.1)			2.5 91.0-5.90			1.7 (0.7-4.0)		
Death Rates															
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.21(0.10-0.45)	Sustained		0.19(0.08-0.45)	Sustained		0.22(0.09-0.54)	Sustained		0.19 (0.07-0.51)	Sustained		0.13 (0.05-0.35)	Sustained	
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.55(0.18-1.68)	Sustained		0.35(0.09-1.44)	Sustained		0.41(0.10-1.64)	Sustained		0.30 (0.07-1.22)	Sustained		0.29 (0.07-1.21)	Sustained	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	(0.0)			1.3 (0.0-3.0)			1.1 (0.0-3.4)			4.3 (0.5-8.2)			6.9 (0.5-13.3)		
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	8.0 (2.5—13.5)	Sustained		5.7 (2.0-9.4)	Sustained		6.8(0.0-13.9)	Sustained		11.2 (4.2-18.1)	Sustained		13.8 (5.0-22.7)	Sustained	

Summary of Key Nutrition Findings: Northwest IDPs and Rural Livelihoods and change from Gu 2013

Child Morbidity & Immunization	Underlying & Risk Factors				
Morbidity	19.9 (10.9-28.9)	13.6 (8.3-18.8)	9.8(6.4-13.3)	31.0 (24.1-37.8)	39.0 (29.5-48.4)
Boys	18.2 (9.7-26.6)	12.7 (7.4-18.0)	9.1(4.1-14.2)	30.8 (23.6-38.0)	37.0 (26.4-47.6)
Girls	21.6 (9.7-33.6)	14.5 (8.2-20.8)	10.6(6.6-14.5)	31.2 (22.3-40.1)	41.2 (30.9-51.6)
	Hargeisa IDPs	Burao IDPs	Berbera IDPs	Sool Plateau	Nugal Valley
Fever	13.8 (5.8-21.7)	6.9 (3.2-10.6)	5.7(3.3-8.1)	18.4 (12.7-24.1)	28.7 (20.4-37.0)
Boys	12.7(5.7-19.6)	7.3 (3.2-11.4)	3.8(1.1-6.5)	19.0 (12.4-25.6)	25.8 (17.5-34.0)
Girls	14.9 (4.8-25.0)	6.5 (2.2-10.9)	7.5(3.9-11.2)	17.7 (11.0-24.5)	32.0 (21.7-42.2)
Measles	1.4 (0.0-2.8)	3.9 (0.8-7.0)	0.8(0.0-1.5)	2.8 (0.7-4.8)	2.9 (1.1-3.7)
Boys	0.7 (0.0-1.7)	4.1 (0.5-7.7)	0.8(0.0-1.8)	3.9 (1.3-6.6)	3.6 (1.6-5.7)
Girls	2.1 (0.0-4.5)	3.6 (0.5-6.8)	0.8(0.0-1.8)	1.4 (0.0-3.1)	2.1 (0.0-4.1)
VitaminA Supplementation	58.3 (42.6-74.1)	86.6 (78.9-94.3)	63.8(47.5-80.1)	76.5 (65.4-87.6)	85.0 (77.6-92.4)
Boys	60.3 (44.0-76.5)	85.7 (76.7-94.7)	59.3(42.0-76.6)	75.5 (64.3-86.7)	85.8 (79.2-92.3)
Girls	56.4 (40.1-72.6)	87.5(80.3-94.7)	68.3(52.5-84.1)	77.7 (66.0-87.6)	84.2 (75.1-93.2)
Measles Vaccination	52.6 (40.7-64.6)	75.4 (65.1-85.7)	54.4(40.0-68.7)	71.1 (60.9-81.4)	75.5 (66.1-85.0)
Boys	53.8 (40.1-67.4)	73.0 (62.0-84.0)	50.2(35.8-64.6)	72.8 (63.2-82.4)	75.5 (66.2-84.8)
Girls	48.0 (39.7-63.2)	78.0(67.1-88.8)	58.5(43.2-73.8)	69.1 (57.1-81.2)	75.6 (65.2-86.1)
Polio Immunization	88.0 (81.9-94.2)	78.0 (69.6 (86.5)	80.5(76.0-85.0)	94.9 (91.8-98.1)	71.3 (63.2-79.4)
Boys	88.0 (81.9-94.2)	76.2 (66.4-86.0)	80.6(75.0-86.2)	94.9 (81.8-98.1)	68.9 (60.5-77.0)
Girls	88.3 (93.0)	80 (71.7-88.2)	80.4(73.6-87.1)	95.0 (91.0-99.1)	74.2 (64.9-83.6)
Infant and Young Child Feeding (6-24 Months)	N=212	N=123	N=170	N=223	N=202
Proportion still breastfeeding	44.3 (36.4-52.2)	36.3 (27.0-46.0)	19.5(16.7-22.3)	51.2 (42.6-59.9)	50.5 (39.6-61.4)
Boys	46.9 (35.8-58.1)	36.0 (24.0-47.9)	19.0(14.9-23.1)	53.2 (40.9-65.6)	56.9 (43.8-69.9)
Girls	42.1 (31.5-52.7)	36.5 (27.0-46.0)	20.0(15.0-25.0)	48.9 (37.3-60.6)	43.0 (29.7-56.4)
Continued breastfeeding up to 12 months	N=46	N=22	N=46	N=53	N=41
	34.8 (17.7-51.9)	18.2 (0.6-35.8)	6.6(4.3-9.0)	42.3 (26.4-58.2)	41.5 (24.3-58.6)
	31.8 (11.0-54.6)	15.4 (0.0-37.7)		40.6 (20.8-60.5)	46.4 (23.1-69.8)
	37.5 (11.7-63.3)	22.2 (0.0-52.3)		45.0 (20.5-69.5)	30.8 (3.9-57.7)
Continued breastfeeding up to 24 months	N=52	N=29	N=34	N=36	N=41
	3.8 (0.0-9.5)	6.9 (0.0-21.0)	0.0	16.7 (3.4-30.0)	22.0 (4.7-39.2)
	4.8 (0.0-14.7)	7.7 (0.0-24.0)		13.3 (0.0-32.7)	17.6 (0.0-38.1)
	3.2 (0.0-10.0)	6.3 (0.0-19.0)		19.0 (1.5-36.6)	25.0 (4.6-45.4)
Proportion meeting recommended feeding frequencies	46.2 (37.8-54.7)	84.5 (76.4-92.6)	10.8(7.5-14.1)	78.3 (68.7-88.0)	63.9 (51.6-76.2)
Boys	45.9 (35.0-56.9)	89.3 (79.9-98.7)	10.6 (6.5-14.8)	80.7 (70.8-90.7)	67.0 (53.9-80.0)
Girls	46.5 (35.9-57.1)	80.6 (70.6-90.6)	10.9 (6.4-15.5)	75.5 (63.6-87.5)	60.2 (45.1-75.3)
Proportion who reported to have consumed ≥4 food groups	2.8 (0.7-4.9)	1.1 (0.0-2.7)	0.4(0.0-0.9)	20.2 (5.8-34.6)	14.9 (3.6-26.1)
	5.1 (0.9-9.3)	2.6 (0.0-6.0)	0.0 (0.0-0.0)	17.4 (3.2-31.6)	11.0 (2.3-19.7)
Boys	0.9 (0.0-2.7)	0.0	0.8(0.0-1.8)	23.4 ((4.7-42.1)	19.4 (3.4-35.2)
Girls					
Women Nutrition and Immunization Status	N=293	N=244	N=291	N=336	N=287
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	(0.0)	1.3 (0.0-3.0)	0.2(0.0-0.6)	4.3 (0.5-8.2)	6.9 (0.5-13.3)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	8.0 (2.5—13.5)	5.7 (2.0-9.4)	1.1(0.0-2.3)	11.2 (4.2-18.1)	13.8 (5.0-22.7)

Summary of Key Nutrition Findings: Northwest IDPs and Rural Livelihoods and change from Gu 2013

Proportion of Women who received Tetanus immunization					
No dose	4.4 (1.8-7.1)	18.0 (5.2-30.8)	48.9(45.1-52.6)	12.3 (7.3-17.4)	13.9 (5.4-22.50)
One dose	19.1 (8.4-29.9)	10.7 (3.8-17.5)	8.3 (2.7-14.0)	14.7 (10.8-18.6)	32.8 (21.8-43.7)
Two doses	34.5 (25.4-43.5)	40.2 (26.5-53.8)	18.6 (13.6-23.5)	29.4 (21.9-37.00)	31.0 (20.2-41.8)
Three doses	42.0 (30.2-53.7)	31.1 (18.6 -43.7)	24.2 (16.9-31.5)	43.5 (33.3-53.8)	22.3 (9.9-34.7)
Public Health Indicators	N=295	N=329	N=282	N=332	N=289
Household with access to sanitation facilities	93.2 (89.0-97.3)	82.7 (77.6-87.7)	39.6(36.9-42.3)	63.9 (50.2-77.4)	38.4 (24.6-52.2)
Household with access to safe water	100.0	98.0 (95.8-100)	38.8(36.4-41.2)	2.7 (0.0-5.50)	12.1 (2.7-21.5)
Proportion who reported to have consumed <4 food groups	7.9 (3.2-12.6)	5.6 (1.8-9.4)	61.9(58.5-65.4)	0.9 (0.0-1.9)	0.7 (0.0-1.7)
Household's Main Food Source-Purchase	95.9 (92.3-99.4)	89.8 (84.5-95.1)	40.5(37.6-43.5)	99.1 (97.2-101)	95.8 (91.3-100)
Mean CSI			8.4(0.0-1.2)		

Table 15: Summary of Key Nutrition Findings: Northwest Rural Livelihoods and change from Gu 2013

	West Golis		Hawd		Agro-pastoral		East Golis	
	Clusters :25		Clusters: 25		Clusters:25		Clusters:25	
	(N=550: Boys=283; Girls=267)		N=541 Boys=279; Girls=262		(N=546: Boys=298; Girls=248)		(N=550) Boys=302; 248	
Indicator	% (CI)		% (CI)		% (CI)		% (CI)	
Child Nutrition Status								
Proportion with MUAC<12.5 cm or oedema	5.3 (2.5-8.0)	Improved	3.7 (1.8-5.6)	Deteriorated	2.4 (0.6-4.1)	Deteriorated	2.2 (0.5-3.9)	Sustained
Boys	5.3 (0.3-10.3)		4.3 (1.0-7.6)		1.7 (0.3-3.1)		2.0 (0.5-3.5)	
Girls	5.2 (2.3-8.1)		3.1 (1.3-4.8)		3.2 (0.4-6.1)		2.4 (0.0-5.1)	
Proportion with MUAC<11.5 cm or oedema	1.3 (0.3-2.3)	Deteriorated	0.9 (0.1-1.7)	Sustained	0.2 (0.0-0.6)	Sustained	0.5 (0.0-1.2)	Sustained
Boys	0.7 (0.0-1.7)		0.7 (0.0-1.7)		0.0		0.3 (0.0-1.0)	
Girls	1.9 (0.0-3.8)		1.1 (0.0-2.4)		0.4 (0.0-1.2)		0.8 (0.0-1.9)	
Child Morbidity & Immunization								
Morbidity	34.4 (24.2-44.5)		29.6 (22.7-36.4)		24.4 (15.5-33.2)		29.5 (23.4-35.5)	
Boys	35.0 (22.6-47.4)		32.6 (24.6-40.7)		27.9 (16.5-39.2)		30.4(24.1-36.8)	
Girls	33.7 (24.7-42.8)		26.3 (19.3-33.2)		20.2 (13.0-27.3)		28.2 (20.5-36.0)	
Diarrhoea	17.5 (10.0-24.8)		14.2 (8.8-19.6)		13.6 (6.0-21.1)		15.5 (10.5-20.4)	
Boys	18.0 (9.2-26.8)		16.8 (10.3-23.4)		17.1 (6.7-27.5)		13.6 (8.8-18.4)	
Girls	16.9 (9.5 -24.3)		11.5 (6.0-16.9)		9.2 (4.3-14.3)		17.7 (11.1-24.4)	
Pneumonia	10.9 (4.7-17.0)		7.0 (4.5-9.5)		10.6 (6.1-15.2)		11.3 (7.6-15.0)	
Boys	12.7 (6.3-19.1)		5.4 (2.4-8.4)		12.1 (6.4-17.7)		12.9 (8.2-17.7)	
Girls	10.9 (4.7-17.0)		8.8 (5.5-12.0)		8.9 (4.0-13.7)		9.3 (5.1-13.5)	
Fever	28.9 (19.3-38.6)		23.1 (17.3-29.0)		15.9 (9.7-22.20)		13.6 (6.9-20.3)	
Boys	29.7 (17.5-41.9)		24.7 (18.3-31.1)		17.1 (9.7-24.5)		13.6 (5.9-21.2)	
Girls	28.1 (19.8-36.4)		21.3 (14.7-28.0)		14.5 (8.6-20.4)		13.7 (6.7-20.8)	
Measles	0.9 (0.1-1.7)		2.0 (0.0-4.0)		2.4 (0.3-4.5)		0.2 (0.0-0.6)	
Boys	0.7 (0.0-1.7)		1.8 (0.3-3.3)		2.7 (0.3-5.1)		0.0	
Girls	1.1 (0.0-2.4)		2.3 (0.0-5.6)		2.0 (0.0-4.1)		0.4 (0.0-1.2)	

4.2 NORTHEAST REGIONS

FSNAU conducted 10 nutrition surveys (four IDPs and six rural livelihoods) in North East region of Somalia and assessed nutrition status of 5 638, children aged 6-59 months old (3 372 boys and 3 166 girls) from 3 903 households. Comprehensive assessment (nutrition and food security) were conducted in all IDP settlements and rural livelihoods.

CURRENT FOOD SECURITY SITUATION (POST DEYR 2013/14)

The food security situation of the population at the time of survey in areas where nutrition assessments were done is summarized in Table 15. Rainfall was reported as normal to above normal in all the livelihoods except pockets in East Golis where below normal rainfall was reported. Food security was reported as stressed in rural livelihoods with the exception of the cyclone affected areas which was indicated as Crisis, while Crisis situation exists among IDPs. Access to food was reported as borderline, but adequate to meet food consumption requirements.

Table 16: Summary of Food Security Situation in Northeast

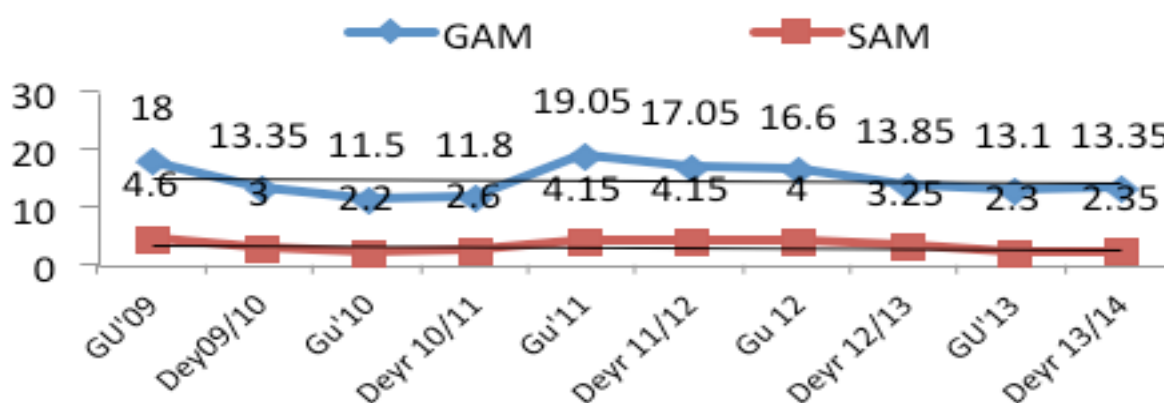
Population Assessed	Rainfall	Food Access	Food Security	Aggravating Factors	Comparison with Gu 2013
Nugal Valley	Normal	Borderline adequate to meet food consumption requirements	Stressed	Below Baseline assets (small ruminant), Poor households have debt and Limited social services and poor infrastructure, High morbidity	Stable
Sool Plateau	Above-Normal		Stressed but crisis in cyclone affected area		Deterioration in cyclone area
Hawd	Normal		Stressed		Stable
Addun	Normal		Stressed		Stable
East Golis	Normal		Stressed		Stable
Coastal Deeh	Above-Normal	Variable depends on the purchased food aid	Crisis	Poor	Deterioration in cyclone area
Bosaso IDP	Normal		Crisis		Stable
Galkacyo IDP	Normal		Crisis		Stable
Garowe IDP	Normal		Crisis		Stable
Qardho IDP	Normal		Crisis		Stable

The FSNAU Post Deyr 2013/14 integrated food security analysis indicate a **Stressed** (IPC Phase 2) food security situation in the six major rural livelihoods (East Golis, Karkaar/Dharoor, Addun, Hawd, Sool plateau, Nugal Valley and Coastal Deeh) in Northeast region, except the cyclone affected area of Sool plateau and Coastal Deeh, which was reported as Crises IPC Phase 3, 4. This reflect a stable overall food security trend since Gu 2013 when similar situation was recorded. The stability of food security situation in Northeast regions is attributed to normal to above normal rains which improved pasture and water availability, average to good milk production in most livelihoods, increased income from livestock sales, high terms of trade for goat to rice and substantial humanitarian response in the last 6 months of 2013.

ACUTE MALNUTRITION TRENDS

Acute malnutrition in Northeast region shows a declining trend since Gu 2012. Serious GAM levels are sustained since Deyr 2012/13.

Figure 16: Trends in Acute Malnutrition in Northeast Region of Somalia



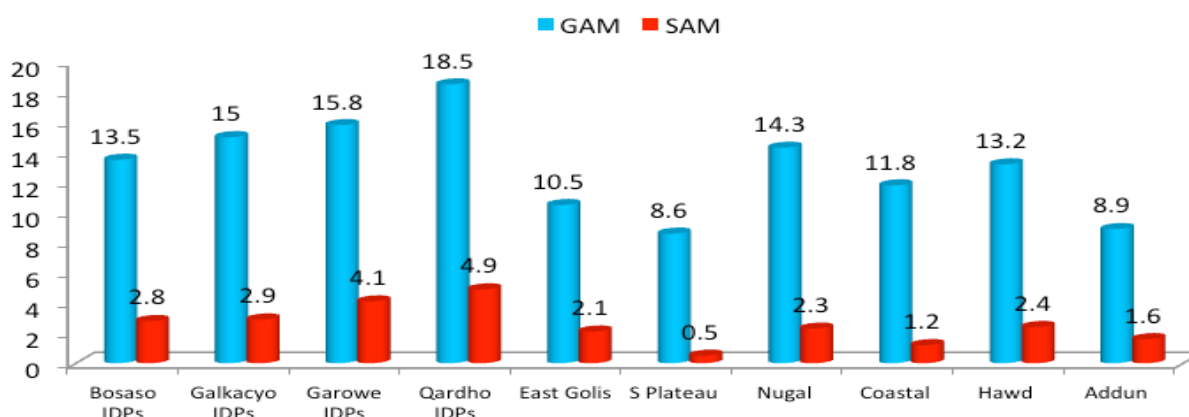
Deyr 2013 SURVEY RESULTS

The results of nutrition assessments conducted in North East Somalia are summarized in Tables 16, 18, 19 and 20. Key highlights are discussed below:

Acute Malnutrition

Based on the ten WHZ comprehensive assessments conducted in Northeast regions, median GAM rate of 13.3 percent and SAM rate of 2.3 percent was observed. This is slightly higher than the median GAM rate of 13.1 percent but no change compared to the SAM rate of 2.3 percent observed in *Gu* 2013.

Figure 17: Prevalence of Acute Malnutrition in Northeast Region



Levels of Acute malnutrition from the ten assessed population groups (four IDPs and six livelihoods) in Northeast regions show a generally stable situation and ranges from **Alert** in Sool plateau and Addun to **Serious** in the other livelihoods. While all the IDPs show a **Critical** level of malnutrition with the exception of Bosaso IDPs, which reported **Serious** level of malnutrition and improvement and the only survey that showed deterioration is Qardho IDPs from **Serious** to **Critical**, which is likely due to high morbidity level (46.4%) but Garowe and Galkacyo IDPs are stable **Critical** level. The change in prevalence of acute malnutrition situation in *Deyr* 2013/14 is compared to the situation in *Gu* 2013 as well as *Deyr* 2012/13 (Annex 6.7) as discussed below:

- **Bosaso IDP** settlements recorded a GAM rate of 13.5 percent and SAM rate of 2.8 percent indicating a **Serious** nutrition situation which is an **improvement** when compared with GAM rate of 17.3 percent recorded in *Gu* 2013 and GAM rate of 17.0 percent recorded in *Deyr* 2012. The improvement is linked to the continued improvement of the humanitarian support in these settlements.
- **Qardho IDPs** settlements recorded a GAM rate of 18.5 percent and SAM rate of 4.9 percent indicating a **Critical** nutrition situation which is a **deterioration** when compared with a **Serious** levels (GAM rate of 14.9 percent) recorded in *Gu* 2013 but a stable situation when compared with GAM rate of 21.7 percent recorded in *Deyr* 2012. The deterioration is partly linked to high morbidity level where 46.4% of the assessed children report illness prior to weeks of the assessment.
- **Garowe IDPs** settlement recorded a GAM rate of 15.8 percent and SAM rate of 4.1 percent indicating a **Critical** nutrition situation reflecting a **stable situation** when compared with GAM rate of 19.2 percent recorded in *Gu* 2013 but deteriorated when compared **Serious** levels recorded in *Deyr* 2012 (GAM rate of 14.3 percent).
- **Galkacyo IDPs** settlement recorded a GAM rate of 15.0 percent and SAM rate of 2.9 percent indicating a **Critical** nutrition situation reflecting a **stable situation** when compared with GAM rate of 18.4 percent recorded in *Gu* 2013 and 17.0 GAM rate recorded in *Deyr* 2012.
- **Sool plateau** livelihood recorded a GAM rate of 8.6 percent and SAM rate of 0.5 percent indicating an **Alert** nutrition situation which is an **improvement** when compared with **Serious** level with GAM rate of 10.8 percent recorded in *Gu* 2013 but a stable situation when compared with GAM rate of 8.4 percent recorded in *Deyr* 2012.
- **Nugal Valley** pastoral livelihood recorded a GAM rate of 14.3 percent and SAM rate of 2.3 percent indicating a **Serious** nutrition situation which reflect a **stable** nutrition situation when compared with GAM rates of >15 percent recorded in both *Gu* 2013 and *Deyr* 2012.

- **Addun** livelihood recorded a GAM rate of 8.9 percent and SAM rate of 1.6 percent indicating an **Alert** nutrition situation which is **stable** when compared with the GAM rate of 8.0 percent recorded in *Gu* 2013 but **Improved** situation when compared with GAM rate of 12.3 percent recorded in *Deyr* 2012.
- **Coastal Deeh** pastoral livelihood recorded a GAM rate of 11.8 percent and SAM rate of 1.2 percent indicating a **Serious** nutrition situation which reflect a **stable** nutrition situation when compared with GAM rates of <15 percent recorded in both *Gu* 2013 and *Deyr* 2012.
- **East Golis** livelihood recorded a GAM rate of 10.5 percent and SAM rate of 1.2 percent indicating a **Serious** nutrition situation which is an **improvement** when compared with the GAM rate of 16.7 percent recorded in *Gu* 2013 but **stable** situation when compared with GAM rate of 13.4 percent recorded in *Deyr* 2012.
- **Hawd** pastoral livelihood recorded a GAM rate of 13.2 percent and SAM rate of 2.4 percent indicating a **Serious** nutrition situation which reflect a **stable** nutrition situation when compared with GAM rates of <15 percent recorded in both *Gu* 2013 and *Deyr* 2012.

No significant gender differences were noted in the prevalence of acute malnutrition between boys and girls. Age disaggregated analysis show significant differences in stunting and underweight between children aged 6-23 months and those aged 24-59 months (Table 16).

Table 17: Distribution of Wasting, Stunting and Underweight by age group in Northeast

	6 – 23 Months	24 – 59 Months	Chi-squared value	P-Value (Corrected rates) -2 tailed
Wasting	15.9 (13.5 – 18.3)	13.7 (12.3 – 15.1)	3.97	P<0.05(0.046264047)
Stunting	21.8 (19.0 – 24.5)	16.6 (14.2 – 19.0)	18.7	P<0.05(0.000163506)
Underweight	23.0 (19.8 – 26.2)	13.6 (11.2 – 16.1)	65.939	P<0.05(0.00000000)

Stunting and Underweight

Low prevalence levels of stunting were seen in all assessed rural livelihood populations and Galkacyo IDPs but Garowe and Bosaso IDPs reported medium prevalence of stunting (>20%). High prevalence of stunting was seen in Qardho IDPs (30.9%). Most of the livelihoods show low prevalence of underweight (<10%), except Hawd and Coastal Deeh which have medium prevalence of underweight (10 – 20%). All the IDPs in Northeast regions report high prevalence of underweight (20 – 30%) [Table 18].

Table 18: Stunting, Underweight and Mortality rates in different Livelihoods in Northeast region

Livelihood	Stunting	Underweight	CDR	U5DR
Hawd Central	9.7	10.7	0.26	0.33
Addun Central	12.1	9.9	0.25	0.94
EGolis (NE)	8.5	9.1	0.33	0.85
Nugal Valley	1.6	2.6	0.5	0.0
Sool plateau	2.0	2.9	0.19	0.30
Coastal Deeh NE	12.9	10.4	0.04	0.29
Bosaso IDPs	29.5	26.2	0.13	0.29
Garowe IDPs	21.4	23.1	0.23	0.28
Galkayo IDPs	19.6	20.6	0.29	0.41
Qardho IDPs	30.9	27.0	0.36	0.87

Mortality

The Crude and Under five death rates in the ten assessed population groups in Northeast regions are within the **Acceptable** WHO/UNICEF levels of <0.5 and <1/10,000/day, respectively. This reflects a stable mortality levels since *Gu* 2013 (Annex 6.10).

Morbidity

Morbidity levels in the rural livelihoods in North east regions is high in all the IDPs settlements and most of rural livelihoods, Bosaso, Garowe and Qardho IDPs have reported <40 percent morbidity level while Galkacyo IDPs have reported 33.4 percent. All rural livelihoods with the exception of Hawd pastoral livelihood have also reported high level of malnutrition level, which ranks from 30 to over 40 percent, while the level was lower in

Hawd as 16.9 percent of the assessed have reported illness two weeks prior the assessment. However, most of the assessments showed increased level of morbidity compared to the previous season (*Gu* 2013).

Immunization

The reported Vitamin A supplementation, Measles vaccination and Polio immunization in all the IDPs (except Garowe IDP) and all livelihoods (except East Golis and Hawd) was above 70 percent. However, all the surveys show coverage below the SPHERE recommended rate of 95 percent.

Maternal Malnutrition

The levels of maternal malnutrition among pregnant and lactating women in Galkacyo IDPs, Hawd and East Golis are showing Critical levels (>22.0%), while Bosaso IDP is showing Serious level (19.9%) and Addun, Sool plateau, Nugal valley and Garowe IDPs are in Alert levels (9.5 – 14.9%), where the only livelihood that reported Acceptable level is Coastal Deeh (7.1%)

Dietary Diversification

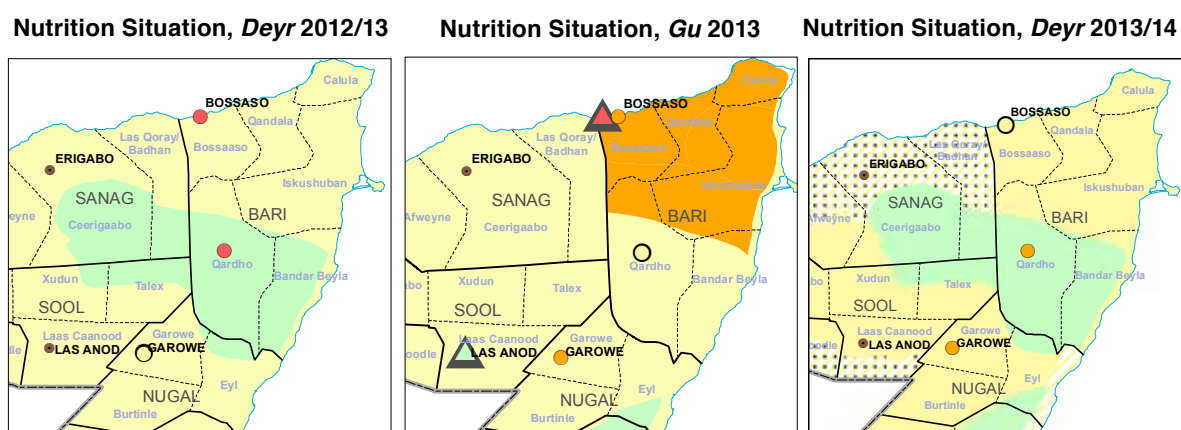
Household dietary diversity measured as the proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Gu* and *Deyr* seasons, however milk access and consumption has improved in *Deyr* 2013 season. Improved milk access and consumption is a key mitigating factor to malnutrition.

Infant and young child feeding in terms of continued breastfeeding for up to one year and 24 months, child dietary diversity and frequency of complementary feeding remain sub-optimal in all the assessed population groups. Majority of the assessed children were not breastfed for up to the recommended 24 months; dietary diversity was poor where only 1.1 to 20.2 percent were reportedly consuming food from four or more food groups.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr* 2012 to *Deyr* 2013. The nutrition situation among the urban, IDPs and rural livelihoods in Northeast regions have for the last twelve months (*Deyr* 2012 to *Deyr* 2013) ranged between **Alert** to **Critical** levels. The nutrition situation has largely been influenced by food security factors particularly access to milk among the predominant pastoral communities and morbidity patterns. The improvement recorded in Addun and Sool Plateau livelihoods is attributable to improved household milk access (Figure 18).

Figure 18: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14 in Northeast



HOT SPOT FOR ACUTE MALNUTRITION IN NORTH EAST SOMALIA

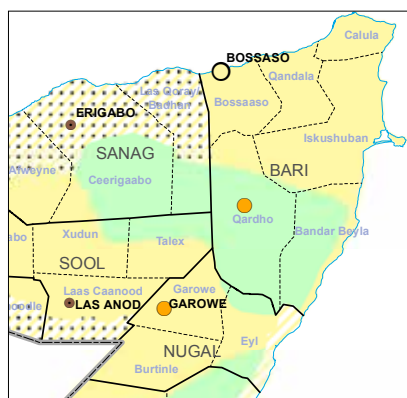
All of the IDPs settlements that have reported GAM <15 percent, as well as areas that were affected by the cyclone which could have negative nutritional status are currently hot spots in Puntland.

OUTLOOK FOR MAR- APR 2014

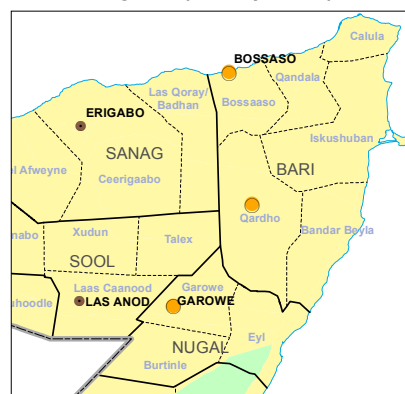
The nutrition situation in Northeast is largely expected to remain **stable** in the coming three months with the exception of the Bosaso and Sool Plateau which are expected to marginally deteriorate to **Critical** and **Serious** levels, respectively in line with seasonal trends and in light of impacts of the cyclone in Sool plateau. The maps below show current and projected **Serious** nutrition situation across livelihoods in Northeast. The current Stressed food security situation in Northeast regions is similarly projected to remain stable up to June 2014.

Figure 19: Nutrition Situation Outlook Deyr 2013/14 to April 2014

Current Nutrition Situation in Northeast regions (Jan 2014)



Projected Nutrition Situation in Northeast regions (Feb-Apr 2014)



Case Study on Morbidity and Nutrition Status

Morbidity contributes to high rates of childhood malnutrition. This was noted in case of Farhiyo Moxamed Mucalim Keer, 21 month old daughter of Salado Ali Adan, born in Awdhigle village of Lower Shabelle region. Farhiyo's father died one month before she was born, due to hepatitis. Her mother says that before the death of her husband, their main income source was cultivation of their farms but now there is no one to cultivate the farm and she moved with her daughter Farhiyo to Garowe and are currently in Shabelle IDP with some of her relatives that have already been there for sometime.

According to Salado Farhiyo has never received any immunization while they were in Awdhigle, because of lack of access to health facilities but was given polio vaccine after she arrived in Garowe. Few months after arriving in Garowe, Farhiyo got sick with diarrhea and fever and was taken to the MCH where some investigations were done and some parasites detected in her stool. She improved after receiving ORS along with medications. However within very short period of the treatment, she had frequent bouts of diarrhea with severe dehydration. Her mother tried to manage it with some syrup from private pharmacies but returned to the MCH for further treatment and follow up which helped stop the diarrhea. However Farhiyo had rapidly lost weight and was identified as acutely malnourished and has been admitted and re-admitted to a feeding center several times in recent months. Farhiyo was discharged from the feeding center few weeks before and currently her weight is 7.5kg with 72.0 in length, which is not indicating wasting (-1.51Z-Scores) but shows severe chronic malnutrition/Stunting (-3.8 Z Scores) and Severe underweight (-3.1 Z-Scores).

In this case we can understand how acute morbidity works as a driver of malnutrition. Morbidity impacts the nutritional status both short time and long time by preventing child growth, which eventually result in chronic malnutrition. Timely and effective treatment of acute malnutrition has to be supported with access to quality foods, education on optimal IYCF, micronutrient supplements, improved immunization coverage and better access to safe water and sanitation facilities, safe water and good quality health care.



Children playing in a Shabelle IDP camp



Salado and Her 21 months old daughter

Table 19: Summary of Nutrition Assessment results in IDP Centers of Northeast

	Bossaso IDPs		Qardho IDPs		Garowe IDPs		Galkayo IDPs	
	30 Clusters (N=;667 boys-324, girls-343)		(N=;453 boys- 234, girls-219)		27 Clusters (N= 671; 353 boys, 318 girls)		28 Clusters (N=822 boys- 410, 412-girls)	
Indicator	n	(95% CI)	N	(95% CI)	n	(95% CI)	n	(95% CI)
Total number of households assessed for children	782	100.0	721	100.0	481	100.0	521	100.0
Total number of households assessed for mortality	575							
Household Head								
Male Headed								
Female Headed								
Total number of children assessed:	884	100.0	740	100.0	682	100.0	822	100.0
Child malnutrition								
Global Acute Malnutrition (WHO 2006)								
Boys	90	13.5 (11.2-16.2)	84	18.5	105	15.8 (13.1-18.9)	123	15.0 (12.5-17.8)
Girls	55	17.0(13.8-20.7)	51	21.8	72	20.6 (16.0-26.0)	73	17.8(14.6-21.5)
	35	10.2(7.5-13.8)	33	15.1	33	10.4 (7.4-14.5)	50	12.1 (9.7-15.1)
Mean WHZ (WHO, 2006)		.078±1.09		.079±1.22		-0.88±1.12		-0.85±1.10
Severe Acute Malnutrition (WHO 2006)								
Boys	19	2.8 (1.8 – 4.5)	22	4.9	27	4.1 (2.5- 6.6)	24	2.9 (1.8- 4.7)
Girls	10	3.1(1.5-6.1)	13	5.6	19	5.4 (3.3- 8.9)	16	3.9 (2.4- 6.2)
	9	2.6% (1.3-5.3)	9	4.1	8	2.5 (0.9- 6.6)	8	1.9 (0.9- 4.3)
Oedema	0	0	1	0.2	0	0	2	0.2
Global Acute Malnutrition by MUAC (<12.5 cm or oedema)								
Boys	55	8.1 (5.0- 11.1)	59	12.9	78	11.5 (8.9-14.7)	63	7.5 (4.7-11.8)
Girls	26	7.8(4.9 – 12.3)	31	13.1	39	11.0 (7.5-15.5)	28	6.7 (3.5-12.2)
	29	8.3 (5.5 – 12.2)	28	12.6	39	12.1 (8.3-17.2)	35	8.3 (4.8-14.1)
Severe Acute Malnutrition by MUAC (<11.5 cm or oedema)								
	14	2.0 (1.0 -4.0)	18	3.9	20	2.9 (2.1 – 4.1)	24	2.9 (1.7- 4.8)
Proportion of children Stunted (HAZ<-2)								
Boys	195	29.5 (25.3-34.0)	138	30.9	137	21.4(18.3-24.92)	158	19.6 (13.8-27.0)
Girls	112	34.9 (29.6 – 40.6)	82	35.2	81	24.3 (19.3-30.1)	88	21.9 (15.3-30.2)
	83	24.3% (20.3-28.9)	56	26.2	56	18.3 (14.4-22.9)	70	17.3 (11.2-25.7)
Proportion of children Underweight (WAZ<-2)								
Boys	176	26.2 (22.1-30.7)	123	27.0	155	23.1 (18.8-28.1)	170	20.6 (15.6-26.6)
Girls	105	31.9 (26.6 – 37.7)	81	34.2	100	28.3 (22.6-34.8)	100	24.0 (18.6-30.4)
	71	20.6 (16.2-25.9)	42	19.3	55	16.2 (12.5 – 20.7)	70	17.0 (11.7-24.2)
Mortality Rates								
Crude Mortality Rate (deaths/10,000/day)		0.13 (0.05 – .35)		0.36/10,000/day		0.23 (0.09-0.56)		0.29 (0.14 – 0.61)
Under five Mortality Rate (deaths/10,000/day)		0.29 (0.07 – 1.16)		0.87 /10,000/day		0.28 (0.07-1.18)		0.41 (0.15 – 1.10)
Child Morbidity								
Children reported ill in the previous 2 weeks	278	40.6(32.6-48.6)	214	46.4	276	40.5 (33.3-47.7)	281	33.4 (25.0-41.8)
Children reported with diarrhoea in 2 weeks prior to assessment	154	22.5(17.1-28.0)	152	32.9	146	21.0 (16.7-26.1)	125	14.8 (9.1-20.6)
Children reported with Pneumonia in 2 weeks prior to assessment	120	17.6 (8.5 -26.6)	55	12.0	31	4.5 (2.0-7.1)	78	9.2 (5.5-13.0)
Children reported with febrile illness in 2 weeks prior to assessment	131	19.1 (11.9 -26.4)	111	24.2	187	27.4 (22.1-32.8)	231	27.5 (20.0-35.0)
Children reported with suspected measles within one month prior to assessment	4	0.6% (0.07-1.2)	23	5.0	43	6.3 (3.5-9.1)	48	5.7 (2.9-8.5)
Child Immunization status								

Summary of Nutrition Assessment results in IDP Centers of Northeast

Children (6-59 months) reported immunised against measles	525	79.9 (64.8-89.1)	397	85.9	394	57.8 (48.5-67.1)	751	89.7 (85.5-94.0)
Children who reported to have received vitamin A supplementation in last 6 months	540	79.1 (66.9 – 91.4)	396	85.9	429	62.9 (51.4-74.4)	771	91.6 (86.5-96.6)
Children who have ever received polio vaccine					40	5.9 (3.3-8.4)	15	1.8(0.7-2.8)
No doses		97.9(96.2-99.6)		91.7	71	10.4 (7.1-13.7)	126	15.0 (9.1-20.9)
One dose					141	20.7 (15.9-25.5)	151	17.9 (12.1-23.7)
Two doses					417	61.1 (54.6-67.7)	550	65.3 (54.8-75.9)
Three or more								
Infant and young child feeding						N=289		N=324
Proportion still breastfeeding	153	54.4(39.7-51.3)	71	40.5	148	51.6 (45.2-58.0)	142	43.8 (36.7-50.9)
Continued breastfeeding up to 12 months (N=)	25	15.0% (8.5-21.5)	30	20.6%	30	51.3 (43.3 – 59.4)	140	01.5 (86.6 – 96.3)
Continued breastfeeding up to 24 months (N=)	0	0	1	0.6%	14	32.5 (16.6 – 48.4)	0	0
Recommended Feeding Frequency (6 – 24 Months)	210	83.3% (76.2-90.3)	119	74.3%	124	51.3 (43.3 – 59.4)	242	79.3 (71.9 – 86.6)
	106	82.8% (74.9–90.7)	61	73.5%	71	51.0 (41.7 – 60.4)	114	80.0 (72.7 – 88.9)
	104	83.8%(75.2-92.5)	58	75.3%	56	51.7 (40.4-63.0)	128	78.0 (69.0 – 87.0)
Proportion who reported to have consumed ≥4 food groups	46	17.4(11.2 – 23.5)	4	2.2	3	1.1 (0.0-2.2)	5	1.7 (0.0-3.3)
Maternal Health and Nutrition				N= 230		N=481		N=453
Total women who are acutely malnourished					50	10.3 (7.3-13.4)	104	23.0 (14.1-31.9)
Pregnant & lactating women acutely malnourished (MUAC<23.0 cm)	46	19.9 (13.4 – 26.4)	40	31.7	33	10.9 (7.5-14.3)	44	24.9 (13.9-35.9)
Non pregnant/lactating acutely malnourished (MUAC≤18.5 cm)	0	0	0	0	0	0.0	0	0.0
Women who reported to have received tetanus immunization								
No dose	30	7.1 (3.8-10.4)			52	10.8 (7.6-14.1)	80	17.1 (12.7-21.5)
One dose	16	3.8 (1.3-6.3)			57	11.9 (8.8-14.9)	86	18.4 (10.2-26.6)
Two doses	109	25.9 (16.7-35.1)			130	27.0 (21.9-32.1)	149	31.9 (23.2-40.6)
Three doses	265	63.0(52.1-74.0)			242	50.3 (44.2-56.4)	152	32.5 (22.2-42.9)
Household Access to Essential Indicators								N=521
Reported Households consumed ≤3 food groups				94.5				99.3(98.4-100)
Access to mosquito Net								
Access to safe/protected drinking water		30.6 (17.9 – 43.3)	128	95.5				
Access to latrine		88.8 (80.0 – 97.7)	125	96.1				

Table 20: Summary of Key Nutrition Findings Hawd, Addun and Coastal Deeh

Indicator	28		Addun Pastoral		Coastal Deeh	
	Hawd Pastoral		N= 640 Boys 326 Girls 314		N= 733 Boys 387 Girls 346	
	n	% (CI)	n	% (CI)	n	% (CI)
<i>Child Nutrition Status</i>						
Global Acute Malnutrition (WHZ<-2 or oedema)	82	13.2 (10.0 – 17.2)	57	8.9 (6.4 – 12.4)	86	11.8 (9.0 – 25.4)
Boys	50	15.2 (11.2- 20.3)	31	9.5 (6.0-14.7)	43	11.3 (7.5 – 16.6)
Girls	32	10.9 (7.2 – 16.1)	26	8.3 (5.1-13.1)	43	12.5 (7.6 – 16.8)
Severe Acute Malnutrition (WHZ<-3 or oedema)	15	2.4 (1.4 – 4.1)	10	1.6 (0.9 – 2.8)	9	1.2 (0.7 – 2.2)
Boys	9	2.7 (1.3 – 5.6)	4	1.2 (0.5 – 3.0)	6	1.6 (0.7 – 3.4)
Girls	6	2.0 (1.0 – 4.3)	6	1.9 (0.9 – 4.1)	3	0.9 (0.3 – 2.6)
Mean of Weight for Height Z Scores		-0.77±1.04		-0.54±1.09		-0.71±1.08
Oedema	0	0.0	0	0.0	1	0.1
Global Acute Malnutrition (NCHS)	82	13.1 (9.8 – 17.2)	58	9.0 (6.4-12.6)	78	10.6 (8.0 – 14.0)
Severe Acute Malnutrition (NCHS)	8	1.3 (0.6 – 2.6)	2	0.3 (0.1-1.2)	10	1.4 (7.6 – 14.8)
Proportion with MUAC<12.5 cm or oedema)	45	7.1 (4.7 – 10.4)	43	6.7 (4.4-9.8)	28	3.8 (2.4 – 6.0)
Boys	20	6.0 (3.9 – 9.2)	17	5.2 (2.9 – 9.4)	8	2.1 (0.9 – 4.6)
Girls	25	8.3 (5.2 – 12.7)	26	8.2 (5.2-12.5)	20	5.8 (3.5 – 9.3)
Proportion with MUAC<11.5 cm or oedema	6	0.9 (0.4 – 2.0)	6	0.9 (0.4 – 2.2)	7	0.9 (0.4 – 2.5)
Boys	2	0.6 (0.1 – 2.5)	2	0.6 (0.1 – 2.6)	2	0.5 (0.1 – 2.1)
Girls	4	1.3 (0.5 – 3.4)	4	1.3 (0.5 – 3.1)	5	1.4 (0.5 – 3.9)
Stunting (HAZ<-2)	61	9.7 (6.6 – 14.1)	78	12.1 (8.6 -16.6)	94	12.9 (10.8 – 16.6)
Boys	32	9.7 (5.9 – 15.6)	50	15.3 (10.8 -21.2)	54	14.0 (10.3 – 18.7)
Girls	29	9.7 (6.4 – 14.4)	28	8.8 (5.5 – 13.8)	40	11.8 (7.8 – 17.4)
Severe Stunting (HAZ<-3)	9	1.4 (0.7 – 2.7)	11	1.7 (0.8 -3.5)	18	2.5 (1.4 – 4.2)
Boys	3	0.9 (0.3 – 2.7)	8	2.4 (1.1 – 5.2)	7	1.8 (0.8 – 4.1)
Girls	6	2.0 (1.0 – 4.2)	3	0.9 (0.3 – 3.1)	11	3.2 (1.4 – 7.5)
Underweight (WAZ<-2)	68	10.7 (7.7 – 14.7)	64	9.9 (7.4 – 13.3)	77	10.4 (8.1 – 13.4)
Boys	46	13.9 (9.9 – 19.9)	37	11.3 (8.3 – 15.2)	53	13.6 (10.1 – 18.0)
Girls	22	7.3 (4.5 – 11.7)	27	8.5 (5.9 – 12.1)	24	6.9 (4.3 – 10.8)
Proportion of acutely malnourished children in SFs	34	5.3 (2.4 – 8.1)	38	5.8 (2.2 – 9.5)	59	7.9 (3.0 – 12.8)
Boys	17	5.0 (2.0 – 8.1)	19	5.7 (1.7 – 9.7)	19	4.8 (1.4 – 8.2)
Girls	17	5.6 (1.9 – 9.2)	19	5.9 (1.9 – 9.9)	40	11.4 (4.2 – 18.6)
<i>Child Morbidity & Immunization</i>						
Morbidity	108	16.9 (10.7 – 21.5)	233	39.5 (26.4 – 45.3)	302	40.7 (30.5 – 50.9)
Boys	59	17.6 (13.0-22.2)	118	35.7 (25.7 – 45.8)	163	41.5 (30.0 – 52.6)
Girls	49	16.1 (10.6 – 21.5)	115	36.0 (25.8 – 46.2)	139	39.8 (28.8 – 50.7)
Diarrhoea	107	16.7 (11.5-21.5)	80	12.4 (8.7 – 16.0)	64	8.6 (5.6 – 11.6)
Boys	56	16.7 (10.6 – 22.7)	45	13.7 (8.6 – 18.8)	33	8.4 (4.6 – 12.8)
Girls	51	16.7 (10.5 – 23.0)	35	11.0 (7.6 – 14.3)	31	8.8 (5.2 – 12.5)
Pneumonia	77	12.0 (6.8 – 17.2)	74	11.4 (6.4 – 16.4)	80	10.7 (3.2 – 18.2)
Boys	39	11.6 (5.7 – 17.5)	32	9.7 (4.7 – 14.6)	44	11.2 (3.2 – 19.1)
Girls	38	12.5 (7.4 – 17.5)	42	13.2 (6.5 – 19.9)	36	10.3 (2.6 – 17.9)
Fever	96	15.5 (7.9 – 23.0)	204	31.4 (23.3 – 39.6)	196	26.4 (19.6 – 33.3)
Boys	49	15.5 (6.7 – 24.2)	101	30.7 (21.4- 39.9)	104	26.6 (19.2 – 34.0)
Girls	47	15.5 (7.1 (23.9)	103	32.2 (23.4 – 41.1)	92	26.3 (18.4 – 34.2)
Measles	19	2.9 (1.3 -4.5)	37	5.7 (3.2 – 8.1)	56	7.5 (3.4 – 11.6)
Boys	11	3.2 (1.0 – 5.5)	19	5.7 (2.7 – 8.7)	34	8.6 (3.9 – 13.3)
Girls	8	2.6 (0.7 – 4.5)	18	5.6 (2.7 – 8.5)	22	6.3 (2.0 – 10.5)

Summary of Key Nutrition Findings Hawd, Addun and Coastal Deeh

Vitamin A Supplementation	413	64.6 (52.1 – 77.6)	473	73.0 (64.9 – 81.0)	589	79.4 (71.5 – 87.4)
Boys	220	65.6 (52.1 – 79.1)	245	74.4 (66.3 – 82.5)	311	79.3 (71.0 – 87.6)
Girls	193	63.4 (49.9 – 77.0)	228	71.4 (61.7 (81.2)	278	79.6 (70.8 – 88.4)
Measles Vaccination	424	66.3 (53.6 – 79.0)	458	70.8 (63.6 – 77.9)	572	71.6 (70.3 – 84.9)
Boys	227	67.7 (54.8 – 80.6)	239	72.6 (65.0 – 80.2)	308	79.2 (71.4 – 86.9)
Girls	197	64.8 (51.4 – 78.1)	219	68.8 (60.0 – 77.7)	263	75.8 (67.4 – 84.1)
Polio Immunization	578	90.7 (85.7 – 95.6)		79.9 (72.2 – 86.0)	678	91.7 (87.2 – 96.2)
Boys	306	91.6 (85.9 – 97.3)		80.2 (73.0 – 87.4)	369	94.1 (90.5 – 97.7)
Girls	272	89.7 (85.0 – 94.5)		78.0 (68.9 – 87.1)	309	90.0 (82.4 – 95.6)
<i>Infant and Young Child Feeding (6-24 Months)</i>	N=391			N=203		
Proportion still breastfeeding	83	36.4 (29.0 – 43.8)	94	46.3 (38.7 – 53.9)		
Boys	42	35.0 (26.5 – 43.4)	44	45.3 (33.1 – 57.5)		
Girls	42	37.9 (26.0 – 49.8)	50	47.1 (36.8 – 57.5)		
Continued breastfeeding up to 12 months (N=)	22	33.8 (19.0 – 48.6)		46.3 (38.7 – 53.6)	11	39.2 (20.1 – 58.3)
Continued breastfeeding up to 24 months (N=)	3	6.9 (0 – 15.1)	0	0	1	2.4 (0 – 7.3)
Proportion meeting recommended feeding frequencies	182	95.7 (91.6 – 99.9)	134	87.5 (80.2 – 94.8)	114	77.8 (68.8 – 86.8)
Boys	99	97.0 (93.4 – 100.)	64	88.8 (80.5 – 97.1)	74	85.0 (76.2 – 93.8)
Girls	83	94.3 (88.7 – 99.9)	70	86.4 (75.6 – 97.2)	70	71.4 (58.9 – 83.8)
Proportion who reported to have consumed ≥4 food groups	10	4.4 (0.8 – 7.9)	7	3.4 (0.4 – 6.5)	16	6.9 (3.2 – 10.5)
Boys	5	4.1 (0.7 – 7.5)	5	5.2 (0.1 – 10.2)	8	7.2 (3.1 – 11.2)
Girls	5	4.6 (0 – 10.1)	2	2.0 (0.9 – 4.7)	8	6.6 (0.2 – 12.9)
<i>Death Rates</i>						
Crude deaths, per 10,000 per day (retrospective for 90 days)		0.26 (0.13- 0.50)		0.25 (0.12 – 0.52)		0.04 (0.01-0.32)
Under five deaths, per 10,000 per day (retrospective for 90 days)		0.33 (0.8 – 1.31)		0.94 (0.37 – 2.36)		0.29 (0.04-2.26)
<i>Women Nutrition and Immunization Status</i>	304			266		250
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	1	0.5 (0 – 1.5)	1	0.4 (0 – 1.3)	0	0.0
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	15	10.3 (4.9 – 15.7)	7	4.8 (0.9 – 8.6)	4	2.0 (0.0 – 4.5)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	39	26.8 (14.9 – 38.8)	15	10.3 (4.4 – 18.1)	14	7.1 (3.4 – 10.8)
Proportion of Women who received Tetanus immunization						
No dose	62	17.4 (12.4 – 22.3)	84	22.5 (14.9 – 30.0)	80	17.5 (9.1 – 25.8)
One dose	70	19.6 (13.0 – 26.2)	65	17.4 (11.7 – 23.1)	51	11.1 (6.7 – 15.5)
Two doses	89	25.0 (18.9 – 31.0)	106	28.4 (22.0 – 34.7)	130	28.4 (20.7 – 36.1)
Three doses	135	37.9 (29.9 – 45.8)	118	31.6 (21.5 – 41.7)	196	42.8 (33.2 – 52.5)
<i>Public Health Indicators</i>						
Household with access to sanitation facilities	251	64.3 (52.2 – 76.4)	256	67.2 (56.6 – 77.8)	329	71.2 (58.7 – 83.7)
Household with access to safe water	179	45.7 (28.5 – 63.0)	151	39.5 (25.5 – 53.5)	208	45.0 (28.4 – 61.5)
Proportion who reported to have consumed <4 food groups	386	98.9 (97.6 – 99.9)	378	96.9 (95.3 – 98.4)		99.7 (99.3 – 100)
Household's Main Food Source- Purchase	376	96.1 (93.6 – 98.6)	363	95.2 (91.8 – 98.6)	455	98.4 (97.2 – 99.6)
Mean CSI						

Table 21: Summary of Key Nutrition Findings Northaest Rural Livelihoods: Nugal Valley, Sool Plateau and East Golis

	Nugal Valley Clusters :35		Sool Plateau Clusters 32		East Golis Clusters 28	
	(N=574: Boys=292; Girls=282)		N=613; Boys=331; Girls=282		N= 716 Boys=380 Girls=336	
Indicator	n	% (CI)	n	% (CI)	n	% (CI)
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	89	14.5 (11.2-18.5)	52	8.6 (6.1-12.1)	75	10.5 (8.2 – 13.4)
Boys	48	14.7 (10.9-19.5)	38	11.7 (8.1-16.4)	39	10.3 (7.6 – 13.7)
Girls	41	14.3 (9.7-20.5)	14	5.1 (2.7-9.1)	36	10.7 (8.1 – 14.1)
Severe Acute Malnutrition (WHZ<-3 or oedema)	14	2.3 (1.2-4.3)	3	0.5 (0.2-1.5)	15	2.1 (1.3 – 3.3)
Boys	9	2.8 (1.2-6.4)	2	0.6 (0.2-2.4)	10	2.6 (1.5 – 4.7)
Girls	5	1.7 (0.7-4.1)	1	0.4 (0.0-2.7)	5	1.5 (0.7 – 3.4)
Mean of Weight for Height Z Scores		-0.72±1.12		-0.50±1.09		-0.67±1.06
Oedema	0	0	0	0	2	0.3
Global Acute Malnutrition (NCHS)	75	12.2 (9.5-15.7)	43	7.1 (4.8-10.3)	75	10.4 (8.2 – 13.2)
Severe Acute Malnutrition (NCHS)	5	0.8 (0.3-2.3)	3	0.5 (0.2-1.5)	11	1.5 (0.8 – 2.8)
Proportion with MUAC<12.5 cm or oedema)	12	1.9 (1.0-3.8)	11	1.8 (1.0-3.2)	19	2.6 (1.7 – 3.9)
Boys	5	1.5 (0.6-3.5)	7	2.1 (0.9-4.8)	8	2.1 (1.0 – 4.2)
Girls	7	2.4 (1.0-5.4)	4	1.4 (0.6-3.6)	11	3.2 (1.8 – 5.7)
Proportion with MUAC<11.5 cm or oedema	3	0.5 (0.2-1.5)	1	0.2 (0.0-1.2)	5	0.7 (0.3 – 1.6)
Boys	2	0.6 (0.1-2.5)	0	0	3	0.8 (0.2 – 2.4)
Girls	1	0.3 (0.0-2.6)	1	0.4 (0.0-2.6)	2	0.6 (0.1 – 2.2)
Stunting (HAZ<-2)	10	1.6 (1.0-2.7)	12	2.0 (1.1-3.6)	61	8.5 (6.3 – 11.4)
Boys	4	1.2 (0.5-3.0)	9	2.8 (1.5-5.2)	40	10.5 (7.1 – 15.3)
Girls	6	2.1 (0.9-4.4)	3	1.1 (0.4-3.2)	21	6.2 (3.8 – 10.0)
Severe Stunting (HAZ<-3)	2	0.3 (0.1-1.3)	3	0.5 (0.2-1.5)	9	1.3 (0.7 – 2.3)
Boys	1	0.3 (0.0-2.3)	2	0.6 (0.1-2.5)	5	1.1 (0.4 – 2.7)
Girls	1	0.3 (0.0-2.6)	1	0.4 (0.0-2.6)	4	1.5 (0.6 – 3.4)
Underweight (WAZ<-2)	16	2.6 (1.3-5.1)	18	2.9 (1.7-4.9)	66	9.1 (7.2 – 11.5)
Boys	11	3.3 (1.5-7.1)	11	3.3 (1.9-5.8)	39	10.2 (7.3 – 14.1)
Girls	5	1.7 (0.7-4.0)	7	2.5 (1.0-5.9)	27	8.0 (5.3 – 11.8)
Proportion of acutely malnourished children in SFs					65	8.9 (1.7 – 16.2)
Boys					35	9.1 (1.8 – 16.3)
Girls					30	8.7 (1.2 – 16.3)
Child Morbidity & Immunization						
Morbidity	242	39.0 (29.5-48.4)	190	31.0 (24.1-37.8)	260	35.7 (29.2 – 42.1)
Boys	122	37.0 (26.4-47.6)	102	30.8 (23.6-38.0)	134	34.8 (26.9 – 42.7)
Girls	120	41.2 (30.9-51.6)	88	31.2 (22.3-40.1)	126	36.7 (30.1 – 43.3)
Diarrhoea	104	16.7 (11.9-21.6)	117	19.1 (14.3-23.9)	99	13.5 (10.0 – 17.1)
Boys	55	16.7 (11.2-22.1)	56	16.9 (11.6-22.2)	45	11.6 (7.7 – 15.6)
Girls	49	16.8 (10.6-23.0)	61	21.6 (14.5-28.7)	54	15.7 (11.1 – 20.3)
Pneumonia	65	10.5 (5.7-15.2)	8	1.3 (0.1-2.5)	101	13.8 (7.5 – 20.1)
Boys	32	9.7 (4.7-14.7)	5	1.5 (0.0-3.2)	57	14.8 (7.8 – 21.7)
Girls	33	11.3 (5.9-16.8)	3	1.1 (0.0-2.2)	44	12.8 (6.8 – 18.8)
Fever	178	28.7 (20.4-37.0)	113	18.4 (12.7-24.1)	168	23.0 (19.4 – 26.7)
Boys	85	25.8 (17.5-34.0)	63	19.0 (12.4-25.6)	87	22.5 (18.0 – 27.1)
Girls	93	32.0 (21.7-42.2)	50	17.7 (11.0-24.5)	81	23.6 (19.0 – 28.1)
Measles	18	2.9 (1.1-3.7)	17	2.8 (0.7-4.8)	19	2.6 (0.5 – 4.6)
Boys	12	3.6 (1.6-5.7)	13	3.9 (1.3-6.6)	9	2.3 (0.5 – 4.1)
Girls	6	2.1 (0.0-4.1)	4	1.4 (0.0-3.1)	10	2.9 (0 – 5.8)
Vitamin A Supplementation	528	85.0 (77.6-92.4)	469	76.5 (65.4-87.6)	465	63.8 (52.3 – 75.4)
Boys	283	85.8 (79.2-92.3)	250	75.5 (64.3-86.7)	238	61.8 (48.4 – 74.7)
Girls	245	84.2 (75.1-93.2)	219	77.7 (66.0-87.6)	227	66.1 (55.0 – 77.3)

Summary of Key Nutrition Findings Northaest Rural Livelihoods: Nugal Valley, Sool Plateau and East Golis

Measles Vaccination	469	75.5 (66.1-85.0)	436	71.1 (60.9-81.4)	386	53.0 (41.4 – 64.5)
Boys	249	75.5 (66.2-84.8)	241	72.8 (63.2-82.4)	207	53.7 (40.8 – 66.7)
Girls	220	75.6 (65.2-86.1)	195	69.1 (57.1-81.2)	179	52.1 (40.0 – 64.3)
Polio Immunization	443	71.3 (63.2-79.4)	582	94.9 (91.8-98.1)	640	88.2 (82.6 – 93.8)
Boys	227	68.9 (60.5-77.0)	314	94.9 (81.8-98.1)	342	89.0 (82.8 – 95.2)
Girls	216	74.2 (64.9-83.6)	268	95.0 (91.0-99.1)	298	87.3 (81.6 – 93.0)
<i>Infant and Young Child Feeding (6-24 Months)</i>	N=202			N=223		N=247
Proportion still breastfeeding	102	50.5 (39.6-61.4)	104 58	51.2 (42.6-59.9)	131	53.0 (44.8 – 61.2)
Boys	62	56.9 (43.8-69.9)	46	53.2 (40.9-65.6)	67	50.7 (43.2 – 58.2)
Girls	40	43.0 (29.7-56.4)		48.9 (37.3-60.6)	64	55.6 (43.9 – 67.3)
Continued breastfeeding up to 12 months (N=)		N=41	N=53			
	17	41.5 (24.3-58.6)	22	42.3 (26.4-58.2)		
	13	46.4 (23.1-69.8)	13	40.6 (20.8-60.5)	34	64.1 (48.7 – 79.5)
	4	30.8 (3.9-57.7)	9	45.0 (20.5-69.5)		
Continued breastfeeding up to 24 months (N=52)		N=41	N=36			
	9	22.0 (4.7-39.2)	6	16.7 (3.4-30.0)	7	17.5 (1.2 – 33.7)
	3	17.6 (0.0-38.1)	2	13.3 (0.0-32.7)	2	10.0 (0 – 24.0)
	6	25.0 (4.6-45.4)	4	19.0 (1.5-36.6)	5	25.0 (2.1 – 47.8)
Proportion meeting recommended feeding frequencies	129	63.9 (51.6-76.2)	159	78.3 (68.7-88.0)	117	84.6 (78.5 – 90.7)
Boys	73	67.0 (53.9-80.0)	88	80.7 (70.8-90.7)	92	83.6 (76.4 – 90.8)
Girls	56	60.2 (45.1-75.3)	71	75.5 (63.6-87.5)	85	85.8 (78.6 – 93.1)
Proportion who reported to have consumed ≥4 food groups	30	14.9 (3.6-26.1)	41	20.2 (5.8-34.6)	8	3.2 (0 – 6.5)
Boys	12	11.0 (2.3-19.7)	19	17.4 (3.2-31.6)	3	2.2 (0 – 4.7)
Girls	18	19.4 (3.4-35.2)	22	23.4 ((4.7-42.1)	5	4.3 (0 – 9.4)
<i>Death Rates</i>						
Crude deaths, per 10,000 per day (retrospective for 90 days)		0.13 (0.05-0.35)		0.19 (0.07-0.51)	9	0.33 (0.15 – 0.74)
Under five deaths, per 10,000 per day (retrospective for 90 days)		0.29 (0.07-1.21)		0.30 (0.07-1.22)	6	0.85 (0.35 – 2.09)
<i>Women Nutrition and Immunization Status</i>	N=287			N=336		N=474
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)					4	1.7 (0 – 3.8)
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	9	6.9 (0.5-13.3)	5	4.3 (0.5-8.2)	43	17.8 (10.4 – 25.2)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	18	13.8 (5.0-22.7)	13	11.2 (4.2-18.1)	76	31.5 (21.3 – 41.6)
Proportion of Women who received Tetanus immunization						
No dose	40	13.9 (5.4-22.5)	41	12.3 (7.3-17.4)	128	26.5 (18.7 – 34.2)
One dose	94	32.8 (21.8-43.7)	49	14.7 (10.8-18.6)	74	15.3 (11.0 – 19.5)
Two doses	89	31.0 (20.2-41.8)	98	29.4 (21.9-37.0)	127	26.3 (19.6 – 32.9)
Three doses	64	22.3 (9.9-34.7)	145	43.5 (33.3-53.8)	154	31.8 (25.9 – 37.8)
<i>Public Health Indicators</i>	N=289			N=332		
Household with access to sanitation facilities	111	38.4 (24.6-52.2)	212	63.9 (50.2-77.4)	291	59.0 (46.2 – 71.9)
Household with access to safe water	35	12.1 (2.7-21.5)	9	2.7 (0.0-5.5)	166	31.4 (16.5 – 46.4)
Proportion who reported to have consumed <4 food groups	2	0.7 (0.0-1.7)	3	0.9 (0.0-1.9)	493	99.4 (98.6 – 99.7)
Household's Main Food Source-Purchase	277	95.8 (91.3-100.0)	329	99.1 (97.2-101)	490	98.5 (97.2 – 99.7)

4.3 CENTRAL REGION

FSNAU conducted 5 nutrition surveys (one IDP and four rural livelihoods) in Central region of Somalia and assessed nutrition status of 3 300 children aged 6-59 month (1 642 boys and 1 658 girls) from 2 959 households. Comprehensive assessment (nutrition and food security) were conducted in one IDP and two Livelihoods but in the other remaining rural livelihoods nutrition situation was assessed through representative MUAC surveys.

CURRENT FOOD SECURITY SITUATION- POST *Deyr* 2013/14

The food security situation of the population at the time of survey in areas where nutrition assessments were done is summarized in Table 21. Food security was reported as stressed in rural livelihoods with the except of the Coastal Deeh areas in the Indian ocean, which has been indicated as crises, While Dhusamareb IDPs are also crisis situation. Access to food was reported as borderline, but adequate to meet food consumption requirements. Rainfall was reported as normal in all the livelihoods except pockets in Hawd pastoral livelihood in which below normal rainfall was reported.

Table 22: Summary of Food Security Situation in Central region

POPULATION ASSESSED	RAINFALL	FOOD ACCESS	FOOD SECURITY	AGGRAVATING FACTORS	COMPARISON WITH GU 2013
Hawd	Normal	Borderline adequate to meet food consumption requirements	Stressed	Below Baseline assets (small ruminant), Poor households have debt and Limited social services and poor infrastructure, High morbidity	Stable
Addun	Normal		Stressed		Stable
Cowpea	Normal		Stressed		Stable
Coastal	Normal		Crises		Stable
Dhusamareb IDP	Normal		Crisis		Stable

The FSNAU Post *Deyr* 2013/14 integrated food security analysis indicate a **Stressed** (IPC Phase 2) food security situation in the three rural livelihoods (Addun, Hawd and Cowpea belt) and Crises (IPC phase 3) for one livelihood (Coastal Deeh) in Central region. This reflects a stable food security trend since *Gu* 2013 when similar situation was recorded. The stability of food security situation in Central regions is attributed to normal rains which improved pasture and water availability, average to good milk production in most livelihoods, increased income from livestock sales, and substantial humanitarian response in the last 6 months of 2013.

DEYR 2013 NUTRITION SURVEY RESULTS

The results of nutrition assessments conducted in Central Somalia are summarized in Tables 22 and 25. Key highlights are discussed below:

Acute Malnutrition

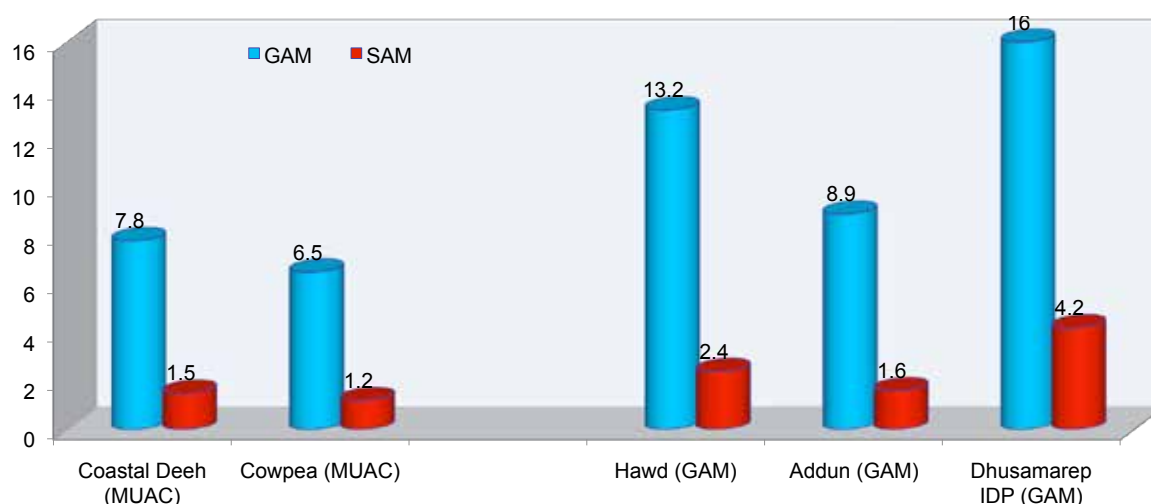
Based on the three WHZ comprehensive assessments conducted in Central regions, median GAM rate of 13.2 percent and SAM rate of 2.4 percent was observed. This is higher than the median GAM rate of 10.6 percent and the SAM rate of 2.1 percent observed in *Gu* 2013. No significant gender differences were noted in the prevalence of acute malnutrition between boys and girls. Similar analysis of the distribution of the cases of acute malnutrition between young children aged 6-24 months and those aged 25-59 months showed.

Levels of Acute malnutrition from the five assessed population groups (one IDPs and four livelihoods) in Central regions show a generally stable situation and ranges from **Alert** in Addun to **Serious** in the other livelihoods. While the IDPs in Dhusamareb district (Dhusamareb and Guricel) have shown a Critical level of malnutrition which reported 16.0 percent level of malnutrition but lower compared to the results of *Gu* '2013 which showed GAM level of above 20 percent, there was no livelihood in central zone that showed deterioration in *Deyr* 13/14. The situation in *Deyr* 2013/14 is compared to the situation in *Gu* 2013 as well as *Deyr* 2012/13 (Annex 6.6B) as discussed below:

- **Dhusamareb IDPs** settlements recorded a GAM rate of 16.0 percent and SAM rate of 4.2 percent indicating a **Critical** nutrition situation which is an **improvement** when compared with GAM rate of 22.6 percent recorded in *Gu* 2013 and GAM rate of 21.4 percent recorded in *Deyr* 2012. The improvement is linked to the improved food security situation and continued activities of the humanitarian support in these settlements.

- **Addun** livelihood recorded a GAM rate of 8.9 percent and SAM rate of 1.6 percent indicating an **Alert** nutrition situation which is an **stable** when compared with the GAM rate of 8.0 percent recorded in *Gu* 2013 but **Improved** situation when compared with GAM rate of 12.3 percent recorded in *Deyr* 2012.
- **Hawd** pastoral livelihood recorded a GAM rate of 13.2 percent and SAM rate of 2.4 percent indicating a **Serious** nutrition situation which reflect a **stable** nutrition situation when compared with GAM rates of >15 percent recorded in both *Gu* 2013 and *Deyr* 2012.
- Representative MUAC assessments conducted in the Cowpea, Coastal Deeh livelihoods in central recorded a GAM-MUAC (MUAC<12.5 cm) rate of 6.5 and 7.8 percent respectively and SAM-MUAC (MUAC <11.5 cm) 1.2 and 1.5 percent, respectively both showing **Serious** level and showing an improvement from the Critical levels reported during *Gu*'2013 of 8.6 in Cowpea and 9.7 percent in Coastal Deeh.

Figure 20: Prevalence of Acute Malnutrition in Central Region



Stunting and Underweight

Low prevalence levels of stunting were seen in all the areas assessed in Central region and (<20%). Most of the livelihoods show low prevalence of underweight (<10%), except Hawd and Dhusamareb IDPs where medium level of underweight prevalence was seen (10 – 20%).

Table 23: Stunting, Underweight and Mortality rates by Livelihoods in Central region

Livelihood	STUNTING			UNDERWIEGHT		
	<i>Deyr</i> 2013	Change since <i>Gu</i> '13	<i>Deyr</i> 2012	<i>Deyr</i> 2013	Change since <i>Gu</i> '13	<i>Deyr</i> 2012
Dhusamareb IDP's	8.4	11.6	15.7	12.0	17.4	20.4
Hawd Central	9.7	9.5	13.7	10.7	12.1	13.5
Addun Central	12.1	9.3	6.1	9.9	9.1	10.4

Mortality

The Crude and Under five death rates in the five assessed population groups in Central regions are within the **Acceptable** WHO/UNICEF levels of <0.5 and <1/10,000/day, respectively. This reflect a stable mortality levels since *Gu* 2013 (Annex 6.11).

Morbidity

Morbidity levels in Central regions was high in Dhusamareb IDPs and Addun pastoral livelihood above 30%, while in the other three livelihoods (Hawd, Cowpea and Coastal Deeh) less than 20 percent of the assessed children reported illness two weeks prior the assessment.

Immunization

The reported Vitamin A supplementation, Measles vaccination and Polio immunization in all the IDPs were below 70 percent, except Addun pastoral livelihood but even Addun is far below the SPHERE recommended coverage of 95 percent.

Maternal Malnutrition

The levels of maternal malnutrition among pregnant and lactating women in Hawd, Cowpea, Coastal Deeh and Dhusamareb IDPs show Critical levels (>25%) while Addun pastoral livelihood is showing Acceptable level of >9.5 percent.

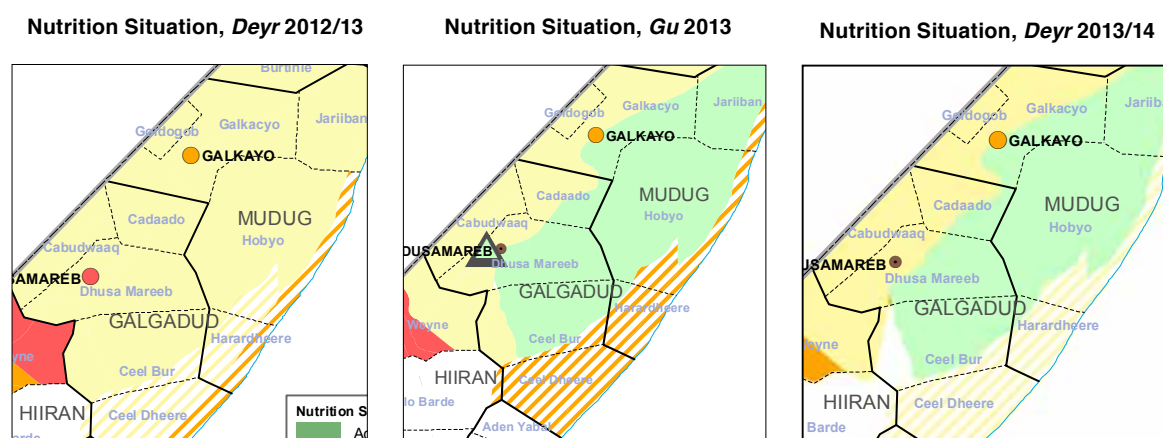
Dietary Diversification

Household dietary diversity measured as the proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Gu* 2013 and *Deyr* 2013/14 seasons, however milk access and consumption has improved in *Deyr* 2013 season. Improved milk access and consumption is a key mitigating factor to malnutrition. Infant and young child feeding in terms of continued breastfeeding for up to one year and 24 months, child dietary diversity and frequency of complementary feeding remain sub-optimal in all the assessed population groups. Majority of the assessed children were not breastfed for up to the recommended 24 months; dietary diversity was poor specially in Addun and Hawd livelihoods, which reported 3.4 and 4.4 percent, respectively.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr* 2012 to *Deyr* 2013. The nutrition situation among the IDPs and Rural livelihoods in Central regions have for the last twelve months (*Deyr* 2012 to *Deyr* 2013) ranged between **Alert** to **Serious** levels. The nutrition situation has largely been influenced by food security factors particularly access to milk among the predominant pastoral communities and morbidity patterns. The improvement recorded in Addun livelihood is attributable to improved household milk access. Overall, the level of acute malnutrition in Central region has shown an improving trend since 2012 as indicated in the trend (Figure 21).

Figure 21: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14 in Central Region



HOT SPOT FOR ACUTE MALNUTRITION IN CENTRAL SOMALIA

Dhusamareb IDPs which report <15 percent GAM, is current hotspot in central

OUTLOOK FOR FEB- APR 2014

The nutrition situation in Central region is largely expected to remain **stable** in the coming three months where Dhusamareb IDPs are expected to remain Critical while the livelihoods of Hawd, Coastal and Cowpea are expected to sustain as Serious level and Addun livelihood is expected to be stable at Alert level.

Figure 22: Nutrition Situation Outlook Deyr 2013/14 to April 2014

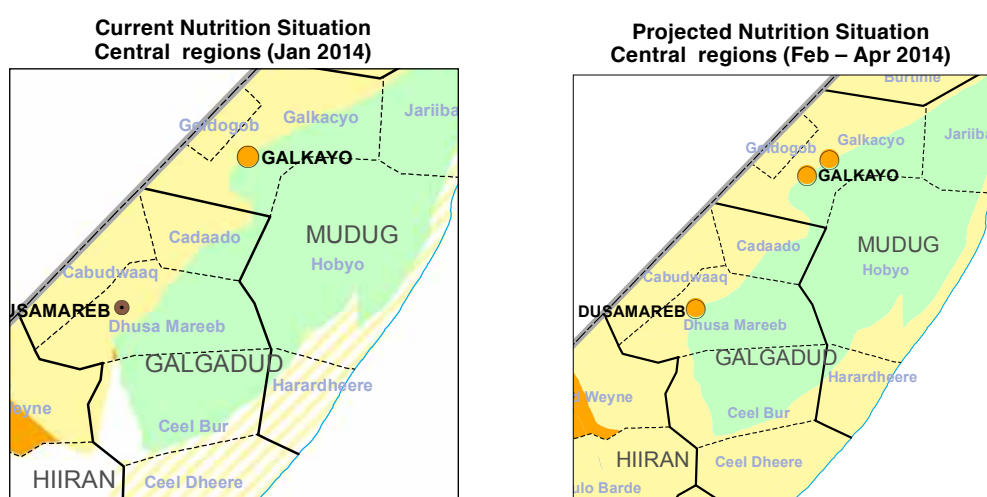


Table 24: Summary of Key Nutrition Findings : Central Region Rural Livelihoods

	Hawd Pastoral 28 Cluster (N= 639: Boys=324; Girls=343)		Addun Pastoral 28 Cluster N= 640 Boys 326 Girls 314		Dhusamareb/Guricel Exhaustive N= 331 Boys 168 Girls 163	
Indicator	n	% (CI)	n	%	n	%
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	82	13.2 (10.0 – 17.2)	57	8.9 (6.4 – 12.4)	53	16.0%
Boys	50	15.2 (11.2- 20.3)	31	9.5 (6.0-14.7)	28	16.7%
Girls	32	10.9 (7.2 – 16.1)	26	8.3 (5.1-13.1)	25	15.3%
Severe Acute Malnutrition (WHZ<-3 or oedema)	15	2.4 (1.4 – 4.1)	10	1.6 (0.9 – 2.8)	14	4.2%
Boys	9	2.7 (1.3 – 5.6)	4	1.2 (0.5 – 3.0)	5	3.0%
Girls	6	2.0 (1.0 – 4.3)	6	1.9 (0.9 – 4.1)	9	5.5%
Mean of Weight for Height Z Scores		-0.77±1.04		-0.54±1.09		-0.080±1.13
Oedema	0	0.0	0	0.0	2	0.6%
Global Acute Malnutrition (NCHS)	82	13.1 (9.8 – 17.2)	58	9.0 (6.4-12.6)	52	15.7%
Severe Acute Malnutrition (NCHS)	8	1.3 (0.6 – 2.6)	2	0.3 (0.1-1.2)	7	2.1%
Proportion with MUAC<12.5 cm or oedema)	45	7.1 (4.7 – 10.4)	43	6.7 (4.4-9.8)	44	13.3%
Boys	20	6.0 (3.9 – 9.2)	17	5.2 (2.9 – 9.4)	19	11.3%
Girls	25	8.3 (5.2 – 12.7)	26	8.2 (5.2-12.5)	21	15.2%
Proportion with MUAC<11.5 cm or oedema	6	0.9 (0.4 – 2.0)	6	0.9 (0.4 – 2.2)	9	2.7%
Boys	2	0.6 (0.1 – 2.5)	2	0.6 (0.1 – 2.6)	5	3.0%
Girls	4	1.3 (0.5 – 3.4)	4	1.3 (0.5 – 3.1)	4	2.4%
Stunting (HAZ<-2)	61	9.7 (6.6 – 14.1)	78	12.1 (8.6 -16.6)	28	8.4%
Boys	32	9.7 (5.9 – 15.6)	50	15.3 (10.8 -21.2)	19	11.1%
Girls	29	9.7 (6.4 – 14.4)	28	8.8 (5.5 – 13.8)	9	5.5%
Severe Stunting (HAZ<-3)	9	1.4 (0.7 – 2.7)	11	1.7 (0.8 -3.5)	5	1.5%
Boys	3	0.9 (0.3 – 2.7)	8	2.4 (1.1 – 5.2)	3	1.8%
Girls	6	2.0 (1.0 – 4.2)	3	0.9 (0.3 – 3.1)	2	1.2%

Summary of Key Nutrition Findings : Central Region Rural Livelihoods

Underweight (WAZ<-2)	68	10.7 (7.7 – 14.7)	64	9.9 (7.4 – 13.3)	40	12.0%
Boys	46	13.9 (9.9 – 19.9)	37	11.3 (8.3 – 15.2)	25	14.7%
Girls	22	7.3 (4.5 – 11.7)	27	8.5 (5.9 – 12.1)	15	9.2%
Proportion of acutely malnourished children in SFs	34	5.3 (2.4 – 8.1)	38	5.8 (2.2 – 9.5)	28	9.8%
Boys	17	5.0 (2.0 – 8.1)	19	5.7 (1.7 – 9.7)	13	9.1%
Girls	17	5.6 (1.9 – 9.2)	19	5.9 (1.9 – 9.9)	15	10.5%
Child Morbidity & Immunization						
Morbidity	108	16.9 (10.7 – 21.5)	233	39.5 (26.4 – 45.3)	129	46.5%
Boys	59	17.6 (13.0–22.2)	118	35.7 (25.7 – 45.8)	69	47.5%
Girls	49	16.1 (10.6 – 21.5)	115	36.0 (25.8 – 46.2)	60	41.9%
Diarrhoea	107	16.7 (11.5–21.5)	80	12.4 (8.7 – 16.0)	35	12.1%
Boys	56	16.7 (10.6 – 22.7)	45	13.7 (8.6 – 18.8)	22	15.1%
Girls	51	16.7 (10.5 – 23.0)	35	11.0 (7.6 – 14.3)	13	12.1%
Pneumonia	77	12.0 (6.8 – 17.2)	74	11.4 (6.4 – 16.4)	27	9.3%
Boys	39	11.6 (5.7 – 17.5)	32	9.7 (4.7 – 14.6)	15	10.3%
Girls	38	12.5 (7.4 – 17.5)	42	13.2 (6.5 – 19.9)	12	8.4%
Fever	96	15.5 (7.9 – 23.0)	204	31.4 (23.3 – 39.6)	110	38.3%
Boys	49	15.5 (6.7 – 24.2)	101	30.7 (21.4– 39.9)	59	40.7%
Girls	47	15.5 (7.1 (23.9)	103	32.2 (23.4 – 41.1)	51	35.9%
Measles	19	2.9 (1.3–4.5)	37	5.7 (3.2 – 8.1)	17	5.9%
Boys	11	3.2 (1.0 – 5.5)	19	5.7 (2.7 – 8.7)	10	7.0%
Girls	8	2.6 (0.7 – 4.5)	18	5.6 (2.7 – 8.5)	7	4.9%
Vitamin A Supplementation	413	64.6 (52.1 – 77.6)	473	73.0 (64.9 – 81.0)	84	29.2%
Boys	220	65.6 (52.1 – 79.1)	245	74.4 (66.3 – 82.5)	51	35.1%
Girls	193	63.4 (49.9 – 77.0)	228	71.4 (61.7 (81.2)	33	23.2%
Measles Vaccination	424	66.3 (53.6 – 79.0)	458	70.8 (63.6 – 77.9)	96	33.3%
Boys	227	67.7 (54.8 – 80.6)	239	72.6 (65.0 – 80.2)	56	38.6%
Girls	197	64.8 (51.4 – 78.1)	219	68.8 (60.0 – 77.7)	40	27.9%
Polio Immunization	578	90.7 (85.7 – 95.6)		79.9 (72.2 – 86.0)	237	83.5%
Boys	306	91.6 (85.9 – 97.3)		80.2 (73.0 – 87.4)	119	82.0%
Girls	272	89.7 (85.0 – 94.5)		78.0 (68.9 – 87.1)	118	82.5%
Infant and Young Child Feeding (6-24 Months)	N=391			N=203		
Proportion still breastfeeding	83	36.4 (29.0 – 43.8)	94	46.3 (38.7 – 53.9)	39	42.8%
Boys	42	35.0 (26.5 – 43.4)	44	45.3 (33.1 – 57.5)	21	53.8%
Girls	42	37.9 (26.0 – 49.8)	50	47.1 (36.8 – 57.5)	18	34.6%
Continued breastfeeding up to 12 months (N=)	22	33.8 (19.0 – 48.6)		46.3 (38.7 – 53.6)	5	4.6%
Continued breastfeeding up to 24 months (N=)					0	0
Proportion meeting recommended feeding frequencies	182	95.7 (91.6 – 99.9)	134	87.5 (80.2 – 94.8)	50	64.1%
Boys	99	97.0 (93.4 – 100.)	64	88.8 (80.5 – 97.1)	24	64.8%
Girls	83	94.3 (88.7 – 99.9)	70	86.4 (75.6 – 97.2)	26	63.4%

Proportion who reported to have consumed ≥4 food groups	10	4.4 (0.8 – 7.9)	7	3.4 (0.4 – 6.5)	33	44.6%
Boys	5	4.1 (0.7 – 7.5)	5	5.2 (0.1 – 10.2)	22	55.0%
Girls	5	4.6 (0 – 10.1)	2	2.0 (0.9 – 4.7)	11	32.3%
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)		0.26 (0.13- 0.50)		0.25 (0.12 – 0.52)	1	0.08
Under five deaths, per 10,000 per day (retrospective for 90 days)		0.33 (0.8 – 1.31)		0.94 (0.37 – 2.36)	0	0.0
Women Nutrition and Immunization Status		304		266		
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	1	0.5 (0 – 1.5)	1	0.4 (0 – 1.3)	0	0.0
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	15	10.3 (4.9 – 15.7)	7	4.8 (0.9 – 8.6)	14	10.7%
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	39	26.8 (14.9 – 38.8)			39	38.2%
Proportion of Women who received Tetanus immunization				22.5 (14.9 – 30.0)	24	15.4%
No dose				17.4 (11.7 – 23.1)	19	12.2%
OCentral dose				28.4 (22.0 – 34.7)	32	20.5%
Two doses				31.6 (21.5 – 41.7)		
Three doses						
Public Health Indicators						
Household with access to sanitation facilities	251	64.3 (52.2 – 76.4)		67.2 (56.6 – 77.8)	69	80.0%
Household with access to safe water	179	45.7 (28.5 – 63.0)		39.5 (25.5 – 53.5)	85	96.6%
Proportion who reported to have consumed <4 food groups	386	98.9 (97.6 – 99.9)		96.9 (95.3 – 98.4)	123	0.8%
Household's Main Food Source-Purchase	376	96.1 (93.6 – 98.6)			89	74.2%
Mean CSI						

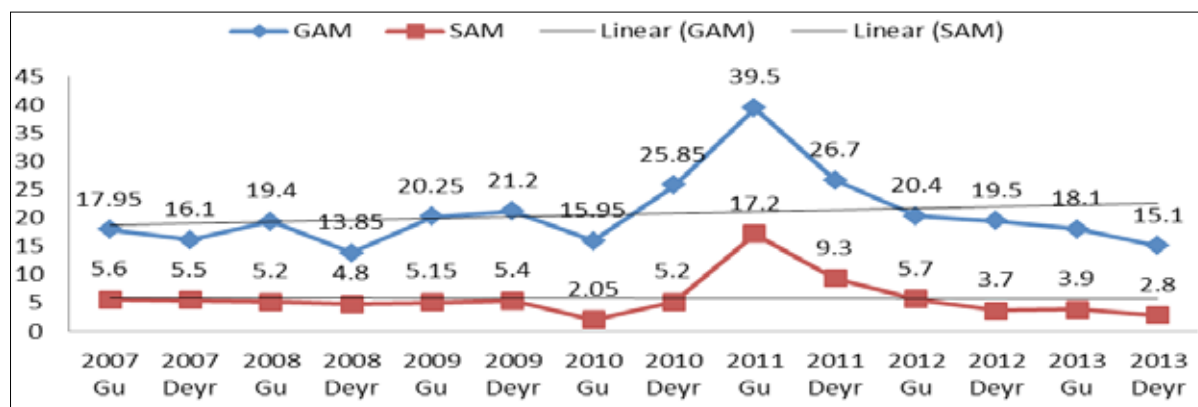
Table 25: Summary of Key Nutrition Findings: Coastal Deeh and Cowpea Livelihoods of Central Region

	Coastal Deeh		Cowpea	
	Clusters :25 (N=732: Boys=380; Girls=352)		Clusters: 25 N=860 Boys=433; Girls=525	
Indicator	n	% (CI)	n	% (CI)
Child Nutrition Status				
Proportion with MUAC<12.5 cm or oedema)	57	7.8 (5.9 – 10.2)	56	6.5 (4.4 – 8.0)
Boys	32	8.4 (5.9 – 11.9)	24	5.5 (3.5 – 8.7)
Girls	25	7.1 (5.9 – 10.9)	31	7.3 (5.1 – 10.2)
Proportion with MUAC<11.5 cm or oedema	11	1.5 (0.9 – 2.6)	10	1.2 (0.6 – 1.9)
Boys	6	1.6 (0.7 – 3.4)	4	0.9 (0.4 – 2.4)
Girls	5	1.4 (0.5 – 4.0)	5	1.2 (0.4 – 3.2)
Child Morbidity & Immunization				
Morbidity	43	5.8 (2.5 – 9.0)	84	9.7(3.6 – 15.9)
Boys	22	5.7 (2.4 – 8.9)	44	10.1 (3.2 – 17.0)
Girls	21	5.8 (1.3 – 10.4)	40	9.3 (3.3 – 15.4)
Diarrhoea	25	3.4 (0.6 -6.2)	51	5.9 (1.3 – 10.5)
Boys	13	3.4 (1.6 – 5.3)	27	6.2 (1.6 – 10.8)
Girls	12	3.4 (0 – 8.1)	24	5.6 (0.7 – 10.5)
PCentralumonia	10	1.4 (0.1 – 2.0)	21	2.4 (0.3 – 4.5)
Boys	4	1.0 (0.1 – 2.0)	10	2.3 (0.1 – 4.5)
Girls	6	1.7 (0 – 4.3)	11	2.5 (0.0 – 5.0)
Fever	18	2.5 (0.9 -4.1)	46	5.3 (1.1 – 9.5)
Boys	9	2.4 (0.9 – 4.1)	26	6.0 (1.0 – 10.9)
Girls	9	2.6 (0.3 – 4.8)	20	4.7 (0.6 – 8.7)
Measles				
Boys	0	0	0	0
Girls				
Vitamin A Supplementation	281	39.5 (16.8 – 62.2)	114	13.3 (0 – 34.7)
Boys	147	39.7 (18.0 – 61.4)	62	14.3 (0 – 36.0)
Girls	134	39.4 (15.3 – 63.4)	52	12.2 (0 – 33.5)
Measles Vaccination	187	26.3 (4.0 – 48.6)	83	9.7 (0 – 26.9)
Boys	98	26.5 (7.3 – 45.7)	48	11.1 (0 – 29.8)
Girls	89	26.1 (0.2 – 51.9)	35	8.2 (0 – 24.0)
Polio Immunization	418	58.0 (30.0 – 86.0)	355	41.3 (14.2 – 68.4)
Boys	217	58.0 (30.9 – 87.5)	182	42.0 (14.4 – 69.5)
Girls	201	58.0 (28.6 – 87.5)	173	4.6 (13.7 – 67.4)
Women Nutrition			N = 566	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	13	3.1 (0.6 – 6.3)	13	4.6 (0 – 9.5)
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	43	14.2 (7.9 – 20.5)	70	24.4 (5.0 – 43.8)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	77	25.4 (14.7 – 36.2)	108	37.8 (16.6 – 59.1)

4.4 SOUTH REGIONS

Nutrition status of 15 554 children (6-59 month) from 15 rural livelihoods and five IDPs were assessed during the *Deyr* 2013/14 surveys. Because of constraints in access, nutrition situation in agropastorals and riverine livelihoods of South Gedo and Juba and the Cowpea Belt were assessed through MUAC and not through SMART surveys of nutrition assistance are given in chapters 4.4-4.8.

Figure 23: GAM and SAM Trends on South Somalia



4.4.1: GEDO REGION

FSNAU conducted 10 nutrition surveys in North and South Gedo during post *Deyr* 2013/14 (Comprehensive SMART in one IDP and Six Rural livelihoods and 3 rapid MUAC surveys). The nutrition status of 4,759 children aged 6-59 month old from 2,101 households was assessed during these surveys. The food security situation of the population at the time of survey in areas where nutrition assessments were done is summarized in Table 26. In rural livelihoods, the food security was reported as stressed but crisis situation was reported in Dolow IDPs. Access to food was reported as borderline, but adequate to meet food consumption requirements.

Table 26: Summary of Food Security Situation in Gedo region

POPULATION ASSESSED	RAINFALL	FOOD ACCESS	FOOD SECURITY	AGGRAVATING FACTORS	COMPARISON WITH GU 2013
North Gedo Pastoral	Normal	Borderline adequate to meet food consumption requirements	Stressed	poor infrastructure, High morbidity Below average crop production, Reduced cereal stocks	Stable
North Gedo Agro-pastoral	Normal		Stressed		Stable
North Gedo Riverine	Normal		Stressed		Stable
South Gedo Pastoral	Normal		Stressed		Stable
South Gedo Agro- Pastoral	Normal		Stressed		Stable
South Gedo Riverine	Normal		Stressed		Stable
Dolow IDP	Normal		Crisis		Stable

CURRENT FOOD SECURITY SITUATION- POST *DEYR* 2013/14

The FSNAU Post *Deyr* 2013/14 integrated food security analysis indicates a **Stressed** (IPC Phase 2) food security situation in the three major rural livelihoods in Gedo region. The food security situation shows improvements in most livelihoods of the Gedo region in this post-*Deyr* 2012/13 season. The total number of people in acute food security crisis in *Deyr* 2013/14 has decreased by 24 percent since the Post-*Gu* 2013. Improvements are observed in the Juba Pump Irrigation, Southern Agropastoral and Gedo High Potential Agro pastoral communities. The improvements in the food security situation in most livelihoods are largely attributable to the impact of favourable *Deyr* 2013 rains, as well as increased humanitarian assistance. Factors that contributed to the improvement include: strengthened purchasing power of the local population owing to reduced local cereal prices and favourable livestock prices; average cash crop production from the riverine areas which provided labour opportunities to poor households; average rangeland and livestock body conditions which have resulted in improved income from livestock sales.

Map 7: Food Security Projection in Gedo regions (Feb-Jun 2014)



DEYR 2013 NUTRITION SURVEY RESULTS

For the last seven years, the GAM rates in the regions of South Somalia has ranged from 8.2 to 9.7 percent while the SAM rate has ranged from 1.4 to 5.1 percent. The results of nutrition assessments done in Gedo are summarized in Tables 28, 29 and 30. Key highlights are discussed below.

Acute Malnutrition

Comprehensive assessments conducted in North Gedo regions in *Deyr* 2013 show median GAM rate of 14.8 percent and SAM rate of 2.6 which is lower than the prevalence seen in *Gu* 2013, when median GAM rate of 17.2 percent and a SAM rate of 4.1 percent was observed. Critical levels of acute malnutrition (GAM >15%) were observed in Dolow IDPs, and the nutrition situation has remained sustained since *Gu* 2013 or *Deyr* 2012/13. In Gedo Pastoral and Agro-pastoral **Serious GAM** levels are seen in *Deyr* 2013/14, which is an improvement from critical levels recorded in *Gu* 2013 or *Deyr* 2012/13. Serious levels in Gedo Riverine in *Deyr* 2013/14 suggest an improvement from critical levels recorded in *Gu* 2013.

Table 27: Nutrition Situation and mortality in different Livelihoods of Gedo region

Population	GAM	SAM	Stunted	Underweight	Crude Death Rate	U5DR
Thresholds used for MUAC	5.6-8 serious	1-2 serious				
	8.1-11 Critical	2.1-3 critical				
	>11.1 Very critical	>3. Very critical				
Noth Gedo Agro-pastoral WFH	12.1	1.9	15.5	10.4	0.9	1.9
Noth Gedo Riverine WFH	13.6	2.5	17.5	11.4	0.8	1.2
Color Code WHZ	15- <20 critical	2.5-3.4 alert	< 20- low	10-19.9 Medium	<0.5 acceptable	serious
	10<14.9 serious	3.5-4.4 serious	20-29.9 Medium	20-29.9 High	1-<2 critical	
South Gedo Pastoral MUAC	16.6	2.0				
South Gedo Agro-pastoral MUAC	17.1	3.8				
South Gedo Riverine MUAC	17.8	3.4				

MUAC assessment shows very critical levels of acute malnutrition (> 12.5 cms) in Gedo pastorals, Agro-pastoral and Riverine livelihoods since *Gu* 2013 and sustained very critical levels recorded in *Deyr* 2012/13.

In Gedo rural livelihood was observed that GAM (WHZ) prevalence was higher in children aged 24-59 months (16.6%) compared to infants aged 6-23 months (11.2%) and the difference was statistically significant ($p < 0.05$). (Table 28) However reverse trend was noted for stunting which was higher in infants 6-23 months compared to 24-59 months (Table 28). In Gedo rural livelihoods it was observed that prevalence of GAM-MUAC was higher in infants 6-23 months compared to 24-59 month old children.

Table 28: Distribution of Malnutrition and Morbidity by age groups

Age (months)	GAM	SAM	Stunting	Underweight	Morbidity
6-23-(N=913)	11.2*	2.1	23.1	14.8	35.3
24-59 (N=1577)	16.6*	2.8	17.8	14.1	32.3
	GAM-MUAC	SAM-MUAC			
6-23-(N=1578)	27.6*	5.3	NA	NA	NA
24-59 (N=1720)	7.6*	1.0	NA	NA	NA

Chronic Malnutrition-Stunting

Low levels of Stunting was seen in Gedo rural livelihood in *Deyr* 2013/14 and these are sustained since *Deyr* 2012/13, and suggest stunting is not a public health problem in this livelihood. However medium levels of stunting were recorded among children in Dolow IDPs in *Deyr* 2013/14 which is an improvement from high levels of stunting seen in *Gu* 2013 or *Deyr* 2012/13.

Underweight

Low level of underweight prevalence was observed in North Gedo pastoral but medium levels were seen in North Gedo Agropastoral and Riverine Livelihoods and this is sustained since *Deyr* 2012/13. Low prevalence of underweight in North Gedo pastoral in *Deyr* 2013/14 is an improvement from medium levels of stunting seen in *Gu* 2013 or *Deyr* 2012/13 (Annex 6.10).

Mortality

Deyr 2013/14 results show that serious levels of CDR seen in *Gu* 2013 are sustained in Dolow IDPs and current CDR is an improvement since *Deyr* 2012/13. However deterioration in U5DR to serious levels is noted in *Deyr* 2013/14 compared to *Gu* 2013, but it is an improvement since *Deyr* 2012/13. In *Deyr* 2013/14, the pastoral and the riverine rural livelihood of North Gedo show serious CDR level. in pastorals there is deterioration since *Gu* 2013 but it is sustained since *Deyr* 2012/13, while in the Riverine communities serious level of underweight prevalence are sustained since *Gu* 2012 or *Deyr* 2012/13. critical levels of CDR were noted in the Agro-pastoral community which is a deterioration since *Gu* 2013 though sustained since *Deyr* 2012/13.

Morbidity

High morbidity levels in the rural livelihoods in North Gedo region are recorded which ranges from 21.8 percent among the-pastoral to 34 percent in Agro-pastoral livelihood. While in the Dolow IDP high morbidity was noted (55%).

Immunization

High levels of Vitamin A supplementation and Measles vaccination are reported in North Gedo among the Pastoral, Agro-pastoral and Riverine (> 80%) but this is below the SPHERE recommended coverage of 95 percent. Polio immunization is above 95 percent meeting the SPHERE recommended coverage.

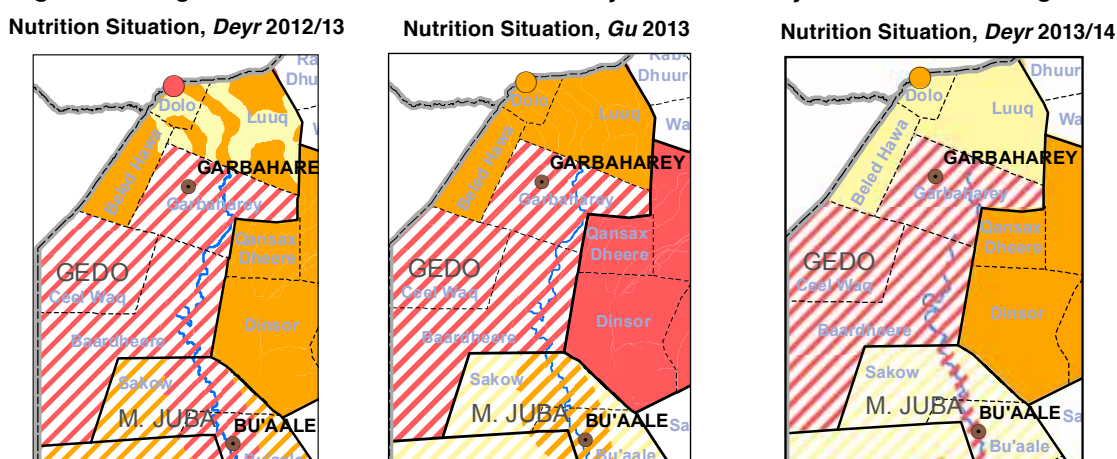
Maternal Malnutrition

Alert levels of maternal malnutrition (MUAC < 23 cms) were noted among the pregnant and lactating women in North Gedo Pastoral, Agro-pastoral and Riverine while serious malnutrition levels (25.3%) were observed among pregnant/lactating women in Dolow IDP. Maternal malnutrition could be the underlying factor for high prevalence of underweight observed in children under 5 years of age in Dolow IDPs.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr* 2012 to *Deyr* 2013. For the last twelve months (*Deyr* 2012 to *Deyr* 2013) the nutrition situation among the Gedo Rural livelihoods and Dolow IDP has ranged between **Critical** to **Serious** levels with the exception of Dolow IDP with sustained **Critical** levels. The nutrition situation has largely been influenced by food security and seasonal morbidity factors. The improvement in North Gedo livelihoods is mainly linked to humanitarian services and improved household food access. The level of acute malnutrition in North Gedo has shown an improving trend since *Deyr* 2012/13 as indicated in the trend chart below (Figure 24).

Figure 24: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14 in Gedo region



HOT SPOT FOR ACUTE MALNUTRITION IN GEDO REGION

Dolow IDPs with GAM rate of over 15 percent and South Gedo Livelihoods with GAM-MUAC of over 16 percent are current hotspots for acute malnutrition in Gedo Region.

OUTLOOK FOR FEBRUARY- APRIL 2014

The nutrition situation in Gedo region is largely expected to remain **stable** in the coming three months. The maps below show current and projected **Serious** and **Critical** nutrition situation across livelihoods in Gedo Region. The current Stressed food security situation in Gedo region is projected to remain stable up to June 2014.

Figure 25: Nutrition Situation Outlook Deyr 2012/13 to April 2014

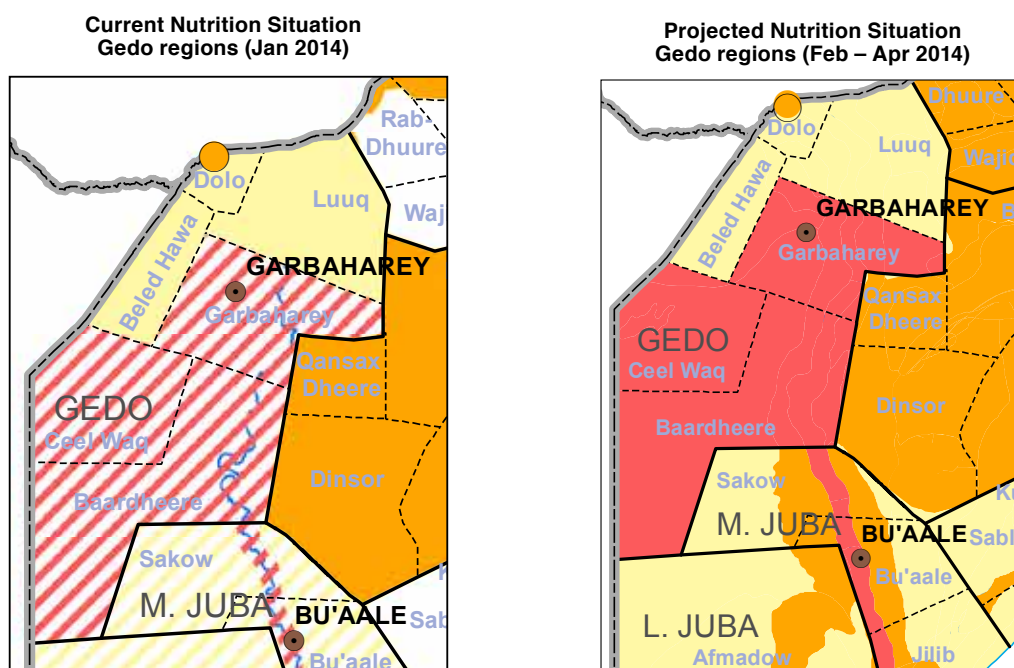


Table 29: Summary of Key Nutrition Findings Gedo Region and change from Gu 2013

Indicator	GEDO AGROPASTORAL (N=535: Boys=264; Girls=271)		GEDO RIVERINE (N=750 Boys=385 Girls=365)		GEDO PASTORAL (N=660: Boys=344; Girls=316)	
	Results	Change	Results	Change	Results	Change
<i>Child Nutrition Status</i>	% (CL)		% (CL)		% (CL)	
Global Acute Malnutrition (WHZ<-2 or oedema)	12.1 (8.7-16.7)		13.6 (10.7-17.1)		14.1 (11.6-17.0)	
Boys	16.7 (11.3-23.9)	improved	13.0 (9.8-17.0)	improved	16.0 (13.0-19.6)	improved
Girls	7.7 (4.8-12.2)		14.2 (10.4-19.3)		12.0 (9.0-15.9)	
	1.9 (1.0- 3.4)					
Severe Acute Malnutrition (WHZ<-3 or oedema)			2.5 (1.6- 3.9)		1.4 (0.7- 2.5)	
Boys	2.7 (1.2- 5.9)	improved	2.9 (1.7- 4.8)	improved	1.5 (0.7- 2.9)	improved
Girls	1.1 (0.4- 3.4)		2.2 (1.0- 4.9)		1.3 (0.4- 4.3)	
Mean of Weight for Height Z Scores	-0.79±1.10	improved	-0.79±1.06	improved	-0.83±1.05	improved
Oedema	0.0	improved	0.1	sustained	0.0%	improved
Global Acute Malnutrition (NCHS)	12.1 (8.3-17.3)	improved	12.5 (9.8-15.9)	improved	13.3 (10.8-16.3)	improved
Severe Acute Malnutrition (NCHS)	0.2 (0.0- 1.5)	improved	0.7 (0.2- 1.9)	improved	0.6 (0.2- 2.0)	improved
	1.5 (0.7- 3.1)					
Proportion with MUAC<12.5 cm or oedema)			3.3 (2.1- 5.3)		5.6 (3.7- 8.3)	
Boys	1.1 (0.4- 3.6)	improved	2.3 (1.2- 4.4)	improved	5.2 (3.1- 8.4)	improved
Girls	1.8 (0.8- 4.2)		4.3 (2.4- 7.6)		6.0 (3.5-10.1)	
Proportion with MUAC<11.5 cm or oedema	0.4 (0.1- 1.6)		0.9 (0.3- 2.5)		1.1 (0.5- 2.2)	
Boys	0.4 (0.0- 2.9)	improved	0.8 (0.3- 2.3)	improved	1.4 (0.6- 3.6)	improved
Girls	0.4 (0.0- 2.8)		1.1 (0.3- 3.7)		0.6 (0.1- 2.7)	
Stunting (HAZ<-2)	15.5 (11.0-21.5)		17.5 (13.6-22.2)		13.0 (9.5-17.6)	
Boys	17.7 (11.6-26.1)	improved	22.8(17.5-29.2)	improved	14.0 (9.8-19.6)	improved
Girls	13.3 (8.0-21.1)		(42) 11.9 (8.3-16.6)		12.0 (7.7-18.3)	
Severe Stunting (HAZ<-3)	2.3 (0.9- 5.9)		5.7 (3.7- 8.8)		2.2 (1.3- 3.7)	
Boys	2.3 (0.9- 5.6)		8.0 (4.7-13.1)		2.1 (1.0- 4.7)	
Girls	2.3 (0.5- 9.6)		3.4 (1.9- 6.0)		2.3 (1.1- 5.1)	
Underweight (WAZ<-2)	10.4 (7.0-15.2)		11.4 (8.5-15.1)		8.3 (5.9-11.7)	
Boys	14.3 (9.0-21.8)	improved	14.5 (10.0-20.6)	improved	12.0 (8.1-17.2)	improved
Girls	6.6 (3.5-12.0)		8.2 (5.3-12.4)		4.4 (2.4- 8.0)	
<i>Child Morbidity & Immunization</i>						
Morbidity	34.0(20.7-47.3)		28.3(18.4-38.1)		21.8(8.8-34.8)	
Boys	38.3(25.0-51.7)	sustained	28.2(16.8)	sustained	19.9(6.1-33.7)	sustained
Girls	29.8(15.4-44.2)		28.3(18.7-37.9)		23.9(10.8-37.1)	
Diarrhoea	9.3(3.2-15.4)		6.4(3.7-9.1)		1.8(0.5-3.1)	
Boys	9.4(3.4-15.4)		6.2(2.4-9.9)		2.6(0.4-4.8)	
Girls	9.2(1.7-16.7)		6.7(3.6-9.9)		0.9(0-2.1)	
Pneumonia	9.5(4.1-14.8)		8.4(3.9-12.9)		9.2(3.8-14.5)	
Boys	10.5(4.3-16.8)		8.7(3.7-13.7)		7.8(2.6-12.9)	
Girls	8.5(3.5-13.4)		8.1(3.1-13.1)		10.7(4.6-16.8)	
Fever	19.8(12.4-27.3)		18.9(10.9-26.9)		13.1(3.9-22.3)	
Boys	23.3(15.5-31.1)		19.5(10.3-28.7)		12.4(2.0-22.8)	
Girls	16.5(7.9-25.2)		18.3(10.7(25.9)		13.8(5.0-22.7)	

Summary of Key Nutrition Findings Gedo Region and change from Gu 2013

Measles					
Boys	0		0		0
Girls					
Vitamin A Supplementation	83.8(72.4-95.3)		81.5(71.9-90.9)		84.8(74.3-95.3)
Boys	84.6(73.4-95.7)		80.5(69.5-91.5)		83.9(72.5-95.2)
Girls	83.1(70.8-95.4)		82.5(73.8-91.2)		85.8(75.8-95.9)
Measles Vaccination	81.2(70.0-92.4)		78.8(69.2-88.5)		81.2(70.1-92.3)
Boys	84.6(74.1-95.1)		77.9(66.5-89.4)		81.3(69.6-92.9)
Girls	77.9(65.4-90.5)		79.8(70.9-88.6)		81.1(70.2-92.1)
Polio Immunization	95.9(90.2-101.6)		94.2(87.3-101.1)		94.4(87.8-101.0)
Boys	96.9(92.2-101.8)		93.6(84.9-102.2)		94.8(87.7-101.9)
Girls	94.9(88.2-101.5)		94.9(89.7-100.0)		94.0(87.5-100.6)
<i>Death Rates</i>					
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.9(0.21-4.25)		0.79(0.45-1.39)		0.76(0.40-1.51)
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.89(0.1-2.35)		1.18(0.22-2.53)		1.29(0.73-2.79)
<i>Women Nutrition and Immunization Status</i>					
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0		0		0
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	4.1 (1.6-6.5)		5.3 (2.3- 8.4)		6.9 (3.5- 10.3)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	21.1(13.9- 28.3)		22.7 (16.0-29.3)		15.1 (9.3-20.9)

Table 30: Summary of Key Nutrition Findings Dolow IDP

(N=517:Boys=248 ; Girls=262)		
Indicator	n	% (CI)
<i>Child Nutrition Status</i>		
Global Acute Malnutrition (WHZ<-2 or oedema)	102	19.7 (16.5-23.4)
Boys	59	23.8 (18.9-29.5)
Girls	43	16.0 (12.1-20.8)
Severe Acute Malnutrition (WHZ<-3 or oedema)	25	4.8 (3.2-7.0)
Boys	12	4.8 (2.8-8.3)
Girls	13	4.8 (2.8-8.1)
Mean of Weight for Height Z Scores	-1.05±1.15	
Oedema	5	1.0
Global Acute Malnutrition (NCHS)	99	19.0 (15.9-22.6)
Severe Acute Malnutrition (NCHS)	15	2.9 (1.8-4.7)
Proportion with MUAC<12.5 cm or oedema)	55	10.4 (8.1-13.3)
Boys	28	11.0 (7.7-15.5)
Girls	27	9.9 (6.9-14.0)
Proportion with MUAC<11.5 cm or oedema	18	3.4 (2.2-5.3)
Boys	11	4.3 (2.4-7.6)
Girls	7	2.6 (1.2-5.2)
Stunting (HAZ<-2)	126	27.1 (23.3-31.3)
Boys	70	31.4 (25.7-37.8)
Girls	56	23.1 (18.3-28.8)

Summary of Key Nutrition Findings Gedo Region and change from Gu 2013

Severe Stunting (HAZ<-3)	43	9.2 (6.9-12.2)
Boys	25	11.2 (7.7-16.0)
Girls	18	7.4 (4.8-11.4)
Underweight (WAZ<-2)	145	28.5 (24.8-32.6)
Boys	76	31.1 (25.7-37.2)
Girls	69	26.1 (21.2-31.8)
<i>Child Morbidity & Immunization</i>		
Morbidity	291	55.2
Boys	114	56.7
Girls	147	53.8
Diarrhoea	105	19.9
Boys	54	21.3
Girls	51	18.7
Pneumonia	166	31.5
Boys	81	31.9
Girls	85	31.1
Fever	253	48.0
Boys	124	48.8
Girls	129	47.3
Measles	55	10.4
Boys	33	13.0
Girls	22	8.1
<i>Death Rates</i>		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.77	
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.29	
<i>Women Nutrition and Immunization Status</i>		
Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm)	2	2.2
	0	0.0
	2	3.4
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	30	18.1
	17	20.0
	13	16.0
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	42	25.3
	20	23.5
	22	27.2
Proportion of Women who received Tetanus immunization		
No dose	130	50
One dose	49	18.8
Two doses	24	9.2
Three doses	57	21.9
<i>Public Health Indicators</i>		
Household with access to sanitation facilities	186	99.6
Household with access to safe water	198	28.4
Proportion who reported to have consumed <4 food groups	30.2	

4.4.2: MIDDLE AND LOWER JUBA REGIONS

FSNAU conducted five nutrition surveys in the Juba region - two comprehensive SMART in IDPs and three rapid MUAC surveys in rural livelihoods. These surveys assessed the nutrition status of 4 759 children aged 6-59 months old from 2 101 households.

The current food security situation of the population groups where nutrition assessments were done in areas is summarized in Table 31. In rural livelihoods, the food security situation was reported to be stressed but crisis situation was reported in Dhobley and Kismayo IDPs. Access to food was reported as borderline but adequate to meet food consumption requirements.

Table 31: Summary of Food Security Situation in Juba

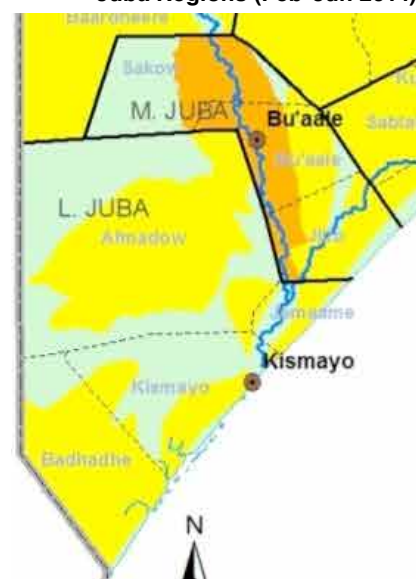
POPULATION ASSESSED	RAINFALL	FOOD ACCESS	FOOD SECURITY	AGGRAVATING FACTORS	COMPARISON WIT GU SO13
South Juba Pastoral South Juba Agro- Pastoral South Juba Riverine	Normal	Borderline adequate to meet food consumption requirements	Stressed	Below Baseline assets (small ruminant), Poor households have Limited social services and poor infrastructure, High morbidity Below average crop production, Reduced cereal stocks	Stable
	Normal		Stressed		Stable
	Normal		Stressed		Stable
	Normal		Stressed		Stable
	Normal		Stressed		Stable
			Stressed		Stable
Dhobley IDP	Normal	Crisis			Stable
Kismayo IDP	Normal	Crisis			Stable

CURRENT FOOD SECURITY SITUATION- POST DEYR 2013/14

In Deyr 2013/14 food security situation in the Juba region shows deterioration in most of the crop dependent livelihoods (riverine and Southern Agro pastoral) while the livestock dependent regions (South east pastoral, southern inland pastoral and lower juba agro pastoral) were sustained as minimal. In the January 2014 snapshot analysis, Juba riverine and southern agro pastoral were classified in **Crisis** (IPC Phase 3) while south east pastoral and lower juba agro pastoral were classified as **Stressed** (IPC Phase 2). **Minimal** (IPC Phase 2) seen in Gu 2013 among Juba camel pastoralist was sustained in this Deyr 2013/14).

In the most likely scenario (Feb-June 2014), the IPC classifications for these livelihoods will remain the same except the riverine that is projected to improve to **Stressed** (IPC Phase 2) [Map 8]. In January 2014, the number of rural population classified in **Crisis** and **Stressed** (IPC Phase 3 and IPC phase 2) were estimated at 28 000 and 112 000 people respectively of which 26 000 and 44 500 were in crisis and stressed respectively in Middle Juba while 2 000 and 67 500 (crisis and stressed respectively) were in Lower Juba. Due to the anticipated improvements in the riverine livelihood the estimated population in crisis are projected to decline from 28 000 to 21 300 people during (Feb-June 2014).

Map 8: Food Security Projection Juba Regions (Feb-Jun 2014)



DEYR 2013 NUTRITION SURVEY RESULTS

The results of nutrition assessments done in Juba regions are summarized in Table 34 and key highlights are discussed below.

Acute Malnutrition

Critical levels of acute malnutrition (GAM >15%) were observed in Dohley and Kismayo IDPs. Nutrition situation in Dohley has improved since Gu 2013 or Deyr 2012/13 when Very Critical levels of GAM were recorded. In Kismayo IDPs the Critical levels seen in Gu 2013 are sustained but it is improvement from Very Critical levels recorded in Deyr 2012/13.

Serious levels of SAM were seen in Doble IDPs in *Deyr* 2013/14 which is an improvement from very critical (>6%) levels seen in *Gu* 2013. Serious levels SAM prevalence are however sustained since *Deyr* 2012/13. Alert SAM levels are seen in Kismayo IDPs in *Deyr* 2013/14 which suggested sustained level of prevalence since *Gu* 2013 or *Deyr* 2012/13 (Annex 6.8).

Table 32: Nutrition Situation and mortality in different Livelihoods of Juba region

Population	GAM	SAM	Stunted	Underweight	Crude Death Rate	U5DR
Thresholds used for MUAC	5.6-8 serious	1-2 serious				
	8.1-11 Critical	2.1-3 critical				
	>11.1 Very critical	>3.Very critical				
Color Code WFH	15- <20 critical	2.5-3.4 alert	< 20- low	10-19.9 Medium	<0.5 acceptable	serious
		3.5-4.4 serious	30-39.9 High	>30 Very high	1-<2 critical	
Juba Pastoral MUAC	7.8	1.8				
Juba Agropastoral MUAC	10.7	2.1				
Juba Riverine	15.4	4.3				

MUAC assessment (> 12.5 cms) shows sustained Serious levels of prevalence in Juba pastorals since *Gu* 2013 and an improvement from Critical levels recorded in *Deyr* 2012/13. Critical GAM-MUAC is seen in Juba Agropastorals in *Deyr* 2013/14 and this is sustained since *Gu* 2013 but it is an improvement from Very Critical levels recorded in *Deyr* 2012/13. Very Critical levels recorded in Juba Riverine in *Deyr* 2013/14 are sustained since *Deyr* 2012/13. However the situation has worsened since *Gu* 2013 when Critical levels were observed.

It was observed both in Kismayo and Dholey IDPs that more boys (22%) were acutely malnourished than girls (15.1%) and the difference was statistically significant ($p<0.05$).

In IDPs it was observed that GAM (WHZ) prevalence was higher in children aged 24-59 months (20.3%) compared to infants aged 6-23 months (15.9 percent) and the difference was statistically significant ($p<0.05$). However reverse trend was noted for stunting and underweight prevalence which was higher in infants 6-23 months compared to 24-59 months (Table 33).

In rural livelihoods it was observed that prevalence of GAM-MUAC was higher in infants 6-23 months compared to 24-59 month old children.

Table 33: Distribution of malnutrition and morbidity by age groups

Age (months)	GAM	SAM	Stunting	Underweight	Morbidity
6-23-(N=572)	15.9*	4.7	27.3	27.6	53.3
24-59 (N=943)	20.3*	7.2	22.2	21.1	52.7
	GAM-MUAC	SAM-MUAC			
6-23-(N=1295)	12.7*	1.5	NA	NA	NA
24-59 (N=1956)	8.0*	1.2	NA	NA	NA

Chronic Malnutrition-Stunting

Sustained levels of low Stunting seen in Doble IDPs since *Deyr* 2012/13 suggest it is not a public health problem in this population. However High levels of stunting were recorded among children in Kismayo IDPs in *Deyr* 2013/14 which is an improvement from Very High levels seen in *Gu* 2013 or *Deyr* 2012/13.

Underweight

Prevalence of underweight was medium in Doholey IDPs and this is sustained since *Deyr* 2012. Very High levels of underweight were observed among children in Kismayo IDPs are also sustained since *Deyr* 2012/13.

Mortality

Acceptable levels of CDR are sustained in Doholey IDPs since *Deyr* 2012/13 but U5DR has improved since *Deyr* 2012/13 though deteriorated from acceptable levels seen in *Gu* 2013. In *Deyr* 2013/14, Kismayo IDPs show Critical levels of CDR which is a deterioration since *Gu* 2013/*Deyr* 2012/13 while sustained Serious levels of U5DR are noted (Annex 6.10).

Morbidity

The morbidity levels In Doholey and Kismayo IDPs are High and ranged from 23.2 percent to 36.4 percent respectively.

Maternal Malnutrition

Serious levels of maternal malnutrition were noted among the pregnant and lactating women in both Doholey and Kismayo IDPs. This could be the reason for Critical levels of underweight prevalence seen in Kismayo IDPs.

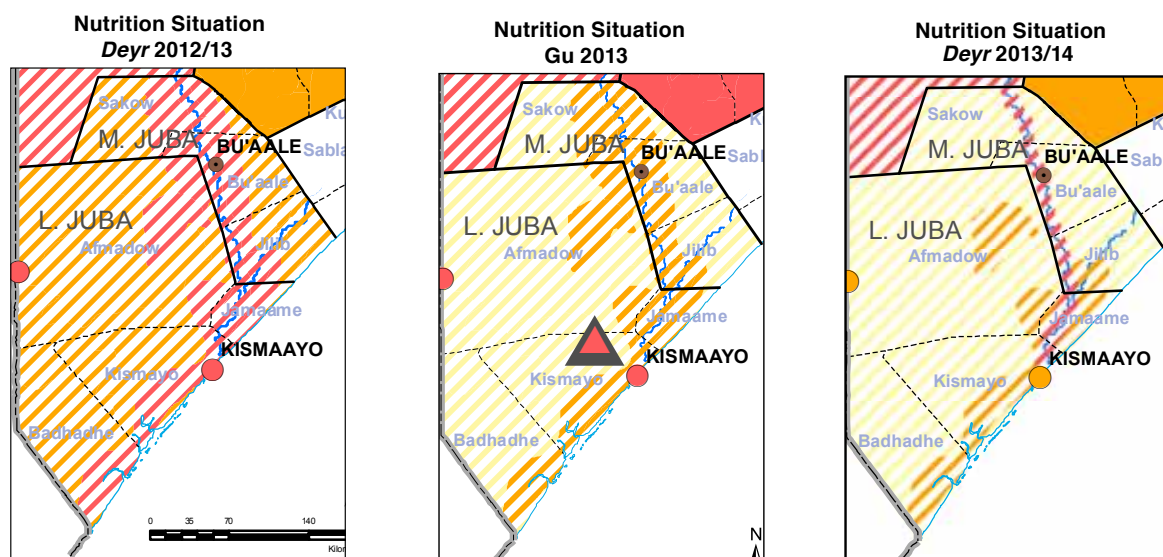
Dietary Diversification

Household dietary diversity measured as proportion of households consuming more than four food groups is 96.3 percent in Doholey and 49.5 percent in Kismayo IDPs. However Child dietary diversity is not related to HDD as only 2.5 percent of children < 2 yrs in Kismayo and 3.4 percent in Doholey reportedly consuming food from four or more food groups

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr* 2012 to *Deyr* 2013 (Figure 26). The nutrition situation among the Juba Rural livelihoods and Doholey and Kismayo IDP has for the last twelve months (*Deyr* 2012 to *Deyr* 2013) ranged between **Critical** to **Serious** levels with the exception of Doholey and Kismayo IDPs with sustained **Critical** levels. The nutrition situation has largely been influenced by food security and seasonal morbidity factors. The improvement in Juba Pastoral livelihoods is mainly linked to improved household food and milk access.

Figure 26: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14 in Juba regions



HOT SPOT FOR ACUTE MALNUTRITION IN JUBA SOMALIA

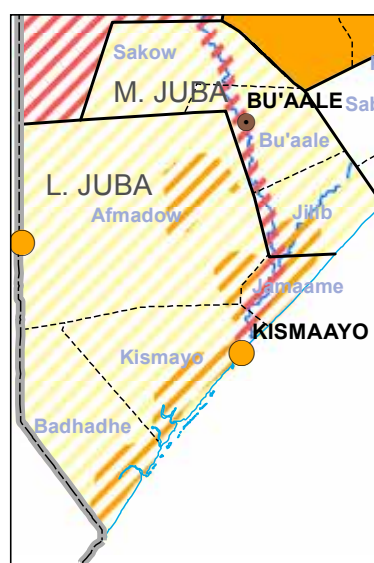
Dhobley and Kismayo IDPs with GAM rate exceeding 15 percent and South Juba Livelihoods Agro-pastoral and Riverine livelihoods with GAM-MUAC over 8 percent are current hotspots for acute malnutrition in Juba region.

OUTLOOK FOR FEBRUARY- APRIL 2014

The nutrition situation in Juba region is largely expected to remain **stable** in the coming three months. The maps below show current and projected **Serious** and **Critical** nutrition situation across livelihoods in Juba Region. The current minimal food security situation (IPC phase 1) in Juba region livelihood and crisis in Dhobley and Kismayo IDPs is projected to remain stable up to June 2014.

Figure 27: Nutrition Situation Outlook Deyr 2012/13 to April 2014 in Juba region

Current Nutrition situation in Juba region (Jan 2014)



Projected Nutrition situation in Juba region (Feb- Apr 2014)

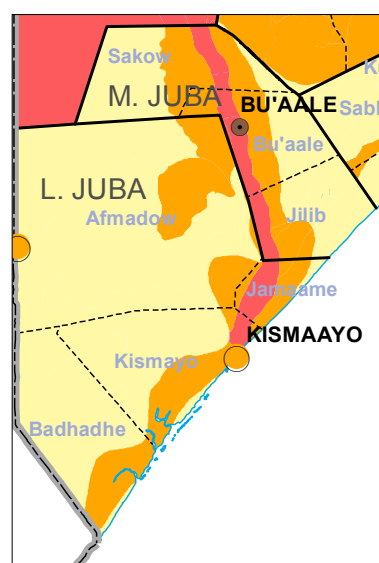


Table 34: Summary of Key Nutrition Findings: Juba IDPs

Indicator	Dhobley IDPs (N=809: Boys=419; Girls=390)		Kismayo IDPs (N=650 Boys=381 Girls=332)	
	Results	Change from Gu 2013	Results	Change from Gu 2013
<i>Child Nutrition Status</i>	% (CI)		% (CI)	
Global Acute Malnutrition (WHZ<-2 or oedema)	15.8 (13.5-18.5)	improved	16.2 (13.5-19.2)	sustained
Boys	16.0 (12.8-19.8)		21.2 (16.9-25.9)	
Girls	15.6 (12.4-19.6)		11.4 (8.5-15.3)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	4.1 (2.9-5.7)	improved	3.4 (2.2-5.1)	sustained
Boys	3.8 (2.4-6.1)		2.2 (1.1-4.5)	
Girls	4.4 (2.7-6.9)		4.5 (2.8-7.3)	
Mean of Weight for Height Z Scores	-0.8.4±1.15	sustained	-0.96±1.07	sustained
Oedema	0.5	sustained	1.2	sustained
Global Acute Malnutrition (NCHS)	15.1 (12.8-17.7)	sustained	14.1 (11.7-17.0)	Improved
Severe Acute Malnutrition (NCHS)	1.0 (0.5-1.9)	sustained	10.9 (8.8-13.5)	sustained
Proportion with MUAC<12.5 cm or oedema)	11.2 (9.2-13.5)	sustained	12.8 (10.5-15.6)	sustained
Boys	10.0 (7.4-13.1)		10.7 (7.8-14.6)	
Girls	12.6 (9.6-16.1)		14.8 (11.4-19.0)	

Summary of Key Nutrition Findings: Juba IDPs

Proportion with MUAC<11.5 cm or oedema	9.8 (7.9-11.9)		2.4 (1.5-3.9)	
Boys	8.8 (6.4-11.8)	deteriorated	0.9 (0.3-2.7)	deteriorated
Girls	10.8 (8.1-14.2)		3.8 (2.3-6.5)	
Stunting (HAZ<-2)	14.9 (12.5-17.6)		30.7 (27.3-34.4)	
Boys	15.4 (12.1-19.3)	Sustained	34.5 (29.5-39.9)	improved
Girls	14.4 (11.2-18.4)		27.1 (22.5-32.1)	
Severe Stunting (HAZ<-3)	3.0 (2.0-4.5)		11.6 (9.4-14.3)	
Boys	3.9 (2.4-6.3)		12.3 (9.2-16.4)	
Girls	2.1 (1.1-4.2)		10.9 (8.0-14.8)	
Underweight (WAZ<-2)	14.5 (12.2-17.1)		30.1 (26.7-33.7)	
Boys	16.7 (13.5-20.7)	Sustained	39.9 (34.7-45.3)	Sustained
Girls	12.1 (9.2-15.7)		20.5 (16.5-25.2)	
<i>Child Morbidity & Immunization</i>				
Morbidity	23.2		36.4 (19.7-53.10)	
Boys	22.7		36.5 (19.6-53.4)	
Girls	23.8		36.4 (19.-53.4)	
Diarrhoea	8.5		21.9 (10.6-33.2)	
Boys	7.8		20.9 (9.7-32.2)	
Girls	9.3		22.8 (10.5-35.2)	
Pneumonia	13.0		12.3 (4.6-20.1)	
Boys	13.0		12.8 (4.3-21.5)	
Girls	13.0		11.8 (4.3-19.3)	
Fever	19.7		29.3 (15.2-43.4)	
Boys	19.6		29.4 (15.1-43.8)	
Girls	19.8		29.1 (14.7-43.5)	
Measles	1.2		1.8 (0.2-3.3)	
Boys	0.9		1.8 (0.3-3.3)	
Girls	1.5		1.8 (0.0-3.8)	
Proportion who reported to have consumed ≥4 food groups	3.4		2.5	
Boys	2.6		1.8	
Girls	3.8		2.3	
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.41		1.36	
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.44		1.40	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	8.3		6.2	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	24.1		23.6	

Proportion of Women who received Tetanus immunization				
No dose	35.3		30.1	
One dose	22.6		12.4	
Two doses	29.6		30.6	
Three doses	12.5		21.9	
<i>Public Health Indicators</i>				
Household with access to sanitation facilities	85		93.3	
Household with access to safe water	100		10.7	
Proportion who reported to have consumed <4 food groups	96.3		49.5	

4.4.3: MIDDLE AND LOWER SHABELLE REGIONS

BACKGROUND

Lower Shabelle is one of the principal agricultural regions of Somalia, where the main types of farming are rain-fed, flood and irrigation. Shabelle accounts for 18.5 percent of the Somalia population. Estimated population is 850 651 with 80 percent rural population. Middle Shabelle is located in the central regions of Somalia with population estimated at 514 901 with 80 per cent living in the rural areas. Rural livelihoods depend on both agriculture and pastoralism and comprise of riverine (pure farmers) and agro-pastoralists. The riverine population is located within 10 km of the Shabelle River cultivates maize, sesame and a variety of vegetables and fruits, and keep limited livestock holdings as a result of tsetse fly infestation. The agro-pastoral zone extends 20-40 km from the Shabelle River and incorporates both cultivation of crop (maize, cowpeas, sesame and fruit), and livestock rearing. The agricultural potential, as well as the labour and income opportunities in the area makes it a haven for seasonal casual work, and also for vulnerable populations in the event of shocks. The Shabelle regions continue to struggle with the negative impacts of civil insecurity and flooding. This has affected the population's well-being, through disruption of livelihoods, continued lack of access to humanitarian interventions, and a high number of IDPs in the region and crop cultivation and missed crop cultivation opportunity due to flooding.

FSNAU conducted three assessments in Shabelle region of Somalia (Mogadishu IDP and two surveys in rural livelihoods) of shabelle riverine agro-pastoral and assessed nutrition status of 1 972, children aged 6-59 month old (989 boys and 983 girls) from 1 227 households. Comprehensive assessments (nutrition and food security) were conducted in IDPs but nutrition situation in two livelihoods was assessed through representative MUAC surveys.

CURRENT FOOD SECURITY SITUATION (POST DEYR 2013/14)

The food security situation has improved in most rural livelihoods of Shabelle regions, except in parts of riverine livelihood of the Middle Shabelle region where it has deteriorated due to floods and conflict in the recent months. These hazards affected crop production, caused population displacement and livelihood disruption, particularly in Jowhar district. In January 2013 snapshot analysis, the riverine livelihood of the Jowhar district was classified as Crisis (IPC Phase 3) even when considering the effects of substantial humanitarian support provided to flood and conflict-affected populations.

In January 2014, the total estimated number of affected population in Crisis (IPC Phase 3) and Emergency (IPC Phase 4) in Middle Shabelle is estimated at 61 200 people of which (51 300 in Crisis and 9 900 is in Emergency), which indicates a 28 per cent increase since post *Gu* 2013. The population in Stress (IPC Phase 2) phase stood at 121 600 people, also showing an increase (by 27%) from the post-*Gu* 2013 estimates. In Lower Shabelle, the population in Stress (IPC Phase 2) was estimated at 202 600 people, a slight decrease (5%) since post *Gu* 2013. In the most likely scenario from February-June 2014, the estimates of population in Emergency (IPC Phase 4) are projected to remain unchanged in Middle Shabelle. However, the estimated number of population in Crisis (IPC Phase 3) is projected to decline by January 2014 to 48 800 people, thereby increasing the estimates for IPC Phase 2 to 124 100 people. In Lower Shabelle, the January 2014 estimates of the population in Stress (IPC Phase 2) are projected to remain unchanged up to June 2014.

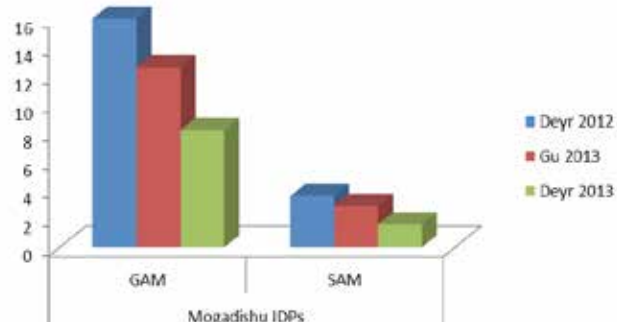
Post Deyr 2013/14 Nutrition Situation

In Post *Gu* '2011 Integrated Phase Classification identified the livelihoods in Middle and Lower Shabelle regions in AFLC, HE and Famine. The significant food security deterioration in the Shabelle region was mainly attributed to limited food availability and access due to almost total crop failure and loss of livestock following poor rain performance and poor irrigation (due to drop in river level). The famine in the region was classified based on three main indicators, 20 per cent of the population cannot access 2,100 Kcal per day, GAM rates exceed 30 percent and by crude death rate of 2/10,000/day. In middle and Lower Shabelle, the population had passed these thresholds, indicative of a humanitarian catastrophe.

Acute Malnutrition

Acute malnutrition levels in Banadir (Mogadishu IDPs) show a slight improvement from **Serious** in Gu 2013 to **Alert** levels in Deyr 2013/14 (Figure 28). This improvement was related to better access and a fairly good humanitarian assistance. The prevalence of acute malnutrition in Deyr 2013/14 has improved in Mogadishu IDPs with GAM rate of 8.2 percent and SAM of 2.9 percent (reported oedema cases) indicating an **Alert** nutrition situation when compared with GAM rate of 12.6 per cent recorded in Gu 2013. This is also an improved situation when compared with GAM rate of 16.0 percent recorded in Deyr 2012/13. The improvement is linked to continued humanitarian support in these settlements.

Figure 28: Distribution of GAM and SAM from Deyr 2012 to Deyr 2013



Representative MUAC assessments conducted in the Middle Shabelle's recorded a GAM-MUAC (MUAC<12.5 cm) rate of 8.0 percent in Agro pastoral indicating a **Serious** situation while a GAM-MUAC (MUAC<12.5 cm) rate of 9.5 percent in riverine showed **Critical** nutrition situation since the famine in 2011.

Analysis of the distribution of the cases of acute malnutrition between young children aged 6-23 months and those aged 24-59 months show that children aged less than two years were more likely to be acutely malnourished compared to children 24 to 59 months, although the result shows no significant difference (Table 35).

Table 35: Distribution of malnutrition and morbidity by age groups in Shabelle region

Age (months)	GAM	SAM	Stunting	Underweight	Morbidity
6-23-(N=203)	10.8	3.4	32.5	28.1	48.3
24-59 (N=305)	6.9	1.0	13.4	9.5	30.2
	GAM MUAC	SAM MUAC			
6-23-(N=627)	15.2	4.8	NA	NA	32.4
24-59-(N=845)	3.9	0.7	NA	NA	22.8

Stunting and Underweight

High prevalence of stunting and underweight is seen in the assessed population of Mogadishu IDP while medium rate of underweight prevalence (19.5%) was noted. There is no change in prevalence of both underweight and stunting since Gu 2013 assessments (Table 35).

Mortality

The Crude and under-five death rates in the three assessed population groups in the south shabelle regions are within the **Alert-Acceptable** WHO/UNICEF levels of <0.5 and <1/10,000/day. This reflects a stable mortality levels since Gu 2013. (Annex 6.10)

Morbidity

Morbidity levels in the Mogadishu IDP shows a generally high and stable trend (Annex 6.10) with 39 percent of the assessed children falling ill within past two weeks.

Immunization

There was (>70 percent) reported coverage with Vitamin A supplementation, measles vaccination and Polio immunization in Mogadishu IDPs, which is relatively below the SPHERE recommended coverage of 95 per cents.

Maternal Malnutrition:

Levels of maternal malnutrition (MUAC<23 cm) were in the Acceptable range among the Mogadishu IDPs (1.0%). Prevalence of severe malnutrition in PLW was one percent or lower suggesting maternal malnutrition is not a public health problem in these areas.

Dietary diversification

Household dietary diversity measured as the proportion of households consuming more than four food groups is high (99.5%). There is no significant change in household dietary diversity between *Gu* 2013 and *Deyr* 2013/14 seasons. However poor IYCF practices were suggested by the low dietary diversity (7.3%) of children was consuming food from four or more food groups.

Infant and young child feeding in terms of continued breastfeeding for up to one year (12 Months) and 24 months, child dietary diversity and frequency of complementary feeding remain below the required levels in Mogadishu IDP. Majority (>71%) of the assessed children were not breastfed up to the recommended 24 months of age.

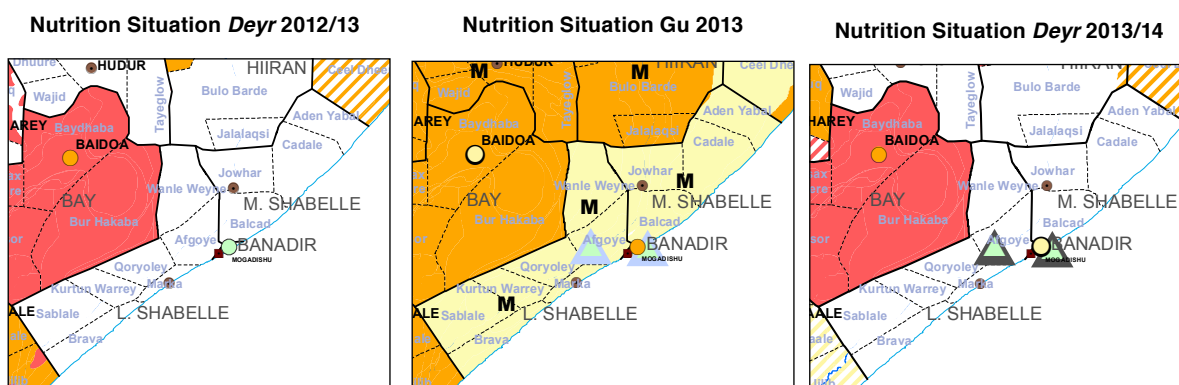
Change in Nutrition Situation

The nutrition situation has improved from **Serious** to **Alert** in Mogadishu IDP, while the situation in Middle Shabelle Agro pastoral is **Serious** and riverine show **Critical** nutrition situation since the famine in 2011. The nutrition situation has largely been influenced by food insecurity factors particularly lack of access in Shabelle riverine and Agro pastoral communities and morbidity patterns. Overall, the level of acute malnutrition in Shabelle region has shown a slight improvement with likely scenario to deteriorate since majority of agro pastoral and riverine areas remain submerged due to floods which may lead to deteriorating food security and also insecurity and clan clashes. In summary, the current nutrition situation in Shabelle clearly illustrates the high level of vulnerability of the populations in Somalia. The well-being of the population remains extremely fragile to combination of multiple natural, economic and political shocks, especially with insufficient measures in place to mitigate loss of life and complete erosion of livelihoods. Shabelle regions are highly agricultural and serve as the cereal basket of the country. Consecutive seasons of rain failure and poor crop production, leaves the population with little options for coping. The maps below show the trends of nutrition situation from *Deyr* 2012/13 to *Deyr* 2013/14.



Parts of Shabelle affected by floods

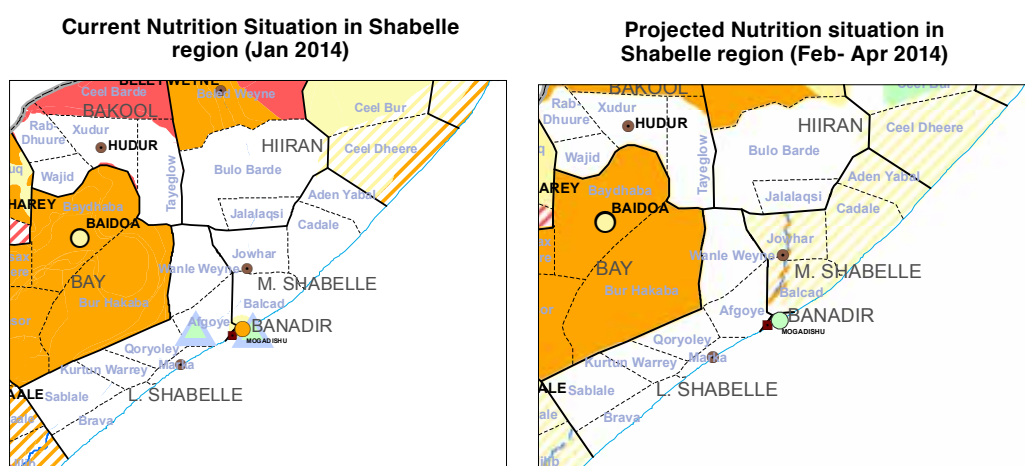
Figure 29: Progression of the Nutrition Situation *Deyr* 2012/13 to *Deyr* 2013/14



HOT SPOT FOR ACUTE MALNUTRITION IN SHABELLE'S

Mogadishu IDPs with SAM-MUAC of over two percent both middle Shabelle Agro Pastoral and Riverine are current hotspots for acute malnutrition in Shabelles.

Figure 30: Nutrition Situation Outlook Deyr 2012/13 to April 2014



OUTLOOK FOR FEBRUARY- APRIL - 2014

The acute malnutrition nutrition situation is projected to remain as **Alert** in Mogadishu IDPs, while **Serious** situation is projected for Shabelle Agro Pastoral while riverine will likely remain as **Critical**. The estimates of population in Emergency (IPC Phase 4) are projected to remain unchanged in Middle Shabelle. However, the estimated number of population in Crisis (IPC Phase 3) is projected to decline by January 2014 to 48 800 people, thereby increasing the estimates for IPC Phase 2 to 124 100 people. In Lower Shabelle, the January 2014 estimates of the population in Stress (IPC Phase 2) in projected to remain unchanged up to June 2014.

Table 36: Summary of Key Nutrition Findings: Mogadishu IDPs of Shabelle

Indicator	Mogadishu IDPs	
	Clusters: 40 (N=500: Boys=260; Girls=240)	
	n	Change from Gu 2013
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	8.2 (5.9-11.3)	Improved
Boys	10.8 (7.2-15.8)	
Girls	5.4 (3.2- 9.0)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.6 (0.8- 3.2)	Improved
Boys	1.2 (0.4- 3.4)	
Girls	2.1 (1.9- 6.0)	
Mean of Weight for Height Z Scores	-0.60±1.01	Improved
Oedema	0.8	Deteriorated
Proportion with MUAC<12.5 cm or oedema	9.2 (6.5-12.9)	Deteriorated
Boys	8.6 (5.2-14.0)	
Girls	9.9 (6.8-14.2)	
Proportion with MUAC<11.5 cm or oedema	2.9 (1.6- 5.5)	Deteriorated
Boys	2.3 (0.9- 5.4)	
Girls	3.7 (1.8- 7.6)	
Stunting (HAZ<-2)	20.0 (15.1-26.1)	Improved
Boys	23.8 (17.6-31.5)	
Girls	15.9 (10.4-23.5)	
Severe Stunting (HAZ<-3)	4.0 (2.2- 7.1)	Improved
Boys	5.4 (2.5-11.3)	
Girls	2.5 (1.2- 5.1)	
Underweight (WAZ<-2)	16.6 (13.2-20.6)	Improved
Boys	19.8 (14.6-26.4)	
Girls	13.0 (9.3-17.9)	
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.6 (0.3-1.3)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.5 (0.2-1.5)	Improved

Summary of Key Nutrition Findings: Mogadishu IDPs of Shabelle

Women Nutrition and Immunization Status		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0.2 (0.0-0.6)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	1.0 (0.0-2.0)	Improved
Child Morbidity & Immunization		
Morbidity	37.3 (29.9-44.7)	
Boys	38.7 (30.1-47.3)	
Girls	35.8 (28.2-43.4)	
Diarrhoea	6.9 (3.6-10.2)	
Boys	7.1 (3.3-11.0)	
Girls	6.6 (2.8-10.4)	
Pneumonia	13.6 (8.1-19.0)	
Boys	16.5 (10.3-22.8)	
Girls	10.3 (4.6-16.0)	
Fever	28.7 (22.4-34.9)	
Boys	29.7 (21.7-37.7)	
Girls	27.6 (20.8-34.3)	
Measles	3.9 (0.5-7.4)	
Boys	3.8 (0.9-6.6)	
Girls	4.1 (0.0-9.0)	
Vitamin A Supplementation	41.8 (31.6-52.1)	
Boys	46.6 (34.9-58.4)	
Girls	36.6 (26.5-46.8)	
Measles Vaccination	48.5 (37.6-59.4)	
Boys	53.4 (41.6-65.2)	
Girls	43.2 (32.1-54.3)	
Polio Immunization	67.4 (56.5-78.3)	
Boys	69.5 (58.3-80.8)	
Girls	65.0 (53.3-76.7)	
Infant and Young Child Feeding (6-24 Months)		
Proportion still breastfeeding	45.8 (37.7-54.0)	
Boys	52.3 (41.4-63.1)	
Girls	41.4 (28.0-50.1)	
Continued breastfeeding up to 12 months (N=35)	32.6 (16.6-38.6)	
Continued breastfeeding up to 24 months (N=0)	19.4 (4.2-34.5)	
Proportion meeting recommended feeding frequencies	39.4 (32.5-46.2)	
Boys	38.7 (30.0-47.5)	
Girls	49.4 (29.8-50.2)	
Proportion who reported to have consumed ≥4 food groups	7.3 (4.1-10.4)	
Boys	7.5 (4.2-10.8)	
Girls	7.0 (2.8-11.2)	
Proportion of Women who received Tetanus immunization	N=162	
No dose	9.3 (5.3-13.2)	
One dose	6.1 (3.5-8.7)	
Two doses	8.5 (4.1-12.8)	
Three doses	8.1 (3.4-12.7)	
Public Health Indicators		N=313
Household with access to sanitation facilities	38.2 (34.6-41.7)	
Household with access to safe water	39.1 (35.6-42.6)	
Proportion who reported to have consumed >4 food groups	99.5 ()	
Household's Main Food Source- Purchase	41.1 (37.5-44.6)	
Mean CSI	11.3 (2.0-15.2)	

Table 37: Summary of Key Nutrition Findings Middle Shebelle's Livelihoods				
	Agro-pastoral		Riverine	
	Clusters :25 (N=786: Boys=391; Girls=395)		Clusters: 25 (N=686 Boys=338; Girls=348)	
Indicator	n		n	% (CI)
Child Nutrition Status	% (CI)		% (CI)	
Proportion with MUAC (<12.5 cm or oedema)	8.0 (5.9-10.8)		9.5 (7.3-12.2)	
Boys	7.2 (5.0-10.1)		8.0 (4.9-12.8)	
Girls	8.9 (6.0-12.9)		10.9 (8.0-14.7)	
Proportion with MUAC (<11.5 cm or oedema)	1.9 (1.1-3.4)		3.1 (1.8- 5.3)	
Boys	1.8 (0.9-3.5)		2.7 (1.0- 6.6)	
Girls	2.0 (0.9-4.5)		3.4 (1.9- 6.3)	
Child Morbidity & Immunization				
Morbidity	19.5 (13.5-25.4)		35.4 (25.4-45.4)	
Boys	20.5 (13.3-27.6)		34.9 (24.6-45.2)	
Girls	18.5 (12.5-24.5)		35.9 (25.3-46.5)	
Diarrhoea	3.9 (1.2-6.7)		15.0 (9.5-20.5)	
Boys	3.1 (0.0-6.2)		15.4 (9.2-21.6)	
Girls	4.8 (1.9-7.4)		14.7 (7.9-21.4)	
Pneumonia	7.1 (3.7-10.6)		7.4 (4.1-10.8)	
Boys	8.4 (3.5-13.3)		8.6 (4.0-13.2)	
Girls	5.8 (2.7-8.9)		6.3 (2.8-9.8)	
Fever	13.3 (8.9-17.8)		24.3 (16.4-32.3)	
Boys	14.8 (9.4-20.2)		24.3 (15.3-33.3)	
Girls	11.9 (7.3-16.5)		24.4 (16.5-32.4)	
Measles	1.8 (0.7-2.9)		3.5 (1.4-5.6)	
Boys	2.0 (0.5-3.6)		2.7 (0.1-2.1)	
Girls	1.5 (0.1-2.9)		4.3 (2.0-6.6)	
Vitamin A Supplementation	68.2 (57.7-78.4)		51.6 (35.6-67.6)	
Boys	66.7 (55.2-78.3)		51.5 (35.8-67.2)	
Girls	69.6 (59.2-80.0)		51.7 (34.9-68.5)	
Measles Vaccination	22.5 (10.3-34.7)		14.0 (6.4-21.6)	
Boys	21.9 (9.5-34.5)		15.1 (7.4-22.8)	
Girls	23.0 (10.7-35.4)		12.9 (4.4-21.4)	
Polio Immunization	79.3 (72.5-86.0)		71.4 (64.7-78.1)	
Boys	79.3 (70.8-87.7)		70.4 (63.3-77.6)	
Girls	79.2 (72.5-85.9)		72.4 (64.9-80.0)	
Death Rates				
Crude deaths, per 10,000 per day	0.50 (0.33-0.77)		1.01 (0.68-1.49)	
Under five deaths, per 10,000 per day	1.59 (0.85-2.97)		1.87 (1.05-3.29)	
Overall Situation Analysis	Serious		Critical	

4.4.4: HIRAN REGION

The region comprises of three main livelihood groups: the Pastoral (Southern Inland and Hawd pastoral) covering Mataban and Mahas districts; and the Agro-pastoral and Riverine livelihood systems, both of which cut across Beletweyne, Buloburti and Jalalaqsi districts. Like many other regions in South Central Somalia, Hiran has not escaped the effects of high intensity civil conflict, which has affected people's means of livelihood. Intermittent localised civil conflict, as well as the targeting of aid workers in the region has continued to hinder humanitarian access. According to UNDP 2005 population estimate for Hiran was 329 811 out of which 69 113 are Urban (21%) and 260 689 are the rural (79%).

CURRENT FOOD SECURITY SITUATION- POST DEYR 2013/14

The food security situation in all pastoral livelihood zones of the Hiran region has improved in this post-Deyr 2013/14 season compared to post-Gu 2013 (April-Jun 2013) season. This is due to favourable seasonal rainfall performance which resulted in an improved overall livestock production and reproductions. However the Deyr 2013/14 crop production in riverine and agro pastoral zones of the region is estimated to be below average and all livelihoods of the region are classified as **Stressed** (IPC Phase 2). In the most likely scenario during January-June 2014 the food security situation in Agro pastoral and Riverine areas of Beletweyne is likely to deteriorate further as a result of poor cereal production and/or complete failure in Deyr 2013/14. Consequently, poor households from Agro pastoral and Riverine populations of Beletweyn areas are projected to fall into **Crisis** (IPC Phase 3). The rest of the rural livelihoods are expected to remain as **Stressed** (IPC Phase 2).

Post Deyr 2013/14 Nutrition Situation

For the last twelve months (post Deyr 2012/13 to Post Deyr 2013/14) the nutrition situation among the Hiran Rural livelihoods has improved in Beletweyne though Critical levels of acute malnutrition are sustained while in Matabaan districts nutrition levels have remained as Serious since Gu 2013. No surveys were conducted in the rest of the region due to lack of access. Therefore there was insufficient data to make an overall nutrition statement. Improvement in the nutrition situation has largely been influenced by improved food security particularly access to milk among the riverine and Agro pastoral areas. The maps in Figure 38 show the change in trends of nutrition situation from post Deyr 2012/13 to post Deyr 2013/14.

Acute Malnutrition

The results of Post Deyr 2013/14 Nutrition assessment in Beletweyne district show improvement in nutrition situation to **Critical** situation from sustained **Very Critical** nutrition situation observed in post Gu 2013 and post Deyr 2012/13 with median GAM of 16.4 percent and SAM of 4.4 percent. The prevalence of acute malnutrition (GAM & SAM) was observed to be higher in boys 19.9 compared to girls 13.1 in Beletweyne and similar trends were also noted for Mataban. Sustained **Serious** nutrition situation levels were also observed in Matabaan District with GAM rate of 12.6 observed from Serious in Post Gu 2013 and Very Critical in post Deyr 2012/2013). The improvement in the pastoral livelihoods of the region is primarily attributable due to favourable seasonal rainfall performance which resulted in an improved overall livestock production and reproductions to average post Deyr 2013 /14 seasonal rainfall performances that resulted in improved availability and access to milk, water, pasture and livestock body conditions resulting in higher livestock price. Generally, the herd sizes of livestock owned by poor households has increased in light of the four consecutive seasons of average seasonal rain performance.

Table 38: Nutrition Situation in Hiran-Deyr 2013/14

Population Assessed	GAM	SAM	Stunted	Underweight	Crude Death Rate	U5DR
Matabaan	12.6	2.9	10.4	10.2	0.2	0.5
Beletweyn	16.4	3.6	35.1	30.9	1.7	2.7
Thresholds used	10-<15 serious	2.5-3.4 alert	< 20- low	< 10-low	<0.5 acceptable	< 1 acceptable
	15-<20 Critical	3.5-4.4 serious	30-39.9 -High	>30 Very high	1- <2 critical	2-3.9 Critical

Stunting and Underweight

Low levels of stunting and underweight prevalence were seen in children (6-59 months) in Mataban where prevalence of GAM was Serious. However Beletweyne which had Critical GAM prevalence had high prevalence of stunting and very high underweight prevalence. Prevalence of stunting in Beletweyne is increasing since Gu 2013 and Deyr 2012/13 (Annex 10). This is indicative of increased vulnerability which is also reflected in critical levels of CDR and U5DR. Increased prevalence of underweight in Deyr 2013/14 (30.9%) compared to levels seen in Gu 2013 (19.1 %) also suggests deterioration in both acute and chronic nutrition situation

Age and Malnutrition

Analysis of the distribution of the cases of acute malnutrition between young children aged 6-23 months and those aged 24-59 months showed that children aged less than two years were more likely to be acutely malnourished than children 24 to 59 months (Table 39).

Table 39: Distribution of malnutrition and morbidity by age groups in Hiran region

Age (months)	GAM	SAM	Stunting	Underweight	Morbidity
6-23-(N=449)	17.8	4.9	28.7	26.9	66.1
24-59 (N=715)	12.7	2.8	17.8	15.9	57.6

Mortality

The CDR and U5DR rate of 0.24 and 0.49 respectively indicates *Acceptable* situation in Mataban is sustained (Annex 6.10). In Beletweyne deterioration in both CDR and U5DR to **Critical** levels was noted in post Deyr 2013/14 compared to Acceptable levels seen in in post Gu 2013.

Morbidity

The morbidity level in the assessed population in Hiran region were very high in both Beletweyn (58.8 %) and Mataban (54.6 %), which indicates that one out of every two children over 5 years of age had suffered from at least one of the common childhood illness two weeks prior to the assessment.

Immunization:

Reported measles immunization and Vitamin A supplementation coverage in Hiran was far below 80 percent in both Beletweyne and Mataban This is mainly attributable to low coverage by health facilities and limited availability of health services in the region because of limited humanitarian presence in the region.

Maternal malnutrition:

Maternal malnutrition rates among pregnant and lactating women (MUAC <23.0 cm) in Mataban district has improved from Very Critical in Gu 2013 and Deyr 2012 to **Serious** level and *Acceptable* situation in Beletweyn when compared to **Alert** level in post Gu 2013.

Table 40: Summary of Key Nutrition Findings in Hiran Region				
Indicator	Beletweyn		Mataban	
	(N=825: Boys=366; Girls=459)		N=671: Boys=344; Girls=327	
	Results	Comment	Results	Comment
	(CI)	Change from Gu 2013	(CI)	Change from Gu 2013
Global Acute Malnutrition (WHZ<-2 or oedema)	16.4 (12.4-21.3)	Improvement	12.6 (9.6-16.4)	Slight deterioration
Boys	19.9 (13.9-27.8)		13.1 (9.0-18.7)	
Girls	13.1 (8.6-19.4)		11.9 (8.6-19.4)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.6 (2.4- 5.4)	improved	2.9 (1.6-5.2)	Improved
Boys	5.5(3.1- 9.5)		2.7 (1.3-5.6)	
Girls	1.8 (0.7- 4.9)		3.1 (1.5-6.3)	
Mean of Weight for Height Z Scores	-0.92±1.09	Improved	-0.72 ± 1.11	Improved
Oedema	0.0	Improved	0.0	Improved
Global Acute Malnutrition (NCHS)	14.6 (11.2-18.9)	Improved	11.1(8.0-15.2)	sustained
Severe Acute Malnutrition (NCHS)	1.3 (0.6- 3.1)	Improved	1.3 (0.5-3.4)	Improved

Summary of Key Nutrition Findings in Hiran Region

Proportion with MUAC<12.5 cm or oedema)	12.0 (9.0- 15.8)		3.8 (2.5-5.7)	
Boys	13.5 (9.1- 19.7)	deterioration	3.9 (2.0-7.2)	deterioration
Girls	10.5 (7.2- 15.2)		3.8 (2.1-6.5)	
Proportion with MUAC<11.5 cm or oedema	2.6 (1.4- 5.0)		0.5 (0.1-1.5)	
Boys	2.7 (1.3- 5.5)	Improved	0.6 (0.1-2.6)	Improved
Girls	2.5 (1.2- 5.5)		0.3 (0.0-2.5)	
Stunting (HAZ<-2)	35.1(27.6-43.4)		10.4 (7.7-13.9)	
Boys	38.4 (29.9-47.6)	deterioration	15.5(17.6-31.5)	deterioration
Girls	32.0 (23.6- 41.7)		4.5 (2.7-7.3)	
Underweight (WAZ<-2)	30.9(24.2-38.5)		10.2 (7.4-14.0)	
Boys	36.3(27.7-45.9)	deterioration	9.6 (6.3-14.3)	sustained
Girls	25.8 (18.7-34.5)		10.9(7.5-15.6)	
Malnutrition Trends at Health facilities (January – July 2012)	High (>15% and stable trend of acutely malnourished children in MCHs	sustained	High (>10%) and stable trend of acutely malnourished children in MCHs	Improved
Crude deaths, per 10,000 per day (retrospective for 90 days)	1.7 (1.2-2.2)	deterioration	0.24 (0.1-0.6)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	2.7 (1.1-6.5)	deterioration	0.49 (0.2-1.5)	sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	N= 563 1.2(0.0-3.6)	Improved	N= 414 4.9 (0.9-6.8)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=563 5.8(2.1-9.6)	Improved	N= 414 15.7 (12.7-18.8)	Improved
<i>Underlying & Risk Factors</i>				
Overall reported morbidity	58.8 (49.5-68.1)		54.6 (44.5-64.7)	
Boys	56.0 (45.1-66.9)		54.6 (44.4-64.8)	
Girls	61.5 (52.4-70.5)		54.6 (42.6-60.6)	
Diarrhoea	41.1 (25.7-57.1)		27.6 (17.6-37.6)	
Boys	38.6 (21.6-55.6)		27.0 (17.4-36.6)	
Girls	44.0 (28.1-59.9)		28.3 (16.3-40.4)	
Pneumonia	23.0 (12.5-33.5)		17.6 (10.9-24.4)	
Boys	22.0 (11.4-32.7)		16.3 (9.6-23.1)	
Girls	24.0 (12.4-35.6)		19.1 (10.8-27.4)	
Measles	0.2 (0.0-0.6)		0.8(0.1-1.4)	
Boys	0.0 (0.0-0.0)		1.2(0.1-2.3)	
Girls	0.4 (0.0-1.1)		0.3(0.0-1.0)	
Fever	43.1(31.0-55.2)		24.6 (19.3-29.9)	
Boys	38.6 (25.4-51.8)		25.2 (19.7-30.8)	
Girls	47.3 (34.7-59.9)		23.9 (17.6-30.1)	
Vitamin A supplementation	18.0 (3.3-32.7)		17.6 (5.9-29.3)	
Boys	17.8 (3.3-32.7)		16.0 (5.4-26.7)	
Girls	18.2 (2.7-22.7)		19.5 (6.3-32.6)	
Measles Vaccination	27.9(14.5-41.3)		16.3 (9.9-22.8)	
Boys	26.3(13.2-39.4)		17.5 (9.9-25.1)	
Girls	29.5(14.7-44.2)		15.0 (8.2-21.8)	
Polio immunization	65.0(51.2-78.8)		62.4 (50.9-73.9)	
Boys	67.6(54.8-80.3)		64.1 (51.3-77.0)	
Girls	62.5(47.0-78.0)		60.8 (49.1-72.6)	
Overall Situation Analysis	Very Critical		Serious	

HOT SPOT FOR ACUTE MALNUTRITION IN HIRAN

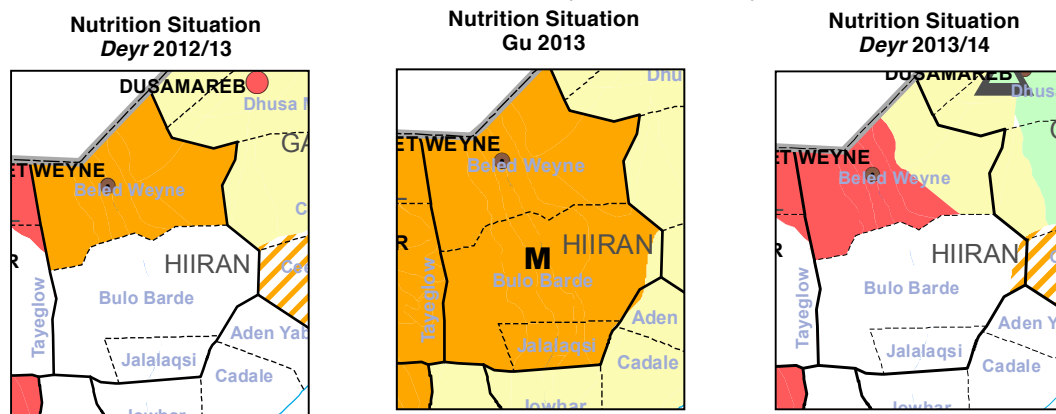
Beletweyn with Critical GAM prevalence and high stunting and very high underweight prevalence is a hot spot in Hiran. Prevalence of stunting in Beletweyne is increasing since *Gu* 2013 and *Deyr* 2012/13. This is indicative of increased vulnerability which is also reflected in Critical levels of U5DR. Increased prevalence of underweight in *Deyr* 2013/14 (30.9) compared to *Gu* 2013 (19.1) also suggests deterioration in both acute

and chronic nutrition situation. Current estimates suggest that 10 150 children under 5 yrs are suffering from moderate acute malnutrition and 2 250 from severe acute malnutrition and require immediate interventions to both treat the acutely malnourished children and prevent further deterioration of the nutrition situation in Beletweyne. Focus on IYCF will help prevent the intergenerational cycle of malnutrition.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from Deyr 2012 to Deyr 2013 (Figure 31). The nutrition situation in Hiran Pastoral livelihoods has for the last twelve months (Deyr 2012/13 to Deyr 2013/14) ranged between **Very Critical** to **Critical** levels while Mataban town has improved from **Very Critical** in Deyr 2012/13 to **Serious** levels in Deyr 2013/14.

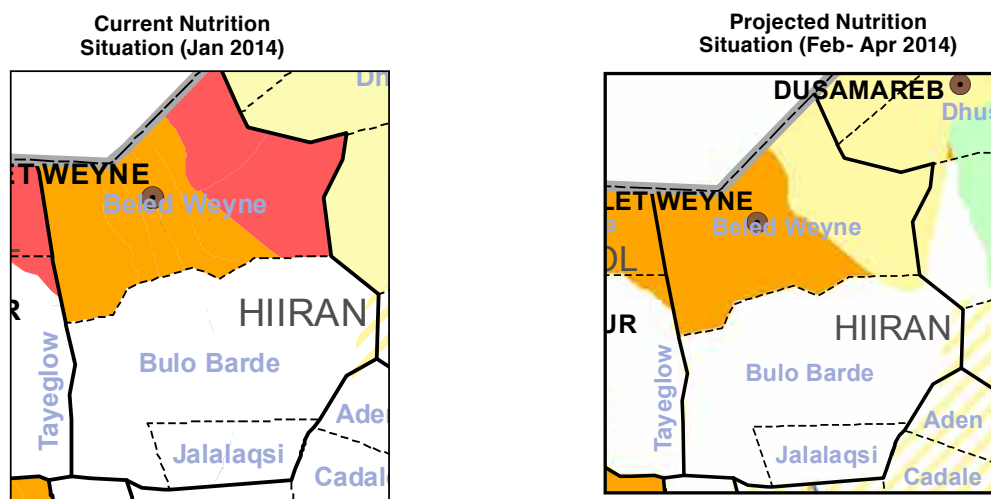
Figure 31: Progression of the Nutrition Situation Deyr 2012/13 to Deyr 2013/14 in Hiran Region



OUTLOOK FOR FEBRUARY- APRIL 2014

The integrated analysis of assessment data indicate improvement in food security situation which helped to sustain the **Serious** nutrition situation in Matabaan districts until February-April 2014. The **Critical** GAM levels in Beletweyne are projected to deteriorate to **Very Critical** in Feb-April 2014, due to lack of access to health facilities (high morbidity rates, low immunization coverage), in addition to the impacts of chronic food insecurity (especially among the Agro-Pastoral population) and civil insecurity in the region.

Figure 32: Nutrition Situation Outlook Deyr 2012/13 to April 2014 in Hiran Region



4.4.5: BAY AND BAKOOL REGIONS

FSNAU conducted three nutrition surveys (IDP and two Rural livelihoods) in Bay and Bakool regions (South West) of Somalia. Nutrition status of 2 086, children aged 6-59 month old (1 043 boys and 1 043 girls) from 1 408 households were assessed. Comprehensive assessments (nutrition and food security) were conducted in Baidoa IDP but in two rural livelihoods, nutrition situation was assessed through comprehensive assessment using a short anthropometric questionnaire.

The food security situation of the population at the time of survey in areas where nutrition assessments were done is summarized in Table 41. Food security was reported as Stressed (IPC Phase 2) in the two rural livelihoods, and Crisis (IPC Phase 3) among the IDPs. Access to food was reported as borderline, but adequate to meet food consumption requirements. Rainfall was reported as normal and the agro pastoral livelihoods reported near average to average crop production.

Table 41: Summary of Food Security Situation in Bay and Bakool

POPULATION ASSESSED	RAINFALL	FOOD ACCESS	FOOD SECURITY	AGGRAVATING FACTORS	CHANGE FROM GU 2013
Bay Agro-Pastoral	Normal	Borderline adequate to meet food consumption requirements	Stressed	Below baseline livestock assets since high off-take during 2011 drought poor infrastructure High morbidity	Stable
Bakool Pastoral	Normal		Stressed		Stable
Baidoa IDP	Normal	Food aid cereal purchase	Crisis	Poor child feeding poor dietary diversity	Stable

CURRENT FOOD SECURITY SITUATION- POST DEYR 2013/14

The FSNAU Post Deyr 2013/14 integrated food security analyses indicate sustained **Stressed** (IPC Phase 2) food security situation in the two rural livelihoods (Bay agro-pastoral and Bakool pastoral. This reflects a stable food security level since Gu 2013 in Bay region. The stability of food security situation in Bay and Bakool regions is attributed to the impact of normal to above normal Deyr 2013 rains. This is reflected in near average to average crop production increased farm labour opportunities and increased income from livestock, improved milk access and continued humanitarian interventions in some areas.

DEYR 2013 SURVEY RESULTS

The results of nutrition assessments done in Bay and Bakool region are summarized in Tables 43. Key highlights are discussed below:

Acute Malnutrition

Based on the three WHZ comprehensive assessments conducted in Bay and Bakool regions during Deyr 2013/14, Critical GAM levels (> 15%) were observed among children from Bay Agro-pastoral and Bakool pastoral livelihoods while Serious levels of GAM prevalence were observed in Baidoa IDPs (GAM <15%). SAM levels were Critical in Bay agro-pastoral (5.1%) while Alert SAM levels were recorded among children in Bakool pastoral livelihood and Baidoa IDPs.

Table 42: Nutrition Situation and Mortality in children < 5 yrs in Bay-Bakool region of Somalia

Population assessed	GAM %	SAM %	Stunted %	Under weight %	Crude Death Rate	U5DR	Morbidity	Maternal malnutrition
Thresholds used	10-14.9 Serious	2.5-3.4 Alert	< 20-low	10-19.9 medium	<0.5 acceptable	< 1 acceptable		
	≥ 15 critical	4.5-5.9 critical	30-39.9 high	20-29.9 high				
				≥30 very high				
Bay Agro-pastoral	19.6	5.1	35.2	31.4	0.2	0.6	25.6	17.1
Bakool pastoral	18.5	2.6	8.3	15.1	0.2	0.7	30.4	10.4
Baidoa IDPs	14.3	2.5	33	25.3	0.4	0.9	44.4	7.7

Critical GAM levels seen in Bay Agro-pastoral livelihood in *Deyr* 2013/14 are an improvement over Very Critical GAM (22.6 %) recorded in *Gu* 2013 but a stable situation when compared with Serious GAM (18.7 %) recorded in *Deyr* 2012. Critical levels of SAM prevalence in *Deyr* 2013/14 are sustained since *Gu* 2013 but prevalence of SAM has increased when compared to Acceptable levels seen in *Deyr* 2012/13. The current critical GAM levels in Bakool pastoral (18.5 %) suggest an improvement in the nutrition situation when compared with very critical GAM rates recorded in both *Gu* 2013 and *Deyr* 2012/13 (Annex 6.6A).

Serious GAM levels (14.3 %) in Baidoa IDP settlement in *Deyr* 2013/14 is also an improvement over Critical GAM rate of (15.8 %) recorded in *Gu* 2013 but it is sustained when compared with GAM rate of 12.8 percent recorded in *Deyr* 2012. Prevalence of SAM in *Deyr* 2013/14 was Acceptable and this is also an improvement over the Alert levels seen in *Gu* 2013 or *Deyr* 2012/13. The improvement is linked to continued humanitarian support in these settlements.

Chronic Malnutrition-Stunting

Prevalence of stunting was high (30-39.9%) in children under 5 from Bay Agro-pastorals, though a decreasing trend is noted in *Deyr* 2013/14 compared to *Gu* 2013 and *Deyr* 2012 when very high prevalence of stunting was recorded ($\geq 40\%$). Acceptable stunting levels were recorded in Bakool Pastorals, a trend which is stable since *Deyr* 2012. High levels of stunting recorded in Baidoa IDPs suggest a declining trend since *Deyr* 2012 (Annex 6.9).



Unprotected water source, Baidoa IDP

Underweight (Acute & Chronic Malnutrition)

Very high prevalence of underweight was observed among children under 5 yrs in Bay Agro pastorals ($>30\%$) while medium prevalence of underweight was recorded in Bakool pastoral. This suggests stable trends compared to *Gu* 2013 and *Deyr* 2012/13 (Annex 10) in both these regions. High prevalence (20-29.9%) of underweight was seen in Baidoa IDPs which is however lower than very high prevalence observed in *Deyr* 2012/13.

Mortality

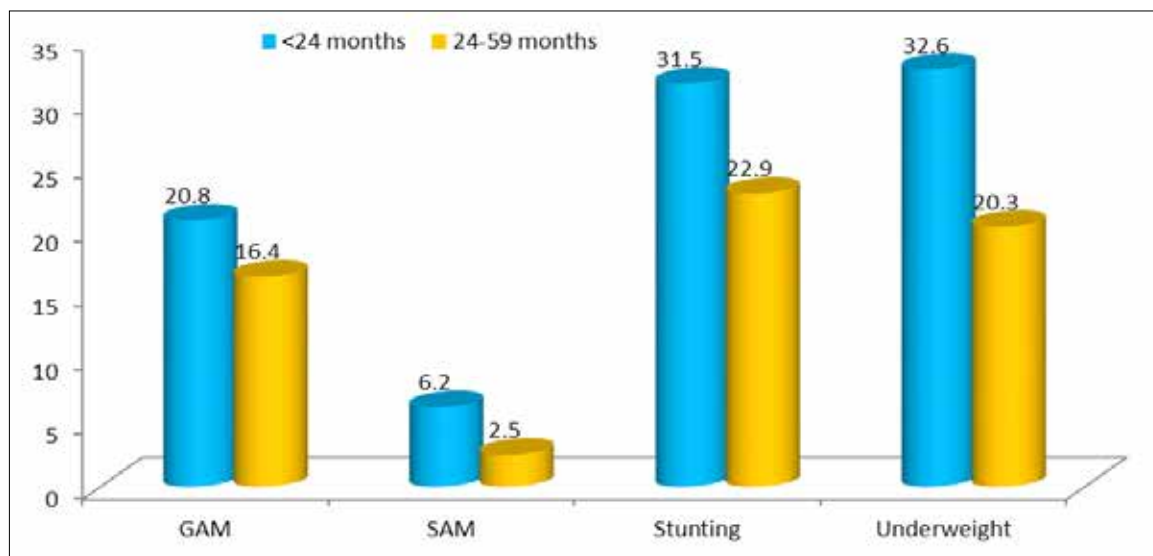
The Crude and under five death rates in the three assessed population groups in Bay and Bakool regions are within the **Acceptable** WHO/UNICEF levels of <0.5 and $<1/10,000/\text{day}$. This also reflects a stable mortality levels since *Gu* 2013/*Deyr* 2012 (Annex 6.10). No association between Critical/Serious levels of GAM prevalent in these areas with mortality rate was observed.

Morbidity

Morbidity a key nutrition aggravating factor, remains very high in the three assessed livelihoods, with 44.4 percent of assessed children in Baidoa IDPs, 30.4 percent in Bakool pastoral and 25.6 percent in Bay agro-pastoral reportedly been ill two weeks prior to the assessment. Similar high levels ($>25\%$) of morbidity were observed in *Gu* 2013 and *Deyr* 2012/13 assessments, suggesting no improvement in *Deyr* 2013/14. (Annex 12)

Immunization

The reported Vitamin A supplementation, measles vaccination and Polio immunization in the Bay agro-pastoral has always been low ($< 20\%$) and *Deyr* 2013/14 was no exception (Annex 14). More children reported receiving Vitamin A supplementation in *Deyr* 2013/14 (59.5%) compared to *Gu* 2013 (37.3%) but coverage with measles vaccination has declined from 82 percent in *Gu* 2013 to 23.5 percent in *Deyr* 2013. Bakool pastoral was the only region where coverage with Polio immunization reached over 90 percent. Vitamin A and measles coverage in Baidoa IDP settlement was low (approx. 40 %) which is poor compared to the SPHERE recommended coverage of 95 percent.

Figure 33: Comparison of Nutrition status of children <24 months-59 Months in Bay-Bakool regions

Age and Malnutrition

Age disaggregated data show that children below two years were more likely to be acutely malnourished ($p < 0.05$), stunted and underweight (Figure 33). This highlights the importance of focusing on preventing malnutrition during the 1000-day 'window of opportunity' (i.e. from pregnancy through two years of age) rather than treating malnutrition once it has occurred

Maternal Malnutrition

Serious levels of maternal malnutrition are seen among pregnant and lactating women in Bay agro-pastoral (17.1 %) while Alert levels are noted in Bakool pastoral (10.4 %), maternal malnutrition levels among the Baidoa IDP population in Bay region are Acceptable (< 7.7 %).

Dietary diversification

Household dietary diversity among Baidoa IDP measured as the proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Gu* 2013 and *Deyr* 2013/14 seasons, however milk access and consumption has improved in *Deyr* 2013 season. Infant and young child feeding in terms of continued breastfeeding for up to one year and 24 months, child dietary diversity and frequency of complementary feeding remain sub-optimal in all the assessed population groups. Majority ($> 77\%$) of the assessed children were not breastfed for up to the recommended 24 months; dietary diversity was poor where only 4.2 percent were reportedly consuming food from four or more food groups while as many as 45 percent of children in Baidoa DPs were not given complementary food on the recommended frequency which varies with age and breastfeeding status.



Use of local foods (wild vegetable) for household food consumption

IMPACT OF CHILD FEEDING AND MORBIDITY ON MALNUTRITION (CASE STUDY)

Ibado (mother of 9 month old child) says- I know my child's health is deteriorating “ but instead of giving time for this child, it is more important for me to go out and find food for the rest of the family members”.

Baidoa Town is host to internally displaced persons (IDPs) fleeing from Banadir, Bay and Bakool regions mainly because of insecurity and prolonged drought. Often, IDPs are faced with numerous problems including lack of food, malnutrition, poor sanitation and shelter due to loss of assets and a disruption of livelihood system. Ibado's household has 11 family members. She has six children including two that were under-five. The family had twenty goats and one cattle, and all died during the famine in 2011. In



A Mother with her nine month old sick child

addition they also had a farm which was their source of income. This family migrated into Baidoa IDP camp three years ago from a Uusle village of Bay region because of drought. They live in semi –permanent house made with iron sheet. The area is not clean and the mother looks sad, because the mother was busy, engaging the youngest child namely Zaynab.

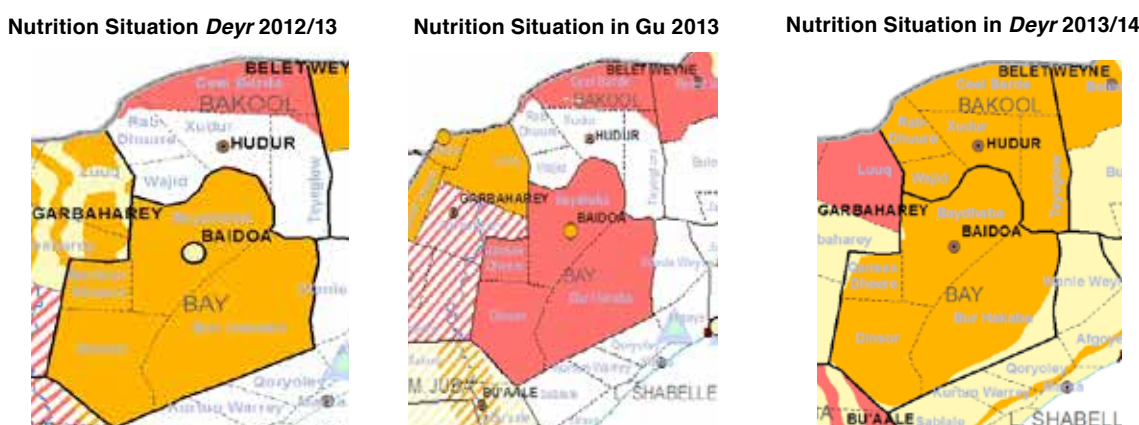
With almost no assets or income on arrival in Baidoa, Ibado's household relied on self-employment e.g. selling fire wood as a means of livelihood income. The father who has other wife and children began engaging in casual employment to help his family. However, work was not available at all times making it difficult to access any income. Two years later, Ibado began selling milk to feed her family.

The youngest child aged 9 months is suffering from moderate acute malnutrition (MUAC <11.8cm and WHZ) but has not been admitted to the supplementary feeding programme. At the time of the visit , both children had not received any vaccination and the mother was not aware of the various types of immunizations (except the tetanus vaccine. Ibado reported that she rarely visited any health facility /sought medical assistance for her child. She was not aware of the importance of optimal infant young child feeding practices and the child was left with other siblings as she went out of the house for at least 6 hours/day, selling milk. The 9 month old child was fed with semi fluid porridge from sorghum and tea twice a day. Poor dietary diversity and low frequency of feeding affected child's health and nutrition status. This child had experienced repeated disease episodes of diarrhoea and malaria in the past four months and his health is continuously deteriorating.

Change in Nutrition Situation

The maps below show the trends of nutrition situation from *Deyr 2012* to *Deyr 2013*. The nutrition situation among the IDPs and Rural livelihoods in Bay and Bakool regions have for the last twelve months (*Deyr 2012* to *Deyr 2013*) ranged between **Critical to Very Critical levels**. The nutrition situation has largely been influenced by displacement associated with civil insecurity, low access to humanitarian, Low coverage of health programs (Vitamin A, and Measles vaccination) and high morbidity. The improvement recorded in livelihoods is attributable to improved, improved food security indicators particularly household milk access, targeted interventions e.g. livestock restocking; cash distribution; improved referrals and Blanket supplementary feeding program in parts of Bay and Bakool Pastoral by humanitarian agencies. Overall, the level of acute malnutrition in Bay and Bakool region has shown an improving trend since Gu' 2013 as indicated in the trend chart below (Figure 34)

Figure 34: Progression of the Nutrition Situation *Deyr 2012/13* to *Deyr 2013/14* in Bay and Bakool region



HOT SPOT FOR ACUTE MALNUTRITION IN BAY AND BAKOOL REGION

Bay agro-pastoral is current hot spot not only for acute malnutrition ($GAM >15\%$ as well as $SAM >5\%$) but also stunting and underweight in children ($>30.5\%$). Critical GAM level ($>15\%$) in **Bakool pastoral** with medium levels of underweight prevalence make this a hot spot.

Baidoa IDPs are also a hot spot for acute malnutrition because of Critical levels of prevalence of $GAM-MUAC < 12.5$ (12.7%) and $SAM-MUAC$ (4%) as well as high levels of chronic malnutrition (33% stunting) and underweight (25.3%).

OUTLOOK FOR FEBRUARY- APRIL 2014

The nutrition situation in Bay and Bakool is largely expected to remain as **Critical but stable** in the coming two months as the food security outlook is favourable and likely to mitigate the current nutrition phase (Figure 35). The current Stressed food security situation in Bay bakool regions is similarly projected to remain stable up to June 2014.

Figure 35: Nutrition Situation Outlook *Deyr 2012/13* to April 2014 in Bay and Bakool Regions

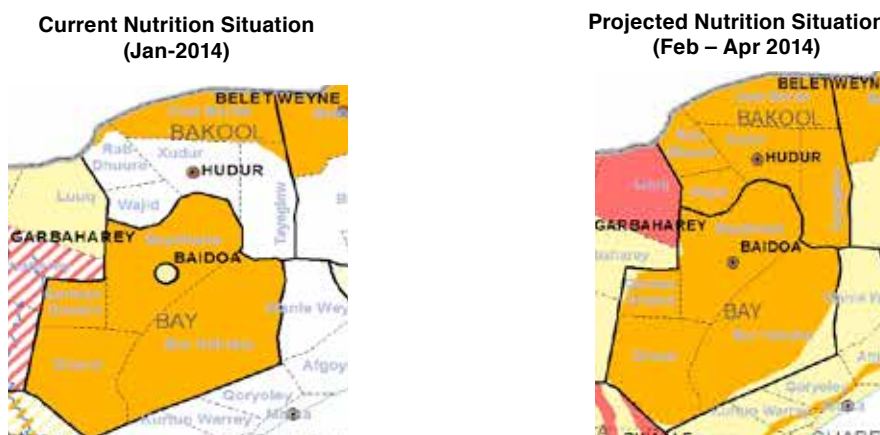


Table 43: Summary of Key Nutrition Findings: Bay Bakool

	Baidoa IDPs		Bay Agro Pastoral		Bakool pastoral	
	30 Clusters (N=559 Boys=281 Girls=278)		32 Clusters (N=905: Boys=451; Girls=454)		35 Clusters (N=622: Boys=311; Girls=311)	
Indicator	% (CI)	Change from Gu 2013	% (CI)	Change from Gu 2013	% (CI)	Change from Gu 2013
<i>Child Nutrition Status</i>						
Global Acute Malnutrition (WHZ<-2 or oedema)	14.3 (10.8-18.8)		19.6 (14.6-25.7)		18.5 (15.3-22.1)	
Boys	17.4 (12.6-23.6)	Improved	21.7 (16.5-28.1)	Improved	22.8 (17.7-29.0)	Improved
Girls	11.2 (7.9-15.6)		17.4 (11.8-24.9)		14.1 (11.0-18.1)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.5 (1.4- 4.5)		5.1 (3.6-7.2)		2.6 (1.7-4.0)	
Boys	3.6 (1.6- 7.8)	Improved	6.2 (4.0-9.4)	Sustained	3.9 (2.3-6.5)	Improved
Girls	1.4 (0.6- 3.7)		4.0 (2.5-6.2)		1.3 (0.5-3.2)	
Mean of Weight for Height Z Scores	-0.77±1.13	Improved	-0.94±1.15	Improved	-1.27±0.86	Improved
Oedema	0.4	deteriorated	0.7	Improved	0.3	Improved
Global Acute Malnutrition (NCHS)	12.7 (9.4-17.0)	Improved	19.5 (14.7-25.3)	Improved	17.5 (14.9-20.5)	Improved
Severe Acute Malnutrition (NCHS)	2.1(1.2- 3.7)		3.4 (2.1-5.4)	---	1.8 (1.1-2.9)	-
Proportion with MUAC<12.5 cm or oedema)	12.7 (9.0-17.6)		12.5 (9.9-15.7)		10.1 (7.6-13.2)	
Boys	12.3 (8.4-17.8)	deteriorated	13.1 (10.0-16.9)	Improved	11.5 (8.4-15.7)	deteriorated
Girls	13.1 (8.8-19.1)		12.0 (8.8-16.1)		8.6 (5.4-13.5)	
Proportion with MUAC<11.5 cm or oedema	4.0 (1.9- 8.4)		2.2 (1.3-3.6)		1.9 (1.1-3.4)	
Boys	4.1 (1.4-11.1)	deteriorated	2.4 (1.3-4.4)	Sustained	2.6 (1.3-4.8)	deteriorated
Girls	3.9 (2.0- 7.5)		2.0 (0.8-4.6)		1.3 (0.5-3.2)	
Stunting (HAZ<-2)	33.0 (27.9-38.5)		35.2 (29.2-41.6)		8.3 (5.2-13.2)	
Boys	33.0 (27.3-39.1)	Sustained	43.8 (36.0-51.9)	Improved	12.9 (8.1-19.9)	Improved
Girls	33.1 (26.4-40.5)		26.7 (21.2-33.0)		3.8 (1.8-8.1)	
Severe Stunting (HAZ<-3)	11.5 (8.4-15.5)		13.1 (10.0-16.9)		1.0 (0.2-3.7)	
Boys	10.9 (7.6-15.3)	Sustained	18.7 (14.5-23.9)	improved	1.6 (0.4-6.3)	improved
Girls	12.2 (7.8-18.5)		7.6 (4.7-11.9)		0.3 (0.0-2.4)	
Underweight (WAZ<-2)	25.3 (20.8-30.4)		31.4 (24.5-39.2)		15.1 (12.6-18.1)	
Boys	30.4 (23.3-38.6)	Sustained	36.1 (28.6-44.3)	Improved	22.6 (18.3-27.5)	Deteriorated
Girls	20.1 (15.7-25.2)		26.8 (19.7-35.2)		7.7 (5.2-11.2)	
<i>Death Rates</i>						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.43 (0.23-0.81)	Sustained	0.20 (0.09-0.41)	Sustained	0.17 (0.08-.037)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.97 (0.42-2.18)	Sustained	0.57 (0.23-1.42)	Sustained	0.65 (0.24-1.74)	Sustained

Summary of Key Nutrition Findings: Bay Bakool

Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.6 (0.3-2.8)	Sustained	1.3 (0.0-2.9)	Sustained	2.4	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	7.7 (5.0-10.4)	Sustained	17.1 (11.8-22.3)	Sustained	10.4 (7.0-13.8)	Improved
Child Morbidity & Immunization						
Morbidity	44.4 (34.8-53.9)		25.6 (19.3-31.9)		30.4 (24.4-36.4)	
Boys	45.9 (35.9-55.9)	Improved	26.9 (19.4-34.3)	Improved	31.7 (24.1-39.4)	Deteriorated
Girls	43.0 (32.2-53.6)		24.3 (18.1-30.6)		29.1 (22.9-35.2)	
Diarrhoea	10.8 (7.2-14.3)		5.6 (0.0-11.8)		16.8 (13.4-20.2)	
Boys	11.6 (6.6-16.7)	Improved	6.3 (0.0-13.3)	Improved	19.2 (13.9-24.6)	Deteriorated
Girls	9.9 (5.9-14.0)		4.8 (0.0-10.2)		14.4 (10.9-17.8)	
Pneumonia	19.2 (11.1-27.2)		14.2 (8.7-19.6)		15.7 (10.6-20.7)	
Boys	20.2 (11.5-29.0)	Improved	14.2 (8.2-20.2)	deteriorated	16.0 (9.8-22.2)	Deteriorated
Girls	18.1 (9.8-26.4)		14.1 (8.3-19.9)		15.3 (10.0-20.6)	
Measles	0.3 (0.0-1.1)		1.2 (0.0-2.6)			
Boys	0.3 (0.0-1.0)	Sustained	1.1 (0.0-2.6)	Improved	0.0	Sustained
Girls	0.3 (0.0-1.1)		1.3 (0.0-2.8)			
Vitamin A Supplementation	36.9 (26.4-47.4)		13.9 (3.2-24.7)		59.5 (48.8-70.3)	
Boys	34.2 (24.0-44.5)	Improved	15.2 (3.4-27.6)	Improved	58.0 (46.0-70.0)	Improved
Girls	39.7 (27.4-52.1)		12.4 (2.8-22.0)		61.0 (50.4-71.6)	
Measles Vaccination	41.5 (32.3-50.7)		7.2 (0.2-14.2)		23.5 (17.3-29.7)	
Boys	40.1 (30.2-49.9)	Improved	8.1 (0.1-16.0)	Improved	25.3 (17.6-33.0)	Improved
Girls	43.0 (32.3-53.5)		6.3 (0.1-12.5)		21.7 (15.5-27.9)	
Polio Immunization	91.5 (87.5-95.2)		24.8 (12.5-37.2)		92.2 (88.0-96.4)	
Boys	91.1 (86.6-95.6)	Improved	25.1 (11.9-38.3)	Improved	92.0 (87.3-96.7)	Improved
Girls	91.8 (88.1-95.6)		24.6 (12.5-36.6)		92.3 (87.6-97.1)	
Infant and Young Child Feeding (6-24 Months)	N=190					
Proportion still breastfeeding	67.0 (58.5-75.5)					
Boys	66.9 (55.5-78.5)	Improved	N/A		N/A	
Girls	67.0 (56.7-77.4)					

Continued breastfeeding up to 12 months (N=64)	81.0 (69.0-93.1) 78.8 (63.8-93.7) 84.0 (65.4-102.6)	Improved	N/A		N/A	
Continued breastfeeding up to 24 months (N=128)	22.6 (5.7-39.8) 20.0 (0.0-42.7) 25.0 (2.1-47.9)	Improved	N/A		N/A	
Proportion meeting recommended feeding frequencies	54.9 (44.5-65.5) 52.4 (39.5-65.4) 48.6 (46.2-69.7)	Improved	N/A		N/A	
Boys						
Girls						
Proportion who reported to have consumed ≥ 4 food groups	4.2 (0.5-7.8) 6.8 (0.1-13.5) 1.1 (0.0-3.4)	Improved	N/A		N/A	
Boys						
Girls						
<i>Women Nutrition and Immunization Status</i>		N/A	N/A		N/A	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0.5 (0.0-1.1)	Sustained	0.0		0.0	
Proportion of acutely malnourished pregnant and lactating women (MUAC <21.0)	1.6 (0.3-2.8)	Sustained	1.3 (0.0-2.9)		2.4 (1.1-3.7)	
Proportion of acutely malnourished pregnant and lactating women (MUAC <23.0)	7.7 (5.0-10.4)	Sustained	17.1 (11.8-22.3)		10.4 (7.0-13.8)	
Proportion of Women who received Tetanus immunization	N=436					
No dose	28.8 (18.8-32.8)	Improved	N/A		N/A	
One dose	14.4 (10.2-18.7)					
Two doses	25.0 (18.3-31.7)					
Three doses	34.8 (26.8-42.7)					
<i>Public Health Indicators</i>	N= 503				N/A	
Household with access to sanitation facilities	80.7 (69.1-92.3)	Improved	N/A		N/A	
Household with access to safe water	33.8 (18.9-48.6)	Improved			N/A	
Proportion who reported to have consumed <4 food groups	8.4 (1.6-15.1)	Sustained			N/A	
Household's Main Food Source- Purchase	92.0 (87.3-96.7)	N/A			N/A	

5. GENDER

5.1 DIFFERENCES IN PREVALENCE OF MALNUTRITION IN CHILDREN UNDER 5 YEARS OF AGE IN SOMALIA

Somalia has suffered a protracted humanitarian crisis for the last 20 years, The Gender Inequality index for Somalia is 0.776 (with a maximum of 1 denoting complete inequality), placing Somalia at the fourth worst position globally.¹ This suggests that girls and women in Somalia face profound challenges. Women's access to health services are limited, and Somalia's child mortality and maternal mortality rates are amongst the highest in the world². FSNAU employs a gender analysis approach, and systematically, collects and analyses gender disaggregated data across various regions/livelihoods to ensure that policies and practices are not based on incorrect assumptions and stereotypes. The *Deyr* 2013/14 assessments in Somalia collected and analyzed information on key indicators of nutrition and explored the gender differences (if any) in the prevalence of malnutrition in under-five children. The under five children were grouped into two major grouping 6 to 23 months and 24 to 59 months. The core indicators for nutrition that were examined against the underlying gender differences included global acute malnutrition, severe acute malnutrition, morbidity, stunting and underweight. The Global acute malnutrition and severe acute malnutrition describes presence and degree of humanitarian emergencies, for children under 5; whilst stunting and underweight indicate the underlying vulnerability associated with food insecurity, socio-economic status and poverty in the longer term.

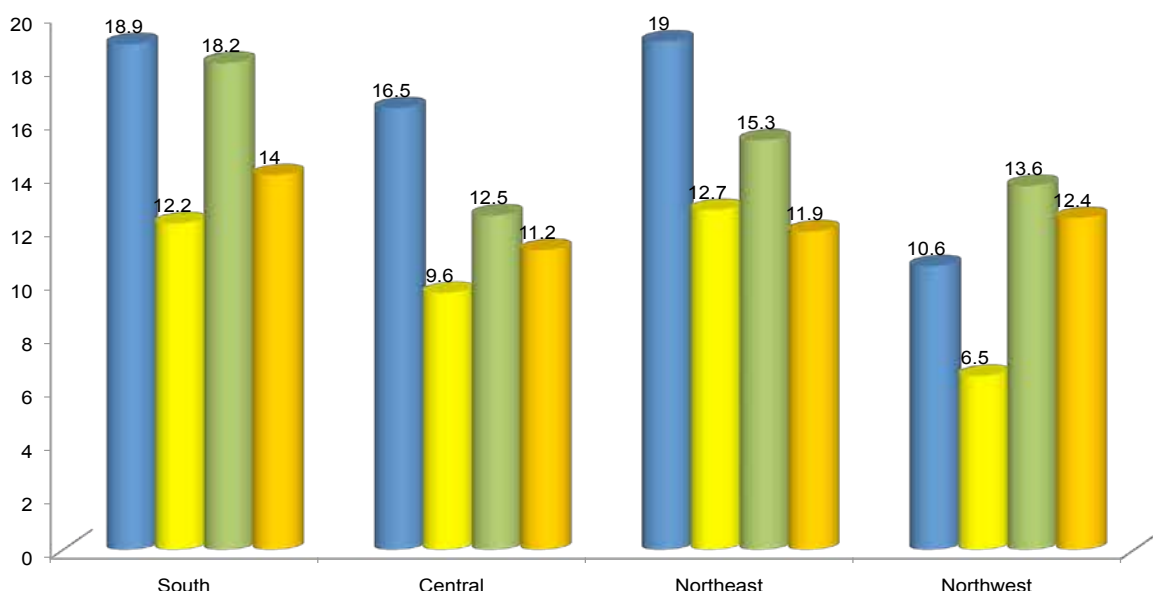
Results:

Summary of gender disaggregated information on nutrition situation is given in Annex 1 and key highlights are discussed below.

Global Acute Malnutrition (GAM)

The prevalence of GAM was higher in boys of both age cohort (6-23 months and 24-59 months) compared to girls. This is observed in all zones (NE, Central, South and NW). The finding is statistically significant in North East and Southern zones. Additionally, the likelihood of boys to continue showing high GAM compared to girls is almost twice (this is per the risk reduction ratio percentage).

Figure 36: Gender differences in GAM Prevalence in different regions



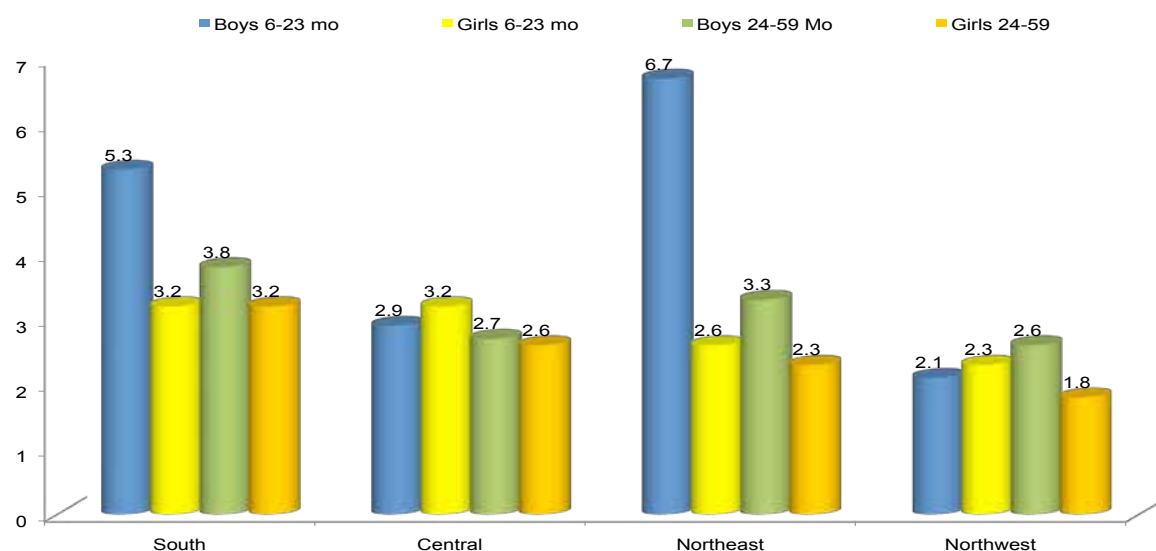
1 United Nations Development Programme (2012). Somalia Human Development Report 2012: Empowering Youth for Peace and Development, p. xviii.

2 http://www.unicef.org/infobycountry/somalia_statistics.html

Severe Acute Malnutrition (SAM)

Among children aged 24- 59 months, boys exhibit high SAM rate across all zones (direct correlation to GAM). However this result is not statistically significant. In contrast, SAM prevalence is high in girls within the age cohort of 6- 23 months in Central and North West Zones (although this finding is not statically significant). In North East and South, boys of the same age group (6-23 months) have higher SAM compared to girls. And unlike Central and NW, this result is statistically significant.

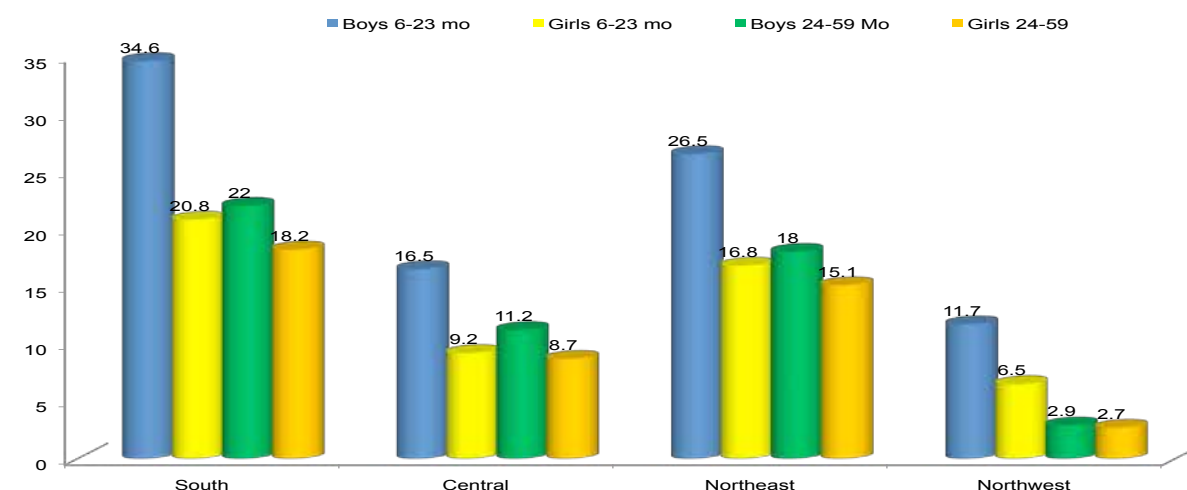
Figure 37: Gender differences in SAM Prevalence in different regions



Stunting

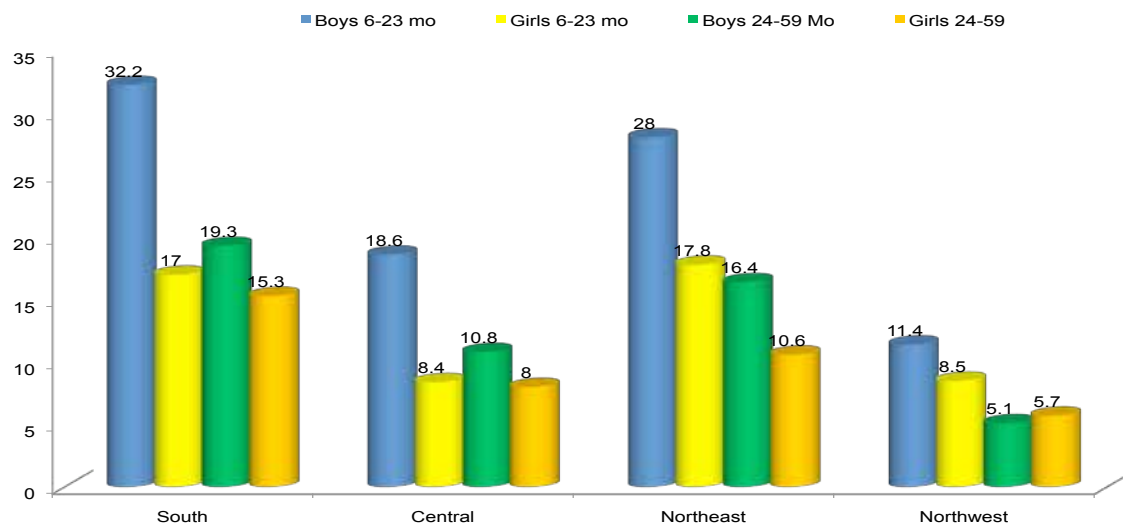
Prevalence of stunting was seen more in boys compared to girls (across both age groups-6-23, 24-59) in all regions. High prevalence of stunting (34.6 % median) was observed in 6-23 month boys compared to medium levels of stunting prevalence (20.8 % median) seen in girls. The differences in stunting prevalence were statistically significant in NE and South for children aged 6-23 months and only in South for children aged 24-59 months. In 24-59 months old boys medium prevalence rate of stunting was noted (median of 22%) compare to low stunting prevalence noted in girls (18.3 %).

Figure 38: Gender differences in Prevalence of Stunting in different regions



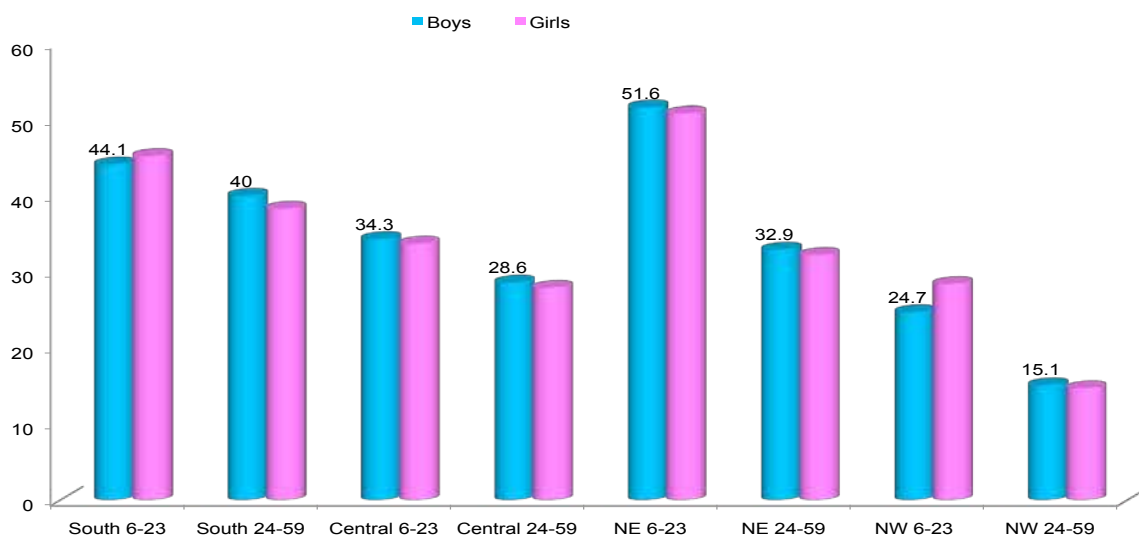
Under weight

Among children aged 6-23 months, prevalence of underweight was observed more in Boys compared to girls across all zones. The difference was statically significant in Central, NE and South. Prevalence of underweight in children aged 24-59 months was more observed in boys at central region, NE and South. Only in NW Girls were more underweight. The differences in underweight prevalence were statically significant only in NE and South.

Figure 39: Gender differences in Underweight Prevalence in different regions

Morbidity

No significant gender differences were noted in prevalence of morbidity even though *Deyr* 2013/14 results suggest higher morbidity in boys aged 24-59 months across all zones (a direct correlation to the high prevalence of GAM and SAM in boys). In children aged 6- 23 months, morbidity was higher in boys at central and NE, whilst girls in NW and South had a higher morbidity then.

Figure 40: Gender differences in Prevalence of Morbidity in different regions

Conclusion

Somalia is a drought and conflict prone country and faces extreme food insecurity, exacerbated by poor healthcare, lack of access to safe drinking water and safe sanitation facilities. It was observed that boys under 5 years. in Somalia are generally more likely to be malnourished than girls. However irrespective of gender difference in both boys and girl, prevalence of acute malnutrition (GAM & SAM), stunting and underweight was highest in South Somalia followed by NE while lowest levels are seen in in NW. Somalia's culture of gender discrimination does not lie behind much of the malnutrition found in male children under 5 years. High prevalence of GAM, SAM, underweight, stunting among boys could be as result of fathers spending most time with their under five sons, and perhaps going with them to markets/ herding etc. This could potentially result to boys missing regular meals. On the other hand, girls by virtue of being at home with mothers, and most likely accompanying them in the kitchen, could mean they get chance to eat regularly and as result show improved nutrition. However, more in depth research is needed to reconfirm these nutritional differences.

6. APPENDICES

6.1: Time frame for the Deyr 2013/14 survey

TIME PLAN FOR <i>Deyr</i> 2013/14 SURVEY				
Date	Activity			
October 22 – Nov 9, 2013	Review of <i>Deyr</i> Assessment Instruments (Nutrition questionnaires)			
	Finalization of <i>Deyr</i> Field Instruments			
Nov 9, 2013	Sampling for IDPs assessments			
Nov 11, 2013	Coordination and planning meeting	All Nutrition partners—their contributions/support for <i>Deyr</i> 2013		
REGION/PLAN	NW	NE	CENTRAL	SOUTH
Nov 18-22	IDP survey team training in Hargesia	IDP survey team training in Garowe		Survey team training for IDP survey teams &, Bay Agropastorals
Nov 23—Dec 7	<u>Data collection fieldwork</u> Hargesia IDPs Burao IDPs Berbera IDPs	<u>Data collection fieldwork</u> Bossaso IDPs Qardho IDPs Garowe IDPs Galkayo IDPs	<u>Data collection fieldwork</u> Dusamareb IDPs	<u>Data collection fieldwork</u> Mogadishu IDPs Kismayo IDPs Dobley IDPs , Baidoa IDPs, Bay Agropastorals
Dec 9-13	Data cleaning, and analysis			
Dec 12- Dec 16 Training	Survey team training for rural livelihood assessments	Survey team training for NE	Survey team training for rural livelihood assessments in central region	Survey team training for Dolo and North Gedo, Bakool pastoral
Dec 17- Jan 6 Data Collection	<u>Dec 17- Dec 25</u> NW Agropastoral** West Golis /Guban** Hawd NW** <u>Sool Plateau*</u> East Golis/Kakaar** <u>Nugal Valley*</u>	<u>Dec 17- Jan 6</u> Sool Plateau E Golis/Kakaar Pastoral Nugal Valley Pastoral Coastal Deeh	<u>Dec 17-Jan 6</u> Data Collection Addun Coastal Deeh Cow pea Belt Hawd Pastoral	<u>Dec 19-Jan 6</u> Dolo IDPs, Bakool pastoral North Gedo, Mataban & Beletwayne
Dec 25- Jan 15	<u>Dec 25— Dec 30</u> Data cleaning and entering	<u>Jan 7-15</u> Data entry and cleaning	<u>Jan 7- 10</u> Data cleaning and entering	
Travel on Jan 12 to Hargeisa				
Jan 13- Jan 18, 2014	All Team Meeting	<i>Deyr</i> '13 Analysis (Hargeisa):		
Jan 22, 2014	Vetting of Nutrition Results with MOH, Mogadishu			
Jan 28 th , 2014	Vetting of Nutrition Results with Partners I Nairobi			
Feb 3, 2014	Release of <i>Deyr</i> 2014 Results			
Feb 4, 2014	Sharing results with Federal Govt of Somalia			
Feb 1-7, 2014	Release of <i>Deyr</i> results. Regional Presentations –NE/NW/SC			
Feb-March 21, 2014	Detailed Analysis & Write-up of Technical Series Report			
March 21, 2014	Public Release of Nutrition Technical Report			

*Cross cutting so no MUAC assessments can be done ** MUAC assessments



6.3 CORE OUTCOME INDICATORS (Anthropometry & Mortality)

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical	Extreme
Global Acute Malnutrition ¹ (IPC Reference) Reliability (R)=1	<3%	3 to <10%; Usual range and stable	10 to <15% or where there is significant increase from usual/ seasonal trends in last ≥3 yrs	15 to <20% or where there is significant increase from baseline/ seasonal trends in last ≥2 yrs	20 to <30%	>30%
Mean Weight-for-Height Z (WHZ) scores (R=1)	>-0.40	-0.40 to -0.69; Stable/Usual	-0.70 to -0.99; >usual/increasing	<-1.00; >usual/increasing		<-1.5 TBC
SAM ² (WHZ and oedema ³) (WHO to advice on thresholds) R=1)	<2.5%	2.5 – 3.4%	3.5 – 4.4%	4.5 – 5.9	6.0-9.9%	≥10%
Crude death rate ⁴ / 10,000/day (R=1)	<0.5	<0.5	0.5 to <1 or doubling of rate in preceding phase.	1 to <2	>2	>2
Under five death rates ⁵ /10,000/day (R=1)	<1	<1	1 to 1.9	2 to 3.9	≥4	≥4
MUAC ⁶ Children: (% <12.5cm): Ref: FSNAU Estimates ⁷ (R=2)	<2.0%	2.0-5.5% with increase from seasonal trends	5.6-8.0%	8.1-11.0 %, or where there is significant increase from seasonal trends	11.1-19.9%, Or where there is significant increase from seasonal trends	≥20.0%, Or where there is significant increase from seasonal trends
MUAC<11.5cm ⁸ (R=2)	<1.0	<1.0	1.0-2.0	2.1-3.0	3.1-5.5	≥5.5
Adult MUAC ⁹ - Pregnant and Lactating(%<23.0cm,Meta Data-FSNAU	<13.5	13.6-21.5	21.6-27.0	27.1-35.0	35.0-49.9	≥50.0
Adult MUAC - Non-pregnant & non-lactating <18.5cm, Meta data FSNAU)	<0.2	0.2-0.5	0.6-0.8	0.8-1.7	1.8-4.9	≥5.0
Non Pregnant Maternal ¹⁰ Undernutrition BMI<18.5	<10%	10.0 to 19.9%	20.0 to 39.9%	>40%		
Non Pregnant Maternal ¹¹ Overnutrition BMI>24.9	TBC	TBC	TBC	TBC		
HIS ¹² Trends of Acutely Malnourished Children (Ref: HIS), (R=3)	V. low (<5%) proportion in the preceding 3mths relative to ≥2yr seasonal trends	Low proportion (5 to <10%) and stable trend in the preceding 3mths relative to ≥2yr seasonal trends	Moderate (10 to <15%) and stable or low (5 to <10%) but increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15%) and stable proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15%) and increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	
Sentinel ¹³ Site Trends: levels of children identified as acutely malnourished(WHZ), FSNAU'06 SSS	Very low (<5%) and stable levels	Low levels (5 to <10%) and one round indicating increase, seasonally adjusted	Low (5 to < 10%) & increasing or moderate (10 to <15%) levels based on two rounds (seasonally adjusted)	High levels (≥ 15%) of malnourished children and stable (seasonally adjusted)	High levels (≥ 15%) and increasing with increasing trend (seasonally adjusted)	
OVERALL NUTRITION SITUATION	Acceptable	Alert	Serious	Critical	Very Critical	Extreme

IMMEDIATE CAUSES

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Poor HH Dietary Diversity (% consuming <4fdgps)	<5%	5 – 9.9%	10-24.9%	25 – 49.9%	≥50%
Mean HH dietary diversity Score ¹⁴	TBC	TBC	TBC	TBC	TBC
DISEASE OUTBREAKS ¹⁵ : (seasonally adjusted). Frequency of reported outbreaks of AWD, cholera, suspected measles, malaria, whooping cough & severe ARI	· Normal levels, & seasonal trends, · Review data in relevant context	-AWD 1 case -Suspected cholera 1 case -Suspected measles 1 case -Suspected malaria–doubling of cases in 2 weeks in hyper endemic areas–using RDT (WHO); OR increasing weekly trend (Unicef) Suspected whooping cough-5 cases in the same community same week -Severe Acute Respiratory Infection- 5 cases in same week in the same community or hospital	Outbreak not contained and/or in non endemic area – limited access to treatment: CFR for AWD >2% rural CFR for AWD >1% urban AWD – duration exceed >6 wks		
Morbidity Patterns: Proportion of children reported ill in 2wks prior to survey (R=2) Health facility morbidity trends (R=3) /WHO surveillance (R=1)	TBC Very low proportion reportedly sick	TBC Low & stable proportion of reportedly sick based on seasonal trends	TBC Low proportion reportedly sick, from previous months but increasing in >2 months based on seasonal trends	TBC High levels and stable numbers in >2 months based on seasonal trends	TBC High with significant Increase in numbers of sick children, based on seasonal trends

DRIVING FACTORS

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Complementary feeding ¹⁶ in addition to breastfeeding					
i. Introduction of complementary food at 6 months of age: %introduced	≥95%	80-94%	60-79%	0-59%	0-59%
ii. Meeting minimum recommended feeding frequency ¹⁷	≥95%	80-94%	80-94%	0-59%	0-59%
iii. Dietary diversity ¹⁸ score	≥95%	80-94%	80-94%	0-59%	0-59%
Breastfeeding (BF) Practices ¹⁹					
i. Exclusive BF for 6mths	≥90%	50-89%	12-49%	0-11%	
ii). Continued BF at 1 yr	≥90%	50-89%	12-49%	0-11%	
iii) Continued BF at 2yr reference	≥90%	50-89%	12-49%	0-11%	
Measles immunization/Status	>95%	80-94.9%	<80%		
Vitamin A Supplementation Coverage ²⁰ : 1 dose in last 6 months	>95%	80-94.9%	<80%		
Population have access i). to a sufficient quantity of water for drinking, cooking, personal & domestic hygiene–min 15lts pp/ day	100%	TBC	TBC	TBC	TBC
ii). Sanitation facilities	100%	TBC	TBC	TBC	TBC
Affected pop with access to formal/informal services: health services	Should not be necessary	Access to humanitarian interventions for most vulnerable	Reduced access to humanitarian support for most vulnerable	Limited access to humanitarian support for majority	Negligible or no access
Selective Feeding ²¹ Programs Available: Coverage of TFP /SFP & referral systems(Sphere04); -Admissions trends (R=3)	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation- current IPC status	Generally Food Secure	Borderline Food Secure	Acute Food and Livelihood Crisis	Humanitarian Emergency	Famine/ Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	Widespread, high intensity
3 MONTH NUTRITION SITUATION	Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months time				
OUTLOOK	No change: Stable; Uncertain: Potential to deteriorate Potential to improve:				

6.4: WHO/UNICEF cut off values for public health significance

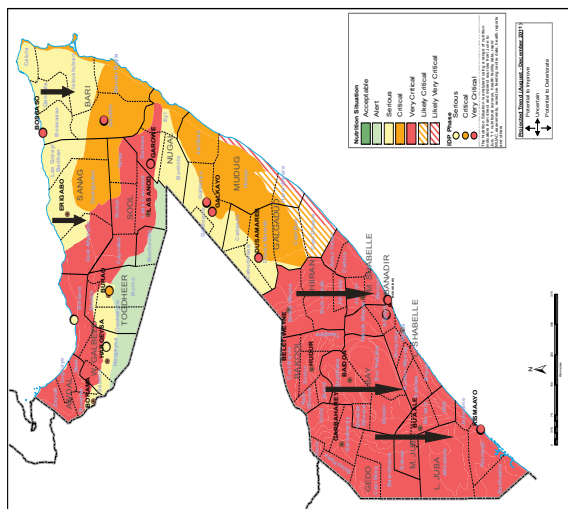
Acute Malnutrition—wasting	Underweight	Stunting-Chronic Malnutrition
Weight for Height < -2 SD of WHO median	Weight for Age < -2SD of WHO Median	Height for Age < -2SD of WHO Median
Acceptable <5 %	Low Prevalence < 10%	Low Prevalence < 20%
Alert 5-9.9 %	Medium Prevalence: 10-19%	Medium Prevalence: 20-29%
Serious 10-14.9 %	High Prevalence: 20-29%	High Prevalence:30-39%
Critical- >15 %	Very High Prevalence:>30%	Very High Prevalence: >40%

(Footnotes)

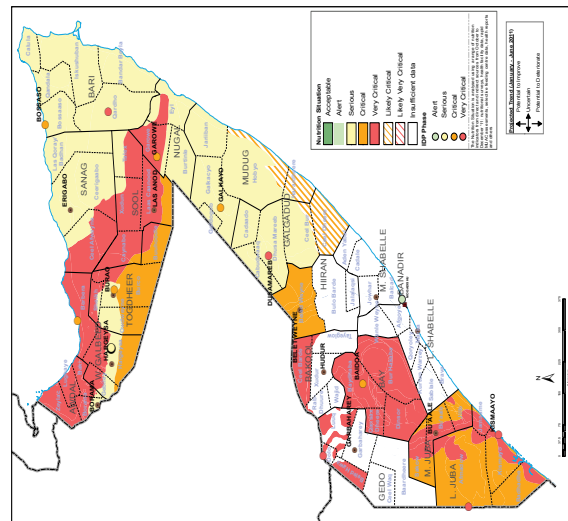
- 1 Global Acute Malnutrition (weight for height <-2 Z score/oedema), IPC Vs 2, Nov 2011.
- 2 Severe Acute Malnutrition (weight for height <-3 Z score/oedema): Thresholds derived from quintile distribution of SAM from 250 SMART survey datasets at FSNAU, January 2012
- 3 Bilateral oedema is riverine livelihood specific indicator rather than for the whole country
- 4 Refs: i). Sphere 2004; ii). Emergency Field Handbook (A guide for UNICEF staff, pg 139) July 2005
- 5 WHO and Integrated Food Security Phase Classification Technical Manual Version 2.0, Final Draft, November 2011. Technical consultations
- 6 Mid Upper Arm Circumference, data source – rapid assessments, based on children 6-59 months: Thresholds derived from quintile distribution of SAM from 200 SMART survey datasets at FSNAU, January 2012
- 7 Follow up with S. Collins study/ Mike Golden/ Mark Myatt and on-going studies
- 8 Review of Nutrition and Mortality Indicators for the Integrated Food Security Phase Classification, Helen Young and Susanne Jaspars, Sept 2009
- 9 Thresholds for adult MUAC (pregnant/lactating and non-pregnant women) derived from quintile distribution of MUAC data from 99 SMART survey datasets at FSNAU
- 10 WHO Expert Committee, 1995
- 11 WHO Expert Committee, 1995
- 12 Health Information System, data source – health facilities
- 13 Data source, over 120 sentinel sites in different livelihoods in South Central Somalia
- 14 Data source, nutrition surveys, dietary studies and sentinel sites
- 15 Data source, nutrition surveys, Health Information System, Sentinel sites, feeding centers, rapid assessments
- 16 Data source, nutrition surveys and dietary studies
- 17 WHO 2008. Indicators for assessing infant and young child feeding practices. 2-3 feeds recommended for 6-8 months old, & 3-4 feeds for 9months old and above
- 18 WHO 2008. Indicators for assessing infant and young child feeding practices
- 19 FANTA 2003. Generating indicators of appropriate feeding of children 6 through 23 months from the KPC 2000+
WHO, 2003. Infant and Young child feeding. A tool for assessing national practices, policies and programmes
- 20 WHO references
- 21 v Data source, 12 Therapeutic Feeding Centers (TFC) and 14 Supplementary Feeding Centers (SFC)

6.5 Progression of Estimated Nutrition Situation Gu 2011 - Deyr 2013/14

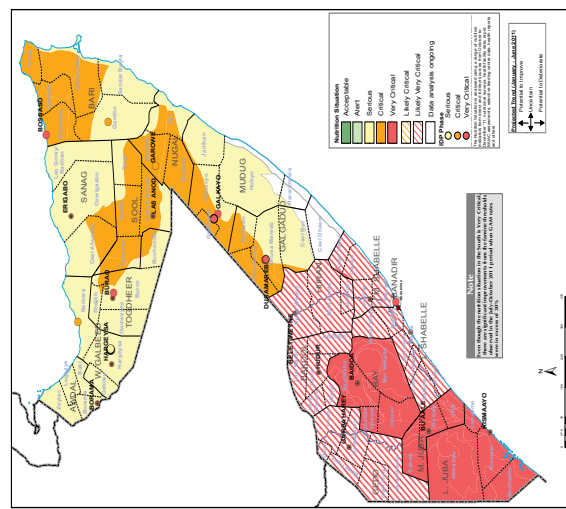
Gu 2011



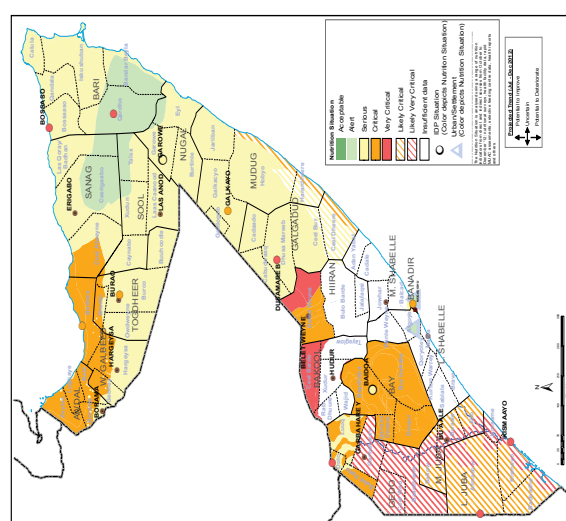
Gu 2012



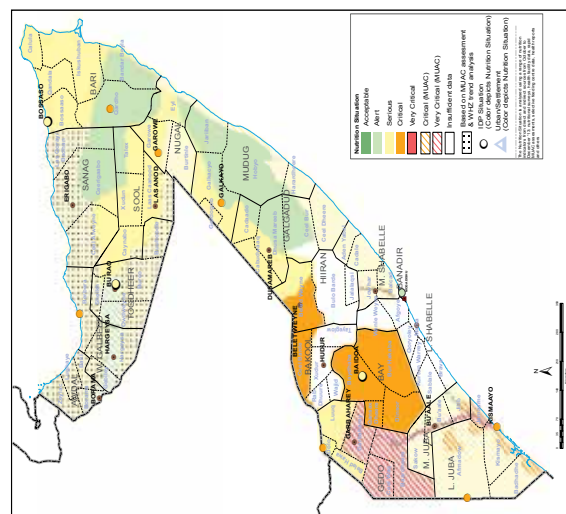
Deyr 2011/12



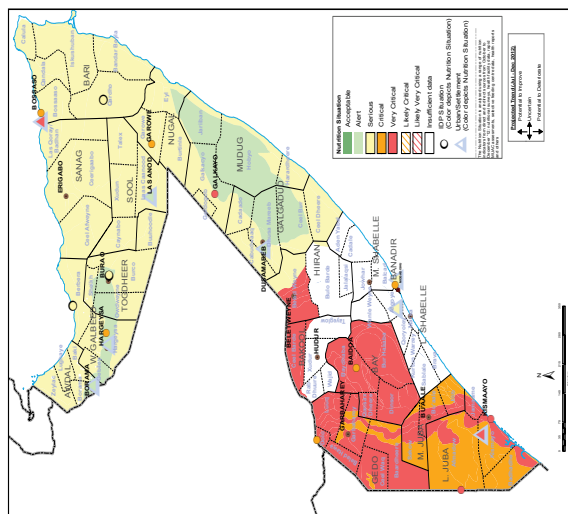
Deyr 2012/13



Deyr 2013/14



Gu 2013



6.6 A: List of Institutions which participated in the Nutrition Vetting in Post Deyr 2013/14 Mogadishu Nutrition Technical Vetting

1. MoH
2. OCHA
3. ACF
4. MARDO
5. PAH
6. CWW
7. CRO
7. SAACID
8. SAACID
9. Jubba F.
10. CAFDARO
11. CAFDARO
12. Technoplan
13. MGJ
14. HACDA
15. Direct Aid
16. MRLO
17. Muslim Hands
18. Muslim Hands
19. RRP
20. RRP
21. SOS
22. HDO
23. Somali Aid
24. Banadir Hospital
25. URDO
26. Aid Vision
27. SYUT
28. BPHCC
29. ZAMZAM
30. SWISSO
31. MoH
32. OCHA
33. ACF
34. MARDO
35. PAH
36. CWW
37. CRO
38. SAACID
39. SAACID
40. Jubba F.
41. Nutrition Cluster
42. SORRDO
43. EREDO
44. SCI
45. TROCAIRE
46. TROCAIRE
47. JCC
48. ANPPCAN
49. APD
50. Bushra F.
51. SRDA
52. BPPSC
53. SERDO
54. CISP
55. FSNAU
56. WOCCA
57. FSNAU
58. SHARDO
59. RRP
60. SAF-UK
61. URRO
62. HARD
63. ARD
64. HARDO
65. GEWDO
66. SOCSOYU
67. WARDI
68. HRDO
69. Himilo F.
70. SPA

6.6 B: List of Institutions which participated in the Post Deyr 2013/2014 Nutrition Vetting In Nairobi

DFID	WARDI
SAF UK	WVI
JCC	COSV
SAGE	HIRDA
CONCERN WORLDWIDE	SOADO
ARDI	SRDA
BTSC	SAVE THE CHILDREN
SOWEP	CAFDARO
HRDO/HIDIG	CODHNET
WFP	INTERSOS
ARD	ACF
WRRS	MINISTRY OF HEALTH
SOMALI AID	MINISTRY OF HEALTH
BPSC	INTERSOS
CPD	CCS
	COSV

6.7: Change in GAM and SAM since Gu 2013 and Deyr 2012/13

Livelihood	GAM-W/H			SAM-W/H		
	Deyr 2013	Gu 2013	Deyr 2012	Deyr 2013	Gu 2013	Deyr 2012
	South					
Bay Agropastorals	19.6	22.6	18.7	5.1	6.0	2.0
Bakool Pastoral	18.5	27.4	24.5	2.6	5.4	2.0
Baidoa IDPs	14.3	15.8	12.8	2.5	3.4	3.5
Kismayo IDP	16.2	17.6	20.3	3.4	3.4	3.9
Mogadishu IDPs	8.2	12.6	16.0	1.6	2.9	3.6
Beletweyne District	16.4	20.2	24.9	3.6	4.4	11.1
Mataban District	12.6	10.0	24.6	2.9	1.8	7.1
North Gedo Pastoral	14.1	18.8	15.6	1.4	5.0	1.8
North Gedo Agro-pastoral	12.1	18.6	15.5	1.9	5.0	2.1
North Gedo Riverine	13.6	15.2	13.6	2.5	2.7	3.8
Dolow IDPs	19.7	16.4	24.9	4.8	3.3	5.4
Dobley IDPs	15.8	20.3	20.8	4.1	6.4	5.1
Median South	15.1	18.1	19.5	2.8	3.9	3.7
	Central					
Dhusamreeb IDP's	16.0	21.4	22.6	4.2	3.1	5.8
Hawd Central	13.2	10.6	14.4	2.4	2.1	1.9
Addun Central	8.9	8.0	12.3	1.6	1.0	3.1
Median Central	13.2	10.6	14.4	2.4	2.1	3.1
	North East					
E Golis (NE)	10.5	16.7	13.5	2.1	3.6	3.4
Nugal Valley	14.5	11.3	12.5	2.3	1.3	2.4
Sool plateau	8.6	10.8	8.4	0.5	1.5	0.9
Coastal Deeh NE	11.8	10.8	10.2	1.2	1.7	1.5
Bossaso IDPs	13.5	17.3	20.6	2.8	3.8	4.3
Qardho IDPs	18.5	14.9	21.8	4.9	2.8	7.9
Garowe IDPs	15.8	19.2	14.3	4.1	5.8	3.7
Galkayo IDP's	15.0	19.4	17.0	2.9	2.5	4.4
Median NE	14.0	15.8	13.9	2.6	2.7	3.6
	North West					
Hargeisa IDPs	10.6	18.2	10.9	1.9	2.5	2.3
Burao IDPs	10.0	14.2	15.5	1.0	2.6	2.1
Berbera IDPs	16.1	10.8	19.9	3.6	2.0	6.6
Median NW	10.6	14.2	15.5	1.9	2.5	2.3
National Median Somalia	14.2	16.6	15.8	2.5	3.0	3.6
Color Code	Acceptable	Alert	Serious	critical	V critical	Extreme
Color code-GAM (IPC)	<3	5-9.9	10-14.9	15-20	20<30	>30
Color Code-SAM (FSNAU)	<2.5	2.5-3.4	3.5-4.4	4.5-5.9	6-9.9	≥ 10

6.8: MUAC in Deyr 2013/14 Compared to MUAC in Gu 2013 and Deyr 2012/13

Livelihood	Deyr 2013	Gu 2013	Deyr 2012		Deyr 2013	Gu 2013	Deyr 2012
	MUAC <12.5 cm				MUAC <11.5 cm		
	SOUTH						
Bay Agropastoral	12.5	13.3	10.5		2.2	2.2	2.3
Bakool Pastoral	10.1	8.6	10.2		1.9	1.5	2.6
Beletweyne District	12.0	6.0	23.0		2.6	0.7	6
Mataban District	3.8	5.8	20.8		0.5	1.2	4
North Gedo Pastoral	5.6	3.6	12.4		1.1	0.3	2.9
North Gedo Agro-pastoral	1.5	2.9	17.9		0.4	0.4	1.6
North Gedo Riverine	3.3	4.2	8.3		0.9	0.3	0.8
Baidoa IDPs	12.7	10.0	7.5		4	1.2	3.1
Kismayo IDPs	12.0	9.1	8.1		2.4	1.2	1.2
Mogadishu IDPs	9.2	8.0	8.5		2.9	1.9	1.8
Dolow IDPs	10.4	11.4	8.7		3.4	1.4	2.8
Dobley IDPs	11.2	13.5	17.9		1.5	3.8	3.8
South Gedo Pastoral	16.6	15.9	NA		2	0.1	NA
South Gedo Agro-pastoral	17.1	14.4	NA		3.8	1.6	NA
South Gedo Riverine	17.8	17.0	NA		3.4	1.9	NA
Middle Shabelle Riverine	9.5	NA	NA		3.1	NA	NA
middle Shabelle agroPastoral	8.0	NA	NA		1.9	NA	NA
Juba Pastoral	7.8	7.1	9.6		1.1	0.5	1.6
Juba Agropastoral	10.7	10.4	14.4		1.1	1.9	2.8
Juba Reverine	15.4	10.9	18.7		1.9	1.5	2.4
	CENTRAL						
Hawd Central	7.1	4.9	7.4		0.6	1.6	1.6
Addun Central	6.7	3.8	5.1		0.9	0.3	0.9
Dusamareb IDP	13.3	9.7	15.8		2.7	3.6	1.4
Coastal deeh Central	7.8	NA	10.1		1.5	NA	2.2
Cowpea Belt	6.5	8.6	8.0		1.2	1.2	0.9
	NORTH WEST						
Hargeisa IDPs	4.6	7.3	2.9		0.9	2.6	0.7
Burao IDPs	3.1	3.1	2.6		0.6	0.1	0.7
Berbera IDPs	7.2	2.5	7.7		2.3	0.6	2.1
NW Agropastoral	2.4	1.8	2.8		0.2	0	0.3
West Golis/Guban	5.3	6.2	5.5		1.3	0.6	1
East Golis (NW)	2.2	4.1	1.7		0.5	0.3	0.6
Hawd NW	3.7	1.7	1.8		0.9	0	0.3
	NORTH EAST						
Bossaso IDPs	8.1	10.6	11.0		2	2	3.1
Qardho IDPs	12.9	4.1	8.7		3.9	1.5	2
Garowe IDPs	11.5	11.6	8.7		2.9	2.9	1.8
Galkayo IDP's	7.5	6.9	5.6		2.9	0.6	0.9
East Golis (NE)	2.6	3.9	3.5		0.7	1.3	0.7
Coastal deeh (NE)	3.8	1.4	4.3		0.9	0.4	0.5
Nugal Valley	1.9	2.4	2.0		0.5	0.4	0.3
Sool Plateau	1.8	2.6	1.8		0.2	0.6	0.6
Thresholds used (MUAC <12.5 cm)	<2 %	2.0-5.5 %	5.6-8.0 %	8.1-11 %	>11 %		
Thresholds used (<MUAC 11.5 cm)	≤1 %	<1.0 %	1-2.0 %	2.1-3 %	>3 %		
Color Code	Acceptable		alert	serious	critical		Very critical

6.9: Stunting and Underweight Rates for Deyr 2013/14 Compared to Gu 2013 and Deyr 2012/13

Livelihood	STUNTING			UNDERWEIGHT		
	Deyr 2013	Gu 2013	Deyr 2012	Deyr 2013	Gu 2013	Deyr 2012
SOUTH						
Bay Agropastoral	35.2	46.9	48.7	31.4	44.9	39.3
Bakool Pastoral	8.3	8.9	11.3	15.1	13.6	15.3
Baidoa IDPs	33.0	39.2	43.5	25.3	24.3	30.7
Kismayo IDP	30.7	40.1	41.5	30.1	41.7	46.4
Mogadishu IDPs	20.0	22.1	N/A	16.6	19.0	N/A
Beletweyne District	35.1	7.5	28.0	30.9	19.1	33.3
Mataban District	10.4	8.2	13.7	10.2	10.9	19.8
North Gedo Pastoral	13.0	16.3	13.6	8.3	18.2	15.5
North Gedo Agro-pastoral	15.5	18.1	19.6	10.4	16.4	15.8
North Gedo Riverine	17.5	11.8	7.4	11.4	15.8	6.4
Dolow IDPs	27.1	33.6	33.6	28.5	30.4	29.2
Dobley IDPs	14.9	14.2	13.9	14.5	15.9	16.2
CENTRAL						
Dhusamreeb IDP's	8.4	11.6	15.7	12.0	17.4	20.4
Hawd Central	9.7	9.5	13.7	10.7	12.1	13.5
Addun Central	12.1	9.3	6.1	9.9	9.1	10.4
NORTH EAST						
EGolis (NE)	8.5	9.7	8.4	9.1	15.1	12.3
Nugal Valley	1.6	2.0	3.1	2.6	2.5	7.5
Sool plateau	2.0	5.0	6.7	2.9	6.2	6.4
Coastal Deeh NE	12.9	14.7	13.9	10.4	18.7	10.8
Bossaso IDPs	29.5	30.0	21.1	26.2	29.9	36.9
Garowe IDPs	21.4	14.1	31.1	23.1	19.7	25.9
Galkayo IDP's	19.6	27.7	20.5	20.6	28.1	22.5
Qardho IDPs	30.9	22.9	19.0	27.0	21.8	31.4
NORTH WEST						
Hargeisa IDPs	7.1	8.2	8.8	8.6	12.3	8.6
Burao IDPs	2.8	2.6	3.1	3.7	5.4	8.1
Berbera IDPs	6.1	2.4	9.4	12.0	6.1	17.2
Thresholds used for Stunting (WHO cut off)	<20 % of Children	20-29.9 % of Children	30-39.9 % of Children	>40 % of Children		
Thresholds used for Underweight (WHO cut off)	<10 % of Children	10-19.9 % of Children	20-29.9 % of Children	>30 % of Children		
Color Code	Acceptable	alert	serious	critical	Very critical	

6.10: Change in Mortality since Gu 2013 and Deyr 2012/13

Livelihood	CDR			U5DR		
	Deyr 2013	Gu 2013	Deyr 2012	Deyr 2013	Gu 2013	Deyr 2012
BayAgrop	0.2	0.29	0.8	0.6	0.44	1.86
BakoolPast	0.2	0.27	0.18	0.7	0.14	0.29
Baidoa IDPs	0.4	0.11	0.48	1	0.81	0.67
Mogadishu IDPs	0.6	1.07	0.88	0.5	0.85	2.04
Beletweyne District	1.7	0.23	0.2	2.7	0.37	0.83
Mataban District	0.2	0.72	0.99	0.2	1.7	1.44
North Gedo pastoral	0.8	0.4	0.63	1.3	0.16	2
North Gedo Agro-pastoral	1	0.89	1.45	1.9	1.18	3.66
North Gedo Riverine	0.8	0.6	0.67	1.2	0.3	0.71
Dolow IDPs	0.8	0.75	1.27	1.4	0.87	2.87
Dobley IDPs	0.4	1.53	1.92	1.4	1.96	2.53
Kismayo Town	1.36	0.59	0.49	1.44	1.52	1.28
Addun Central	0.3	0.36	0.13	0.9	0.95	0.46
Hawd Central	0.4	0.26	0.37	2.9	0.43	1.03
Dhusamreeb IDP's	0.1	0.35	0.85	0	0.8	1.9
EGolis (NE)	0	0.28	0.07	0.5	0.53	0.27
Coastal Deeh	0	0.11	0.19	0.3	0.36	0.56
Nugal Valley	0.1	0.03	0.13	0.3	0	0.35
Bossaso IDPs	0.1	0.18	0.41	0.3	0.35	0.98
Qardho IDPs	0.4	0.26	0.5	0.9	0.28	1.49
Garowe IDPs	0.2	0.16	0.2	0.3	0.26	0.47
Galkayo IDP's	0.3	0.22	0.06	0.4	0.23	0.22
Sool plateau	0.2	0.04	0.12	0.3	0	0.29
Hargeisa IDPs	0.2	0.23	0.19	0.6	0.57	0.35
Burao IDPs	0.2	0.17	0.28	0.4	0.61	0.35
Berbera IDPs	0.2	0.28	0.2	0.4	0.77	0.21
Thresholds used	CDR	<0.5	0.5-1	1-<2	>2	
	U5DR	< 1.0	1-1.9	2-3.9	>4	
Color Code	Acceptable	alert	serious	critical	Very critical	

6.11: Nutrition Indicators by Gender and Region

Indicator	Age(Months)	South		Central		NorthEast		NorthWest		Overall for Somalia	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
GAM	6-23	18.9*	12.2*	16.5	9.6	19*	12.7*	10.6	6.5	17.5*	11.3*
	24-59	18.2*	14*	12.5	11.2	15.3*	11.9*	13.6	12.4	16.1*	12.9*
	Overall	18.5*	13.3*	13.7	10.7	16.6*	12.2*	12.7	10.3	16.6*	12.3*
SAM	6-23	5.3*	3.2*	2.9	3.2	6.7*	2.6*	2.1	2.3	5.1*	2.9*
	24-59	3.8	3.2	2.7	2.6	3.3	2.3	2.6	1.8	3.3	2.7
	Overall	4.4	3.2	2.4	1.9	4.4*	2.4*	2.4	1.9	3.9*	2.8*
GAM-MUAC	6-23	17	18.5	18.2*	26.1*	27.5	28.1	6.6	7.5	18.7	20.3
	24-59	3.4	3.3	2.9	3.2	14.7	15.5	1.0	0.7	6.3	6.4
	Overall	8.6	8.9	7.3*	10.4*	19	19.9	2.8	3.1	10.7	11.3
SAM-MUAC	6-23	3.1	3.7	4.1	4.4	20.2	19.1	1.3	2.0	7.8	7.8
	24-59	0.5	0.4	0.7	1.3	13.9	14.1	0.2	0.1	4.5	4.4
	Overall	1.5	1.6	1.7	2.3	16	15.8	0.6	0.8	5.6	5.6
UNDERWEIGHT	6-23	32.2*	17*	18.6*	8.4*	28*	17.8*	11.4	8.5	27.2*	15.3*
	24-59	19.3*	15.3*	10.8	8.0	16.4*	10.6*	5.1	5.7	15.4*	11.8*
	Overall	24.2*	15.9*	13.1*	8.1*	20.3*	13.1*	7.1	6.7	19.5*	13.1*
STUNTING	6-23	34.6*	20.8*	16.5*	9.2*	26.5*	16.8*	11.7*	6.5*	27.9*	16.7*
	24-59	22*	18.3*	11.2	8.7	18*	15.1*	2.9	2.7	16.8*	14.2*
	Overall	26.8*	19.2*	12.7*	8.9*	20.8*	15.7*	5.7	4.1	20.7*	15.1*
MORBIDITY	6-23	44.1	45.2	34.3	33.7	51.6	50.8	24.7	28.4	42.9	43.4
	24-59	40	38.3	28.6	27.9	32.9	32.2	15.1	14.7	33	32.1
	Overall	41.5	40.9	30.3	29.7	39.2	38.7	18.1	19.5	36.4	36.1

6.12: Trends in Morbidity and Child Immunization over the past 12 months (Deyr 2012/13 to Deyr 2013/12)

Livelihood	Child Morbidity			Vita A Supplementation			Measles Vaccination		
	Deyr 2013	Gu 2013	Deyr 2012	Deyr 2013	Gu 2013	Deyr 2012	Deyr 2013	Gu 2013	Deyr 2012
BayAgrop	25.6	23.9	29.1	13.9	1.7	8	7.2	0.7	5
BakoolPast	30.4	24	29.7	59.5	37.3	80.2	23.5	82	77.1
Baidoa IDPs	44.4	46.6	41.5	36.9	17.8	14.3	41.5	20.7	15.1
Mogadishu IDPs	37.3	39.3	N/A	41.8	60.7	N/A	48.5	48.1	N/A
Beletweyne District	58.8	42.9	53.3	18	39.3	11.2	27.9	38.7	8.7
Mataban District	54.6	50.2	50.3	17.6	5.7	15.1	16.3	0.6	11.8
North Gedo pastoral	21.8	21.4	42.5	84.8	86.8	12.5	81.2	83.8	16.2
North Gedo Agro-pastoral	34	18	41.8	83.8	79.6	13.4	81.2	79.6	20.1
North Gedo Riverine	28.3	45.8	27.9	81.5	69.4	18.7	78.8	68.7	30.5
Dolow IDPs	55.2	41.9	40.2	N/A	71.2	N/A	N/A	86.4	N/A
Dobley IDPs	23.2	56.6	27.9	N/A	0	86.7	N/A	0	87.5
Kismayo IDPs	36.4	28.7	41.2	N/A	3	81.6	N/A	5.7	81.9
Addun Central	35.9	27	41.6	73	75.7	59.9	70.8	77.3	57.1
Hawd Central	16.9	21.9	37	64.6	61.1	72.7	66.3	60.8	69.2
Dhusamreeb IDP's	46.5	43.3	37.3	29.2	32.6	55.9	33.3	26	12.2
EGolis (NE)	35.7	25	28.3	63.8	75.8	80.9	53	72.1	76.3
Coastal Deeh	40.7	41.7	36.9	79.4	70	67.8	71.6	68.6	79.2
Nugal Valley	39	21.8	34.4	85	78.5	70.2	75.5	62.8	69.5
Bossaso IDPs	40.6	35	46.6	79.1	85.3	84.3	79.9	79.7	80.2
Qardho IDPs	46.4	47.6	31.8	85.9	87.7	55.6	85.9	70.8	36.1
Garowe IDPs	40.5	37.2	38.3	62.9	76.1	57.7	57.8	68.9	74.7
Galkayo IDP's	33.4	40.4	32.9	91.6	69.7	86	89.7	82.5	84.4
Sool plateau	31	25.5	34.4	76.5	90.6	82.6	71.1	82.6	81.3
Hargeisa IDPs	19.9	17	24.8	58.3	60	87.4	52.6	58.8	85.9
Burao IDPs	13.6	15.9	28.4	86.6	94.6	89.5	75.4	96	88
Berbera IDPs	9.8	12.7	24.4	63.8	71.9	84.3	54.4	64.7	89

6.13: Trends in Estimated number of children with Acute Malnutrition in Somalia over the Past 12 months (Deyr 2012/13 to Deyr 2013/14)

REGION	GU 2013 CASELOAD (GAM)	Deyr 2013 CASELOAD (GAM)	GU 2013 CASELOAD (SAM)	Deyr 2013 CASELOAD (SAM)
Middle Shabelle	12850	13250	2550	3780
Lower Shabelle	21150	21150	4200	6120
Gedo	12050	14750	3150	5250
Lower Juba (Hoose)	13350	13250	3200	4250
Middle Juba (Dheexe)	8300	8200	2000	2600
Galgadud +Mudug	10700	13950	1450	2500
AWDAL	6350	7250	700	1900
Woq Galbeed	14450	16700	1700	4250
SANAAG	5600	6450	650	1650
TOGDHEER	8300	9550	1000	2450
SOOL	3100	3600	350	900
Bakool Region	14350	10000	3700	2100
Mogadishu IDP	8500	5550	1950	1100
Banadir	9700	9700	1450	1450
Hiran Region	11450	10150	2400	2250
Bay	28050	24350	7450	6350
BARI	8200	6950	1400	950
NUGAL	2650	2250	400	300
NE IDPS +Central	3950	3100	750	650
NW IDPS	3050	2550	500	450
Total Number	206100	202700	40950	51250

6.14. GLOSSARY OF TERMS

Anthropometry The technique that deals with the measurements of the size, height, weight, and proportions of the human body.

Baseline data Baseline data represent the situation before or at the beginning of a program or intervention. Survey data may be compared to baseline data if defined criteria for comparison are met (e.g., similar methods and coverage)

Bias Anything other than sampling error which causes the survey result to differ from the actual population prevalence or rate.

Chronic Malnutrition Chronic malnutrition is an indicator of nutritional status over time. Chronically malnourished children are shorter (stunted) than their comparable age group.

Cluster Sampling Cluster sampling requires the division of the population into smaller geographical units, e.g. villages or neighbourhoods. In a first step, survey organizers select a defined number of units among all geographical units. In a second and sometimes third step, households are selected within the units using simple random sampling, systematic random sampling, or the modified EPI method.

Confidence interval When sampling is used, any figure derived from the data is an estimate of the actual value and is subject to sampling errors, i.e., there is a risk that the result obtained is not exactly equal to the actual value. The estimated prevalence coming out of a sample is therefore accompanied by a confidence interval, a range of values within which the actual value of the entire population is likely to be included. This value is generally 95 percent in nutrition and mortality surveys. This means that we can be 95 percent confident that the true prevalence lies within the given range.

Crude mortality rate (CMR) Mortality rate from all causes of death for a population (Number of deaths during a specified period /number of persons at risk of dying during that period) X time period.

Cut-off points The point on a nutritional index used to classify or screen individuals' anthropometric status.

Design Effect (DE) Cluster sampling results in greater statistical variance (see definition below) than simple random sampling because health outcomes tend to be more similar within than between geographical units (see cluster sampling). To compensate for the resulting loss in precision, the sample size calculated for simple random sampling must be multiplied by a factor called "design effect"; A measure of how evenly or unevenly the outcome (for example wasting, stunting, or mortality) is distributed in the population being sampled.

Global Acute Malnutrition (GAM) GAM includes all children suffering from moderate and severe acute malnutrition; percent of children under 5 who have low weight-for-height measured by -2 z-scores and with or without oedema.

Growth Monitoring Observation of a child growth over time by periodic assessment of his/her weight-for-height or weight-for-age.

Household A group of persons who live together and eat from the same pot (i.e. the HEA definition)

Kwashiorkor Sign of severe malnutrition characterized by bilateral oedema.

Malnutrition State in which the physical function of an individual is impaired to the point where he or she can no longer maintain adequate bodily performance process such as growth, pregnancy, lactation, physical work, and resisting and recovering from disease.

Morbidity A condition related to a disease or illness.

Oedema An accumulation of excessive extra cellular fluid in the body; a distinguishing characteristic of kwashiorkor when bilateral. All children with nutritional oedema are classified as severely malnourished.

Outcome Wasting and mortality are examples of outcomes measured in surveys.

Prevalence Proportion of a population with a disease or condition of interest at a designated time.

P-value If you want to know whether there is a significant difference between two survey estimates, frequently a statistical test is applied and a P value calculated. The P value is the probability that the two estimates differ by chance or sampling error.

Recall period A defined period in the past used to calculate estimated mortality and/or morbidity rates.

Reference Population The NCHS (1977) and WHO (2006) reference values are based on two large surveys of healthy children, whose measurements represent an international reference for deriving an individual's anthropometric status.

Sample A subset of the total population that should be selected at random to *Guarantee* a representation of the total population.

Sample size The size of the sample calculated based on objectives of the survey and statistical considerations.

Sampling error Sampling error is the degree to which a sample might differ from the whole target population, e.g., how well it represents a target population or total population. Sampling error can be quantified (e.g., in a confidence interval).

Sampling frame The list of all the ultimate sampling units from which the sample is selected.

Sampling interval The sampling interval is the total number of sampling units in the population divided by the desired sample size.

Sampling unit The unit that is selected during the process of sampling; depending on the sampling process the sampling unit can be a person, household, cluster, district, etc.

Severe Acute Malnutrition (SAM) SAM includes all children suffering from severe malnutrition; percent of children under 5 who have low weight-for-height measured by -3 z-scores and with or without oedema.

Simple Random Sampling The process in which each sampling unit is selected at random one at a time from a list of all the sampling units in the population.

Stunting (chronic malnutrition) Growth failure in a child that occurs over a slow cumulative process as a result of inadequate nutrition and/or repeated infections; stunted children are short for their age and may look younger than their actual age; it is not possible to reverse stunting; measured by the height-for-age index.

Systematic Random Sampling (SRS) A methodology which selects a sampling unit at random, then selects every n^{th} household thereafter, where 'n' equals the sampling interval.

Underweight Percentage of children under the age of five with weight-for-age below -2SD from median weight-for-age of reference population.

Urban town/center (based on UNDP definition/Pre-War definition): The regional capital and all the district capitals. *These urban areas had most of the social amenities such as schools, mosques, district hospitals, markets, etc. Moreover, there was a greater prospect of the visible presence of some sort of local government or administrative structures in the regional and district capitals.*

Wasting (1) Growth failure as a result of recent rapid weight loss or failure to gain weight; wasted children are extremely thin; readily reversible once condition improve; wasting is measured by the weight-for-height index.

Wasting (2) Percentage of children under the age of five suffering from moderate or severe wasting (below minus two standard deviations from median weight-for-height of reference population). Wasting differs from acute malnutrition because it does not take into consideration the presence/absence of oedema.

Z-score Score expressed as a deviation from the mean value in terms of standard deviation units; the term is used in analyzing continuous variables such as heights and weights of a sample.

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, 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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