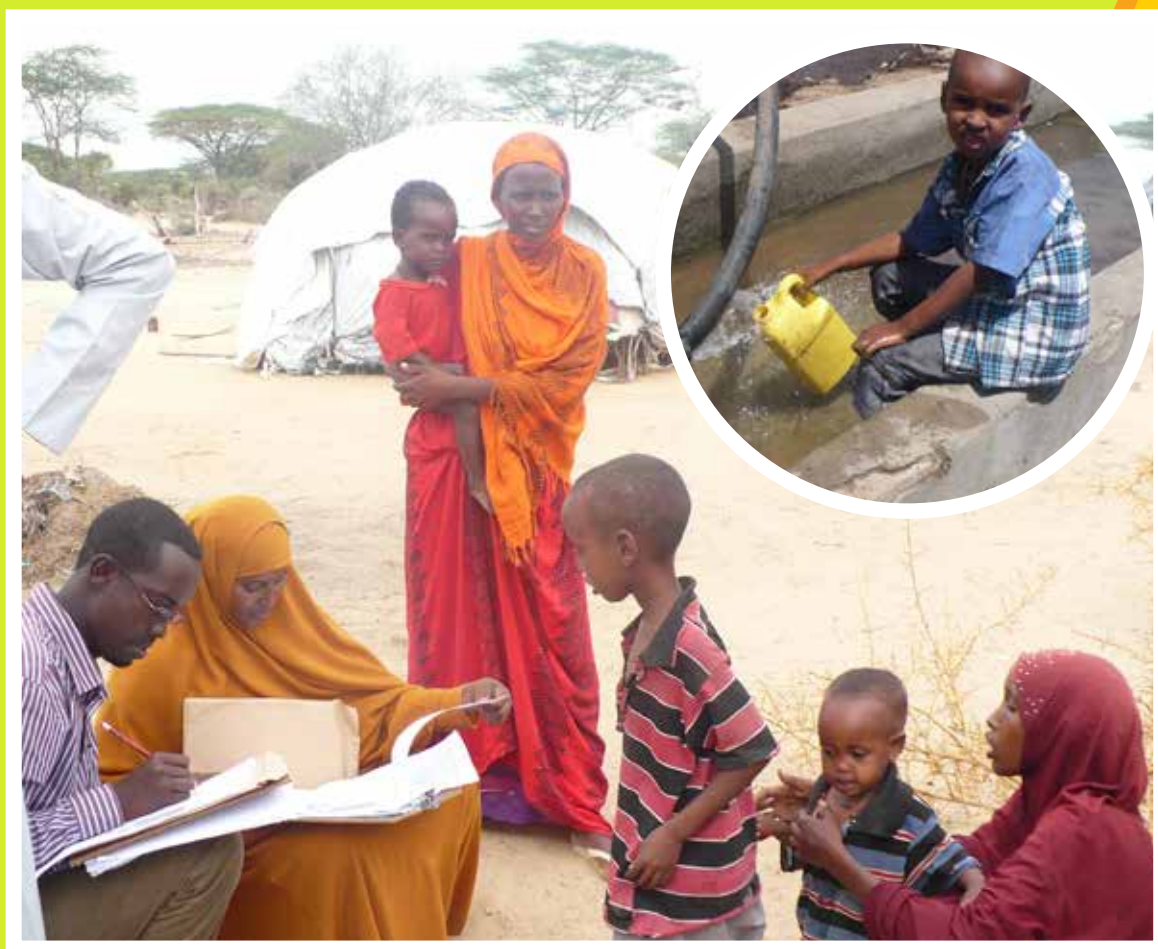


Somalia Nutrition Analysis

Post Gu 2015

Technical Series Report No. VII 61

October 16, 2015



Food and Agriculture
Organization of the
United Nations



World Food
Programme
EUROPEAN COMMISSION

JRC

unicef

SWALIM



from the British people



FSNAU Funding Agencies



USAID
FROM THE AMERICAN PEOPLE



MINISTRY FOR FOREIGN
AFFAIRS OF FINLAND



Common
Humanitarian
Fund



ACKNOWLEDGEMENTS

This report summarizes the results of Post Gu 2015 nutrition surveys by the Food Security and Nutrition Analysis Unit (FSNAU) which assessed nutrition status of Children (6-59 months) from across most regions and livelihood zones of Somalia.

The nutrition survey and analysis including the preparation of this report was made possible through the financial contribution of the donors whose logos appear on the front cover of this report. Our special appreciation goes to:

- Coordination support provided by Ministries of Health and their staff in Mogadishu, Garowe and Hargeisa without which the survey wouldn't have been possible
- Somalia Nutrition cluster for their support in the planning of surveys and vetting of results
- FSNAU Technical Partners working in Somalia for their significant contribution, including - UNICEF for providing survey equipment, WHO for vital information on immunization data and WFP for other secondary data important for interpretation of the survey results.
- The survey team, for their endurance, dedication and team spirit for collecting the required data under challenging circumstances.
- All the community members for their cooperation and time, without which the survey would have not been possible
- FSNAU nutrition technical staff based in Somalia and Nairobi for their hard work and dedication.

FSNAU TEAM

TABLE OF CONTENTS

	EXECUTIVE SUMMARY	1
1:	BACKGROUND	4
2:	METHODOLOGY	5
3:	FINDINGS OF NUTRITION ASSESSMENT (Gu 2015)	9
4:	REGIONAL NUTRITION ASSESSMENT	26
4.1	NORTHWEST REGIONS	27
4.2	NORTHEAST REGIONS	37
4.3	CENTRAL REGION	49
4.4:	SOUTH REGIONS	53
4.4.1:	GEDO REGION	55
4.4.2:	MIDDLE AND LOWER JUBA REGIONS	62
4.4.3:	MIDDLE AND LOWER SHABELLE REGIONS	68
4.4.4:	HIRAN REGION	78
4.4.5	BAY BAKOOL REGIONS	81
5.	GENDER	88
6.	APPENDICES	92
6.1	Overall Time frame for the Gu 2015 Nutrition Survey	92
6.2	Areas Accessed in the Gu 2015 Survey	94
6.3	Nutrition Indicators Used - Gu 2015	95
6.4	Sampling Details for - Gu 2015	97
6.5:	Populations Accessed - Gu 2015	98
6.6	Institutions that Participated in the Gu 2015 Nutrition Vetting	99
6.7	Overall Nutrition Situation - Gu 2015	99
6.8	Plausibility Scores For Gu 2015	100
6.9	Progression of Estimated Nutrition Situation	101
6.10	Change in GAM and SAM Gu 2014 to Gu 2015	102
6.11	Change in MUAC Gu 2014 to Gu 2015	103
6.12	Change In CDR and U5DR	104
6.13	Change in Stunting	105
6.14	Change in Underweight	106
6.15	Change in Maternal MUAC<23 Malnutrition	107
6.16	Change In Morbidity	108
6.17	Coverage with Vitamin A Supplementation	109
6.18	Change in Measles Coverage	110
6.19	Change in GAM and SAM Caseloads	111
6.20	Change in Food Security	112
6.21:	Nutrition Indicators by Gender and Age - Gu 2015	113
6.22	GLOSSARY OF TERMS	114

LIST OF TABLES

Table 1:	Plausibility Checks - Gu 2015	8
Table 2:	Kwashiorkor prevalence in Somalia Gu 2015	14
Table 3:	Acute Malnutrition in Different regions of Somalia (MUAC)	14
Table 4:	Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence) Gu, 2015	18
Table 5:	Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence), Gu 2015	18
Table 6:	Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence), Gu 2015	18
Table 7:	Nutrition Situation in different regions of Somalia - Gu 2015	22
Table 8:	Summary of Key Nutrition Findings: Northwest Rural Livelihoods. Gu 2015	32
Table 9:	Summary of Key Nutrition Findings: Northwest Rural Livelihoods, Gu 2015	34
Table 10:	Summary of Key Nutrition Findings in Sool and Togdheer Urban Livelihoods, Gu 2015	36
Table 11:	Stunting and Underweight prevalence among different livelihoods in Northeast region	39
Table 12:	Summary of Key Nutrition Findings in Northeast IDPs – Gu 2015	41

Table 13: Summary of Key Nutrition Findings in Northeast Rural – Gu, 2015	45
Table 14: Summary of Key Nutrition Findings in Northeast Urban – Gu, 2015	48
Table 15: Distribution of Chronic Malnutrition – Stunting and Underweight in Centrak regions	50
Table 16: Summary of Key Nutrition Findings in Central livelihoods and IDPs - Gu 2015	52
Table 17: Summary of Key Nutrition Findings in livelihoods in Central Region (MUAC assesment), Gu 2015	54
Table 18: Summary of Key Nutrition Findings North Gedo Regions, Gu 2015	59
Table 19: Summary of Key Nutrition Findings in South Gedo Regions, Gu 2015	60
Table 20: Summary of Key Nutrition Findings in Dolow IDPs, Gu 2015	61
Table 21: Cause of CDR among Dhobley IDPs - Gu 2015	63
Table 22: Cause of death reported for U5DR in Kismayo IDPs	64
Table 23: Summary of Key Nutrition Findings in Kismayo Urban. Kismayo and Dhobley IDPs, Gu 2015	66
Table 24: Summary of Key Nutrition Findings in Shabelle Region, Gu 2015	72
Table 25: Summary of Key Nutrition Findings in Banadir Region Gu - 2015	74
Table 26: Summary of Key Nutrition Findings in Hiran region	80
Table 27: Summary of Key Nutrition Findings in Bay Bakool regions – Gu 2015	84
Table 28: Summary of Key Nutrition Findings in Baidoa IDPs	86

LIST OF MAPS

Map 1: Gu 2015 Assessed Areas	5
Map 2: Somalia Estimated Nutrition Situation (GAM Jul 2015)	11
Map 3: Somalia Nutrition Situation (SAM) - July 2015	13
Map 4: Distribution of Propotion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on GAM and MUAC Prevalence (July 2015)	16
Map 5: Distribution of Propotion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on Incidence (July-December 2015)	17
Map 6: Rural, Urban and IDP Food Security Projection (August - December 2015)	23
Map 7: Nutrition Situation Outlook (August – October 2015)	25
Map 8: Map 8: Somalia Livelihood Zones	26
Map 9: Food Security Situation in Northwest Regions - Jul 2015	27
Map 10: Nutrition Situation Northwest Regions, Jul 2015	30
Map 11: Food Security Situation in Northeast Regions - Jul 2015	37
Map 12: Nutrition Situation Northeast Regions, Jul 2015	40
Map 13: Food Security Situation in Central Regions - Jul 2015	49
Map 14: Current Nutrition Situation Central Regions, Jul 2015	50
Map 15: Food Security Situation in Gedo Regions - Jul 2015	55
Map 16: Current Nutrition Situation Gu 2015 in Gedo region	58
Map 17: Food Security Situation in Juba Regions - Jan 2015	62
Map 18: Current Nutrition Situation Gu 2015 in Juba Region	65
Map 19: Food Security Situation in Shabelle Regions - Jul 2015	68
Map 20: Current Nutrition Situation Gu 2015 in Shabelle Regions	71
Map 21: Food Security Situation in Hiran Region - Jul 2015	76
Map 22: Current Nutrition Situation Gu 2015 in Hiran Regions	79
Map 23: Food Security Situation in Bay and Bakool Regions - Jul 2015	81
Map 24: Current Nutrition Situation Gu 2015 in Bay and Bakool Regions	84

LIST OF FIGURES

Figure 1: Livelihoods with Serious (10-<14.9% GAM) to Critical (15-<30%) GAM Prevalence - Gu 2015	12
Figure 2: GAM trends in different regions of Somalia-Gu 2015	12
Figure 3: Livelihoods with Serious (2.5-4 %) or Critical (4-5.6%) SAM Prevalence - Gu 2015	13
Figure 4: Severe Acute Malnutrition trends in different regions of Somalia, Gu 2015	14
Figure 5: Livelihoods with Serious (7.5-10.6%) / Critical (10.7-16.7%) MUAC <12.5 cms	15
Figure 6: Livelihoods with Serious (1.7-2.4%) / Critical (2.5-4 %) MUAC <11.5 cms	15
Figure 7: CDR trends in different Regions in Somalia - Gu 2008	19
Figure 8: U5DR trends in different Regions of Somalia - Gu 2008	19

Figure 9: Morbidity in livelihoods with Serious-Critical, GAM Gu 2015	19
Figure 10: Percent of Under-Five children who received Vitamin A supplementation during the last 6 months	20
Figure 11: Livelihoods with medium (> 20%) or High (> 30%) Stunting prevalence - Gu 2015	20
Figure 12: Livelihoods with High Prevalence of Underweight (>20%) - Gu 2015	21
Figure 13: Trends in Stunting Prevalence in Somalia - Gu 2015	21
Figure 14: Trends in Underweight Prevalence in Somalia - Gu 2015	21
Figure 15: Livelihoods with Alert/Serious/Critical prevalence of materna malnutrition - Gu 2015	21
Figure 16: GAM and SAM trends in North West Regions of Somalia	27
Figure 17: Trends in Severe Acute Malnutrition in North West Region	28
Figure 18: Prevalence of Global Acute Malnutrition in North West Region, Gu 2015	28
Figure 19: Proportion of SAM among West Golisin different age groupas	29
Figure 20: Nutrition Situation and Outlook Aug 2015 to Oct 2015 in Northwest regions	31
Figure 21: Prevalence of Acute Malnutrition in Different Livelihoods of North-eastern Somalia - Gu 2015	38
Figure 22: GAM and SAM trends in Northeast Regions of Somalia	38
Figure 23: Crude Death Rate trends in different regions of Somalia	39
Figure 24: Nutrition Situation Outlook Jul 2015 to Aug-Oct 2015 in Northeast	41
Figure 25: Prevalence of Acute Malnutrition in Central	49
Figure 26: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Central regions	51
Figure 27: Trends Global Acute Malnutrition in North Gedo region	55
Figure 28: SAM trends in different livelihoods of N Gedo - Gu 2012- Gu 2015	56
Figure 29: GAM trends among Dolow IDPs - Gu 2015	56
Figure 30: SAM trends among Dolow IDPs - Gu 2015	56
Figure 31: U5DR Trends in North Gedo Livelihoods - Gu 2015	56
Figure 32: Trends in stunting among different livelihoods of north Gedo region	57
Figure 33: Trends in Underweight prevalence	57
Figure 34: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Gedo regions	58
Figure 35: GAM and SAM trends amon Dhobley IDPs	63
Figure 36: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Juba region	65
Figure 37: Acute malnutrition trends among Mogadishu IDPs - Gu 2015	69
Figure 38: Mortality trends Mogadishu IDPs - Gu 2015	70
Figure 39: Morbidity trends Mogadishu IDPs - Gu 2015	70
Figure 40: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Shabelle regions	72
Figure 41: Trends in Acute Malnutrition in Beletweyne: Gu 2012-Gu 2015	76
Figure 42: Trends in Acute Malnutrition in Mataban: Gu 2012-Gu 2015	77
Figure 43: Trends of Stunting and Underweight in Beletweyne, Gu 2015	77
Figure 44: Trends of Stunting and Underweight in Mataban, Gu 2015	78
Figure 45: Trends of vitamin A supplementation in Beletweyne and Mataban, Gu 2012-Gu 2015	78
Figure 46: Trends in Maternal Malnutrition in Beletweyne and Mataban Districts, Gu 2015	79
Figure 47: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Hiran region	79
Figure 48: GAM and SAM in Bay agro-pastoral Somalia	81
Figure 49: Trends in Acute Malnutrition among Bakool Pastoral, Somalia	82
Figure 50: Trends in GAM and SAM prevalence among Baidoa IDPs	82
Figure 51: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Bay Bakool regions	84
Figure 52: Gender differences in GAM Prevalence in different regions - Gu 2015	88
Figure 53: Trend of gender differences in GAM Prevalence in different regions - Gu 2015	89
Figure 54: Gender differences in SAM Prevalence in different regions - Gu 2015	89
Figure 55: Trend of gender differences in SAM Prevalence in different regions - Gu 2015	89
Figure 56: Gender differences in Stunting Prevalence in different regions - Gu 2015	90
Figure 57: Trend of gender differences in Stunting Prevalence in different regions - Gu 2015	90
Figure 58: Gender differences in Underweight Prevalence in different regions - Gu 2015	90
Figure 59: Trend of gender differences in Underweight Prevalence in different regions - Gu 2015	90

LIST OF ACRONYMS USED

ABBRAVIATIONS

AWD

CDR/ CMR

ENA

FAO

FSNAU

GAM

HAZ

HIS

IDPs

IPC

IYCN

LZ

MUAC

NCA

NE

NW

PLW

SAM

SC

SMART

U5DR

UN

UNDP

UNICEF

WAZ

WHZ

WFP

WHO

SAM

HADMA

WASH

OXFAM

SNS

JRC

CISP

ENA

UNFPA

CDC

MOH

QRCS

DEFINITIONS

Acute Watery Diarrhea

Crude Death Rate / Crude Mortality Rate

Emergency Nutrition Assessments

Food and Agriculture Organisation of the United Nations

Food Security and Nutrition Analysis Unit for Somalia

Global Acute Malnutrition

Height for Age Z Scores

Health Information System

Internally Displaced Persons

Integrated Phase Classification

Infant and Young Child Nutrition

Livelihood Zones

Mid Upper Arm Circumference

Nutrition Causal Analysis

North East

North West

Pregnant Lactating Women

Severe Acute Malnutrition

South Central

Standardised Monitoring and Assessment of Relief and Transition

Under-5 Death Rate

United Nations

United Nation Development Programme

United Nations Children's Fund

Weight for Age Z Scores

Weight for Height Z Scores

World Food Programme

World Health Organisation

Severe Acute Malnutrition

Humanitarian Affairs and Disaster Management Agency

Water Sanitation and Hygiene

Oxford Committee for Famine Relief:

Strengthening Nutrition in Somalia

Joint Research Centre

Comitato Internazionale per lo Sviluppo dei Popoli

Emergency Nutrition Assessment

United Nations Population Fund

United States Center For Disease Control and Prevention

Ministry of Health

Qatar Red Crescent Society

FOREWARD

This Post Gu 201515 Technical Series Report is the latest edition of bi-annual nutrition situation technical series reports launched by the Food Security and Nutrition Analysis Unit (FSNAU) Somalia, in February 2009. The publication complements the FSNAU bi-annual seasonal fod security and nutrition technical series reports and provides specific focus on current nutrition information and outlook for Aug – Oct 2015. The report includes a detailed analysis of the 33 comprehensive nutrition assessments and 6 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 any questions, comments and feedback on this report.

EXECUTIVE SUMMARY

Between May through July 2015, FSNAU conducted 39 seasonal nutrition surveys across most regions and livelihood zones of Somalia, covering displaced (13), urban (6) and rural populations (20). The overall goal of this seasonal assessment was to establish the extent and the severity of acute malnutrition and determine the contributing factors of malnutrition among different livelihoods in Somalia. The assessments were conducted in collaboration with Government institution (Ministry of Health) and partners.

METHODOLOGY

The surveys were cross sectional based on two-stage cluster sampling using Standardized Monitoring and Assessment of Relief and Transitions (SMART) methodology. The first stage of sampling was selection of clusters with Probability Proportional to Size (PPS) and the second stage was the selection of households within the clusters using simple random sampling approach. The assessments covered 26 845 Children (6-59 months) from 16 919 households. Weight-for-Height Z-Score was measured for 33 surveys while Mid Upper Arm Circumference (MUAC) was used as an indicator of wasting in the remaining six.

KEY FINDINGS

Acute Malnutrition (GAM)

The 2015 *Gu* nutrition survey results indicate a median GAM rate of 13.6 percent (**Serious**) and a median SAM rate of 2.3 percent (**Alert**) for children under the age of five in Somalia. No change in GAM prevalence phase was noted for 22 out of 39 livelihoods surveyed while 18 out of 39 livelihoods showed no change in SAM since Deyr 2014/15. Improvement in nutrition situation was noted in five livelihoods:- Bay Agro pastorals, Hawd (Northeast & Central), Bakool Pastoral, Sool Urban and Bossasso IDPs.

The prevalence of acute malnutrition) which exceeds the UN trigger for emergency nutrition action (i.e. GAM ≥ 15 %) was seen only in South Central region in 9 livelihoods:- North Gedo (Pastoral & Riverine), South Gedo (Pastoral, Agro pastoral and Riverine), Mataban District and Beletweyne district as well as in Central Coastal Deeh and Cowpea livelihood zones.

Out of 13 IDP settlements surveyed during 2015 *Gu*, five showed **Critical** levels of GAM (≥ 15 %): Dhobley IDPS (Lower Juba), Baidoa IDPs (Bay), Dolow IDPs (Gedo), Garowe (Nugaal) and Galkayo (Mudug). It is of concern that acute malnutrition levels in three of these IDP settlements (Dolow, Garowe and Galkayo) are sustained at **Critical** levels over the past two years. Internally Displaced Persons (IDPs) in Dhobley currently face a nutrition emergency as reflected in **Critical** levels of GAM and SAM which are accompanied by **Critical** levels of Crude Death Rate (CDR). The nutrition situation among Dolow IDPs has also deteriorated since December 2014 with an increase in **Critical** levels of GAM, a near doubling of CDR as well as increases in Under-Five Death Rate (U5DR) and morbidity levels.

Critical levels of GAM prevalence (≥ 15 %) were recorded in two out of six urban areas surveyed during 2015 *Gu* (18.4% in Bari and 15.7% in Nugal) while **Serious** GAM prevalence (10-14.9%) was noted among Mogadishu urban (10.5%) and **Alert** (5-9.9) in Sool urban and Kismayo urban.

Out of 15 livelihoods with **Critical** GAM/MUAC, 12 showed sustained **Critical** levels of acute malnutrition.

Mid Upper Arm Circumference (MUAC)

FSNAU conducted nutrition survey using Mid-Upper Arm Circumference (MUAC) for measuring acute malnutrition in six difficult to access areas. The results for five livelihoods out of six indicate prevalence of **Critical**¹ levels of acute malnutrition (≥ 10.7 % children with MUAC < 12.5 cms) was observed among all livelihoods: Pastoral, Agro pastoral and Riverine in South Gedo, Coastal Deeh and Cowpea Belt. **Critical** levels of severe acute malnutrition (≥ 2.5 % of children with MUAC < 11.5 cms) was observed South Gedo Pastoral and Cowpea Belt Agro pastoral while **Very Critical** levels of severe acute malnutrition (> 4 % of children with MUAC < 11.5 cms) were recorded in Coastal Deeh of Central region.

Critical levels (10.7-16.7%) of MUAC < 12.5 cms or MUAC < 11.5 cms in 2.5-4% of children < 5 yrs. were observed only in the South Central region.

¹ Critical as per FSNAU thresholds for MUAC

Gender Differences in prevalence of Acute Malnutrition

Higher prevalence of GAM and SAM was observed among boys (6-23 months and 24-59 months) compared to girls in all livelihoods (pastoral, agro pastoral, riverine, IDPs) with the exception of urban where girls 6-23 months of age have a higher rate of GAM and a similar rate of SAM compared to boys of the same age cohort.

Mortality

Gu results of a 90-day recall mortality survey show **Acceptable** CDR and U5DR in all the livelihoods surveyed in North West and Northeast region. **Serious** levels of CDR were recorded only in South Central region among livelihoods of Shebelle Agro pastoral (0.56), Mogadishu urban (0.54) and IDP (0.63), Dolow IDP (0.9) and Dhusamareb IDP (0.64). Dhobley IDP was the only exception with **Critical** CDR of 1.18/10 000/day with **Serious** U5DR of 1.15/10 000/day.

Critical levels of U5DR (2.5-3.9) were not seen in any of the livelihoods surveyed. **Alert** ($\leq 1/10\ 000/\text{day}$ to **Serious** levels of U5DR (1-1.9)/10,000/day) were recorded only in the South Central region. It was noted that U5DR is higher (Serious) in areas with high prevalence of Maternal malnutrition: Shabelle Agro pastoral and Beletweyne District or in livelihoods where high prevalence of Morbidity is recorded (Dhobley IDP, Mogadishu IDP and Baidoa IDP).

Morbidity

It is estimated that acute malnutrition contributes to increased morbidity and Gu 2015 results reflect this through a significant positive association between prevalence of GAM and prevalence of morbidity ($r = 0.4$, $p < 0.02$). This suggests that sustained high levels of acute malnutrition seen in Somalia despite relative improvement in the overall food security situation are because the health and care environments are compromised. Median Morbidity rates during Gu 2015 assessment varied from a low of 12.8 percent in North West region to high of 33.4 percent in North East and 29 percent in South Central region

Stunting

The overall Stunting rate in Somalia is 12 percent and is considered **Low** ($< 20\%$). However, there are major differences between zones: 15 percent in South and Central; 10.8 percent in Northeast; 4.1 percent in Northwest; and 15.8 percent among IDPs.

Underweight

The overall Underweight rate in Somalia is 13.4 percent and is considered **Medium** (10-19.9%), with substantial variation across the country at sub national level: 16.7 percent in South & Central; 15.1 percent in Northeast; 2.6 percent in Northwest; and 18.8 percent among IDPs.

Coverage with Vitamin A Supplementation

Coverage for children aged 6-59 months who receive vitamin A (based solely on recall in the last 6 months) should be > 95 percent as per Sphere standards². Gu 2015 results show the median coverage for Somalia as 66.5 percent. Regional differences were noted in the proportion of children aged 6-59 months who received vitamin A: 48.4 percent in South Central, 74.5 percent in Northeast and 60 percent in Northwest.

Maternal Malnutrition

Gu 2015 data indicate prevalence of **Very Critical** levels ($\geq 31.5\%$) of maternal malnutrition among Dhusamareb IDPs and **Critical** levels (23.4 -31.4%) among Dhobley IDP, Qardho IDP and Hawd central. It is of concern that **Very Critical** levels of maternal malnutrition among Dhusamareb IDPs and **Critical** levels among Dhobley IDPs and Hawd Central are sustained since Deyr 2013/14.

Current case load:

2015 Gu assessment results indicate that currently 214 650 children under the age of five in Somalia are suffering from acute malnutrition and of these, 39 650 (18.5%) are severely malnourished (based on prevalence). As more children become malnourished through the end of the year, the number of acutely and severely malnourished children are expected to increase, respectively, to 343 440 and 63 440 (based on incidence).

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

Current Hot spots

With **Critical** rates of acute malnutrition (GAM >15% or >10.7% of children have Mid-Upper Arm Circumference (MUAC) below the 12.5 centimeter threshold), the following livelihood zones and population groups are considered priorities (hotspots) for nutrition programming:

- Gedo Region: Pastoral, Agro pastoral and Riverine populations and Dollow IDPs
- Hiran Region: Beletweyne and Mataban Districts
- Bay Region: Baidoa IDPs
- Lower Juba Region: Dhobley IDPs
- Nugaal Region: Garowe IDPs, Nugal Urban
- Mudug Region: Galkayo IDPs
- Galmudug State: Coastal Deeh Pastoral and Cowpea Belt Agro pastoral livelihood zones
- Bari region: Urban Bari
- Awdal and Woqoi Galbeed: Guban Pastoral Livelihood Zone

Projected Nutrition Situation

The nutrition situation in the drought affected areas of Northwest agro pastoral and Gubal Pastoral livelihoods is expected to deteriorate to **Serious** and **Critical** levels of acute malnutrition respectively as the drought condition is expected to worsen until Deyr rains are fully established in October. Deterioration of the current nutrition situation is also expected among Bossaso IDPs in the Northeast and in Bay Agro pastoral and in Middle and Lower Shebelle livelihoods in the South.

CONCLUSION

An estimated 214 700 children under the age of five are acutely malnourished (39 700 of them severely malnourished) based on prevalence results from 39 nutrition surveys conducted from May to July 2015 by the FSNAU and partners. The number of acutely and severely malnourished children is likely to increase to 343 400 and 63 400, respectively, through the end of the year (incidence). The severely malnourished face a high risk of morbidity and death. Internally Displaced Persons (IDPs) in Dhobley currently face a nutrition emergency as the prevalence of Global Acute Malnutrition (GAM) has nearly doubled (from 11 percent in *Deyr* 2014/15 to 20.7 percent in *Gu* 2015) and is accompanied by Critical levels of Crude Death Rate-CDR (>1/10 000/day). IDPs in Dollow have had further deterioration in their nutrition situation since December 2014 with an increase in Critical levels of GAM (from 21.6 percent to 26.4 percent) along with an increase in both Crude Death Rates and Under-five Death Rates.

Current Serious rate of GAM prevalence (13.6%) in Somalia clearly highlight the need to treat acutely children by supporting and scaling up the nutrition programs. Persistently high rates of GAM and morbidity among certain livelihoods in South Central region (Gedo, Hiran, Lower Juba, Nugal and Mudug region) suggest efforts to address the underlying causes of malnutrition must be supported through multi-sectoral and integrated interventions in different sectors: food, health, and hygiene, safe access to water and sanitation and care. Supporting and protecting optimal infant and young child nutrition in Somalia is an essential intervention to protect and save children's lives.

1: BACKGROUND

Nutrition is the key for sustainable development and the wellbeing of entire populations. Poor nutrition represents an often invisible impediment to the successful achievement of *all* development targets. Young children aged two or less and pregnant and lactating women are the most likely to suffer from the devastating effects of malnutrition, which often lead to death, and, for children, reduced physical and cognitive abilities, depriving them of the chance to reach their full potential as human beings. Understanding the extent of malnutrition, its underlying causes, and how these change over time is essential to the design and implementation of nutrition and food security programs.

FSNAU provides a snapshot of the current nutrition situation in Somalia by conducting biannual assessments. Between May through July 2015 (Gu 2015), FSNAU conducted 39 nutrition surveys across most regions and livelihood zones of Somalia. The assessments were conducted in collaboration with government institutions (Ministries of Health) and partners. The primary objectives of the Post Gu assessment among IDPs, rural livelihoods and urban population areas in Somalia was to :

- ☐ Assess the prevalence of acute malnutrition amongst children aged 6 – 59 months
- ☐ Determine retrospective crude mortality rate (CMR) and under five mortality rate (U5MR)
- ☐ Determine Morbidity rate in children aged 6 – 59 months

The secondary objectives were to:

- ☐ Estimate overage with measles vaccination and Vitamin A supplementation
- ☐ Assess water, hygiene and sanitation factors that may contribute to malnutrition in children.
- ☐ Assess the nutrition situation of the mothers (pregnant, lactating)

Two type of assessments were done:

1. Assessment using SMART¹ Methodology – Integrated Nutrition & Food Security Surveys in IDPs Urban livelihoods and Rural livelihoods (n=33)
2. Representative MUAC based nutrition assessment — areas with insecurity (n=6)

The assessment among displaced and urban population were integrated food security and nutrition survey. Details of survey tools and time plan (when and where) were shared with Ministry Of Health and all nutrition stakeholders in of Somalia as well as in Nairobi for coordination and participation by interested partners.

SURVEY LIMITATIONS

- ☐ Insecurity limits access to the population of concern and lack of qualified partners in some areas: Juba, parts of Bakool, Hiran and Shabelle regions
- ☐ FSNAU Surveys are cross sectional surveys which limit our ability to draw conclusion on causality but where significant association exists between variables these are reported.
- ☐ Use of UNDP 2005 population figures results in potential under estimation of the magnitude of the malnutrition in Somalia.
- ☐ Precise age estimation is a challenge due to recall bias and lack of support documentations indicating birth dates this may led to inaccuracy when analyzing chronic malnutrition.

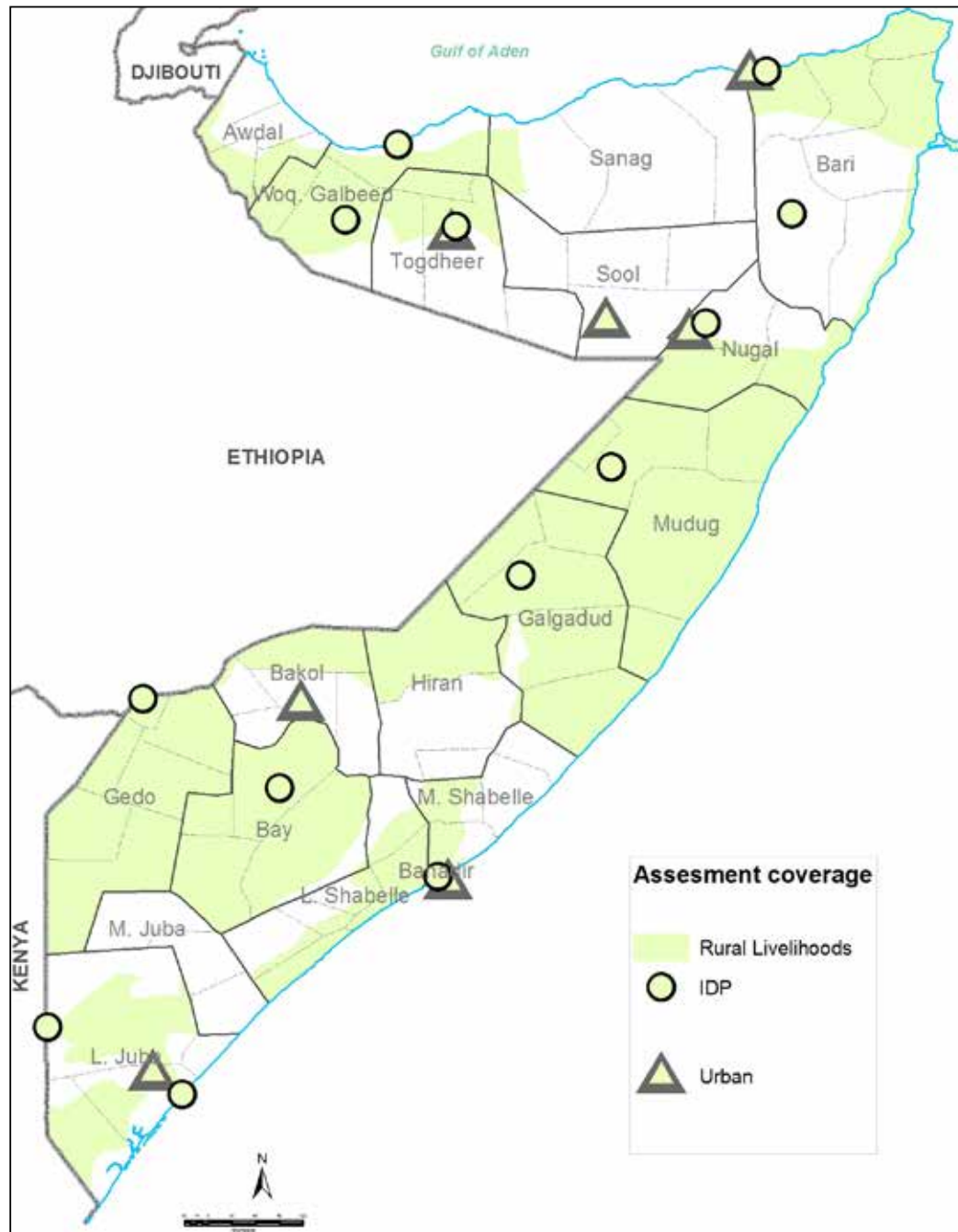
¹ Standardized Monitoring and Assessment of Relief and Transitions

² As breakdown of the new population estimate for Somalia (UNFPA 2014) is not yet available at lower (district) level, the 2015 Post Gu assessment results are reported based on the 2005 UNDP total population estimate of 7.5 million.

2: METHODOLOGY

Between May through July 2015, FSNAU conducted 39 nutrition surveys covering 26 845 children (6-59 months) from 16 919 households across most regions and livelihood zones of Somalia. The assessments were conducted in collaboration with government institutions (Ministries of Health) and partners. All the surveys were cross sectional, based on SMART methodology¹, which incorporates standard guidelines, questionnaires, and a software package to assess data quality. Weight/Height was measured in 33 surveys while Mid Upper Arm Circumference (MUAC) was used as an indicator of wasting in the remaining six. The population figures for the nutrition survey were based on UNDP 2005 population numbers for Somalia, and the under-5 population was estimated at 20 percent of the total population estimates. More than half (62%) of the nutrition assessments were conducted in South Central region while 20 percent of surveys were based in North East region and 18 percent in North West region of Somalia.

Map 1: Gu 2015 Assessed Areas



¹ [Standardized Monitoring and Assessment of Relief and Transitions Methodology](#)

SURVEY PERIOD:

The survey was conducted from 20 May to 20th July 2015 (Annex 1).

SURVEY AREA:

This survey covered 13 IDPs, 22 Rural livelihoods zones and 6 urban areas (Annex 2).

SURVEY DESIGN:

The survey was a cross sectional study with two-stages clusters samplings using Standardized Monitoring of Relief and Transition (SMART) methodology. Villages were considered as the smallest geographical unit (clusters).

SAMPLE SIZE AND SAMPLING METHODOLOGY:

Emergency Nutrition Assessment (ENA) for SMART software delta version 2011 updated November 2014, was used for sample size calculation. A two stage cluster sampling method was used. First sampling stage selection involved the random selection of the clusters from an updated list of locations of the areas to be surveyed. There the clusters selection was allocated randomly using probability proportionate to size (PPS). While the second stage sampling involved the selection of the households during the households randomly selection within each cluster using simple sampling or Modified EPI methods. In some contexts, segmentation was done before applying one of the household selections methods above. (Annex 4)

DATA COLLECTION:

The data collection was done using both qualitative and quantitative techniques. The quantitative data was collected through a standard household questionnaire for nutrition assessments in Somalia. Retrospective morbidity data was collected among children 0-59 months (two-week recall) to assess the occurrence of main diseases. The measles vaccination is accounted only for children from 9-59 months and vitamin A supplementation accounts for children 6-59 months who were supplemented 6 months prior to the survey.

Retrospective mortality data for 90 days prior to the assessments was also collected among the study households using the mortality questionnaires. Age of the children was determined through the use of a local calendar of events. Digital pen was used for capturing data in the Northwest region.

Following tools were used for the nutrition assessment :

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

Maternal nutrition:

- MUAC measurements (women of reproductive age 15-49 years)
- Iron / folic acid supplementation (pregnant women)

TRAINING AND SUPERVISION OF THE NUTRITION ASSESSMENTS

Training was a crucial part of the nutrition surveys. For each and every survey three to five days of training of enumerators and supervisors was conducted, depending on the type of survey. The topics covered included sampling procedure, sources and reduction of errors, taking accurate measurements (height, weight and MUAC), inclusion and exclusion criteria, diagnosis of oedema and measles, verification of deaths within households, handling of equipment, and the general courtesy during the assessment. Standardization test was conducted on the last day of the training to assess performance of enumerators and supervisors regarding the precision and accuracy of anthropometric measurements by making all the enumerators and supervisors measure twice at least ten children aged 6-59 months. Pre testing of the questionnaire and equipment was done in non-selected clusters by making the teams go through all the steps involved in conducting the survey, under supervision, in that village. After the field exercise, views were exchanged to address the difficulties identified, appropriateness of the questions and appropriate changes were made.

DATA ENTRY, CLEANING AND ANALYSIS

The data was entered into the computer using the data entry template and then transferred to Excel; ENA Software or Epi Info for analysis. Before doing the definitive analysis, any errors in the data were identified and corrected. This was done partly during data entry. Data cleaning was also done using plausibility check. The computer automatically examines the data to see if there are values outside the usual or expected range and lists them in Microsoft Word. These values then reviewed and checked against the original written data collection sheets. Any error in data entry was corrected immediately.

QUALITY ASSURANCE

Data quality control was done through

- Data collection checks by *team leader/Manager* after each cluster (daily)
- Data entry in database with masks to minimize data entry errors.
- Plausibility checks (ENA) which identifies and tests the following parameters by using automated plausibility checks function in ENA for SMART surveys.
 - Missing/Flagged data
 - Age distribution
 - Overall sex ratio
 - Digit Preference :Weight and Height distribution
 - Standard Deviations WFH
 - Skewness WFH
 - Kurtosis WFH
 - Poisson distribution

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 with the teams to address any difficulties encountered,
- d. Carrying out progress evaluation 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.

Table 1: Plausibility Checks - Gu 2015

	Missing/ Flagged data	Overall sex ratio	Age Ratio (6-29 vs 30-59)	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)	<±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(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 (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 & <= 0.8 (20)	> =±0.6 (5)	>=±0.6 (5)	<=0.001 (5)	>25
LOCATION	North East										
East Golis (NE)	0 (1.9 %)	2 (p=0.051)	10 (p=0.000)	0 (6)	0 (7)	0 (6)	5 (1.11)	0 (-0.02)	3 (-0.44)	3 (p=0.003)	23
Hawd/NE	0 (1.6 %)	4 (p=0.017)	4 (p=0.037)	0 (3)	2 (11)	0 (4)	0 (1.08)	0 (-0.05)	0 (-0.06)	5 (p=0.000)	15
Addun NE	0 (1.9 %)	0 (p=0.321)	0 (p=0.635)	0 (3)	0 (4)	0 (7)	0 (1.04)	0 (-0.10)	0 (-0.06)	3 (p=0.003)	3
Coastal Deeh	0 (2.4 %)	0 (p=0.271)	0 (p=0.480)	0 (3)	0 (7)	0 (6)	6 (1.19)	0 (0.14)	1 (-0.31)	0 (p=0.489)	7
Bari Urban	5 (3.7 %)	0 (p=0.275)	0 (p=0.191)	0 (2)	2 (9)	0 (5)	5 (1.11)	0 (0.03)	1 (-0.20)	0 (p=0.447)	13
Nugaal Urban	5 (3.5 %)	0 (p=0.168)	0 (p=0.192)	0 (4)	0 (7)	0 (5)	10 (1.17)	0 (0.13)	1 (-0.27)	5 (p=0.000)	21
Bosasso IDP	0 (1.9 %)	0 (p=0.743)	4 (p=0.005)	0 (3)	0 (6)	0 (5)	0 (1.03)	0 (-0.02)	1 (-0.25)	3 (p=0.001)	8
Garowe IDP	0 (2.0 %)	0 (p=0.810)	4 (p=0.002)	0 (6)	0 (7)	2 (8)	0 (1.08)	1 (0.25)	0 (-0.10)	0 (p=0.307)	7
Galkayo IDP	0 (2.1 %)	4 (p=0.047)	0 (p=0.415)	0 (4)	0 (5)	2 (8)	0 (1.08)	0 (-0.05)	0 (-0.12)	1 (p=0.011)	7
Qardho IDP	0 (1.3 %)	0 (p=0.487)	4 (p=0.001)	0 (2)	0 (5)	0 (3)	5 (1.11)	0 (-0.08)	0 (-0.14)	~	9
LOCATION	North West										
NW Agropastoral	0 (0.9 %)	0 (p=0.677)	0 (p=0.812)	0 (7)	0 (7)	0 (7)	0 (0.93)	0 (-0.13)	0 (0.14)	0 (p=0.519)	0
WGolis/Guban Pastoral	5 (2.6 %)	0 (p=0.546)	0 (p=0.875)	2 (8)	2 (9)	2 (9)	5 (1.14)	0 (-0.03)	1 (-0.30)	3 (p=0.005)	20
Sool Region Urban	0 (1.8 %)	0 (p=0.348)	10 (p=0.000)	0 (7)	0 (4)	2 (8)	0 (1.09)	0 (0.03)	1 (-0.28)	0 (p=0.269)	13
Togdheer Urban	0 (1.2 %)	0 (p=0.554)	0 (p=0.177)	0 (5)	2 (10)	0 (5)	0 (0.99)	0 (-0.14)	0 (-0.13)	0 (p=0.226)	2
Hargeisa IDPs	5 (4.2 %)	0 (p=0.370)	0 (p=0.563)	0(4)	0 (5)	0 (7)	0 (1.03)	0 (-0.01)	0 (0.01)	0 (p=0.404)	5
Burao IDPs	0 (1.0 %)	0 (p=0.967)	0 (p=0.606)	0 (3)	0 (7)	0 (7)	0 (1.00)	0 (-0.19)	0 (0.07)	0 (p=0.139)	0
Berbera IDP	0 (1.1 %)	0 (p=0.782)	0 (p=0.777)	0 (5)	0 (7)	0 (7)	0 (1.02)	0 (-0.02)	0 (-0.09)	0 (p=0.352)	0
LOCATION	Central										
Hawd Central	0 (1.6 %)	4 (p=0.017)	4 (p=0.037)	0 (3)	2 (11)	0 (4)	0 (1.08)	0 (-0.05)	0 (-0.06)	5 (p=0.000)	15
Addun Central	0 (1.9 %)	0 (p=0.321)	0 (p=0.635)	0 (3)	0 (4)	0 (7)	0 (1.04)	0 (-0.10)	0 (-0.06)	3 (p=0.003)	3
Dhusamareb IDP	5 (3.7 %)	0 (p=0.923)	0 (p=0.476)	0 (7)	2 (11)	2 (11)	0 (1.01)	1 (-0.37)	1 (0.24)	~	11
LOCATION	South										
Bay Agropastoral	0 (1.4 %)	0 (p=0.534)	4 (p=0.005)	0 (7)	2 (12)	2 (9)	0 (0.92)	3 (-0.44)	5 (0.73)	0 (p=0.513)	16
Bakool Pastoral	0 (0.0 %)	0 (p=0.908)	0 (p=0.735)	0 (4)	0 (5)	0 (6)	0 (0.93)	0 (-0.10)	0 (-0.08)	0 (p=0.294)	0
N Gedo pastoral	0 (2.1 %)	0 (p=0.715)	0 (p=0.933)	0 (4)	2 (9)	2 (9)	0 (1.07)	1 (0.20)	0 (-0.07)	5 (p=0.000)	10
N Gedo Riverine	0 (1.3 %)	0 (p=0.539)	0 (p=0.174)	0 (4)	0 (7)	2 (8)	5 (1.11)	0 (0.14)	1 (-0.26)	1 (p=0.042)	9
Beletweyne District	0 (1.2 %)	0 (p=0.329)	4 (p=0.006)	0 (4)	2 (11)	0 (7)	0 (1.03)	0 (-0.06)	3 (-0.40)	0 (p=0.707)	9
Mataban District	5 (2.8 %)	0 (p=0.454)	0 (p=0.144)	0 (3)	2 (9)	2 (11)	2 (1.15)	0 (0.05)	1 (-0.31)	0 (p=0.488)	12
Shabelle Riverine	0 (0.2 %)	0 (p=0.651)	4 (p=0.031)	0 (3)	0 (7)	0 (7)	0 (1.03)	0 (-0.19)	0 (-0.15)	3 (p=0.008)	7
Shabelle Agropastoral	0 (0.2 %)	0 (p=0.843)	0 (p=0.126)	0 (2)	0 (2)	0 (1)	5 (1.14)	0 (-0.09)	1 (-0.20)	5 (p=0.000)	11
Mogadishu urban	5 (3.0 %)	0 (p=0.832)	4 (p=0.003)	0 (3)	0 (5)	0 (3)	0 (1.07)	0 (-0.05)	1 (0.23)	5 (p=0.000)	15
Kismayo Urban	0 (1.9 %)	0 (p=0.752)	10 (p=0.000)	0 (1)	4 (15)	0 (6)	0 (1.09)	0 (-0.02)	1 (-0.22)	0 (p=)	15
Mogadishu IDP	0 (2.1 %)	4 (p=0.023)	4 (p=0.009)	0(5)	0(5)	0(6)	5 (1.15)	0 (-0.11)	1 (-0.26)	3 (p=0.001)	17
Baidoa IDP	0 (2.4 %)	0 (p=0.125)	0 (p=0.991)	0(4)	2 (11)	0(7)	0 (1.07)	1 (-0.27)	0 (-0.12)	1 (p=0.013)	4
Dolow IDP	0 (1.8 %)	0 (p=0.118)	0 (p=0.120)	0 (3)	2(8)	0(6)	0 (1.08)	0 (0.17)	1 (-0.21)	~	3
Kismayu IDP	0 (1.6 %)	0 (p=0.508)	10 (p=0.000)	0(6)	2(9)	2(8)	0 (1.06)	1 (-0.22)	1 (-0.28)	3 (p=0.001)	19
Dhobley IDP	0 (2.2 %)	0 (p=0.103)	0 (p=0.253)	0(5)	2(8)	2(9)	0 (1.07)	0 (0.00)	0 (-0.13)	~	4

* All the 33 surveys have passed the SMART plausibility check

DATA ANALYSIS AND INTERPRETATION

The result for FSNAU surveys were analyzed using ENA software (2011 version revised in September 2013) for anthropometric and mortality data. Findings on child growth indicators were interpreted as per internationally recognized thresholds, mainly the WHO/UNICEF². Household access to a variety of food was estimated through Dietary diversity, a qualitative measure of food consumption³. The Primary data collected through the SMART surveys was triangulated with secondary data: – Morbidity trends and admissions trends of malnourished children into feeding programs. FSNAU survey results were analyzed in Epi Info/ ENA software⁴ for anthropometric and mortality data and Epi info for cross tabulations and analysis of non-anthropometric data.

The CDC Statistical Calculators (in Excel format) are used to help interpret prevalence results from nutritional surveys, which are often expressed as an estimate with a confidence interval.

INTERPRETING SMART RESULTS

Wherever possible, Global Acute Malnutrition (GAM) from representative surveys was used as the main indicator for the nutrition classification⁵. In cases where there is no GAM data from representative surveys, MUAC<12.5 cm from representative surveys or representative nutrition rapid assessments was used for the classification. CDC calculator⁶ was used for determining statistically significant changes between two surveys. Data was interpreted taking into consideration many factors among such as:

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

The data interpretation based on contextually relevant analysis and will be the following

- ☐ 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

Five different phases were categorized the reference indicators, which is based on standard thresholds: Acceptable, Alert, Serious, Critical and Very Critical⁷ (Annex 3). 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 2 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 5 different phases. The overall analysis is consolidated into the **Estimated Nutrition Situation Map**. In the cartographical presentation, only reliable data source were used (reliable, R=3) and illustrated through solid colour (for survey data based on weight for height) and slash marks when MUAC data is used.

² The WHO Child Growth Standard available at : <http://www.who.int/childgrowth/standards/en/>

³ Guidelines for measuring household and individual dietary diversity. FAO 2011

⁴ Latest version of the ENA software: ENA 2011 (April 21, 2015)

⁵ WHO/UNICEF threshold for Acute Malnutrition

⁶ The CDC group led by Oleg and Curtis developed an MS excel sheet-based calculator for testing the statistical significance of the difference between the estimates from 2 surveys based on a t-test

⁷ Integrated Food Security Phase Classification. Technical Manual. The Food and Agriculture Organization of the United Nations. Rome. 2012

ANALYTICAL PROCESS

To have a decision on the phase it is crucial that the

- a) Nutrition situation: is required to have a minimum of **two Core indicators** while for the
- b) Projected trend: is also required a minimum of two **risk factors (immediate or underlying)**

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 is also undertaken. An attempt is made is 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 situation.

ESTIMATION OF NUMBER OF CHILDREN WITH ACUTE MALNUTRITION IN SOMALIA

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 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 1.6 is applied for new cases over next 6 months period.

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

$$\square \text{ Caseload} = N \times P \times K$$

\square **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 Pregnant and lactating mothers.

\square **P is estimated prevalence of GAM/SAM/MUAC prevalence.** This is usually estimated using a nutritional anthropometry survey (e.g. a SMART survey).

\square **K is a correction factor to account for new (incident cases) over a given time period.**

N- At FSNAU the denominator is UNDP 2005 census figures

P- This obtained from seasonal survey results conducted in Somalia (*Deyr and Gu Surveys*)=1.6

Case definitions

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

3: FINDINGS OF THE NUTRITION ASSESSMENT - POST Gu 2015

Serious acute levels of malnutrition (GAM>10% with aggravating factors) persist across South Central and North East region of Somalia as well as and IDPs suggesting a **Serious** situation in need of nutritional support.

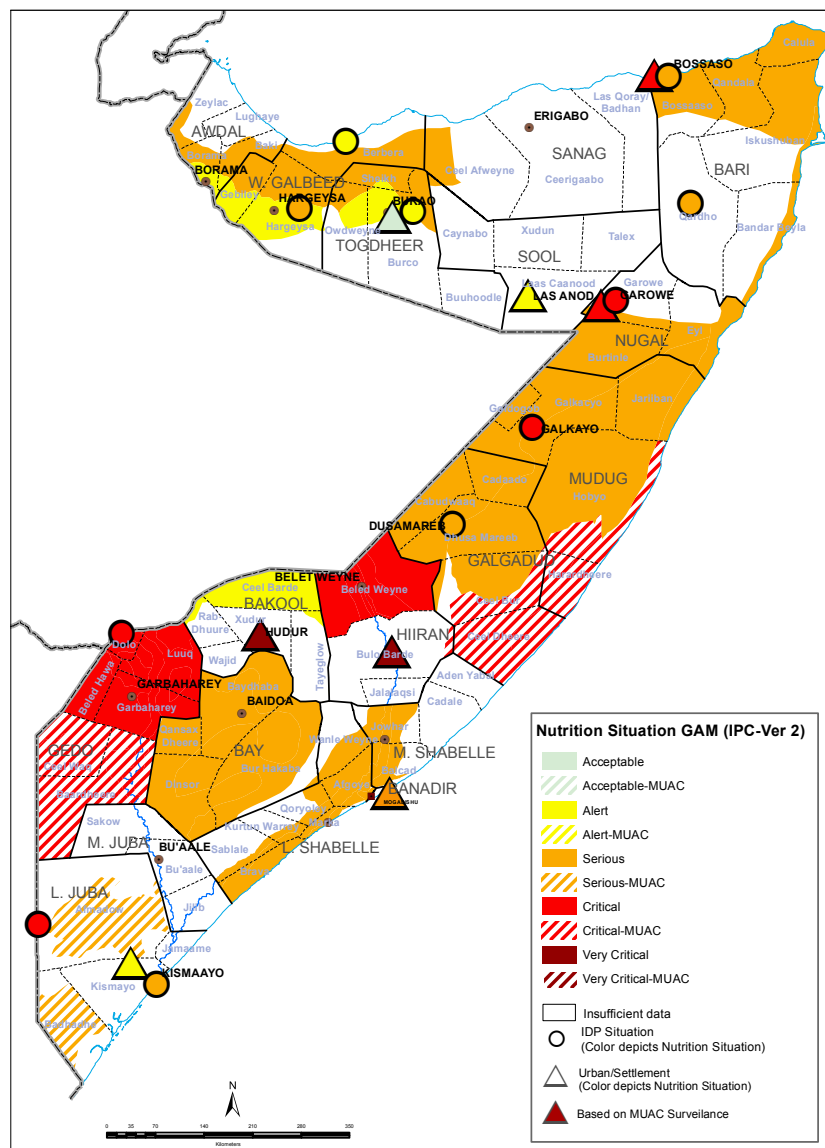
CURRENT NUTRITION SITUATION

FSNAU conducted 39 nutrition surveys across most regions and livelihood zones of Somalia, covering displaced, urban and rural populations between May through July 2015 (*Gu* 2015). The assessments were conducted in collaboration with government institutions (Ministries of Health) and partners and covered 26 845 Children (6-59 months) from 16 919 households.

Acute malnutrition is associated with critical events where food supplies are disrupted or disease outbreaks are experienced. This condition is not only a problem in humanitarian emergencies, but is also common in situations of chronic food insecurity, or where access to health care is limited. *Gu* 2015 nutrition survey results show that widespread acute malnutrition continue to persist across Somalia (Map 2) as 40 percent of the livelihoods surveyed (16/39) show prevalence of **Critical** levels of GAM ($\geq 15\%$) [Annex 7]. There was no change in prevalence of acute malnutrition in 22/39 livelihoods surveyed while deterioration was noted among nine livelihoods. Increase in GAM prevalence from **Serious** to **Critical** levels was noted among Dholey IDPs and Bari urban while Cowpea belt showed increase in GAM from **Alert** levels to **Critical** (Annex 8). Increase in GAM from **Alert** to **Serious** levels was seen among populations in Mogadishu urban, West Golis, Addun (Northeast & Central) and Kismayo IDPs while North West Agro pastorals deteriorated from **Acceptable** to **Alert**.

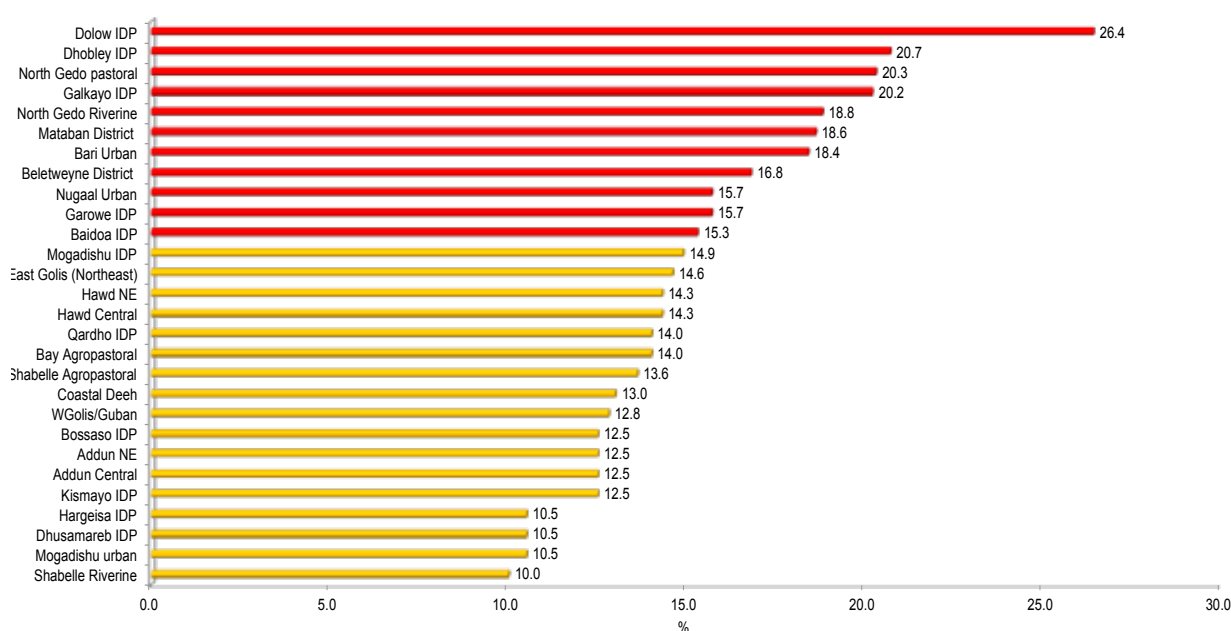
Improvement in nutrition situation was observed among five livelihoods -Bay Agro pastorals, Hawd (Northeast & Central), Bakool Pastoral, Sool Urban and Bossasso IDPs

Map 2: Somalia Estimated Nutrition Situation (GAM) Jul 2015



Nearly 85 percent of livelihoods show **Serious** (10-14.9 %) or **Critical** ($\geq 15\%$) levels of malnutrition based on W/H (Figure 1). Highest prevalence of acute malnutrition among IDPs was recorded in Dolow IDP settlement (26.4% GAM and 5.0 % SAM) and among rural livelihoods in North Gedo Pastoral (20.3 % GAM with 4.2% SAM)

Figure 1: Livelihoods with Serious (10-<14.9% GAM) to Critical (15-<30%) GAM Prevalence - Gu 2015

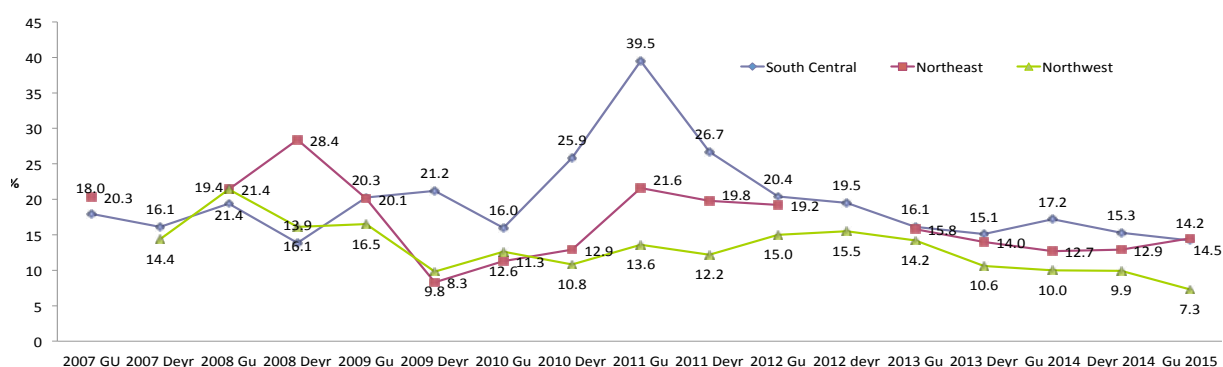


Out of 13 IDP settlements surveyed during 2015 *Gu*, five of them showed **Critical** levels of GAM ($\geq 15\%$): Dhobley IDPs (Lower Juba), Baidoa IDPs (Bay), Dolow IDPs (Gedo), Garowe (Nugaal) and Galkayo (Mudug). It is of concern that acute malnutrition levels in three of these IDP settlements (Dolow, Garowe and Galkayo) are sustained at **Critical** levels over the past two years. **Serious** GAM levels (≥ 10 and $< 15\%$) were recorded among IDPs in Mogadishu (Banadir), Kismayo (Lower Juba) and Dhusamareb (Galgadud), Bossaso and Qardho (Bari) and Hargeisa (W. Galbed). **Alert** levels of GAM (GAM rate $\geq 5\%$ and $< 10\%$) were seen only among IDPs in Burao (W. Galbeed) and Berbera (Toghdeer).

Critical levels of GAM prevalence ($\geq 15\%$) were recorded in two out of six urban areas surveyed during *Gu* 2015 (18.4% in Bari and 15.7% in Nugal) while Serious GAM prevalence (10-14.9%) was noted among Mogadishu urban (10.5%). Higher prevalence of GAM and SAM was observed among boys (6-23 months and 24-59 months) compared to girls in all livelihoods (pastoral, agro pastoral, riverine, IDPs) with the exception of urban where girls 6-23 months of age have a higher rate of GAM and a similar rate of SAM compared to boys of the same age cohort.

GAM trends among different regions are shown in Figure 2. North West region shows a steady decline in prevalence of acute malnutrition from **Critical** levels recorded in *Gu* 2012 (15%) to **Alert** levels (7.3%) in *Gu* 2015. Improvement in South Central region is also indicated by **Serious** GAM (14.2%) in *Gu* 2015 compared to **Critical** levels ($\geq 15\%$) seen in the previous years. **Serious** GAM (10-14.9%) levels are seen in the Northeast region since *Deyr* 2013.

Figure 2: GAM trends in different regions of Somalia-Gu 201

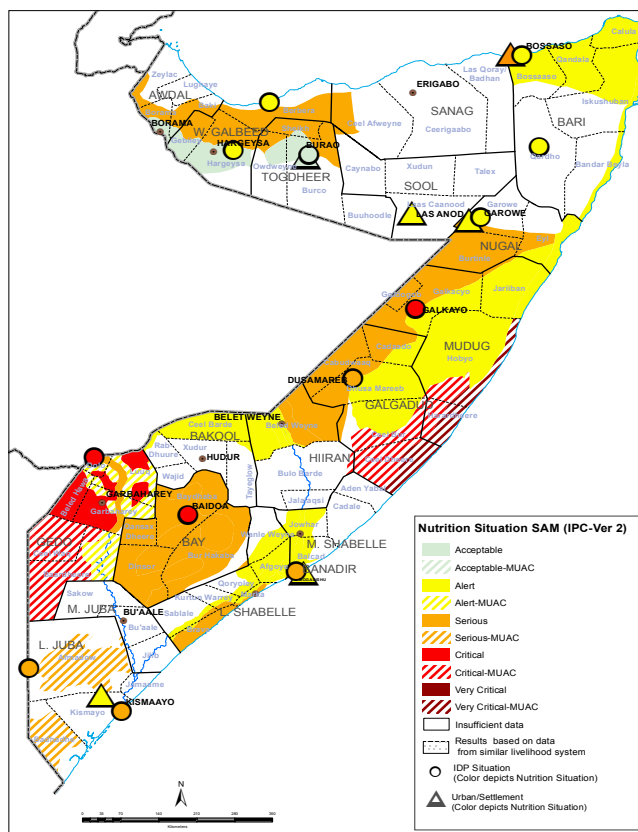


SEVERE ACUTE MALNUTRITION (SAM)

Acute Malnutrition is classified into severe acute malnutrition¹ (SAM) if the wasting is severe (WFH below -3z scores of the median WHO growth standards or a low MUAC <11.5 cms or by the presence of nutritional oedema). SAM is a life threatening condition requiring urgent treatment. *Gu* 2015 assessment shows that in Somalia, 2.3 percent of children < 5 yrs. are suffering from SAM (Map 3). SAM prevalence < 1 percent is considered **Acceptable** and median SAM prevalence is >1 percent in all regions of Somalia. Regional differences are observed in prevalence of SAM which is highest in the South Central region (2.8%) compared to Northeast (2.1%) or North West (1.1%). Among IDPs, SAM prevalence rate was 2.6 percent.

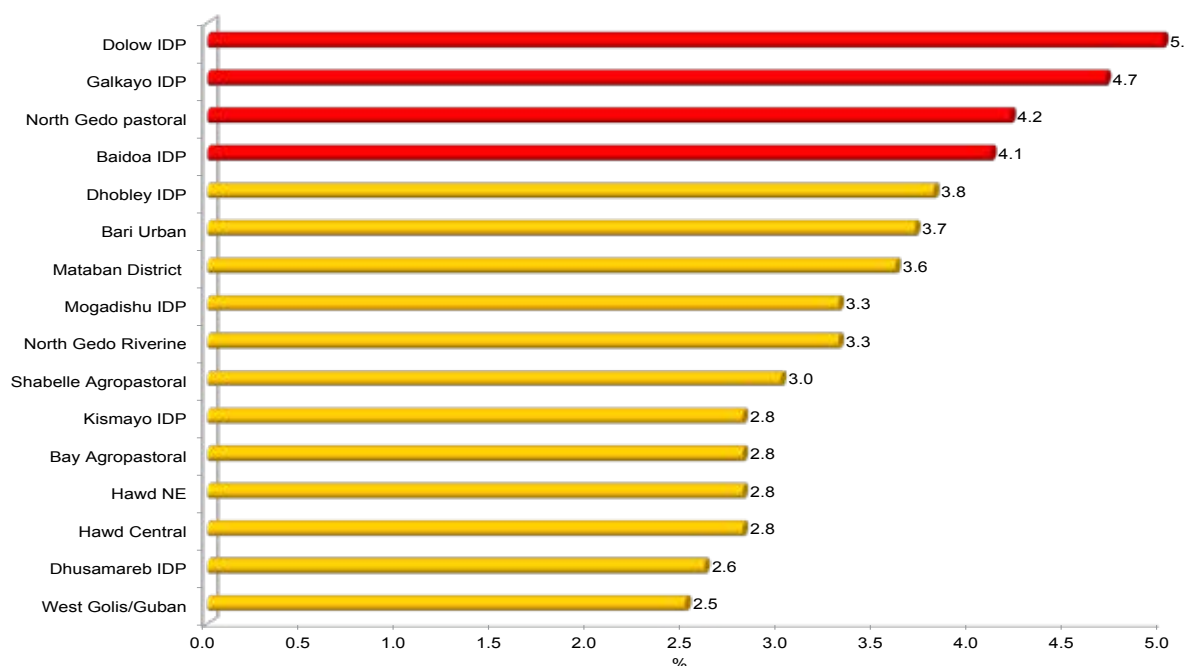
There was no change in SAM prevalence in 41 percent of the livelihoods surveyed (16/39) since *Deyr* 2014/15. **Critical** levels of SAM prevalence were sustained among Dolow IDPs and livelihood of Coastal Deeh Central while Mogadishu IDP, Shebelle Agro Pastoral, Bari urban, Mataban, N Gedo Riverine, Hawd central show sustained prevalence of **Serious** levels of SAM (Annex 8).

Map 3: Somalia Nutrition Situation (SAM) - July 2015



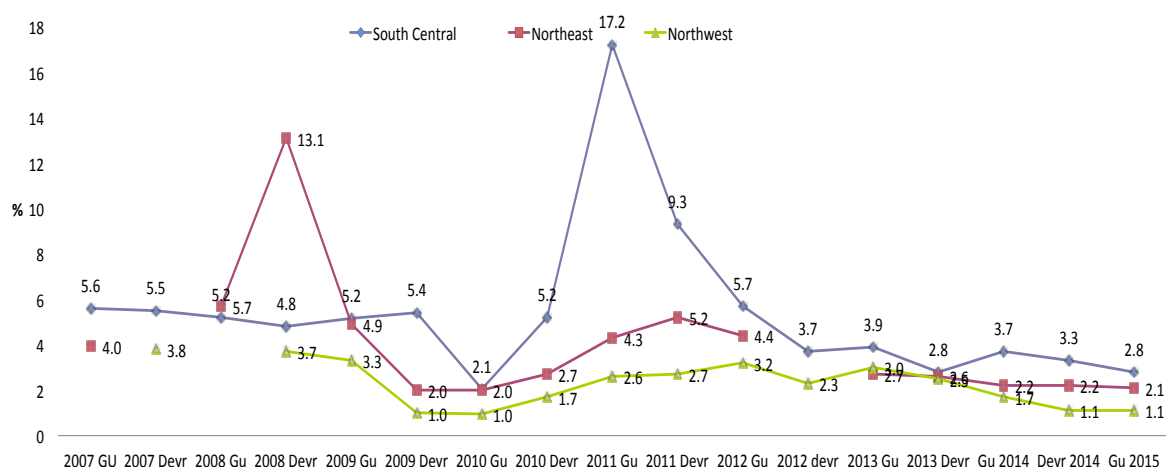
Acceptable levels of SAM prevalence ($\leq 1\%$) were noted only in livelihoods in the Northwest region: Northwest Agro pastoral (0.2%), Toghdere Urban (0.3%) and Burao IDPs (0.5%) [Annex 7]. Prevalence of **Critical** levels of SAM levels (4-5.6%) was recorded among 4 livelihoods, 3 of which were IDPs (Figure 3). Nearly one third (12/33) of the livelihoods surveyed show prevalence of **Serious** levels of SAM (2.5-4%)

Figure 3: Livelihoods with Serious (2.5-4 %) or Critical (4-5.6%) SAM Prevalence - Gu 2015



A steady decline in prevalence of SAM in Somalia is seen over time (Figure 4). Prevalence of **Alert** SAM levels is seen in Northwest (1.1%) and Northeast (2.1%) since *Deyr* 2014/15 while **Serious** levels of SAM prevalence are recorded in the South Central region since *Deyr* 2012.

Figure 4: Severe Acute Malnutrition (SAM) trends in different regions of Somalia



ODEDMA/KWASHIROKAR PREVALENCE

Kwashiorkor is severe childhood malnutrition characterised by oedema, often showing as swelling in the hands and feet. In the last 20 years the WHO nomenclature has referred to kwashiorkor as oedematous malnutrition.

Kwashiorkor is almost never seen in the developed world but is widespread in sub-Saharan Africa and occurs in young children living in areas with endemic food insecurity or famine. Table 2 shows that in Somalia, children from urban areas/IDPs and particularly those from non-pastoral subsistence farming areas without cattle are more likely to present with kwashiorkor than other children. Among livelihood of Coastal Deeh the point prevalence of Kwashiorkor was 0.9 percent. This was not surprising as food security situation in this livelihood is classified as stressed and prevalence of **Critical** levels of acute malnutrition (MUAC<12.5 cms) and **Very Critical** levels of SAM (MUAC <11.5cms) with **Critical** U5DR is recorded during *Gu* 2015. Even though Coastal Deeh is pastoral, the pasture conditions were reported to have deteriorated because of poor rainfall.

Table 2: Kwashiorkor prevalence in Somalia

Region	Livelihood	number	%
North West	Hargeisa IDPs	2	0.4
	Sool Urban	3	0.6
	Togdheer Urban	2	0.3
	West Golis	1	0.2
North East	Coastal Deeh	6	0.9
	Dhusamareeb IDPs	3	0.7
South	Shabelle Agro pastoral	2	0.3
	Mogadishu Urban	2	0.3
	N Gedo Riverine	1	0.1
	Dolow IDPs	1	0.2
Total		23	

MID-UPPER ARM CIRCUMFERENCE (MUAC)

MUAC is an independent criterion for acute malnutrition and is one of the best predictors of mortality. The prevalence of low MUAC is also investigated in surveys to predict case loads for supplementary feeding and therapeutic care programmes. The cut-offs commonly used are <11.5cm for severe acute malnutrition, and 11.5–<12.5cm for moderate acute malnutrition. MUAC measurements were recorded for all children (6-59 months) in all the livelihoods/regions surveyed during *Gu* 2015. **Serious** levels of prevalence of acute malnutrition was suggested by median MUAC in South

Table 3: Acute Malnutrition in Different regions of Somalia (MUAC)

Region	MUAC <12.5 Cms	MUAC < 11.5 cms
South Central	9.0	2.2
North East	5.2	1.0
North West	2.0	0.6
Overall Median	7.2	1.4

Central region of Somalia compared to **Alert** levels recorded in North East region and **Acceptable** levels in Northwest region (Table 3). There is a strong consensus that MUAC is the best predictor of mortality. Current assessment also shows a positive association between Under five mortality rate and MUAC <12.5 cms ($r=0.596$, $p<0.01$) as well as MUAC < 11.5 cms ($r=0.72$, $p<0.01$)

Critical levels (10.7-16.7%) of MUAC <12.5 cms were recorded only in South Central region. Five out of eight livelihoods (Bay Agro pastoral, South Gedo - pastoral, agro pastoral and Riverine and Coastal Deeh) show sustained prevalence of **Critical** levels of MUAC < 12.5 cms for last 6-12 months. Sustained prevalence of **Serious** levels of acute malnutrition (7.5-10.6%) was observed in Beletweyne district, Kismayo town and Galkayo IDPs (Figure 5). None of the livelihoods in North west region show prevalence of **Critical/Serious** levels of MUAC < 12.5 cms or MUAC < 11.5 cms.

Prevalence of **Critical** levels (2.5-4%) of Severe Acute Malnutrition (MUAC <11.5 cms) is seen only in South Central region among 10 livelihoods (Figure 6) and is sustained among 4 of these livelihoods (Bakool Pastoral, Shebelle Agro pastoral, Mogadishu IDPs and Coastal Deeh) since Gu 2014 (Annex 11).

Figure 5: Livelihoods with Serious (7.5-10.6%) / Critical (10.7-16.7%) MUAC <12.5 cms

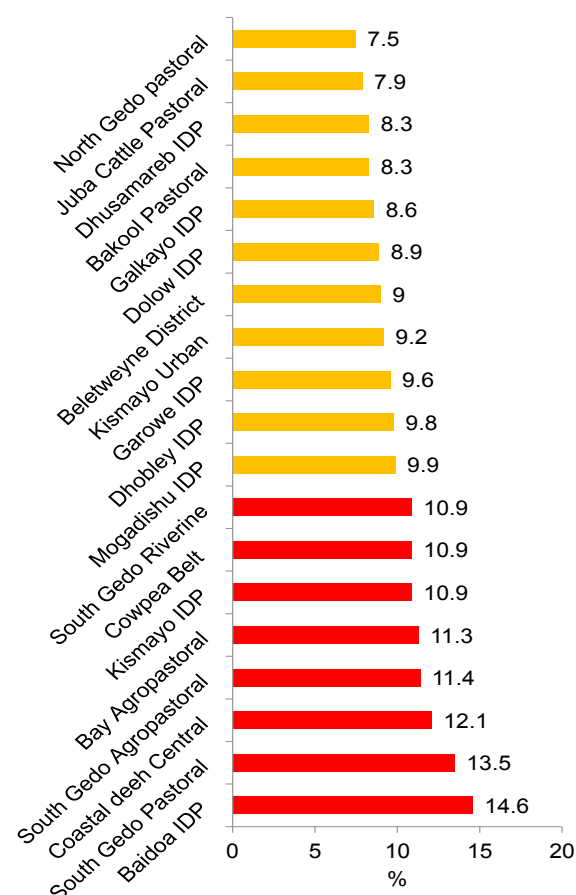
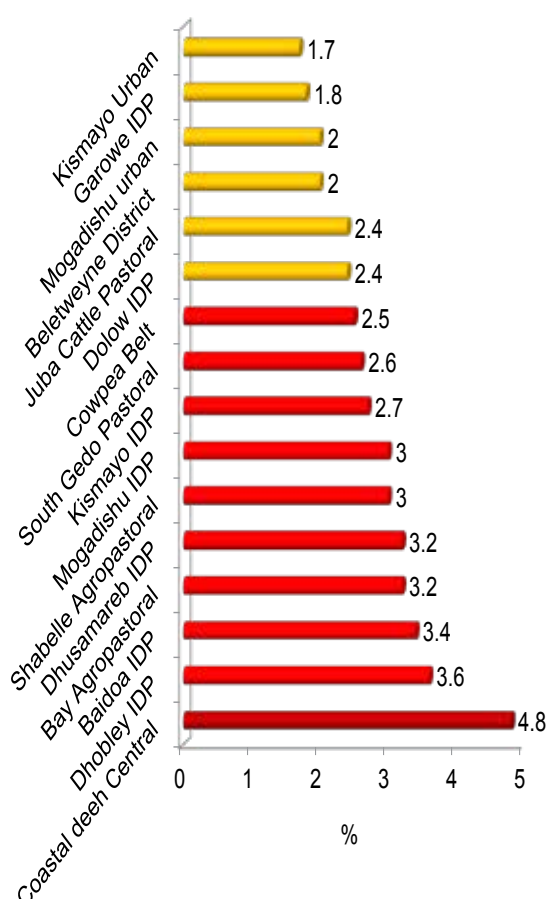


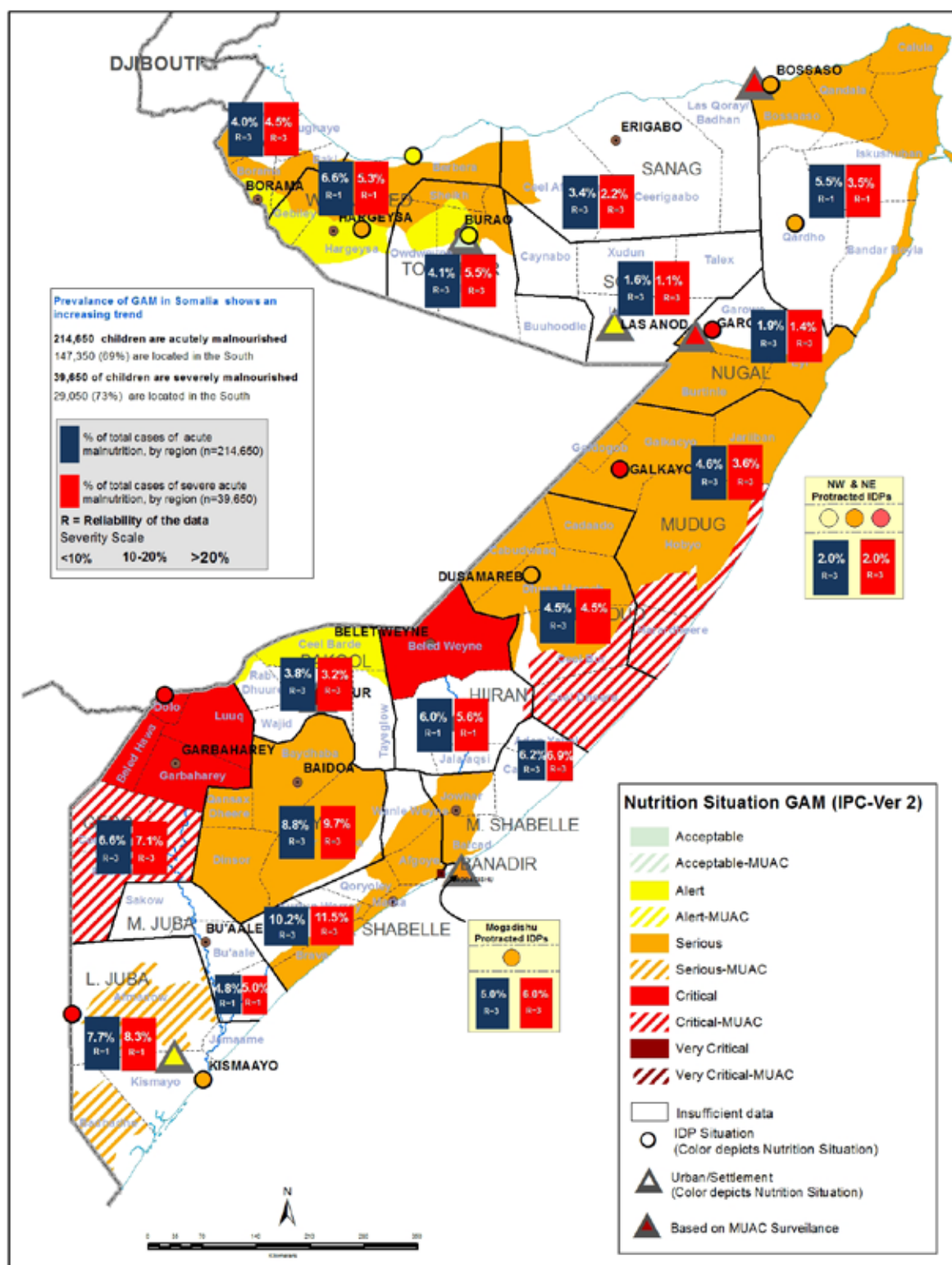
Figure 6: Livelihoods with Serious (1.7-2.4%) / Critical (2.5-4 %) MUAC <11.5 cms



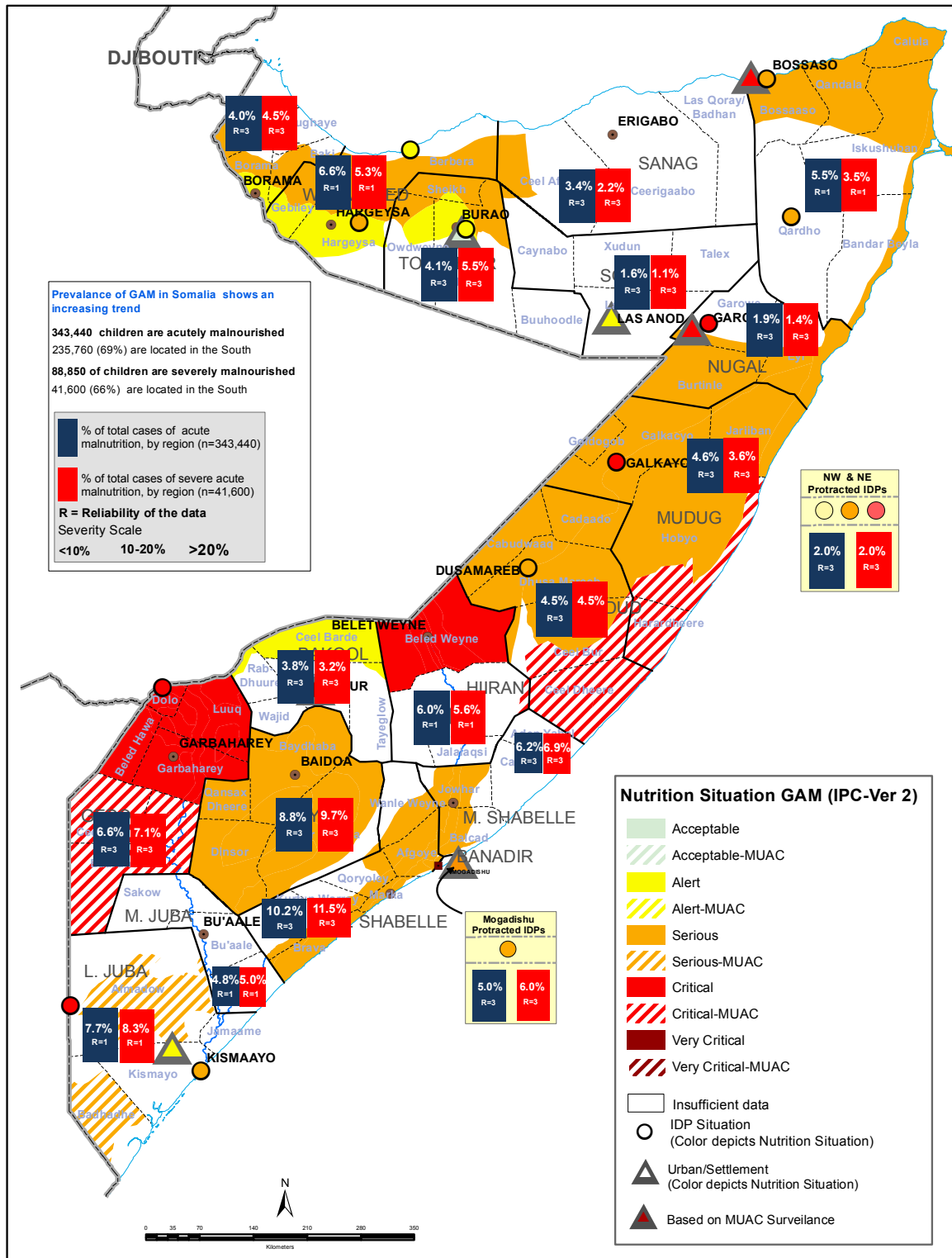
CASES OF ACUTELY MALNOURISHED CHILDREN IN SOMALIA

Map 4 shows the current caseload for acute malnutrition based on prevalence while Map 5 shows caseload based on incidence. For population groups where representative nutrition survey data for the whole population forms the main reference, reliability of data is high and is ranked as 3 (according to IPC Version 2.0 the highest reliability score is 3 with the least being 1). But for the Juba Regions where it was not possible to collect nutrition survey data, the median rates for the surveys conducted in the Gu 2015 were applied. For livelihoods where there was no previous data, extrapolation was done by using data from similar livelihoods systems. Population figures from UNDP 2005 settlement survey are used as the standard reference for Somalia.

Map 4: Distribution of Proportion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on GAM and MUAC Prevalence (July 2015)



Map 5: Distribution of Proportion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on Incidence (July-December 2015)



Current estimates (based on W/H) put the number of under-five children at risk of acute malnutrition as 214 650 including 39 650 cases of severe acute malnutrition (Table 4). This caseload is calculated as per 'prevalence'-based and fails to account those children who develop acute malnutrition at another point in the year, when the survey is not being carried out. Therefore 'incidence' is also factored in (1.6 factor) and caseload based on incidence is 343 440 children with acute malnutrition in Somalia, including 63 440 children with SAM who will require treatment over the next 6 months.

Table 5 shows the regional caseload for acute malnutrition. Majority of the children (2 out of every three) with Acute Malnutrition are located in South Central region (62% of GAM and 66% of SAM).

It was also observed that one third of total caseload for severe acute malnutrition is from 3 livelihoods- Lower Shabelle (11.5%), Banadir (11.1%) and Bay region (9.7%) of Somalia.

MORTALITY

Gu results of a 90-day recall mortality survey show **Acceptable** CDR and U5DR in all the livelihoods surveyed (Annex 8) in North West and Northeast region. **Serious** levels of CDR were recorded only in South Central region among livelihoods of Shebelle Agro pastoral (0.56), Mogadishu urban (0.54) and IDP (0.63), Dolow IDP (0.9) and Dhusamareb IDP (0.64). Dhobley IDP was the only exception with **Critical** CDR of 1.18/10 000/day with **Serious** Under-Five Death Rate (U5DR) of 1.15/10 000/day. Table 6 shows that diseases (diarrhoea, malaria and pneumonia) were the main causes of cause of death among children under five among Dhobley IDP. As **Critical** CDR levels among Dhobley IDPs are accompanied by **Critical** prevalence of GAM (20.7 %) it suggests the presence of a nutrition emergency situation and calls for urgent action to prevent more deaths. Declining mortality trends in all regions of Somalia (Figure 7 and Figure 8) also suggest an improvement in nutrition situation.

Critical levels of U5DR (2.5-3.9) were not seen in any of the livelihoods surveyed. **Alert** ($\leq 1/10$ 000/day) to **Serious** levels of U5DR (1-1.9)/10 000/day were also recorded only in the South Central region (Annex 12). It was noted that U5DR is higher (Serious) in areas with high prevalence of Maternal malnutrition: Shebelle Agro pastoral and Beletweyne District or in livelihoods where high prevalence of Morbidity is recorded (Dhobley IDP, Mogadishu IDP and Baidoa IDP).

Table 4: Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence) Gu, 2015

Region	GAM WHZ<-2	% GAM	SAM WHZ<-3	% SAM
NORTH WEST	38 450	17.9%	6 650	16.8%
NORTH EAST	23 600	10.9%	3 050	7.7%
SOUTH CENTRAL	133 750	62.3%	26 000	65.6%
IDPs	18 850	8.7%	3 950	10.0%
Total PREVALENCE	214 650		39 650	
INCIDENCE =prevalence *1.6	343 440		63 440	

Table 5: Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence), Gu 2015

Livelihoods	GAM	SAM	GAM proportion	SAM proportion
Lower Shabelle	20 000	4 100	10.2%	11.5%
Banadir	18 950	3 950	9.7%	11.1%
Bay	17 300	3 450	8.8%	9.7%
Lower Juba -Hoose	15 100	2 950	7.7%	8.3%
Gedo	12 900	2 550	6.6%	7.1%
Woq Galbeed	12 850	1 900	6.6%	5.3%
Middle Shabelle	12 150	2 450	6.2%	6.9%
Hiran Region	11 700	2 000	6.0%	5.6%
Bari	10 700	1 250	5.5%	3.5%
Middle Juba Dheexe	9 400	1 800	4.8%	5.0%
Mudug	9 100	1 300	4.6%	3.6%
Galgadud	8 850	1 600	4.5%	4.5%
Toghdeer	7 950	1 950	4.1%	5.5%
Awdal	7 800	1 600	4.0%	4.5%
Bakool Region	7 400	1 150	3.8%	3.2%
Sanaag	6 750	800	3.4%	2.2%
Nugal	3 800	500	1.9%	1.4%
Sool	3 100	400	1.6%	1.1%

Table 6: Regional Distribution of Acute Malnourished children in Somalia (Based on Prevalence), Gu 2015

Region	GAM WHZ<-2	% GAM	SAM WHZ<-3	% SAM
NORTH WEST	38 450	17.9%	6 650	16.8%
NORTH EAST	23 600	10.9%	3 050	7.7%
SOUTH CENTRAL	133 750	62.3%	26 000	65.6%
IDPs	18 850	8.7%	3 950	10.0%
Total PREVALENCE	214 650		39 650	
INCIDENCE =prevalence *1.6	343 440		63 440	

Figure 7: CDR trends in different Regions in Somalia

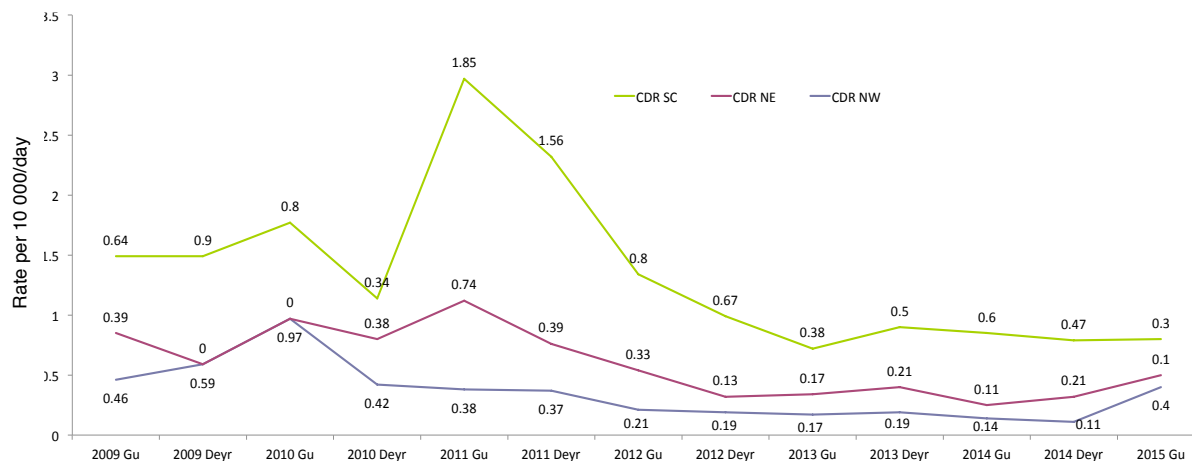
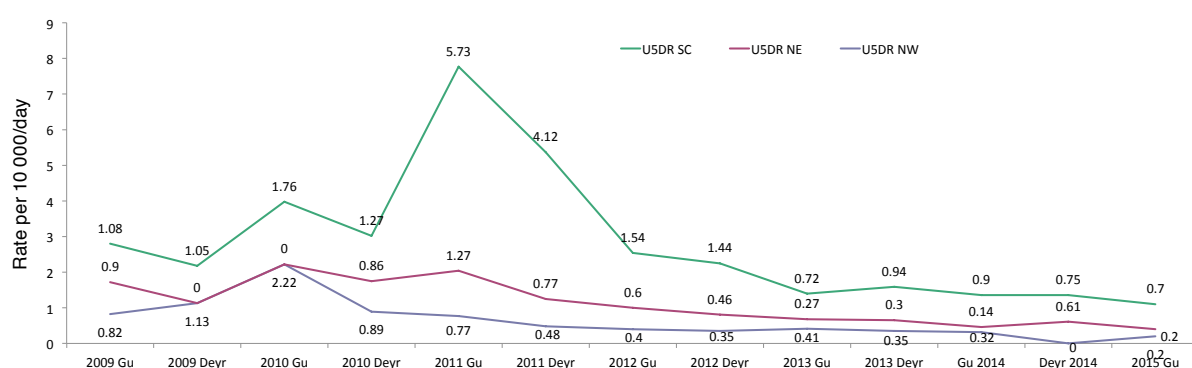


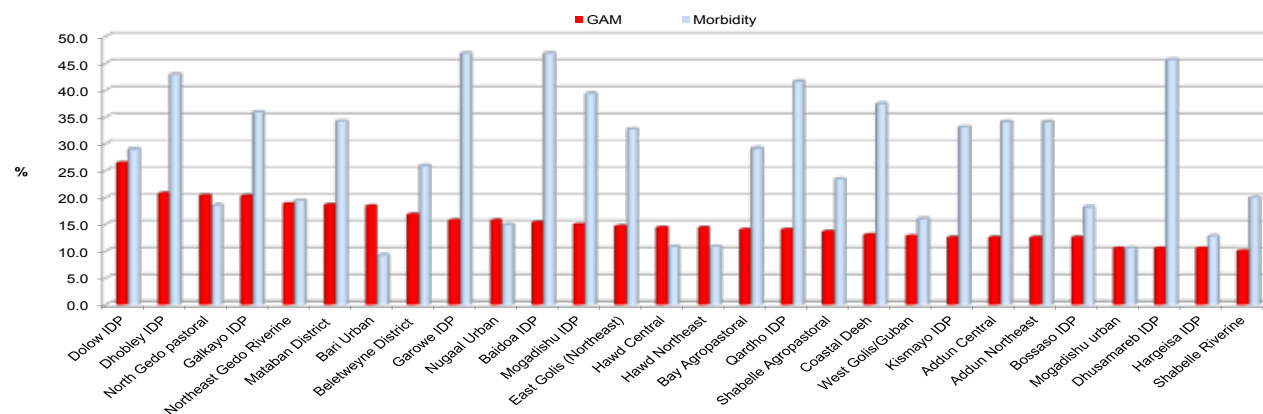
Figure 8: U5DR trends in different Regions of Somalia



MORBIDITY

It is estimated that acute malnutrition contributes to increased morbidity and Gu 2015 results reflect this through a significant positive association between prevalence of GAM and prevalence of morbidity ($r = 0.4$, $p = 0.02$). This suggests that sustained high levels of acute malnutrition seen in Somalia despite apparently good food security is because the health and care environments are compromised. Diarrhoea and worms affect the child's uptake of nutrients; malaria reduces the levels of iron in the blood. Reported Morbidity rates (Median) during Gu 2015 assessment varied from a low of 12.8 percent in North West region to high of 33.4 percent in Northeast and 29 percent in South Central region (Annex 16). High Morbidity was recorded among IDPs which show prevalence of **Critical** levels of malnutrition: Baidoa IDP /Garowe IDP which report 46.8 percent morbidity. Dholeb IDPs with **Critical** levels of GAM and CDR show 42.9 percent morbidity (Figure 9). High morbidity prevalence among IDPs is due to over-crowded shelter conditions which increase the risk of communicable and infectious diseases.

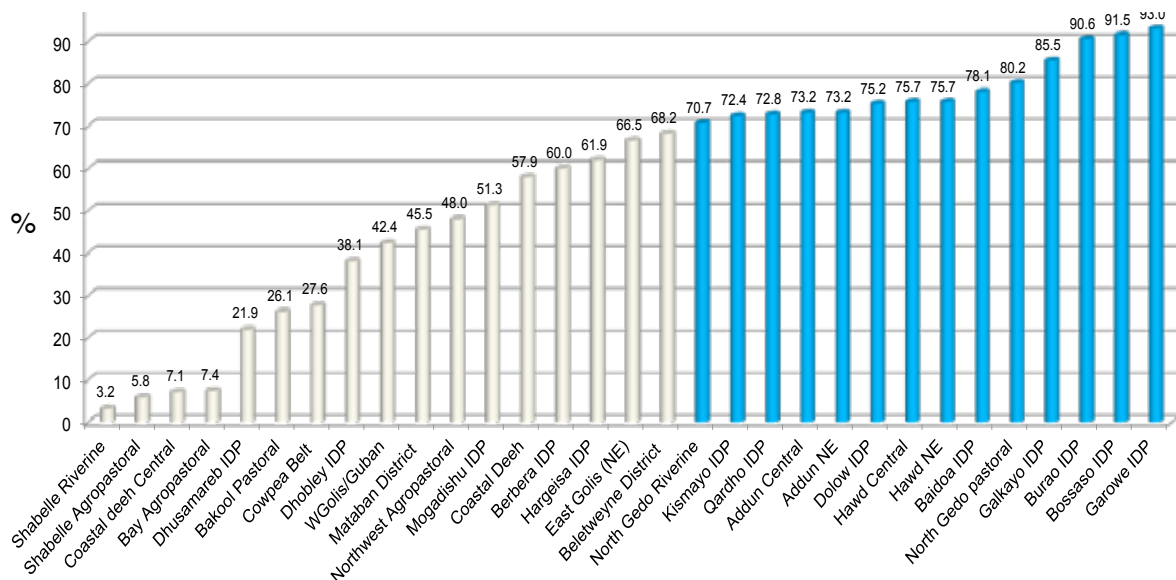
Figure 9: Morbidity in livelihoods with Serious-Critical, GAM Gu 2015



VITAMIN A SUPPLEMENTATION

Vitamin A is essential for children under five to support growth during critical development phases, as well as support young immune systems to fight common illnesses like diarrhoea and measles. Monitoring the coverage of vitamin A capsules to children six to 59 months within the previous six months is used as a proxy measure of progress, especially where funding or lab capacity is not sufficient to assess biochemical indicators of vitamin A status. Vitamin A supplementation coverage of children aged 6-59 months who receive vitamin A in the last 6 months should be at least 70 percent and > 95 percent coverage (as per Sphere standards)¹ but the median coverage for Somalia is 66.5 percent. Regional differences were noted in the proportion of children aged 6-59 months who had received vitamin A (based solely on recall) in the last 6 months - 48.4 percent in South Central, 74.5 percent in Northeast and 60 percent in Northwest (Annex 17).

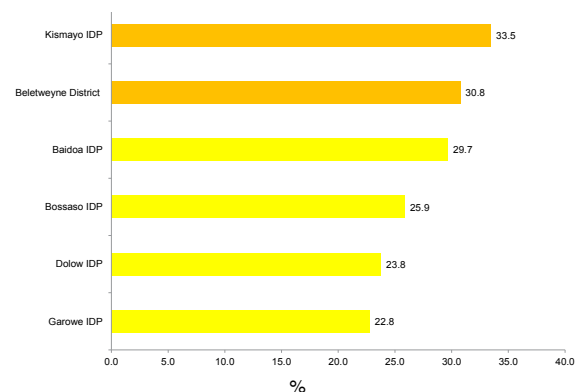
Figure 10: Percent of Under-Five children who received Vitamin A supplementation during the last 6 months



STUNTING/CHRONIC MALNUTRITION

Stunting is a well-established marker for poor national development. It reflects chronic under nutrition during the most critical periods of growth and development in early life. The measurement of stunting is more useful for long-term planning than for emergencies. The overall Stunting rate of 12 percent in Somalia is considered low (<20%) and suggests that it is not a problem of public health significance. However, there are major differences between zones: 15 percent in South and Central; 10.8 percent in Northeast; 4.1 percent in Northwest; and 15.8 percent among IDPs. Sustained high level of stunting (>30%) seen in Beletweyne and Kismayo IDPs since Deyr 2012 is of concern (Annex 13).

Figure 11: Livelihoods with medium (> 20%) or High (> 30%) Stunting prevalence - Gu 2015



UNDERWEIGHT

Underweight is the result of acute or chronic hunger. The prevalence of underweight, can be considered “high” by WHO cut-offs for level of public health significance (>20%). It was observed that five out of nine livelihoods which show high prevalence of underweight (Figure 12) are IDPs. The overall Underweight rate in Somalia is 14.2 percent and is considered **medium** (10-19.9%), with substantial variation across the country at sub national level: 16.7

¹ The Sphere Project. Minimum Standards in Food Security, Nutrition and Food Aid. In: Humanitarian Charter and Minimum Standards in Disaster Response. 2004

percent in South & Central; 16.5 percent in Northeast; 2.6 percent in Northwest; and 18.8 percent among IDPs.

Decrease in stunting rate is seen in Somalia (Figure 13). **Medium** prevalence of stunting was recorded in 2009 (>20%) while 9.1 percent prevalence rate in 2015 suggests low prevalence of stunting. Similar decline was noted in prevalence of underweight. 23.5 percent underweight prevalence in 2009 indicated **high** prevalence of public health significance while 13.4 percent prevalence in 2015 indicates **medium** level of underweight (Figure 14).

MATERNAL MALNUTRITION

Considerable growth faltering occurs during the first 500 days, from conception to about six months of age, when the child is entirely dependent for its nutrition on the mother, either via the placenta during pregnancy or breast milk during the initial six-month exclusive breastfeeding period. Maternal undernutrition leads to nutrient restriction for the child in utero and infancy and causes stunted physical growth and poor cognitive development. *Gu 2015* data indicate prevalence of **very Critical** levels ($\geq 31.5\%$) of maternal malnutrition among Dhusamareb IDPs and **Critical** levels (23.4 -31.4%) among Dhobley IDP, Qardho IDP and Hawd central (Figure 15). It is of concern that **Very Critical** levels of maternal malnutrition among Dhusamareb IDPs and **Critical** levels among Dhobley IDPs and Hawd Central are sustained since *Deyr* 2013/14.

Regional differences were observed in prevalence of maternal malnutrition 14.4 percent prevalence of maternal malnutrition in South Central region and 11.5 percent in North East suggests an **Alert** situation compared to **Acceptable** level of 3.3 percent prevalence in Northwest region (Figure 15).

Figure 12: Livelihoods with High Prevalence of Underweight (>20%) - Gu 2015

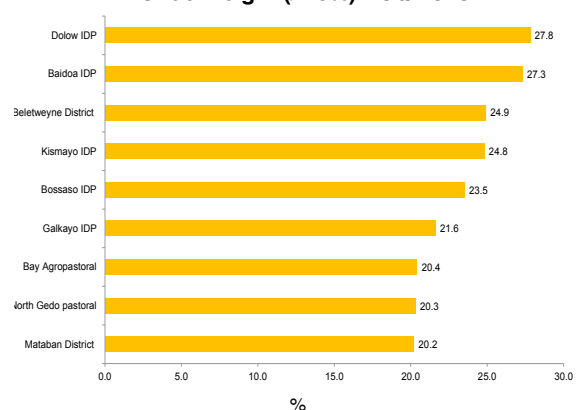


Figure 13: Trends in Stunting Prevalence in Somalia

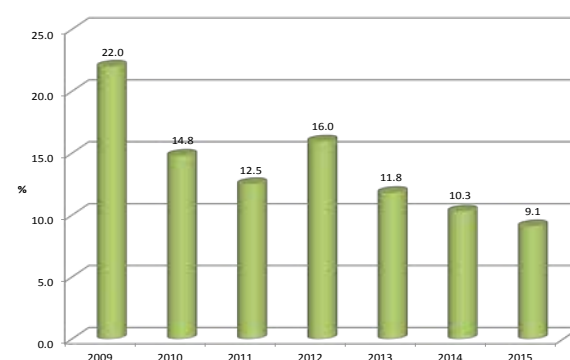


Figure 14: Trends in Underweight Prevalence in Somalia

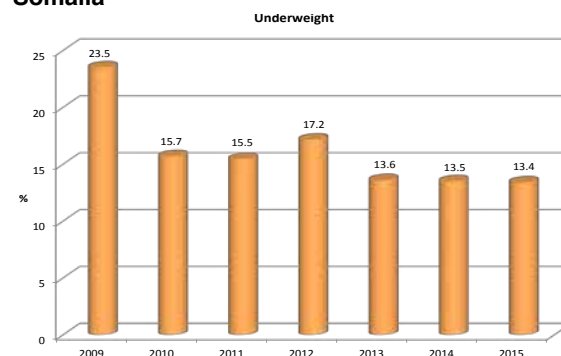
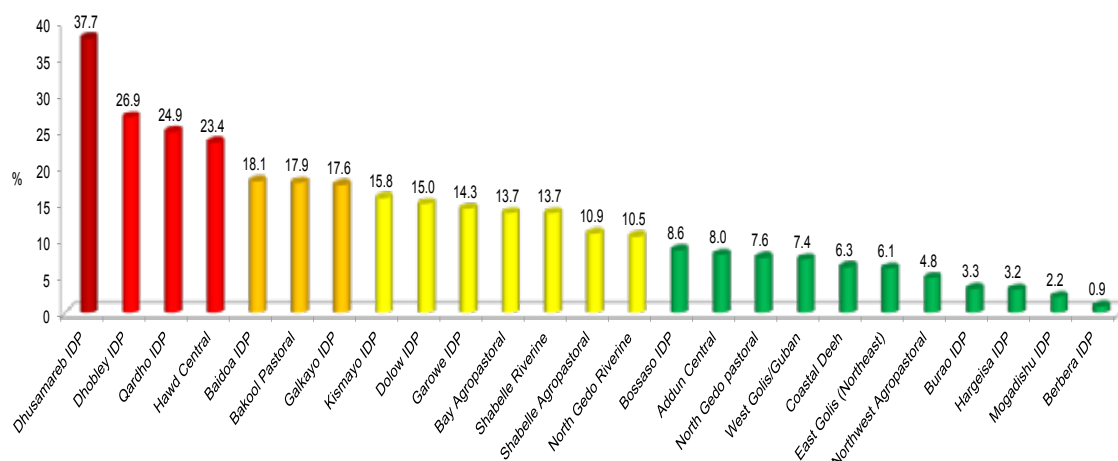


Figure 15: Livelihoods with Alert/Serious/Critical prevalence of maternal malnutrition - Gu 2015



REGIONAL DIFFERENCES IN PREVALENCE OF MALNUTRITION

Nutrition situation among different regions of Somalia is summarised in Table 7. **Serious** levels of wasting and **Alert** levels of underweight among 6-59 month old children and **Alert** levels of Maternal Malnutrition is recorded in the South Central region. Current U5DR among children is **Acceptable**. Whilst food security is of paramount importance in Somalia, acceptable scores for household dietary diversity suggest that food alone will not solve the malnutrition problem. There are chronic issues related to poverty, lack of access to health and education, clean water and sanitation. The impact of services to treat moderate/severe malnutrition will be considerably reduced if appropriate general support such as access to health clinics, clean water, sanitation, appropriate shelter and support for better agricultural and livestock inputs etc. is not in place.

Table 7: Nutrition Situation in different regions of Somalia - Gu 2015

Region	Wasting GAM- WFH	Wasting SAM-WFH	Wasting MUAC<12.5	Severe Wasting MUAC<11.5	U5DR	Morbidity	Stunting	Underweight	Maternal malnutrition
South Central	14.3	2.8	9	2.2	0.75	29.0	15.0	16.7	14.4
Northeast	14.5	2.1	5.2	1.0	0.23	34.3	7.9	14.2	11.5
Northwest	7.3	1.1	2.0	0.6	0.19	12.8	4.1	2.6	3.3
Overall	13.6	2.3	7.2	1.4	0.45	20.1	9.1	13.4	10.9

HOTSPOTS FOR ACUTE MALNUTRITION IN SOMALIA

Nutrition Situation is considered as **Critical** if Global Acute Malnutrition (GAM) prevalence is 15 percent or higher or if 10.7 percent or more of children have Mid-Upper Arm Circumference (MUAC) below the 12.5 centimeter threshold. The following livelihood zones and population groups have Critical levels of acute malnutrition and are priorities (hotspots) for nutrition programming:

- Gedo Region: Pastoral, Agropastoral, and Riverine populations and Dollow IDPs
- Hiran Region: Beletweyne and Mataban Districts
- Bay Region: Baidoa IDPs
- Lower Juba Region: Dhobley IDPs
- Nugaal Region: Garowe IDPs, Nugal Urban
- Mudug Region: Galkayo IDPs
- Galmudug State: Coastal Deeh Pastoral and Cowpea Belt Agropastoral livelihood zones
- Bari region: Urban Bari
- Awdal and Woqoi Galbeed: Guban Pastoral Livelihood Zone

Nutrition survey conducted in Guban Pastoral livelihood Zone in September 2015 indicated Critical levels of Global Acute Malnutrition (GAM) and Very Critical levels of Severe Acute malnutrition (SAM).

FOOD SECURITY

According to the latest findings from a joint countrywide seasonal assessment by Food Security and Nutrition Analysis Unit (FSNAU) and partners, 855 000 people across Somalia will be in **Crisis** and **Emergency** (IPC Phases 3 and 4) through December 2015. This figure represents a 17 percent increase over the estimate for February to June 2015. Internally displaced persons (IDPs) constitute 68 percent of the total number of people in in **Crisis** and **Emergency** (IPC Phases 3 and 4), followed by rural (25 percent) and urban (7 percent) populations. Approximately 2.3 million additional people are classified as **Stressed** (IPC Phase 2) through December 2015.

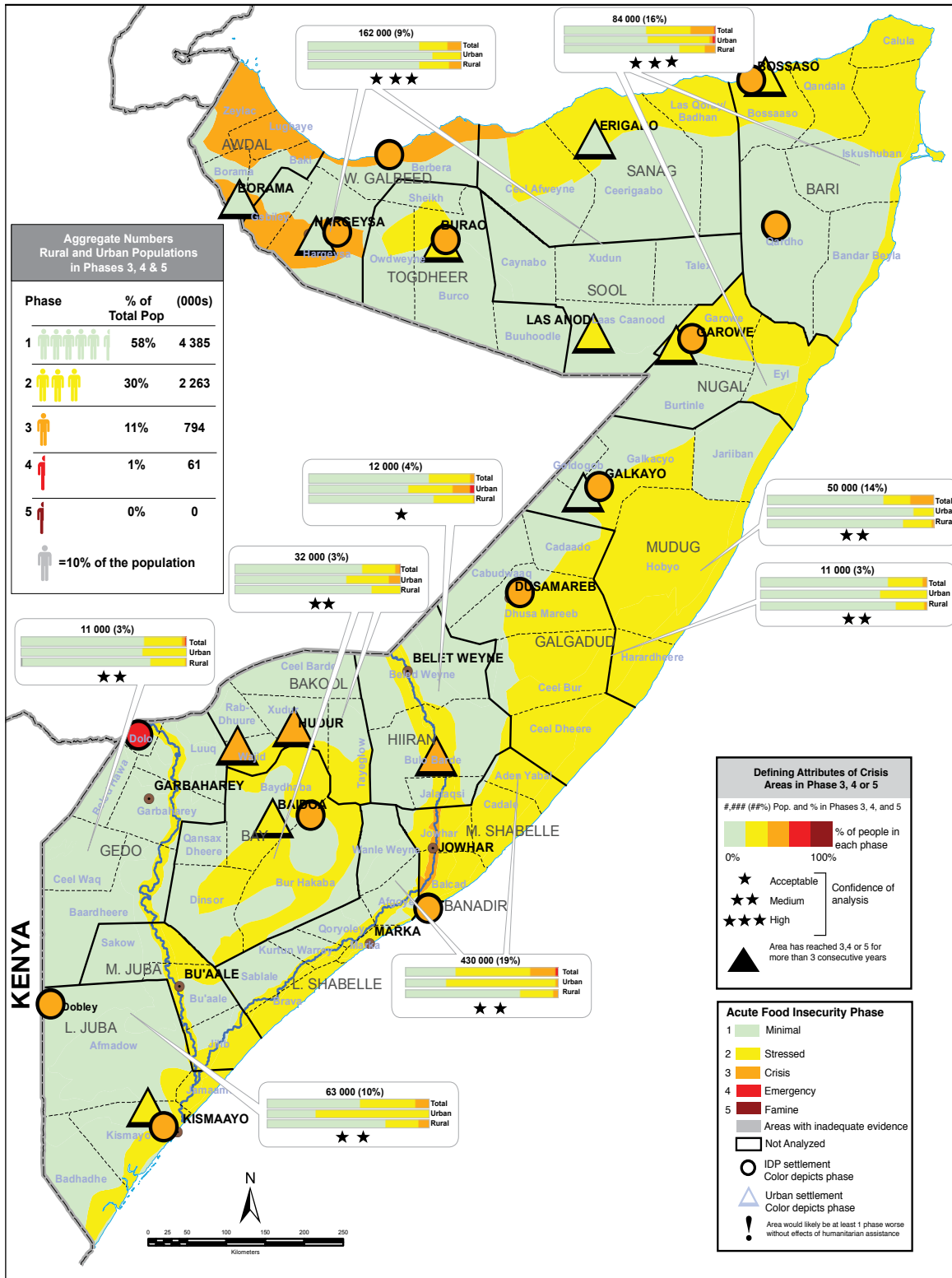
Populations in **Emergency** and **Crisis** (IPC Phases 4 and 3) need urgent lifesaving humanitarian assistance and livelihood support, including urgent nutrition and health support for the acutely malnourished between now and December 2015. Populations experiencing acute food security Stressed (IPC Phase 2) remain highly vulnerable to shocks that could push them back to food security Crisis or Emergency (IPC Phases 3 or 4).

The 2015 Gu season (April-June) rains started on time but ended early, in May, in most regions. Mostly as a result of early cessation of the rains in the main cropping areas of southern Somalia, overall cereal production, including

off-season production expected in September, was 25 percent below the long-term average (1995-2014). In the Northwest Agropastoral livelihood zone, poor rainfall contributed to low production prospects, with the 2015 *Gu-Karan* cereal harvest (October-November) estimated at only 37 percent of the five-year average for 2010-2014. In the nearby Guban Pastoral livelihood zone, drought conditions have contributed to a severe water shortage and unusual livestock deaths.

Map 6 shows the projected (most likely) food security situation between August to December 2015.

Map 6: Rural, Urban and IDP Food Security Projection (August - December 2015)



In most pastoral and agropastoral livelihood zones, livestock production and reproduction has continued to improve, contributing to improved food security outcomes. Further improvements are expected a result of better livestock performance in the forthcoming *Deyr* season.

El Niño is expected to bring much heavier rain than normal to central and southern Somalia from October to December, and flooding is very likely. This would have a negative impact on the food security of some riverine populations. Above average to average *Deyr* (October-December) rains are expected to lead to substantial improvement in food security conditions across most pastoral livelihood zones in central and southern Somalia. In northern pastoral areas, *Deyr* rains are expected to be below average to average, resulting in a moderate improvement in food security.

Areas and Populations of Food Security Concern

Populations in **Crisis** and **Emergency** (IPC Phases 3 and 4) are priorities for food security and livelihoods support programming. They are found in large proportions (10 percent or more of total regional population) in the following regions: Banadir (42 percent), South Mudug (21 percent), Bari (21 percent), Awdal (13 percent), Lower Juba (13 percent), Woqooyi Galbeed (11 percent), and North Mudug (10 percent). Other priority groups include poor and vulnerable urban populations in the South that have been affected by trade disruption due to insurgent activities in Bulo Burto (Hiran Region) and Hudur and Wajid (Bakool Region).

In the drought-affected Guban Pastoral livelihood zone, acute food security **Crisis** (IPC Phase 3) will prevail. More livestock deaths are expected until the start of *Deyr* rains in October, which bring run-off water from the adjacent highlands and Hays rains which start in December in the livelihood itself.

PROJECTED NUTRITION OUTLOOK: AUGUST TO OCTOBER 2015

The nutrition situation in the drought affected areas of Northwest agropastoral and Guban Pastoral livelihoods is expected to improve moderately but remain in Critical levels as the drought situation is expected to continue until *Deyr* rains are fully established in October (Figure 11). Deterioration of the current nutrition situation is also expected among Bossaso IDPs in the Northeast and in Bay Ago pastoral and in Middle and Lower Shabelle livelihoods in the South.

Conclusion and Recommendations

Nutrition situation in Somalia is improving though **Serious** levels of acute malnutrition (GAM >10) with aggravating factors in Northeast & South Central regions suggest these livelihoods are in need of nutrition support. There is need to strengthen therapeutic and supplementary feeding programme in place. Current efforts need to be not only sustained but also scaled up.

Out of 15 livelihoods identified as hot spots, 12 have sustained **Critical** levels of acute malnutrition which suggest addressing malnutrition will require integrated multi sectoral interventions. Unless issue of access to safe water/sanitation is addressed, prevalence of acute malnutrition will not reduce in livelihoods which show >40% prevalence of morbidity - Qardho IDP, Dhobley IDP, Dhusamareb IDP, Baidoa IDP, Mogadishu IDP, Garowe IDP-- Strengthen water, sanitation and hygiene (WASH) programming.

U5DR is higher (**Serious**) in areas with high prevalence of maternal malnutrition: Shabelle Agro pastoral and Beletweyne District or in livelihoods with high prevalence of Morbidity (Dhobley IDP, Mogadishu IDP and Baidoa IDP. This suggests that efforts should be directed at systems and interventions to prevent maternal and child under-nutrition.

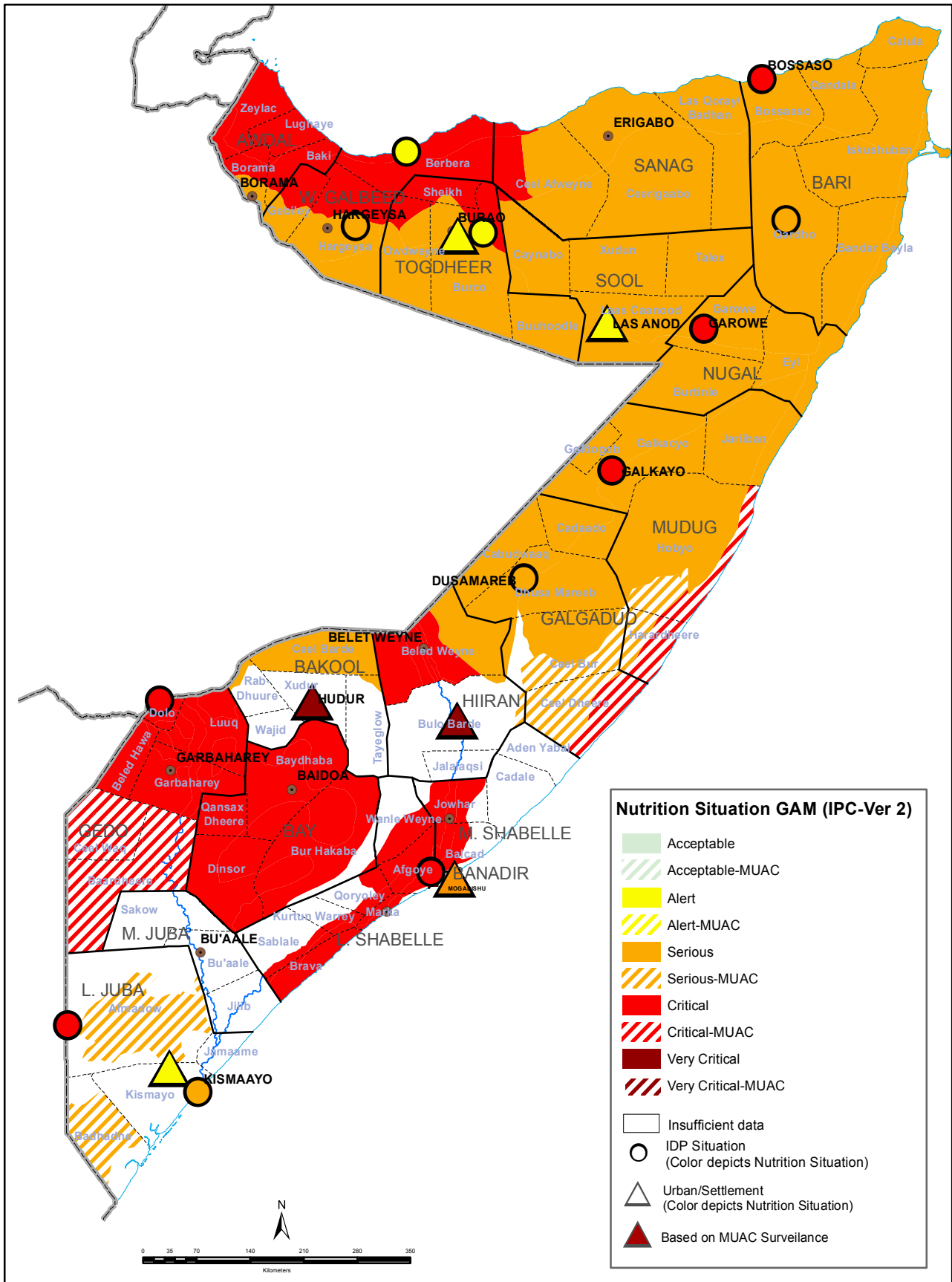
High stunting is seen in livelihoods where maternal malnutrition is high (Beletweyne –23.4 %; Kismayo IDP -17.9%) and this is associated with higher U5DR. Addressing stunting also requires action in more than one sector

Low access to health services (reflected in low Measles coverage) appears to be responsible for **Critical** GAM seen in Mataban (9.9%), Beletweyne (16.6%). North Gedo pastoral (28.6%) or Dhobley IDPs (39.4%). This suggests the need to strengthen the capacity of the health system through technical, logistical and financial support to implement the nutrition programme.

Identifying and ranking the main risk factors and causal pathways of under nutrition will help in identifying the most appropriate mixture of actions.

Map 7 shows the projected (most likely) nutrition situation between August to October 2015.

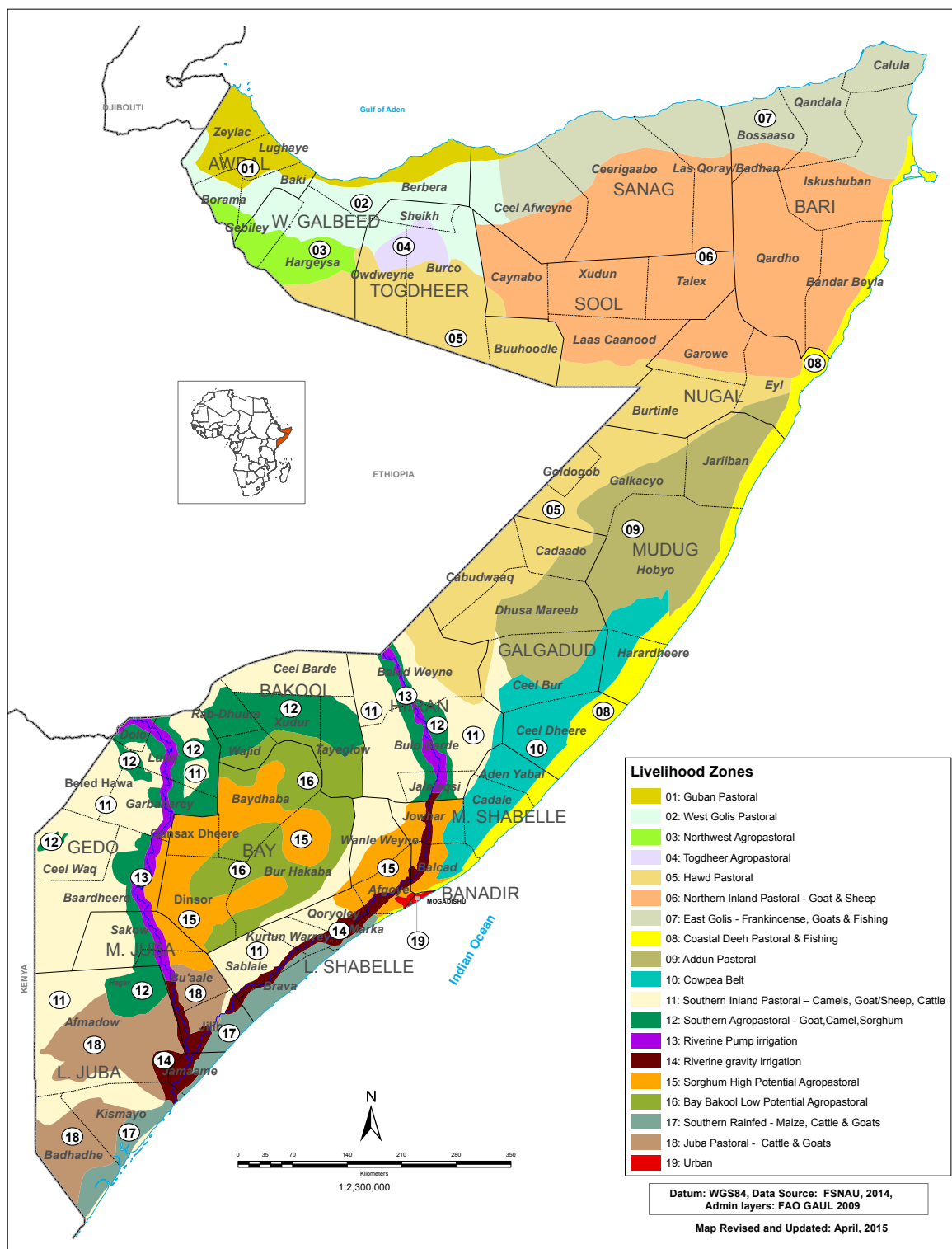
Map 7: Nutrition Situation Outlook (August – October 2015)



4: REGIONAL NUTRITION ASSESSMENT

FSNAU conducted 39 nutrition surveys and assessed the nutrition status of 26 845 children (6-59 months) drawn from different livelihood zones in Somalia (19 in South, 5 in Central, 9 in Northeast and 14 in Northwest). Out of the total, 20 nutrition surveys were done among rural populations, 6 among urban populations and 13 among IDPs. The samples for nutrition surveys were done on the basis of a combination of regional boundaries and livelihood zones (Map 8).

Map 8: Somalia Livelihood Zones



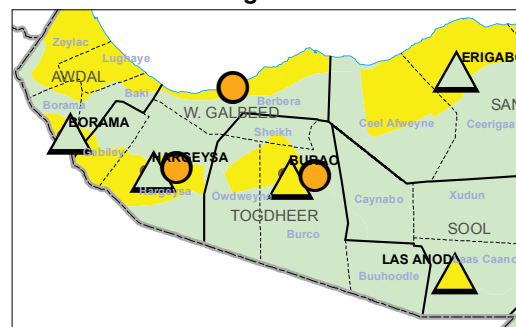
4.1: NORTHWEST REGIONS

During *Gu* 2015 seasonal assessment, FSNAU together with its partners conducted seven comprehensive assessments in North West region of Somalia (3 IDPs, 2 rural and 2 urban livelihoods). A total of 3 392 children (6-59 months) and 1 333 pregnant and lactating women from 2 526 household were surveyed.

CURRENT FOOD SECURITY SITUATION (GU 2015)

The food security situation in *Gu* 2015 remains stable in most livelihoods of the Northwest regions compared to the post-*Deyr* 2014/15 (February-June 2015) with the exception of Guban, East Golis Pastoral and Northwest Agro pastoral livelihoods, where it has deteriorated **Minimal** (IPC Phase 1) to **Stressed** (IPC Phase 2). In July 2015 snapshot analysis, most livelihoods of the region were classified as **Stressed** (IPC Phase 2) except Hawd, Northern Inland Pastoral (NIP) and West Golis, which were classified as **Minimal** (IPC Phase 1) [Map 9]. Compared to the post *Deyr* 2014/15, the estimated number of rural population **Stressed** (IPC Phase 2) decreased to 187 000 people in July 2015 from 302 000 people in the post *Deyr* 2014/15. Conversely, the total population in **Crisis** (IPC Phase 3) has increased significantly in the same period (from 3 000 to 31 000 people).

Map 9: Food Security Situation in Northwest Regions - Jul 2015



GU 2015 NUTRITION SURVEY RESULTS

A summary of the *Gu* 15 results is provided in the Tables 1, 2 and 3 and key highlights are discussed below:

Trends in Acute Malnutrition

Declining trend of acute malnutrition is seen from the median estimates from the nutrition assessments conducted in Northwest suggesting an improvement. For the first time in nearly a decade, the median rate hit marginally below the mid-point (7.5%) of Alert phase and this can be interpreted as indicating a steadily improving nutrition situation in Northwest region (Figure 16). Between *Deyr* 2014/15 and *Gu* 2015, a relatively big drop in GAM (by 2.6%) was observed compared to the previous six months, registering a statistically significant ($p < 0.05$) seasonal change (from Serious-10% to Alert-7.3%). Conversely, prevalence of severe acute malnutrition has remained stable in the past 6 months, though there is an improvement since *Gu* 2014, (54% change). The improving nutrition situation is at the backdrop of a drought-like situation being reported in parts of Northwest region, particularly the Guban, West Golis and Agro pastoral. This further confirms resilient nature of the pastoral communities.

Figure 16: GAM and SAM trends in North West Regions of Somalia

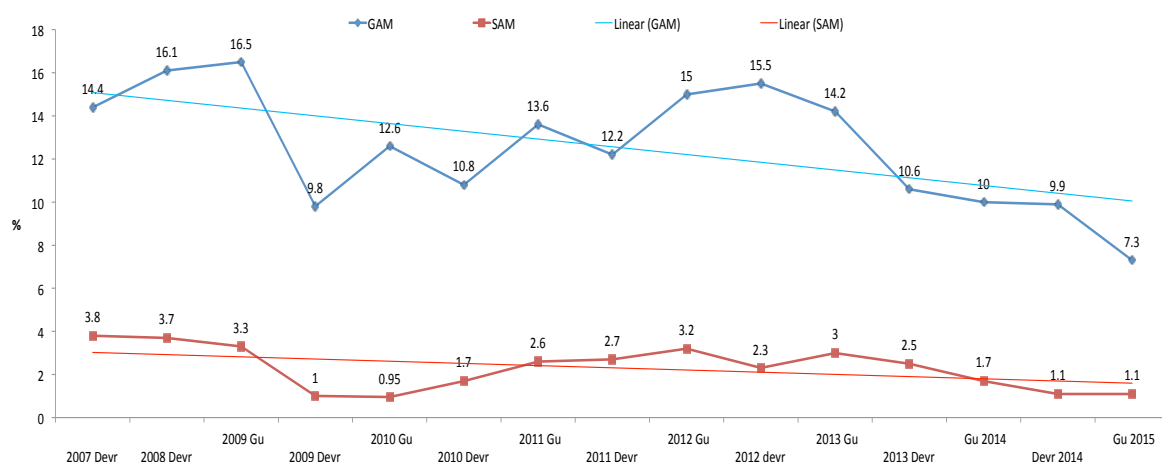
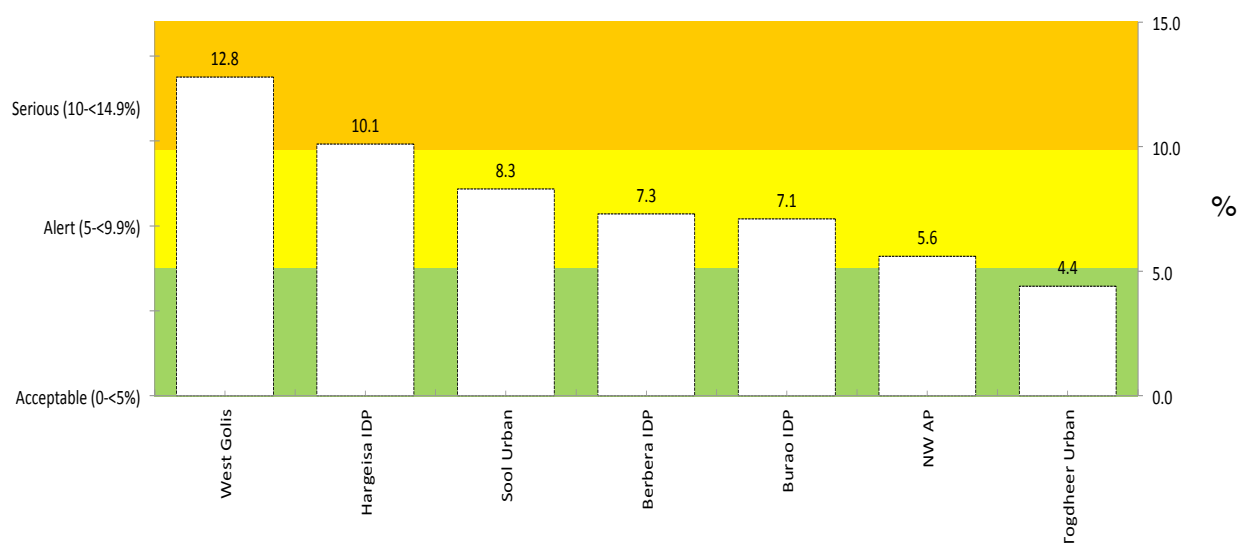
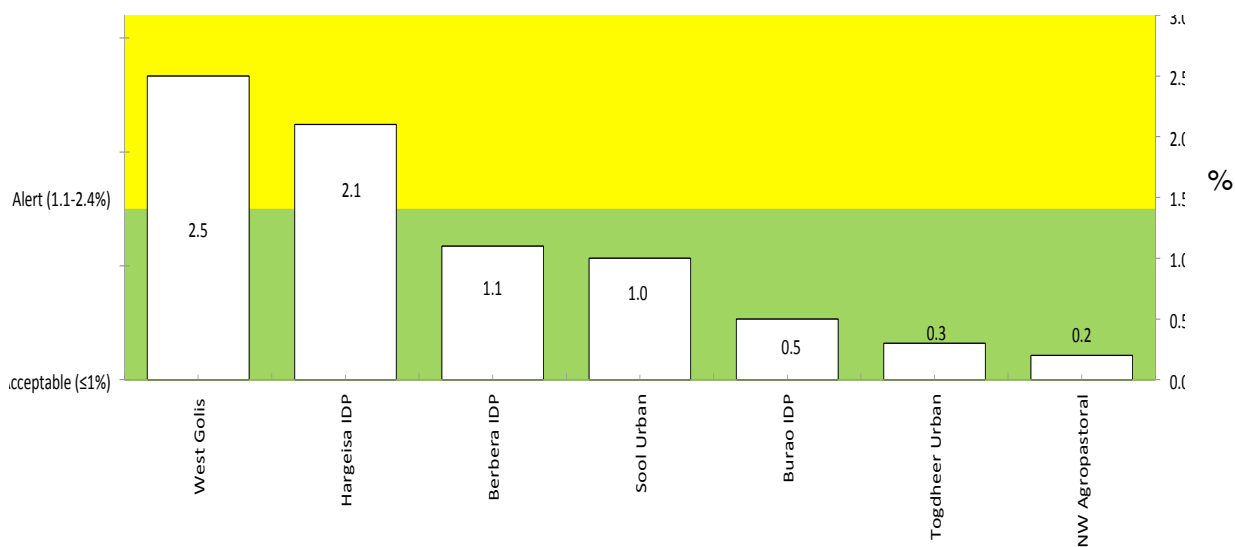


Figure 17: Prevalence of Global Acute Malnutrition in Northwest Region, Gu 2015


ACUTE MALNUTRITION

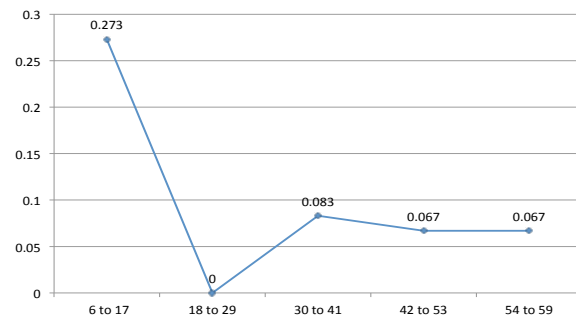
The GAM in Northwest region is summarized in Figure 17. Of the 7 livelihoods assessed, only one livelihood reported **Acceptable** nutrition situation (4.4% in Togdheer urban) while **Serious** levels were recorded among West Golis (12.8%) and Hargeisa IDPs (10.5%). None of the livelihoods show prevalence of GAM exceeding 15 per cent.

Figure 18: Prevalence of Severe Acute Malnutrition in Northwest Region, Gu 2015


Low prevalence of severe acute malnutrition was noted in the Northwest region (Fig 2) and none of the livelihoods surveyed reported critical levels of SAM prevalence (> 4%). **Serious** levels of SAM was recorded among West Golis (2.5 %) and **Alert** levels among (Hargeisa (2.1%) and Berbera IDPs(1.1%). Acceptable levels of SAM prevalence was observed in other livelihoods- Sool Urban, Burao IDP, Northwest Agro Pastoral and Togdheer Urban

NW Agro-pastoral: Alert GAM prevalence of 5.6 per cent with Acceptable SAM prevalence (0.2 per cent, was recorded during *Gu* 2015 assessment. Compared to *Gu* 2014, when serious GAM levels (10.4%) were reported, the current GAM prevalence indicates a statistically significant ($p<0.05$) improvement in the last 12 months. Although there is a phase change in the last six months from Acceptable (4.8%) during *Deyr* 14/15, to Alert (5.6%) in *Gu* 2015, this deterioration is statistically not significant and can be linked to acute food insecurity resulting from the drought-like situation being reported in this region due to failed *Gu* rains.

Figure 19: Proportion of SAM among West Golis in different age groups



W. Golis: *Gu* 2015 assessment record **Serious** levels of both GAM prevalence of 12.8 percent and SAM prevalence of 2.5 percent among West Golis. This is indicating a deterioration in nutrition situation since *Deyr* 2014/15 when Alert GAM of 8 per cent was recorded. It is of concern that the current SAM rate is 3.5 times higher than that *Deyr* 14/15 (0.8%). Further analysis by age indicates that the younger age-group (6-17 months) is 3 times at higher risk of SAM compared to their older counterparts (Figure 19).

This suggests that the greatest window of opportunity to correct malnutrition is by targeting children in their first 750 to 1000 days of life.

- **Hargeisa IDP:** During the *Gu* 2015 (May) assessment, Hargeisa IDPs recorded **Serious** levels of GAM prevalence - 10.5 percent with Alert levels of SAM prevalence - 2.1 per cent. Nutrition situation is sustained as Serious since *Deyr* 2014/15 (11.1% GAM) but is a deterioration compared to *Gu* 2014 (Alert GAM of 8.1%). Trends suggest increase in SAM over last 12 months, as SAM prevalence in *Gu* 2015 (2.1%) is seven fold higher than levels seen in *Gu* 2014 (0.3%). Serious nutrition situation is typical of IDPs in Hargeisa and can be linked to the Hargeisa urban economy that has allowed these IDPs to establish a livelihood largely dependent on wage labour opportunities.
- **Berbera IDP:** In *Gu* 2015, Berbera IDP settlement recorded a sustained **Alert** nutrition situation with GAM rate of 7.3 per cent and SAM prevalence of 1.1 percent. Season on season comparison indicate a deterioration from borderline Serious levels (10% GAM) recorded in *Gu* 2014 to Alert (7.3%) in *Gu* 2015. Although not statistically significant, this systematic improvement in the last 12 months is linked to the continued humanitarian support to population in this settlement, notably MCHN programmes. Over the same period SAM prevalence has remained unchanged.
- **Burao IDP:** *Gu* 2015 assessment among Burao IDPs recorded Alert levels of GAM prevalence (7.1 %) and Acceptable SAM (0.5%). This is an improvement compared to Serious GAM (12.4%) seen during the same season last year (*Gu* 2014). Severe acute malnutrition has not changed significantly in the past six months but nearly a 3 fold increase has been recorded in the past 12 months (0.5% in *Gu* 14 to 1.8% in *Gu* 2015).
- **Sool urban** assessment recorded Alert levels of both GAM prevalence (8.3%) and SAM (1.6%) This marks an improvement in nutrition situation compared to *Deyr* 2014/15 and *Gu* 2014 (Serious level of GAM-11.3%
- **Togdheer Urban:** Of all the assessment conducted in *Gu* 15, it is only Togdheer livelihood which reports **Acceptable** levels of both GAM prevalence (4.4%) and SAM (0.3%). In comparison to same season last year the rate of GAM prevalence has been halved (8.1% in *Gu* 2014 to 4.4% in *Gu* 2015) showing a statistically significant ($p<0.05$) change.

MORTALITY

Retrospective mortality as per the survey findings from the seven assessments recorded **Acceptable** levels for both CDR ($\leq 0.5/10\ 000$) and U5DR ($\leq 1/10\ 000$). This indicates a stable public health and civil security situation in the Northwest region.

MORBIDITY

Overall morbidity rates in the assessed livelihoods of Northwest region have reported relatively stable incidence with a median rate of 12.7 per cent as revealed by the current findings. This shows that 1 in 8 of the children assessed reported some form of illness in the 2 week period prior to the assessments. The highest morbidity burden was reported

among West Golis (16%), followed by Burao IDP (15.8%), Hargeisa IDP (12.7%), Northwest AP (11.1%) and Berbera IDP (6.4%). Of the assessed common childhood illnesses, pneumonia and fever (5.4%) reported highest median prevalence indicating 1 in every 20 assessed children suffered from pneumonia or fever (suspected malaria). Diarrhoea and suspected measles reported median of 3.0 and 0.7 per cent respectively.

STUNTING

Like many other predominantly pastoral communities in the region, chronic malnutrition is not a public health concern in Somalia. The low prevalence of stunting (4.1% -median) is noted in Northwest region.

UNDERWEIGHT

Low prevalence of underweight (2.6% median) was observed in all the seven livelihoods surveyed in Northwest including IDPs.

MATERNAL MALNUTRITION

Nutritional status of Pregnant and Lactating Women was assessed in both the IDP and Rural livelihoods through MUAC. Low prevalence of maternal malnutrition in Northwest region is indicated by 3.3 percent median rate of maternal malnutrition (MUAC < 23 cm). Highest prevalence was reported in West Golis (7.4%) , followed by Northwest (4.8%), Burao IDP (3.3%), Hargeisa (3.2%) and Berbera (0.9%). Compared to the past 6 months majority of these areas have shown sustained low prevalence while others, particularly, West Golis have shown nearly 70 per cent improvement despite the drought-like situations observed in the area due to failed *Gu* rains.

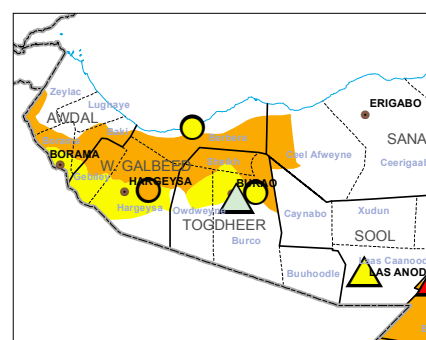
DIETARY DIVERSIFICATION

Household dietary diversity was measured as proportion of households consuming more than four food groups. The findings indicate majority of households in the region are having diversified diets with no significant change compared to *Deyr* 2014/15 or *Gu* 2015). Milk is a staple food in majority of these livelihoods and appears to play an important role in low prevalence of malnutrition seen in the Northwest region.

CHANGE IN NUTRITION SITUATION

- The map below show the current nutrition situation for *Gu* 2015. The nutrition situation among the IDP livelihoods in Northwest region has for the last six months (*Deyr* 2014/15 to *Gu* 2015) been sustained as Serious among Hargeisa IDPs and Alert among Burao and Berbera IDPs. Both rural livelihoods have shown deterioration, West Golis from **Alert** to **Serious** and Northwest Agro pastoral from **Acceptable** to **Alert**. Among the rural population the nutrition situation has largely been influenced by acute food insecurity resulting from drought-like situation due to the failed *Gu* rains.

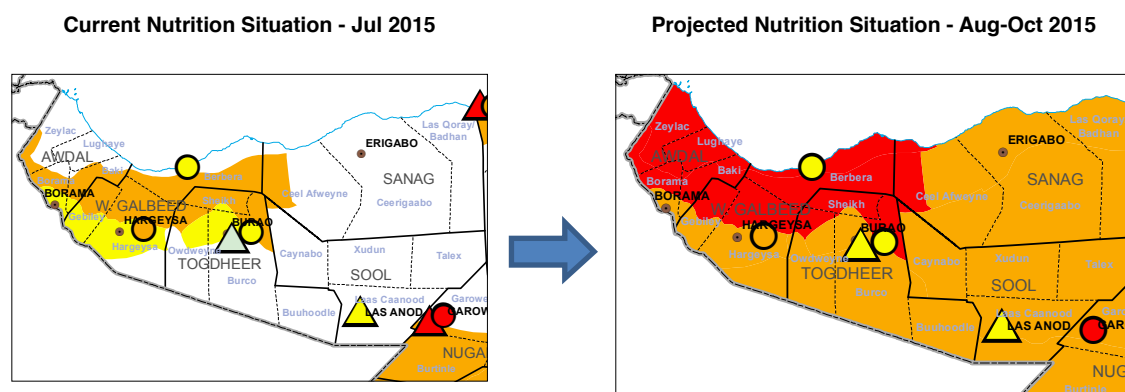
Map 10: Nutrition Situation, Jul 2015
in Northwest Regions



OUTLOOK for August to October 2015

The impact of the drought-like situation is likely to continue to be felt in parts of Northwest Agro pastoral: West Golis and Guban pastoral. The drought situation is characterized by limited water availability for livestock which has an impact on milk availability at household level and also resulting in increased milk prices in the markets. Milk consumption plays a major role in nutrition well-being of the pastoral population. Part of coping mechanisms employed by pastoral population during drought, is livestock migration to the lower parts of region, mainly Hawd.

As result, the nutrition situation is likely to deteriorate further from **Alert** to **Serious** among Northwest Agro pastoral and from **Serious** to **Critical** among West Golis and Guban pastoral. Another area likely to deteriorate is Hawd due to pressure put on the little resources available as a result of livestock migration in to the area. Migration into urban centers is also likely to stretch the labor opportunities in Togdheer and there deterioration to **Alert** phase from **Acceptable** is likely. Sustained nutrition situation is expected in all IDP settlements, in Sool Urban as well as East Golis.

Figure 20: Nutrition Situation and Outlook August 2015 to October 2015 in Northwest regions

Table 8: Summary of Key Nutrition Findings: Northwest Rural Livelihoods. Gu 2015

	Hargeisa IDPs			Berbera IDPs			Burao IDPs		
	Clusters: 30 (n=526; Boys=271; Girls=255)			Clusters :30 (n=464:Boys231=;Girls=233)			Clusters: 30 (n:579 Boys=289; Girls=290)		
Indicator	Percent (CI)	Change from <i>Deyr</i> 2014		Percent (CI)	Change from <i>Deyr</i> 2014		Percent (CI)	Change from <i>Deyr</i> 2014	
Child Nutrition Status									
Global Acute Malnutrition (WHZ<-2 or oedema)	10.5 (7.9-13.6)			7.3 (4.9-10.9)			7.1(4.9-10.2)		
Boys	12.5(9.0-17.2)	Sustained		9.1(6.0-13.5)	Sustained		8.0(4.8-12.9)	Sustained	
Girls	8.2 (5.4-12.3)			5.6(3.0-10.3)			6.2(4.3-8.9)		
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.1(1.1- 3.9)			1.1(0.5-2.5)			0.5(0.2-1.6)		
Boys	3.0(1.6- 5.5)	Sustained		1.7(0.7-4.4)	Sustained		0.3(0.0-2.6)	Sustained	
Girls	1.2(0.4- 3.7)			0.4(0.1-3.3)			0.7(0.2-2.8)		
Mean of Weight for Height Z Scores	-0.66±1.03			-0.58±1.02			-0.38±1.00		
Oedema	0.4			0.0			0.0		
Proportion with MUAC<12.5 cm or oedema)	6.9(4.1-11.5)			1.3(0.6-2.8)			1.9(1.0-3.5)		
Boys	6.0(3.7- 9.5)	Sustained		1.7(0.7-4.4)	Sustained		1.7(0.7-4.0)	Sustained	
Girls	8.0(3.9-15.4)			0.8(0.2-3.5)			2.1(1.0-4.4)		
Proportion with MUAC<11.5 cm or oedema	1.5 (0.5- 3.8)			0.4(0.1-1.8)			0.7(0.3-1.8)		
Boys	0.7 (0.2- 2.8)	Sustained		0.4(0.1-3.4)	Sustained		0.7(0.2-2.8)	Sustained	
Girls	2.3 (0.7- 7.5)			0.4(0.1-3.3)			0.7(0.3-1.8)		
Stunting (HAZ<-2)	5.2 (2.8- 9.3)			4.1(1.5-10.8)			0.2(0.0-1.3)		
Boys	7.2 (3.7-13.5)	Sustained		4.0(1.5-10.1)	Sustained		0.3(0.0-2.6)	Sustained	
Girls	3.0 (1.4- 6.7)			4.2(1.3-13.0)			0.0		

	Hargeisa IDPs		Berbera IDPs		Burao IDPs	
	Clusters: 30 (n=526; Boys=271; Girls=255)		Clusters :30 (n=464:Boys231=;Girls=233)		Clusters: 30 (n;579 Boys=289; Girls=290)	
Indicator	Percent (CI)	Change from Deyr 2014	Percent (CI)	Change from Deyr 2014	Percent (CI)	Change from Deyr 2014
Severe Stunting (HAZ<-3)	0.9 (0.4- 2.1)		0.6(0.1-2.8)			
Boys	1.4 (0.5- 3.7)	Sustained	0.9(0.2-3.5)	Sustained	0.0	Sustained
Girls	0.4(0.1- 2.8)		0.4(0.1-3.3)			
Underweight (WAZ<-2)	7.2 (5.1-10.2)		5.6(3.0-10.2)		2.2(1.1-4.5)	
Boys	9.4 (6.1-14.1)	Sustained	6.6(3.4-12.4)	Sustained	3.1(1.3-7.3)	Sustained
Girls	5.0 (2.7- 9.0)		4.6(2.1-10.0)		1.4(0.5-3.6)	
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.37 (0.17-0.79)	Sustained	0.14 (0.04- 0.43)	Sustained	0.49(0.22-1.07)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.84(0.25-2.77)	Sustained	0.0	Sustained	0.00	Sustained
Morbidity Rates						
Morbidity	12.7 (7.3-18.0)		6.4(2.0-10.5)		15.8(5.9-24.3)	
Boys	11.2(5.6-16.9)	Sustained	4.7(0.8-8.7)	Sustained	15.8(6.8-25.3)	Sustained
Girls	14.4(7.4-21.4)		8.0(3.2-12.8)		14.4(4.7-24.1)	
Diarrhoea	7.2(3.9-10.6)		1.9(0.4-3.4)		2.6(0.7-4.5)	
Boys	6.7(2.0-11.3)	Sustained	0.9(0.0-5.4)	Sustained	2.4(0.5-4.3)	Sustained
Girls	8.0(3.4-12.4)		2.9(0.9-5.0)		2.7(0.3-5.2)	
Pneumonia	5.1(2.4-7.7)		2.1(0.0-4.5)		10.5(3.0-17.9)	
Boys	5.3(1.9-8.7)	Sustained	1.3(0.0-3.2)	Sustained	11.0(3.1-18.8)	Sustained
Girls	4.9(2.2-7.7)		2.9(0.0-2.1)		10.0(2.2-17.8)	
Fever	5.4(2.6-8.3)		3.8(0.5-7.2)		11.7(3.6-19.7)	
Boys	4.9(2.1-7.7)	Sustained	3.0(0.0-6.8)	Sustained	12.3(4.2-20.5)	Sustained
Girls	6.1(1.7-10.4)		4.6(1.2-8.0)		11.0(2.3-19.6)	
Measles	2.0(0.2-3.8)		0.4(0.0-1.0)		1.2(0.2-2.1)	
Boys	0.7(0.0-2.1)	Sustained	0.9(0.3-2.1)	Sustained	1.0(0.0-2.6)	Sustained
Girls	3.4 (0.6-6.2)		0		1.3(0.0-2.7)	
Vitamin A Supplementation	62.0(49.3-74.6)		60.0(47.1-72.9)		90.6(85.1-96.1)	
Boys	61.4(48.6-74.2)	Sustained	59.9(46.6-73.2)	Improved	90.1(83.2-96.9)	Sustained
Girls	62.5(48.0-77.0)		60.1(46.5-73.7)		91.0(86.1-96.0)	
Measles Vaccination	67.0(55.3-78.7)		56.3(42.2-70.6)		88.9(83.8-94.0)	
Boys	66.0(54.4-77.5)	Sustained	59.1(44.9-73.2)	Improved	87.3(81.3-93.4)	Sustained
Girls	67.8(54.2-81.4)		53.8(38.2-69.4)		90.4(85.6-95.1)	

	Hargeisa IDPs		Berbera IDPs		Burao IDPs	
	Clusters: 30 (n=526; Boys=271; Girls=255)		Clusters :30 (n=464:Boys231=;Girls=233)		Clusters: 30 (n;579 Boys=289; Girls=290)	
Indicator	Percent (CI)	Change from Deyr 2014	Percent (CI)	Change from Deyr 2014	Percent (CI)	Change from Deyr 2014
Polio Immunization	97.3 (95.6-99.0)		92.7(88.7-96.9)		71.5(63.2-79.9)	
Boys	98.2(96.5-100.0)	Sustained	94.0(89.8-98.1)	Improved	72.9(63.8-82.1)	Sustained
Girls	96.2(93.2-99.2)		91.6(86.6-96.6)		70.1(61.4-78.8)	
Women Nutrition and Immunization Status						
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0	Sustained	0	Improved	0.8(0.1-2.8)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	3.2(1.5-6.0)	Improved	0.9 (0.1-3.1)	Improved	3.3 (2.8-4.0)	Sustained
Proportion of Women who received Tetanus immunization						
No dose	17.2 (13.0-22.2)		10.6(7.0-15.3)	Improved	17.4(6.7-28.1)	Sustained
One dose	11.1 (7.7-15.4)		7.2(4.3-11.3)		11.5(5.7-17.2)	
Two doses	24.4 (19.5-29.9)		24.7(19.3-30.7)		37.9(26.9-49.0)	
Three doses	47.3 (41.3-53.4)		57.5(50.9-63.9)		33.2(20.8-45.6)	
Household with access to sanitation facilities	100	Improved	100	Improved	95.3(92.4-98.4)	Sustained
Household with access to safe water	99.2(97.4-100.0)	Sustained	100	Improved	100	Improved
Household's Main Food Source- Purchase	100	Sustained	99.1 (97.3-100.9)	Sustained	100.0	Sustained
Mean CSI	23.7	Improved	36.6	Sustained	18.7	Sustained
OVERALL NUTRITION SITUATION	Serious		Alert		Alert	

Table 9: Summary of Key Nutrition Findings: Northwest Rural Livelihoods, Gu 2015

	NW Agro-Pastoral LZ		West Golis Pastoral LZ	
	Clusters:25		Clusters:25	
	n= 467 (Boys=238; Girls=229)		n=524 (Boys=269; Girls=255)	
Indicator	Percent (CI)	Change from <i>Deyr</i> 2014	Percent (CI)	Change from <i>Deyr</i> 2014
Global Acute Malnutrition (WHZ<-2 or oedema)	5.6 (3.8- 8.2)	Deteriorated	12.8 (9.6-16.8)	Deteriorated
Boys	6.4(3.7-10.8)		13.0 (9.1-18.3)	
Girls	4.8 (2.8- 8.3)		12.5 (7.5-20.2)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	0.2 (0.0- 1.7)	Sustained	2.5(0.0- 1.7)	Deteriorated
Boys	0.4 (0.1- 3.2)		2.6(1.3- 5.2)	
Girls	0.0 (0.0- 0.0)		2.4(1.2- 4.6)	
Mean of Weight for Height Z Scores	-0.45±0.93		-0.69±1.14	
Oedema	0		0.2	
Proportion with MUAC<12.5 cm or oedema)	1.9 (0.7- 5.0)	Sustained	0.6 (0.2- 1.6)	Sustained
Boys	1.3(0.4- 4.0)		0.0	
Girls	2.6 (0.9- 7.5)		1.1 (0.4- 3.3)	
Proportion with MUAC<11.5 cm or oedema	0.6 (0.1- 2.9)	Sustained	0.6 (0.2- 1.6)	Sustained
Boys	0.8 (0.2- 3.5)		0.0	
Girls	0.4 (0.1- 3.4)		1.1 (0.4- 3.3)	
Stunting (HAZ<-2)	7.1 (4.1-11.9)	Sustained	5.3 (3.0- 9.3)	Sustained
Boys	8.0 (4.4-14.2)		6.6 (3.2-13.3)	
Girls	6.1(3.0-12.0)		3.9 (2.0- 7.4)	
Severe Stunting (HAZ<-3)	1.5 (0.7- 3.4)	Sustained	2.1 (1.1- 3.8)	Sustained
Boys	2.1(0.8- 5.7)		2.2(1.1- 4.4)	
Girls	0.9(0.2- 3.6)		1.9 (0.8- 4.6)	
Underweight (WAZ<-2)	5.8(3.4- 9.5)	Sustained	8.4 (5.5-12.7)	Sustained
Boys	8.0(4.5-13.7)		11.3 (7.7-16.3)	
Girls	3.5 (1.5- 7.9)		5.4(2.4-11.6)	
Death rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.46(0.22-0.95)	Sustained	0.32(0.15-0.70)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.69 (0.15-3.08)	Deteriorated	0.19 (0.02-1.56)	Sustained
Morbidity	11.1 (6.6-15.7)	Sustained	16.0 (10.7-21.3)	Sustained
Boys	8.8(4.5-13.1)		13.8(8.8-18.8)	
Girls	13.5(6.9-20.2)		18.3(11.0-25.6)	
Diarrhoea	3.0(1.0-5.0)	Sustained	8.2(5.2-11.2)	Sustained
Boys	1.7(0.0-3.3)		6.9(3.0-10.8)	
Girls	4.7(1.1-7.7)		9.5(4.9-14.1)	

Pneumonia	6.9(3.3-10.4)		5.4(1.1-9.6)	
Boys	6.3(2.2-10.0)		5.4(0.7-10.2)	
Girls	7.4(2.9-12.0)	Sustained	5.3(0.9-9.8)	Sustained
Fever	4.7(1.2-8.2)		9.5(5.2-13.8)	
Boys	4.2(1.3-7.1)	Sustained	9.1(4.4-13.7)	Sustained
Girls	5.2(0.2-10.3)		9.9(4.1-15.7)	
Measles	0.4(0.0-1.0)		0.7(0.0-1.6)	
Boys	0.4(0.0-1.3)	Sustained	0.4(0.0-1.1)	Sustained
Girls	0.4(0.0-1.3)		1.1(0.0-2.5)	
Vitamin A Supplementation	48.0(32.8-63.1)		42.4(25.1-59.7)	
Boys	50.4(34.2-66.7)		41.3(24.8-57.8)	
Girls	45.4(30.5-60.3)	Sustained	43.5(24.2-62.8)	Deteriorated
Measles Vaccination	45.6(30.5-60.7)		37.4(20.8-53.9)	
Boys	47.5(30.6-64.4)		35.1(20.0-50.3)	
Girls	43.7(29.5-57.8)	Sustained	39.7(20.6-58.8)	Deteriorated
Polio Immunization	97.4(95.4-99.5)		48.3(31.1-65.5)	
Boys	97.5(95.0-99.9)		47.8(31.1-64.6)	
Girls	97.4(95.0-99.7)	Sustained	49.2(29.6-68.1)	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0.8(0.1-2.9)	Sustained	1.0(0.0-2.1)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	4.8 (2.5-8.3)	Sustained	7.4 (3.5-11.4)	Improved
Proportion of Women who received Tetanus immunization				
No dose	39.0(22.9-55.0)		19.1(7.6-30.6)	
One dose	18.5(10.1-26.9)		13.9(6.1-21.8)	
Two doses	18.1(10.1-26.1)		25.2(16.5-34.0)	
Three doses	24.5(10.2-38.8)	Sustained	41.7(26.5-57.0)	Sustained
Public Health Indicators	n= 232		n= 288	
Household with access to sanitation facilities	53.4(34.5-72.4)	Sustained	68.1(54.7-81.4)	Improved
Household with access to safe water	0.0(0.0-0.0)	Deteriorated	51.4 (29.0-73.8)	Sustained
Proportion who reported to have consumed <4 food groups	4.1(0.0-8.3)	Improved	3.3 (0.0-6.7)	Sustained
Household's Main Food Source-Purchase	57.4(39.6-75.3)	Sustained	85.1(71.8-98.5)	Sustained
Mean CSI	10.1		2.7	
OVERALL NUTRITION SITUATION	Alert		Serious	

Table 10: Summary of Key Nutrition Findings in Sool and Togdheer Urban Livelihoods, Gu 2015

	Sool Region Urban		Togdheer Region Urban	
	Clusters:25 (n=492: Boys=233; Girls=259)		Clusters:25 (n=340: Boys=177; Girls=163)	
Indicator	Percent (CI)	Change from <i>Deyr</i> 2014	Percent (CI)	Change from <i>Deyr</i> 2014
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	8.3 (5.9-11.6)	improved	4.4 (2.4- 7.8)	N/ A
Boys	9.9 (6.5-14.7)		3.4(1.3- 8.8)	
Girls	6.9 (4.0-11.8)		5.5(2.7-10.9)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.6(0.8- 3.3)	Sustained	0.3 (0.0- 2.3)	N/ A
Boys	2.1 (0.9- 5.1)		0.6 (0.1- 4.3)	
Girls	1.2(0.3- 5.2)		0	
Mean of Weight for Height Z Scores	Mean ± SD : -0.51±1.09		-0.27±0.99	
Oedema	0.6		0.3	
Proportion with MUAC<12.5 cm or oedema)	2.0 (1.1- 3.6)	Sustained	2.0 (0.9- 4.6)	N/ A
Boys	2.5(1.2- 5.3)		1.7(0.4- 7.2)	
Girls	1.5 (0.6- 3.9)		2.4 (0.9- 6.3)	
Proportion with MUAC<11.5 cm or oedema	0.6(0.2- 1.9)	Sustained	0.6 (0.1- 2.4)	N/ A
Boys	1.3 (0.4- 3.9)		0.6 (0.1- 4.2)	
Girls	0		0.6 (0.1- 4.6)	
Stunting (HAZ<-2)	0.8 (0.3- 2.1)	Sustained	1.5 (0.6- 3.4)	N/ A
Boys	1.7(0.7- 4.2)		1.7(0.5- 5.2)	
Girls	0.0 (0.0- 2.0)		1.2 (0.3- 5.0)	
Severe Stunting (HAZ<-3)		Sustained		N/ A
Boys	0			
Girls				
Underweight (WAZ<-2)	5.5 (3.5- 8.5)	Sustained	0.9 (0.3- 2.8)	N/ A
Boys	4.7 (2.7- 8.3)		1.1 (0.3- 4.6)	
Girls	6.2 (3.7-10.0)		0.6 (0.1- 4.8)	
Public Health Indicators	n= 427		n= 437	N/ A
Household's Main Food Source- Purchase	93.7(90.4-96.9)	Sustained	98.6(97.6-99.6)	N/ A
Proportion who reported to have consumed <4 food groups	1.4 (0.6-2.5)	Sustained	5.0(0.0-11.6)	N/ A
Mean CSI	27.1	Improved	22.1	
OVERALL NUTRITION SITUATION	Alert		Acceptable	

4.2 NORTHEAST REGIONS

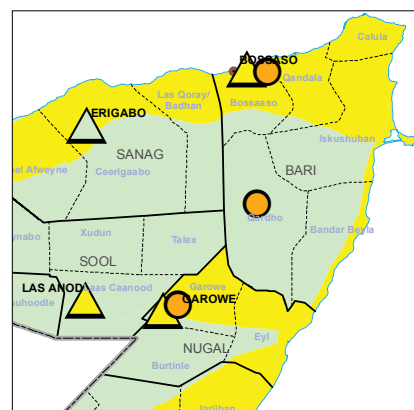
FSNAU conducted 10 nutrition surveys (4 IDPs, 2 urban areas and 4 Rural livelihoods) in North East region of Somalia and assessed nutrition status of 7 767 children aged 6-59 months old (4 029 boys and 3 738 girls) from 5265 households. Comprehensive assessments (nutrition and food security) were conducted among all IDPs and livelihoods using SMART methodology.

The food security situation of the population at the time of survey was classified as **Stressed** in all the rural livelihoods with the exception of the Hawd livelihood which was indicated as **Minimal**. Food security situation, among IDPS was classified as **Crisis** situation. Access to food was reported as borderline, but adequate, to meet food consumption requirements. Rainfall was reported as normal in most of the livelihoods.

CURRENT FOOD SECURITY SITUATION- POST DEYR 2014/15

The FSNAU *Gu* 2015 integrated food security analysis indicates a **stressed** (IPC Phase 2) Food security situation in the two rural livelihoods of East Golis, and Coastal Deeh while Hawd Northern Inland Pastoral (NIP) and Addun livelihoods show **Minimal** (IPC phase 1). This reflect a stable food security level since *Deyr* 2014/15. The stability of food security situation in Northeast regions is attributed to normal/near normal rains of *Gu* 2015 in most of the areas and is classified as **Minimal** phase which improved pasture availability and increased the access to milk.

Map 11: Food Security Situation in Northeast Regions - Jul 2015



GU 2015 SURVEY RESULTS

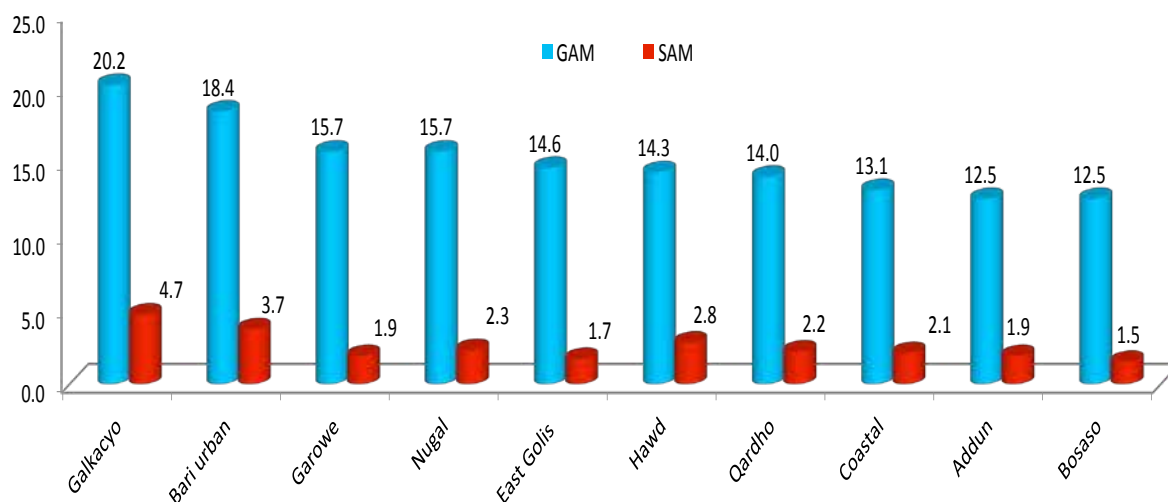
The results of nutrition assessments done in North East Somalia are summarized in Tables 1 and 2. Key highlights are discussed below:

ACUTE MALNUTRITION

Based on the 10 WHZ comprehensive assessments conducted in Northeast regions, median GAM rate of 14.5 percent and SAM rate of 2.1 percent were observed, which is slightly higher compared to GAM (12.9%) observed in *Deyr* 2014/15 (Annex 10).

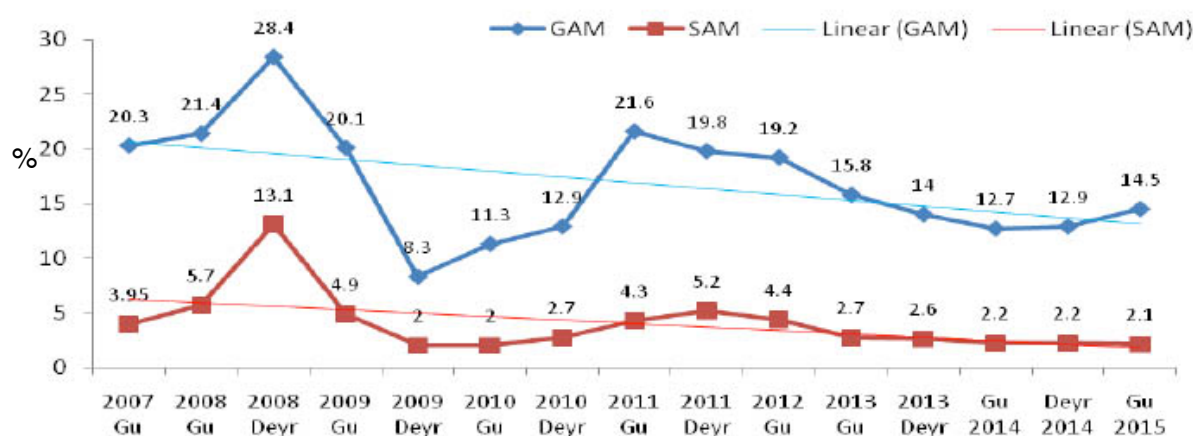
Levels of acute malnutrition in assessed population groups (4 IDPs, 2 urban and 4 rural livelihoods) show **Serious** level of malnutrition in all livelihoods (Hawd, Addun, Coastal Deeh, East Golis) as well as Bosaso and Qardho IDPs while sustained **Critical** levels of acute malnutrition were observed in Garowe and Galkayo IDPs (Figure 21).

Figure 21: Prevalence of Acute Malnutrition in Different Livelihoods of North-eastern Somalia - *Gu* 2015



Trends in prevalence of acute malnutrition (GAM & SAM) in the northeast region (Figure 22) show a decline over time and a sustained **Serious** nutrition situation since *Gu* 2013. No significant gender differences were noted in the prevalence of acute malnutrition between boys and girls.

Figure 22: GAM and SAM trends in Northeast Regions of Somalia



The change in prevalence of acute malnutrition situation in *Gu* 2015 (Annex 10) is compared to the situation in *Deyr* 2014/15 as well as *Gu* 2014 and discussed below:

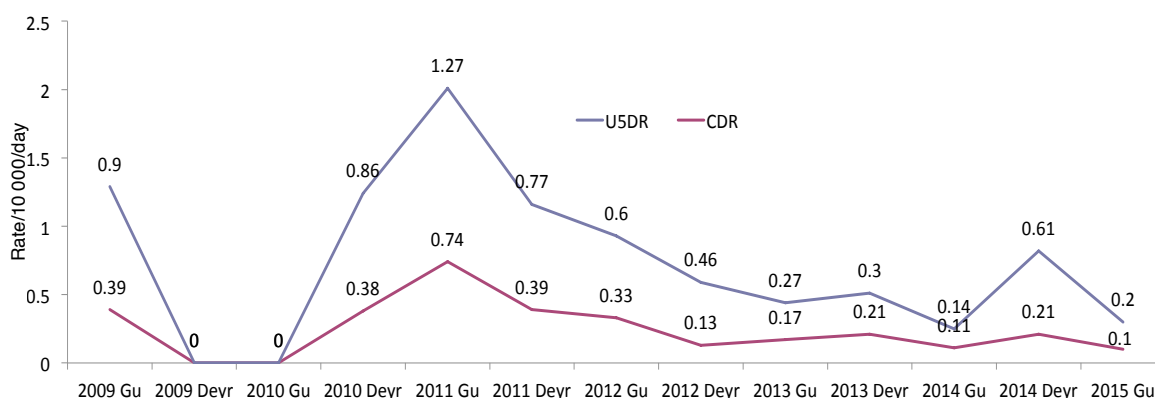
- **Bosaso IDP** settlements record a GAM rate of 12.5 percent and SAM rate of 1.5 percent indicating a **Serious** nutrition situation. This is an improvement when compared with the **Critical** GAM rate of 17.2 percent recorded in *Deyr* 2014/15 but similar to the result of **Serious** levels of GAM recorded in *Gu* 2014 (13.2%). This improvement is linked to lower morbidity level compared to last season.
- **Qardho IDPs** settlements record a GAM rate of 14.0 percent and SAM rate of 2.2 percent indicating sustained **Serious** nutrition situation since *Gu* 2014 (12.2%). GAM of 11.1 percent was recorded in *Deyr* 2014/15.
- **Garowe IDPs** settlement show improvement in nutrition situation even though sustained prevalence of **Critical** GAM (15.7 %) is noted since *Gu* 2014. Improvement in SAM prevalence to **Alert** levels (1.9%) was seen in *Gu* 2015 assessment compared to serious levels in *Deyr* 2014/15 (3.9%).
- **Galkayo IDPs** settlement recorded sustained **Critical** GAM prevalence with increase in GAM rate from 15.1 percent in *Deyr* 2014/15 to 20.2 percent in *Gu* 2015. This was accompanied by increase in SAM prevalence to **Critical** levels (4.7% in *Gu* 2015) when compared with **Serious** prevalence of SAM (2.6 %) observed in *Deyr* 2014/15
- **Addun** livelihood shows a deterioration from **Alert** in *Deyr* 2014/15 (9.7%) to **Serious** GAM of 12.5 percent with **Alert** SAM of 1.9 percent in *Gu* 2015.
- **Coastal Deeh** pastoral livelihood recorded a GAM rate of 13.1 percent and SAM rate of 2.1 percent indicating a **Serious** nutrition situation. This reflects a stable nutrition situation when compared to the GAM rate of 11.7 percent and SAM rate of 1.4 percent recorded in *Deyr* 2014/15 and the GAM rate of 12.7 percent in *Gu* 2014.
- **East Golis** livelihood record a GAM rate of 14.6 percent and SAM rate of 1.7 percent which is **Serious** nutrition situation and indicating sustained level of malnutrition. However, the rate is higher when compared to the GAM of 10.4 percent and SAM rate of 1.5 percent recorded in *Deyr* 2014/15
- **Hawd** pastoral livelihood record a GAM rate of 14.3 percent and SAM of 2.8 percent which suggests a **Serious** nutrition situation and improvement when compared to the **Critical** GAM rate of 16.1 percent recorded in *Deyr* 2014/15 or 17.3 percent GAM recorded in *Gu*, 2014. However, this improvement is not statistically significant. Lower morbidity prevalence in *Gu* 2015 (10.8%) can be an important factor for the improvement noted.

- **Bari Urban:** The nutrition assessment in Bari urban shows **Critical** GAM prevalence (18.4 %) with **Serious** SAM prevalence (3.7 %). This suggests a deterioration in nutrition situation when compared to **Serious** levels of GAM (14.0%) and SAM (2.7%) recorded in Deyr 2014/15
- **Nugal Urban:** Nugal urban reported a GAM prevalence of 15.7 percent and SAM prevalence of 2.3 percent considered as **Critical** and **Serious** nutrition situation respectively.

MORTALITY

The 90 day retrospective Crude and under five death rates in the assessed areas in Northeast regions are within the **Acceptable** levels of <0.5 and <1/10,000/day. This reflect a stable mortality trend for the assessed areas since Deyr 2014/15 (Figure 23).

Figure 23: Mortality trends in Northeast



MORBIDITY

High morbidity levels were noted among most of the IDPs settlements and rural livelihoods. The IDP settlements of Garowe, Qardho and Galkayo as well as Coastal Deeh, East Golis and Addun livelihoods show ≥30 percent morbidity level. Highest morbidity levels were recorded among Garowe and Qardho IDPs, where > 40 percent of the children were reported to be sick two weeks prior to the assessment. However, most of the assessments showed same trend of morbidity compared to previous assessments and no disease outbreaks have been reported in Northeast during the recent months (Annex 16).

CHRONIC MALNUTRITION-STUNTING AND UNDERWEIGHT

Low prevalence levels of stunting (<20%) was seen in all assessed pastoral livelihood populations as well as Bari and Nugal urban centers. Among Qardho and Galkayo IDPs, low stunting prevalence (<20%) was recorded. However, Garowe and Bosaso IDPs showed **medium** prevalence of stunting (20 – 29.9%).

Low prevalence of underweight level (<10%) was recorded in livelihoods of East Golis and Coastal Deeh while Hawd and Addun showed **Medium** prevalence of underweight (10 – 19.9%). It was observed that the prevalence of underweight was higher among IDPs as **Medium** levels of underweight prevalence was noted among Garowe, Qardho and Bosaso IDPs while Galkacyo IDPs show **high** prevalence of underweight (20 – 30%). Bari and Nugal urban areas also recorded **medium** levels of underweight prevalence (10 - 19.9%) (Table 11).

Table 11: Stunting and Underweight prevalence among different livelihoods in Northeast region

	Stunted	Underweight
EGolis (NE)	5.3	7.6
Coastal Deeh	6.5	9.7
Nugal urban	6.5	11.0
Bari Urban	7.0	15.6
Addun Central	7.6	12.7
Hawd Central	8.1	12.5
Qardho IDP	13.4	17.4
Galkayo IDP	15.6	21.6
Garowe IDP	22.8	18.8
Bosaso IDP	25.9	23.5

IMMUNIZATION

The reported Vitamin A supplementation, measles vaccination and Polio immunization by recall among Bosaso, Galkacyo and Garowe IDPs was > 80 percent, but Qardho IDPs as well as all the pastoral livelihoods of East Golis, Coastal deeh, Hawd and Addun have reported < 80 percent. None of the livelihoods/IDPs show immunization coverage of ≥ 95 percent recommended by SPHERE.

MATERNAL MALNUTRITION

Critical levels of maternal malnutrition (23.4 – 31.4%) were recorded among the pregnant and lactating women in Qardho IDPs and Hawd pastoral livelihood. Deterioration in maternal nutrition status from **Alert** (10.6-16.75) to **Critical** (23.4-31.4%) is noted among Qardho IDPs while it is an improvement from **very Critical** ($\geq 31.5\%$) to **Critical** in Hawd livelihood. **Serious** level of maternal malnutrition (16.8 – 23.3%) are observed among Galkacyo IDPs (17.6%) while Garowe IDPs show **Alert** level of maternal malnutrition (14.3%)

DIETARY DIVERSIFICATION

Household dietary diversity measured as proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Deyr* and *Gu* seasons (Annex 20). Access to milk and milk consumption play an important role for the mitigation of nutritional status specially among pastoral livelihoods.

NUTRITION SITUATION MAP

Map 12 shows the current nutrition situation (Post *Gu* 2015). The nutrition situation among the urban, IDPs and Rural livelihoods in Northeast regions ranges from **Alert** to **Critical** levels for the last twelve months (*Gu* 2014 to *Gu* 2015). Access to milk among the predominant pastoral communities and morbidity patterns appears to be the underlying factors influencing the nutrition situation. Most of the livelihoods and IDPs either sustained (Pastoral livelihoods of East Golis, Addun and Coastal Deeh and IDPs of Qardho, Garowe and Galkayo) or improved (Bosaso IDPs and Hawd Pastoral). Addun livelihood is the only livelihood in Northeast region which deteriorated from **Alert** in *Deyr* 2014/15 to **Serious** phase in *Gu* 2015.

CURRENT HOT SPOT FOR ACUTE MALNUTRITION IN NORTH EAST SOMALIA

Critical levels of GAM prevalence among Garowe and Galkayo IDPs, as well as Bari and Nugal urban centres makes them current hot spots in Puntland, requiring immediate interventions to both treat the acutely malnourished children and prevent further deterioration of the nutrition situation.

OUTLOOK FOR AUGUST- OCTOBER 2015

All the livelihoods in Northeast are expected to sustain the current nutrition phase during the coming three months as neither improvement nor deterioration is projected. Exception is Bosaso IDPs which is projected to deteriorate due the impact of current Hagaa season as well as the historical trends. The maps below show current and projected nutrition situation across livelihoods in Puntland. The current Stressed and minimal food security situation in most livelihoods of Northeast regions is similarly projected to remain stable up to March 2015.

Map 12: Nutrition Situation, Jul 2015 in Northeast Regions

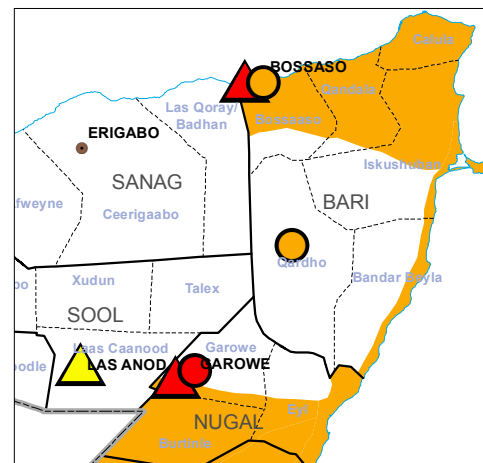


Figure 24: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Northeast regions

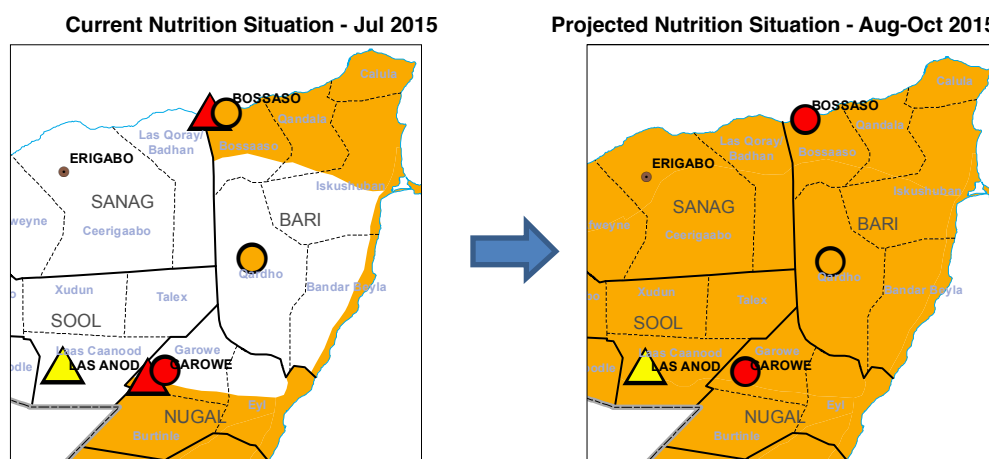


Table 12: Summary of Key Nutrition Findings in Northeast IDPs – Gu 2015

	Name of livelihood: Galkacyo IDPs		Name of livelihood: Galkacyo IDPs		Name of livelihood: Garowe IDPs	
	Clusters : 28		Clusters : 28		Clusters: 27	
	(N= 1016: Boys= 537; Girls=479)		(N= 1016: Boys= 537; Girls=479)		(N= 826 :Boys= 412 ;Girls= 414)	
Indicator	% (CI)	N	% (CI)	N		% (CI)
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	12.5 (9.9 – 15.7)		20.2 (17.1-23.7)		15.7 (13.0 – 19.0)	
Boys	15.3 (12.2-19.0)	Improved	22.7 (18.9-27.1)	Sustained	17.0 (13.1 – 21.7)	Sustained
Girls	9.8 (6.6 -14.2)		17.3 (13.3-22.3)		14.5 (11.4 – 18.3)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.5 (0.9 – 2.7)		4.7 (3.3- 6.7)		1.9 (1.2 – 3.1)	
Boys	1.1 (0.5 – 2.6)	Improved	6.5 (4.4- 9.5)	Sustained	1.9 (1.1 – 3.5)	Improved
Girls	2.0 (1.0 – 3.9)		2.7 (1.6- 4.5)		1.9 (0.9 – 4.0)	
Mean of Weight for Height Z Scores	-0.80±1.03	Improved	-1.12±1.08	Improved	-0.99±1.08	Sustained
Oedema	0	Improved	0.0	Sustained	0.0	Sustained
Proportion with MUAC<12.5 cm or oedema)	6.5 (4.7 – 7.5)		8.6 (5.8-12.6)		9.6 (6.6 – 12.1)	
Boys	5.7 (3.7 – 8.5)	Improved	7.1 (4.4-11.3)	Deteriorated	9.2 (6.2 – 13.1)	Deteriorated
Girls	7.2 (4.9 – 10.6)		10.3 (6.7-15.4)		10.1 (6.9 – 14.5)	
Proportion with MUAC<11.5 cm or oedema	0.5 (0.8 – 2.5)		1.5 (0.8- 3.0)		1.8 (0.9 – 3.2)	
Boys	0.4 (0.1-1.8)	Improved	1.1 (0.4- 3.1)	Sustained	1.7(0.7 – 3.7)	Sustained
Girls	0.6 (0.1 – 2.7)		2.1 (1.0- 4.3)		1.9 (0.9 – 4.0)	
Stunting (HAZ<-2)	25.9 (20.4 – 32.2)		15.6 (10.0-23.6)		22.8 (18.6 – 27.7)	
Boys	26.1 (19.7 – 33.6)	Improved	16.9 (11.0-25.0)	Sustained	25.7 (20.3 – 32.0)	Improved
Girls	25.7 (20.0 – 32.3)		14.2 (8.3-23.1)		20.0 (15.5 – 25.6)	
Severe Stunting (HAZ<-3)	7.0 (4.8 – 10.1)		4.7 (2.5- 8.6)		6.0 (4.1 – 8.7)	
Boys	8.6 (5.7 -12.8)	Improved	5.0 (2.5-10.0)	Sustained	8.1 (5.5 – 11.7)	Sustained
Girls	5.4 (3.5 – 8.3)		4.4 (2.2- 8.4)		4.1 (2.3 – 7.2)	

Underweight (WAZ<-2)	23.5 (19.3 – 28.4)		21.6 (16.3-27.9)		18.8 (16.2 – 21.8)	
Boys	25.3 (20.2 – 31.3)	Sustained	26.3 (20.1-33.6)	Deteriorated	22.7 (18.7 – 27.1)	Improved
Girls	21.8 (17.1 – 27.3)		16.2 (11.1-23.1)		15.1 (11.7 – 19.3)	
<i>Death Rates</i>						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.25 (0.11 – 0.53)	sustained	0.03 (0.00 – 0.22)	Sustained	0.14 (0.05 – 0.37)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.22 (0.05 – 0.90)	Sustained	0.10 (0.01 – 0.76)	Sustained	0.24 (0.06 – 0.98)	Sustained
Morbidity	18.2 (11.8 – 24.6)		35.9 (26.4-45.5)		46.8 (34.9-54.2)	
Boys	19.1 (10.8 – 27.3)	Improved	37.1 (26.7-47.4)	Deteriorated	43.7 (30.9-56.5)	Sustained
Girls	17.4 (11.4 – 23.4)		34.7 (24.9-44.4)		49.8 (36.3-63.4)	
Diarrhoea	5.9 (3.1-8.7)		12.4 (8.1-16.8)		12.9 (8.7-17.1)	
Boys	6.5 (2.8 – 10.2)	Improved	11.8 (7.2-16.4)	Sustained	11.0 (6.7-15.3)	Improved
Girls	5.3 (2.4-8.1)		13.1 (8.3-18.0)		14.8 (9.6-20.0)	
Pneumonia	11.0 (5.9 – 16.2)	Improved	11.5 (6.9-16.0)		16.5 (9.4-23.5)	
Boys	10.6 (4.6-16.6)		12.5 (7.6-17.5)	Deteriorated	14.6 (7.7-21.5)	Deteriorated
Girls	11.4 (6.4 – 16.5)		10.3 (5.3-15.2)		18.3 (10.6-26.0)	
Fever	10.5 (6.1 – 14.9)	Improved	30.0 (22.0-37.9)		36.0 (26.0-45.9)	
Boys	10.6 (5.5 – 15.7)		30.5 (22.1-38.9)	Deteriorated	32.6 (23.0-43.6)	Improved
Girls	10.4 (5.6 – 15.1)		29.4 (21.0-37.8)		39.2 (27.4-51.1)	
Measles	1.8 (0.3 – 3.3)		2.8 (1.7-3.9)		4.9 (2.4-7.4)	
Boys	1.7 (0 – 4.2)	Deteriorated	3.1 (1.6-4.6)	Deteriorated	5.5 (1.9-9.0)	Improved
Girls	1.9 (0.5 – 3.2)		2.5 (1.0-3.9)		4.4 (2.1-6.8)	
Vitamin Supplementation	91.5 (87.9 – 95.0)	sustained	85.5 (79.2-91.7)		93.0 (89.2-96.7)	
Boys	91.9 (87.9 – 96.0)		84.8 (77.6-91.9)	Improved	94.0 (89.4-98.6)	Improved
Girls	91.0 (97.2 – 94.8)		86.2 (80.4-92.1)		91.9 (87.7-96.1)	
Measles Vaccination	85.5 (80.0 – 91.1)		81.0 (74.2-87.8)		91.5 (88.3-94.8)	
Boys	85.0 (78.3 – 91.6)	sustained	79.8 (72.2-87.4)	Deteriorated	91.8 (88.5-91.0)	Sustained
Girls	86.1 (80.6 – 91.7)		82.4 (75.5-89.3)		91.2 (87.5-97.0)	
Polio Immunization	97.8 (96.3 – 99.3)		96.9 (95.1-98.7)		97.5 (96.3 – 98.6)	
Boys	95.8 (93.5-98.1)	sustained	96.6 (94.6-98.5)	Sustained	97.3 (95.6 – 99.0)	Sustained
Girls	94.4 (91.6-97.2)		97.3 (95.0-99.7)		97.6 (96.2 – 99.0)	
<i>Infant and Young Child Feeding (6-24 Months)</i>						
Proportion still breastfeeding	52.0 (45.0-58.9)		47.0 (41.6-52.3)		21.5 (12.7 – 30.4)	
Boys	55.9 (47.1 – 64.7)	N/A	49.7 (42.7-56.8)	N/A	19.4 (8.0 – 30.8)	N/A
Girls	48.1 (38.3-57.8)		44.3 (36.0-52.6)		23.2 (13.9 – 32.6)	
Continued breastfeeding up to 12 months	67.1 (56.3-78.0)	N/A	28.5 (21.9-35.0)	N/A	18.1 (6.2 – 30.1)	N/A
Continued breastfeeding up to 24 months	13.4 (6.2-20.5)	N/A	10.3 (3.9-16.8)	N/A	2.9 (0 – 7.4)	N/A
Proportion meeting recommended feeding frequencies	84.7 (79.2-90.1)		35.1 (28.6-41.7)		69.3 (58.2 – 80.3)	
Boys	85.7 (79.6 – 91.9)	N/A	35.6 (27.5-43.6)	N/A	65.9 (51.3 – 80.6)	N/A
Girls	83.6 (76.3 – 90.8)		34.8 (26.5-43.1)		71.6 (59.7 – 83.5)	
Proportion who reported to have consumed ≥4 food groups	17.6 (13.5-21.6)		2.6 (0.1-5.0)		21.0 (11.4 – 30.6)	
Boys	19.5 (12.4-26.5)	N/A	1.8 (0.0-3.8)	N/A	22.5 (11.3 – 33.7)	N/A
Girls	15.7 (11.3 – 20.2)		3.3 (0.4-6.3)		19.8 (8.5 – 31.1)	

Women Nutrition and Immunization Status	N= 231	N/A		N/A	N=258	N/A
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	2.1 (0.0 - 4.2)	sustained	5.9 (1.8-10.0)	Sustained	3.4 (1.3 – 5.6)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	8.6 (4.3 – 13.0)	Improved	17.6 (10.4-24.7)	Sustained	14.3 (10.8 – 17.8)	Improved
Proportion of Women who received Tetanus immunization	13.9 (8.5 – 19.2)	Deteriorated	7.2 (4.3-10.1)	Improved	11.9 (6.3 – 17.5)	Improved
No dose	8.9 (2.9 – 14.9)		8.7 (5.0-12.4)		6.4 (4.0 – 8.8)	
One dose	16.6 (10.8 -22.5)		40.6 (34.2-47.0)		35.5 (28.8 -42.2)	
Two doses	60.4 (52.9 – 67.9)		43.6 (36.8-50.4)		46.0 (40.1-52.0)	
Three doses						
Public Health Indicators	N = 360				N= 306	
Household with access to sanitation facilities	99.7 (99.1 –100.0)	Sustained	30.2 (28.1-32.2)	Deteriorated	100 (100 – 100)	Sustained
Household with access to safe water	41.1 (25.5-56.8)	Improved	30.0 (27.9-32.1)	Deteriorated	99.2 (97.8 –100)	Sustained
Proportion who reported to have consumed <4 food groups	0.8 (0 – 1.8)	Sustained	0.0 (0.0-0.0)	Sustained	0.9 (0 – 3.0)	Sustained
Household's Main Food Source- Purchase			99.4 (98.5-100.3)	Sustained	98.6 (97.0 –100)	Sustained
Mean CSI			36.6 (34.9-38.3)			

Name of livelihood: Qardho IDPs		
Clusters : Exhaustive		
(N= 591: Boys= 302; Girls= 289)		
Indicator	% (CI)	Changes
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	14.0	Sustained
Boys	17.5	
Girls	10.4	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.2	Sustained
Boys	3.3	
Girls	1.0	
Mean of Weight for Height Z Scores	-0.75±1.11	Sustained
Oedema	0.0	Sustained
Proportion with MUAC<12.5 cm or oedema)	5.8	Improved
Boys	5.5	
Girls	6.2	
Proportion with MUAC<11.5 cm or oedema	1.0	Sustained
Boys	1.6	
Girls	0.3	
Stunting (HAZ<-2)	13.4	Sustained
Boys	19.5	
Girls	6.8	
Severe Stunting (HAZ<-3)	4.1	Sustained
Boys	5.0	
Girls	3.2	
Underweight (WAZ<-2)	17.4	Sustained
Boys	22.6	
Girls	11.8	
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.34	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.83	Sustained

Morbidity	41.6	
Boys	41.2	Sustained
Girls	41.9	
Diarrhoea	5.5	
Boys	6.2	Improved
Girls	4.8	
Pneumonia	9.3	
Boys	7.8	Sustained
Girls	11.0	
Fever	31.7	
Boys	29.2	Sustained
Girls	34.4	
Measles	7.3	
Boys	8.8	Improved
Girls	5.8	
Vitamin A Supplementation	72.8	
Boys	73.1	Deteriorated
Girls	72.5	
Measles Vaccination	65.2	
Boys	66.8	Deteriorated
Girls	63.6	
Polio Immunization	93.8	
Boys	93.8	Deteriorated
Girls	93.7	
<i>Infant and Young Child Feeding (6-24 Months)</i>		
Proportion still breastfeeding	38.1	
Boys	40.7	N/A
Girls	35.7	
Continued breastfeeding up to 12 months	37.3	N/A
Continued breastfeeding up to 24 months	13.7	N/A
Proportion meeting recommended feeding frequencies	51.3	
Boys	55.8	N/A
Girls	47.1	
Proportion who reported to have consumed ≥ 4 food groups	20.3	
Boys	17.9	N/A
Girls	22.9	
<i>Women Nutrition and Immunization Status</i>		
	N=221	N/A
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	8.1	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	24.9	Deteriorated
Proportion of Women who received Tetanus immunization		
No dose	14.9	
One dose	9.2	Improved
Two doses	23.8	
Three doses	52.1	
<i>Public Health Indicators (HH)</i>		
	N= 192	
Household with access to sanitation facilities	99.0	Sustained
Household with access to safe water	88.0	Improved
Proportion who reported to have consumed <4 food groups	6.3	Improved
Household's Main Food Source- Purchase	100	
Mean CSI		

Table 13: Summary of Key Nutrition Findings in Northeast Rural – Gu, 2015

	Hawd Pastoral		Addun Pastoral		Coastal Deeh	
	Clusters : (N : Boys= Girls)		Clusters : 28 (N= 678: Boys= 348; Girls=325)		Clusters : 30 (N=678 : Boys=351; Girls=327)	
Indicator	N	Changes	% (CI)	Changes	% (CI)	Changes
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	14.3 (12.1 – 16.9)	Improved	12.5 (9.2-16.7)	Deteriorated	13.1 (10.4 – 16.5)	Sustained
Boys	17.5 (14.3 – 21.2)		13.8 (9.8-19.0)		15.7 (12.2 – 19.9)	
Girls	10.7 (8.0 – 14.1)		11.1 (7.4-16.3)		10.4 (7.1 – 15.0)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.8 (1.9 – 4.2)	Sustained	1.9 (1.1- 3.4)	Sustained	2.1 (1.1 – 3.8)	Sustained
Boys	3.1 (1.8 – 5.1)		2.3 (1.2- 4.4)		2.8 (1.4 – 5.7)	
Girls	2.5 (1.4 – 4.6)		1.5 (0.6- 4.1)		1.2 (0.4 – 4.2)	
Mean of Weight for Height Z Scores	-0.85±1.08	Sustained	-0.75 ± 1.04	Deteriorated	-0.63±1.20	Sustained
Oedema	0.0	Sustained	0.0	Sustained	0.0	Sustained
Proportion with MUAC<12.5 cm or oedema)	6.5 (4.3 – 9.5)	Improved	6.9 (3.9-11.8)	Sustained	2.2 (1.2 – 3.9)	Sustained
Boys	6.5 (3.9 – 10.3)		6.5 (3.4-11.8)		2.5 (1.2 – 5.0)	
Girls	6.5 (4.2 – 10.0)		7.3 (4.0-12.8)		1.8 (0.8 – 3.9)	
Proportion with MUAC<11.5 cm or oedema	1.2 (0.6 – 2.3)	Sustained	0.3 (0.1- 1.2)	Sustained	0.1 (0.0 – 1.1)	Sustained
Boys	1.3 (0.5 – 3.2)		0.3 (0.0- 2.2)		0.0 (0.0 – 0.0)	
Girls	1.0 (0.4 – 2.7)		0.3 (0.0- 2.4)		0.3 (0.0 – 2.3)	
Stunting (HAZ<-2)	8.1 (5.7 – 11.3)	Sustained	7.6 (4.8-11.9)	Sustained	6.5 (4.1 – 10.2)	Sustained
Boys	8.6 (6.2 – 11.8)		9.7 (6.0-15.4)		8.1 (4.7 – 13.6)	
Girls	7.4 (4.3 – 12.5)		5.3 (2.7-10.1)		4.9 (2.6 – 8.8)	
Severe Stunting (HAZ<-3)	0.9 (0.4 – 2.1)	Sustained	0.9 (0.4- 2.)	Sustained	0.7 (0.3 – 2.0)	Sustained
Boys	1.3 (0.4 – 3.7)		1.1 (0.4- 3.0)		0.8 (0.2 – 3.6)	
Girls	0.5 (0.1 – 2.1)		0.6 (0.2- 2.5)		0.6 (0.1 – 2.5)	
Underweight (WAZ<-2)	12.5 (9.2 – 16.8)	Sustained	12.7 (9.1-17.6)	Deteriorated	9.7 (6.7 – 13.8)	Sustained
Boys	14.6 (10.5 – 20.0)		14.2 (9.7-20.2)		11.9 (8.0 – 17.5)	
Girls	10.1 (6.4 – 15.7)		11.2 (7.6-16.2)		7.3 (4.3 – 12.0)	
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.35 (0.16 – 0.78)	Sustained	0.13 (0.05-0.34)	Sustained	0.15 (0.05 – 0.46)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.25 (0.06 – 1.01)	Sustained	0.45 (0.14-1.43)	Sustained	0.30 (0.07 – 1.23)	Sustained
Morbidity	10.8(5.6 – 16.0)	Improved	34.1 (25.3-42.9)	Sustained	37.4 (30.2 – 44.5)	Deteriorated
Boys	11.7 (5.9 – 17.5)		34.6 (25.7-43.5)		38.9 (30.3 – 47.5)	
Girls	9.8 (4.8 – 14.8)		33.6 (23.1-44.1)		35.7 (27.8 – 43.6)	
Diarrhoea	3.4 (1.5 – 5.3)	Improved	6.6 (3.8-9.3)	Improved	6.7 (4.4 – 9.1)	Sustained
Boys	4.0 (1.7 – 6.3)		5.3 (2.6-8.1)		7.1 (4.5 – 9.8)	
Girls	2.7 (0.9 – 4.6)		7.9 (3.4-12.4)		6.3 (2.4 – 10.1)	
Pneumonia	2.0 (0.3 – 3.8)	Improved	11.1 (7.0-15.1)	Sustained	6.6 (3.5 – 9.6)	Sustained
Boys	2.1 (0.2 – 4.0)		11.5 (7.0-16.0)		7.7 (3.3 – 12.1)	
Girls	2.0 (0.2 – 3.7)		10.6 (5.6-15.6)		5.4 (1.9 – 8.8)	
Fever	8.9 (4.1 – 13.6)	Improved	30.2 (21.3-39.1)	Sustained	33.2 (26.2 – 40.2)	Deteriorated
Boys	9.8 (3.9 – 15.7)		30.9 (21.8-40.0)		33.9 (25.0 – 42.8)	
Girls	7.8 (3.4 – 12.1)		29.4 (19.3-39.5)		32.4 (24.7 – 40.1)	

Measles	0.5 (0.0 – 1.0)		5.7 (2.3-9.1)		5.8 (2.4 – 9.3)	
Boys	0.4 (0 – 1.0)	Improved	6.5 (2.3-10.6)	Improved	5.2 (0.9 – 9.5)	Deteriorated
Girls	0.7 (0 – 1.6)		4.8 (1.5-8.2)		6.6 (2.7 – 10.4)	
Vitamin A Supplementation	75.7 (64.7 – 86.7)		73.2 (59.2-87.2)		57.9 (40.8 – 75.0)	
Boys	76.9 (65.4 – 88.3)	Improved	73.9 (59.5-88.2)	Improved	60.2 (42.7 – 77.6)	Deteriorated
Girls	74.3 (63.0 – 85.5)		72.4 (57.9-86.9)		55.5 (38.2 – 72.9)	
Measles Vaccination	58.6 (42.1 – 75.0)		71.9 (58.9-84.9)		58.9 (43.5 – 74.4)	
Boys	58.5 (41.5 – 75.5)	Sustained	71.9 (58.7-85.1)	Improved	61.3 (45.4 – 77.2)	Deteriorated
Girls	58.6 (42.3 – 75.0)		71.8 (58.2-85.4)		56.4 (40.9 – 71.9)	
Polio Immunization	92.2 (88.8 – 95.6)		89.4 (83.7-95.1)		87.7 (78.8 – 96.6)	
Boys	92.0 (88.2 – 95.9)	Improved	90.2 (84.8-95.5)	Improved	89.7 (81.9 – 97.5)	Deteriorated
Girls	92.4 (88.7 – 96.1)		88.5 (81.8-95.2)		85.5 (75.1 – 95.9)	
Women Nutrition and Immunization Status	N = 132				N = 188	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	5.3 (0 – 11.0)	Improved	1.6 (0.0-3.8)	Improved	0.5 (0.0 – 1.6)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	23.4 (12.4 – 34.4)	Improved	8.0 (2.8-12.2)	Improved	6.3 (1.4 – 11.3)	Improved
Proportion of Women who received Tetanus immunization	N = 530		N = 394		N = 410	
No dose	26.4 (17.8 – 34.9)	Improved	12.7 (7.4-17.9)	Sustained	16.0 (6.8-25.3)	Deteriorated
One dose	7.7 (4.0 – 11.3)		13.5 (6.9-20.0)		17.5 (11.3 – 23.7)	
Two doses	18.4 (10.2 – 26.7)		43.1 (33.2-53.1)		44.3 (35.4 – 53.3)	
Three doses	47.3 (37.9 – 59.7)		30.7 (21.4-40.0)		21.9 (14.9 – 28.9)	
Public Health Indicators	N=534				N=421	
Household with access to sanitation facilities	74.3 (62.3 – 86.3)	Improved	65.8 (52.1-79.6)	Sustained	75.4 (62.6 – 88.2)	deteriorated
Household with access to safe water	42.3 (25.2 – 59.3)	Sustained	32.2 (16.7-47.7)	Improved	55.5 (36.2 – 74.9)	Improved
Proportion who reported to have consumed <4 food groups	1.8 (0.1 – 3.5)	Sustained	0.9 (0.0-3.5)	Sustained	0 (0.0 – 0.0)	Deteriorated
Household's Main Food Source- Purchase	99.6 (99.0 – 100)	Sustained	97.5 (95.1-99.9)	Sustained	99.7 (99.2 – 100)	Deteriorated
Mean CSI			10.3 (9.7-11.0)	Sustained		

Golis Pastoral		
Clusters : 30		
(N= 780: Boys= 418; Girls=362)		
Indicator	% (CI)	Changes
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	14.6 (11.4-18.6)	
Boys	18.9 (14.2-24.7)	Sustained
Girls	9.7 (6.8-13.5)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.7 (0.9- 2.9)	
Boys	2.9 (1.7- 4.9)	Sustained
Girls	0.3 (0.0- 2.1)	
Mean of Weight for Height Z Scores	-0.74 ± 1.11	Sustained
Oedema	0.0	
Proportion with MUAC<12.5 cm or oedema)	2.4 (1.2- 4.8)	
Boys	2.1 (0.8- 5.8)	Sustained
Girls	2.7 (1.3- 5.5)	
Proportion with MUAC<11.5 cm or oedema	0.9 (0.3- 2.6)	
Boys	0.9 (0.3- 3.1)	Sustained
Girls	0.8 (0.2- 3.6)	
Stunting (HAZ<-2)	5.3 (3.6- 7.8)	
Boys	6.2 (4.1- 9.3)	Sustained
Girls	4.3 (2.4- 7.8)	

Severe Stunting (HAZ<-3)	0.1 (0.0- 1.0)	
Boys	0.0 (0.0- 0.0)	Sustained
Girls	0.3 (0.0- 2.0)	
Underweight (WAZ<-2)	7.6 (5.4-10.6)	
Boys	11.1 (7.8-15.7)	Sustained
Girls	3.5 (2.1- 6.0)	
<i>Death Rates</i>		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.0 (0.0- 0.0)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.0 (0.0- 0.0)	Sustained
Morbidity	32.7 (24.0-41.4)	
Boys	32.0 (22.7-41.3)	Sustained
Girls	33.5 (23.9-43.1)	
Diarrhoea	3.7 (1.6-5.9)	
Boys	4.0 (0.8-7.2)	Sustained
Girls	3.5 (1.3-5.7)	
Pneumonia	14.8 (8.6-21.1)	
Boys	15.3 (9.0-21.6)	Deteriorated
Girls	14.3 (7.0-21.7)	
Fever	21.3 (14.6-28.0)	
Boys	21.9 (13.6-30.2)	Deteriorated
Girls	20.5 (13.6-27.5)	
Measles	1.6 (0.0-3.5)	
Boys	0.7 (0.0-1.5)	Sustained
Girls	2.7 (0.0-6.1)	
Vitamin A Supplementation	66.5 (51.4-81.7)	
Boys	63.5 (47.1-80.0)	Deteriorated
Girls	70.0 (55.6-84.4)	
Measles Vaccination	67.0 (53.5-80.6)	
Boys	64.7 (49.4-80.0)	Deteriorated
Girls	69.7 (57.3-82.2)	
Polio Immunization	79.2 (66.8-91.7)	
Boys	78.4 (64.9-91.8)	Deteriorated
Girls	80.3 (68.4-92.1)	
<i>Infant and Young Child Feeding (6-24 Months)</i>		
Proportion still breastfeeding	N/A	
Boys	N/A	
Girls		
Continued breastfeeding up to 12 months	N/A	
Continued breastfeeding up to 24 months	N/A	
Proportion meeting recommended feeding frequencies		
Boys	N/A	
Girls		
Proportion who reported to have consumed ≥ 4 food groups		
Boys	N/A	
Girls		
<i>Women Nutrition and Immunization Status</i>		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.3 (0.1-2.4)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	6.1 (3.6-8.6)	Improved
Proportion of Women who received Tetanus immunization		
No dose	18.1 (11.3-24.9)	
One dose	16.6 (9.4-23.8)	
Two doses	25.8 (18.9-32.7)	
Three doses	39.5 (29.0-49.9)	
<i>Public Health Indicators (HH)</i>		
Household with access to sanitation facilities	66.2 (52.5-79.8)	

Household with access to safe water	36.8 (19.1-54.4)	
Proportion who reported to have consumed <4 food groups	99.8 (99.4-100.2)	
Household's Main Food Source- Purchase	99.8 (99.4-100.2)	
Mean CSI	7.2 (6.6-7.8)	

Table 14: Summary of Key Nutrition Findings in Northeast Urban – Gu, 2015

	Bari		Nugal
	Clusters : 30		Clusters : 30
	(N=629: Boys=324; Girls=305)		(N=811: Boys=428; Girls=383)
Indicator	% (CI)		% (CI)
<i>Child Nutrition Status</i>			
Global Acute Malnutrition (WHZ<-2 or oedema)	18.4 (15.6-21.7)		15.7 (11.9 – 20.4)
Boys	22.2 (18.0 – 27.1)	Deteriorated	14.0 (10.2 – 19.0)
Girls	14.4 (10.9 – 18.8)		17.5 (13.2 – 22.8)
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.7 (2.4 – 5.4)		2.3 (1.2 – 4.4)
Boys	4.6 (2.8 – 7.5)	Deteriorated	2.3 (1.0 – 5.5)
Girls	2.6 (1.3 – 5.1)		2.3 (1.2 – 4.5)
Mean of Weight for Height Z Scores	-0.96±1.11	Deteriorated	-0.78±1.17
Oedema	0	Sustained	0.1
Proportion with MUAC<12.5 cm or oedema)	4.3 (3.0 – 6.1)		4.6 (2.4 – 6.9)
Boys	4.4 (2.7 – 7.1)	Improved	2.9 (1.6 – 5.4)
Girls	4.1 (2.4- 6.9)		6.5 (3.6 – 11.5)
Proportion with MUAC<11.5 cm or oedema	0.9 (0.4 – 2.0)		1.0 (0.3 – 2.5)
Boys	1.2 (0.5 – 3.0)	Improved	0.5 (0.1 – 1.9)
Girls	0.6 (0.2 – 2.3)		1.5 (0.5 – 4.6)
Stunting (HAZ<-2)	7.0 (5.3-9.2)		6.5 (4.2 – 9.9)
Boys	7.5 (5.1 – 10.8)	Sustained	5.1 (3.3 – 8.0)
Girls	6.5 (4.2 – 9.8)		7.9 (4.7 – 13.0)
Severe Stunting (HAZ<-3)	1.1 (0.3 – 2.8)		0.9 (0.4 – 1.7)
Boys	1.2 (0.5 – 3.0)	Sustained	0.5 (0.1 – 1.9)
Girls	1.0 (0.3 – 2.8)		1.3 (0.5 – 3.0)
Underweight (WAZ<-2)	15.6 (13.0 – 18.6)		11.0 (8.1 – 14.6)
Boys	19.1 (15.3 – 23.7)	Sustained	9.4 (6.3 – 13.9)
Girls	11.9 (8.8 – 16.0)		12.7 (8.9 – 17.8)
Morbidity	9.2 (5.4 – 13.1)		14.9 (9.8 – 20.0)
Boys	9.3 (4.8 – 13.8)	Improved	13.8 (9.3 – 18.3)
Girls	9.2 (4.7 – 13.6)		16.2 (9.4 – 22.9)
Diarrhoea	3.6 (1.8 – 5.4)		10.2 (6.0 – 14.4)
Boys	4.0 (1.7 – 6.4)	Improved	9.0 (5.2 – 12.9)
Girls	3.1 (1.1 – 5.1)		11.4 (6.2 – 16.7)
Pneumonia	4.8 (2.5 – 7.1)		0.8 (0.1 – 1.5)
Boys	4.6 (1.8 – 7.4)	Improved	1.3 (0.2 – 2.4)
Girls	5.0 (1.7 – 8.3)		0.2 (0 – 0.7)
Fever	0.6 (0 – 1.2)		3.9 (1.9 – 5.8)
Boys	0.3 (0 – 0.8)	Improved	3.4 (1.3 – 5.4)
Girls	0.9 (0 – 2.0)		4.4 (1.8 – 7.1)
Measles	0.1 (0 – 0.4)		0
Boys	0.2 (0 – 0.8)	Improved	0
Girls	0		0

Addun: Addun livelihood recorded **Serious** prevalence of GAM rate of 12.5 percent and SAM rate of 1.9 percent which shows deterioration from **Alert** (9.7 % GAM) nutrition situation seen during *Deyr* 2014/15, or *Gu* 2014 (9.7%).

Dhusamareb IDP: Dhusamareb IDPs show **Serious** levels of GAM (10.5%) and SAM (2.6%) which are sustained **serious** since *Deyr* 2014/15 (14.4% GAM). Current prevalence of GAM Is an improvement when compared to **Critical** GAM of 18.0 percent observed in *Gu* 2014.

Cowpea Belt: The current nutrition situation in Cowpea is observed to be **Critical** (GAM MUAC of 10.9% and SAM MUAC of 2.5%). This is a deterioration when compared to the **Alert** level of MUAC (7.2%) recorded in *Deyr* 2014/15 or **Serious** levels in *Gu* 2014 (9.7% GAM- MUAC).

Coastal Deeh: Sustained **Critical** prevalence of acute malnutrition is noted among Coastal Deeh (12.1% GAM MUAC and 4.8 % SAM MUAC) when compared with the *Deyr* 2014/15 (12.6% GAM-MUAC). However, current GAM prevalence suggests deterioration in nutrition situation when compared to *Gu* 2014 results (Serious GAM MUAC of 10.0%).

Table 15: Distribution of Chronic Malnutrition – (Stunting) and Underweight in Central regions

	STUNTING			UNDERWEIGHT		
	<i>Gu</i> 2015	<i>Deyr</i> 2014/15	<i>Gu</i> 2014	<i>Gu</i> 2015	<i>Deyr</i> 2014/15	<i>Gu</i> 2014
Dhusamareb IDP	6.8	31.1	12.2	8.9	26.2	17.9
Hawd Central	8.1	7.7	11.6	12.5	12.0	16.6
Addun Central	7.6	8.4	7.2	12.7	9.5	8.9

Sustained **low** level of stunting prevalence (<20%) were seen during *Gu* 2015 among different livelihoods of Central regions (Hawd, Addun and Dhusamareb IDPs). Among Dhusamareb IDPs significant improvement ($p<0.01$) in stunting prevalence (6.8% in *Gu* 2015) was seen when compared to *Deyr* 2014/15 where **high** prevalence of stunting (31.1%) was recorded.

Significant improvement in prevalence of underweight was also noted among Dhusomareb IDPs ($p<0.01$) in *Gu* 2015 (low levels of 8.9%) when compared with **high** levels recorded during *Deyr* 2014/15 assessment (26.2%)

Medium prevalence of underweight(10.0 – 19.9) is sustained among Hawd livelihood since last three seasons, however, Addun livelihood recorded a deterioration in prevalence of underweight to **medium** levels (12.7%) in *Gu* 2015 compared to **low** levels (< 10%) recorded during *Deyr* 2014/15 or *Gu* 2014.

MORTALITY

All Central livelihoods (except Coastal Deeh) report **Acceptable** levels of crude and under five death rates <0.5- and <1/10 000/day during the last 90 days from the period of assessment. However **Serious** levels of CDR rate (0.97/10 000/day) and Critical level of under-five death rate (2.24/10 000/day) were recorded among Coastal Deeh livelihood which is a deterioration since *Deyr* 2014/15 as 0.57 CDR and 1.3 U5DR were observed, both indicating **serious** levels.

MORBIDITY

High morbidity levels are recorded among Dhusamareb IDPs (45.6%) and Addun livelihood (34.1 %), while morbidity levels among other livelihoods Cowpea, Coastal Deeh and Hawd is <20 percent.

IMMUNIZATION

Low coverage (< 80 percent) with Vitamin A supplementation and measles vaccination was noted among all the livelihoods assessed in central regions of Somalia.

MATERNAL MALNUTRITION

Very Critical levels of maternal malnutrition levels were recorded among Dhusamareb IDPs and Coastal Deeh (>31.5%), while Cowpea belt and Hawd pastoral livelihoods show **Critical** level of maternal malnutrition (23.4 – 31.4%). Addun is the only livelihood with **low** prevalence of maternal malnutrition level (8.0%).

DIETARY DIVERSIFICATION

No significant change in household dietary diversity since the last two seasons is noted as more than 90 percent of households surveyed reported daily consumption of more than four food groups.

CURRENT NUTRITION SITUATION:

Critical nutrition situation among Coastal Deeh and **Serious** among Dhusamareb shows sustained since Deyr 2014/15. During last 6 months (Deyr 2014 to Gu 2015) Nutrition situation among Hawd livelihood has improved from **Critical** to **Serious** while Addun has deteriorated from **Alert** to **Serious** and cowpea belt from **Alert** to **Critical**.

CURRENT HOT SPOTS

Cowpea belt and Coastal Deeh livelihoods are the current hotspots in Central Somalia with the Critical rates of acute malnutrition rates (10.7-16.7 % of children have MUAC < 12.5).

OUTLOOK FOR AUGUST – OCTOBER

Nutrition situation among most Central livelihoods is expected to be sustained in same phase (as current) as neither improvement nor deterioration is expected within the next three months. Livelihood of Cowpea Belt is an exception as nutrition situation is likely to improve from **Critical** to **Serious** based on the historical trends and improved food security situations.

Map 14: Current Nutrition Situation, - Jul 2015 in Central Regions

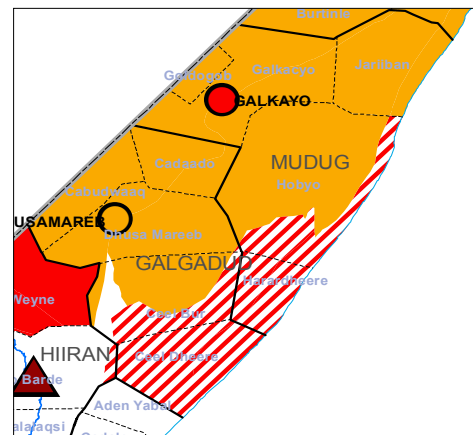


Figure 26: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Central regions

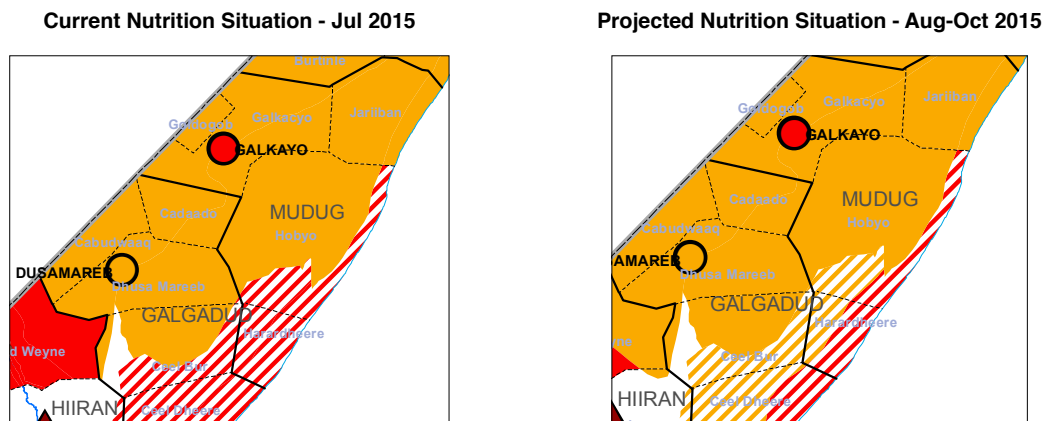


Table 16: Summary of Key Nutrition Findings in Central livelihoods and IDPs - Gu 2015

Indicator/Livelihood	Hawd		Addun		Dhusamareeb IDP	
	Clusters: 28 (n= 851 :Boys 458;Girls+ 393)		Clusters : 28 (n=673 : Boys=348; Girls=325)		Clusters: Exhaustive (n= 418: Boys=210; Girls=208)	
	% (CI)	Changes	% (CI)	Changes	% (CI)	Changes
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	14.3 (12.1-16.9)	Improved	12.5 (9.2-16.7)	Deteriorated	10.5	Sustained
Boys	17.5 (14.3 – 21.1)		13.8 (9.8-19.0)		13.3	
Girls	10.7 (8.0 – 14.1)		11.1(7.4-16.3)		7.7	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.8 (1.9 – 4.2)	sustained	1.9(1.1- 3.4)	Sustained	2.6	Sustained
Boys	3.1 (1.8 –5.1)		2.3 (1.2- 4.4)		2.9	
Girls	2.5 (1.4 –4.6)		1.5(0.6- 4.1)		2.4	
Mean of Weight for Height Z Scores	-0.85 ± 1.08		-0.75 ± 1.04	Sustained	-0.58 ± 1.01	Sustained
Oedema	0.0		0.0		0.7	Sustained
Proportion with MUAC<12.5 cm or oedema)	6.5 (4.3 – 9.5)	Improved	6.9(3.9- 11.8)	Sustained	8.3	Deteriorated
Boys	6.5 (3.9 – 10.3)		6.5(3.4- 11.8)		7.3	
Girls	6.5 (4.2 – 10.0)		7.3 (4.0- 12.8)		9.3	
Proportion with MUAC<11.5 cm or oedema	1.2 (0.6 –2. 3)	Improved	0.3 (0.1- 1.2)	Sustained	3,2	Deteriorated
Boys	1.3 (0.5 –3.2)		0.3 (0.0- 2.2)		3.2	
Girls	1.0 (0.4 –2.7)		0.3 (0.0- 2.4)		3.2	
Stunting (HAZ<-2)	8.1(5.7 – 11.3)	Sustained	7.6 (4.8-11.9)	Sustained	6.8	Sustained
Boys	8.6 (6.2 – 11.8)		9.7 (6.0-15.4)		8.8	
Girls	7.4 (4.3 – 12.5)		5.3 (2.7-10.1)		4.7	
Severe Stunting (HAZ<-3)	0.9(0.4 –2.1)	Sustained	0.9 (0.4- 2.0)	Sustained	1.2	Sustained
Boys	1.3 (0.4 – 3.7)		1.1 (0.4-3.0)		1.4	
Girls	0.5 (0.1 –2.1)		0.6 (0.2- 2.5)		0.9	
Underweight (WAZ<-2)	12.5 (9.2 -16.8)	Deteriorated	12.7 (9.1-17.6)	Deteriorated	8.9	Improved
Boys	14.6 (10.5 – 20.0)		14.2 (9.2-20.2)		13.4	
Girls	10.1 (6.4 –15.7)		11.2 (7.6-16.2)		4.2	
Death Rate						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.35 (0.16--0.78)	Sustained	0.13 (0.05-0.34)	Sustained	0.64	Deteriorated
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.25 (0.06 – 1.01)	Sustained	0.45 (0.14-1.43)	Sustained	0.5	Deteriorated
Contextual factors						
Morbidity	10.8 (5.6 – 16.01)	Improved	34.1(25.3-42.9)	Sustained	45.6	Deteriorated
Boys	11.7 (5.9 – 17.5)		34.6 (25.7-43.5)		49.1	
Girls	9.8 (4.8 -14.8)		33.6 (23.1-44.1)		41.7	
Diarrhoea	3.4 (1.5 -5.3)	Improved	6.6 (3.8-9.3)	Sustained	9.2	Sustained
Boys	4.0 (1.7 – 6.7)		5.3 (2.6-8.1)		10.1	
Girls	2.7 (0.9 -4.6)		7.9 (3.4-12.4)		8.3	

Pneumonia	2.0 (0.3–3.8)		11.1 (7.0-15.1)		20.0	
Boys	2.1 (0.2 – 4.0)	Improved	11.5 (7.0-16.0)	Sustained	20.6	Deteriorated
Girls	2.0 (0.2 – 3.7)		10.6 (5.6-15.6)		19.4	
Fever	8.9 (4.1 –13.6)		30.2(21.- 39.1)		38.2	
Boys	9.8 (3.9 –15.7)	Improved	30.9 (21.8-40.0)	Sustained	42.2	Deteriorated
Girls	7.8 (3.4 –12.1)		29.4 (19.3-39.5)		34.3	
Measles	0.5 (0.0 –1.0)		5.7(2.3-9.1)		2.5	
Boys	0.4 (0.0 –1.0)	Improved	6.5 (2.3-10.6)	Deteriorated	1.8	Sustained
Girls	0.7 (0.0 – 0.6)		4.8 (1.5-8.2)		3.2	
Vitamin A Supplementation	75.7 (64.7 –86.7)		73.2 (59.2-87.2)		21.9	
Boys	76.9 (65.4 –88.3)	Improved	73.9 (59.5-88.2)	Sustained	20.2	Sustained
Girls	74.3 (63.0 –85.5)		72.4 (57.9-86.9)		23.6	
Measles Vaccination	58.6 (42.1-75.0)		71.9 (58.9-84.9)		29.5	
Boys	58.5 (41.5-75.5)	Sustained	71.9 (58.7-85.1)	Sustained	29.4	Sustained
Girls	58.6 (42.3-75.0)		71.8 (58.2-85.4)		29.6	
Polio Immunization	92.2(88.8 –95.5)		89.4(83.7-95.1)		83.8	
Boys	92.0(88.2 – 95.9)	Sustained	90.2 (84.8-95.5)	Sustained	84.8	Sustained
Girls	92.4 (88.7 – 96.1)		88.5(81.8-95.2)		82.7	
Pregnant and Lactating women						
# of PLW	n = 132 n=124		n=122			
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	5.3 (0 – 11.0)	Improved	1.6 (0.0-3.8)	Sustained	18.9	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	23.4 (12.4 –34.4)	Improved	8.0(2.8-12.2)	Improved	37.7	Sustained
Proportion of Women who received Tetanus immunization	N = 530					
No dose	26.4 (17.8 –34.9)	Sustained	12.7 (7.4-17.9)	Sustained	30.6	Sustained
One dose	7.7 (4.0 – 11.3)		13.5 (6.9-20.0)		12.0	
Two doses	18.4 (10.2 –26.7)		43.1 (33.2- 53.1)		22.0	
Three doses	47.3 (37.9– 59.7)		30.7 (21.4-40.0)		35.4	
Public Health Indicators						
n=534						
Household with access to sanitation facilities	74.3(62.3 – 86.3)	Sustained	65.8 (52.1-79.6)	Sustained	93.7	Improved
Household with access to safe water	42.3(25.2 – 59.3)	Sustained	32.2 (16.7-47.7)	Sustained	93.7	Sustained
Food Security Indicator						
Proportion who reported to have consumed <4 food groups	1.8 (0.1 – 3.5))	Sustained	0.9(0.0-3.5)	Sustained	2.8	Sustained
Household's Main Food Source- Purchase	99.6 (95.9 –100.0)	Sustained	97.5 (95.1-99.9)	Sustained		Sustained
Mean CSI			10.3(9.7-11.0)			

Table 17: Summary of Key Nutrition Findings in livelihoods in Central Region (MUAC assesment), Gu 2015

Indicator	Coastal Deeh of central-(MUAC)		Cowpea- (MUAC)	
	Clusters : 26 (N=671: Boys=332; Girls=339)		Clusters : 26 (N=723: Boys=357; Girls=366)	
	n% (CI)	Change	% (CI)	change
Child Nutrition Status				
Mean of Weight for Height Z Scores	140.3± 13.9		141.3± 12.7	
Oedema	0.9		0.0	
Proportion with MUAC<12.5 cm or oedema)	12.1 (10.0-15.7)	Sustained	10.9(8.3 – 14.9)	Deteriorated
Boys	11.7 (9.8-15.5)		10.1(7.0 – 14.3)	
Girls	12.4(9.6-15.9)		11.7 (8.5 – 16.0)	
Proportion with MUAC<11.5 cm or oedema	4.8 (3.5- 6.5)	Sustained	2.5(1.5 – 4.0)	Sustained
Boys	3.6 (2.0- 6.3)		2.5 (1.3 – 4.8)	
Girls	5.9 (4.1- 8.4)		2.5 (1.4 – 4.4)	
Death Rate				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.97 (0.67-1.40)	Deteriorated	0.07(0.01 – 0.58)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	2.24 (1.44-3.47)	Deteriorated	0.29(0.04-2.26)	Sustained
Contextual Factors				
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	24.2 (20.1-28.4	Deteriorated	15.1 (8.7 – 21.5	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) (n=322)	44.0 (40.4-47.6)	Deteriorated	29.6 (23.4 –35.8)	sustained
Morbidity	9.8 (5.7-13.9)	Sustained	14.9 (11.2 – 18.7)	Sustained
Boys	9.3 (5.9-12.7)		14.8 (9.5 – 20.2)	
Girls	10.3 (4.8-15.8)		15.0 (11.2 –18.9)	
Diarrhoea	4.9(2.9-6.9)	Sustained	3.0 (1.5– 4.5)	Sustained
Boys	4.8 (2.9-6.7)		3.4(0.5 –6.2)	
Girls	5.0 (1.5-2.0)		2.7(1.2 –4.2)	
Pneumonia	5.5 (1.9-9.1)	sustained	4.7(3.1 – 5.8)	Sustained
Boys	4.2(1.8-6.6)		3.9 (1.8 –6.1)	
Girls	6.8 (1.5-12.1)		4.9 (3.1 – 6.7)	
Fever	3.4 (1.4-5.4)	Sustained	8.9 (5.1 – 12.6)	Sustained
Boys	3.9 (1.5-6.2)		9.8 (4.4 –15.2)	
Girls	3.0 (0.7-5.7)		7.9(4.2 –11.6)	
Measles	0.8 (0.0-0.5)	Increased	0.4 (0.0 – 0.9)	Sustained
Boys	0.0 (0.0-0.0)		0.6 (0.0 –1.4)	
Girls	0.3 (0.0-0.9)		0.3 (0.0 – 0.8)	
Vitamin A Supplementation	7.1 (0.0-15.2)	Deteriorated	27.6 (15.7 – 39.4)	Deteriorated
Boys	8.1(0.0-17.4)		29.1 (16.5 – 41.8)	
Girls	6.2 (0.0-13.0)		26.0 (14.3 – 37.8)	
Measles Vaccination	1.6 (0.0-3.7)	Improved	3.7 (0.6 –6.9)	Deteriorated
Boys	2.1 (0.0-4.6)		3.9 (0.0 – 7.0)	
Girls	1.2 (0.0-2.4)		3.6 (0.0 –7.2)	
Polio Immunization	55.3 (38.9-71.6)	Improved	7.8 (0.0-16.4)	Deteriorated
Boys	57.9 (40.0-75.8)		9.0 (0.0-19.2)	
Girls	52.8 (37.2-68.3)		6.5 (0.0-13.7)	

4.4 SOUTH REGIONS

Nutrition status of 15 881 children (6-59 month) from 12 rural livelihoods, two urban and five IDPs were assessed during the *Gu* 2015 surveys. Owing to constraints in access, the nutrition situation in the Agropastoral and Riverine livelihoods of South Gedo and Juba and the Cowpea Belt were assessed through MUAC surveys.

4.4.1 GEDO REGION

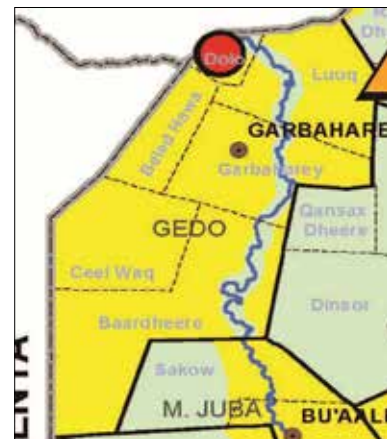
BACKGROUND

In Post *Gu* 2015, FSNAU conducted seven nutrition surveys in Gedo region (3 comprehensive SMART surveys- 1 in Dolow IDPs and 2 in North Gedo rural livelihoods) and 3 rapid MUAC surveys. During the survey the nutrition status of 5 543 children aged 6-59 months from 3 149 household was assessed. Based on new livelihood, North Gedo agro-pastoral was part of Southern Gedo Agro-pastoral.

CURRENT FOOD SECURITY SITUATION (POST *Gu* 2015)

Post-*Gu* 2014/15, food security situation among Riverine Pump Irrigation, Southern Inland Pastoral (SIP) and Southern Agro pastoral livelihoods of Gedo region were classified as **Stressed** (IPC Phase 2), while Sorghum High Potential Agro-Pastoral livelihood was identified to be in **Minimal** (IPC Phase 1) acute food insecurity. This indicates an improved food security situation in Sorghum High Potential Agro-Pastoral and sustained situation in other livelihoods since the post-*Deyr* 2014/15 (February-June 2015). The total number of people **Stressed** (IPC Phase 2) in July 2015 was estimated at 61 000, of which 66 percent (40 400 people) were in pastoral livelihoods of the region, while 16 and 17 percent accounted by agro-pastoral and riverine livelihoods respectively. This reflects a modest 15 percent decrease since the *Deyr* 2014/15 estimates (72 000 people). In the most likely scenario, the area classification is expected to remain the same in all livelihood zones during August-December 2015.

Map 15: Food Security Situation in Gedo Regions - Jul 2015



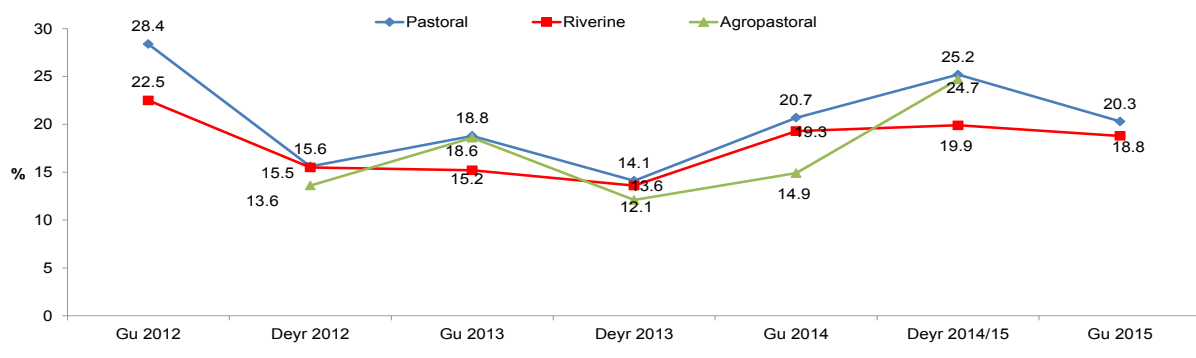
CURRENT NUTRITION SITUATION POST *Gu* 2015

The results of post *Gu* 2015 assessment are shown in Table 1-3 and key highlights are summarized below:

ACUTE MALNUTRITION

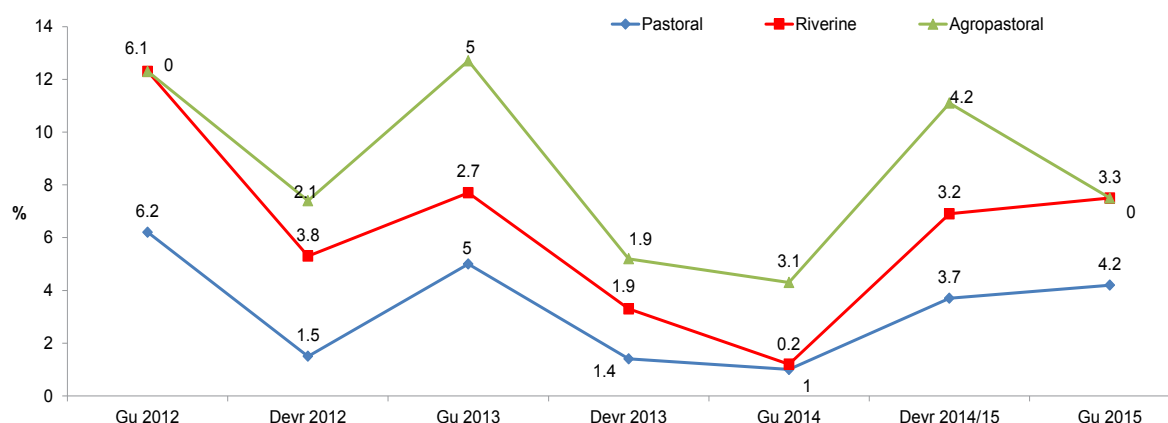
Gu 2015 assessment results show sustained prevalence of **Critical** levels of GAM among North Gedo pastoral (20.3%) and riverine livelihoods (18.8%) since *Gu* 2014. The SAM rates slightly increased from **Serious** (3.7%) in *Deyr* 2014/15 to **Critical** (4.2%) in *Gu* 2015 among North Gedo pastoral, though differences are statistically not significant. The SAM prevalence among North Gedo riverine remained unchanged (3.2 % *Deyr* 2014/15 to 3.3 % in *Gu* 2015) [Annex 10]. The major factors that worsened the nutrition status were high morbidity, reduced milk access and family splitting during low rainfall season low (*Gu* 2014 and *Deyr* 2013/14), low immunization coverage and limited access to health, safe water and sanitation facilities.

Figure 27: Trends in Global Acute Malnutrition (GAM) in North Gedo region



The declining trend observed in GAM prevalence among all the livelihoods of North Gedo region till *Deyr* 2013/14 appears to be reversed by *Gu* 2014, *Deyr* 2014/15 and *Gu* 2015 (Figure 28). *Gu* 2015 assessment (Annex 10) shows sustained **Critical** levels of prevalence of SAM among pastorals (4.2%) and **Serious** Riverine population (3.3%).

Figure 28: SAM trends in different livelihoods of North Gedo region



Dolow IDPs recorded sustained **Critical** prevalence of GAM (26.4%) [Figure 29] as well as SAM (5.0 %). The GAM rate observed in *Gu* 2015 is 7.6 percent higher when compared to *Gu* 2014 and 5 percent higher when compared to *Deyr* 2014/15, suggesting an increasing trend in acute malnutrition (Figure 30). High morbidity, low coverage of health and nutrition services, poor Health seeking Behaviour, poor child feeding practices can be attributed to the deterioration of malnutrition situation seen among the Dolow IDPs.

Figure 29: GAM trends among Dolow IDPs

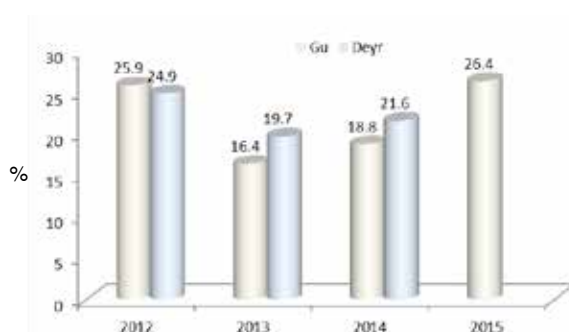
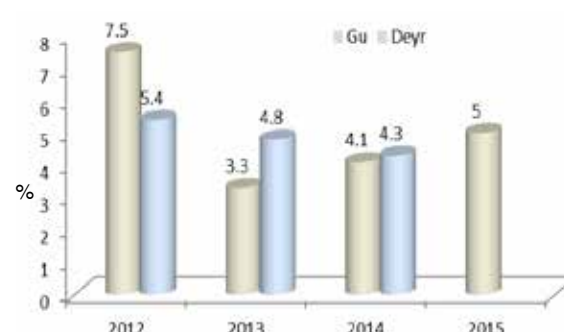


Figure 30: SAM trends among Dolow IDPs



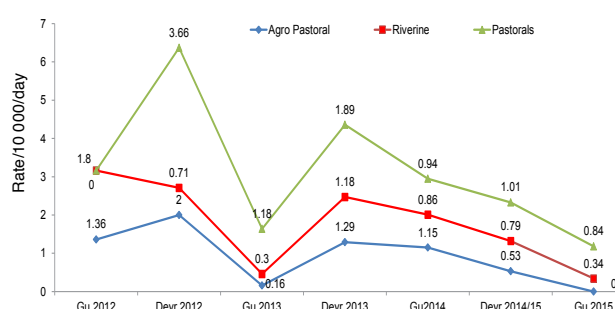
MORBIDITY

In *Gu* 2015, high levels of morbidity were recorded among children < 5 yrs in North Gedo pastoral (18.5%), and Riverine livelihood (19.4%) and appears to be the key aggravating factors for high prevalence of acute malnutrition observed in these livelihoods. An improvement was noted in Dolow IDPs from 55.2 percent seen in *Deyr* 2013/14 to 36.9 percent in *Deyr* 2014/15 and 43.3 percent in *Gu* 2014 to 29 percent in *Gu* 2015 (Annex 16).

MORTALITY

In *Gu* 2015, the mortality levels among North Gedo riverine and pastoral population were within the **Acceptable** range (<0.5 CDR and <1/10 000/day U5DR). The findings improvement from **Serious** U5DR (1.01) in *Deyr* 2014/15 to **Alert** levels of 0.84 recorded in *Gu* 2014 among North Gedo pastoral.

Figure 31: U5DR Trends in North Gedo Livelihoods

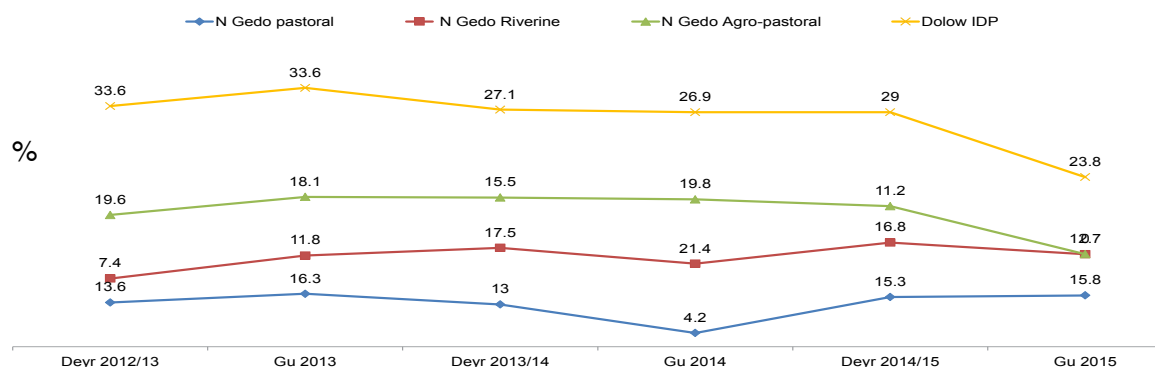


In Dolow IDPs there is increase in both Crude death rates (0.90) and under five death rates (1.20 suggesting **Serious** situation and a deterioration from **Alert** levels seen during *Deyr* 2014/15 when CDR of 0.46/10 000/day and U5DR of 0.89/10 000/day was recorded.

CHRONIC MALNUTRITION-STUNTING

Gu 2015 results show sustained **low** levels of stunting prevalence among Gedo pastoral (15.8%) and Riverine (12.7%) since *Deyr* 2013/14 (Figure 32). Dolow IDPS show **medium** levels of stunting (23.8) in *Gu* 2015 which is sustained since *Deyr* 13/14 (27.1%) but is an improvement from **high** levels of stunting seen in *Gu* 2013 (37.1%) or *Deyr* 2012/13 (33.6 %).

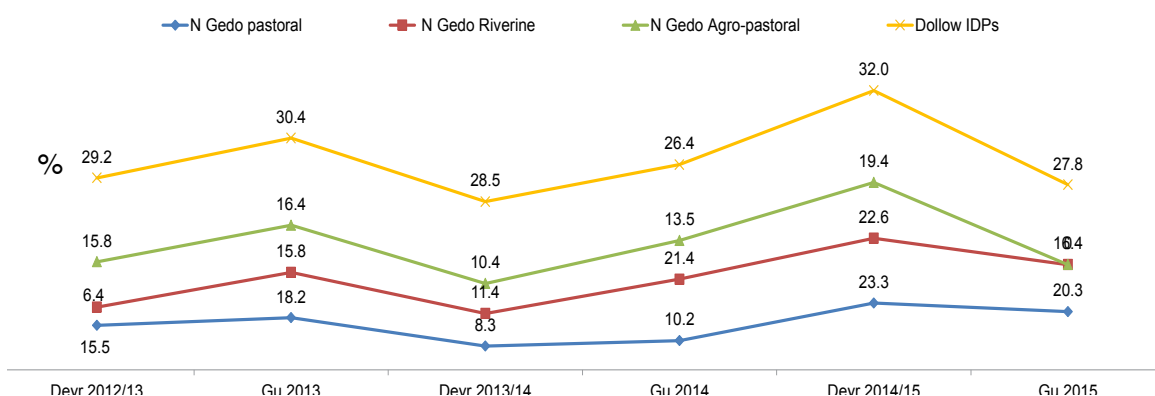
Figure 32: Trends in stunting among different livelihoods of North Gedo region



UNDERWEIGHT

High prevalence underweight was observed among North Gedo pastoral (20.3 %) which reflects deterioration from **Medium** prevalence observed in *Gu* 2014 and *Deyr* 2013/14. North Gedo riverine shows **Medium** prevalence which is an improvement from sustained **High** prevalence of stunting recorded in *Deyr* 2014/15 and *Gu* 2014 (Annex 14). **High** Prevalence was seen among Dolow IDPs (27.8 %) which is an improvement compared to the sustained **very High** prevalence recorded since *Gu* 2014 and *Deyr* 2013/14 (Figure 33).

Figure 33: Trends in Underweight prevalence North Gedo



IMMUNIZATION

Low levels of measles vaccination coverage (< 50%) are recorded in both livelihoods of North Gedo Pastoral and Riverine Populations which is far below the SPHERE recommended coverage of 95 percent. Vitamin A supplementation coverage is around 70-80 percent while coverage of polio immunization > 80 percent. Dolow IDPs recorded low levels of vitamin A supplementation (75.2%), and measles vaccination (64.2%) though coverage of Polio immunization was high (95.6%).

MATERNAL MALNUTRITION

Serious levels of maternal malnutrition (>18%) were recorded among the pregnant and lactating women in Gedo Pastoral and Riverine livelihoods, indicating an improvement from **Critical** levels seen Deyr 2014/15. Dolow IDPs recorded **Alert** levels (15.0 %)

SOUTH GEDO

The Representative MUAC assessment Gu 2015 conducted in South Gedo shows sustained **Critical** nutrition situation among the pastoral (13.5%), Riverine (10.9%) and Agro-pastoral (11.4 % (Table 18). A high morbidity > 17 percent was recorded among the Pastoral and riverine assessed livelihoods, but low morbidity (7. 8%) reported in Agropastoral, this may have contributed to the underlying factors for sustained critical levels of acute malnutrition seen among S Gedo livelihoods. The morbidity rates are mainly linked to limited availability of health services and access to health facilities in the region and poor access to WASH. In addition there is recurring disease outbreak in the region, which makes Gedo region livelihood communities more vulnerable to malnutrition (Annex 16).

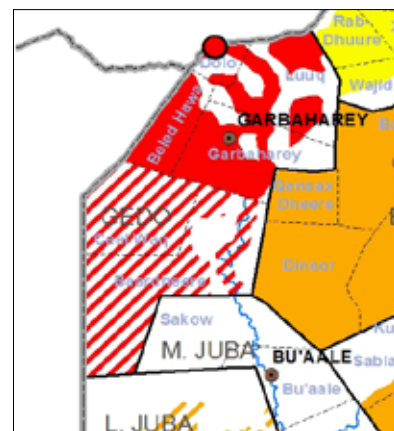
Current Nutrition Situation

Map 16 shows the current nutrition situation (Gu 2015). Sustained levels of **Critical** GAM prevalence was noted among North Gedo pastoral and Riverine livelihoods as well as among all livelihoods in the South Gedo region (Pastoral, Agro pastoral & Riverine).

CURRENT HOT SPOT FOR ACUTE MALNUTRITION IN GEDO REGION

All livelihoods of Gedo region (South with GAM-MUAC > 10.6 percent & North with GAM > 15%) and Dolow IDPs are current hot spots for acute malnutrition in Gedo Region.

Map 16: Current Nutrition Situation Gu 2015 in Gedo region

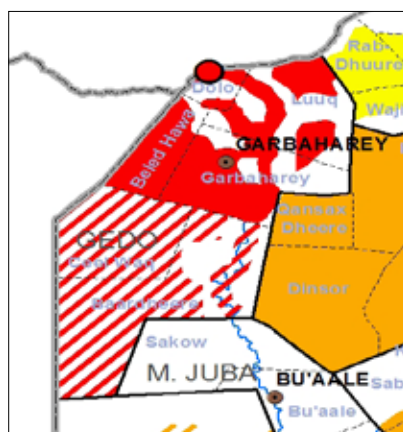


OUTLOOK FOR AUGUST - OCTOBER 2015

The **critical** levels of acute malnutrition seen in Gedo region is largely expected to be sustained as **critical** in the coming three months due to the prevailing high morbidity rates, low access to humanitarian interventions, decreased milk availability in Xagaa season due to outmigration, tense security and likely cereal prices increase on first three month limited milk access. The maps below (Figure 34) show current and projected nutrition situation across livelihoods in Gedo Region.

Figure 34: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Gedo regions

Current Nutrition Situation Gedo regions, (July 2015)



Projected Nutrition Situation, Gedo regions (Aug – October 2015)

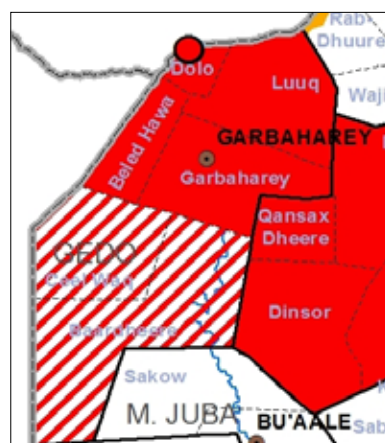


Table 18: Summary of Key Nutrition Findings North Gedo Regions, Gu 2015

Gu 2015 summary results	North Gedo Pastoral		North Gedo Riverine	
	n=888 Boys=438 Girls=450 Clusters: :29		(n= 849 Boys= 434; Girls= 415) Clusters: 28	
Indicator	Percent (CI)	Change from Deyr 2014/15	Percent (CI)	Change from Deyr 2014/15
<i>Child Nutrition Status</i>				
Global Acute Malnutrition (WHZ<-2 or oedema)	20.3 (16.4-24.8)		18.8 (15.8-22.3)	
Boys	23.5 (18.2-29.9)	Sustained	21.4 (17.7-25.7)	Sustained
Girls	17.1 (13.2-21.9)		16.1 (12.6-20.4)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	4.2 (2.7- 6.4)	Deteriorated	3.3 (2.2- 5.0)	Sustained
Boys	6.6 (3.8-11.4)		3.7 (2.4- 5.6)	
Girls	1.8 (1.0- 3.3)		2.9 (1.4- 5.8)	
Mean of Weight for Height Z Scores	-1.12±1.07	Deteriorated	-1.04±1.11	
Oedema	0.2	Deteriorated	0.1	Sustained
Proportion with MUAC<12.5 cm	7.5 (5.4-10.4)		4.3 (3.0- 6.1)	
Boys	6.9 (4.7-10.1)	Sustained	3.4 (1.8- 6.5)	Improved
Girls	8.1 (5.1-12.5)		5.2 (3.4- 8.0)	
Proportion with MUAC<11.5 cm	0.6 (0.2- 1.2)		0.3 (0.1- 1.1)	
Boys	0.4 (0.1- 1.8)	Sustained	0.2 (0.0- 1.8)	Improved
Girls	0.7 (0.2- 2.0)		0.5 (0.1- 2.0)	
Stunting (HAZ<-2)	15.8 (12.6-19.6)		12.7 (9.4-16.9)	
Boys	20.7 (16.4-25.8)	Sustained	16.7 (12.2-22.3)	Improved
Girls	11.1 (8.0-15.1)		8.6 (5.8-12.7)	
Severe Stunting (HAZ<-3)	3.0 (1.7- 5.4)		2.5 (1.1- 5.4)	
Boys	4.1 (2.1- 7.7)	Sustained	3.3 (1.3- 8.2)	Improved
Girls	2.0 (1.0- 4.0)		1.7 (0.8- 3.4)	
Underweight (WAZ<-2)	20.3 (16.8-24.2)		16.4 (12.9-20.5)	
Boys	25.2 (21.0-29.9)	Improved	19.8 (15.0-25.7)	Improved
Girls	15.5 (11.1-21.2)		12.9 (9.3-17.5)	
<i>Death Rates</i>				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.31 (0.14-0.69)	Improved	0.21 (0.09-0.47)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.85 (0.34-2.11)	Improved	0.34 (0.11-1.04)	Improved
Morbidity	18.5 (7.5-29.5)		19.4 (11.7-27.2)	
Boys	16.0 (6.2-25.8)	Improved	18.9 (10.6-27.2)	Improved
Girls	21.0 (8.2-33.8)		20.0 (12.0-28.0)	
Diarrhoea	8.7 (2.0-15.4)		10.5 (6.2-14.7)	
Boys	8.4 (1.8-15.0)	Improved	10.5 (6.1-14.8)	Deteriorated
Girls	9.0 (1.5-16.5)		10.5 (5.8-15.1)	
Pneumonia	4.8 (0.7-8.9)		6.0 (3.3-10.6)	
Boys	3.0 (0.5-5.5)	Improved	5.0 (2.4-7.6)	Sustained
Girls	6.6 (0.7-12.6)		7.1 (3.6-10.6)	
Fever	10.1 (3.9-16.3)		9.2 (4.1-14.3)	
Boys	8.7 (3.1-14.2)	Improved	8.9 (3.3-14.4)	Improved
Girls	11.4 (3.9-5.0)		9.5 (4.3-14.7)	
Measles	0.0 (0.0-0.0)		0.1 (0.0-0.3)	
Boys	0.0 (0.0-0.0)	sustained	0.0 (0.0-0.0)	sustained
Girls	0.0 (0.0-0.0)		0.2 (0.0-0.7)	
Vitamin A Supplementation	80.2 (66.3-94.3)		70.7 (55.6-85.8)	
Boys	78.6 (63.9-93.3)	Improved	70.4 (54.5-86.2)	Improved
Girls	81.9 (68.2-95.7)		71.0 (56.2-85.9)	
Measles Vaccination	28.6 (16.4-40.8)		46.2 (31.6-60.7)	
Boys	30.6 (17.7-43.5)	Deteriorated	45.6 (30.6-60.6)	Sustained
Girls	26.6 (14.0-39.2)		46.2 (31.6-60.7)	
Polio Immunization	80.2 (66.3-94.3)		90.6 (83.3-97.8)	
Boys	78.6 (63.9-93.3)	Deteriorated	89.5 (81.7-97.3)	Sustained
Girls	81.9 (68.2-95.7)		91.7 (84.2-99.2)	
<i>Women Nutrition and Immunization Status</i>				
	536		486 ;pregl:346	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	4.1 (1.9-6.3)	Sustained	2.9 (0.8-4.9)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	18.4 (12.8-24.1)	Improved	18.5 (12.3-24.7)	Improved

Table 19: Summary of Key Nutrition Findings in South Gedo Regions, Gu 2015

	South Gedo Pastoral		South Gedo Riverine		South Gedo Agro pastoral	
	Clusters: 26 (n= 861: Boys=409; Girls= 452)		Clusters : 27 (n=947: Boys=471;Girls=476)		Clusters: 28 (n=1146 :Boys= 575; Girls=571)	
Indicator	Percent (CI)	Change from Deyr 2014/15	Percent (CI)	Change from Deyr 2014/15	Percent (CI)	Change from Deyr 2014/15
<i>Child Nutrition Status</i>						
Proportion with MUAC<12.5 cm or oedema	13.5 (9.7-18.4)	Deteriorated	10.9 (9.0-13.1)	Sustained	11.4 (8.2-15.7)	Improved
Boys	10.3 (6.3-16.2)		10.0 (7.2-13.7)		11.7 (7.8-17.0)	
Girls	16.4 (12.1-21.7)		11.8 (9.2-14.9)		11.2 (7.9-15.6)	
Proportion with MUAC < 115 mm or edema	2.6 (1.4- 4.8)	Deteriorated	1.4 (0.7-2.7)	Sustained	1.1 (0.6-2.2)	Sustained
Boys	2.2 (1.0- 4.7)		1.5 (0.6-3.4)		0.9 (0.4-2.0)	
Girls	2.9 (1.4- 5.7)		1.3 (0.6-2.7)		1.4 (0.6-3.1)	
Oedema	1.0		0.0		0.2	
Morbidity	20.1 (14.0-26.2)	Improved	17.5 (13.5-21.5)	Improved	7.8 (6.1-9.6)	Improved
Boys	20.8 (12.6-28.9)		16.8 (12.5-21.5)		9.0 (5.3-12.7)	
Girls	19.5(12.9-25.9)		18.3 (13.8-22.7)		6.6 (3.8-9.4)	
Diarrhoea	6.0 (4.1-7.9)	Sustained	5.2 (3.7-6.6)	Improved	4.1 (3.1-5.1)	Improved
Boys	5.6 (2.9-8.3)		4.0 (2.8-5.3)		4.3 (3.0-5.8)	
Girls	6.4 (4.1-8.7)		6.3 (3.7-8.9)		3.8(2.4-5.2)	
Pneumonia	5.5 (2.4-8.5)	Improved	8.7 (5.8-11.4)	Improved	3.0 (0.6-1.8)	Improved
Boys	5.4 (1.7-9.0)		7.6 (4.8-10.4)		3.6 (1.9-5.3)	
Girls	5.5 (2.4-8.6)		9.6 (6.1-13.3)		2.4(1.4-3.7)	
Fever	16.1 (10.2-22.1)	Improved	11.9 (8.1-15.7)	Deteriorated	1.4 (0.8-2.1)	Improved
Boys	17.6 (9.8-25.3)		11.5 (7.0-15.9)		1.7 (0.8-2.7)	
Girls	14.8 (8.3-21.3)		12.4(8.3-15.4)		1.2 (0.2-2.4)	
Measles		sustained		Sustained	0.3 (0.0-0.5)	Sustained
Boys	0		0.0		0.3(0.0-0.8)	
Girls					0.2 (0.0-0.5)	

Table 20: Summary of Key Nutrition Findings in Dolow IDPs, Gu 2015

Gu 2015 summary results	Dolow IDPs	
	Exhaustive Survey (N= 852 Boys=447: Girls=405)	
Indicator	Percent (CI)	Change from Deyr 2014/15
<i>Child Nutrition Status</i>		
Global Acute Malnutrition (WHZ<-2 or oedema)	26.4	Deteriorated
Boys	28.9	
Girls	23.7	
Severe Acute Malnutrition (WHZ<-3 or oedema)	5.0	Deteriorated
Boys	5.4	
Girls	4.7	
Mean of Weight for Height Z Scores		
Oedema	0.2	
Proportion with MUAC<12.5 cm	8.9	Sustained
Boys	9.0	
Girls	8.8	
Proportion with MUAC<11.5 cm	2.4	Deteriorated
Boys	2.4	
Girls	2.4	
Stunting (HAZ<-2)	23.8	Improved
Boys	27.6	
Girls	19.5	
Severe Stunting (HAZ<-3)	9.6	Sustained
Boys	12.6	
Girls	6.3	
Underweight (WAZ<-2)	27.8	Improved
Boys	31.9	
Girls	23.4	
Death Rates		

Crude deaths, per 10,000 per day (retrospective for 90 days)	0.90 (0.54-1.48)	Deteriorated
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.20 (0.56-2.57)	Deteriorated
Morbidity	29.0	
Boys	27.8	Improved
Girls	30.4	
Diarrhoea	6.6	
Boys	5.9	Improved
Girls	7.3	
Pneumonia	6.7	
Boys	6.6	Improved
Girls	6.8	
Fever	20.5	
Boys	20.6	Improved
Girls	20.4	
Measles	1.9	
Boys	1.5	Improved
Girls	2.4	
Vitamin A Supplementation	75.2	
Boys	75.5	Improved
Girls	74.9	
Measles Vaccination	64.2	
Boys	64.2	Improved
Girls	64.6	
	63.7	
Polio Immunization	95.6	
Boys	95.8	Improved
Girls	95.3	
<i>Infant and Young Child Feeding (6-24 Months)</i>		
Proportion still breastfeeding	47.4 (41.8-52.9)	
Boys	48.7	N/A
Girls	45.8	
Continued breastfeeding up to 12 months	55.1	N/A
Continued breastfeeding up to 24 months	11.9	
Proportion meeting recommended feeding frequencies	51.7	
Boys	48.1	N/A
Girls	55.6	
Proportion who reported to have consumed ≥ 4 food groups	1.1	
Boys	1.3	N/A
Girls	0.8	
<i>Women Nutrition and Immunization Status</i>		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	2.4	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	15.0	Improved
Proportion of Women who received Tetanus immunization		
No dose	6.9	Deteriorated
One dose	27.3	
Two doses	28.4	
Three doses	37.3	
<i>Public Health Indicators (HH)</i>		
Household with access to sanitation facilities	95.9	Sustained
Household with access to safe water	93.5	Sustained
Proportion who reported to have consumed < 4 food groups	6.9	Sustained
Household's Main Food Source- Purchase	90.6	Deteriorated
Mean CSI	12.7	Improved

4.4.2: MIDDLE AND LOWER JUBA REGIONS

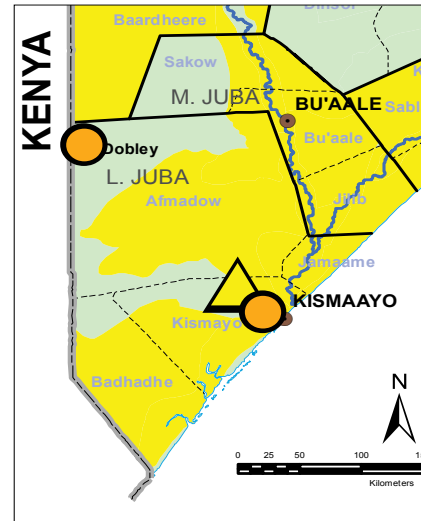
BACKGROUND

Three comprehensive SMART nutrition surveys were conducted in the Juba region. These surveys assessed the nutrition status of 1816 children aged 6-59 months from 1097 households.

CURRENT FOOD SECURITY SITUATION POST GU 2015

In July 2015, the sorghum high potential of Middle Juba (Sakow/ Salagle), the riverine of both regions (Middle and Lower Juba), southern rain fed agro pastoral of lower Juba and the southern agro pastoral livelihoods (marginal sorghum producers), were classified in **stressed** (IPC Phase 2) with small proportion in crisis (25% of the poor in crisis) in the sorghum high potential of middle juba and the lower Juba riverine and the southern rain fed agro pastoral of Jamame districts. The two main pastoral livelihoods of juba regions (SIP and Juba cattle pastoralist) have been classified as **Minimal** (IPC Phase 1) and **Stressed** (IPC Phase 2) respectively. These indicates the realizations of the continued gradual recovery for Pastoral communities (since 2011-2012 droughts) and an improvements from the post-*Deyr* 2014/15 in Sorghum high potential of Middle Juba (Southern agro pastoral in the old Lz map) and the riverine of both region which was classified as **Crisis** (IPC Phase 3). Exception to this, is the southern rain fed agro pastoral of lower Juba (Initially Lower Juba agro pastoral) that deteriorated slightly in Jamame districts (25% of the Poor in crisis) but remained in **Stressed** (IPC Phase 2) in other districts (Kismayo, Badhaade and Afmadow) due to the high livestock dependence that crop.

Map 17: Food Security Situation in Juba Regions - Jan 2015



In the most likely scenario, the area classification points to an improvement for all the livelihoods in the projection period (February-June 2015) [Map 17]. However, the estimates in **Crisis** (IPC Phase 3) are expected to increase to 33 000 people due to some deteriorations anticipated in the riverine livelihood of both regions and southern rain fed agro pastoral (Jamame district dasheks farmers). Consequently, the estimates in **Stressed** (IPC Phase 2) are also projected to decline to 88 000 (42 000 in Middle Juba and 46 000 in Lower Juba).

CURRENT NUTRITION SITUATION POST Gu 2015

The results of the *Gu* 2015 assessment are shown in Table 1 and the key highlights h are summarized below:

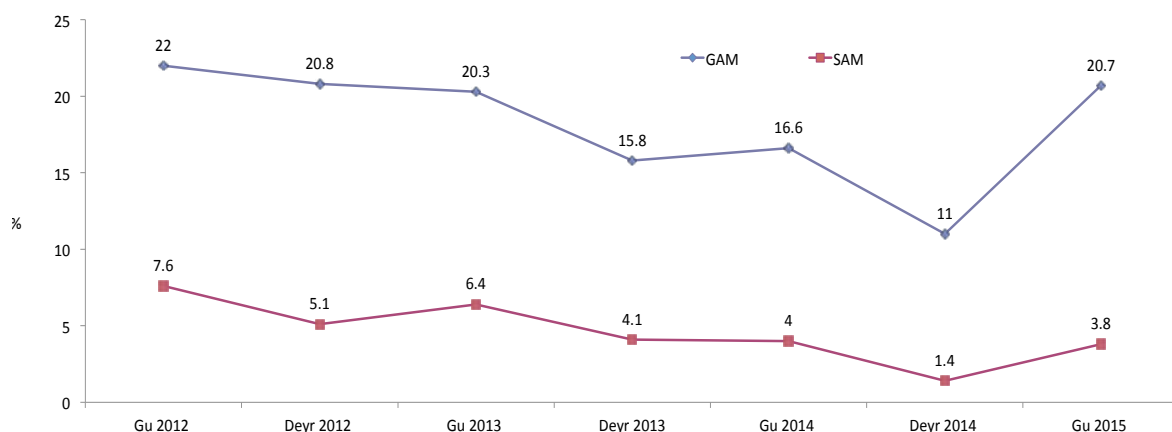
ACUTE MALNUTRITION

Dhobley IDPs

Findings from a nutrition survey conducted among Dhobley IDPs in May 2015, in which 682 children aged 6-59 months were assessed, indicates a **Critical** nutrition situation (20.7% GAM) with SAM rate of **3.8** percent (**Serious**). This shows significant deterioration ($p < 0.05$) in nutrition situation in *Gu* 2015 compared to *Deyr* 2014/15 (11% GAM). But when GAM in current *Gu* 2015 was compared to GAM in *Gu* 2014, no significant difference ($p > 0.05$) were noted.

Significant deterioration of SAM (3.8%) was noted in *Gu* 2015, compared to **Serious** levels of SAM (1.4%) recorded in *Deyr* 2014. Internally displaced peoples (IDPs) in Dhobley currently face a nutrition emergency as the prevalence of Global acute malnutrition (GAM) has nearly doubled (from 11 percent in *Deyr* 2014/15 to 20.7 percent in *Gu* 2015) and accompanied by critical levels of Crude Death Rate- CDR ($>1/10\ 000/\text{day}$).

Figure 11: GAM and SAM trends among Dhobley IDPs



MORTALITY

Critical CDR (1.18/10 000/day) and Serious U5DR (1.15/10 000/day) 1.15/10 000/day was recorded during the 90 days recall retrospective study in Gu 2015. The main causes of U5DR death reported among 9 children were diarrhea (5) followed by Malaria and Pneumonia (Table 21).

Table 21: Cause of CDR among Dhobley IDPs - Deyr 2014

Underlying cause	CDR (n=28)	U5DR (n=9)
Diarrhea	3	5
Malaria	4	2
pneumonia	4	2
Violence	3	
Malnutrition	2	
Birth Complication	6	
others	6	

MORBIDITY

The nutrition survey conducted in May 2015 has recorded high morbidity rates of 42.9 percent, which is attributed to limited access to health services and low protective measures such low vitamin A supplementation and measles.

CHRONIC MALNUTRITION- STUNTING

Dhobley IDPs show low prevalence of stunting (12.1%) among children under five years of age in which is sustained since Deyr 2014 (9.4%), and Gu 2014 (10.3%). These persistent low levels of stunting indicate that it is not a problem of public health significant (Annex 12).

UNDERWEIGHT

Medium prevalence of underweight (14.2%) among Dhobley IDPs was recorded in the assessment, which is a sustained since Gu 2014 (12.3%) (Annex 13).

MATERNAL MALNUTRITION

Critical levels of maternal malnutrition (26.9%) were seen among pregnant and lactating mothers in Dhobley IDPs, which are sustained as Critical since Deyr 2014/15 (23.8%) but deterioration from **Serious** levels (21.3%) recorded in Gu 2014 (Annex 14).

KISMAYO IDPS

Kismayo IDPs recorded a GAM rate of 12.5 percent (9.9 -15.6) and SAM rate of 2.8 percent (1.7-4.6) indicates a **Serious** nutrition situation. This is deterioration when compared with **Alert** GAM rate of 8.5 percent seen during Deyr 2014/15, but an improvement when compared with **Critical** situation (16.6 % GAM) recorded in Gu 2014. The difference in GAM prevalence between Gu 2015 (12.5% GAM) to Deyr 2014 (8.5% GAM) or with Gu 2014 (16.6% GAM) is only a phase change and not statistically significant.

MORTALITY

In *Gu* 2015, Kismayo IDPs recorded **Acceptable** levels of CDR (0.34/10 000/day) as well as U5DR (0.96/10 000/day). This is an improvement from **Serious** CDR (0.84/10 000/day) and **Critical** U5DR (2.08/10 000/day) levels recorded in *Deyr* 2014.

MORBIDITY

The overall morbidity (33.1%) reported two weeks prior to the assessment in *Gu* 2015 is lower when compared to *Deyr* 2014 (62.3%). This can be attributed to health services access, high immunization and good water and sanitation facilities.

CHRONIC MALNUTRITION- STUNTING

In *Gu* 2014, Kismayo IDPs recorded high prevalence of stunting (33.5%), which shows sustained high levels of stunting compared to *Deyr* 14 (38.9%) or *Gu* 2014 (39.9%),

UNDERWEIGHT

In *Gu* 2015, was seen high levels of underweight in Kismayo IDPs (24.8%), which is sustained since *Deyr* 2014/15 (23.4%), or improvement in *Gu* 2014 (32.8) [Annex 14].

KISMAYO URBAN-

Kismayo Urban recorded a GAM rate of 9.1 percent (7.1-11.5) and SAM rate of 2.1 percent (1.2-3.5) indicates a **Alert** nutrition situation. This is sustained **Alert** when compared *Deyr* 2014/15 (8.9%), or improved Critical in *Gu* 2015 (12.4%). The SAM show Alert (2.1%) in *Gu* 2015, is sustained in *Deyr* 2014/15 (1.7%), or improved from *Gu* 2015 (3.2%) is also consistent with the GAM.

Table 22: Cause of death reported for U5DR in Kismayo IDPs

Cause	Number
Diarrhoea	11
Measles	3
Pneumonia	3
Violence	1
Malnutrition	1
Total deaths reported	13

MORTALITY

Acceptable and **Alert** levels of CDR (0.35/10 000/day) and U5DR (0.99/10 000/day) were recorded in Kismayo urban. The CDR improved from **Serious** in *Deyr* 2014/15 (0.55/10 000/day) and U5DR deteriorated from acceptable in *Deyr* 2014/15 U5DR (0.62/10 000/day) levels.

MORBIDITY

The overall morbidity (19.7%) reported two weeks prior to the assessment in *Gu* 2015 is lower when compared to *Deyr* 2014 (47.6%). This can be attributed to health services access, high immunization and good water and sanitation facilities.

CHRONIC MALNUTRITION- STUNTING

In *Gu* 2014, Kismayo urban recorded low levels of stunting (9.1%), it suggests an improvement (9.1%) compared to *Deyr* 2014 (26.1%) which was a medium level of stunting or sustained low levels of stunting in *Gu* 2014 (19.9%).

UNDERWEIGHT

In *Gu* 2015, was seen moderate prevalence of underweight was recorded in Kismayo urban (16.9%), which is sustained since *Deyr* 2014 (14.7%) or *Gu* 2014 (17.2%) [Annex 14].

CHANGE IN NUTRITION SITUATION

The maps below show the progression in the nutrition situation from *Gu 2014* to *Gu 2015* (Figure 36). The nutrition situation among the Dhobley IDPs for the last twelve months (*Gu 2014* to *Deyr 2014*) has deteriorated from **Serious** to **Critical** since *Deyr 2014/15*, which is mainly linked to high morbidity and food security. Even though Kismayo urban sustained Alert since *Deyr 2014/15* (8.9), it had improved from Serious in *Gu 2014* (12.4), but for Kismayo IDPs improved from Critical *Gu 2014* (16.6%) to Serious (12.5%) in *Gu 2015*.

OUTLOOK FOR AUGUST - OCTOBER 2015

The nutrition situation in Juba region is largely expected to remain stable in the coming three months. Figure 36 shows current and projected nutrition situation in Juba IDPs. In Dhobley and Kismayo IDPs, it is projected that the nutrition situation will remain stable, that is, **Critical** and **Alert** up to October 2015.

Map 18: Current Nutrition Situation - Jul 2015 in Juba Regions

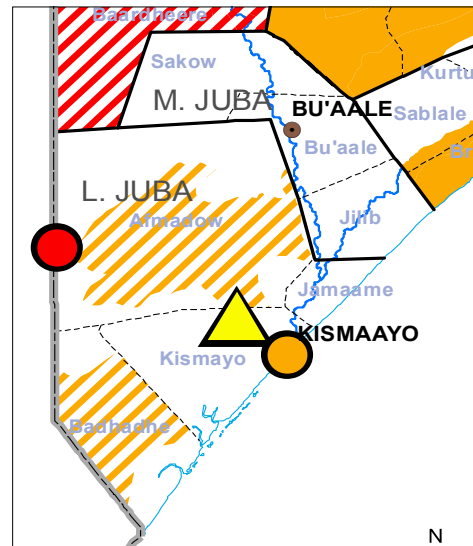


Figure 36: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Juba region

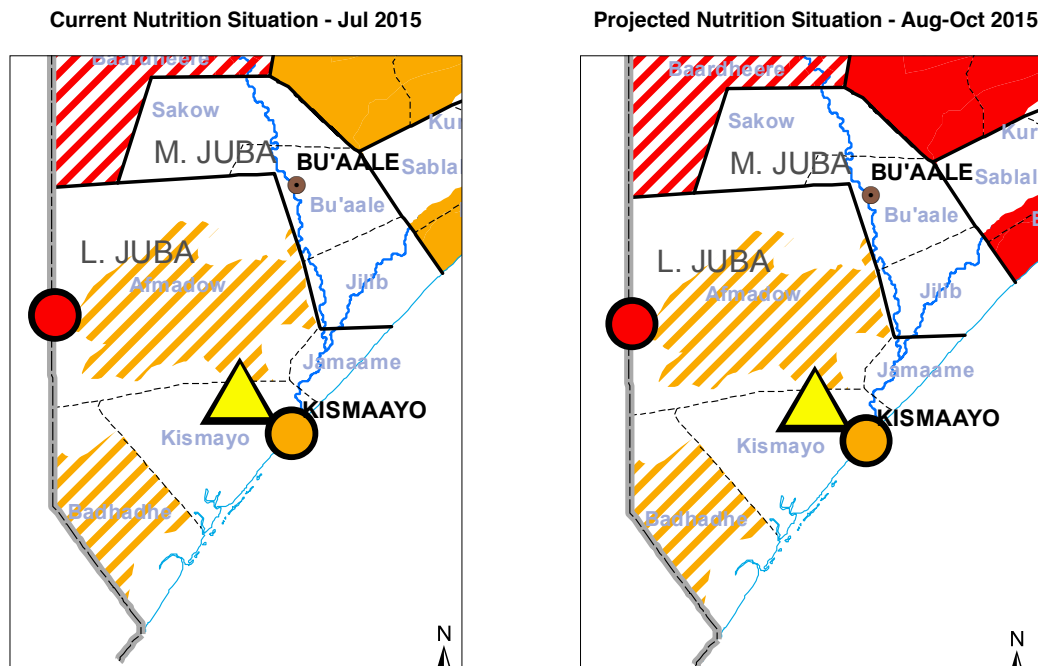


Table 23: Summary of Key Nutrition Findings in Kismayo Urban. Kismayo and Dhobley IDPs, Gu 2015

	Dhobley IDPs	Kismayo IDPs	Kismayo Urban
	Clusters : 30 (N=682;Boys=362; Girls=320)	Clusters 30: (N=505:Boys=244;Girls=261)	Clusters :30 (N=629:Boys=309;Girls=320)
Indicator	Percent (CI)	Percent (CI)	Percent (CI)
<i>Child Nutrition Status</i>			
Global Acute Malnutrition (WHZ<-2 or oedema)	20.7	12.5 (9.9-15.6)	9.1 (7.1-11.5)
Boys	22.1	3.1(9.4-17.9)	9.7 (6.8-13.7)
Girls	19.1	11.9(8.5-16.4)	8.4 (5.6-12.6)
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.8	2.8(1.7- 4.6)	2.1 (1.2-3.5)
Boys	4.1	2.0(0.9- 4.7)	1.9 (0.9-4.2)
Girls	3.4	3.4(1.8- 6.4)	2.2 (1.1-4.4)
Mean of Weight for Height Z Scores	-1.11±1.07	-0.74±1.06	-0.56±1.09
Oedema	0	0.4	0.2
Proportion with MUAC<12.5 cm	9.8	10.9(8.5-13.9)	9.2 (7.2-11.7)
Boys	9.5	9.6(6.5-13.9)	6.6 (4.4-9.9)
Girls	10.1	12.1(8.7-16.6)	11.7 (8.6-15.6)
Proportion with MUAC<11.5 cm	3.6	2.7(1.6- 4.5)	1.7 (1.0-3.0)
Boys	2.4	1.2(0.4- 3.5)	0.3 (0.1-1.8)
Girls	4.9	4.2(2.3- 7.3)	3.1 (1.7-5.6)
Stunting (HAZ<-2)	12.1	33.5(29.4-37.8)	9.1 (7.1-11.6)
Boys	14.2)	36.8(30.8-43.3)	9.7 (6.9-13.5)
Girls	9.9	30.4(25.0-36.4)	8.4(5.9-22.0)
Severe Stunting (HAZ<-3)	1.2	13.4(10.6-16.7)	2.1 (1.2-3.5)
Boys	1.4	16.7(12.4-22.0)	1.9 (0.9-4.2)
Girls	1.0	10.4(7.2-14.8)	2.2(1.1-4.4)
Underweight (WAZ<-2)	14.2	24.8(21.2-28.8)	16.9(14.2-20.1)
Boys	15.3	27.5(22.2-33.5)	19.1 (15.1-23.8)
Girls	13.0	22.3(17.6-27.8)	14.8 (11.3-19.1)
<i>Death Rates</i>			
Crude deaths, per 10,000 per day (retrospective for 90 days)	1.18	0.34 (0.15-0.76)	0.35 (0.15-0.79)
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.15	0.96(0.41-2.22)	0.99 (0.43-2.29)
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	13.4	4.5 (1.2-7.9)	0
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	26.9	15.8 (9.5-22.1)	
Morbidity	42.9	33.1 (24.2-41.9)	19.7 (14.3- 25.2)
Boys	44.6	34.8(23.2-46.3)	19.6 (13.3-26.1)
Girls	41.0	31.4(22.7-40.1)	19.8 (12.5-27.2)
Diarrhoea	15.1	9.1 (5.8-12.4)	4.6 (2.6-6.6)
Boys	16.0	9.6 (5.6-13.5)	4.4 (1.8-6.9)
Girls	14.1	8.7 (4.3-13.0)	4.9 (2.1-7.7)

Pneumonia	19.1	14.3(9.1-19.6)	7.6 (5.1-10.1)
Boys	20.7	12.8(5.5-20.1)	7.8 (4.6-11.1)
Girls	18.9	15.9 (10.5-21.3)	7.33 (4.1-10.6)
Fever	37.9	22.7 (15.6-29.8)	7.1 (4.2-10.1)
Boys	39.9	23.2(13.4-32.9)	7.5 (2.6-12.5)
Girls	35.6	22.3(15.6-29)	6.7 (3.9-9.6)
Measles	2.1	2.7 (0.6-4.8)	0.3 (0.0-0.9)
Boys	1.6	3.6(0.0-7.6)	0
Girls	2.7	1.8 (0.0-3.8)	0.6 (0.0-1.8)
Vitamin A Supplementation	34.7	67.3 (61.1-78.2)	
Boys	36.7	64.8 (52.3-77.2)	
Girls	32.4	69.6 (61.1-78.2)	
Measles Vaccination	46.0	47.6 (35.1-60.1)	
Boys	47.2	44.0 (29.4-58.5)	
Girls	44.7	51.1 (38.1-64.1)	
Polio Immunization	82.8	81.6 (74.7-88.4)	
Boys	87.1	76.4 (67.8-85.1)	
Girls	86.3	86.5(80.7-92.2)	
<i>Women Nutrition and Immunization Status</i>			
Proportion of Women who received Tetanus immunization			
No dose	48.5	24.3 (16.9-31.8)	
One dose	18.3	14.6 (10.0-19.2)	
Two doses	22.0	27.1 (19.9-34.4)	
Three doses	11.2	33.7 (25.2-42.3)	
<i>Public Health Indicators</i>			
Household with access to sanitation facilities	86.5	95.5 (87.7-100)	
Household with access to safe water	97	59 (43.9-73.9)	
Proportion who reported to have consumed <4 food groups	5	10 (6.6 -13.4)	
Household's Main Food Source- Purchase	85.2	94 (87.9-100)	
Mean CSI			

4.4.3: MIDDLE AND LOWER SHABELLE REGIONS

BACKGROUND

Shabelle constitutes Lower and Middle Shabelle and it is one of the main agriculture regions in Somalia. Lower Shabelle is named after the Shabelle River, which passes through it. It is one of the most fertile areas in Somalia, and food production is the predominant means of making a living. Middle Shabelle is located in the central regions of Somalia and has a 400 km coastline on the Indian Ocean. This region supports livestock production, rain-fed and gravity irrigated agriculture and fisheries. Civil insecurity continues to be a challenge impacting negatively on the livelihoods and contributing to high number of internally displaced persons (IDPs).

During post *Gu* 2015, FSNAU have conducted 4 assessments in the Shabelle and Banadir region (Lower and Middle Shabelle in Shabelle's, Mogadishu IDPs and urban assessments in Banadir). In these assessments a total of 140 clusters were covered in which nutrition status of 335 children (6-59 months) from 2 065 households were assessed.

SUMMARY OF CURRENT FOOD SECURITY SITUATION

The food security situation of Middle Shabelle remained stable when compared to *Deyr* 2014/15 with the exception of riverine gravity irrigation and agropastoral (Jowhar district) which deteriorated due to floods, pest damage and poor rains. In July 2015, all livelihoods in Middle Shabelle were classified as **Stressed**. The total population in **Stressed** (IPC Phase 2) was estimated at 116 000 people, which is 34 percent lower than the population in last *Deyr* season (176 000 people). Similarly, the population in crisis (IPC Phase 3) was estimated at 8 000 people which decreased by 20 percent when compared to *Deyr* 2014/15 estimates (10 000 people).

In Lower Shabelle, most livelihoods are **Stressed** (IPC phase 2). The total population in stressed phase is estimated at 159 000 people which decreased by 16 percent from *Deyr* 14/15 (190 000 people). The population in **Crisis** (IPC Phase 3) was estimated at 7 000 people which declined by 56 percent from *Deyr* 14/15 estimates (16 000 people).

Food and livelihood security in Middle Shabelle region has deteriorated in riverine areas due to floods, insects, wild pigs and thefts. Off-season harvest will be expected in September-October 2015 in Jowhar district. However, forecasted floods during *Deyr* season are likely to materialize, which decrease cultivated land as well as labour opportunity in the region. It will partially damage the off-season crops in Middle Shabelle. Similarly, the food security situation has deteriorated for agro-pastoralists in Middle Shabelle due to poor rains, birds, and insects. Overall, *Gu* 2015 cereal (maize and sorghum) harvest in the region was below average, estimated at 9 900 tonnes, which is 66 percent of the long-term average (PWA) and 69 percent of 5-year average. About 66 percent of this harvest (6 550 tonnes) was collected from riverine areas and 34 percent of (3 350 tonnes) was gathered in the rain fed agro pastoral livelihoods. The reduced cereal production is due to poor rains with uneven distribution, floods in Jowhar district (May 2015), insects, and birds.

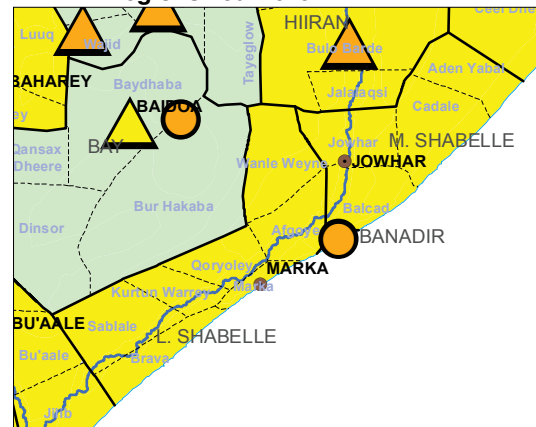
Gu 2015 RESULTS:

The results of nutrition assessment done in Shabelle and Banadir region are summarized in Table 24 and 25 key highlights are being discussed below:

ACUTE MALNUTRITION

Lower and Middle Shabelle : Acute malnutrition levels among Shabelle Agro-pastoral show sustained **Serious** levels since *Deyr* 2014/15, while Shabelle Riverine shows deterioration from **Alert** in *Deyr* 2014/15 to **Serious** levels in *Gu* 2015. The slight deterioration noted in the Shabelle riverine is not statistically significant ($P > 0.05$)

Map 19: Food Security Situation in Shabelle Regions - Jul 2015



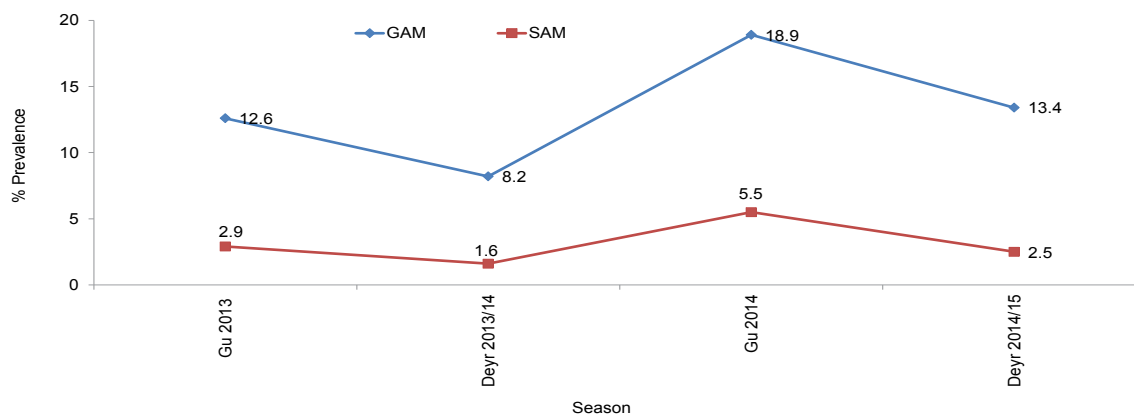
Shabelle Agro-pastoral recorded a GAM rate of 13.6 percent and SAM rate of 3.0 percent indicating sustained **Serious** nutrition situation when compared with GAM rate of 12.3 percent and SAM rate of 3.5 percent recorded in *Deyr* 2014/15. However this is an improvement from **Critical** levels seen in *Gu* 2014 where GAM rate of 18.8 percent and SAM of 5.4 percent was recorded.

Shabelle Riverine livelihood shows a GAM rate of 10.0 percent and SAM rate of 1.7 percent indicating **Serious** nutrition situation which reflect a slight deterioration in nutrition situation compared to the **Alert** GAM of 9.6 percent and SAM rate of 1.8 percent recorded in *Deyr* 2014/15. This is however an improvement from **Serious** levels of GAM of 11.2 percent and SAM rate of 2.5 percent reported in *Gu* 2014. The slight improved noted is however statistically not significant. Major factors that affect the nutrition status may include reduced milk access due to average normal *Gu* 2015 and *Deyr* 2014/15 rains and limited access to humanitarian interventions.

Mogadishu IDPs: Nutrition situation among Mogadishu IDPs is a good reflection of on-going humanitarian interventions. **Critical** GAM (18.9%) was observed during Post *Gu* 2014 which showed a significant improvement in Post *Deyr* 2014/15 (**Serious** levels of GAM-13.4%) when humanitarian interventions were scaled up. Results of *Gu* 2015 assessment (14.9% GAM and 3.3% SAM) show nutrition situation is sustained as **Serious** because of ongoing nutrition services in these settlements by the humanitarian actors. In the analysis it was noted that cases of acute malnutrition were concentrated in certain clusters: Madina (J.Dauud – maslax, Dadban (Rangaabo), Dharkeynleey- Hanaano Bulsho, Badbaado, in Hawlwadaag (Maalin and Jugweyn IDPs), Shangani district: Jabuuti (Ex Ministry of treasury), Hodon- Naafada, and kulmiye IDPs and in Waberi districts–Maajo and Hamarjabjab Afisyoone

Figure 37 shows the GAM trend among Mogadishu IDPs since 2011. Current serious situation (14.9% GAM) will not be improve without further strengthening and expanding implementation of comprehensive multisectoral interventions to address the nutritional situation of under 5 children. Information from implementing partners in Mogadishu partners indicate increasing trend in OTP and TSP admissions from March-June 2015. There are also very high evictions of IDP settlements going on which has negative impact on their living condition in term of shelter, water, sanitation and interventions.

Figure 37: Acute malnutrition trends among Mogadishu IDPs



Mogadishu Urban: Deterioration in nutrition situation among Mogadishu urban is suggested by increase in GAM from **Alert** (9.7%) in *Deyr* 2014/15 to **Serious** (10.5 %) in Post *Gu* 2015 assessment. SAM rate also increased from **Acceptable** (0.9%) during Post *Deyr* 2014/15 to **Alert** (2.2%) during Post *Gu* 2015. The change is however statistically not significant

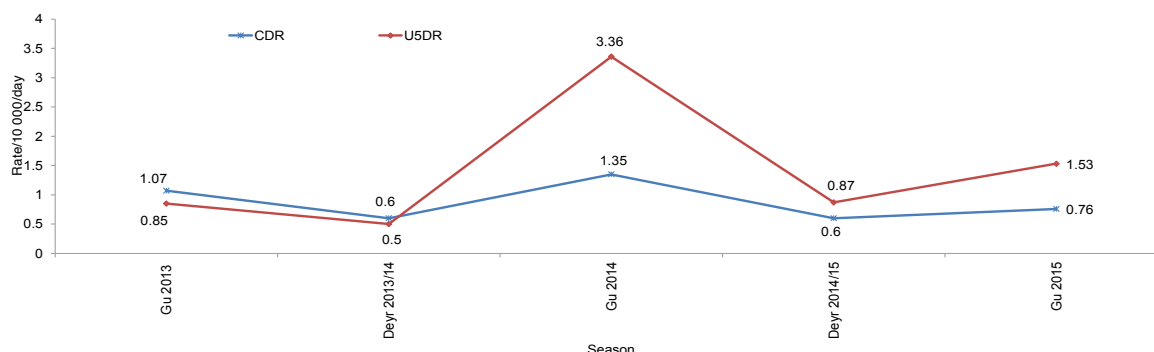
Although nutrition surveys conducted in the Shabelle, Mogadishu IDPs and Mogadishu urban livelihoods show a higher proportion of boys than girls are acutely malnourished, this difference is not of statistical significance ($p>0.05$) [Annex 21].

MORTALITY

The Crude death rate (0.76/10 000/day) observed in the Mogadishu IDPs during *Gu* 2015 assessment indicate a **Serious** situation. However, doubling of under- five death rate to **Critical** level (1.53/10 000/day) in *Gu* 2015 from **Serious** levels (0.87) seen in *Deyr* 2014/15 is of concern (Figure 38). No major outbreaks of communicable

disease were reported during this period but high morbidity rate of 39.3 percent observed among Mogadishu IDPs can be attributed to outbreaks of AWD and other seasonal infections. A main cause of under-five death reported was fever, Diarrhea, respiratory infection and Measles. In Mogadishu urban: **Alert** levels for both CDR at 0.54 (0.32-0.92) and U5DR at 0.64 (0.27-1.49) were observed during *Gu* 2015 assessment.

Figure 38: Mortality trends Mogadishu IDPs

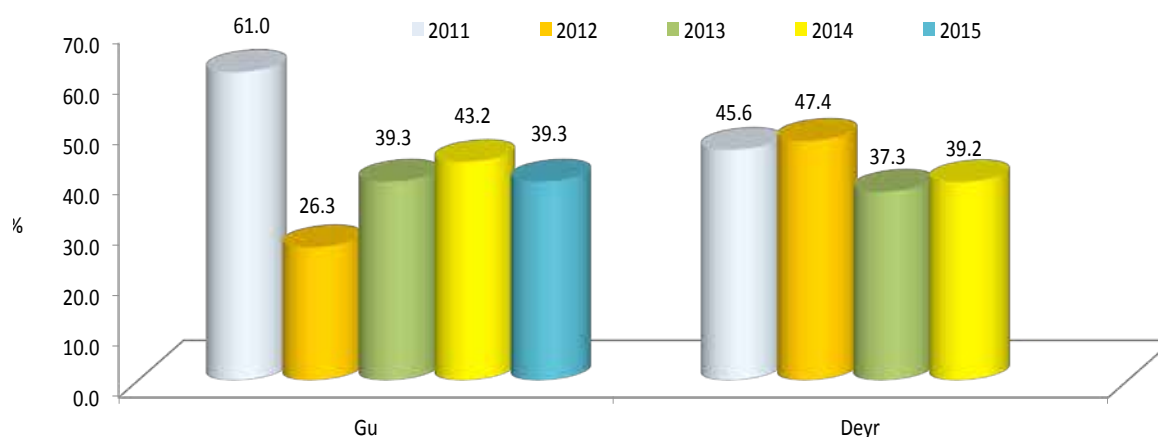


Shabelle agro-pastoral show **Serious** levels of both CDR (0.56/10 000 per day) and U5DR (1.21/10 000 per day) among, which is a deterioration for UDR but sustained to **Serious** for CDR (0.72) and U5DR (0.84/10 000 recorded in *Gu* 2014 Shabelle Riverine show **Acceptable** levels of mortality in *Gu* 2015 (CDR -0.17 and U5DR -0.24/10 000/day) which is an improvement from **Serious** levels (CDR - 0.52 and U5DR-1.10/10 000/day) recorded in *Gu* 2014

MORBIDITY

Sustained high morbidity levels persist in Mogadishu IDPs (39.3 %) appear to be a key aggravating factor for sustained prevalence of acute malnutrition. Morbidity trends are higher during *Gu* compared to *Deyr* seasons, due to increasing AWD during the dry period when water levels decrease and availability of safe water is compromised. Other factors that contribute to the increase in high morbidity in Mogadishu IDPs include the continuing population displacement, overcrowding, unsanitary living conditions and limited health services. In Mogadishu urban, morbidity levels were at 10.6 percent, which is an improvement from 15.3 percent in *Deyr* 2014 /15.

Figure 39: Morbidity trends Mogadishu IDPs - Gu 2015



Shabelle Riverine show improvement in morbidity levels during post *Gu* 2015 (20.0 %) compared to *Deyr* 2014/15 (34.6%) or *Gu* 2014 at (31.5 %). Disease outbreaks continued during the time of assessment with measles incidences, Although limited, humanitarian interventions in the form of targeted outpatient therapeutic programs (OTPs) and outreach supplementary feeding programs by organizations such as INTERSOS, IMC, NEW WAY, SWISS KALMO, in parts of the of the riverine and agro-pastoral livelihood zone may have assisted to mitigate the poor nutrition situation and morbidity in Shabelle region. This support needs to be continued and expanded to cover more rural villages in both livelihoods.

CHRONIC MALNUTRITION (STUNTING) AND UNDERWEIGHT

Gu 2015 assessment shows **Low** prevalence of stunting and **Medium** levels of underweight prevalence among Agro-pastoral and Riverine areas of Shabelle. Among Shabelle Agro-Pastorals, stunting was 12.0 percent and underweight 13.4 percent while Shabelle Riverine show 16 percent prevalence of stunting and 12 percent prevalence of underweight.

Among the displaced group in Mogadishu, Gu 2015 assessment recorded sustained **Low** prevalence for stunting (15.7%). Improvement in Underweight prevalence was noted in Gu 2015 to **Medium** levels (18.9%) from **High** prevalence (23%) recorded in Gu 2014.

Mogadishu Urban shows **low** levels of stunting (14.3%) and Medium prevalence of underweight (16.4%) in Gu 2015. Since Deyr 2013 sustained low stunting levels have been noted while Underweight prevalence shows some deterioration from **low levels** (9.8%) seen in Deyr 2014/15.

IMMUNIZATION

Reported coverage for vitamin A supplementation (51.3%) and Measles vaccination (43.9%) among the displaced in Mogadishu IDP suggests current coverage is far below the 95 percent coverage recommended by SPHERE. Vitamin A supplementation and Measles vaccination coverage among in Shabelle Agro pastoral and Riverine was very low (<15 percent) and remaining unchanged since Gu 2014.

MATERNAL MALNUTRITION

Low maternal malnutrition rates among pregnant and lactating women (MUAC <23.0 cm) among Shabelle Agro-Pastoral indicated **Serious** (10.9%) recorded in Gu 2015 a deterioration from **Acceptable** level at (7.6 %) in Deyr 2014/15. Shabelle Riverine show sustained **serious** levels in Gu 2015 (13.7 %) when compared with Deyr 2014/15 (10.5%).

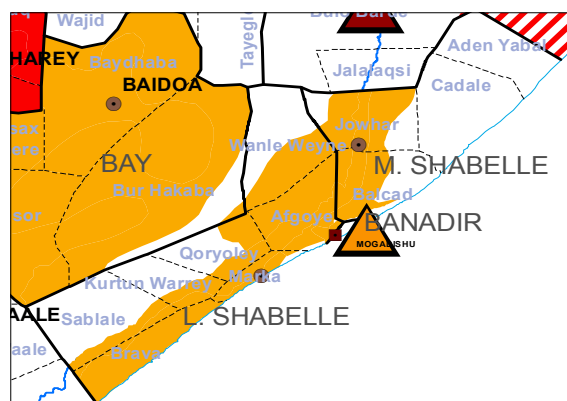
An improvement in maternal malnutrition (MUAC <23cm) was noted among the Mogadishu IDPs indicating sustained **Alert** levels in Gu 2015 (8.9%) to **Alert** levels in Deyr 2014/15 (11.3%)

CURRENT NUTRITION SITUATION

The current nutrition situation (Gu 2015) among Mogadishu IDPs as well as Mogadishu urban is **Serious**. Even though Mogadishu urban shows deterioration from **Alert** in Deyr 2014/15 (9.7% GAM) to **Serious** level in Gu 2015 (10.5 % GAM) the change is statistically not significant

Nutrition situation among Shabelle Agro-pastoral and Shabelle Riverine is also **Serious**. Shabelle riverine show slight deterioration from **Alert** in Deyr 2014/15 (9.7% GAM) to **Serious** in Gu 2015 (10.5%) but differences are statistically not significant. Overall nutrition situation has remained precarious in Shabelle's with parts of middle Shabelle being the most affected due to ongoing AWD and measles outbreaks.

Map 20: Current Nutrition Situation - Jul 2015 in Shabelle Regions



NUTRITION SITUATION OUTLOOK –AUGUST TO OCTOBER 2015

For the next 3 months (Aug-Oct 2015), the nutrition situation among Shabelle Agro-pastoral and, Riverine is likely to deteriorate due to ongoing outbreak of Measles and Acute watery diarrhea, civil insecurity and limited access for humanitarian interventions.

Nutrition situation among Mogadishu Urban and IDPs will remain as **Serious** due to ongoing nutrition interventions.

Figure 40: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Shabelle regions

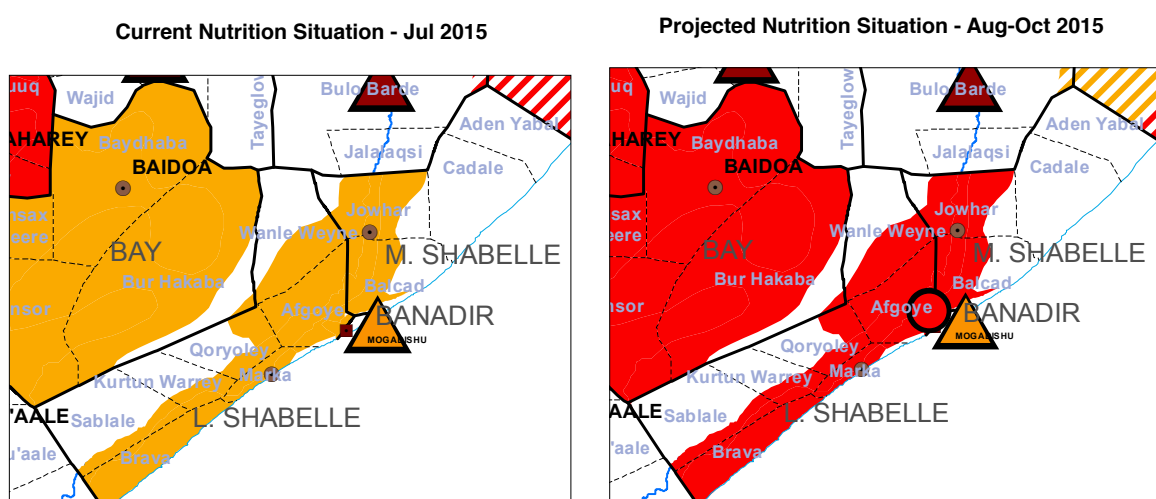


Table 24: Summary of Key Nutrition Findings in Shabelle Region, Gu 2015

	Shabeele Agro-pastoral		Shabele Riverine	
	Clusters:30		30 Clusters : 30	
	(n=912; Boys=452 Girls=460)		N=823;Boys=419; Girls=404)	
Indicator	Percent (CI)	Change from Deyr 2014/15	Percent (CI)	Change from Deyr 2014/15
Global Acute Malnutrition (WHZ<-2 or oedema)	13.6 (10.5-17.5)		10.0 (7.3-13.5)	
Boys	16.2 (12.6-20.5)	Sustained	12.4 (8.9-17.0)	Deteriorated
Girls	11.1 (7.7-15.7)		7.4 (4.5-11.9)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.0 (1.7- 5.1)		1.7 (0.9- 3.3)	
Boys	2.9 (1.6- 5.0)	Improved	1.9 (0.9- 4.0)	Sustained
Girls	3.0 (1.7- 5.5)		1.5 (0.5- 4.1)	
Mean of Weight for Height Z Scores	-0.73±1.14		-0.64±1.03	
Oedema	0.3		0.0	
Proportion with MUAC<12.5 cm or oedema)	7.2 (4.8-10.7)			
Boys	7.9 (5.1-12.2)	Improved	3.4 (2.1-5.5)	Improved
Girls	6.5 (4.0-10.5)			
Proportion with MUAC<11.5 cm or oedema	3.0 (1.8- 4.8)		0.2 (0.1- 1.0)	
Boys	2.6 (1.3- 5.3)	Sustained	0.2 (0.0- 1.9)	Improved
Girls	3.3 (1.7- 6.3)		0.2 (0.0- 1.9)	
Stunting (HAZ<-2)	12.0 (7.8-18.2)		16.0 ((10.0-24.6)	
Boys	16.5 (11.0-24.1)	Sustained	22.9 (15.5-32.5)	Sustained
Girls	7.6 (4.1-13.7)		8.9 (4.1-18.2)	
Severe Stunting (HAZ<-3)	1.8 (0.8- 3.7)		2.7 (1.0- 7.0)	
Boys	2.4 (0.9- 6.2)	Sustained	3.8 (1.5- 9.6)	Sustained
Girls	1.1 (0.4- 3.0)		1.5 (0.4- 6.0)	
Underweight (WAZ<-2)	13.4 (10.1-17.5)		12.0 (9.4-15.1)	
Boys	19.4 (14.7-25.0)	Sustained	16.7 (13.5-20.5)	Sustained
Girls	7.4 (5.1-10.8)		7.1 (4.5-11.1)	

	Shabeele Agro-pastoral		Shabele Riverine	
	Clusters:30 (n=912; Boys=452 Girls=460)		30 Clusters : 30 N=823;Boys=419; Girls=404)	
Indicator	Percent (CI)	Change from Deyr 2014/15	Percent (CI)	Change from Deyr 2014/15
Death rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.56 (0.36-0.87)	Deteriorated	0.17 (0.07-0.43)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.21 (0.65-2.24)	Deteriorated	0.24 (0.06-0.97)	Improved
Morbidity	23.4 (13.6-33.4)		20.0 (15.5-24.4)	
Boys	23.4(12.3-34.4)	Deteriorated	21.4 (16.0-26.9)	Improved
Girls	23.6(14.3-33.1)		18.5 (13.3-23.7)	
Diarrhoea	10.3 (4.9-15.6)		6.9 (4.9-8.9)	
Boys	11.4(4.8-18.1)	Sustained	7.2 (4.4-9.9)	Improved
Girls	9.1 (4.2-13.9)		6.7 (3.5-9.7)	
Pneumonia	5.1 (2.6-7.6)		3.3 (1.4-5.2)	
Boys	3.7 (1.4-6.1)	Sustained	3.6 (1.3-5.9)	Improved
Girls	6.5 (2.9-10.1)		2.9 (0.9-4.9)	
Fever	7.4 (4.4-10.4)		9.7 (6.4-12.9)	
Boys	7.7 (3.4-12)	Deteriorated	10.5(6.8-14.2)	Improved
Girls	7.1 (4.5-9.7)		8.9 (5.0-12.7)	
Measles	0.6 (0.06-1.3)		1.1 (0.0-0.4)	
Boys	0.4 (0.0-1.1)	Improved	1.2 (0.0-0.7)	Improved
Girls	0.9 (0.03-1.7)		0.0	
Vitamin A Supplementation	5.8 (0.3-11.2)		3.2 (0.0-7.0)	
Boys	3.9 (0.3-7.6)	Sustained	3.3 (0.0-7.2)	Deteriorated
Girls	7.6 (0.0-15.2)		3.2 (0.0-7.0)	
Measles Vaccination	10.1(0.8-19.4)		0.7 (0.0-1.5)	
Boys	8.2(0.5-15.8)	Sustained	0.7 (0.0-1.7)	Deteriorated
Girls	11.9 (0.7-23.1)		0.7 (0.0-1.6)	
Polio Immunization	52.5 (39.4-65.5)		83.8 (75.5-92.1)	
Boys	53.8 (40.5-67.2)	Deteriorated	82.3 (74.1-90.6)	Improved
Girls	51.1 (37.5-64.6)		85.2 (76.3-94.2)	
<i>Women Nutrition and Immunization Status</i>				
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	2.0 (0.0-4.3)	Deteriorated	1.3 (0.0-3.0)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	10.9 (7.3-14.6)	Deteriorated	13.7 (7.6-19.8)	Sustained
OVERALL NUTRITION SITUATION	Serious		Serious	

Table 25: Summary of Key Nutrition Findings in Banadir Region Gu - 2015

	Mogadishu IDPs		Mogadishu Urban	
	40 Clusters		40 Clusters	
	(N=847Boys=454 Girls=393)		(N=775;Boys=383; Girls=392)	
Indicator	Percent (CI)	Change from Deyr' 2014/15	Percent (CI)	Change from Deyr '2014/15
<i>Child Nutrition Status</i>				
Global Acute Malnutrition (WHZ<-2 or oedema)	14.9 (11.7-18.8)	Sustained	10.5 (7.7-14.0)	Deteriorated
Boys	16.5 (12.2-22.0)		12.3 (8.2-17.9)	Not statistically significant
Girls	13.0 (9.9-16.8)		8.7 (5.6-13.2)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.3 (2.3- 4.7)	Sustained	2.2 (1.3- 3.60)	Deteriorated
Boys	3.7 (2.4- 5.8)		3.1 (1.7- 5.8)	Increased from 0.9%
Girls	2.8 (1.5- 5.3)		1.3 (0.5- 3.0)	
Mean of Weight for Height Z Scores	-0.78±1.15		-0.67±1.06	
Oedema	0.0	Sustained	0.3	Sustained
Proportion with MUAC<12.5 cm	9.9 (6.9-14.1)	Improved	6.2 (4.5- 8.6)	Deteriorated
Boys	7.7 (5.1-11.6)		6.0 (3.8- 9.5)	Deteriorated
Girls	12.5 (8.6-17.9)		6.4 (4.5- 9.1)	
Proportion with MUAC<11.5 cm	3.0 (2.0- 4.5)	Sustained	2.0 (1.2- 3.2)	Deteriorated
Boys	1.7 (0.8- 3.5)		1.8 (0.7- 4.3)	Deteriorated to <i>Serious</i>
Girls	4.5 (2.9- 7.1)		2.2 (1.2- 4.2)	
Stunting (HAZ<-2)	15.7 (10.8-22.2)	Sustained	14.3 (10.2-19.7)	Deteriorated
Boys	18.5 (12.9-25.8)		19.0 (13.5-26.0)	Deteriorated
Girls	12.4 (7.8-19.4)		9.7 (6.1-15.1)	
Severe Stunting (HAZ<-3)	3.2 (1.6- 6.3)	Improved	2.8 (1.6- 4.7)	Deteriorated
Boys	3.1 (1.4- 6.8)		3.3 (1.8- 6.2)	Deteriorated
Girls	3.3 (1.5- 7.1)		2.2 (1.0- 5.0)	
Underweight (WAZ<-2)	18.9 (14.4-24.5)	Sustained	16.4 (11.7-22.5)	Deteriorated
Boys	23.0 (17.5-29.6)		21.5 (14.7-30.3)	
Girls	14.2 (9.9-20.0)		11.4 (8.0-16.1)	
<i>Death Rates</i>				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.76 (0.43-1.35)	Sustained	0.54 (0.32-0.92) Deteriorated	
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.53 (0.82-2.82)	Deteriorated	0.64 (0.27-1.49)	Sustained
Morbidity	39.3 (33.9-44.8)	Sustained	10.6 (7.1-14.1)	Improved
Boys	36.1 (29.3-42.8)		10.6 (6.5-14.6)	
Girls	43.1 (36.9-49.4)		10.7 (6.6-14.8)	
Diarrhoea	8.8 (5.5-12.1)	Sustained	4.4 (2.1-6.7)	Sustained
Boys	7.7 (4.8-10.7)		4.1 (1.5-6.6)	
Girls	10.0 (5.6-14.5)		4.7 (2.0-7.5)	
Pneumonia	11.4 (8.0-14.9)	Deteriorated	3.9 (1.9-5.9)	Sustained
Boys	10.9 (7.2-14.7)		5.1 (2.1-8.0)	
Girls	12.0 (7.9-16.1)		2.7 (0.9-4.5)	
Fever	29.2 (24.9-33.6)	Sustained	3.0 (1.3-4.6)	Sustained
Boys	27.3 (21.6-32.9)		2.2 (0.3-4.1)	
Girls	31.6 (25.8-37.4)		3.7 (1.5-6.0)	
Measles	4.9 (2.2-7.7)	Deteriorated	0.1 (0.0-0.4)	Sustained
Boys	4.4 (1.9-6.8)		0.0 (0.0-0.0)	
Girls	5.6 (2.2-9.0)		0.3 (0.0-0.9)	

Vitamin A Supplementation	51.3 (40.2-62.3)			
Boys	53.9 (42.3-65.4)	Sustained	N/A	
Girls	48.2 (36.9-59.6)			
Measles Vaccination	43.9 (33.7-54.1)			
Boys	44.6 (33.8-55.4)	Sustained	N/A	
Girls	43.1 (32.5-53.7)			
Polio Immunization	71.3 (62.1-80.5)			
Boys	72.3 (63.2-81.4)	Improved	N/A	
Girls	70.1 (59.8-80.4)			
<i>Infant and Young Child Feeding (6-24 Months)</i>	N=352		N/A	
Proportion still breastfeeding	48.1 (40.5-55.6)			
Boys	47.1 (37.9-56.3)	Sustained	N/A	
Girls	49.4 (40.3-58.5)			
Continued breastfeeding up to 12 months	28.4 (16.9-39.8)	Sustained	N/A	----
Continued breastfeeding up to 24 months	14.5 (2.0-27.1)	Deteriorated	N/A	
Proportion meeting recommended feeding frequencies	65.1 (51.3-78.9)			
Boys	68.5 (53.4-83.7)	N/A	N/A	
Girls	61.5 (43.4-79.6)			
Proportion who reported to have consumed ≥ 4 food groups	30.7 (19.1-42.2)			
Boys	29.7 (17.7-41.7)	Improved	N/A	
Girls	31.9 (18.3-45.4)			
<i>Women Nutrition and Immunization Status</i>	N = 469		N/A	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.0 (0.0-2.2)	Improved	N/A	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	8.9 (5.1-12.9)	Improved	N/A	
Proportion of Women who received Tetanus immunization	N=469			
No dose	30.9 (21.9-39.9)			
One dose	21.5 (14.6-28.4)	Sustained	N/A	
Two doses	23.0 (16.7-29.3)			
Three doses	24.5 (16.5-32.5)			
<i>Public Health Indicators (HH)</i>			N/A	
Household with access to sanitation facilities	36.2 (31.5-40.9)	Deteriorated	N/A	
Household with access to safe water	38.3 (34.1-42.5)	Deteriorated	N/A	
Proportion who reported to have consumed <4 food groups	2.0 (0.0-4.3)	Sustained	N/A	
Household's Main Food Source-Purchase	96.5 (93.7-99.4)	Sustained	58.9 (54.8-63.0)	Deteriorated
Mean CSI	63.9	Sustained	28.3	Deteriorated

4.4.4: HIRAN REGION

Hiran is an administrative region in south-central Somalia. FSNAU conducted two nutrition surveys (rural livelihoods) in accessible areas of Matabaan and Beletweyne District. The nutrition status of 1 341, children aged 6-59 month old (693 boys and 648 girls) from 837 households was assessed

CURRENT FOOD SECURITY SITUATION – POST GU 2015

The food security situation has improved in all rural livelihoods of Hiran region in this *Gu* 2015 season. In July 2015 acute food insecurity area classification in all rural livelihoods of Hiran region remains **Stressed**, the total population in acute food insecurity was estimated at 84 000 people which were identified as **Stressed** (IPC Phase 2), while in the current snapshot, there were not populations classified in **Crisis** (IPC Phase 3), indicating declines from the estimates in the post-*Deyr* 2014/15 by 17 and 100 percent respectively. In the projection period (August- December 2015) there will be further improvement of pastoral livelihoods (Hawd and Addun) from **Stressed** to **Minimal**, the estimates of population **Stressed** (IPC Phase 2) is 61 000 indicating declines (by 21%) from July 2015, while the estimates in **Crisis** (IPC Phase 3) increase to 3, 000 people (an increase of 25%) from riverine which likely affect by the river floods in October – November 2015 [Map 21, Table 26].

Map 21: Food Security Situation in Hiran region - Jul 2015



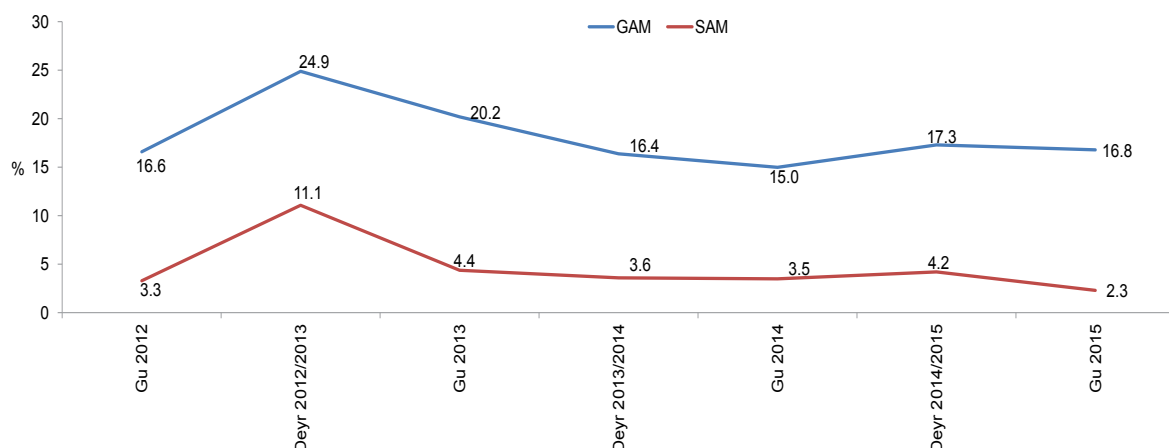
POST GU 2015 NUTRITION SITUATION

The results of nutrition assessments in Hiran region are summarized in table 26 and the key highlights are discussed below:

Prevalence of Acute Malnutrition in Beletweyne

For the past three years, from *Gu* 2012 to *Gu* 2015, the prevalence of acute malnutrition in Beletweyne district has been sustained at **Critical** levels (Figure 1). The results of post *Gu* 2015 analysis in Beletweyne district shows **Critical** GAM (16.8%) which is sustained as Critical since *Deyr* 2014/14 (17.3%) or *Gu* 2014 (15%). A decrease of SAM prevalence to **Alert** levels (2.2%) is seen in *Gu* 2015 which is an improvement compared to *Deyr* 2014/14 (4.2%) or *Gu* 2014 (3.5%). The sustained Critical nutrition situation can be attributed to the ongoing civil unrest, repeated displacement resulting from conflicts, recurrent droughts and floods that destroyed the crops at the waterfront and the deterioration in the sanitary conditions following the floods and displacement, which resulted into high morbidity levels in the area.

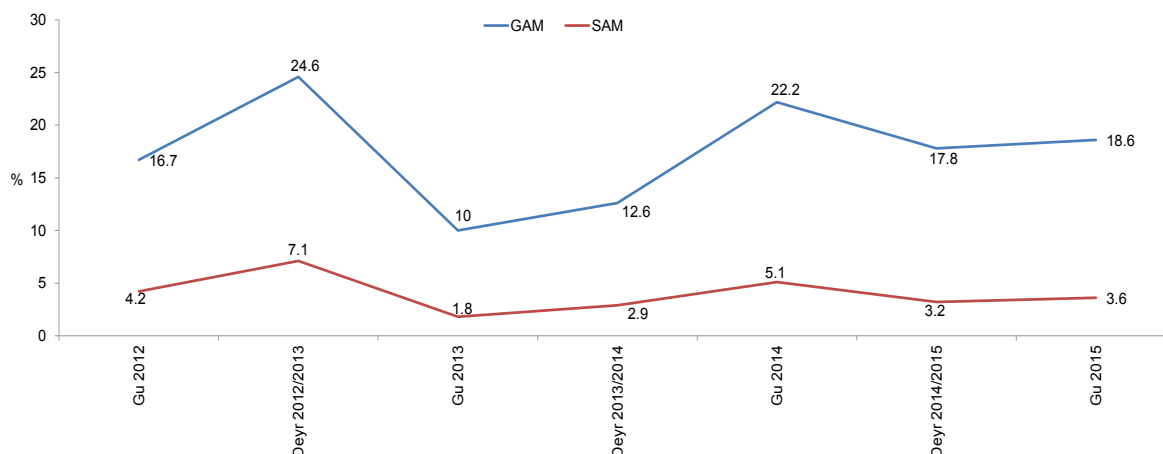
Figure 41: Trends in Acute Malnutrition in Beletweyne



Prevalence of Acute Malnutrition in Mataban

The acute malnutrition trends in Mataban district (Figure 42) show sustained **Critical** levels of GAM since Deyr 2013/14 (17.8%) and *Gu* 2014 (22.2%). The SAM prevalence was sustained as **Serious** level (3.6%) since *Deyr* 2014/15 (3.2%).

Figure 42: Trends in Acute Malnutrition in Mataban



STUNTING

Beletweyne shows increase in stunting prevalence in *Gu* 2015 to **High** level (30.8%) from **Medium** prevalence level observed in the last two preceding seasons of *Deyr* 2014/15(24.25) and *Gu* 2014 (23.5%) . In Mataban **Low** prevalence of stunting (16.2%) is seen since *Deyr* 2012/13(13.7%)

UNDERWEIGHT

The underweight prevalence in Beletweyne is sustained as **High** (24.9%) (Figure 43) since *Gu* 2014 (24.8%). Mataban however shows an increase in underweight prevalence to High levels in *Gu* 2015 (20.2%) compared to Medium levels seen in *Deyr* 2014/15 (16.8%) or *Gu* 2014 (16.7%).

Figure 43 shows Stunting and underweight trends in Beletweyne while Figure 44 shows the trends in Mataban.

Figure 43: Trends of Stunting and Underweight in Beletweyne

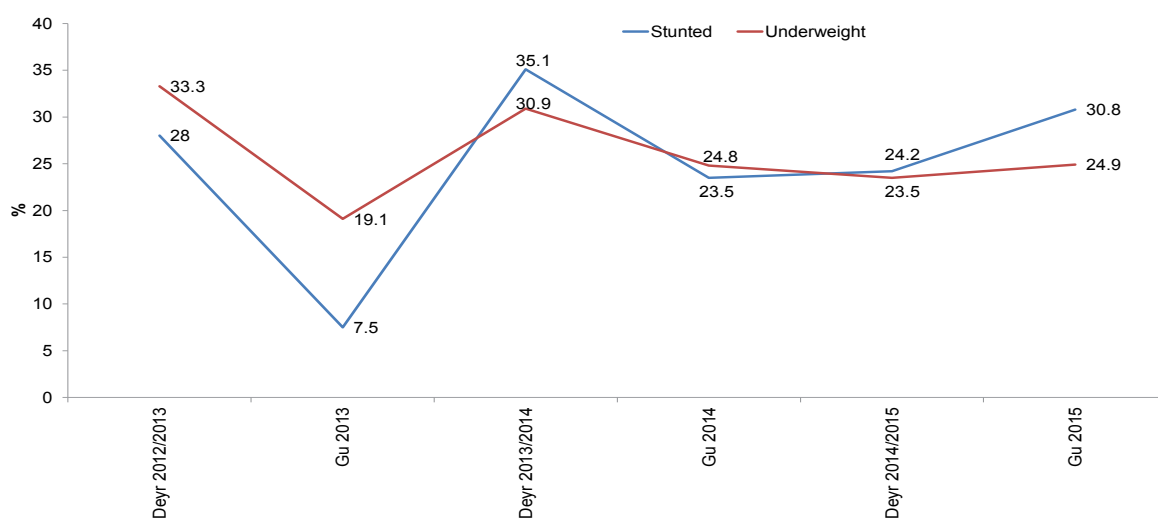
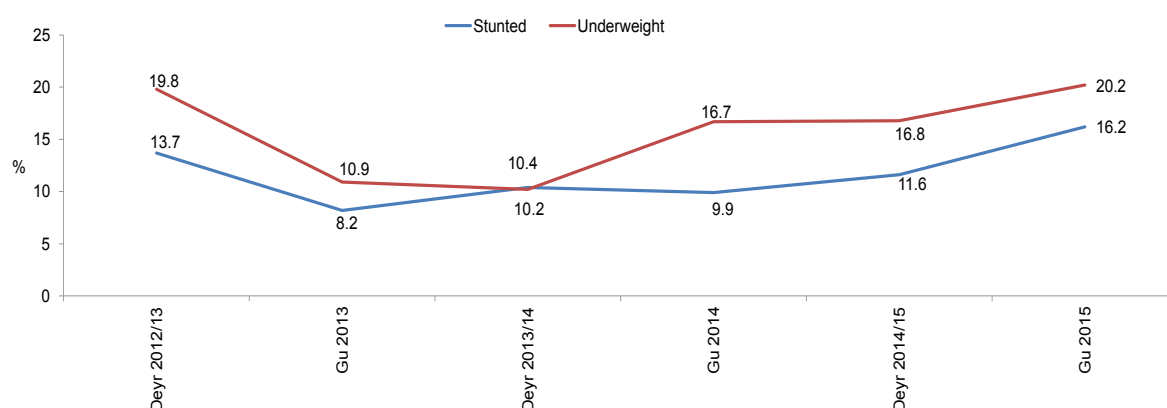
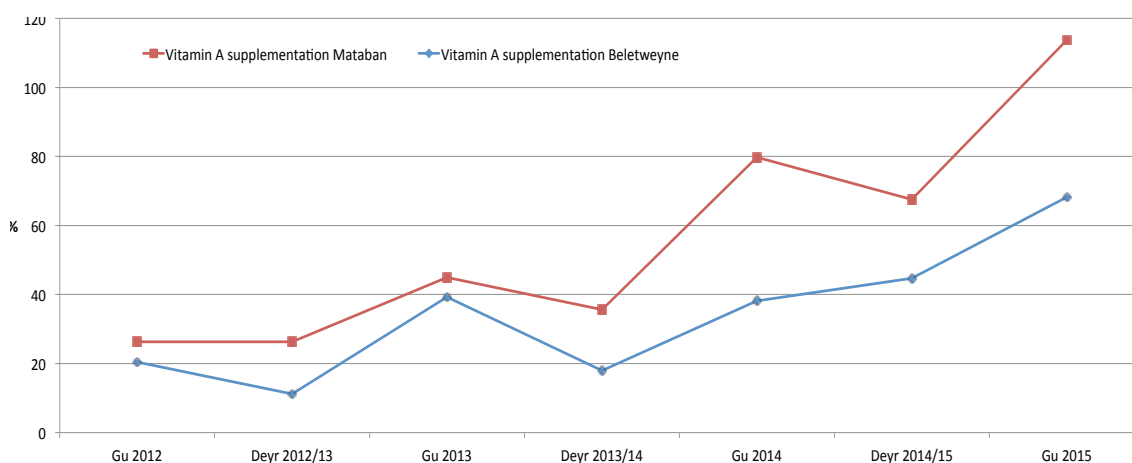


Figure 44: Trends of Stunting and Underweight in Mataban


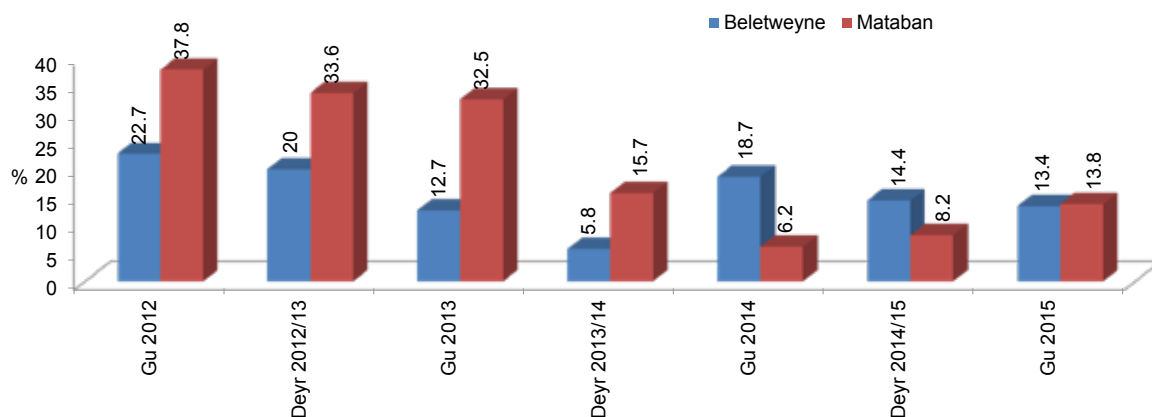
Immunization

The health service provision in both Beletweyne and Mataban is either completely lacking or where it exists, is very limited with low coverage in essential preventive efforts including immunization. In Beletweyne the measles immunization coverage rate was only 9.9 percent whereas Vitamin A supplementation coverage was 68.2 percent for *Gu* 2015. In Mataban, measles immunisation coverage was 16.6 percent and coverage with vitamin A supplementation was 45.5 percent. The reported immunization and vitamin A supplementation coverage for both districts (Annex 17) are far below the recommended standards (SPHERE) and are a clear indication of the gaps in health service provision in the area, which is a contributing factor to the high morbidity rates observed in the area. Although the coverage of both measles immunization (Annex 18) and vitamin A are very low, the vitamin A supplementation seems to have increased in both Beledweyne and Mataban surveys with fluctuating trends and this slight increase can be attributed to the polio campaigns that also include vitamin A supplementation (Figure 45).

Figure 45: Trends of Vitamin A supplementation in Beletweyne and Mataban


Maternal malnutrition

The prevalence of maternal malnutrition in Beletweyne represents improvement from **Serious** level in *Gu* 2014 survey (18.7%) to **Alert** level in *Gu* 2015 (13.4%) which are sustained *Deyr* 2014/15 (14.4 %) and current *Gu* 2015 survey (13.4 percent). In Mataban, the prevalence of malnutrition among pregnant and lactating women deteriorated from **Acceptable** level in *Deyr* 2014/15 (8.2 percent) and *Gu* 2014 (6.2 percent) to **Alert** level (13.8 percent) in *Gu* 2015.

Figure 46: Trends in Maternal Malnutrition in Beletweyne and Mataban Districts

CHANGES IN THE NUTRITION SITUATION

The progression in the nutrition situation in Hiran region since *Gu* 2014 is shown in figure 47. The nutrition situation in the surveyed areas of Beletweyne and Mataban has been sustained as Critical since the *Gu* 2014 season. The underlying causes of malnutrition seen in the region have been suggested as poor sanitation, low immunization and Vitamin A supplementation coverage due of limited access to health services which have resulted into high morbidity rate recorded in the two districts for the last three years. Civil insecurity, trade movement restrictions, displacement due insecurity and floods, coupled with recurrent floods which have destroyed the crops in riverine areas of Beletweyne district resulting in poor harvest have also contributed to the current nutrition situation.

CURRENT HOTSPOTS FOR ACUTE MALNUTRITION

Both Beletweyne and Mataban districts have remained hot spots for acute malnutrition since *Gu* 2014. Sustained Critical GAM prevalence, high morbidity and extremely low or lack of preventive, promotive and curative health service provision have been recorded in both districts through the years.

OUTLOOK FOR AUGUST - OCTOBER 2015

Considering the current nutrition assessment findings and food security and nutrition aggravating factors recorded and the nutrition outlook for the last 12 months, the situation is projected to remain critical for the coming quarter, August to October 2015.

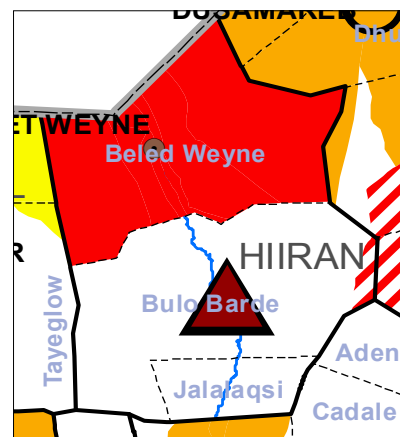
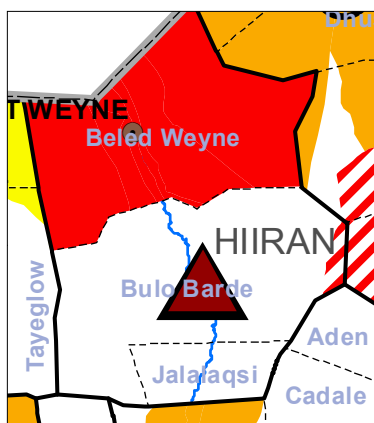
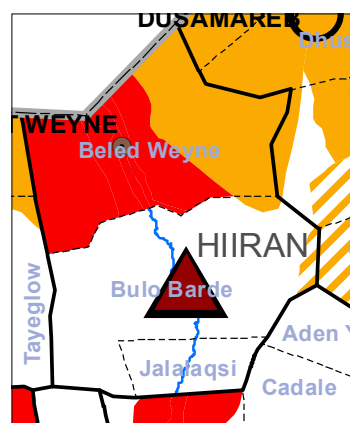
Map 22: Current Nutrition Situation - Jul 2015 in Hiran region**Figure 47: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Hiran region****Current Nutrition Situation - Jul 2015****Projected Nutrition Situation - Aug-Oct 2015**

Table 26: Summary of Key Nutrition Findings in Hiran region

Indicators	Beletweyne		Mataban	
	Clusters :		Clusters :	
	(N= 647; Boys=338; Girls=309)		(N=694:Boys=355;Girls=339)	
Indicator	n	% (CI)	n	% (CI)
Plausibility	9%			
<i>Child Nutrition Status</i>				
Global Acute Malnutrition (WHZ<-2 or oedema)	109	16.8% (13.7-20.6 95%)	129	18.6% (15.4-22.3 95%)
Boys	63	18.6% (15.3-22.5 95%)	73	20.6% (16.5-25.3 95%)
Girls	46	14.9% (10.7-20.4 95%)	56	16.5% (12.5-21.6 95%)
Severe Acute Malnutrition (WHZ<-3 or oedema)	15	2.3% (1.5- 3.6 95%)	25	3.6% (2.3- 5.7 95%)
Boys	12	3.6% (2.2- 5.7 95%)	11	3.1% (1.7- 5.6 95%)
Girls	3	1.0% (0.3- 3.1 95%)	14	4.1% (2.3- 7.2 95%)
Mean of Weight for Height Z Scores		-0.88±1.03		-0.94±1.15
Oedema	5	0.8 (-0.03 – 1.55 95%)	4	0.56 (0.03 – 1.09 95%)
Boys	3	0.9 (-0.13 – 1.89 95%)	3	0.82 (-0.09 – 1.73 95%)
Girls	2	0.6 (-0.28 – 1.55 95%)	1	0.29 (-0.31 – 0.88 95%)
CDR		0.40 (0.20-0.80)		0.27 (0.13 – 0.54)
U5DR		1.24 (0.54-2.82)		0.28 (0.07 – 1.13)
Stunting	197	30.8% (24.8-37.5 95%)	113	16.2% (12.7-20.3 95%)
Boys	113	34.5% (28.2-41.3 95%)	73	20.4% (16.0-25.6 95%)
Girls	84	27.0% (19.2-36.6 95%)	40	11.7% (7.7-17.5 95%)
Severe stunting	66	10.3% (7.5-14.0 95%)	28	4.0% (2.6- 6.0 95%)
Boys	41	12.5% (9.3-16.7 95%)	25	7.0% (4.7-10.3 95%)
Girls	25	8.0% (4.8-13.1 95%)	3	0.9% (0.3- 2.8 95%)
Underweight	160	24.9% (20.0-30.6 95%)	142	20.2% (16.1-25.0 95%)
Boys	94	28.1% (22.9-34.1 95%)	89	24.8% (19.1-31.5 95%)
Girls	66	21.4% (15.1-29.3 95%)	53	15.4% (11.5-20.2 95%)
Severe underweight	46	7.2% (4.7-10.7 95%)	19	2.7% (1.6- 4.4 95%)
Boys	29	8.7% (6.7-11.2 95%)	13	3.6% (1.9- 6.8 95%)
Girls	17	5.5% (2.4-12.3 95%)	6	1.7% (0.7- 4.3 95%)
MUAC<125mm	59	9.0% (7.0-11.6 95%)	46	6.4% (4.1- 9.9 95%)
Boys	26	7.6% (5.0-11.6 95%)	20	5.4% (3.1- 9.4 95%)
Girls	33	10.5% (7.4-14.6 95%)	26	7.5% (4.7-11.8 95%)
MUAC<115mm	13	2.0% (1.2- 3.4 95%)	10	1.4% (0.7- 2.9 95%)
Boys	8	2.4% (1.3- 4.3 95%)	5	1.4% (0.5- 3.8 95%)
Girls	5	1.6% (0.7- 3.6 95%)	5	1.4% (0.6- 3.3 95%)
Morbidity	170	25.9 (15.0 – 36.9 95%)	244	34.2% (23.48 – 44.86 95%)
Boys	87	25.6 (14.2 – 36.9 95%)	123	33.5% (21.39 – 45.63 95%)
Girls	83	26.3 (14.7 – 37.9 95%)	121	34.9% (24.25 – 45.48 95%)
Diarrhoea	88	13.4 (6.19 – 20.6 95%)	73	10.2% (4.13 – 16.31 95%)
Boys	44	12.9 (5.11 – 20.7 95%)	33	8.9% (2.84 – 15.14 95% CI)
Girls	44	13.9 (6.15 – 21.6 95%)	40	11.5% (4.86 – 18.19 95% CI)
Pneumonia	51	7.8 (1.6 – 13.9 95%)	93	13.0% (6.72 – 19.32 95% CI)
Boys	26	7.6 (0.26 – 15.03 95%)	52	14.16% (5.95 – 22.38 95%)
Girls	25	7.9 (2.02 – 13.74 95%)	41	11.81% (5.82 – 17.80 95%)
Fever	133	20.2 (9.96 – 30.52 95%)	153	21.4% (13.35 – 29.50 95%)
Boys	69	20.3 (10.1 – 30.48 95%)	74	20.1% (11.53 – 28.79 95%)
Girls	64	20.2 (9.21 – 31.16 95%)	79	22.7% (14.25 – 31.27 95%)
Measles	2	0.3 (-0.13 – 0.73 95%)	2	0.2% (-0.12 – 0.68 95%)
Boys	0	0.0 (0.00 – 0.00 95%)	0	0.0% (0.00 – 0.00 95%)
Girls	2	0.6 (-0.27 – 1.53 95%)	2	0.5% (-0.26 – 1.41 95%)
Polio Vaccine	447	68.0 (54.9 – 81.16 95%)	406	56.8 (44.98 – 68.74 95%)
Boys	221	65.0 (50.43 – 79.56 95%)	203	55.3 (42.32 – 68.30 95%)
Girls	226	71.2 (58.44 – 84.13 95%)	203	58.5 (46.87 – 70.13 95%)
Vitamin A vaccine	448	68.2 (54.76 – 81.61 95%)	325	45.5% (35.31 – 55.72 95%)
Boys	224	65.9 (51.25 – 80.51 95%)	163	44.41% (33.80 – 55.02 95%)
Girls	224	70.7 (57.71 – 83.60 95%)	162	46.6% (36.12 – 57.25 95%)
Measles Vaccine	65	9.9 (0.82 – 18.96 95%)	119	16.6% (9.01 – 24.31 95%)
Boys	32	9.4 (1.28 – 17.53 95%)	56	15.2% (7.46 – 23.05 95%)
Girls	33	10.4 (0.11 – 20.70 95%)	63	18.1% (10.15 – 26.16 95%)
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	6	1.4 (0.13 – 2.65 95%)	17	4.2% (0.84 – 7.69 95%)
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	58	13.4 (8.64 – 18.33 95%)	55	13.8% (8.18 – 19.44 95%)

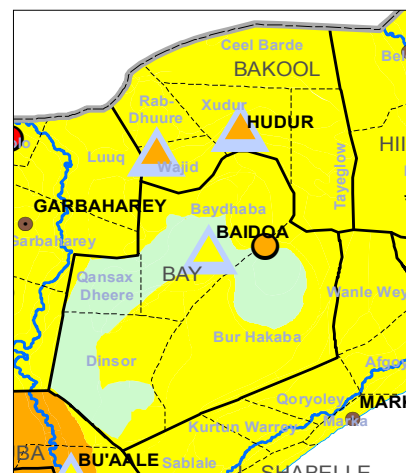
4.4.5: BAY AND BAKOOL REGIONS

FSNAU conducted three nutrition surveys (one IDP and two rural livelihoods) in the Bay and Bakool region of Somalia. The nutrition status of 2 158, children aged 6-59 month old (1 100 boys and 1 058 girls) from 1 381 households was assessed. While comprehensive assessments (nutrition and food security) were conducted in Baidoa IDP, a short anthropometric questionnaire was used to assess the nutrition situation among Bay Agro pastorals and Bakool pastoral rural livelihoods.

CURRENT FOOD SECURITY SITUATION- POST GU 2015

The food security situation of all rural livelihoods in Bay and Bakool regions has improved in the post- *Gu* 2015 compared to the post-*Deyr* 2014/15 season. The post *Gu* July 2015 analysis, classifies the acute food insecurity situation in most rural livelihoods of these two regions as **Stressed** (IPC Phase 2). This is due to relatively improved access to most food security components, since post *Deyr* 2014/15 season. In Bakool region, a total of 37 000 people (29% in Southern Agro pastoral, 48% in- Bakool Agro pastoral Low Potential and 23% in pastoral livelihoods) were also identified as **Stressed** (IPC Phase 2), reflecting a decrease of 46 per cent since last *Deyr* 2014 estimates (81 000). As a result of improved situation, significant number of population previously in stress (IPC Phase 2) was shifted to **Minimal** phase in July 2015.

Map 23: Food Security Situation in Bay Bakool Regions - Jan 2015



In the most likely scenario, area classification is projected as **Stressed** (IPC - Phase 2) in all the rural livelihoods of both regions in the period between July and December 2015. However, an estimated number of population in Stressed (IPC - Phase 2) is projected (July-December 2015) to increase in both regions (68% in Bay and 16% in Bakool) due to an adverse impact on food security situation in Sorghum High Potential agro pastoral, and Bay-Bakool agro pastoral Low Potential of Bay-Bakool regions because of expected El-Niño

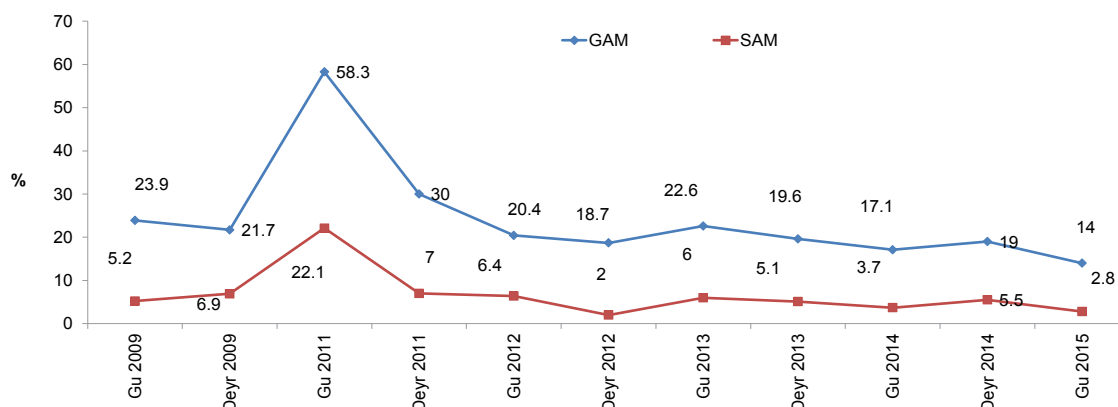
POST GU 2015 SURVEY RESULTS

The results of nutrition assessments done in Bay and Bakool region are summarized in Tables 27 and 28 while the key highlights are discussed below:

ACUTE MALNUTRITION

Bay Agro-pastoral: The findings of *Gu* 2015 nutrition survey conducted among Bay agro-pastoral suggest prevalence of **Serious** levels of acute malnutrition (14%), which is an improvement since *Deyr* 2014/15 (19%) or *Gu* 2014 (17.1%) [Figure 48]. The SAM prevalence (2.8%) also show an improvement in nutrition situation compared to *Deyr* 2014/15 (5.5%). This suggests a seasonal change as **Serious** levels prevalence of SAM prevalence in *Gu* 2015 are similar to the **Serious** levels recorded in *Gu* 2014 (3.7%).

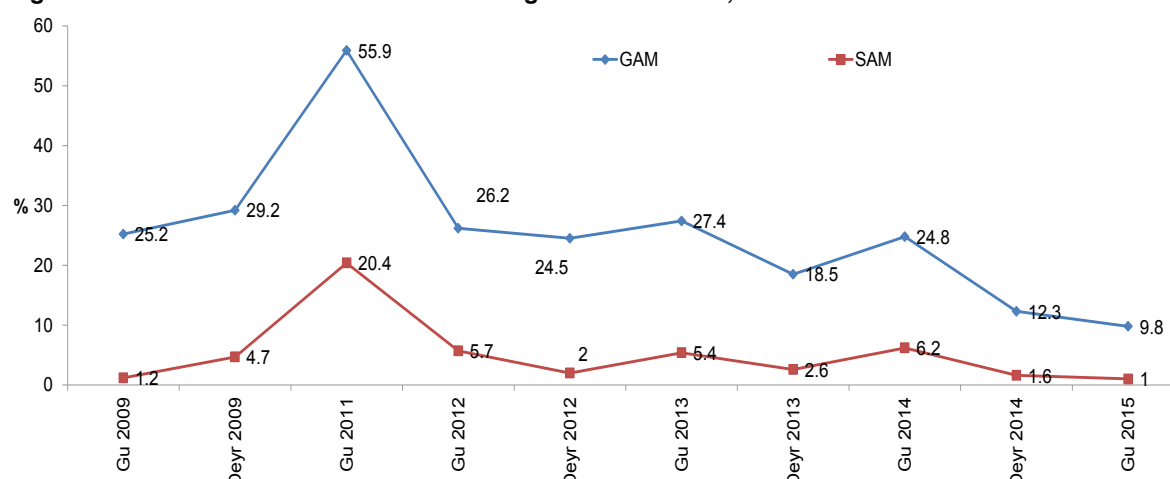
Figure 48: GAM and SAM trends in Bay agro-pastoral Somalia



Current prevalence of acute malnutrition (14 % GAM with 2.8% SAM) are the lowest since the famine in *Gu* 2011, The main underlying cause for malnutrition seem to be related to sustained sub-optimal to infant and young child feeding practices, low immunization, poor access to safe water and sanitation and/or high morbidity rate.

Bakool Pastoral: A significant improvement ($p < 0.01$) in both GAM (9.8% - **Alert**) and SAM prevalence (1%- **Alert**) is noted in *Gu* 2015 ,compared to *Gu* 2014 (24.8% GAM and 1.5% SAM) (Annex 10). The current prevalence of acute malnutrition is lowest since the famine period. The improvement in nutrition situation is mainly linked to low prevalence of morbidity and no recent outbreaks of measles and/or diarrhea, high accessibility to milk as well as the distribution of cash voucher and food distribution to the families with malnourished children in the supplementary feeding clinic.

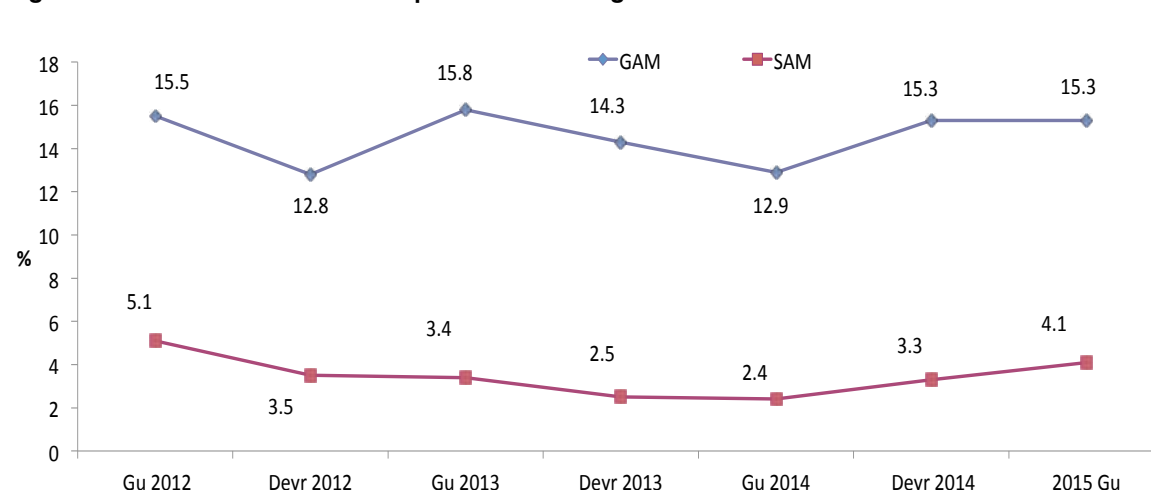
Figure 49: Trends in Acute Malnutrition among Bakool Pastoral, Somalia



Baidoa IDP: The nutrition survey conducted in May 2015 assessed nutrition status of 567 children 6-59 months). The results shows that sustained prevalence of **Critical** levels of GAM (15.3 %) and SAM (4.1 %). Current GAM prevalence levels are similar to those recorded in *Deyr* 2014/15 (15.3%) but higher when compared to **Serious** GAM recorded in *Gu* 2014 (12.9%). However this deterioration in GAM since *Gu* 2014 is statistically not significant ($P < 0.25$) and is only a phase change.

Increase in SAM prevalence to **Critical** levels (4.1%) from **Serious** levels (3.3%) observed in *Deyr* 2014/15, is also statistically not significant.

Figure 50: Trends in GAM and SAM prevalence among Baidoa IDPs



MORTALITY

Acceptable CDR and U5DR (<0.5 /10 000/day) were observed among Bay Agro-pastoral and Bakool Pastoral livelihoods (Annex 8). However among Baidoa IDPs, even though the retrospective CDR was **Acceptable** (0.27/10 000/day), U5DR was **Serious** levels (1.39/10 000/day) and it is sustained as Serious since Deyr 2014/15 (1.21/10 000/day) [Annex 10].

MORBIDITY

In Gu 2015 a decrease in morbidity was observed among Bakool pastorals (25.9%) compared to Deyr 2014/15 (31.7%), However Bay agro-pastoral show an increase in prevalence of morbidity (29.1%) compared to Deyr 2014/15 (19.3%).

High morbidity is noted among Baidoa IDPS in Gu 2015 (46.8%) which is sustained since Deyr 2014 (45.2%) and this could be responsible for increase in SAM prevalence (Annex 16).

IMMUNIZATION

Low coverage with Vitamin A supplementation and measles vaccination was observed among Bay Agro-pastoral, Bakool pastoral livelihoods and Baidoa IDPs. Coverage with vitamin A supplementation among Bay agro-pastoral was 7.4 percent and 26.1 percent among Bakool pastoral livelihoods. While coverage with the measles vaccination in Bay Agro pastoral was (2.9%) and 13.1 percent in Bakool pastoral. Among Baidoa IDPs, coverage with both Vitamin A supplementation (78.1%) and measles vaccination (70.1 %) in Gu 2015 is slightly higher when compared with coverage of 57.5 percent with Vitamin A and 44.8 percent for Measles in Deyr 2014/15.

CHRONIC MALNUTRITION-STUNTING

Low prevalence of stunting is sustained among Bakool Pastorals (2.8%) since Gu 2014 Bay Agro-pastoral also show low stunting prevalence (17%) with a decreasing trend (Annex 14). On the other hand Baidoa IDPs showed **Medium** prevalence of stunting (29.7%), which is an improvement compared to **High** levels seen in Deyr 2014/15 (31.1%) and **very high** levels in Gu 2014 (41.4%).

UNDERWEIGHT (ACUTE & CHRONIC MALNUTRITION)

High prevalence of underweight was recorded among Bay Agro-pastoral (20.4%) and Baidoa IDPs (27.3%) which is sustained since Deyr 2014/15 (28.8% in Bay agro-pastoral and 26.2% in Baidoa IDPs). While Bakool pastoral show sustained **low** prevalence of underweight in Gu 2015 (7.1%) compared to Deyr 2014/15 (7.7%).

MATERNAL MALNUTRITION

Trends in maternal malnutrition are shown in Annex 15. **Serious** levels of maternal malnutrition were observed among Bakool pastoral (17.9%) which suggest a deterioration since Deyr 2014/15 (9.2%).

Bay agro-pastoral show sustained **Alert** levels of maternal malnutrition (13.7%) in Gu 2015 since Deyr 2014/15 (16.7%). **Serious** levels of maternal malnutrition are also sustained among Baidoa IDPs (18.1%) since Deyr 2014/15 (20.9%)

CURRENT HOT SPOTS FOR ACUTE MALNUTRITION IN BAY REGION

Baidoa IDPs in the Bay region with **Critical levels of GAM** (>15%) and SAM (4.1%) are the current hotspot for acute malnutrition. Besides acute malnutrition Baidoa IDPs also show medium prevalence of stunting (29.7%) and high prevalence of underweight (27.3%). Thus Baidoa IDP requires not only immediate interventions to treat the acutely malnourished children but also multisectoral interventions which integrate food, health, hygiene, sanitation and care practices to prevent further deterioration of the nutrition situation.

CURRENT NUTRITION SITUATION

Map 24 show the current in nutrition situation (Gu 2015). Alert levels of acute malnutrition are noted among Bakool pastoral (9.8%), Serious levels in Bay Agro pastoral (14%)

While Baidoa IDPs are critical (15.3%) because of high levels of morbidity, (46.8%) and low immunization coverage and limited humanitarian assistance.

OUTLOOK FOR AUGUST - OCTOBER 2015

The nutrition situation is projected to deteriorate as **Critical** in Bay Agro-pastoral from current Serious phase due to civil insecurity, low humanitarian interventions and the anticipated El-nino which will increase morbidity due to reduced access to safe water.

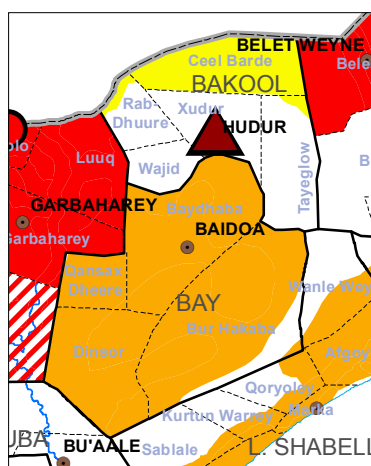
Critical GAM prevalence among Baidoa IDPs is expected to be sustained over next 3 months due to high morbidity levels, low access of health services, poor availability adequate of water and sanitation facilities, and as well as limited access for humanitarian assistance.

Bakool Pastoral is expected to deteriorate to Serious from current Alert phase if the current levels of interventions are not sustained.

Figure 51 below shows the current and projected nutrition situation for the region.

Figure 51: Nutrition Situation and Outlook, July 2015 to August-October 2015 in Bay Bakool regions

Current Nutrition Situation - Jul 2015



Projected Nutrition Situation - Aug-Oct 2015

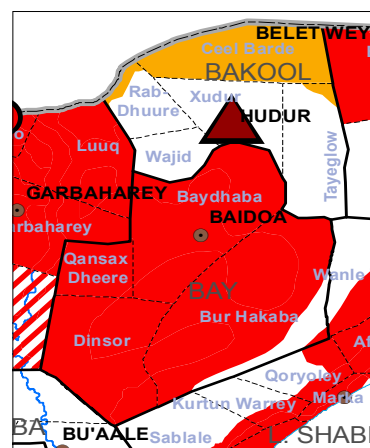


Table 27: Summary of Key Nutrition Findings in Bay Bakool regions - Gu 2015

	Bay Agro Pastoral		Bakool pastoral	
	Clusters : 35 (N=917;Boys=462;Girls=455)		Clusters: 35 (N=675:Boys=339;Girls=336)	
Indicator	% (CI)	Outcome	% (CI)	Outcome
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	14.0 (11.5-16.8)	Improved	9.8 (7.4-12.8)	Improved
Boys	16.9(13.5-20.9)		10.0% (6.9-14.3)	
Girls	11.0(7.8-15.3)		9.5% (6.6-13.6)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.8 (2.0-4.0)	Improved	1.0 (0.5- 2.3)	Improved
Boys	3.9(2.6-5.7)		1.5 (0.5- 4.1)	
Girls	1.8(0.8-3.6)		0.6 (0.1- 2.3)	

Mean of Weight for Height Z Scores	-.098±.092	-0.83±0.93		
Oedema	0		0	
Proportion with MUAC<12.5 cm	11.3 (9.5-13.3)	Improved	8.3 (6.2-11.0)	Improved
Boys	12.6 (10.4-15.3)		6.2 (3.8- 9.8)	
Girls	9.9 (7.6-12.7)		10.4 (6.9-15.4)	
Proportion with MUAC<11.5 cm	3.2 (2.3-4.6)	Sustained	0.7 (0.3- 1.7)	Improved
Boys	3.6 (2.3-5.5)		1.2 (0.4- 3.1)	
Girls	2.9 (1.7-4.7)		0.3 (0.0- 2.3)	
Stunting (HAZ<-2)	17.0 (12.7-22.4)	Sustained	2.8 (1.5- 5.2)	Improved
Boys	22.3 (16.5-29.3)		3.5 (1.6- 7.8)	
Girls	11.6 (8.0-16.7)		2.1 (0.9- 4.9)	
Severe Stunting (HAZ<-3)	3.0 (1.9-4.7)	Sustained	0.1(0.0- 1.1)	Improved
Boys	4.7 (2.9-7.6)		0.3 (0.0- 2.2)	
Girls	1.3 (0.5-3.6)		0.0 (0.0- 0.0)	
Underweight (WAZ<-2)	20.4 (16.0-25.7)	Sustained	0.4 (0.1- 1.4)	Improved
Boys	27.9 (22.3-34.2)		0.6 (0.1- 2.4)	
Girls	12.7 (8.3-19.1)		0.3 (0.0- 2.2)	
Death Rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.04 (0.00-0.28)	Sustained	0.19 (0.09-0.43)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.32 (0.10-1.00)	Sustained	0.15 9(0.02- 1.1)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0.7 (-0.3-1.1)	Sustained	3.1 (0.9-5.3)	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	13.7(8.6-18.8)	Sustained	17.9 (12.8- 23.1)	
Morbidity	29.1 (21.6-36.6)	Sustained	25.9 (17.6-34.2)	
Boys	29.8 (22.1-37.6)		25.9 (16.2-35.6)	
Girls	28.2 (20.0-36.5)		25.8 (17.6- 35.2)	
Diarrhoea	13.1 (8.6-17.5)	Sustained	5.9(3.7-8.1)	Sustained
Boys	14.3 (8.9-19.7)		5.6(2.1-9.1)	
Girls	11.8 (7.4- 16.3)		6.2(3.5-8.1)	
Pneumonia	3.3 (1.3-5.3)	Sustained	15.1 (9.1-21.1)	Sustained
Boys	3.3 (0.9- 5.7)		15.6 (8.1-23.1)	
Girls	3.2 (1.2- 5.3)		14.5 (8.9-20.1)	
Fever	23.7 (17.5- 29.9)	Sustained	13.7 (9.0-18.5)	Sustained
Boys	24.2 (18.2-30.1)		14.4 (9.0- 19.8)	
Girls	23.2 (15.9- 30.5)		13.0 (7.5-18.6)	
Measles	1.3 (0.4-2.3)	Sustained	0.1 (0.0-0.1)	Sustained
Boys	1.6 (0.3-3.0)		0	
Girls	1.1 (-0.22- 2.4)		0.2 (0.0-0.9)	
Vitamin A Supplementation	7.4 (0.8-13.9)	Sustained	26.1 (16.4- 35.6)	Sustained
Boys	8.2 (0.2- 16.1)		27.4(16.4- 37.9)	
Girls	6.5 (1.0-12.1)		24.7 (14.7- 34.6)	

Measles Vaccination	2.9 (-0.5- 6.3)		13.1 (5.0-21.3)	
Boys	3.3 (-1.0-7.7)	Sustained	14.1(3.8-24.5)	Sustained
Girls	2.4 (-0.2-5.1)		12.2 (5.2-19.1)	
Polio Immunization	8.5 (1.3- 15.8)		47 (37.2- 58.1)	
Boys	9.4 (1.0-17.9)	Sustained	50.1(39.2-61.0)	Sustained
Girls	7.6 (1.3- 14.0)		45.2 (33.9-56.5)	

Table 28: Summary of Key Nutrition Findings in Baidoa IDPs

		Baidoa IDPs	
		Clusters : 30 (N=522; Boys=249; Girls=273)	
Indicator		% ()	Outcome
Child Nutrition Status			
Global Acute Malnutrition (WHZ<-2 or oedema)		15.3% (12.6-18.5)	Sustained
Boys		18.1% (14.1-22.8)	
Girls		12.3% (8.9-16.8)	
Severe Acute Malnutrition (WHZ<-3 or oedema)		4.1% (2.7- 6.0)	Sustained
Boys		4.3% (2.6- 7.3)	
Girls		3.7% (2.0- 6.7)	
Mean of Weight for Height Z Scores		-0.93±1.07	
Oedema		0	Sustained
Proportion with MUAC<12.5 cm		14.6% (11.9-17.7)	improved
Boys		15.2% (11.6-19.6)	
Girls		13.9% (10.3-18.5)	
Proportion with MUAC<11.5 cm		3.4% (2.2- 5.2)	Sustained
Boys		3.5% (2.0- 6.2)	
Girls		3.3% (1.7- 6.1)	
Stunting (HAZ<-2)		29.7% (26.1-33.6)	Sustained
Boys		32.0% (26.9-37.5)	
Girls		27.1% (22.2-32.7)	
Severe Stunting (HAZ<-3)		10.6% (8.3-13.4)	Sustained
Boys		11.4% (8.3-15.6)	
Girls		9.7% (6.7-13.8)	
Underweight (WAZ<-2)		27.3% (23.8-31.1) 31.9%	Sustained
Boys		(26.9-37.3)	
Girls		22.1% (17.6-27.5)	
Death Rates			
Crude deaths, per 10,000 per day (retrospective for 90 days)		0.27 (0.13-0.54)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)		1.39 (0.75-2.57)	deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)		5.3 (2.9- 7.7)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)		18.1 (14.9- 21.2)	Sustained
Morbidity		46.8 (40.1-53.7)	Sustained
Boys		43.5 (35.2-51.8)	
Girls		50.3 (43.7-57.7)	

Diarrhoea	22.1 (16.1-27.9)	Sustained
Boys	21.9 (15.1-28.7)	
Girls	22.2 (16.2-28.1)	
Pneumonia	7.4 (4.7- 10.1)	Sustained
Boys	7.4 (3.5- 11.2)	
Girls	7.4 (4.2-10.6)	
Fever	28.7 (23.8-33.5)	Sustained
Boys	26.1 (19.8- 32.3)	
Girls	31.8 (25.8-37.8)	
Measles	0.3 (0.0- 1.00)	Sustained
Boys	0.6 (0.00 – 1.9)	
Girls	0	
Vitamin A Supplementation	73.4 (65.5- 81.3)	Sustained
Boys	72.2 (63.2-81.3)	
Girls	74.8 (67.4- 82.1)	
Measles Vaccination	67.1 (59.3- 74.7)	Sustained
Boys	66.4 (57.7-75.1)	
Girls	67.7 (59.9-75.5)	
Polio Immunization	89.7 (85.8- 93.7)	Sustained
Boys	89.6 (84.9-94.3)	
Girls	89.9 (85.4-94.4)	
<i>Women Nutrition and Immunization Status</i>		
Proportion of Women who received Tetanus immunization		Sustained
No dose	18 (13.3- 22.7)	
One dose	11.4 (8.6- 14.3)	
Two doses	26.2 (20.8-31.6)	
Three doses	44.2(37.2- 51.3)	
<i>Public Health Indicators</i>		
Household with access to sanitation facilities		deteriorated
Household with access to safe water		Sustained
Proportion who reported to have consumed <4 food groups	92	improved
Mean CSI	46.5	
FCS	67	

5. GENDER

Somalia is one of the few countries in the world that are not ranked in the Human Development Index. A fact associated with a number of reasons some of which are absence of a functional government, protracted insecurity and inadequate access to basic services for over two decades. The country has suffered a series of famine, drought and resultant prolonged humanitarian crisis, perhaps more, than any other country in modern history. Somali citizens (women and men) have endured profound challenges and suffering more than before the civil war which was an aftermath of the collapse of Saidi Barre government. That said and in reference to the gender inequality index for Somalia¹, it is evident that women, girls, boys and men have experienced the humanitarian crisis differently. The country's child mortality and maternal mortality rates amongst the highest in the world² something to show case the disheartening difficulties faced by Somali women and under five children (girls and boys). These insights explain why the humanitarian players are consistently seeking for evidence based information to strengthen their efforts to improve mortality levels of women, boys and girls by meaningfully reprogramming their response.

To assist humanitarian team meet this objective, FSNAU continues to collect, analyze sex disaggregated data and provide regular update on nutrition status of under-fives in Somalia. The under five children are grouped into two major grouping; 6 to 23 months and 24 to 59 months. The core indicators for nutrition that are and were examined against the underlying gender differences include global acute malnutrition (GAM), severe acute malnutrition (SAM), stunting and underweight. The global acute malnutrition and severe acute malnutrition describes presence and degree of humanitarian emergencies, for children <5: whilst stunting and underweight indicates the underlying vulnerability associated with food insecurity, socio-economic status and poverty in the longer term.

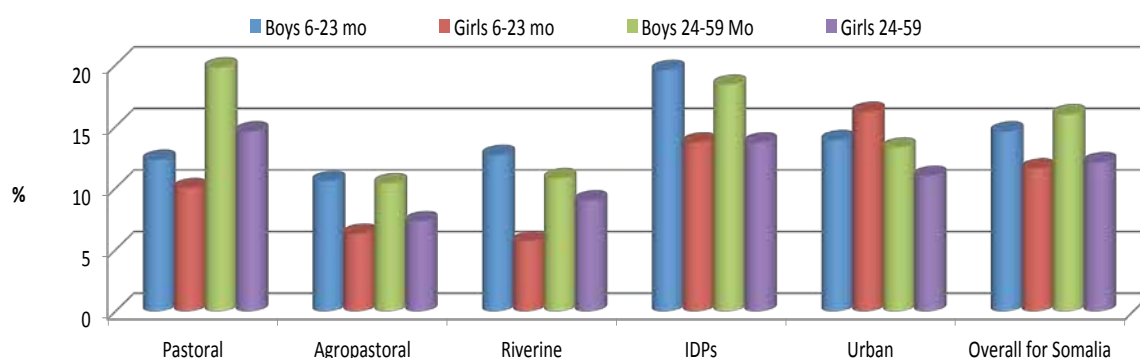
Results:

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

Global Acute Malnutrition (GAM)

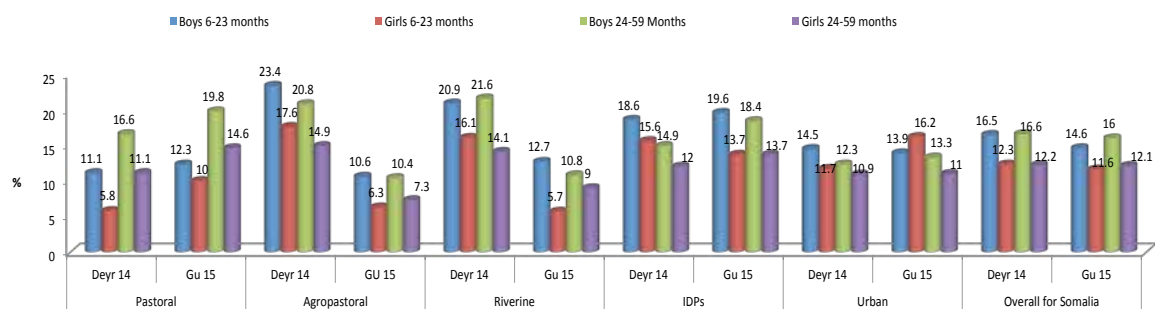
In overall, GAM prevalence was higher in boys compared to girls in both young and older children. Livelihood zone analysis showed still higher prevalence of GAM in boys of both 6-23 months and 24-59 months at Pastoral, Agro pastoral, Riverine and IDPs. Among 6-23 months, at Urban, girls had higher GAM prevalence than boys. The difference was statistically significant in overall areas surveyed (overall results for Somalia) and at agro pastoral, riverine and IDPs livelihoods. Additionally, the likelihood of boys to continue showing high GAM compared to girls is almost twice (2 7620) (this is per the risk reduction ratio percentage). The trend (post Gu 2015 and Post Deyr 2014) present similar results, something to show a continued higher GAM prevalence among boys compared to girls.

Figure 52: Gender differences in GAM prevalence in different regions - Gu 2015

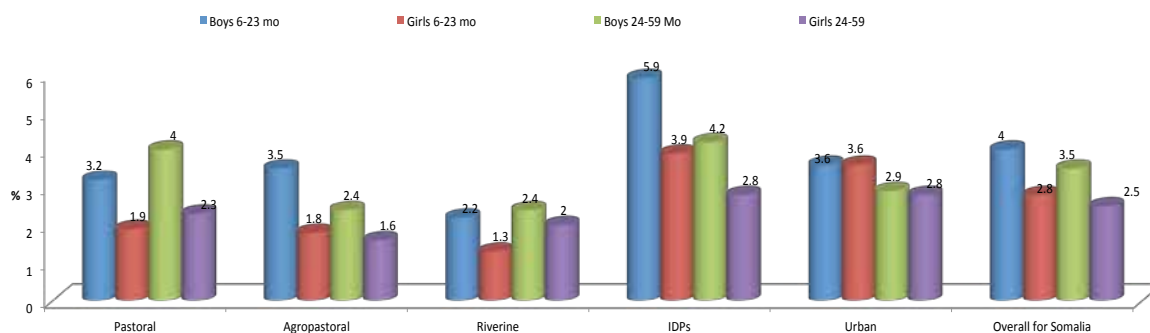
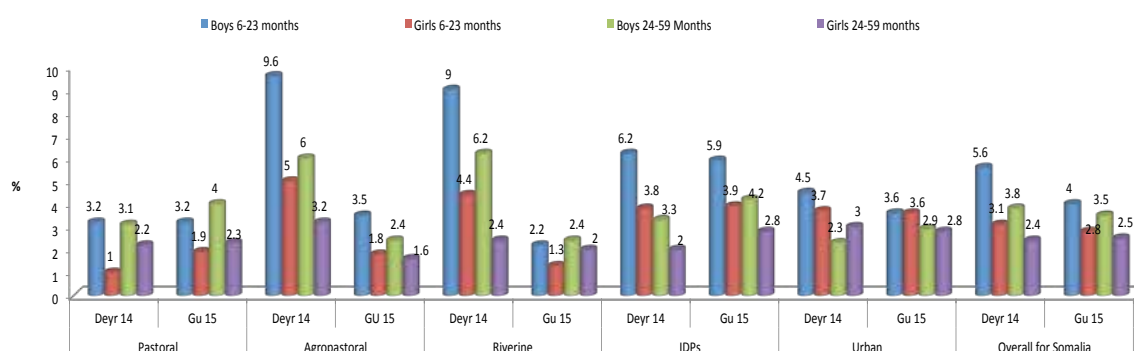


1 Of 0.776 (with a maximum of 1 denoting complete inequality), placing the country at the fourth highest position globally.

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

Figure 53: Trend of gender differences in prevalence of GAM in different regions**Severe Acute Malnutrition (SAM)**

Just like GAM, among children aged (6-23 and 24- 59 months) boys exhibited higher SAM prevalence compared to girls in pastoral, agro pastoral, riverine, IDPs, urban (among 24-59 months children) and overall for Somalia. Only in younger urban children did girls and boys record equal prevalence of SAM. The result was statistically significant for overall surveyed areas and only among older children in pastoral livelihood zones. However, unlike GAM, the likelihood of boys continuing to exhibit higher SAM is low (0.6754) (this is per the risk reduction ratio percentage).

Figure 54: Gender differences in SAM Prevalence in different regions - Gu 2015**Figure 55: Trend of gender differences in SAM Prevalence in different regions****Stunting**

At overall, stunting growth was observed more in boys compared to girls. The same trend was depicted in Pastoral, Agro pastoral, Riverine, IDPs and Urban (only at 6-23 months children). The result was statistically significant for both age groups (6-23 months, 24-59 months) at Pastoral, Riverine and IDP livelihoods. Only among younger (6-23 months) children in agro pastoral was the result statistically significant.

Figure 56: Gender differences in prevalence of stunting in different regions - Gu 2015

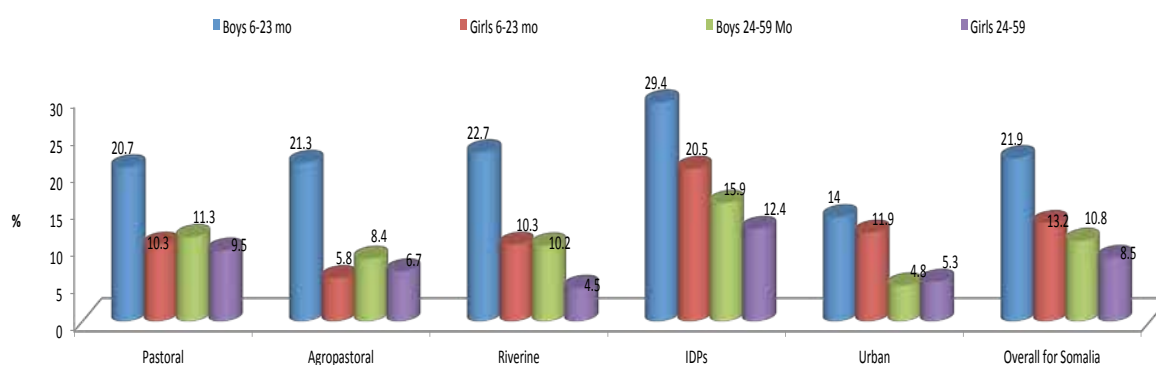
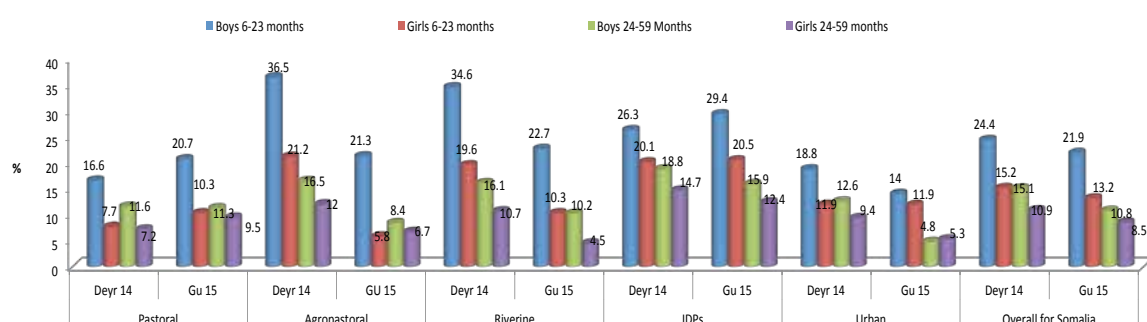


Figure 56: Trend of gender differences in prevalence of stunting in different regions



Underweight

Underweight was observed more in boys compared to girls in under five children at Pastoral, agro pastoral, Riverine and IDP livelihoods. The difference was statistically significant in the three livelihoods. Only at urban did older girls (24-59) record higher underweight than boys of the same age.

Figure 57: Gender differences in prevalence of underweight in different regions - Gu 2015

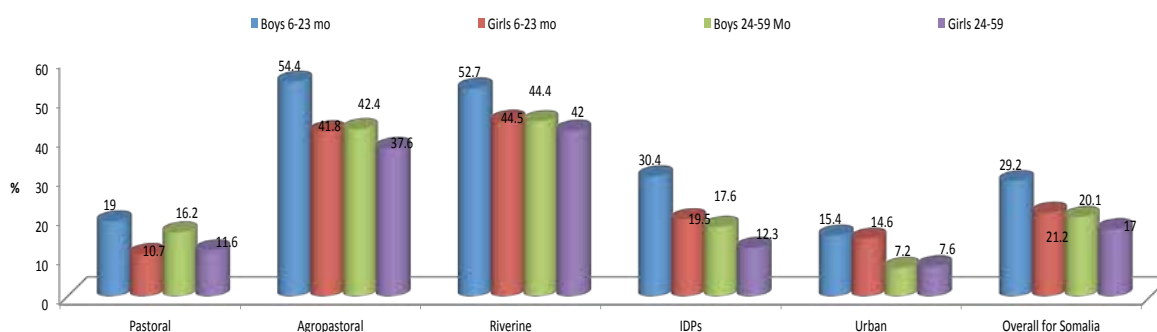
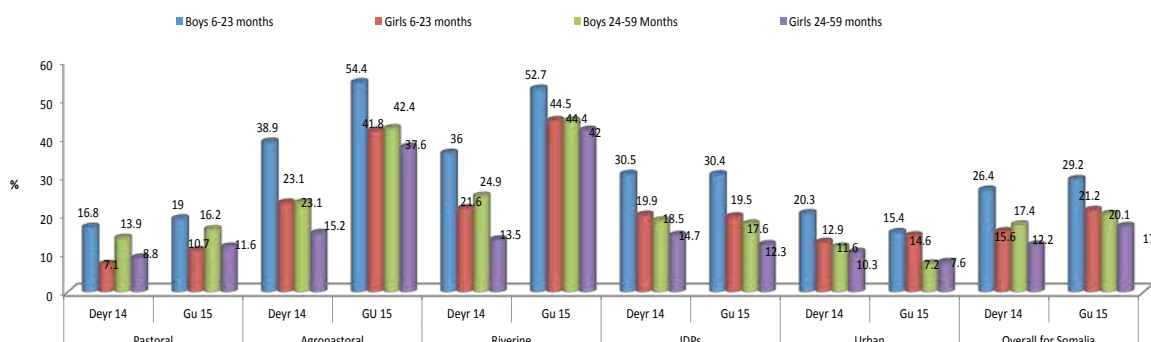


Figure 58: Trend of gender differences in prevalence of underweight in different regions



CONCLUSION

In light of the above livelihoods results, it is evident that among under five children, higher prevalence of malnutrition continues to be observed in boys compared to girls. This trend is likely to appear strange to many readers as Somalia is a country dominated by strong patriarchal system. What could shed some light to this persistent trend is the Somali culture of men (fathers) cherishing in boys and wanting to spend most of the time with them particularly when going for herding/market place etc and as a consequence making under five boys miss regular meals. On the other hand, when boys go with their fathers, automatically girls remain with their mothers at home and most likely accompanying them to the kitchen and in preparation of household meals, this could mean they get chance to eat regularly and as result show improved nutrition. However, more in depth research is needed to establish the reasons for the observed nutritional differences between boys and girls. In the interim, to mitigate the trend, behavior nutrition communication particularly targeting fathers is needed to narrow the gender nutritional differences.

6. APPENDICES

1. Overall Time frame for the Gu 2015 Nutrition Survey

Date	Activity	Description
April 1 st – 19 th	Health facility revisits and Reporting	Field NAs for the Health Facilities
April 20 – 26 th	Report on Health Information system	Nairobi Nutrition Analysts
April 27 th – 30 th	Nutrition Update	Nairobi
May 1 – 5 th	Review of <i>Gu</i> Assessment Instruments (Nutrition questionnaires)	Abukar, Borle, Khalif, and Elijah FA in charge of IDPs assessment
	Finalization of <i>Gu</i> Field Instruments & Sampling for IDPs assessments	All questionnaires engendered and all other arising questionnaires incorporated- Nut/FS team/Robert Basil Technical: Sampling Developed (FS/Nutrition Team)
May 10- 15	Finalization of detailed Regional field plans for Food Security Team	Sector Leads finalize detailed field travel plans with communication to all Field Analysts Northwest, Northeast, Central and South – Roble/Abdullahi. Instruments are finalized and sent to second leads on Livestock and Agriculture Regional travel plans submitted to Operations for Processing TA's, Flights, etc.
May 6 – 16 th	IDPs survey team training	Training in Hargeisa, Kismayo, Mogadishu, Doble Dolow, Baldoa and Garowe (All field NAs from NW, Northeast and Central)- Khalif and Rashid, Abukar, Borle and Elijah and Relevant FS staff
May 17 th – 30 th	Data collection fieldwork for the IDPs	All field NAs from NW, Northeast and Central and FS Team
June 1 – 10 th	Data cleaning, entry and analysis	Both Nairobi and Field staff
June 1-7	<i>Gu</i> 2015 preliminary indication food security assessment in rural livelihoods	<i>Gu</i> 2015 preliminary indication assessment- for all rural livelihoods across the country-All FS FAs in all zones (South/Central and North)
June 4	Nairobi partner technical planning meetings	Assessment Partner Planning Meeting (Agriculture, Pastoral, Urban and south IDPs) (present task planner, timelines, tools and get comments/commitments)
June 11- 18	Urban rapid food security assessment for Southern Somalia	Focus groups data collection in the main towns of southern regions- 8 regions(Hiran, Middle Shabelle, Lower Shabelle, Bay , Bakool, Gedo, Middle Juba and Lower Juba) Each Region three districts except Lower Juba 2 district (Kismayo HH Survey) 23 districts across Southern regions.
June 11 – 15 th	Nutrition Update Write up	Nairobi
June 11-16	<i>Gu</i> Early Warning write-Up	Nairobi
16 – 30 th	Finalization and release of IDPs Update	Nairobi
June 17-26	Finalization and release of Quarterly Food Security Brief (Early Warning)	Nairobi
June 14 - 15	Travel of the food security field analysts to urban assessment training venues in the North	Northwest and Central field analysts travel to Hargeisa and Galka'ayo to participate in urban training and planning
June 18 – 22	Final arrangements for field plans & partner participation in rural food security assessments	To follow-up with NBI Partners regarding their commitments - Tamara Sector Leads to follow-up with Regional Partners in the Field Finalize all Logistics - operations
June 16 – 21 st	Training for joint Urban for North east and Northwest	Both Nairobi and Field staff (Nutrition and Food security)
June 22 – 30	Urban survey field work/ data collection in Nugal, Bari regions (Northeast) and Sool of North west	Both Nairobi and Field staff (Nutrition and Food security)
July 1 – 3	Travel Regional planning meeting for rural food security and introductory training of livelihood and IPC for Focal points and government line ministers (resource teams)	Northwest(Hargeisa); Northeast (garowe); Hiran (Belet- weyne); Cenral(Galka'ayo); juba (Dhobley); Gedo (Dolow); shabelle (Mogadishu) and Bay/Bakool (Baldoa)

Overall Time frame for the Gu 2015 Nutrition Survey (Continued)

July 1 – 6	Training for rural teams (nutrition)	Both Nairobi and Field staff (Nutrition)
July 8-9	Regional planning meeting for rural food security	Northwest(Hargeisa); Northeast (garowe); Hiran and Cenral(Galkaáyo); juba (Dhobley); Gedo (Dolow); shabelle, Bay and Bakool(Mogadishu)
July 10 - 23	Rural food security assessment - fieldwork / key informant interviews for all zones	Fieldwork within each region Key Informant interviews depending on accessibility (10- 14 days based on area covered)
July 7 -27 th	Data collection for rural nutrition	Both Nairobi and Field staff (Nutrition)
July 28 – Aug 5	Data entry, cleaning and analysis	
July 29-30	Travel to Regional Analysis Meeting by food security field Team	All southern and Central Field Analysts travel to Hargeysa Northwest(Hargeisa)
July 31 – August 5/6	Regional Analysis Meetings for Food Security: South/Central and Northwest teams in Hargeisa; Northeast team in Garowe	Compilation of fieldwork including filling E-forms Submission of Deliverables: Agriculture & Livestock Regional Sector Report Urban Civil Insecurity IDP Evidence Based Templates & IPC Map Draft Regional Technical Series Report Actual Sample Size Table
Aug 6/7	Travel to Hargeisa	Nutrition Staff/MOH/partners and Northeast FS Team and Puntland Government Focal Points
August 8- 11	All Team Meeting – Gu 2015 Analysis (Hargeisa): Sector and regional presentations All Team Meeting-Management & Admin Finalization of Results	Finalization of Sector & Integrated Analysis , Field Management & Admin– technical and logistical issues.
Aug 12-17	IPC Nutrition pilot (both Food Security and Nutrition Teams together on 12 August; mostly nutrition team afterwards)	Nutrition, MOH, stakeholder and key FS staff
August 16-18	Travel to Duty Stations (depending on flights)	ALL Staff
Aug 19	Nutrition vetting with partners (Nairobi)	All Nutrition Staff
Aug 24	Food Security vetting with partners (Nairobi)	ALL Staff
Aug 27	Presentation of Results to UNHCT	CTA
Aug 30	Presentation to the Government (Regional and Federal)	CTA Technical manager, Regional focal points
Aug 31	Press Release on Outcome of Post Gu	CTA
Sept 1-4	Release of the Post Gu Seasonal Assessment Outlook	CTA
Aug 31 - Sep 22	Detailed Analysis & Write-up of Food Security and Nutrition Technical Series Report	Detailed analysis, finalization & editing of Sector Articles & Regional Integrated Analysis reports
September 1 – 25 th	Detailed analysis & write-up of Nutrition Technical Series Reports	Detailed analysis, finalization & editing of Sector Articles & Regional Integrated Analysis reports
Sep 25 -30	Public Release of Food Security Technical Series Report	Release of Food Security Technical Report
1 October	Public Release of Nutrition Technical Report	Release of Nutrition Technical Report

2. Areas Accessed in the Gu 2015 Survey

Details of Post Gu 2015 Nutrition Assessment (n=39)			
Rural livelihood	Urban livelihood	IDPs	Total
SOUTH			
Bakool Pastoral	Mogadishu Town	Mogadishu IDPs	19 15-W/H 4-MUAC
Bay Agropastoral	Kismayo Town	Kismayo IDPs	
N Gedo Pastoral		Dhobley IDPs	
N Gedo Riverine		Baidoa IDPs	
Hiran pastoral-Mataban District		Dolow IDPs	
Beletweyne district			
Shabelle Agro pastoral			
Shabelle Riverine			
Juba Pastoral- Cattle			
S Gedo Pastoral-MUAC			
S Gedo Agropastoral-MUAC			
S Gedo Riverine-MUAC			
CENTRAL			
Coastal Deeh -MUAC		Dhusamareb IDPs	5 (2-MUAC)
Cow pea Belt-MUAC			
Hawd Pastoral			
Addun Pastoral			
NORTH EAST			
East Golis –cross cutting	Bari Region Urban	Bossaso IDPs	8
Coastal Deeh	Nugal Urban	Qardho IDPs	
		Garowe IDPs	
		Galkayo IDPs	
NORTHWEST			
West Golis	Sool Urban	Hargeisa IDPs	7
NW Agro-pastoral	Toghdeer urban	Burao IDPs	
		Berbera IDPs	
20 (W/H=15, MUAC=6)	6	13	39
MONTHLY NUTRITION SURVEILLANCE-MUAC			
Bulo Burte (Hiran)			
Xuddur (Bakool)			

3. Nutrition Indicators Used

Nutrition Classification	Phase 1-Minimal Acceptable	Phase 2: Stressed Alert	Phase 3-Crisis Serious	Phase 4 - Emergency Critical	Phase 5 -Famine Very Critical
Global Acute Malnutrition (GAM) (R) =3 IPC 2	<5%	5- <10 %	10 to<15% or >usual and increasing	15-30% Or >usual and increasing	>30%
Mean Weight-for-Height Z (WHZ) scores (R=3)	>-0.40	-0.40 to -0.69; Stable/Usual	-0.70 to -0.99; >usual/increasing	<-1.00; >usual/increasing	
Severe Acute Malnutrition (SAM) (WHZ and oedema) (R=3)	<1	1.1-2.4	2.5-4	4-5.6	>5.6
Crude death rate (CDR)/ 10,000/day (R=3)	<0.5	<0.5	0.5 to <1	1 to <2	>2
Under five death rate (U5DR)/10,000/day (R=3)	≤1	≤1	1 to 1.9	2 to 3.9	>4
Mid Upper Arm Circumference (MUAC)) Children: (% <12.5cm): Ref: (R=3)—FSNAU	<5 %	5--7.4 % with increase from seasonal trends	7.5- 10.6	10.7-16.7 % or significant increase from seasonal trends	>16.7%
MUAC<11.5cm (R=3)-FSNAU	< 1 %	1-1.6 %	1.7-2.4 %	2.5-4 %	>4%
Morbidity Patterns: Proportion of children reported ill in 2wks prior to survey (R=3) Health facility morbidity trends (R=1) /WHO surveillance (R=1) FSNAU	Very low proportion reportedly sick	Low & stable proportion of reportedly sick based on seasonal trends	Low proportion reportedly sick, from previous months but increasing in >2 months based on seasonal trends	High levels and stable numbers in >2 months based on seasonal trends	High with significant increase in numbers of sick children, based on seasonal trends
Disease Outbreaks: (seasonally adjusted). Frequency of reported outbreaks of AWD & suspected malaria & measles, , whooping cough & severe ARI-FSNAU	Normal levels, & seasonal trends, Review data in relevant context	-AWD 1 case -Measles 1 case -Malaria—doubling of cases in 2 weeks in hyper endemic areas Suspected whooping cough/ARI -5 cases in the same community same week	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		
Measles immunization/ Vitamin A Supplementation Coverage:1 dose in last 6 months	>95% >95%	80-94.9% 80-94.9%	<80% <80%		
HIS¹ Trends of Acutely Malnourished Children HIS, (R=1)	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
Sentinel² Site Trends: levels of children identified as acutely malnourished(WHZ), FSNAU' (R=2)	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)
Adult MUAC - Pregnant and Lactating (%<23.0cm-FSNAU	<10.4	10.6-16.7	16.8-23.3	23.4-31.4	≥ 31.5
HH Dietary Diversity (% consuming<4fdgps) FSNAU	<5%	5 – 9.9%	10-24.9%	25 – 49.9%	>50%
Breastfeeding (BF) Practices i. Exclusive BF for 6mths ii). Continued BF at 1 yr iii)Continued BF at 2yr	≥90% ≥90% ≥90%	50-89% 50-89% 50-89%	12-49% 12-49% 12-49%	0-11% 0-11% 0-11%	

Nutrition Indicators Used (Continued)

Complementary feeding in addition to breastfeeding					
i. -Introduction of complementary food at 6 months of age: % introduced	≥95%	80-94%	60-79%	0-59%	
ii. -Meeting minimum recommended feeding frequency	≥95%	80-94%	80-94%	0-59%	
iii. -Dietary Diversity score	≥95%	80-94%	80-94%	0-59%	
Access to Water	usually adequate (> 15 litres ppp day), stable-100%	borderline adequate (15 litres ppp day); unstable	7.5-15 litres ppp day, accessed via asset stripping	< 7.5 litres ppp day (human usage only)	< 4 litres ppp day (human usage only)
Affected pop with access to health services -formal/informal	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 Programs Available: Coverage of TFP /SFP & referral systems(Sphere 04); -Admissions trends (R=1)	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation -current IPC status	Generally Food Secure	Stressed	Crisis	Emergency	Famine Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	widespread, high intensity conflict
Livelihood Assets	generally sustainable utilization	stressed and unsustainable utilization	accelerated and critical depletion or loss of access	near complete & irreversible depletion or loss of access	effectively complete loss; collapse
Coping		insurance strategies"	crisis strategies"; CSI > than reference; increasing	"distress strategies"; CSI significantly > than reference	
3 MONTH NUTRITION SITUATION OUTLOOK	Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months time No change: Stable; Uncertain: Potential to deteriorate Potential to improve:				

INDICATOR	Level 1 Low chronic food insecurity	Level 2 Moderate Chronic Food Insecurity	Level 3 High Chronic Food Insecurity	Level 4 Very High Chronic Food Insecurity
	Low Prevalence	Medium Prevalence	High Prevalence	Very High Prevalence
Stunting - WHO	<20%	20-30%	30-40%	>40%
Underweight: WHO	<10 %	10-19.9%	20-29.9%	> 30 %
BMI <18.5	<10%	10-20%	20-40%	>40%
FCS	<10% HH	10-20% HH	20-40% HH	>40%HH
HDD<4 food groups	<10% HH	10-20% HH	20-40% HH	>40%HH

Reliability scores for each indicator used in the classification		
Indicator	Reliability Score (3=high, 2=medium, 1=low)	Remarks
GAM among children 6-59 months	3	- Representative nutrition surveys that pass quality check - Surveys should be from the current season; if not RS should be less
MUAC <125 mm among children 6-59 months	3	Representative data from surveys or rapid assessments
Sentinel Site Data	2	Guidance to be provided on what type of sentinel site data can be included
HMIS Data	1	Guidance to be provided on what type of HMIS data can be included
Screening (purposive)	1	Guidance to be provided on what type of screening data can be included
Programme Data	1	

¹ Health Information System, data source – health facilities

² Data source, over 120 sentinel sites in different livelihoods in South Central Somalia

4. Sampling Details Gu 2015

Region	Population	Estimated U5 pop	GAM	Desired precision	Design effect	% of U5 Children	HH Size	% non responder	# HH to be included	# Cluster to be included	# Children to be included
1. West Gollis & Guban	62940	12588	11.3	3.5	1.5	20%	6	3%	490	25	524
2. Northwest Agro pastoral	51791	10358	9.9	3.5	1.5	20%	6	3%	438	26	467
3. Hargeisa IDPs	65640	13128	11.1	3.5	1.5	20%	6	3%	482	30	505
4. Berbera IDPs	3410	628	9.9	3.5	1.5	20%	6	3%	436	30	457
5. Burao IDPs	8670	1734	9.7	3.5	1.5	20%	6	3%	428	30	449
6. Togdheer Urban	18966	3793	9.7	3.5	1.5	20%	6	3%	428	25	449
7. Sool Urban	128,019	25604	9.3	3.5	1.5	20%	6	3%	412	25	432
TOTAL FOR NW	339436	67833							3114	191	3283
1. Bossaso IDP	99249	19850	18	3.5	1.5	20%	6	3%	721	28	756
2. Qardho IDP Exhaustive											
3. Garowe IDP	10838	2168	18	3.5	1.5	20%	6	3%	690	27	723
4. Galkayo IDP	59778	11956	17	3.5	1.5	20%	6	3%	690	28	723
5. Coastal Deeh	27110	4522	14	3.5	1.5	20%	6	3%	589	26	617
6. Cow pea Belt	30,755	6151	12	3.5	1.5	20%	6	3%	516	26	541
7. Hawd Pastoral	137827	27565	15	3.5	1.5	20%	6	3%	623	28	653
8. Addun Pastoral	173934	34787	11	3.5	1.5	20%	6	3%	479	28	501
9. Coastal Deeh	84979	16996	14	3.5	1.5	20%	6	3%	589	30	617
10. Bari Urban	151033	30206	14	3.5	1.5	20%	6	3%	589	30	617
11. Nugaal Urban	54749	10950	14	3.5	1.5	20%	6	3%	589	30	617
12. East Gollis NE	148785	29757	15	3.5	1.5	20%	6	3%	623	33	653
13. Dhusamareeb IDPs Exhaustive											
TOTAL FOR NORTHEAST & CENTRAL	979037	194908							6698	314	7018
1. Bakool Pastoral	192225	38445	12.3	3.5	1.5	20%	6	3%	527	35	552
2. Bay Agropastoral	545,910	109182	19	3.5	1.5	20%	6	3%	737	30	788
3. N Gedo Pastoral	47,922	9584	21	3.5	1.5	20%	6	3%	795	29	850
4. N Gedo Riverine	94,344	18869	16.1	3.5	1.5	20%	6	3%	647	28	692
5. S Gedo Pastoral-MUAC	11,540	2308	12.9	3.5	1.5	20%	6	3%	544	27	575
6. S Gedo Agropastoral-MUAC	31,018	6204	14.9	3.5	1.5	20%	6	3%	607	28	649
7. S Gedo Riverine-MUAC	9,100	1820	14.6	3.5	1.5	20%	6	3%	597	26	638
8. Mataban District	22,860	4572	17.8	3.5	1.5	20%	6	3%	701	30	749
9. Beletweyne district	11,737	2347	17.3	3.5	1.5	20%	6	3%	685	30	733
10. Shabelle Agro pastoral	125,262	25052	12.3	3.5	1.5	20%	6	3%	703	30	737
11. Shabelle Riverine	85,487	17097	9.6	3.5	1.5	20%	6	3%	566	30	593
12. Mogadishu IDPs	168,498	33700	12.4	3.5	2.0	20%	6	3%	756	40	792
13. Mogadishu Town	1,780,677	356135	8.7	3.5	2.0	20%	6	3%	571	40	598
14. Kismayo IDPs	17040	3408	8.5	3.5	1.5	20%	6	3%	372	30	398
15. Kismayo town	97500	19500	8.9	3.5	1.5	20%	6	3%	388	35	415
16. Dholey IDPs		Exhaustive		3.5	1.5	20%	6	3%			
17. Baidoa IDPs	15,024	90144	15.3	3.5	1.5	20%	6	3%	621	30	664
18. Dusanareb IDPs		Exhaustive		3.5	1.5	20%	6	3%			
19. Dolow IDPs		Exhaustive		3.5	1.5	20%	6	3%			
TOTAL FOR SOUTH	3256144	738368							9817	498	10423
GRAND TOTAL	4,574,617	1,001,109							19,629	1,003	20,724

5. Populations Assessed In Gu 2015

Livelihood Zone/Population assessed	# Clusters	# HH	# Children	# Boys	# Girls	# PLW
SOUTH						
Bay Agropastorals	30	544	917	462	455	399
Bakool Pastoral	35	399	675	339	336	284
Baidoa IDPs	30	438	566	299	267	432
Mogadishu IDPs	40	535	847	454	393	290
Mogadishu urban	40	466	780	384	396	N/A
Beletweyne District	27	442	647	338	309	427
Shabelle Riverine	30	507	823	419	404	292
Shabelle Agropastoral	30	558	912	452	460	337
Mataban District	27	430	694	355	339	510
N Gedo pastoral	28	513	888	438	450	375
N Gedo Riverine	29	480	849	434	415	346
Dolow IDPs	Exhaustive	490	852	447	405	293
Dhobley IDPs	Exhaustive	454	682	362	320	432
Kismayo Town	35	343	629	309	320	N/A
South Gedo Pastoral	26	569	861	409	452	N/A
South Gedo Agropastoral	28	563	1146	575	571	N/A
South Gedo Riverine	27	534	947	471	476	N/A
Juba cattle pastoral	27	420	1047	497	550	NA
Kismayo IDPs	30	300	505	244	261	196
Total South	519	8985	15267	7688	7579	4613
CENTRAL						
Addun Central	28	406	678	348	325	124
Hawd Central	28	535	851	458	393	132
Dhusamreeb IDP's	Exhaustive	143	414	210	208	122
Total Central	56	1084	1943	1016	926	378
NORTH EAST						
E Golis (NE)	30	484	780	418	362	173
Bari Urban	30	600	629	324	305	N/A
Nugaal Urban	30	596	811	428	383	N/A
Coastal Deeh NE	28	426	678	351	327	188
Bossaso IDPs	28	639	912	451	461	231
Qardho IDPs	Exhaustive	376	591	302	289	221
Garowe IDPs	27	594	826	412	414	258
Galkayo IDP's	28	609	1016	537	479	182
Total NE	201	4324	6243	3223	3020	1253
NORTH WEST						
NW Agropastoral	25	286	467	238	229	249
WGolis/Guban	25	328	524	269	255	318
Togdheer Urban	25	427	340	177	163	N/A
Sool Urban	25	410	492	233	259	N/A
Hargeisa IDPs	30	400	526	271	255	281
Burao IDPs	30	327	579	289	290	250
Berbera IDPs	30	348	464	231	233	235
Total NW	190	2526	3392	1708	1684	1333
Overall Total	966	16919	26845	13635	13209	7577

6. Institutions which participated in Nutrition Results Vetting- Gu 2015

Meeting in Hargeysa	Meeting in Nairobi
1. FAO	1. Nutrition Cluster
2. JRC	2. OXFAM
3. MoH	3. SNS Consortium
4. ACF	4. WASH Cluster
5. QRCS	5. ARDISOM
6. UNICEF	6. SAGE
7. WFP	7. CISP
8. FEWSNET	8. ACF
9. HADMA	9. UNICEF
10. SNC	10. FSNAU
11. Food Security Cluster	

7. Overall Nutrition Situation - Gu 2015

Livelihood Zone/ Population assessed	GAM	SAM	CDR	U5DR	Stunted	Underweight	Morbidity
SOUTH							
Bay Agropastoral	14.0	2.8	0.04	0.32	17.0	20.4	29.1
Bakool Pastoral	9.8	1.0	0.19	0.15	2.8	7.1	25.9
North Gedo pastoral	20.3	4.2	0.31	0.85	15.8	20.3	18.5
North Gedo Riverine	18.8	3.3	0.21	0.34	12.7	16.4	19.4
Beletweyne District	16.8	2.3	0.40	1.24	30.8	24.9	25.9
Mataban District	18.6	3.6	0.27	0.28	16.2	20.2	34.2
Shabelle Riverine	10.0	1.7	0.17	0.24	16.0	12.0	20.0
Shabelle Agropastoral	13.6	3.0	0.56	1.21	12.0	13.4	23.4
Baidoa IDP	15.3	4.1	0.27	1.37	29.7	27.3	46.8
Mogadishu IDP	14.9	3.3	0.63	1.36	15.7	18.9	39.3
Dolow IDP	26.4	5.0	0.90	1.20	23.8	27.8	29.0
Dhobley IDP	20.7	3.8	1.47	1.27	12.1	14.2	42.9
Kismayo IDP	12.5	2.8	0.34	0.96	33.5	24.8	33.1
Mogadishu urban	10.5	2.2	0.54	0.64	14.3	16.2	10.6
Dhusamareb IDP	10.5	2.6	0.64	0.50	6.8	8.9	45.6
Hawd Central	14.3	2.8	0.35	0.25	8.1	12.5	10.8
Addun Central	12.5	1.9	0.13	0.45	7.6	12.7	34.1
Kismayo Urban	9.1	2.1	0.35	0.99	9.1	16.9	~
Median	14.2	2.8	0.3	0.7	15.0	16.7	
NORTHEAST							
East Golis (Northeast)	14.6	1.7	0.00	0.00	5.3	7.6	32.7
Hawd Northeast	14.3	2.8	0.35	0.25	8.1	12.5	10.8
Addun Northeast	12.5	1.9	0.13	0.45	7.6	12.7	34.1
Coastal Deeh	13.0	1.9	0.15	0.30	6.4	9.3	37.4
Bari Urban	18.4	3.7	~	~	7.0	15.6	9.2
Nugaal Urban	15.7	2.3	~	~	6.5	11.0	14.9
Bossaso IDP	12.5	1.5	0.25	0.22	25.9	23.5	18.2
Qardho IDP	14.0	2.2	0.34	0.83	13.4	17.4	41.6
Garowe IDP	15.7	1.9	0.14	0.24	22.8	18.8	46.8
Galkayo IDP	20.2	4.7	0.03	0.10	15.6	21.6	35.9
Median	14.5	2.1	0.1	0.2	7.9	14.2	
NORTHWEST							
NW Agropastoral	5.6	0.2	0.46	0.69	7.1	5.8	11.1
WGolis/Guban	12.8	2.5	0.32	0.19	5.3	8.4	16.0
Sool Region Urban	8.3	1.6	~	~	0.8	2.6	~
Togdheer Urban	4.4	0.3	~	~	1.5	0.9	~
Hargeisa IDP	10.5	2.1	0.37	0.84	5.2	0.9	12.8
Burao IDP	7.1	0.5	0.49	0.00	0.2	2.2	15.1
Berbera IDP	7.3	1.1	0.14	0.00	4.1	5.6	6.4
Median	7.3	1.1	0.4	0.2	4.1	2.6	
MUAC							
	<12.5	<11.5					
Coastal deeh Central	12.1	4.8	0.97	2.24	~	~	9.8
Cowpea Belt	10.9	2.5	0.07	0.29	~	~	14.9
South Gedo Pastoral	13.5	2.6	~	~	~	~	20.1
South Gedo Agropastoral	11.4	1.1	~	~	~	~	17.5
South Gedo Riverine	10.9	1.4	~	~	~	~	7.8
Juba Cattle Pastoral	7.9	2.4	~	~	~	~	~

8. Plausibility Scores For Gu 2015

	Missing/ Flagged data	Overall sex ratio	Age Ratio (6- 29 vs 30-59)	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)	<±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(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(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(20) & <= 0.8(20)	>±0.6(5)	>±0.6(5)	<=0.001(5)	>25
LOCATION											
North East											
East Golis (NE)	0(1.9%)	2(p=0.051)	10(p=0.000)	0(6)	0(7)	0(6)	5(1.11)	0(-0.02)	3(-0.44)	3(p=0.003)	23
Hawd/NE	0(1.6%)	4(p=0.017)	4(p=0.037)	0(3)	2(11)	0(4)	0(1.08)	0(-0.05)	0(-0.06)	5(p=0.000)	15
Addun NE	0(1.9%)	0(p=0.321)	0(p=0.635)	0(3)	0(4)	0(7)	0(1.04)	0(-0.10)	0(-0.06)	3(p=0.003)	3
Coastal Deeh	0(2.4%)	0(p=0.271)	0(p=0.480)	0(3)	0(7)	0(6)	6(1.19)	0(0.14)	1(-0.31)	0(p=0.489)	7
Bari Urban	5(3.7%)	0(p=0.275)	0(p=0.191)	0(2)	2(9)	0(5)	5(1.11)	0(0.03)	1(-0.20)	0(p=0.447)	13
Nugaal Urban	5(3.5%)	0(p=0.168)	0(p=0.192)	0(4)	0(7)	0(5)	10(1.17)	0(0.13)	1(-0.27)	5(p=0.000)	21
Bosasso IDP	0(1.9%)	0(p=0.743)	4(p=0.005)	0(3)	0(6)	0(5)	0(1.03)	0(-0.02)	1(-0.25)	3(p=0.001)	8
Garowe IDP	0(2.0%)	0(p=0.002)	4(p=0.002)	0(6)	0(7)	2(8)	0(1.08)	1(0.25)	0(-0.10)	0(p=0.307)	7
Galkayo IDP	0(2.1%)	4(p=0.047)	0(p=0.415)	0(4)	0(5)	0(5)	0(1.08)	0(-0.05)	0(-0.12)	1(p=0.011)	7
Qardho IDP	0(1.3%)	0(p=0.487)	4(p=0.001)	0(2)	0(5)	0(3)	5(1.11)	0(-0.08)	0(-0.14)	~	9
North West											
NW Agropastoral	0(0.9%)	0(p=0.677)	0(p=0.812)	0(7)	0(7)	0(7)	0(0.93)	0(-0.13)	0(0.14)	0(p=0.519)	0
WGolis/Guban Pastoral	5(2.6%)	0(p=0.546)	0(p=0.875)	2(8)	2(9)	2(9)	5(1.14)	0(-0.03)	1(-0.30)	3(p=0.005)	20
Sool Region Urban	0(1.8%)	0(p=0.348)	10(p=0.000)	0(7)	0(4)	2(8)	0(1.09)	0(0.03)	1(-0.28)	0(p=0.269)	13
Togdheer Urban	0(1.2%)	0(p=0.554)	0(p=0.177)	0(5)	2(10)	0(5)	0(0.99)	0(-0.14)	0(-0.13)	0(p=0.226)	2
Hargeisa IDPs	5(4.2%)	0(p=0.370)	0(p=0.563)	0(4)	0(5)	0(7)	0(1.03)	0(-0.01)	0(0.01)	0(p=0.404)	5
Burao IDPs	0(1.0%)	0(p=0.967)	0(p=0.606)	0(3)	0(7)	0(7)	0(1.00)	0(-0.19)	0(0.07)	0(p=0.139)	0
Berbera IDP	0(1.1%)	0(p=0.782)	0(p=0.777)	0(5)	0(7)	0(7)	0(1.02)	0(-0.02)	0(-0.09)	0(p=0.352)	0
Central											
Hawd Central	0(1.6%)	4(p=0.017)	4(p=0.037)	0(3)	2(11)	0(4)	0(1.08)	0(-0.05)	0(-0.06)	5(p=0.000)	15
Addun Central	0(1.9%)	0(p=0.321)	0(p=0.635)	0(3)	0(4)	0(7)	0(1.04)	0(-0.10)	0(-0.06)	3(p=0.003)	3
Dhusamareb IDP	5(3.7%)	0(p=0.923)	0(p=0.476)	0(7)	2(11)	2(11)	0(1.01)	1(-0.37)	1(0.24)	~	11
South											
Bay Agropastoral	0(1.4%)	0(p=0.534)	4(p=0.005)	0(7)	2(12)	2(9)	0(0.92)	3(-0.44)	5(0.73)	0(p=0.513)	16
Bakool Pastoral	0(0.0%)	0(p=0.908)	0(p=0.735)	0(4)	0(5)	0(6)	0(0.93)	0(-0.10)	0(-0.08)	0(p=0.294)	0
N Gedo pastoral	0(2.1%)	0(p=0.715)	0(p=0.933)	0(4)	2(9)	2(9)	0(1.07)	1(0.20)	0(-0.07)	5(p=0.000)	10
N Gedo Riverine	0(1.3%)	0(p=0.539)	0(p=0.174)	0(4)	0(7)	2(8)	5(1.11)	0(0.14)	1(-0.26)	1(p=0.042)	9
Beletweyne District	0(1.2%)	0(p=0.329)	4(p=0.006)	0(4)	2(11)	0(7)	0(1.03)	0(-0.06)	3(-0.40)	0(p=0.707)	9
Mataban District	5(2.8%)	0(p=0.454)	0(p=0.144)	0(3)	2(9)	2(11)	2(1.15)	0(0.05)	1(-0.31)	0(p=0.488)	12
Shabelle Riverine	0(0.2%)	0(p=0.651)	4(p=0.031)	0(3)	0(7)	0(7)	0(1.03)	0(-0.19)	0(-0.15)	3(p=0.008)	7
Shabelle Agropastoral	0(0.2%)	0(p=0.843)	0(p=0.126)	0(2)	0(2)	0(1)	5(1.14)	0(-0.09)	1(-0.20)	5(p=0.000)	11
Mogadishu Urban	5(3.0%)	0(p=0.832)	4(p=0.003)	0(3)	0(5)	0(3)	0(1.07)	0(-0.05)	1(0.23)	5(p=0.000)	15
Kismayo Urban	0(1.9%)	0(p=0.752)	10(p=0.000)	0(1)	4(15)	0(6)	0(1.09)	0(-0.02)	1(-0.22)	0(p=)	15
Mogadishu IDP	0(2.1%)	4(p=0.023)	4(p=0.009)	0(5)	0(5)	0(6)	5(1.15)	0(-0.11)	1(-0.26)	3(p=0.001)	17
Baidoa IDP	0(2.4%)	0(p=0.125)	0(p=0.991)	0(4)	2(11)	0(7)	0(1.07)	1(-0.27)	0(-0.12)	1(p=0.013)	4
Dolow IDP	0(1.8%)	0(p=0.118)	0(p=0.120)	0(3)	2(8)	0(6)	0(1.08)	0(0.17)	1(-0.21)	~	3
Kismayo IDP	0(1.6%)	0(p=0.508)	10(p=0.000)	0(6)	2(9)	2(8)	0(1.06)	1(-0.22)	1(-0.28)	3(p=0.001)	19
Dhobley IDP	0(2.2%)	0(p=0.103)	0(p=0.253)	0(5)	2(8)	2(9)	0(1.07)	0(0.00)	0(-0.13)	~	4



10. Change in GAM and SAM Gu 2014 to Gu 2015

Regions	GAM			SAM		
	Gu 2015	Deyr 2014/2015	Gu 2014	Gu 2015	Deyr 2014/2015	Gu 2014
Bay Agropastorals	14.0	19.0	17.1	2.8	5.5	3.7
Bakool Pastoral	9.8	12.3	24.8	1.0	1.5	6.3
Baidoa IDPs	15.3	15.3	12.9	4.1	3.3	2.4
Mogadishu IDPs	14.9	13.4	18.9	3.3	2.5	5.5
Mogadishu urban	10.5	9.7	10.1	2.2	0.9	1.4
Beletweyne District	16.8	17.3	15.0	2.3	4.2	3.5
Shabelle Riverine	10.0	9.6	11.2	1.7	1.8	2.5
Shabelle Agropastoral	13.6	12.3	18.8	3.0	3.5	1.6
Nugaal Urban	15.7	~	~	2.3	~	~
Bari urban	18.4	14.0	17.5	3.7	2.7	4.0
Mataban District	18.6	17.8	22.2	3.6	3.2	5.1
N Gedo pastoral	20.3	25.2	20.7	4.2	3.7	1.0
N Gedo Riverine	18.8	19.9	19.3	3.3	3.2	3.1
Dolow IDPs	26.4	21.6	18.8	5.0	4.3	4.1
Dobley IDPs	20.7	11.0	16.5	3.8	1.4	4.0
Kismayo Town	9.1	8.9	12.4	2.1	1.7	3.2
Kismayo IDPs	12.5	8.5	16.6	2.8	1.6	3.6
Addun Central	12.5	9.7	9.7	1.9	1.2	2.4
Hawd Central	14.3	16.1	17.3	2.8	2.7	4.6
Dhusamreeb IDP's	10.5	14.4	18.0	2.6	4.2	4.6
E Golis (NE)	14.6	10.4	15.8	1.7	1.5	2.8
Coastal Deeh	13.0	11.7	12.7	1.9	1.4	2.1
Bossaso IDPs	12.5	17.2	13.2	1.5	3.1	2.9
Qardho IDP	14.0	11.1	12.2	2.2	1.8	1.7
Garowe IDPs	15.7	19.6	21.0	1.9	3.9	4.4
Galkayo IDP's	20.2	15.1	16.5	4.7	2.6	2.5
Sool Region Urban	8.3	11.3	11.3	1.6	1.0	1.1
NW Agropastoral	5.6	4.8	10.4	0.2	0.2	2.6
WGolis/Guban	12.8	8.0	15.8	2.5	0.8	3.0
Hargeisa IDPs	10.5	11.1	8.1	2.1	1.6	0.3
Burao IDPs	7.1	9.7	12.4	0.5	0.6	1.8
Togdheer Urban	4.4	~	8.3	0.3	~	1.8
Berbera IDPs	7.3	9.9	10.0	1.1	1.9	1.7
	MUAC					
	< 12.5			< 11.5		
coastal Deeh central	12.1	12.6	10	4.8	4.1	4.9
Cowpea belt	10.9	7.2	9.7	2.5	1.8	2.5
South Gedo Pastoral	13.5	12.9	16.9	2.6	1.5	1.9
South Gedo Agropastoral	11.4	14.4	15.6	1.1	1.0	2.2
South Gedo Riverine	10.9	14.6	17.7	1.4	1.3	3.4

11. Change in MUAC Gu 2014 to Gu 2015

	MUAC <12.5 (GAM-MUAC)			MUAC <11.5 (SAM-MUAC)		
	GU 2015	DEYR 2014/15	GU 2014	GU 2015	DEYR 2014/15	GU 2014
	LIVELIHOOD ZONES					
Livelihoods assessed	SOUTHCENTRAL					
Bakool Pastoral	8.3	7.4	9.9	0.7	1.0	2.3
Bay Agropastoral	11.3	13.4	15.4	3.2	3.2	3.0
N Gedo Pastoral	7.5	6.5	21.1	0.6	0.8	3.6
N Gedo Riverine	4.3	5.9	9.7	0.3	0.8	2.3
N Gedo Agro-pastoral	~	5.7	20.3		0.3	2.3
Beletweyne District	9.0	9.9	9.4	2.0	1.7	1.4
Mataban District	6.4	7	7.7	1.4	1.1	1.8
Shabelle Riverine	3.4	9.3	7	0.2	3.6	1.3
Shabelle Agropastoral	7.2	11.5	7.7	3.0	3.1	1.6
Baidoa IDP	14.6	9.8	16.9	3.4	2.3	3.5
Mogadishu IDP	9.9	12.8	14	3.0	3.1	3.3
Dolow IDP	8.9	7.1	10.9	2.4	1.2	2.1
Dhobley IDP	9.8	4.1	11.3	3.6	0.7	3.3
Kismayo IDP	10.9	10.6	20.1	2.7	3.1	5.1
Mogadishu urban	6.2	4.5	9.5	2.0	1.1	2.1
Dhusamareb IDP	8.3	7.2	6.3	3.2	0.7	2.7
Hawd Central	6.5	10.1	12.8	1.2	2.0	2.5
Addun Central	6.9	4.1	4.1	0.3	0.3	0.5
Kismayo Town	9.2	8.8	8.9	1.7	1.8	1.5
S. Gedo Pastoral-MUAC	13.5	12.9	16.9	2.6	1.5	1.9
S. Gedo Agropastoral-MUAC	11.4	14.4	15.6	1.1	1.0	2.2
S. Gedo Riverine-MUAC	10.9	14.6	17.7	1.4	1.3	3.4
Coastal deeh -MUAC	12.1	12.6	9.7	4.8	4.1	2.5
Juba Cattle Pastoral	7.9	~	~	2.4	~	~
Cowpea Belt-MUAC	10.9	7.2	10	2.5	1.8	4.9
MEDIAN	9.0	9.1	10.5	2.2	1.4	2.3
NORTHEAST						
EGolis (NE)	2.4	5.4	5.4	0.9	0.9	0.8
Sool plateau	~	1.4	1.5	~	0.4	0.3
Coastal Deeh	2.2	1.5	3.2	0.1	0.1	0.6
Bari Urban	4.3	5.4	4.9	0.9	1.7	1.2
Nugaal Urban	4.6	~	~	1.0	~	~
Bossaso IDP	6.5	11.2	6.6	0.5	2.4	1
Qardho IDP	5.8	8.5	5.7	1	1.8	0.7
Garowe IDP	9.6	5.9	8.3	1.8	1.6	1.5
Galkayo IDP	8.6	8.7	2.1	1.5	1.3	0.2
MEDIAN	5.2	5.7	5.2	1.0	1.5	0.8
NORTHWEST						
NW Agropastoral	1.9	1.3	2	0.6	0.2	0.2
WGolis/Guban	3.3	3.4	3.5	0.6	1	0.7
Nugal Valley	~	1.6	2		0.3	0.5
EGolis (NW)	~	5.8	3.7		1	0.6
Hawd NW	~	1.0	0.7		2	0.2
Sool Urban	2.0	1.5	2.9	0.6	0.8	0.2
Togdheer Urban	2.0	~	~	0.6	~	~
Hargeisa IDP	6.9	2.2	4.8	1.5	0.3	1
Burao IDP	1.9	3.8	1.6	0.7	1.1	0.3
Berbera IDP	1.3	2.3	1.4	0.4	0.6	0.3
MEDIAN	2.0	2.2	2	0.6	0.8	0.3
OVERALL MEDIAN	7.2	7.0	7.7	1.4	1.1	1.5

12. Change In CDR and U5DR

Livelihood Zone/ Population assessed	CDR			U5DR		
	Gu 2015	Deyr 2014/2015	Gu 2014	Gu 2015	Deyr 2014/2015	Gu 2014
SOUTH CENTRAL						
Bay Agropastoral	0.04	0.26	0.50	0.32	0.27	1.00
Bakool Pastoral	0.19	0.21	0.40	0.15	0.52	0.80
N Gedo pastoral	0.31	0.51	0.50	0.85	1.01	0.90
N Gedo Riverine	0.21	0.41	0.70	0.34	0.82	0.90
N Gedo Agro-pastoral	~	0.48	0.80	~	0.53	1.20
Beletweyne District	0.40	0.29	0.30	1.24	0.41	0.10
Mataban District	0.27	0.47	0.70	0.28	~	0.20
Shabelle Riverine	0.17	0.52	0.50	0.24	1.00	1.10
Shabelle Agropastoral	0.56	0.35	0.70	1.21	0.52	0.80
Baidoa IDP	0.27	0.74	0.70	1.37	1.21	0.80
Mogadishu IDP	0.63	0.60	1.40	1.36	0.87	3.40
Dolow IDP	0.90	0.46	0.70	1.20	0.89	1.24
Dhobley IDP	1.47	1.25	0.46	1.27	1.55	0.95
Kismayo IDP	0.34	0.84	1.28	0.96	2.08	1.42
Mogadishu urban	0.54	0.48	~	0.64	0.75	~
Dhusamareb IDP	0.64	0.07	0.15	0.50	~	0.32
Hawd Central	0.35	0.33	~	0.25	0.89	~
Addun Central	0.13	0.13	~	0.45	0.15	~
Kismayo Town	0.35	0.55	~	0.99	0.62	~
MEDIAN	0.35	0.47	0.70	0.75	0.82	0.90
NORTHEAST						
EGolis (NE)	0.00	0.11	0.24	0.00	~	0.14
Sool plateau		0.10	0.06		~	~
Coastal Deeh	0.15	0.21	~	0.30	0.75	~
Bari Urban	~	0.41	~	~	0.65	~
Bossaso IDP	0.25	0.36	0.32	0.22	0.61	0.40
Qardho IDP	0.34	0.36	0.28	0.83	1.09	0.69
Garowe IDP	0.14	0.20	0.10	0.24	0.59	0.12
Galkayo IDP	0.03	0.05	0.09	0.10	~	0.36
MEDIAN	0.15	0.21	0.17	0.23	0.65	0.36
NORTHWEST						
NW Agropastoral	0.46	0.17	0.14	0.69	~	0.42
WGolis/Guban	0.32	0.19	0.14	0.19	~	~
Nugal Valley	~	0.00	0.15	~	~	~
EGolis (NW)	~	0.04	0.07	~	~	0.61
Hawd NW	~	0.08	0.14	~	~	~
Sool Region Urban	~	0.10	~	~	~	~
Hargeisa IDP	0.37	0.11	0.14	0.84	0.18	0.68
Burao IDP	0.49	0.04	0.12	0.00	0.34	0.32
Berbera IDP	0.14	0.14	0.18	0.00	~	0.32
MEDIAN	0.37	0.10	0.14	0.19	0.26	0.42
OVERALL MEDIAN	0.32	0.28	0.30	0.45	0.70	0.69

13. Change in Stunting

		STUNTING					
		Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2013/14	Gu 2013	Deyr 2012/13
SOUTH CENTRAL	Bay Agropastoral	17.0	25.2	38.1	8.3	46.9	48.7
	Bakool Pastoral	2.8	2.7	3	35.2	8.9	11.3
	N Gedo pastoral	15.8	15.3	4.2	13	16.3	13.6
	N Gedo Riverine	12.7	16.8	21.4	17.5	11.8	7.4
	N Gedo Agro-pastoral	~	11.2	19.8	15.5	18.1	19.6
	Beletweyne District	30.8	24.2	23.5	35.1	7.5	28
	Mataban District	16.2	11.6	9.9	10.4	8.2	13.7
	Shabelle Riverine	16.0	10.4	19.5	~	~	~
	Shabelle Agropastoral	12.0	9.7	10.3	~	~	~
	Baidoa IDP	29.7	31.1	41.5	33	36	43.5
	Mogadishu IDP	15.7	12.1	16	20	22.1	47.4
	Dolow IDP	23.8	29	26.9	27.1	33.6	33.6
	Dhobley IDP	12.1	9.4	10.3	14.9	14.2	13.9
	Kismayo IDP	33.5	38.9	39.8	30.7	40.1	41.5
	Mogadishu urban	14.3	7.9	8.3	~	10.6	5.2
	Dhusamareb IDP	6.8	7.7	12.2	8.4	11.6	15.7
	Hawd Central	8.1	11.1	11.6	10.5	9.5	13.7
	Addun Central	7.6	8.4	7.2	12.1	9.3	6.1
	Kismayo Town	9.1	26.1	19.9	~	39.2	~
	MEDIAN	15.0	11.6	16	15.5	14.2	14.8
NORTH EAST	EGolis (NE)	5.3	6.4	9.1	9.3	9.7	8.4
	Sool plateau	~	6	3.6	2	5	6.7
	Coastal Deeh	6.4	6.5	6.5	12.9	14.7	13.9
	Bari Urban	7.0	15.9	7.5	~	6.6	14.3
	Nugaal Urban	6.5	~	~	~	~	~
	Bossaso IDP	25.9	32.7	22.8	29.5	30	21.1
	Qardho IDP	13.4	16.7	16.5	30.9	22.9	19
	Garowe IDP	22.8	18.4	22.3	21.4	14.1	31.1
	Galkayo IDP	15.6	15.4	15.3	19.6	27.7	20.5
	MEDIAN	10.2	15.7	12.2	19.6	14.4	16.7
NORTH WEST	NW Agropastoral	7.1	2.4	2.8	~	1.8	5.3
	WGolis/Guban	5.3	12.2	7.1	~	6.4	9.7
	Nugal Valley	~	3.7	3.1	1.6	2	3.1
	EGolis (NW)	~	2.6	1.6	~	5.2	0.3
	Hawd NW	~	0.8	2.1	~	2.5	4.7
	Sool Urban	0.8	0.4	2.1	~	1.2	~
	Togdheer Urban	1.5	~	~	~	~	~
	Hargeisa IDP	5.2	3.3	4.1	7.1	8.2	8.8
	Burao IDP	0.2	9.7	2.1	2.8	2.6	3.1
	Berbera IDP	4.1	1.5	2.2	6.1	2.4	9.4
	MEDIAN	4.1	2.6	2.2	4.5	2.5	5
	OVERALL MEDIAN	12.0	10.8	10.1	14.0	10.2	13.7

14. Change in Underweight

		Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2013/14	Gu 2013	Deyr 2012/13
SOUTH CENTRAL	Bay Agropastoral	20.4	28.8	32.4	31.4	44.9	39.3
	Bakool Pastoral	7.1	7.7	14.7	15.1	13.6	15.3
	N Gedo pastoral	20.3	23.3	10.2	8.3	18.2	15.5
	N Gedo Riverine	16.4	22.6	21.4	11.4	15.8	6.4
	N Gedo Agro-pastoral	~	19.4	13.5	10.4	16.4	15.8
	Beletweyne District	24.9	26.4	24.8	30.9	19.1	33.3
	Mataban District	20.2	16.8	16.7	10.2	10.9	19.8
	Shabelle Riverine	12.0	10.1	15.6	~	~	~
	Shabelle Agropastoral	13.4	11.1	19.9	~	~	~
	Baidoa IDP	27.3	26.2	31.6	25.3	24.3	30.7
	Mogadishu IDP	18.9	14.3	23	16.6	19	30
	Dolow IDP	27.8	32.0	26.4	28.5	30.4	29.2
	Dhobley IDP	14.2	8.1	12.3	14.5	15.9	16.2
	Kismayo IDP	24.8	23.2	32.8	30.1	41.7	46.4
	Mogadishu urban	16.2	9.8	8.9	~	10.1	10
	Dhusamareb IDP	8.9	12.0	17.9	12	17.4	20.4
	Hawd Central	12.5	14.7	16.6	10.7	12.1	13.5
	Addun Central	12.7	9.5	8.9	9.9	9.1	10.4
	Kismayo Town	16.9	14.7	17.2	~	40.4	~
	MEDIAN	16.7	14.7	17.2	14.5	17.4	18
NORTH EAST	EGolis (NE)	7.6	8.3	13.2	9.2	15.1	12.3
	Sool plateau	~	6.0	6.3	2.9	6.2	6.4
	Coastal Deeh	9.3	8.9	8.5	10.4	18.7	10.8
	Bari Urban	15.6	16.9	13.5	~	15.1	~
	Nugaal Urban	11.0	~	~	~	~	~
	Bossaso IDP	23.5	29.8	22.6	26.2	29.9	35.9
	Qardho IDP	17.4	15.9	18.7	27	21.8	31.4
	Garowe IDP	18.8	23.1	25.1	23.1	19.7	25.9
	Galkayo IDP	21.6	19.0	17.8	20.6	28.1	22.5
	MEDIAN	16.5	16.4	15.65	20.6	19.2	22.5
NORTH WEST	NW Agropastoral	5.8	2.6	5.8	~	4.9	8.2
	WGolis/Guban	8.4	8.6	9.4	~	15.6	13.5
	Nugal Valley	~	4.6	3.9	2.6	~	7.5
	EGolis (NW)	~	7.0	4.3	~	6.7	3.6
	Hawd NW	~	2.2	1.2	~	5.7	11.3
	Sool Urban	2.6	5.5	5	~	3	~
	Togdheer Urban	0.9	~	~	~	~	~
	Hargeisa IDP	0.9	6.7	7.4	8.6	12.3	8.6
	Burao IDP	2.2	3.0	2.7	3.7	5.4	8.1
	Berbera IDP	5.6	4.1	5.6	12	6.1	17.2
	MEDIAN	2.6	4.6	5	6.15	5.9	8.4
	OVERALL MEDIAN	14.2	11.6	14.1	12.0	15.8	15.5

15 Change in Maternal MUAC<23 Malnutrition

	Livelihood Zone	Gu 2015	Deyr 2014/2015	Gu 2014	Deyr 2013/2014
SOUTH CENTRAL	Bay Agropastoral	13.7	16.7	22.9	17.1
	Bakool Pastoral	17.9	9.2	24.9	10.4
	N Gedo pastoral	7.6	22.4	30	15.1
	N Gedo Riverine	10.5	22.3	51.8	22.7
	N Gedo Agro-pastoral	~	25.4	38.6	21.1
	Beletweyne District	~	14.6	18.7	5.8
	Mataban District	~	8.2	6.2	15.7
	Shabelle Riverine	13.7	10.5	26.6	~
	Shabelle Agropastoral	10.9	7.6	16.1	~
	Baidoa IDP	18.1	20.9	23.4	7.7
	Mogadishu IDP	2.2	11.3	20	1
	Dolow IDP	15	22.9	18.6	25.3
	Dhobley IDP	26.9	23.8	21.3	24.1
	Kismayo IDP	15.8	16.4	22.8	23.6
	Dhusamareb IDP	37.7	35.8	54.8	38.2
	Hawd Central	23.4	34.4	32	26.8
	Addun Central	8	26.6	25.3	10.3
	MEDIAN	14.4	20.9	23.4	17.1
NORTH EAST	EGolis (NE)	6.1	12.5	28.4	31.5
	Sool plateau	~	7.6	10.5	11.2
	Coastal Deeh	6.3	20	11.8	7.1
	Bossaso IDP	8.6	11.2	16.7	19.9
	Qardho IDP	24.9	15.8	27.1	31.7
	Garowe IDP	14.3	21.6	15.5	10.9
	Galkayo IDP	17.6	16.6	20.6	24.9
	MEDIAN	11.5	15.8	16.7	19.9
NORTH WEST	NW Agropastoral	4.8	6.7	2.4	~
	WGolis/Guban	7.4	12	15.6	~
	Nugal Valley	~	8.6	12.2	13.8
	EGolis (NW)	~	3.8	9.09	~
	Hawd NW	~	1.5	1	~
	Hargeisa IDP	3.2	3.1	4	8
	Burao IDP	3.3	~	6	5.7
	Berbera IDP	0.9	8.1	0.9	1.1
	MEDIAN	3.3	6.7	5.0	6.9
	OVERALL MEDIAN	10.9	14.6	19.4	15.4

15. Change In Morbidity

	Livelihood zone	Gu 2015	Deyr 2014/2015	Gu 2014	Deyr 2013/2014
SOUTHCENTRAL	Bay Agropastoral	29.1	19.3	25.9	25.6
	Bakool Pastoral	25.9	31.7	25.0	30.4
	N Gedo pastoral	18.5	27.1	39.8	21.8
	N Gedo Riverine	19.4	20.9	32.1	28.3
	N Gedo Agro-pastoral	~	21.6	40.1	34.0
	Beletweyne District	25.9	38.9	50.9	58.8
		34.2	50.3	57.4	54.6
	Shabelle Riverine	20.0	34.6	31.5	~
	Shabelle Agropastoral	23.4	29.6	37.0	~
	Baidoa IDP	46.8	45.2	32.3	44.4
	Mogadishu IDP	39.3	39.2	43.2	37.3
	Dolow IDP	29.0	36.9	43.3	55.2
	Dhobley IDP	42.9	34.1	24.4	23.2
	Kismayo IDP	33.1	62.3	41.4	36.4
	Dhusamareb IDP	45.6	28.6	30.1	46.5
	Hawd Central	10.8	42.9	33.5	16.9
	Addun Central	34.1	38.3	31.0	35.9
	Mogadishu urban	10.6	15.3	18.0	~
	Kismayo Town	~	47.6	33.3	~
	MEDIAN	29.0	34.6	33.3	35.9
NORTHEAST	EGolis (NE)	32.7	34.8	19.0	35.7
	Sool plateau	~	20.3	19.6	31.0
	Coastal Deeh	37.4	27.4	19.4	40.7
	Nugaal Urban	14.9	~	~	~
	Bari Urban	9.2	~	18.2	~
	Bossaso IDP	18.2	30.9	22.8	40.6
	Qardho IDP	41.6	37.8	52.4	46.4
	Garowe IDP	46.8	45.2	32.8	40.5
	Galkayo IDP	35.9	23.2	29.8	33.4
	MEDIAN	34.3	30.9	21.2	40.5
NORTHWEST	NW Agropastoral	11.1	11.5	6.4	24.4
	WGolis/Guban	16.0	14.5	20.7	34.4
	Nugal Valley	~	21.7	18.3	39.0
	EGolis (NW)	~	17.3	13.6	29.5
	Hawd NW	~	19.1	26.8	29.6
	Sool Region Urban	~	~	11.8	~
	Hargeisa IDP	12.8	9.7	12.0	19.9
	Burao IDP	15.1	17.8	15.6	13.6
	Berbera IDP	6.4	5.0	5.8	9.80
	MEDIAN	12.8	15.9	13.6	26.95
MUAC	Coastal deeh Central	9.8	15.8	14.7	~
	Cowpea Belt	14.9	13.9	15.9	~
	South Gedo Pastoral	20.1	36.4	~	~
	South Gedo Agropastoral	17.5	32.9	~	~
	South Gedo Riverine	7.8	30.4	~	~
	MEDIAN	14.9	30.4	15.3	~
	Overall Median	20.1	29.6	26.4	34.2

17. Coverage with Vitamin A Supplementation

	LIVELIHOOD ZONE	Gu 2015	Deyr 2014-15	Gu 2014	Deyr 2013-14
SOUTH CENTRAL	Bay Agropastorals	7.4	3.9	8.6	13.9
	Bakool Pastorals	26.1	67.1	35.7	59.5
	North Gedo Pastoral	80.2	72.4	52.1	84.6
	North Gedo Riverine	70.7	69.3	61	81.5
	North Gedo Agro-pastoral	~	85.4	35.8	83.8
	Beletweyne District	68.2	44.7	38.2	18
	Mataban District	45.5	22.8	41.6	17.6
	Shabelle Riverine	3.2	8.4	3.4	~
	Shabelle Agropastoral	5.8	2.5	12	~
	Baidoa IDPs	78.1	57.5	51.9	36.9
	Mogadishu IDPs	51.3	52.3	61.2	41.8
	Dolow IDPs	75.2	66.5	56.4	~
	Dhobley IDPs	38.1	41.7	~	~
	Kismayo IDPs	72.4	61.1	61.8	~
	Dhusamreeb IDP's	21.9	33.3	38.2	29.2
	Addun Central	75.7	63	64.7	73
	Hawd Central	73.2	41.8	65.7	64.6
	MEDIAN	59.75	52.3	46.75	50.65
NORTH EAST	E Golis (NE)	66.5	85.7	75.3	63.8
	Coastal Deeh	57.9	86.9	90.2	79.4
	Bossaso IDPs	91.5	93.3	86	79.1
	Qardho IDPs	72.8	78.7	56.2	85.9
	Garowe IDPs	93	87.7	92.7	62.9
	Galkayo IDP's	85.5	72	83.4	91.6
	MEDIAN	79.15	86.3	84.7	79.25
NORTH WEST	NW Agropastoral	48.0	51	77.3	~
	WGolis/Guban	42.4	65.2	65.3	~
	Hawd NW	~	61.9	65.7	~
	EGolis (NW)	~	57	80.8	~
	Sool plateau	~	89.5	84.6	76.5
	Nugal Valley	~	81.5	85	85
	Hargeisa IDPs	61.9	77.3	66.6	58.3
	Burao IDPs	90.6	96.6	92.4	86.6
	Berbera IDPs	60.0	49.5	71.8	63.8
	MEDIAN	60.0	65.2	77.3	76.5
South Central - MUAC	Coastal deeh Central (MUAC)	7.1	55.3	39.2	~
	Cowpea Belt (MUAC)	27.6	47.1	40.7	~
	MEDIAN	17.4	51.2	40.0	~
	OVERALL MEDIAN	61.9	62.5	61.8	64.6

18, Change in Measles Coverage

	LIVELIHOOD ZONE	Gu 2015	Deyr 2014-15	Gu 2014	Deyr 2013-14
SOUTH CENTRAL	Bay Agropastorals	2.9	0.7	5.7	7.2
	Bakool Pastorals	13.1	59.5	26.5	23.5
	North Gedo pastoral	28.6	~	51.9	81.2
	North Gedo Riverine	46.2	~	60.6	78.8
	North Gedo Agro-pastoral	~	43.4	42	81.2
	Beletweyne District	9.9	6.5	10.9	27.9
	Mataban District	16.6	16.3	34.7	16.3
	Shabelle Riverine	0.7	10.7	1.1	~
	Shabelle Agropastoral	10.1	3.9	2.6	~
	Baidoa IDPs	70.1	44.8	40.4	41.5
	Mogadishu IDPs	43.9	47.4	70.8	48.5
	Dolow IDPs	64.2	61.8	71.7	~
	Dhobley IDPs	39.4	76.9	~	~
	Kismayo IDPs	51.1	66.1	51.7	~
	Dhusamareeb IDP's	29.5	33.8	37.8	33.3
	Addun Central	58.6	57.3	64	70.8
	Hawd Central	71.9	53.5	62	66.3
	MEDIAN	34.5	44.8	41.2	45.0
NORTH EAST	E Golis (NE)	67.0	85.1	74.9	53
	Coastal Deeh	58.9	85	89	71.6
	Bossaso IDPs	85.5	88.7	79.2	79.9
	Qardho IDPs	65.2	76.6	58.9	85.9
	Garowe IDPs	91.5	93.8	89.6	57.8
	Galkayo IDP's	81.0	87.1	89.9	89.7
	MEDIAN	74.0	86.1	84.1	75.8
NORTH WEST	NW Agropastoral	45.6	44.0	72.8	~
	WGolis/Guban	37.4	56.9	56.2	~
	Hawd NW	~	62.4	62	~
	EGolis (NW)	~	56.4	79.8	~
	Sool plateau	~	89.8	82.8	71.1
	Nugai Valley	~	79.2	83	75.5
	Hargeisa IDPs	66.8	67.2	64.8	52.6
	Burao IDPs	88.9	94.5	91.2	75.4
	Berbera IDPs	56.3	49.7	68.6	54.4
	MEDIAN	56.3	62.4	72.8	71.1
South Central - MUAC	Coastal deeh Central (MUAC)	1.6	36.4	12.9	~
	Cowpea Belt (MUAC)	3.7	4.2	18.1	~
	MEDIAN	2.65	20.3	15.5	~
	OVERALL MEDIAN	46.2	57.1	62	66.3

19. Change in GAM and SAM Caseloads

Regions	GAM Caseloads	SAM Caseloads
	Gu 2015	Gu 2015
Lower Shabelle	20,000	4,100
Banadir	18,950	3,950
Bay	17,300	3,450
Galgadud / Mudug	17,950	2,900
M Shabelle	12,150	2,450
W Galbeed	12,850	1,900
L Juba (Hoose)	15,100	2,950
Gedo	12,900	2,550
Hiran	11,700	2,000
Bakool	7,400	1,150
Bari	10,700	1,250
Toghdeer	7,950	1,950
M Juba -(Dheexe)	9,400	1,800
Awdal	7,800	1,600
Sanaag	6,750	800
Sool	3,100	400
Nugal	3,800	500
NW IDP	1,750	250
NE & C IDP	3,500	650
SC IDP	13,600	3,050
Total	214,650	39,650

20, Change in Food Security

Regions	Gu 2015	Deyr 2014 /2015	Gu 2014	Deyr 2013/14
SOUTH				
Bay Agro-pastoral	Minimal	Minimal	Stressed/crisis	Stressed
Bakool Pastoral	Stressed	Stressed	Stressed	Stressed
Baidoa IDPs	Crisis	Crisis	Crisis	Stressed
Dhobley IDPs-	Crisis	Crisis	Emergency	Emergency
Kismayo IDPs	Crisis	Crisis	Emergency	Emergency
Kismayo Town	Stressed	Stressed	Emergency	~
Beletweyne	Stressed	Stressed	Stressed	Stressed
Mataban	Stressed	Stressed	Stressed	Stressed
N Gedo Pastoral	Stressed	Stressed	Stressed	Stressed
North Gedo Riverine	Stressed	Stressed	Stressed	Stressed
North Gedo Agro Pastoral	Stressed	Stressed	Stressed	Stressed
Dolow IDPs	Emergency	Emergency	Crisis	Stressed
South Gedo Pastoral-MUAC	Stressed	Stressed	Stressed	Stressed
South Gedo Agro-Pastoral-MUAC	Stressed	Stressed	Stressed	Stressed
South Gedo Riverine-MUAC	Stressed	Stressed	Stressed	Stressed
Shabelle Agro pastoral	Stressed	Stressed	Stressed	Stressed
Shabelle Riverine	Stressed	Stressed	Crisis	Stressed
Mogadishu IDPs	Crisis	Crisis	Crisis	Crisis
Mogadishu Urban	Stressed	Stressed	Stressed	Stressed
CENTRAL				
Dhusamareeb IDPs	Crisis	Crisis	Crisis	Emergency
Hawd Pastoral	Minimal	Minimal	Stressed	Stressed
Addun Pastoral	Stressed	Stressed	Stressed	Stressed
Cowpea Belt-MUAC	Stressed	Stressed	Stressed	Stressed
Coastal Deeh-MUAC	Stressed	Stressed	Stressed	Stressed
NORTHEAST				
Bossaso IDPs	Crisis	Crisis	Crisis	Crisis
Galkayo IDPs	Crisis	Crisis	Crisis	Crisis
Qardho IDPs	Crisis	Crisis	Crisis	Stressed
Garowe IDPs	Crisis	Crisis	Crisis	Stressed
East Golis Pastoral	Stressed	Stressed	Stressed	Stressed
Sool Plateau Pastoral	Minimal	Stressed/crisis	Stressed	Stressed
Coastal Deeh-	Stressed	Crisis	Crisis	Stressed
Bari Urban	Stressed	Minimal	Stressed	~
NORTH WEST				
Agro-Pastoral	Stressed	Stressed	Stressed	Stressed
West Golis/Guban	Minimal	Stressed	Stressed	Stressed
Sool Plateau	Minimal	Stressed	Stressed	Stressed
HAWD Livelihood	Minimal	Minimal	Stressed	Stressed
Eastgolis/GebbiValley	Stressed	Stressed	Stressed	Stressed
Nugal Valley	Stressed	Stressed	Stressed	Stressed
Hargeisa IDP	Crisis	Crisis	Crisis	Crisis
Berbera IDP	Crisis	Crisis	Crisis	Crisis
Burao IDP	Crisis	Crisis	Crisis	Crisis

21. Nutrition Indicators by Gender and Age - Gu 2015

INDICATOR	AGE(Months)	REGION									
		SOUTH		CENTRAL		NORTHEAST		NORTHWEST		OVERALL FOR SOMALIA	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
GAM	6-23 months	19.8*	14.3*	14.5	11.7	15.5*	12.4*	9.0*	6.1*	15.4*	11.4*
	24-59 Months	20.5*	16.9*	13.2	14.3	17*	14.4*	12	12.1	16.5*	14.6*
	Overall	20.3*	15.9*	13.6	13.4	16.5*	13.7*	11	10	16.1*	13.4*
SAM	6-23 months	6.6*	4*	4.2	3.7	4.5	3.4	2.6*	0.9*	4.8*	3.0*
	24-59 Months	4.5	3.6	2.6	2.3	3.8	2.8	2.4	2.5	3.5*	2.9*
	Overall	5.3*	3.7*	3.1	2.8	4	3	2.5	1.9	4.0*	3.0*
GAM-MUAC	6-23 months	0.7*	0*	20.6	24.7	49.2	53.1	7.5*	5.0*	16.5	16.2
	24-59 Months	0.6*	0*	12	14.7	44	47	6.5*	4.3*	14.4	14.5
	Overall	0.7*	0*	14.8	18.1	45.8	49.2	6.8*	4.5*	15.1	15.1
SAM-MUAC	6-23 months	18.5	18.5	17.1	20.7	16.7	20	5.3	4.7	14.5	15.3
	24-59 Months	14.8	15	11.4	13.9	19.3	19.2	2.3	2.4	12	12.3
	Overall	16.2	16.4	13.2	16.2	18.4	19.5	3.4	3.2	12.9	13.4
UNDERWEIGHT	6-23 months	31.7*	19.8*	19.2*	10.7*	21.2*	16.4*	9.6*	4.3*	22.1*	14*
	24-59 Months	23.1*	18.2*	13.4	13.2	14.6	12.7	5.7	5.2	15.*	12.5*
	Overall	26.4	18.8*	15.3	12.3	16.9*	14*	7.0*	4.9*	17.5*	13.1*
STUNTING	6-23 months	30.7*	21.1*	18.7*	9.2*	20.5*	15.7*	10.3*	4.6*	21.7*	14.3*
	24-59 Months	23.4*	18.7*	13.5*	8.6*	11.6	10.1	3.7	3.4	13.7*	11.1*
	Overall	26.1	19.6	15.2*	8.8*	14.8*	12.1*	5.9*	3.8*	16.6*	12.2*
MORBIDITY	6-23 months	38.4	39	36.9	40.4	34.2	36	26.6	25.1	34.1	34.6
	24-59 Months	35.9	35.7	29.7	29.2	24	24	19.9	19.4	27.7	27.4
	Overall	36.9	37	32	33	27.6	28.2	22.2	21.4	30	30
* Chi- square test(with 95% confidence interval) showed statistical significant difference (P<0.05)											

22. 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.

United Nations Somalia, Ngecha Road Campus

Box 1230, Village Market, Nairobi, Kenya

Tel: +254-(0)20-4000000/500, Cell: +254-(0)722202146 / (0)733-616881

Fax: +254-20-4000555

Email: info@fsnau.org

Website: www.fsnau.org