Nutrition Analysis
Post *Deyr* 2012/13

Technical Series Report No VI. 49

February 28, 2013

FSNAU

Food Security and Nutrition Analysis Unit - Somalia

Information for Better Livelihood




Technical Partners

FEWS NET Famine Early Warning Systems Network

WFP wfp.org

JRC European Commission

Funding Agencies

UKaid from the Department for International Development

Sida

USAID from the American people

Cooperazione Italiana allo Sviluppo Ministero Affari Esteri

Swiss Agency for Development and Cooperation SDC

unicef

UNHCR The UN Refugee Agency

CHF Somalia Common Humanitarian Fund Somalia

Acknowledgements

The Food Security and Nutrition Analysis Unit (FSNAU) of UNFAO Somalia would like to thank all our 27 partner agencies for their participation and support in the *Deyr 2012* seasonal nutrition assessments and analysis.

From October through December 2012, a total of 41 nutrition surveys were conducted based on standard SMART methodology. Seventeen of the nutrition surveys were conducted in the south. Additionally, nutrition data from about 130 health and nutrition facilities was reviewed. Without the support and expertise of the 11 local NGOs, 3 International NGOs, 3 Local Authorities, 8 line Ministries and 2 UN agencies, this would not have been possible. Special thanks to UNICEF, for financial and/or technical support.

A sincere note of appreciation also goes to the FSNAU nutrition team based in Somalia who work under such difficult conditions yet continue to produce such high quality professional work.

Participating Partners - north central regions only

United Nations Children's Fund (UNICEF), World Food Programme (WFP), Ministry of Health (MOH Somaliland), Ministry of Agriculture (Somaliland), Ministry of environment and rural development, and NERAD (Somaliland); Ministry of Health (Puntland), Ministry of Women Development and Family Affairs (MoWDFA), Ministry of Wildlife, Tourism and Environment (Puntland), Puntland State of Water and Energy (PSWEN), Medair, Somalia Red Crescent Society (SRCS), Integrated Service for Displaced Persons (ISPD), HEAL, Sage Organization, CAFDARO and Elberde primary health care organization (EPHCO).

Mahad Sanid

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

LIST OF TABLES

SPECIAL ARTICLES

LIST OF ACRONYMS USED

AWD	Acute Watery Diarrhoea
ARI	Acute Respiratory Tract Infections
CDC	Center for Disease Control and Prevention, Atlanta
CDR	Crude Death Rate
CHD	Child Health Days
CI	Confidence Interval
COSV	Co-operatione Di Svillupo International
FAO	Food and Agricultural Organization of the United Nations
FSNAU	Food Security and Nutrition Analysis Unit
FEWSNET	Famine Early Warning System Network
GAM	Global Acute Malnutrition
HAZ	Height for Age Z Scores
HIS	Health Information System
IDP	Internally Displaced persons
INGO	International Nongovernmental Organization
ISDP	Integrated Service for Displaced Persons
LZ	Livelihood Zone
MCH	Maternal and Child Health Center
MOH	Ministry of Health
MT	Metric Ton
MUAC	Mid Upper Arm Circumference
NCHS	National Center for Health Statistics
NGO	Non Governmental Organization
OTP	Out Patient Therapeutic Programme
OPD	Out Patient Department
PWA	Post War Average
R	Reliability Score
RR	Relative Risk/Risk Ratio
SAGE	Sage Organization
SAM	Severe Acute Malnutrition
SC	Stabilization Center
SC-UK	Save the Children - UK
SRCS	Somalia Red Crescent Societies
SD	Standard Deviation
SFP	Selective/Supplementary Feeding Program
TFC	Therapeutic Feeding Center
TOT	Terms of Trade
U5DR	Under Five Death Rate
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
WAZ	Weight-for-Age Z Scores
WHO	World Health Organization of the United Nations
WFP	World Food Program of the United Nations
WHZ	Weight for Height Z Scores
WVI	World Vision International

Forward

The FSNAU Post *Deyr* 2012/13 Nutrition Technical Series Report (February 28, 2013) is the eighth edition of the bi-annual nutrition situation technical series launched by the Food Security and Nutrition Analysis Unit (FSNAU) of UNFAO Somalia in February 2009. The publication complements the FSNAU bi-annual seasonal technical series reports and provides specific focus on nutrition information for the last 6 months.

The FSNAU Post *Deyr* 2012/13 Technical Series Report is scheduled for release on March 1, 2013. It will provide a detailed food security analysis of the integrated food security situation by region and by sector.

FSNAU Nutrition Team

1. EXECUTIVE SUMMARY

Nutrition Situation Overview

Integrated analysis of core nutrition indicators for the *Deyr* 2012/13 reflects improvements in the overall nutrition situation as compared to the *Gu* 2012 six months earlier **(Maps 1 and 2).** This is mostly a result of improved access to household food and disease outbreak control. Recent improvements in food security are attributed to continued humanitarian interventions, improved own production (crops, milk), increased incomes (farm labour, livestock sales at high prices) and improved purchasing power in light of the reduced cost of living. Although morbidity levels remained high, no seasonal outbreaks of acute watery diarrhoea /cholera or measles were reported during this period. This was a mitigating factor for the overall nutrition situation.

A total of **215 000** (14.3% of 1.5 million children aged below 5 years) are acutely malnourished, a slight improvement from 236 000 (16%) in August 2012. Out of these **45 000** (3.0% of 1.5 million children aged below 5 years) are severely malnourished, a slight improvement from 54 000 (3.5%) in August 2012. South Somalia hosts 147 000 (66%) of the country's total of acutely malnourished children (down from 168 000 in August 2012).

Between October and December 2012, FSNAU and partner agencies conducted a total of 41 nutrition surveys based on the Standardized Monitoring and Assessment of Relief and Transitions (SMART) methodology. Of these surveys, which covered rural and urban livelihoods in addition to IDP settlements, 22 were conducted in the northern regions, 5 in Central and 14 in southern regions. Thirteen of the surveys were done in IDP camps, 11 in urban settlements and 18 in rural livelihoods. (Table 1). The survey schedule is provided in Table 2.

Table 1: Nutrition surveys conducted October-December 2012

Regions	Rural livelihood zones	Urban livelihood zones	IDP settelements	Total
North	8 (W.Golis, E. Golis/NW, Agro-pastoral, Hawd, Sool plateau, Nugal valley, E. Golis/NE, Coastal deeh/NE	7 (Awdal, W. Galbeed, Togdheer, Sool, Sanaag, Bari, Nugal,	7(Hargeisa, Burao, Berbera, Bossaso, Qardho, Garowe, Galkayo)	22
Central	2 (Hawd, Addun)	2 (Mudug, Galgadud)	1 (Dusamareb/Guriel)	5
South	7 (Beletweyn District, Mataban, Bay, Bakool pastoral, N. Gedo Pastora, agro-past. and riverine)	2 (Mog, Afgoye)	5 (Mogadishu, Kismayo, Dolow, Dobley, Baidoa)	14
Total	18	11	13	41

Table 2: Nutrition surveys schedule October-December 2012

No	Assessment	Period 2012
1	Hargeisa IDPs	October
2	Burao IDPs	October
3	Berbera IDPs	October
4	Bossaso IDPs	October
5	Qardho IDPs	October
6	Garowe IDPs	October
7	Galkayo IDps	October
8	Guriel/Dusamareb IDPs	December
9	Kismayo IDPs	December
10	Dolo IDPs	December
11	Dobley IDPs	December
12	Baidoa IDPs	December
13	Mogadishu IDPs	December
14	Galgadud Region Urban LZ	December
15	Sool Region Urban LZ	December
16	Sanaag Region Urban LZ	December
17	Bari Region Urban LZ	December
18	Nugal Region Urban LZ	December
19	Mudug Region Urban LZ	December
20	Awdal Region Uban LZ	December
21	Galbeed Region Urban LZ	December
22	Togdheer Region Urban LZ	December

No	Assessment	Period 2012
23	Mogadishu Urban LZ	December
24	Afgoye Urban LZ	December
25	Agropastoral LZ (Togdheer & Northwest)	December
26	West Golis /Guban Pastoral LZ	December
27	Hawd Pastoral LZ (Northwest)	December
28	East Golis/Gebbi Pastoral LZ (Northwest)	December
29	Sool Plateau LZ	December
30	Nugal Valley Pastoral LZ	December
31	Coastal Deeh LZ (Northeast)	December
32	East Golis/Kakaar Pastoral LZ (Northeast)	December
33	Hawd Pastoral LZ (Central and Northeast)	December
34	Addun Pastoral LZ	December
35	Beletweyne District	December
36	Mataban-Hiran Region	December
37	Bay Region(Agropastoral)	December
38	Bakool Pastoralists	December
39	North Gedo Pastoralists	December
40	North Gedo Riverine	December
41	North Gedo Agropastoral	December

Survey findings

Survey findings of three core indicators: global acute malnutrition rates, severe acute malnutrition rates, and death rates (Table 29) show a declining trend compared to the *Gu* 2012.

- **Global acute malnutrition** (GAM) rates have reduced since July 2012 from *Very Critical* (20 -29.9%) to ***Critical*** levels (15.0-19.9%) among the pastoralists of West Golis/Guban and agropastoralists of Bay; and to ***Serious*** level (10.0-14.9%) in Nugal Valley. Other areas remain unchanged, except for Mataban in the Hiran Region where the GAM rate has deteriorated to ***Very Critical***. IDPs remain ***Critical – Very Critical*** except for the Hargeisa and Garowe IDPs who are considered in the S***erious*** phase. (Figure 1).
- **Severe acute malnutrition** (SAM) rates have either reduced or are sustained within ***Acceptable*** levels (<2.5%) since July 2012. The exceptions are the Hawd of Northwest, and Addun livelihood zones with SAM rates within ***Alert*** level (2.5-3.4%), North Gedo Agropastoralists in *Serious,* (3.5-4.4%), Beletweyne District with ***Critical*** (4.5-5.9%), and Mataban in ***Very Critical*** levels of (6.0-9.9%).

  IDPs in settlements within Dolow, Dobley, Berbera and Qardho have ***Critical –Very Critical*** **levels**. (Figure 1).
- **Crude death rates** across the country are below the emergency threshold level of 2 per 10 000 per day, while **under five death rates** are below the emergency threshold level of 4 per 10 000 per day (UNICEF 2005) (Figure 2).

Morbidity

The WHO (October-December 2012) *Somalia Emergency Health Updates* show that there were no disease outbreaks during the *Deyr* 2012 season. This was a mitigating factor for the nutrition situation, especially in the South. Nevertheless, with the exception of East Golis in the Northwest (16%), morbidity levels among the assessed <5 year old children (based on two weeks recall period) remained high, above 20 percent on average, across the country, exceeding 40 percent in parts of the South, and IDPs settlements. Morbidity was highest in Beletweyne District (53.2%), Mataban (50.3%), N. Gedo Pastoral livelihood zone (52.5%), Mogadishu IDPs (47.4%) and Bossaso IDPs (46.6%) (Figure 3).

Meta-analysis of datasets from 220 nutrition surveys conducted from 2001-2011 indicates positive association between acute malnutrition and morbidity, with children reportedly suffering from childhood illnesses (suspected fever, measles, pneumonia and diarrhea) being 1.37 times more likely to be malnourished. The relationship between diarrhoea and acute malnutrition is of statistical significance (RR=1.43) (Figure 4).

Figure 1: Global Acute Malnutrition and Severe Acute Malnutrition Rates (October-December 2012)

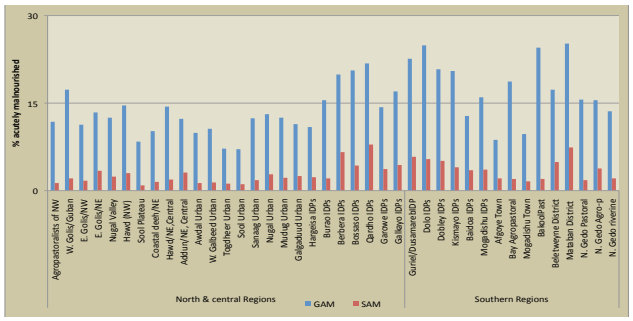


Figure 2: Retrospective Crude (CDR) and Under 5 Death Rates (U5DR) per 10,000 per day

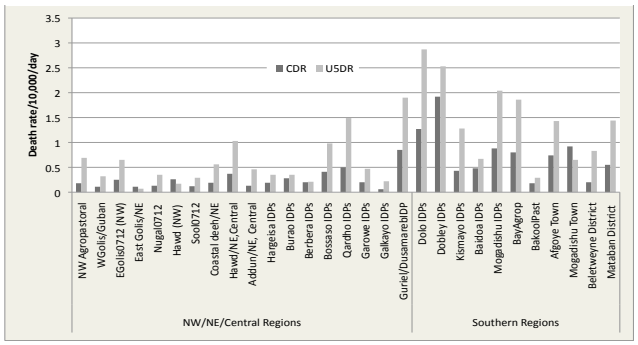


Figure 3: Morbidity (percent) **based on 2 week recall period, October-December 2012**

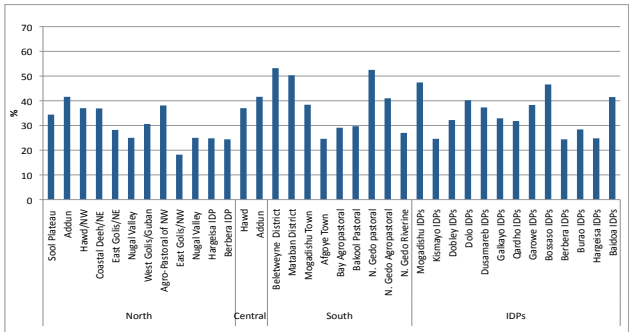
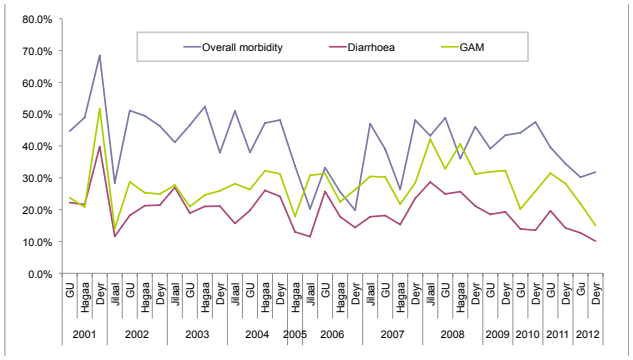


Figure 4: **Seasonal Trends of GAM, morbidity and Diarrhoea prevalence in Somalia, 2001-2012**



Southern regions – Rural Livelihood Zones

SMART nutrition surveys were conducted in the rural livelihood zones of northern parts of Gedo and Bakool Regions, Mataban and Beletweyne Districts in Hiran, and Bay Region. Due to insecurity, it was not possible to conduct SMART surveys in Juba, Southern Gedo, southern Hiran and Shabelle regions. Rapid nutrition assessments based on mid-upper circumference (MUAC) were nevertheless undertaken in the 6-59 months age group in accessible areas of Juba and southern Gedo.

Findings of the assessments in southern regions show that the nutrition situation of ***Critical - Very Critical*** phases persist in the assessed areas.

- North Gedo Pastoralists: The nutrition situation is in ***Critical*** phase, an improvement from *Very Critical* in the *Gu* 2012. GAM is **15.6** percent (12.7-19.0) and SAM **1.8** percent (0.9-3.3). CDR is 0.63 indicating an *Alert* situation.
- North Gedo Agropastoral: The nutrition situation is ***Serious***, an improvement from *Very Critical* in *Gu* 2012. GAM is **13.6** percent (11.0-16.6) and SAM **2.1** percent (1.2-3.7). CDR is 1.45 indicating a *Serious* situation.
- North Gedo Riverine: The nutrition situation is in ***Critical*** phase, improvement from *Very Critical* in *Gu* 2012. GAM is 15.5 percent (12.8-18.7) and SAM 3.8 percent (2.5-5.7). CDR is 0.67 indicating an *Alert* situation.
- Bakool pastoral: The nutrition situation is in sustained ***Very Critical*** phase with GAM of **24.5** percent (19.1-30.9) and SAM of **2.0** percent (1.2- 3.3). CDR, **0.18**, is *Acceptable* based on UNICEF levels.
- Mataban in Hiran Region is in ***Very Critical*** phase, having deteriorated from *Critical* in *Gu* 2012. GAM is **25.2 percent** (19.4-32.0) and SAM, **7.4 percent** (4.9-11.0). CDR is 0.55 indicating *Alert* level.
- Beletweyne District: The nutrition situation is ***Critical***, sustained from the *Gu* 2012. GAM is **17.3** percent (12.7-23.0) and SAM, **4.9** (2.9-8.3). CDR is **0.20** indicating an *Acceptable* situation according to UNICEF 2005 classification.
- Bay Region: The nutrition situation has improved to ***Critical*** from *Very Critical* in *Gu* 2012. GAM is **18.7** percent (14.7-23.4) and SAM **2.0** percent (0.8- 5.0). CDR is **0.80** indicating a *Serious* situation according to UNICEF 2005 classification.
- Juba regions and southern Gedo:
  - Juba Riverine livelihood zone is likely ***Very Critical*** with 18.7 percent of the assessed children with MUAC<12.5cm or oedema
  - Juba Agropastoral livelihood zone is likely ***Very Critical*** with 14.4 percent of the assessed children with MUAC<12.5cm or oedema
  - Juba Pastoralists livelihood is likely ***Critical*** with 9.6 percent of the assessed children with MUAC<12.5cm or oedema
  - Southern Gedo is likely ***Very Critical*** with 23.5 percent in pastoral livelihood zone, 21.5 percent in agropastoral and 21.8 percent in riverine livelihood zones with MUAC < 12.5cm or oedema

Central regions – Rural Livelihood Zones

The nutrition situation in the Central livelihoods zone was assessed through nutrition surveys amongst the Hawd and Addun. Rapid MUAC assessments were carried out for the 6-59 months old in agropastoral and coastal areas of Central due to insecurity-induced lack of access, which hindered the FSNAU team to conduct a SMART nutrition survey. Results show:

- Hawd of Central and Northeast: Sustained in ***Serious*** phase, GAM is **14.4** percent (11.2-18.3), SAM **1.9** percent (1.1-3.4). CDR is 0.37, within *Acceptable* level
- Addun of Central and Northeast: Sustained in ***Serious*** phase, GAM is **12.3** percent (9.5-16.0), SAM, **3.1** percent (1.9-5.2). CDR of 0.13, within *Acceptable* level
- Agro-pastoralists: Likely ***Serious*** with 8.0 percent of the assessed children with MUAC<12.5cm or oedema
- Coastal Deeh: Likely ***Critical*** with 10.1 percent with MUAC<12.5cm or oedema

Northern regions – Rural Livelihood Zones

There are improvements from *Very Critical* in *Gu* 2012, to ***Critical*** in West Golis-Guban, and to ***Serious*** in Nugal Valley. The Hawd of Northwest has improved from *Critical* to ***Serious***, while Sool Plateau has improved from *Serious* to ***Alert.*** Other livelihoods are sustained in ***Serious*** phase. CDR are within *Acceptable* levels of <0.5 per 10 000 per day.

- West Golis/Guban: The nutrition situation is ***Critical.*** GAM is **17.3** percent (13.5-21.9), SAM **2.1** percent (1.2-3.6), CDR 0.11
- Nugal Valley: The nutrition situation is ***Serious***. GAM is **12.5** percent (9.2-16.8), SAM, **2.4** percent (1.4-4.0), CDR 0.13
- Hawd of Northwest: The nutrition situation is ***Serious***. GAM is **14.6** percent (10.6-19.8), SAM, **3.0** percent (1.7-5.2), CDR 0.17
- Sool Plateau. The nutrition situation is in the ***Alert*** phase. GAM is **8.4** percent (5.9-11.9), SAM, **0.9** percent (0.4-1.9), CDR 0.12
- East Golis of Northwest: The nutrition situation is in sustained ***Serious*** phase since the *Gu* 2012. GAM is **11.3** percent (9.1-13.9) and a SAM rate of **2.7** percent (0.9-3.2)
- Agropastoralist of Northwest. The nutrition situation is sustained in ***Serious*** phase. GAM is **14.6** percent (10.6-19.8) and SAM, **3.0** percent (1.7-5.2). CDR is 0.18
- East Golis of Northeast: The nutrition situation is sustained as ***Serious***. GAM is **13.5** percent (10.2-17.5) and SAM, **3.4** percent (2.2 – 5.3). CDR is 0.07 indicating an *Acceptable* situation
- Coastal Deeh of Northeast: The nutrition situation is sustained in Serious phase since *Gu* 2012. GAM is **10.2** percent (7.7-13.3) and SAM, **1.5** percent (0.8-2.8). CDR is 0.19**.**

IDPs Settlements

IDPs in settlements across the country remain in the nutrition phase of ***Critical - Very Critical***, with the exception of Hargeisa and Garowe IDP settlements, which are in ***Serious*** phase. The CDR (per 10 000 per day) are within ***Acceptable – Critical*** levels. IDPs in ***Very Critical*** nutrition phase are:

- Dolow IDPs[1] with GAM of **24.9** percent, SAM of **5.4** percent. The CDR, 1.27, is *Serious*
- Dobley IDPs with GAM of **20.8** percent, SAM of **5.1** percent. The CDR, 1.92, is *Critical*, approaching the emergency threshold of 2/10,000/ day
- Kismayo IDPs with GAM of **20.5** percent (17.3-24.2), SAM of **4.0** percent (2.8-5.9). The CDR, 0.49, is within *Acceptable* level
- Guriel/Dusamareb IDPs with GAM of **22.6** percent, SAM of **5.8** percent. The CDR, 0.85, indicates an *Alert* level
- Bossaso IDPs with GAM of **20.6** percent, SAM of **4.3** percent. The CDR, 0.41, is within *Acceptable* level
- Qardho IDPs: GAM is **21.8** percent, SAM **7.9** percent. The CDR is 0.5, is in the *Alert* level
- Mogadishu IDPs have deteriorated from *Serious* to ***Critical*** phase with GAM of **16.0** percent (12.8-19.8) up from 9.6 percent in July 2012, while SAM is **3.6%** (2.4-5.3); CDR, 0.88, is within the *Alert* level

IDPs in Burao, Berbera, Galkayo settlements are in ***Critical*** phase. CDR is in *Acceptable* phase. (Reference: UNICEF 2005).[2] Burao IDPs: GAM is **15.5** percent (11.6-20.5), SAM **2.1** percent (1.0-4.1); CDR 0.28; Berbera: GAM is **19.9** percent (15.4-25.3), SAM **6.6** percent (3.8-11.0), CDR 0.20; Galkayo: GAM is **17.0** percent (13.9-20.6), SAM, **4.4** percent (3.1-6.3), CDR 0.06.

Both Garowe and Hargeisa IDPs are in ***Serious*** phase with GAM of **14.4** percent (11.4-17.8) and **10.9** percent (8.7-13.6) respectively; SAM **3.7** per cent (2.6-5.3) and **2.3** percent (1.2-4.2) respectively. CDR are 0.20 and 0.19, respectively.

1 Dolow, Dobley and Guriel/Dusamareb IDPs were exhaustive studies, hence confidence intervals not provided
2 UNICEF 2005: Emergency Field Handbook, A guide for UNICEF staff.

Figure 5: Stunting Rates, HAZ<-2, Deyr 2012/13

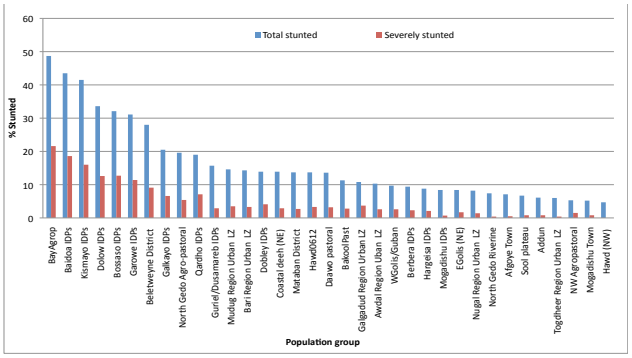
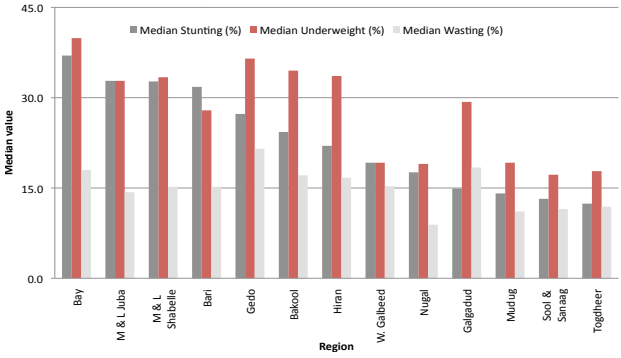


Figure 6: Median Rates of Malnutrition by Regions, Somalia, 2001-2011

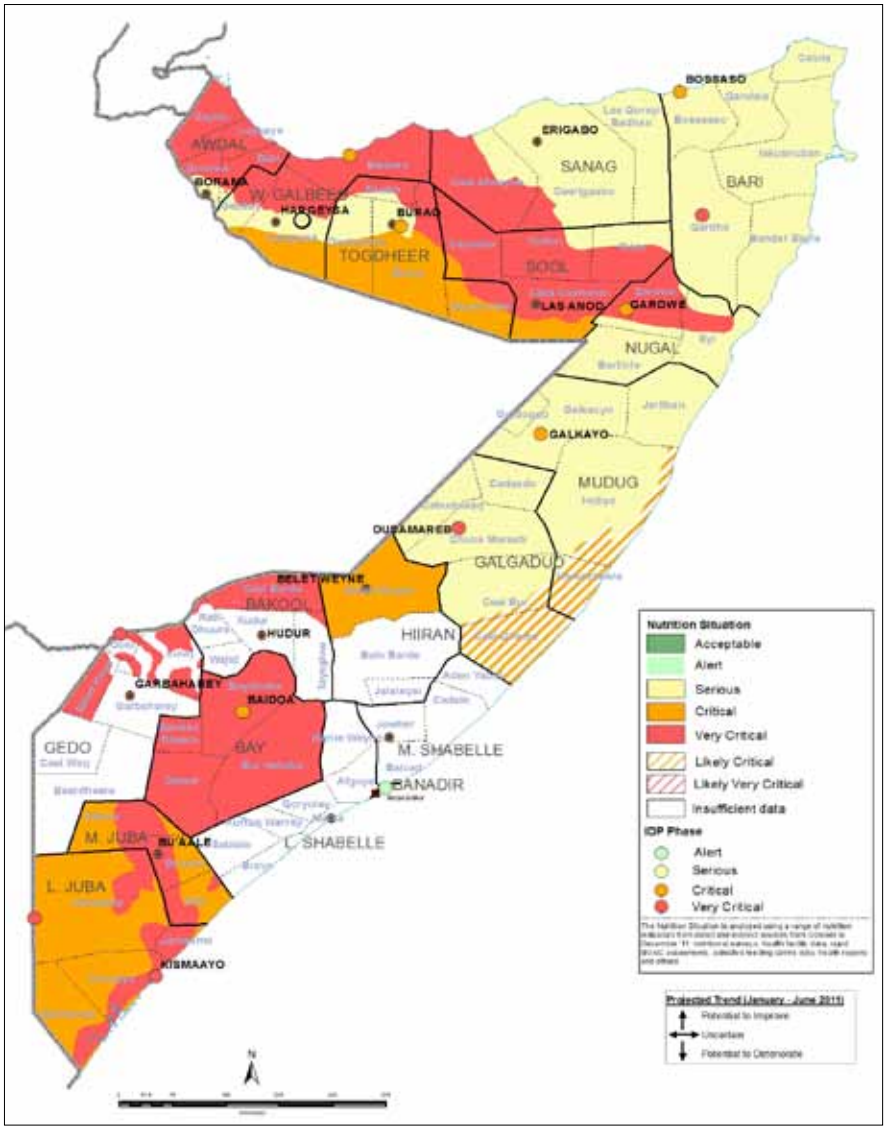


URBAN LIVELIHOOD ZONE

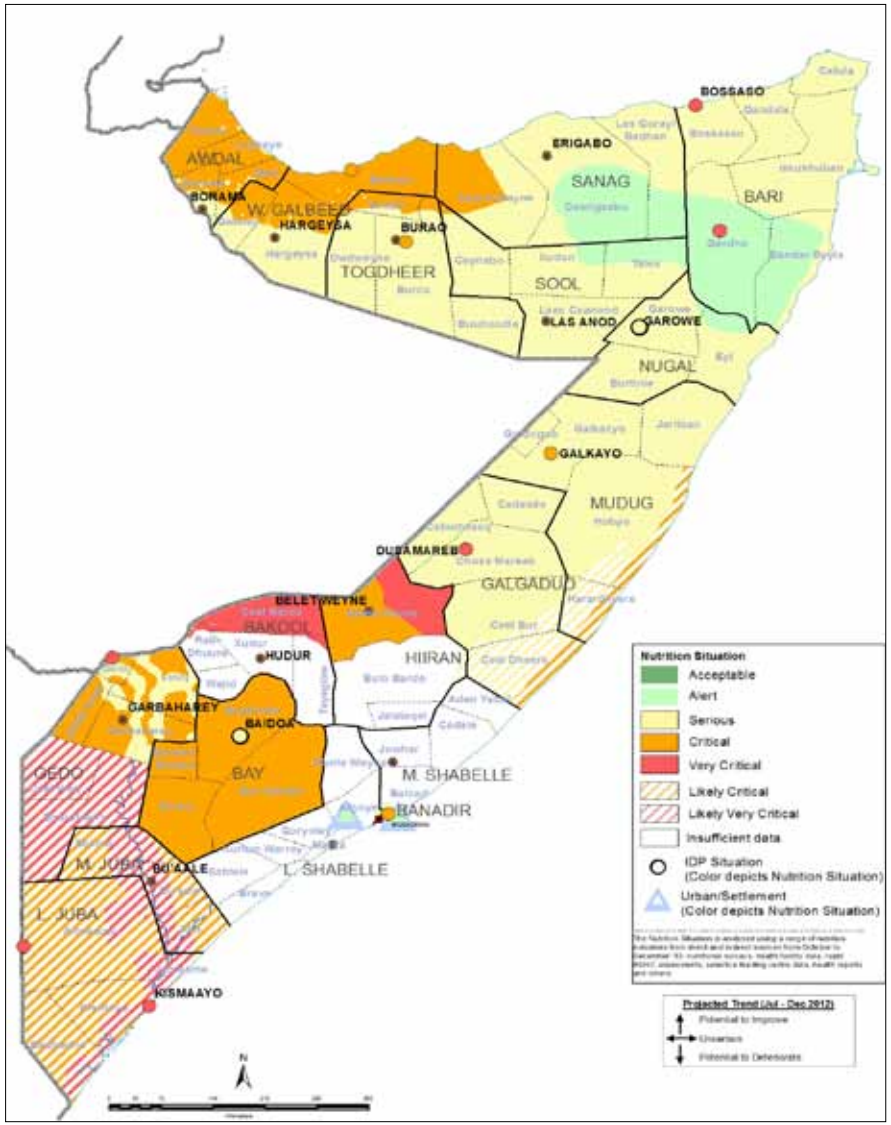
Findings from assessments conducted in urban livelihood zones depict an ***Alert - Critical*** nutrition situation. Data on death rates was not collected.

- Awdal, Togdheer and Sool Regions: The situation has improved to ***Alert*** with GAM of 5-9.9, from *Serious*, GAM of 10.0-14.9 in the *Gu* 2012. In the urban livelihood zone of
  - o Awdal Region, GAM is **9.9** percent (7.4-13.1) and SAM, **1.3** percent (0.6-2.8)
  - o Togdheer Region, GAM is **12.1** percent (8.2-17.5) and SAM, **1.6** percent (0.7-3.5)
  - o Sool Region, GAM is **7.1** percent (4.8-10.5) and SAM, **1.1** percent (1.6 percent (0.7-3.5)
- Sanag and Woqoyi Galbeed Regions: The situation has deteriorated to ***Serious*** from *Alert* phase in *Gu* 2012
  - o Sanag Region: GAM is **13.9** percent (11.9-16.1), and SAM **1.7** percent (1.2-2.5)
  - o Woqoyi Galbeed Region: GAM is **10.6** percent (7.9-14.1), and SAM **1.4** percent (0.6-3.1)
- Nugal Region is in a sustained ***Serious*** phase with GAM of **13.3** percent (10.7-16.6) and **2.6** percent (1.5-4.6)
- Mudug and Galgadud Regions: The situation has improved from *Critical* in the *Gu* 2012 to ***Serious*** phase
  - o Mudug Region: GAM is **12.8** percent (9.8-16.5), and SAM of **2.1** percent (1.1-4.3)
  - o Galgadud Region: GAM is **10.7** percent (6.8-16.4), and SAM of **2.3** percent (1.2-4.5) respectively
- Bari Region is sustained in ***Critical*** phase since the *Gu* 2012. GAM is 18.4 percent (14.4-23.2) and SAM 4.7 percent (3.1-7.2)

Map 1: Nutrition Situation Estimates, August 2012



Map 2: Nutrition Situation Estimates, January 2013



- Mogadishu Town: The nutrition situation is classified in the ***Alert*** phase with a GAM of **9.7** percent (7.1-13.2) and SAM of **1.6** percent (0.8-3.4). This is a change from the *Serious* phase of *Gu* 2012. CDR is 0.88, in the *Alert* phase.
- Afgoye Town: The nutrition situation is in the ***Alert*** phase with GAM of **8.7** percent (6.9-10.9) and SAM of **2.1** percent (1.2-3.6). CDR is 0.74 and classified as ***Alert***

GENDER

With the exception of the Hawd of Central and Bossaso IDPs, statistical analysis of *Deyr* 2012 survey findings show no statistically significant differences between acute malnutrition with:

- Sex of the child
- Age of the child
- Sex of the household head

Likewise, there are no statistically significant differences between sex of the child with:

- Morbidity status (based on recall)
- Child feeding practices

In the Hawd of Central, and Bossaso IDPs, there are statistically significant differences between GAM and child sex and age. More boys than girls are malnourished in both groups. In Bossaso IDPs, younger children (<24 months) are significantly more malnourished than the older ones. In Hawd, it is the older children (≥24 months) who are significantly more malnourished than the younger ones.

NUTRITION SITUATION OUTLOOK (FEBRUARY – APRIL 2013)

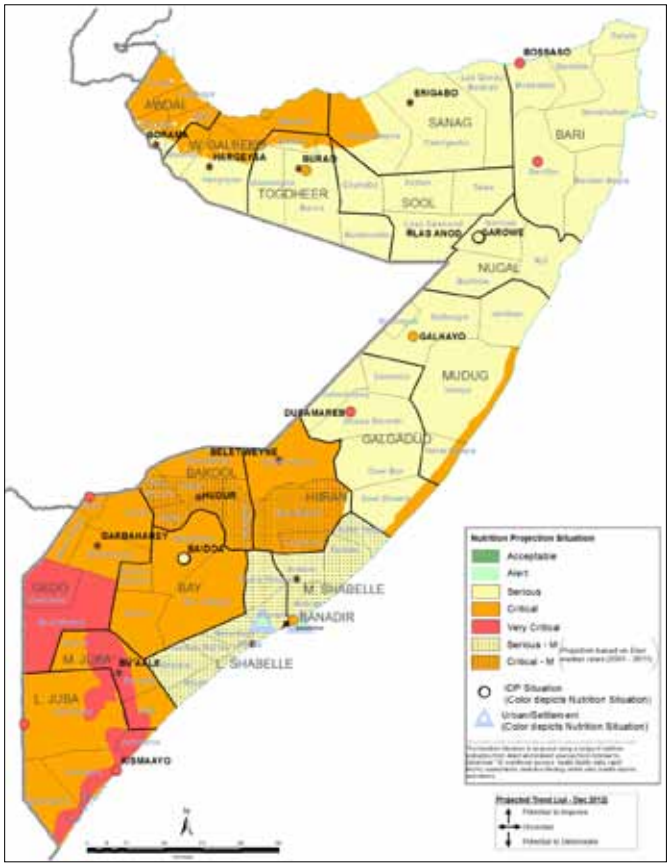
The nutrition situation outlook, February to April 2013 is inferred from current estimates/median seasonal rates (2001-2011), alongside historical disease patterns and food security trends for the February – April 2013 period. In general, the nutrition situation is likely to remain the same across the country up to April 2013 (Map 3) except for:

- Sool Plateau livelihood zone, which could deteriorate to Serious phase, consistent with worrying food security situation and seasonal levels
- Bakool and Hiran regions are likely to improve to Critical phase consistent with seasonal levels

The nutrition situation in Shabelle regions, which could not be assessed in the *Deyr* 2012, is projected to be in *Serious* phase in February-April 2013.

The current projection assumption will be reviewed in April 2013 based on updated information on climate performance; cereal price dynamics; humanitarian interventions; and civil insecurity.

Map 3: Nutrition Outlook, February-April 2013



Food Security Situation Overview

While the number of people in need of humanitarian assistance in Somalia has halved to 1.05 million since August 2012, malnutrition rates remain among the highest in the world, based on integrated phase classification (IPC). Humanitarian assistance to protect livelihoods, reduce acute malnutrition, and help the most food insecure populations is needed over the next six months. The underlying vulnerability of poor households also requires actions to address the causes and reduce the risks of food and nutrition insecurity by increasing the resilience of existing livelihoods.

However, average rains in Somalia boosted food production and livestock farming, these gains could easily be reversed. Following two consecutive seasons of extreme drought, the UN declared famine in parts of southern Somalia in August 2011. During the 2011 *Gu* season, the harvest only reached an estimated 26 percent of average, and 4 million people required humanitarian assistance.

Food security conditions improve

The recent improvements in food security are attributed to continued humanitarian interventions, improving food stocks at the household and market levels from the ongoing 2013 *Deyr* harvest, sustained high livestock prices, and improved milk availability during the October to December *Deyr* rainy season across many pastoral areas of Somalia. Following the famine declaration in 2011, sustained humanitarian response and multiple seasons of below average to good rainfall in most parts of the country increased agricultural and livestock production and household purchasing power.

The average October to December *Deyr* rains boosted maize and sorghum production, yielding what may be the *Deyr* largest cereal harvest in nearly ten years. Substantial cash crop production also occurred as some farmers shifted from cereals to more profitable sesame. The recent FSNAU-led multi-agency assessment found high production in Bay Region, which contributes more than half of Somalia's sorghum production, as well as in Lower and Middle Shabelle Regions. However, a few areas in the South are likely to have a poor harvest in January and February due to late and erratic *Deyr* rainfall.

Areas still in crisis

Most areas of Somalia are currently classified as ***Stressed*** (IPC Phase 2), where the poor have minimally adequate food consumption, cannot afford essential non-food expenditures, and are unable to maintain their livelihoods (Map 4). In several areas, food insecurity is more severe:

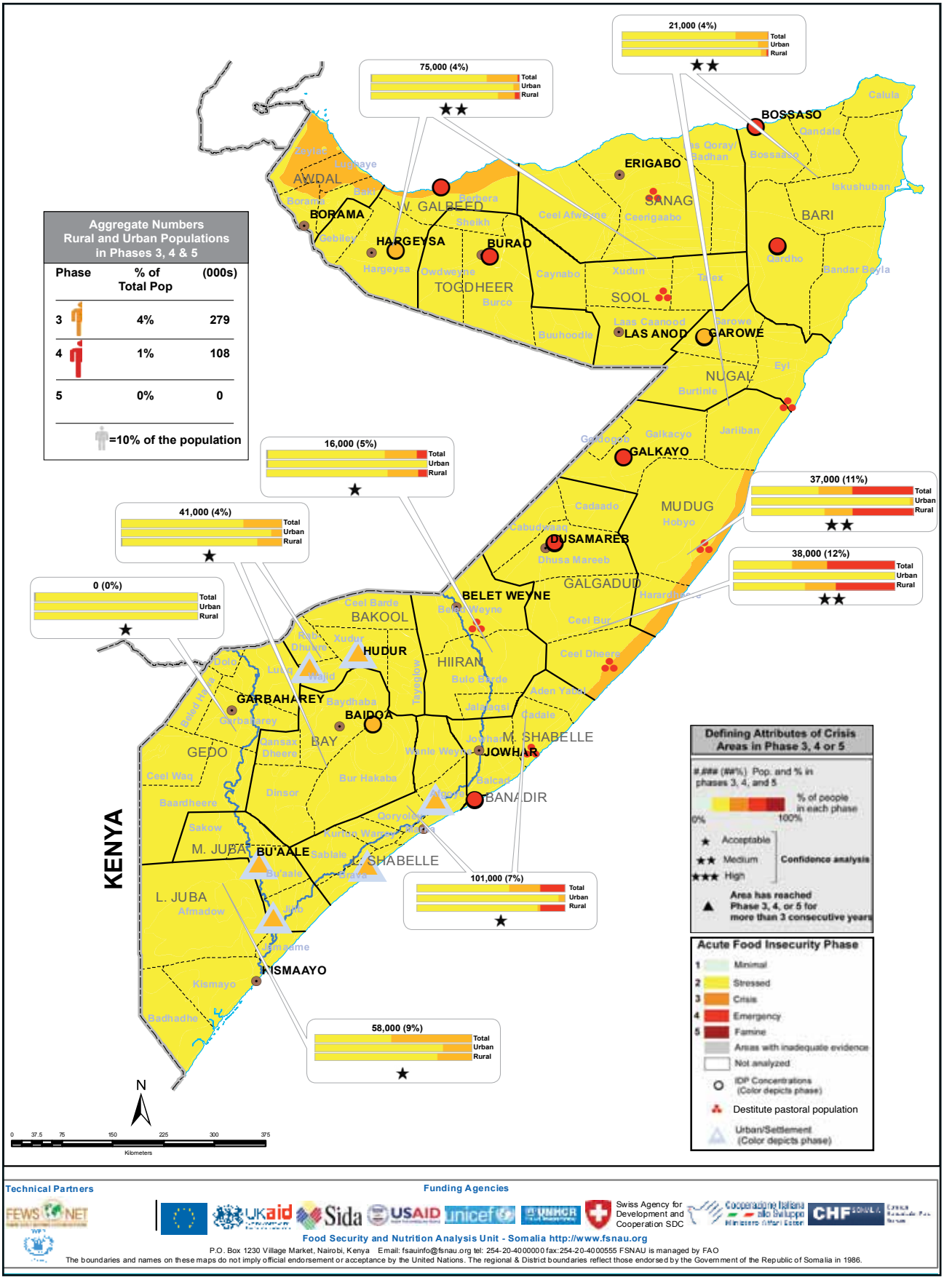
- With poor rains in the northwestern coastal area of the Gulf of Aden since 2010, pastoralists are struggling with poor pasture conditions, low water availability, and diminished self-employment opportunities. The ongoing December to February *Hays* rainy season has not significantly improved these conditions so far. Many households, unable to meet their food needs, are classified in ***Crisis*** (IPC Phase 3).
- Sheep pastoralists in the coastal areas of Central Somalia have very small herds. The recent season did little to improve grazing areas. These areas remain classified at ***Crisis*** (IPC Phase 3).
- Following maize crop losses due to multiple dry spells during the October to December *Deyr* rains, households in agropastoral areas of Jamame District in Lower Juba Region also are in ***Crisis*** (IPC Phase 3). Contributing factors include: the lack of a current harvest, poor stocks from previous harvests, and low and declining holdings of livestock to sell for food.
- Destitute pastoralists throughout the country continue to struggle living in deplorable conditions with limited access to food and other basic needs. However, in the coastal areas of Central, some of the destitute pastoralists have started to shift back into pastoralism. These groups are classified in ***Emergency*** (IPC Phase 4).
- The United Nations estimates that 1.1 million are internally displaced persons (IDPs) in Somalia. An estimated 615,000 of the IDPs are in food security crisis. Most of the major IDP settlements are in ***Emergency*** (IPC Phase 4).

In total, 1.05 million in acute food insecurity represents about 14 percent of the total population (Table 3). At the height of the famine, 4 million people, or more half of the Somali population, were in food security crisis.

Outlook

In January-March, most of Somalia is in the *Jilaal* dry season. The productivity of livestock will seasonally decrease. While no major changes in food security classification are expected between now and June, livelihoods in Somalia remain at risk to a wide variety of hazards. Early forecasts are that the April to June *Gu* rains will be normal to below normal. A normal or near normal *Gu* would allow households to continue meeting their food needs, recover from previous crises, and build assets. However, in case of a poor season an increase in numbers of households in food security crisis would be expected.

Map 4: Somalia Acute Food Insecurity Overview, Rural, Urban and IDP Populations, February 2013



Technical Partners
Funding Agencies
Swiss Agency for Development and Cooperation SDC
Food Security and Nutrition Analysis Unit - Somalia http://www.fsnau.org
P.O. Box 1230 Village Market, Nairobi, Kenya Email: fsauinfo@fsnau.org tel: 254-20-4000000 fax:254-20-4000555 FSNAU is managed by FAO

Table 3: Somalia Integrated Food Security Phase Classification, Population Numbers, February 2013

Region	UNDP 2005 Total Population	UNDP 2005 Urban Population	UNDP 2005 Rural Population	Urban in Stressed	Rural in Stressed	Urban in Crisis	Rural in Crisis	Urban in Emergency	Rural in Emergency	Total in Crisis and Emergency as percent of Total population
North										
Awdal	305,455	110,942	194,513	7,000	45,000	0	12,000	0	0	4
Woqooyi Galbeed	700,345	490,432	209,913	22,000	48,000	32,000	4,000	0	0	5
Togdheer	402,295	123,402	278,893	22,000	75,000	0	1,000	0	0	0
Sanaag	270,367	56,079	214,288	13,000	65,000	5,000	7,000	0	7,000	7
Sool	150,277	39,134	111,143	5,000	37,000	0	6,000	0	0	4
Bari	367,638	179,633	188,005	16,000	56,000	14,000	0	0	0	4
Nugaal	145,341	54,749	90,592	6,000	25,000	3,000	2,000	0	1,000	4
Sub-total	**2,341,718**	**1,054,371**	**1,287,347**	**91,000**	**351,000**	**54,000**	**32,000**	**0**	**8,000**	4
Central										
Mudug	350,099	94,405	255,694	13,000	63,000	2,000	11,000	0	24,000	11
Galgaduud	330,057	58,977	271,080	22,000	67,000	0	13,000	0	25,000	12
Sub-total	**680,156**	**153,382**	**526,774**	**35,000**	**130,000**	**2,000**	**24,000**	**0**	**49,000**	11
South										0
Hiraan	329,811	69,113	260,698	28,000	89,000	0	12,000	0	4,000	5
Shabelle Dhexe (Middle)	514,901	95,831	419,070	30,000	117,000	0	5,000	0	46,000	10
Shabelle Hoose (Lower)	850,651	172,714	677,937	35,000	186,000	35,000	0	0	0	4
Bakool	310,627	61,438	249,189	12,000	96,000	12,000	13,000	0	0	8
Bay	620,562	126,813	493,749	37,000	162,000	0	16,000	0	0	3
Gedo	328,378	81,302	247,076	24,000	84,000	0	0	0	0	0
Juba Dhexe (Middle)	238,877	54,739	184,138	12,000	58,000	12,000	8,000	0	0	8
Juba Hoose (Lower)	385,790	124,682	261,108	22,000	73,000	22,000	16,000	0	0	10
Sub-total	**3,579,597**	**786,632**	**2,792,965**	**200,000**	**865,000**	**81,000**	**70,000**	**0**	**50,000**	6
Banadir	**901,183**	**901,183**	-	15,000	-	15,000	-	0	-	2
Grand Total	**7,502,654**	**2,895,568**	**4,607,086**	**341,000**	**1,346,000**	**152,000**	**126,000**	**0**	**107,000**	5

Assessed and Contingency Population in Crisis and Emergency	Number affected	percent of Total population	Distribution of populations in crisis
Assessed Urban population in Crisis and Emergency	**152,000**	**2**	**15 percent**
Assessed Rural population in Crisis and Emergency	**233,000**	**3**	**23 percent**
IDP in settlements* (out of UNHCR 1.1 million) to avoid double counting	**615,000**	**8**	**62 percent**
Estimated Rural, Urban and IDP population in crisis	**1,000,000**	**13**	**100 percent**
*Bossasso,Berbera,Galkayo,Hargeisa,Garowe,Kismayo,Afgoye,Mogadishu and Burao			

Notes:

1 Source: Population Estimates by Region/District, UNDP Somalia, August 1, 2005. FSNAU does not round these population estimates as they are the official estimates provided by UNDP

2 Estimated numbers are rounded to the nearest five thousand, based on resident population not considering current or anticipated migration, and are inclusive of population in Stressed, Crisis and Emergency

3 Source UN-OCHA/UNHCR: New IDP updated January 18 2012 rounded to the nearest 5,000. Total IDP estimates are based on Population Movement Tracking data which is not designed to collect long-term cumulative IDP data

4 To avoid double counting, only IDPs in Settlements (Bossasso, Berbera, Galkayo, Hargeisa, Garowe, Kismayo, Afgoye, Burao and Mogadishu are considered in the overall population in Crisis. FSNAU does not conduct IDP specific assessments to classify them either in Crisis or Emergency

5. Percent of total population of Somalia estimated at 7,502,654 (UNDP/WHO 2005)

2. CASES OF ACUTELY MALNOURISHED CHILDREN IN SOMALIA

FSNAU in collaboration with partners conducted a total of 41 representative nutrition surveys throughout Somalia, between October-December 2012. Fourteen of the surveys were done in the South, five in Central and twenty three in the Northern regions. Surveys were conducted in all population groups during this period, with the exception of Shabelle regions and the southern parts of Bakool and Hiran which were completely inaccessible for security reasons, and Juba and southern Gedo Regions where rapid assessments were done based on Mid Upper Arm Circumference. Table 30 provides the summary of key findings from these surveys.

Since 2008, FSNAU in collaboration with nutrition cluster partners have illustrated the distribution of cases of the acutely malnourished children in Somalia rather than just presenting the prevailing nutrition situation. The purpose is to draw the attention of response agencies and donors to the needs in different parts of the countries, rather than just focusing on the prevailing situation. In this way, the impact of the population density in determining response needs is manifested.

By extrapolating the prevalence rates of acute malnutrition in each assessed population group to the total under five population during the *Deyr* 2012/13, cases of acutely malnourished children, based on Weight-for-height Z scores (WHZ) findings, have been estimated. The cumulative total cases at regional level has been obtained by adding the cases from the assessed livelihood and IDP groups. 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 1 (R=1). For the Shabelle regions and southern parts of Gedo, Bakool and Hiran regions where it was not possible to collect nutrition survey data, the median rates for surveys conducted in the *Deyr* season during the period 2001-2011 has been applied. This implies that FSNAU has estimated the current cases of malnourished children on the basis of 100 percent of the population children aged below 5 years in Somalia. Population figures from the UNDP 2005 settlement survey are used as the standard reference for Somalia.(Table 3).

Table 4: Estimated Cases of Acute Malnutrition in Under Five Year Old Boys and Girls Somalia, by Region, February 2013

Region	Total Acutely Malnourished		Total Severely Malnourished	
	Number	Proportion	Number	Proportion
Bay	23 250	10.8 percent	2500	5.6 percent
Lower Juba	17 200	8.0 percent	*6550*	14.7 percent
Banadir	16 350	7.6 percent	2400	5.4 percent
Hiran	16 350	7.6 percent	6600	14.8 percent
Lower Shabelle	15 700	7.3 percent	3150	7.1 percent
Woq Galbeed	14 950	7.0 percent	2300	5.2 percent
Bakool Region	11 950	5.6 percent	1250	2.8 percent
Middle Juba	10 650	5.0 percent	4050	9.1 percent
Gedo	10 000	4.7 percent	1400	3.1 percent
Galgadud	9 950	4.6 percent	1950	4.4 percent
Mogadishu IDP	9 800	4.6 percent	1400	3.1 percent
Middle Shabelle	9 400	4.4 percent	1900	4.3 percent
Togdher	8 600	4.0 percent	1300	2.9 percent
Bari	8 500	4.0 percent	1750	3.9 percent
Mudug	7 150	3.3 percent	*1400*	3.1 percent
Awdal	6 500	3.0 percent	1000	2.2 percent
Sanag	5 750	2.7 percent	850	1.9 percent
Sool	3 200	1.5 percent	550	1.2 percent
NW IDPs	3 150	1.5 percent	750	1.7 percent
Nugal	2700	1.3 percent	550	1.2 percent
NE IDPs	2 350	1.1 percent	600	1.3 percent
Central IDPs	1 600	0.7 percent	400	0.9 percent

Under Five Year Old Boys and Girls

Analysis of the Post *Deyr* 2012 findings indicates **an estimated total of 215 000 children as acutely** malnourished. This translates to 14.3 percent of the 1.5 million under five population, and implies 1 in 7 Somali children are acutely malnourished. This reflects a 9 percent decrease in numbers at the national level, compared to the *Gu* 2012 when 236 000 children were estimated to be acutely malnourished. Of the 215 000 children, 147 000, or 66 percent are located in the southern regions. Of the 215 000 children**, a total of 45 000 children are severely acutely malnourished**. At national level, this translates to 3.0 percent of all Somali children estimated to be severely acutely malnourished. This reflects a decrease at the national level, compared to the *Gu* 2012 when 54 000 children were estimated to be severely malnourished, and 160 000 in August 2011 at the peak of the famine. Of the 45 000 severely acutely malnourished children, 33 000 (or 71 percent) are located in the southern regions.

At regional level, these figures are derived by extrapolating the prevalence rate of acute malnutrition to the total under five population. In the absence of current survey data, the median value for the region, for the period 2001-2011 has been used (Table 3). Hence:

- For the 215 000 total cases of acute malnutrition: Bay region hosts 10.8 percent, Lower Juba, 8.0 percent, Hiran 7.6 percent, Banadir 7.6 percent and Lower Shabelle, 7.3 percent (Map 5 and Figure 7).

- For the 45 000 cases of severe acute malnutrition: Lower and Middle Juba regions (23.8 percent), Hiran (14.8 percent), Lower Shabelle, (7.1 percent), and Banadir (5.4 percent) are host to 47 percent of the 45 000 children in the country.

This illustrates the implication of population density on caseloads, as Banadir, together with Woqoyi Galbeed (7 percent of caseloads) are most densely populated areas of Somalia. In Figure 7, the proportion of cases of acutely malnourished children by region is provided in descending order.

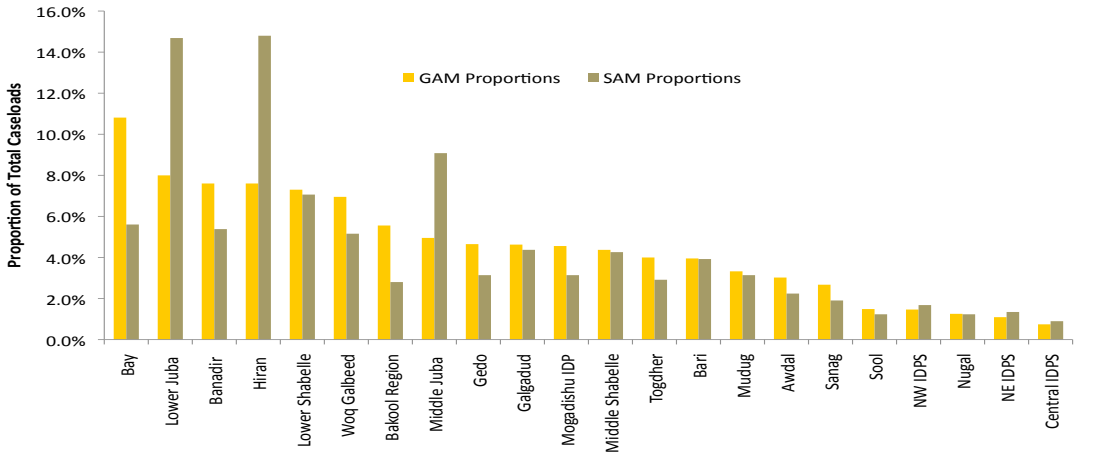
In Map 5, illustrations for (i) the *Deyr* 2012 nutrition situation and (ii) the cases for both total and severe acute malnutrition based on the October-December 2012 nutrition surveys data are provided. For more information please contact info@fsnau.org.

Pregnant and lactating women

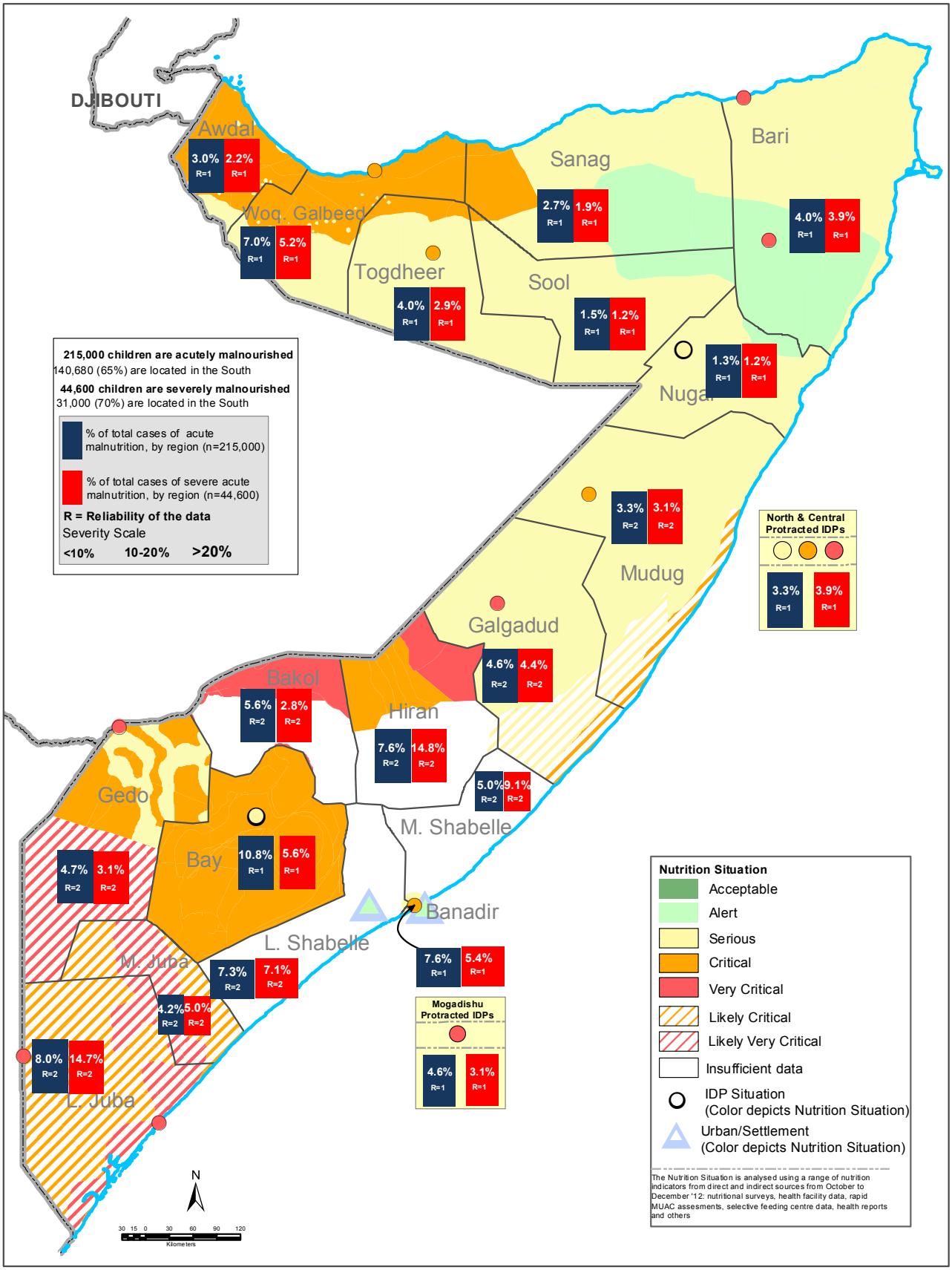
The cumulative total estimate for acutely malnourished pregnant and lactating women based on MUAC measurements < 23cm is **51 150. The severe acute at risk based on MUAC<21cm is 15 500.** In the *Gu* 2012, the cases of acutely malnourished pregnant and lactating women was estimated at 81 000 based on MUAC measurements < 23cm. This indicates a 37 percent reduction in the cases.

In the *Gu* 2011, at the peak of the famine, the cases of acutely malnourished pregnant and lactating women was estimated at 101 000, based on MUAC measurements < 23cm, hence there is significant improvement since then.

Figure 7: Estimated Cases of Acutely Malnourished by Region, *Deyr* 2012/13



Map 5: Distribution of estimated Cases of Acutely Malnourished Children in Somalia by Region, Based on Prevalence, January 2013



Technical Partner
Funding Agencies
Food Security and Nutrition Analysis Unit - Somalia http://www.fsnau.org
P.O. Box 1230 Village Market, Nairobi, Kenya Email: fsauinfo@fsnau.org tel: 254-20-4000000 fax:254-20-4000555 FSNAU is managed by FAO

3. NUTRITION ANALYSIS IN SOMALIA

The October-December 2012 (Deyr) Nutrition Situation Analysis

Twice per year, in line with the seasonal assessments, post *Gu* (April – July) and post *Deyr* (October-December), FSNAU in collaboration with partners undertake a nutrition situation analysis by livelihood, region and IDP settlement. During the October-December 2012 (*Deyr* 2012) season, FSNAU in collaboration with partners undertook 41 representative nutrition surveys aimed at estimating the nutrition situation in the various population groups in Somalia. The survey tools used are provided in Appendix 7.2. Data management of the nutrition surveys involved the use of the standard two stage cluster sampling based on SMART recommendations, quality assurance during data collection and entry, and validation of data quality by running frequencies and plausibility checks of core statistical inferences(Table 29). ENA software was used in the analysis of anthropometric and mortality data, and EpiInfo in the cross tabulations and analysis of non-anthropometric data.

Analysis has been conducted using EpiInfo ENA, and interpretation of findings on specific indicators are based on internationally recognized thresholds, mainly the UN-WHO, UNICEF, Sphere, and FANTA/UNFAO.

- UN-WHO thresholds have been used to determine the cut-offs for anthropometry where available, and to interpret findings on acute malnutrition.
- SPHERE 2011 has been referenced on cut-offs for the mid upper arm circumference for pregnant and lactating women and aided in estimating prevalence. Nevertheless they are limited in providing thresholds for interpreting the situation.
- FANTA/UNFAO protocols have been referenced on thresholds for dietary intake, however they are limited in guiding on interpretation of the situation.
- The mean WHZ, are based on a "Review of Nutrition and Mortality Indicators for the Integrated Food Security Phase Classification (IPC) by Young and Jaspars, 2009.
- The UNICEF 2005 classification has been used to interpret death rates.

The findings for each of analyzed variables are categorized into six different phases based on the recognized thresholds: ***Acceptable, Alert, Serious, Critical, Very Critical or Extremely Critical***. Where internationally recognized interpretation frameworks are not available, for example, MUAC thresholds for the adult non-pregnant women, and the health information system trends, quartile distributions of the meta-data at the FSNAU from 220 nutrition surveys conducted in 2007-2011 has been used.

The Nutrition Situation Analytical Framework

The *Nutrition Situation Analytical Framework* provides a summary of international thresholds (WHO, UNICEF, FANTA) used to interpret findings from the various indicators. Where these are not available, contextually relevant analysis forms the basis. Considering the diversity of indicators collected by FSNAU and partners in Somalia, (acute malnutrition, death rates, proportions at risk based on the mid upper arm circumference, nutrition trends from health facilities and selective feeding programs), the framework forms the basis for integrated analysis of the situation.

The January 2012 version of the analysis framework, used in the *Deyr* 2012 analysis, has three sections:

A. Core Outcome Indicators (mainly anthropometry related information, and mortality. Those from surveys have more weight)
B. Immediate Causes
C. Driving/Underlying Factors

Where representative nutrition surveys have been conducted, the global acute malnutrition (GAM) rate, is the core outcome reference indicator, denoting the prevalence of acute malnutrition. The outcome of the integrated nutrition situation analysis process, the estimated nutrition situation, is based on ***convergence of the evidence*** of the findings from the indicators. A minimum of 2 anthropometric indicators (for example global and severe acute malnutrition rates, have been used to make an analysis and classification of the situation into either of the six different phases. Information from the season in progress only is used. However historical data has been used for overall contextual and seasonal trends analysis.

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

Although FSNAU-led, the framework has been developed over the years through a consultation process involving the WHO, UNICEF, WFP, ACF, CONCERN, SCUK, IMC, WV and more recently, Medair, DIAL and the Nutrition Cluster Support team as well as many nutrition partners in the region. The purpose is to have a tool that helps describe the nutrition situation with contextual analysis, rather than focus on prevalence estimates and thresholds which is traditionally the case in nutrition analysis. The January 2012 version accommodates current research developments, the switch from NCHS 1997 to WHO 2006 growth standards and a category for 'extremely critical' or 'famine' level nutrition situation where for example global acute malnutrition rate is 30 percent and above. The analytical framework remains a working document, updated and refined as new information and guidance becomes available (Table 5).

Table 5. The Nutrition Situation Classification Framework, January 2012 version

A. CORE OUTCOME INDICATORS (Anthropometry & Mortality)

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical	Extreme
Global Acute Malnutrition[1] *(IPC Reference) Reliability (R) =1*	<3 percent	3 to <10 percent; Usual range and stable	10 to<15 percent or where there is significant increase from usual/ seasonal trends in last ≥3 yrs	15 to<20 percent or where there is significant increase from baseline/ seasonal trends in last ≥2 yrs	20 to <30 percent	>30 percent
Mean Weight-for-Height Z (WHZ) scores *(R=1)*	>-0.40	-0.40 to -0.69; Stable/Usual	-0.70 to -0.99; >usual/increasing	<-1.00; >usual/increasing		<-1.5 TBC
SAM[2] (WHZ and oedema[3]) *(WHO to advice on thresholds) R=1)*	<2.5 percent	2.5 – 3.4 percent	3.5 – 4.4 percent	4.5 – 5.9	6.0-9.9 percent	≥10 percent
Crude death rate[4]**/** 10,000/ day *(R=1)*	<0.5	<0.5	0.5 to <1 *or doubling of rate in preceding phase.*	1 to <2	>2	>2
Under five death rates[5]**/**10,000/ day *(R=1)*	<1	<1	1 to 1.9	2 to 3.9	≥4	≥4
MUAC[6] Children: (percent <12.5cm): *Ref: FSNAU Estimates* [7] *(R=2)*	<2.0 percent	2.0-5.5 percent with increase from seasonal trends	5.6-8.0 percent	8.1-11.0 percent, or where there is significant increase from seasonal trends	11.1-19. 9 percent, Or where there is significant increase from seasonal trends	≥20.0 percent, Or where there is significant increase from seasonal trends
MUAC<11.5cm[8] *(R=2)*	<1.0	<1.0	1.0-2.0	2.1-3.0	3.1-5.5	≥5.5
Adult MUAC[9] **- Pregnant and Lactating(percent<23.0cm,Meta Data-FSNAU**	<13.5	13.6-21.5	21.6-27.0	27.1-35.0	35.0-49.9	≥50.0
Adult MUAC - Non-pregnant & non-lactating <18.5cm, Meta data FSNAU)	<0.2	0.2-0.5	0.6-0.8	0.8-1.7	1.8-4.9	≥5.0
Non Pregnant Maternal[10] Undernutrition **BMI<18.**5	<10 percent	10.0 to 19.9 percent	20.0 to 39.9 percent	>40 percent		
Non Pregnant Maternal[11] Overnutrition **BMI>24.9**	TBC	TBC	TBC	TBC		
HIS[12] **Trends of Acutely Malnourished Children** *(Ref: HIS), (R=3)*	V. low (<5 percent) proportion in the preceding 3mths relative to ≥2yr seasonal trends	Low proportion (5 to <10 percent) and stable trend in the preceding 3mths relative to ≥2yr seasonal trends	Moderate (10 to <15 percent) and stable or low (5 to <10 percent) but increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15 percent) and stable proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15 percent) and increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	
Sentinel[13] **Site Trends:** levels of children identified as acutely malnourished(WHZ), *FSNAU'06 SSS*	Very low (<5 percent) and stable levels	Low levels (5 to <10 percent) and one round indicating increase, seasonally adjusted	Low (5 to < 10 percent) & increasing or moderate (10 to <15 percent) levels based on two rounds (seasonally adjusted)	High levels (≥ 15 percent) of malnourished children and stable (seasonally adjusted)	High levels (≥ 15 percent) and increasing with increasing trend (seasonally adjusted)	
OVERAL NUTRITION SITUATION	*Acceptable*	*Alert*	***Serious***	*Critical*	*Very Critical*	***Extreme***

B. IMMEDIATE CAUSES

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Poor HH Dietary Diversity (percent consuming<4fdgps)	<5 percent	5 – 9.9 percent	10-24.9 percent	25 – 49.9 percent	≥50 percent
Mean HH dietary diversity Score [14]	TBC	TBC	TBC	TBC	TBC
Disease Outbreaks[15]**:** (seasonally adjusted). Frequency of reported outbreaks of AWD, cholera, suspected measles, malaria, whooping cough & severe ARI	• Normal levels, & seasonal trends • Review data in relevant context	-AWD 1 case -Suspected cholera 1 case -Suspected measles 1 case -Suspected malaria–doubling of cases in 2 weeks in hyper endemic areas–using RDT (WHO); OR increasing weekly trend (Unicef) Suspected whooping cough-5 cases in the same community same week Severe Acute Respiratory Infection- 5 cases in same week in the same community or hospital	Outbreak not contained and/or in non endemic area – limited access to treatment: CFR for AWD >2 percent rural CFR for AWD >1 percent urban AWD – duration exceed >6 wks		

Morbidity Patterns: Proportion of children reported ill in 2wks prior to survey *(R=2)* **Health facility morbidity trends (R=3) /WHO surveillance (R=1)**	TBC Very low proportion reportedly sick	TBC Low & stable proportion of reportedly sick based on seasonal trends	TBC Low proportion reportedly sick, from previous months but increasing in >2 months based on seasonal trends	TBC High levels and stable numbers in >2 months based on seasonal trends	TBC High with significant Increase in numbers of sick children, based on seasonal trends

C. DRIVING FACTORS

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Complementary feeding[16] in addition to breastfeeding i. Introduction of complementary food at 6 months of age: percentintroduced ii. Meeting minimum recommended feeding frequency[17] iii. Dietary diversity18 score	 ≥95 percent ≥95 percent ≥95 percent	 80-94 percent 80-94 percent 80-94 percent	 60-79 percent 80-94 percent 80-94 percent	 0-59 percent 0-59 percent 0-59 percent	 0-59 percent 0-59 percent 0-59 percent
Breastfeeding (BF) Practices[19] *I. Exclusive BF for 6mths* *ii).Continued BF at 1 yr* *iii)Continued BF at 2yr reference*	 ≥90 percent ≥90 percent ≥90 percent	 50-89 percent 50-89 percent 50-89 percent	 12-49 percent 12-49 percent 12-49 percent	 0-11 percent 0-11 percent 0-11 percent	
Measles immunization/Status **Vitamin A Supplementation Coverage**[2]0:1 dose in last 6 months	>95 percent >95 percent	80-94.9 percent 80-94.9 percent	<80 percent 80-94.9 percent		
Population have access i). to a sufficient quantity of water for drinking, cooking, personal & domestic hygiene–min 15lts pp/ day **ii).Sanitation facilities**	100 percent 100 percent	TBC TBC	TBC TBC	TBC TBC	TBC TBC
Affected pop with **access to formal/informal services:** health services	Should not be necessary	Access to humanitarian interventions for most vulnerable	Reduced access to humanitarian support for most vulnerable	Limited access to humanitarian support for majority	Negligible or no access
Selective Feeding [21] **Programs Available:** Coverage of TFP / SFP & referral systems(Sphere04); **-Admissions trends** *(R=3)*	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation- current IPC status	Generally Food Secure	Borderline Food Secure	Acute Food and Livelihood Crisis	Humanitarian Emergency	Famine/Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	Widespread, high intensity
3 MONTH NUTRITION SITUATION 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:*				

Footnotes

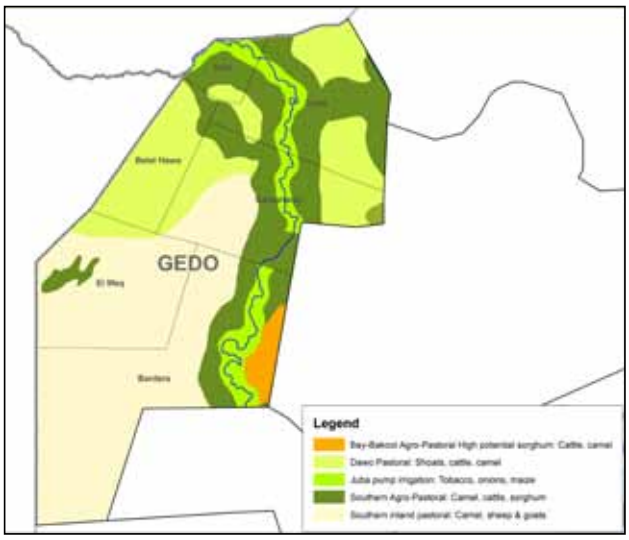
1 Global Acute Malnutrition (weight for height <-2 Z score/oedema), IPC Vs 2, Nov 2011.
2 Severe Acute Malnutrition (weight for height <-3 Z score/oedema): Thresholds derived from quintile distribution of SAM from 250 SMART survey datasets at FSNAU, January 2012
3 Bilateral oedema is riverine livelihood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

4. REGIONAL NUTRITION ANALYSIS

4.1 GEDO REGION

Gedo region in southwest Somalia administratively comprises of six districts: Luuq, Dolo, Belet Hawa, Garbaharey, El Wak, and Bardera, see Map 6. Gedo region has three main rural livelihood zones namely: pastoral, agro-pastoral and riverine (Juba riverine pump irrigation). The pastoral livelihood, is further sub-divided into the Southern Inland and Dawa pastoralists. The Dawa pastoral livelihood zone located in northern Gedo is the largest pastoral group in the region rearing mainly cattle, a few sheep, goats and camel. The Southern Inland pastoral population is located in southern Gedo and mainly keep camel besides a few sheep and goats. The agro-pastoral population is divided into Southern agro-pastoral and Bay, Bakool and Gedo agro-pastoral - the sorghum high potential. Figures 8 and 9 indicates the historical trends of acute malnutrition in Gedo since 2006.

Map 6: Gedo Region Livelihood Systems



Historical Overview - Post *Gu* 2012

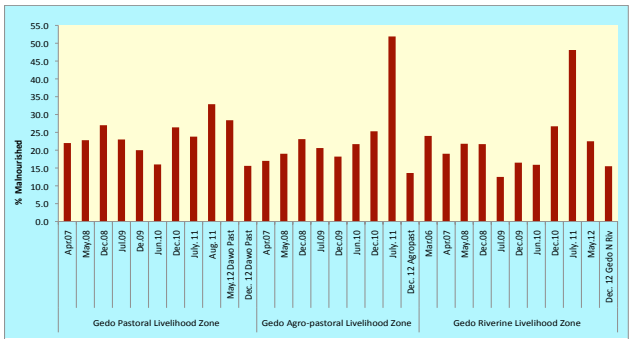
Food Security

The FSNAU Post *Gu* 2012 integrated food security analysis classified both rural and urban livelihoods of Gedo region to be either in Stressed or Crisis. In the rural livelihoods, the Crisis phase was identified among the Gedo high potential agro-pastoral,and Juba Pump Irrigated livelihood zones. However, the overall food security situation in Gedo region showed an improvement from the Crisis and Emergency in *Deyr* 2011/12 due to a number of factors: good cereal and cash crop harvest, in addition to improved terms of trade (ToT) for cereal to local goat, increased access to humanitarian interventions, improved livestock body conditions and the anticipated good off-season maize harvests from riverine areas. Average camel milk production, increased in livestock prices and household income has also contributed to the improved food security situation.

Nutrition

The Post *Gu* 2012 integrated nutrition situation analysis of Gedo region using data from health and feeding (SFP/ OTP) facilities, indicated a sustained *Very Critical* nutrition situation across all the three (agro-pastoral, pastoral and riverine) livelihood populations of North Gedo region since *Deyr* 2011/12. The nutrition situation remained of concern and was generally linked to seasonal outbreaks of AWD, cholera, malaria, measles and whooping cough. Reduced humanitarian access especially in Southern Gedo was a aggravating factor to the nutrition situation.

Figure 8a: Trend in Level of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Gedo Region, 2007-2012



Current Situation-Post *Deyr* 2012/13

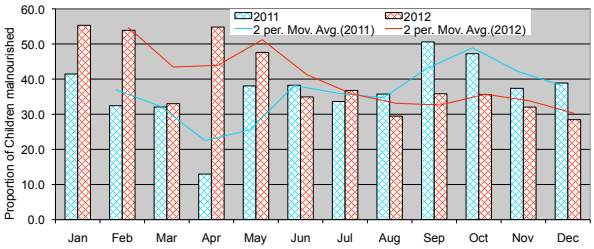
Food Security

The current FSNAU Post *Deyr* 2012/13 integrated food security analysis classifies all the rural and urban livelihoods in Gedo region as facing **Stressed** food security situation. This show an improvement from the Crisis phase identified among the Gedo high potential agro-pastoral, and Juba Pump Irrigated livelihood zones but sustained in the other livelihoods. The improvements in the food security situation in most livelihoods is largely attributable to the impact of favorable *Deyr'* 2012 rains, as well as increased humanitarian assistance. Additional factors that contributed to the improvement include: strengthened purchasing power of the local population owing to reduced local cereal prices and favorable livestock prices; average cash crop production from the riverine areas which provided labour opportunities to the poor households; average rangeland and livestock body conditions which have resulted in improved income from livestock sales.

Nutrition

No surveys were conducted in the Southern Gedo region during the *Deyr* 2012/13 season because of inaccessibility due to civil insecurity. Therefore to estimate the Post *Deyr* 2012/13 nutrition situation for the region, data from health facilities from July to December 2012 was used together with rapid MUAC assessments conducted in December 2012. The intergrated analysis of these data indicated that the nutrition situation remained as ***likely Very Critical*** among the agro-pastoralists, pastoralists and the riverine communities in Southern Gedo.

Figure 8b: HIS Malnutrition Trends in Gedo Agropastoral MCHs Deyr 2012/13



Nutrition assessments conducted in December 2012 in Northern Gedo region reported a GAM and SAM rates of **15.6** percent (12.7-19.0) and **1.8** percent (0.9-3.3) respectively in the Dawa pastoral. A GAM of **15.5** percent (12.8-18.7) and SAM rates of **3.8** percent (2.5-5.7) were reported in the riverine livelihood while among the agro-pastoral the GAM rate was **13.6** percent (11.0-16.6) and SAM rates was **2.1** percent (1.2-3.7). Data from health facilities in the pastoral, agro-pastoral and riverine livelihood zones of Northern Gedo region, indicate a high (>30 percent) and decreasing trend of acutely malnourished children (Figure 8b). Analysis of data from feeding facilities in Northern Gedo region indicates a decline in levels of acute malnutrition compared to the *Gu* 2012 season. The analysis indicates an improvement from *Very Critical* to ***Critcal*** nutrition situation among the pastoral and riverine population and to ***Serious*** in the agropastoral livelihood in Nothern Gedo region. There was no statistically significant difference in the proportion of boys and girls acutely malnourished in the three surveys (p> 0.05). The 90 days retrospective crude death rates is *Serious* among both the pastoral (**0.63/**10 000/day) and riverine (**0.67/**10,000/day) and ***Critical*** in the agropastoral (**1.45/**10 000/day) populations according to UNICEF classification while the respective U5 death rates **2.0** (1.06-3.74), **3.66** (1.94-6.70) and **0.71** (0.27-1.82) Critical in pastoral, agropastoral and *Serious* riverine livelihoods (Table 6).

The improvement is mainly attributed to the humanitarian interventions such as targeted feeding programmes, health, water sanitation and hygiene in Northern Gedo. In the current *Deyr* 2012/13 season there is no disease outbreak repoted and this decline in morbidity levels has contributed to reduced cases of acute malnutrition. The population still remains highly vulnerable and a disruption in the provision of humanitarian interventions may lead to a deterioration in the nutrition situation of the population.

It is therefore essential to continue with interventions targeting the health and nutrition of the population while close monitoring of the situation is critical to inform on appropriate interventions. The key reference nutrition indicators used for analysis are provided in Table 6.

Dolow IDPs

An exhasutive nutrition survey conducted among Dolow IDPs in December 2012 reported a GAM rate of of **24.9** percent and a SAM rate of **5.4** percent,which indicates a ***Very Critical*** nutrition situation. The 90 days retrospective crude and under five death rates reported are **1.27** and **2.87** per 10,000/day indicating a *Critical* situation according to UNICEF 2005 classification. Overall, the nutrition situation among the Dolow IDPs is ***Very Critical***, and the population remains highly vulnerable due to the prevailing household food insecurity and the high disease burden in the town, further aggravated by limited access to health services. The results indicated a high (40.2 percent) proportion of the children assessed in the survey as having been sick two weeks prior to the survey. The proportion of children suffering from pneumonia and diarrhoea in the two weeks prior to the assessment was 17 percent and 14.6 percent, respectively while those with suspected measles was 0.2 percent.

The key underlying factors for for malnutrition among the Dolow IDPs population include insufficient sanitation facilities and lack of access to safe drinking water, poor child feeding and care practices. The on-going humanitarian interventions such as nutrition and health services will need to be continued and expanded to both rehabilitate the acutely malnourished and prevent further deterioration. Addessing the acute food insecurity and high morbidity will also need to be prioritized.

Table 6a: Summary of Key Nutrition Findings in Gedo Livelihood Zones, Dec 2012

	Gedo Pastoral (N=507, Boys=270,Girls=235)		Gedo Riverine (N=581, Boys=310, Girls=271)		Gedo Agropastoral N= 567 Boys=285, Girls=282)	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	15.6 (12.7-19.0) 15.2 (11.4-20.0) 16.0 (11.9-21.2)	Critical	15.5 (12.8-18.7) 17.4 (13.6-22.0) 13.3 (9.8-17.8)	Critical	13.6 (11.0-16.6) 12.6 (9.3-17.0) 14.5 (10.9-19.1)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	1.8 (0.9-3.3) 1.5 (0.6-3.7) 2.1 (0.9-4.8)	Acceptable	3.8 (2.5-5.7) 5.2 (3.2-8.2) 2.2 (1.0-4.7)	Serious	2.1 (1.2-3.7) 1.4 (0.5-3.6) 2.8(1.4-5.5)	Acceptable
Mean of Weight for Height Z Scores	-0.8±1.08	Serious	-0.85±1.09	Serious	-0.76±1.06	Serious
Oedema	0.0	Acceptable	0.0	Acceptable	0.0	Acceptable
Global Acute Malnutrition (NCHS)	16.3 (13.4-19.8)	Critical	15.3 (12.6-18.4)	Critical	12.5 (10.0-15.5)	Serious
Severe Acute Malnutrition (NCHS)	0.8 (0.3-2.0)	Acceptable	2.7 (1.7-4.4)	Alert	1.2 (0.6-2.5)	Acceptable
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	12.4 (9.8-15.5) 10.7(7.5-14.9) 14.3 (10.4-19.3)	Very Critical	8.3 (63-10.8) 8.5 (5.9-12.1) 7.9 (5.3-11.7)	Critical	17.9 (14.9-21.2) 19.2 (15.0-24.1) 16.5 (12.7-21.3)	Very Critical
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	2.9 (1.8-4.9) 1.8 (0.8-4.2) 4.2 (2.3-7.6)	Critical	0.8 (0.4-2.0) 0.6 (0.2-2.3) 1.1 (0.4-3.1)	Acceptable	1.6 (0.8-3.0) 1.4 (0.5-3.5) 1.8 (0.8-4.1)	Serious
Stunting (HAZ<-2) Boys Girls	13.6 (10.8-16.9) 15.1 (11.2-20.1) 11.8 (8.2-16.7)	Acceptable	7.4 (5.5-9.8) 7.3 (4.8-10.7) 7.5 (4.9-11.9)	Acceptable	19.6 (16.5-23.1) 21.9 (17.5-27.2) 17.1 (13.0-22.1)	Acceptable
Underweight (WAZ<-2) Boys Girls	15.5 (12.6-18.9) 16.2 (12.3-21.1) 14.7 (10.8-19.8)	Alert	6.4 (4.7-8.7) 6.4 (4.2-9.7) 6.5 (4.1-10.0)	Acceptable	15.8 (13.0-19.0) 14.6 (11.0-19.2) 17.0 (13.0-21.8)	Alert
HIS Nutrition Trends (January –July 2012)	High (>30 percent) levels and increasing trends	Very Critical	High (>30 percent) levels and increasing trends	Very Critical	High (>30 percent) levels and increasing trends	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity-42.5 (29.4-55.6) Boys 52.5 ;Girls-43.2 Diarrohea-9.6 Boys-10.6; Girls -8.4 Pneumonia- 16.4 Boys 16.1 ;Girls 16.8 Measles-0.1 Boys- 0.4; Girls 0.1	Very Critical	Morbidity-27.9 (19.3-36.6) Boys-30.6;Girls-24.9 Diarrohea-8.6;Boys 9.1 Girls 7.9 Pneumonia-10.2 Boys-12.6 ;Girls 7.5 Measles-0 Boys-0;Girls-0	Very Critical	Morbidity-41.8 (30.1-53.6) Boys-39.0;Girls-44.7 Diarrohea-9.4 Boys 8.7;Girls 10.2 Pneumonia -17.8 Boys 17.0;Girls 18.6 Measles-0 Boys-0;Girls-0	Very Critical
Immunization	Vitamin A-12.5 Boys-13.9:Girls10.9 Measles-16.2 Boys-18.3.;Girls-13.8	Very Critical	Vitamin A-18.7 Boys-18.0:Girls-19.4 Measles-30.5: Boys-29.7;Girls-31.4	Very Critical	Vitamin A-13.4 Boys-16.3;Girls-10.5 Measles-20.1 Boys-22.9;Girls-17.2	Very Critical
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.63 (0.37-1.04)	Serious	0.67 (0.34-1.32)	Serious	1.45 (0.82-2.56)	Critical
Under five deaths, per 10,000 per day (retrospective for 90 days)	2.00(1.06-3.74)	Critical	0.71 (0.27-1.82)	Alert	3.66 (1.94-6.70)	Critical
Pregnant and lactating women (MUAC <23.0 cm)	26.2 (15.5-37.0)	Serious	30.1 (23.5-36.7)	Critical	11.6 (9.1 -19.5)	Alert
Pregnant and lactating women (MUAC <21.0 cm)	7.6(3.1- 12.1)		5.8 (2.7-8.9)		4.1 (1.3-6.9)	
Non pregnant and lactating women (MUAC <18.5 cm)	0.3 (0.0-1.1)	Alert	0.7(0.0-1.7)	Serious	19.4 (14.6-24.2)	Very Critical
Food security phase	**Stressed**	Serious	**Stressed**	Serious	**Stressed**	Serious
Overall Risk to Deterioration	Stable		Stable		Stable	
Overall Situation Analysis	**Critical**		**Critical**		**Serious**	

Gender and nutrition analysis in Gedo Region

Nutrition assessment conducted among the Riverine population in Northern Gedo region recorded a higher proportion of acutely malnourished boys 17.4 percent (13.6-22.0) than girls 13.3 percent (9.8-17.9), in the riverine while among the agropastoral (14.5 percent vs 12.6 percent) and pastoral (16 percent vs 15.2 percent) more girls than boys were acutely malnourished. A higher proportion of acutely malnourished boys than girls are observed in the Dolow IDPs (27.1 percent vs 22.6 percent). However, these differences are not statistically significant (Pr<75 percent). Similar mixed patterns are more or less observed in the other forms of malnutrition where for example in the pastoral livelihood, 15.1 percent of boys compared to 11.8 percent of girls were stunted; and 16.2 percent of boys as compared to 14.7 percent of girls were underweight. In the Dolow IDPs, 35.3 percent of girls compared to 32.6 percent of boys were stunted; and 30.2 percent of boys as opposed to 28.2 percent of girls were underweight. A higher proportion of girls than boys were reportedly ill two weeks prior to the assessment in the agro-pastoral and higher proportion of boys than girls were reportedly ill in the pastoral, riverine populations (Tables 6a and 6b). However, there is no statistically significant difference between the sexes showing that they were both equally affected (Pr<75 percent). The gender disaggregated results of the assessed children is summarized on Tables 6a and 6b.

Table 6b: Summary of Key Nutrition Findings in Dolow IDPs May 2012

	Dolow IDPs N= 627 Boys=317, Girls=310)	
Indicator	**Results**	**Outcome**
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema) 153 Boys : Girls	24.9 27.1 22.6	Very Critical
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	5.4 6.0 4.8	Very Critical
Mean of Weight for Height Z Scores	-0.1.04±1.18	Very Critical
Oedema	1.0	Very Critical
Global Acute Malnutrition (NCHS)	21.9	Very Critical
Severe Acute Malnutrition (NCHS)	4.1	Critical
Global Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	8.7 5.9 11.5	Serious
Severe Acute malnutrition by MUAC (<11.5 cm or oedema) Boys Girls	2.8 2.2 3.5	Critical
Stunting (HAZ<-2) Boys Girls	33.6 32.6 35.3	Critical
Underweight (WAZ<-2) Boys Girls	29.2 30.2 28.2	Critical
HIS Nutrition Trends (July- December 2011)		
Child Morbidity & Immunization		
Disease trends (seasonally adjusted)	Morbidity-40.2 Boys; 42.4;Girls-37.9 Diarrohea-14.6 Boys 14.2;Girls 15.0 Pneumonia -17.0 Boys 19.8;Girls 14.0 Measles- 0.2 Boys 0.3;Girls 0.0	Very Critical
Death Rates		
Crude deaths, per 10 000 per day (retrospective for 90 days)	1.27	Critical
Under five deaths, per 10 000 per day (retrospective for 90 days)	2.87	Critical
Food security phase	Crisis	Very Critical
Overall Risk to Deterioration	Unstable	
Overall Situation Analysis	**Very Critical**	

MATERNAL NUTRITION STATUS IN GEDO REGION

In the pastoral, agro-pastoral and riverine livelihoods of Northern Gedo and among the Dolow IDPs, a significantly higher proportion of pregnant and/or lactating women were acutely malnourished (MUAC< 23.0 cm, or 21.0 cm, and/or bilateral oedema) than non-pregnant and non-lactating women (MUAC<18.5). The proportion of acutely malnourished pregnant and/or lactating women ranged between 11.6 percent (*Serious*) in the agro-pastoral population to 30.1 percent (*Critical*) in the riverine livelihood of North Gedo region (see Table 7). The maternal malnutrition in Dolow IDPs is *Critical* among the pregnant and lactating women, with 46 percent of the assessed women recording MUAC measurements of <23cm. The high levels of acute malnutrition among the pregnant and/or lactating women is linked to increased nutrient needs during these periods which may not be met.

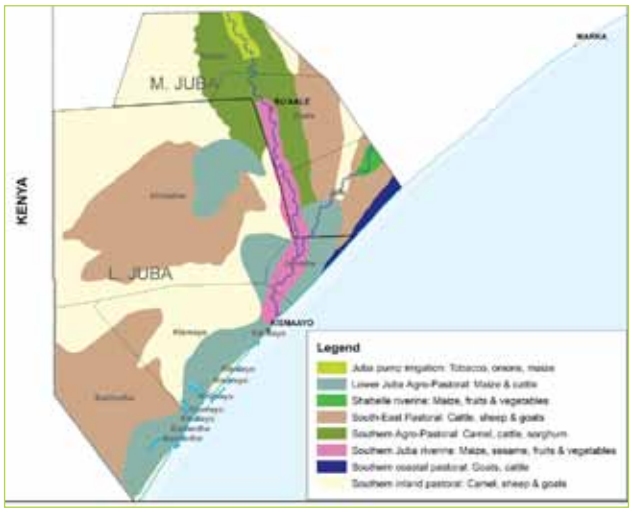
Table 7: Proportion of Malnourished women - Gedo Region

Gedo region	Pregnant and Lactating Women			Non-pregnant and Lactating women	
	No. Assessed	Proportion with MUAC<23cm(percent)	Proportion with MUAC<21cm(percent)	No. Assessed	Proportion with MUAC<18.5cm(percent)
North Riverine	245	30.1 (23.5-36.7)	5.8 (2.7-8.9)	132	0.7(0.0-1.7)
Dawo Pastoral	273	26.2 (15.5-37.0)	7.6(3.1- 12.1)	167	0.3 (0.0-1.1)
Agro-pastoral	254	11.6 (9.1 -19.5)	4.1 (1.3-6.9)	253	19.4 (14.6-24.2)
Dolow IDPs	312	46	8.6	234	0.3

4.2 MIDDLE AND LOWER JUBA REGIONS

Middle and Lower Juba regions have three main rural livelihood zones namely: the pastoral (the Southern Inland and Southeast Pastoralists), agro-pastoral (Lower Juba and Southern Agro-pastoral) and the Riverine communities who are purely agriculturalists. The Juba regions in southern Somalia have a total of seven districts namely: Sakow, Buale and Jilib in Middle Juba, and Jamame, Afmadow, Kismayo and Badhadhe in Lower Juba see Map 7.

Map 7: Juba Regions Livelihood Zones



The food security and nutrition situation in the Juba regions has varied over time and has largely been linked to rainfall performance and its resultant impacts on the different livelihood systems. Heavy rainfall in the Juba regions or in the Ethiopian highlands often results in floods that devastate crop cultivation and sanitation facilities in the riverine areas, however, the riverine communities later benefit from recessional cropping from the *Desheks* and fishing opportunities from the flood waters. The agro-pastoral communities, who rely on rain-fed agriculture, are totally dependent on rainfall and so are the pastoralists, whose livelihood is greatly influenced by water and pasture conditions.

Historical Overview - Post *Gu* 2012

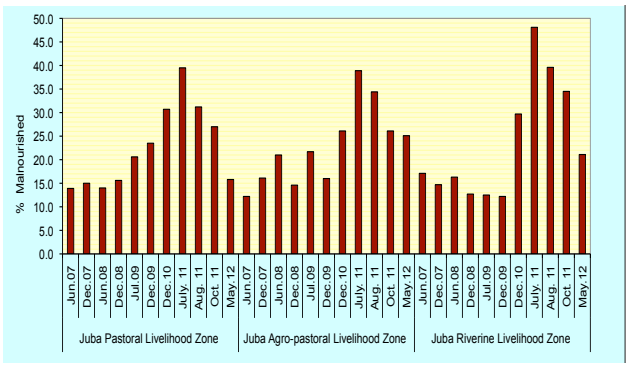
Food Security

The FSNAU Post *Gu* 2012 analysis classified the food security situation in the agro-pastoral population (25 percent of Poor) in Lower Juba as in Emergency**,** while the south east pastoral, southern agro-pastoral and Juba riverine livelihoods in both Lower and Middle Juba regions were classified in Crisis. There was a significant improvements in the southern inland pastoral (camel herders) population, which was classified in Stressed phase. The positive changes in the food security situations were largely attributable to the previous positive *Deyr* 2011/12 and the subsequent *Gu* 2012 season which improved overall rangeland conditions, resulting in improvement of livestock body conditions and market value. Despite the above improvements in parts of Juba region, substantial food and income gaps still existed then in most of the major livelihoods. Civil insecurity and closure of Kismayo port activities had resulted in low trade activities and loss of employments from charcoal exports.

Nutrition

The post *Gu* 2012 integrated nutrition situation analysis among the pastoral and riverine livelihoods of Juba region indicated a sustained *Very Critical* nutrition but an improvement to a *Critical* situation among the pastoral population.

Figure 9: Trend in Level of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Juba Regions, 2007-2012



The sustained poor nutrition situation in the region was due to food insecurity aggravated by high morbidity. The reduced humanitarian assitance including that of health and nutrition services and recurrent civil insecurity in the area were a major concern as was the high morbidity levels. Other aggravating factors are related to limited or poor access to health care services and sanitation, sub-optimal child feeding and care practices which all have a direct impact on the health and nutritional status of children, Figure 9 indicates the historical trends of acute malnutrition in Middle and Juba Regions since 2007.

Current Situation - Post *Deyr* 2012/13

Food Security

The FSNAU Post *Deyr* 2012/13 integrated food security analysis of Juba livelihoods shows either improvement or sustained food security situation. The Southeast pastoral, southern agro-pastoral, lower Juba agro-pastoral, and Juba riverine that were in Crisis in *Gu* 2012 season have improved to Stressed. However, Jamame district of Lower Juba agro-pastoral is

in crisis due to crop failure of poor rains, and outmigration of livestock. A sustained Stressed food security is recorded in the Southern inland pastoral and a sustained **Crisis** in the urban areas of Juba. The overall situation improved in the post *Deyr* 2012/13 as a result of good *Deyr* rains which improved the overall rangeland resources and water availability and the resultant improved livestock and crop production in the pastoral and agro pastoral livelihoods. Similarly, the riverine livelihood has improved compared to last (*Gu* 2012) mainly due to benefits of the above normal rainfalls, improved irrigation infrastracture and seeds distribution by humanitarian organizations.

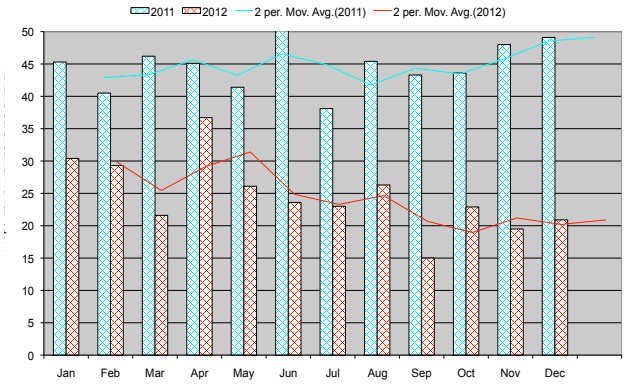
Nutrition Situation

No surveys were conducted in the Juba region during the *Deyr* 2012/13 season due to inaccessibility caused by civil insecurity. Therefore to estimate the Post *Deyr* 2012/13 nutrition situation for the region, data from health facilities was used together with rapid MUAC assessments conducted across the three livelihoods in December 2012. The nutrition situation is classified as *likely* ***Very Critical*** among the agro-pastoralists and the riverine populations and *likely* ***critical*** in the pastoralists communities in Juba.

The rapid MUAC assessments conducted in the three livelihoods identified **9.6** percent, **14.4** percent and **18.7** percent of the pastoral, agro-pastoral and riverine populations respectively as acutely malnourished (MUAC < 12 cm or oedema). These results indicate a sustained likely ***Very Critical*** situation among the Riverine and Agro-pastoral population and sutained likely ***Critical*** situation among the pastoral population.

Nutrition data from all health facilities in the Juba riverine, pastoral and agro-pastoral livelihoods indicate high numbers (>30 percent) but a declining trend of acutely malnourished children. Figure 10 shows the malnutrition trend in health facilities in agro-pastoral areas.

Figure 10: HIS Malnutrition Trends in Juba Agropastoral MCHs Deyr 2012/13



Close monitoring of the food security and nutrition situation will be crucial in the Juba population. The population still remains highly vulnerable to shocks and the current risk factors are: reduced access to humanitarian services, high morbidity burden including the reported AWD and measles outbreaks, poor access to health care services and sanitation, sub-optimal child feeding and care practices which all have a direct impact on the health and nutritional status of children, therefore close monitoring of the situation is crucial. The key reference nutrition indicators used for analysis are provided in Table 8.

Table 8: Summary of Key Nutrition Findings, Middle and Lower Juba Regions

	Pastoral (N=1125)		Agropastoral (=1167)		Riverine (N=1312)	
Indicator	**Results percent**	**Outcome**	**Results percent**	**Outcome**	**Results percent**	**Outcome**
Child Nutrition Status						
Acute malnutrition by MUAC (<12.5 cm or oedema in rapid assessment	**9.6**	Critical	**14.4**	Likely Very Critical	**18.7**	Likely Very Critical
Acute malnutrition by MUAC (<11.5 cm or oedema in rapid assessment)	**1.6**	Serious	**2.8**	Critical	**2.4**	Very Critical
HIS Nutrition Trends(Jan-June'10)	High levels (<30 percent) and decreasing trends	Critical	High levels and stable	Critical	High and fluctuating trends	Very Critical
Admission trends at TFPs/SFPs (Jan-June'10)	Low and stable number of admissions	Critical	High and stable number of admissions	Critical	High numbers with increasing trends of admission	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	No disease outbreaks were reported	Acceptable	No disease outbreaks were reported	Acceptable	No disease outbreaks were reported	Acceptable
	Increased milk consumption		Increased milk consumption			
Food security phase	Stressed	Serious	Stressed	Serious	Stressed	Serious
Overall Situation Analysis	**Likely Critical**		**Likely Very Critical**		**LikelyVery Critical**	
Projected Trend in 3 months	Stable		Stable		Stable	

Kismayo and Dobley IDPs

A comprehensive nutrition survey conducted among the Kismayo IDPs in December 2012 reports a GAM rate of **20.5** (17.3-24.2) and a SAM rate of **4.0** (2.8-5.9) which indicates a sustained ***Very Critical*** nutrition situation. Although when compared with a GAM rate of 28.0 percent (24.6-31.6) and a SAM rate of 8.2 percent (5.7-11.7) reported in the July 2012 nutrition survey, the result does show a significant decrease of acute malnutrition ($p<0.05$). The 90 day retrospective crude and under five death rates are **0.49** (0.31-0.76) and **1.28** (0.76-2.15)/10 000 people per day respectively, indicating coresponding *Acceptable* and *Serious* situations according to UNICEF (2005) classification. The worrying nutrition situation is mainly related to chronically poor food access, and high morbidity due to inadequate sanitation facilities and safe water and lack of health services (Table 9).

Similarly, an exhaustive nutrition survey conducted among the Dhobley IDPs in December, 2012 reports a GAM rate of **20.8** percent and a SAM rate of **5.1** percent which indicates a ***Very Critical*** nutrition situation. Comparing with the previous survey conducted in July 2012 that reported a GAM rate of 22 percent and a SAM rate of 7.6 percent, results show a stable nutrition situation. The 90 days retrospective crude and under five death rates reported are **1.92** and **2.53** per 10 000/day indicating an *Critiical* situation according to UNICEF (2005) classification. Overall, the nutrition situation among the Dhobley IDPs is ***Very Critical***, and the population remains highly vulnerable due to the direct impact of household food insecurity and the high disease burden in the town, further aggravated by the limited access to health services. There is need for continued support to the displaced population in terms of provision of targeted food supplementation, income-generating activities, health education, shelter improvement and continued immunization programmes and other development interventions to improve the health and nutrition situation of the vulnerable IDPs in Dobley town.

Man and a Camel, FSNAU, 2010

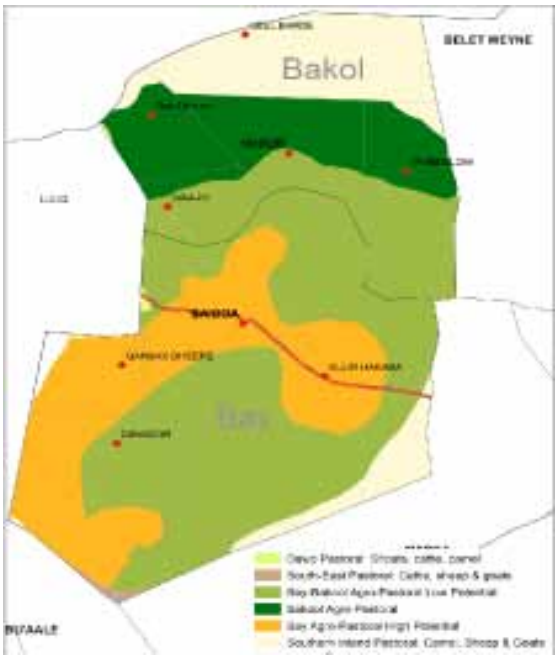
Table 9: Summary of Key Nutrition Findings in Juba Livelihood Zones, December 2012

	Kismayo IDPs (N=813, Boys=400,Girls=413)		Dhobley IDPs (N=1144, Boys=582,Girls=562)	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	20.3 (17.7-23.2) 28.0 (23.8-32.6) 12.8 (9.9-16.4)	Very Critical	20.8 22.2 19.4	Very Critical
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	3.9 (2.8-5.5) 5.0 (3.3-7.6) 2.9 (1.7-5.0)	Serious	5.1 5.2 5.0	Critical
Mean of Weight for Height Z Scores	-1.42±1.18	Critical	-1.05±1.13	Critical
Oedema	0.2	Very Critical	0.6	Very Critical
Global Acute Malnutrition (NCHS)	17.8 (15.4-20.6)	Critical	19.7	Critical
Severe Acute Malnutrition (NCHS)	2.3 (1.5-3.6)	Alert	2.3	Alert
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	8.1 (6.5-10.2) 8.8(6.4-11.9) 7.5 (5.4-10.5)	Critical	17.9 15.2 20.7	Critical
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	1.2 (0.7-2.2) 1.5 (0.7-3.1) 0.9 (0.4-2.4)	Serious	3.8 3.2 4.4	Very Critical
Stunting (HAZ<-2) Boys Girls	41.5 (38.2-44.9) 46.9 (42.0-51.8) 36.3 (31.8-41.0)	Critical	13.9 16.0 11.8	Acceptable
Underweight (WAZ<-2) Boys Girls	46.4 (43.0-49.8) 57.0 (52.2-61.8) 36.2 (31.7-40.9)	Very Critical	16.2 18.5 13.8	Alert
HIS Nutrition Trends (January –July 2012)	High (>30 percent) levels and increasing trends	Very Critical	High (>30 percent) levels and increasing trends	Very Critical
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity-41.2 (35.4-47.1) Boys 41.3 ;Girls-41.2 Diarrohea-8.7 Boys-10.1; Girls -7.3 Pneumonia- 1.0 Boys 0.5 ;Girls 1.5 Measles-0.2 Boys- 0; Girls 0.5	Very Critical	Morbidity-27.9 Boys-28.7;Girls-27.0 Diarrohea-20.0;Boys 20.8 Girls 19.1 Pneumonia-25.6 Boys-25.5 ;Girls 25.8 Measles-02.1 Boys-2.2;Girls-1.9	Very Critical
Immunization	Vitamin A-81.6 Boys-81.6:Girls 81.7 Measles-81.9 Boys-82.1.;Girls-81.7	Acceptable	Vitamin A-86.7 Boys-86.0:Girls-87.4 Measles-87.5: Boys-89.7;Girls-85.3	Acceptable
Death Rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.49 (0.31-0.76)	Alert	1.92	Critical
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.28(0.76-2.15)	Serious	2.53	Critical
Pregnant and lactating women (MUAC <23.0 cm)	15.7 (0.4-0.9)	Serious	11.9	Acceptable
Pregnant and lactating women (MUAC <21.0 cm)	3.1 (1.2-7.2)		4.2	
Non pregnant and lactating women (MUAC <18.5 cm)	0.4(0.0-0.9)	Alert	0.5	Alert
Food security phase	Stressed	Serious	Stressed	Serious
Overall Risk to Deterioration	Stable		Stable	
Overall Situation Analysis	Very Critical		Very Critical	

4 .3 BAKOOL AND BAY REGIONS

Bay and Bakool regions are located in southwest Somalia. Both regions have two predominant livelihood systems: the agro-pastoral, found in Bay region and in the southern parts of Bakool, and the Southern Inland pastoral livelihood found mainly in Elberde district of Bakool region (referred herein as Bakool pastoralists). Bakool region comprises of five districts namely Huddur (Huddur Town is the regional capital), Wajid, Tieglow, Rabdure and Elberde. Bay region comprises of four districts, namely Baidoa, (Baidoa town is the regional capital), Qansahdere, Dinsor and Burhakaba (Map 8). The two regions have a high agricultural potential, with Bay region serving as the sorghum basket for Somalia.

Map 8: Bay and Bakool Regions Livelihood Zones



Bakool Region

Historical Overview Post *Gu* 2012

Food security

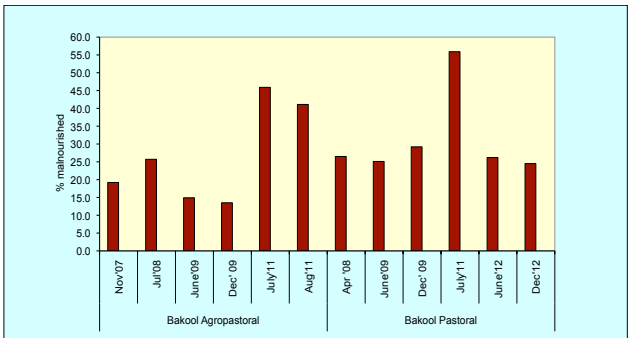
The FSNAU Post *Gu* 2012 integrated food security analysis classified the Bakool pastoral in Stressed phase, an improvement from Crisis in *Deyr* 2011/12. The improvement in the food security situation in the pastoral livelihood zone was mainly attributed to the positive impact of the *Deyr* 2011/12 rainfall performance which improved access to income and food from livestock and related products, and to the increased access to humanitarian interventions in the region. However access to milk was low. The agro-pastoral livelihoods however remained in Crisis due to the effect of below normal rain performance crop production, in addition to low agricultural labor opportunities, low supply of cereal from neighbouring regions and limited humanitarian interventions due to the civil insecurity in food.

Nutrition

The Post *Gu* 2012 integrated nutrition analysis based on health and nutrition facilities data classified the nutrition situation in the pastoral livelihood zones of Bakool region as sustained *Very Critical*.

No assessment was conducted in the agro-pastoral livelihood of Bakool region, therefore there was insufficient data to estimate the overall nutrition situation. However, data from health facilities indicated a high (>45 percent), and a stable trend of acutely malnourished children. Although the nutrition situation among pastoral remained classified the same (*Very critical*) as in the *Deyr* 2011/12, it was probable the nutrition situation had improved with the positive food security reported in the livelihood zone. The trend of acute malnutrition from 2002-2012 is shown on Figure 11.

Figure 11: Trend in levels of acute malnutrition (WHZ< -2 or oedema, WHO 2006) Bakool region, 2007- 2012



Current Situation-*Deyr* 2012/13

Food security

The food security situation in Bakool region showed improvement in the *Deyr* 2012/13 season. The FSNAU Post *Deyr* 2012/13 analysis classifies the pastoral population of Bakool region in **Stressed**, indicating a sustained situation since *Gu* 2012. The Agro-Pastoral livelihood has however showed improvement from the Crisis in *Gu* 2012 to **Stressed** phase. The improvement in the food security situation is mainly attributed to the positive impact of the current *Deyr* 2012/13 rainfall performance which improved access to food and income from livestock and related products. The good cereal production has not only increased access to cereal but also contributed to reduced cereal prices, improved TOT(goat to cereal). The increased access to humanitarian interventions in parts of the region is also boosting food availability and access.

Nutrition Situation

The Post *Deyr* 2012/13 integrated nutrition situation analysis using data from nutrition assessments, health and feeding facilities classifies the nutrition situation of the Bakool pastoral population as ***Very Critical***. A nutrition assessment conducted in December 2012 in the Bakool pastoral livelihood zone reported a GAM rate of **24.5** (19.1-30.9) and a SAM rate of **2.0** (1.2- 3.3) including five (0.8 percent) oedema cases. A significantly higher ($p<0.05$) proportion of boys (31.6 percent) than girls (18. percent) are acutely malnourished (Table 10).

When compared to the June 2012 nutrition assessment findings which reported a GAM rate of 26.2 percent (20.6-32.8) with a SAM rate of 5.7 percent (3.6-9.1), results indicate a sustained situation. However, there is significant reduction in cases of severe acute malnutrition (*P=0.009).* This is mainly attributed to improved coverage of health programmes (measles, vaccination, vitamin A supplementation) and reduced morbidity, coupled with limited health and nutrition interventions especially OTP. OTP admission in Bakool region is high and increasing trends (Figure 12). The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.18** (0.08-0.40) and **0.29** (0.07-1.21) indicate an *Acceptable* situation according to UNICEF classification, similar to the respective CDR and U5DR of 0.31 (0.15-0.61) and 0.86 (0.43-1.73) reported in June 2012. The main causes of death reported through respondent's recall are measles, diarrhoea and malaria for the under fives and malaria for adults.

No assessment was conducted in the agro-pastoral livelihood of Bakool region, therefore there is insufficient data to estimate the overall nutrition situation. However, data from health facilities indicates a high (>45 percent), and a stable trend of acutely malnourished children (Figure 14). The information from partners conducting feeding programmes in the area indicates high and increasing admission trends in the area. In addition, AWD cases recorded in MCH in Hudur and Tieglow are lower than those reported in 2011 and show a decline in December 2012 (Figure 13).

Endemic diseases are eminent with suspected measles incidences being reported in Elberde, Huddur and Tieglow (Somalia Emergency Weekly Health Update January 2013 (week 4). This a key aggravating factor.

Figure 12: Bakol Agropastoral OTP Admissions 2012

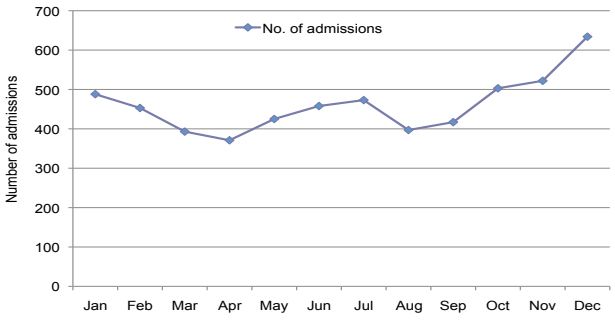


Figure 13: Bakool Agropastoral Acute Watery Diarrhea Source: RCS, GTZ 2011-2012 2012/13

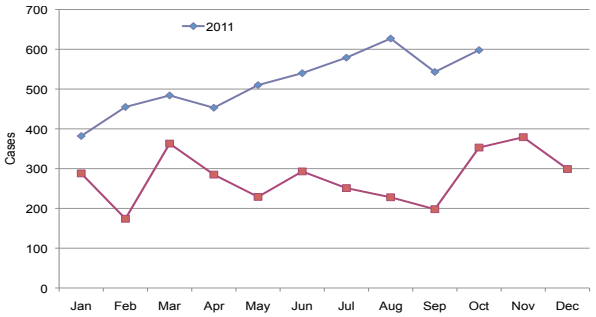
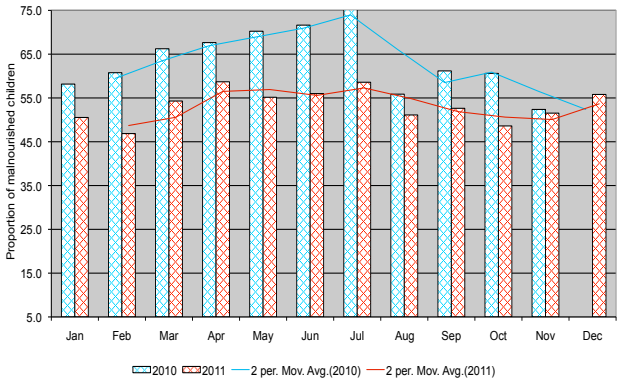


Figure 14: HIS Malnutrition Trends in Bakool Agropastoral MCHs Deyr 2012/13



The key nutrition mitigating factors in Bakool livelihoods include improved milk access in the area, good cereal production in the agro-pastoral areas and localized humanitarian interventions in the form of targeted interventions (health, nutrition and food aid). The support needs to be continued and expanded to cover more rural villages of pastoral livelihood. The population in both livelihoods in Bakool region remains vulnerable to the chronic aggravating factors affecting malnutrition such as food insecurity, limited access to safe water and sanitation facilities as limited humanitarian access. These will need to be addressed to achieve stable food security and nutrition situation In the short term, the rehabilitation of the acutely malnourished children, is required. Table 10 highlights the key findings of the nutrition situation analysis.

Gender and nutrition analysis in Bakool Regions

A higher proportion of 31.6 percent (24.7-39.3) of boys compared to 18.1 percent (12.9-24.9) girls are acutely malnourished. This difference is statistically significant ($p<0.05$). Other child data such as illness, and immunization status, also do not show any clear differential proportions by gender. Analysis of the distribution of malnutrition cases assessed by MUAC measurements reflects a slightly higher proportion of girls (10.7 percent) than boys (9.55) as acutely malnourished with MUAC<12.5 cm or oedema. The gender disaggregated data of the assessed children is summarized on Table 10.

Table 10: Summary of Key Nutrition Findings in Bakool Pastoral Livelihood Zones, December 2012

	Bakool pastoral - December 2012 (N=608;Boys=288;Girls= 320)	
Indicator	Results	Outcome
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**24.5** (19.1-30.9) 31.6 ((24.7-39.3) 18.1 (12.9-24.9)	Very Critical
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**2.0** (1.2- 3.3) 1.7 (0.7- 4) 2.2 (1.1- 4.2)	Acceptable
Mean of Weight for Height Z Scores	-1.26±0.93	Very Critical
Global Acute Malnutrition (NCHS)	23.0 (18.0-29.0)	Very Critical
Severe Acute Malnutrition (NCHS)	1.3 (0.7- 2.4)	Acceptable
Proportion with MUAC<12.5 cm or oedema Boys Girls	10.2 (6.8-14.8) 9.5 (5.0-17.3) 10.7 (7.1-15.9)	Critical
Proportion with MUAC<11.5 cm or oedema Boys Girls	2.6 (1.3- 5.2) 1.7 (0.4- 6.2) 3.4 (1.8- 6.3)	Critical
Stunting (HAZ<-2) Boys Girls	11.3 (8.2-15.2) 17.1 (12.1-23.6) 5.9 (3.9- 8.8)	Acceptable
Underweight (WAZ<-2) Boys Girls	15.3 (11.6-19.9) 23.5 (18.1-30.0) 7.8 (4.7-12.4)	Alert
Child Morbidity & Immunization		
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 29.7, Boys-30.9; Girls-28.5 Diarrhoea – 8.7 Boys- 8.4 :Girls-8.6 Pneumonia- 5.3 Boys-5.4; Girls- 5.2	Very Critical
Immunization Status	Vitamin A – 80.2 Boys-79.3; Girls- 80.9 Measles Vacc –77.1 Boys-77.2;Girls-76.9	Very Critical
Death Rates		
Crude deaths, per 10 000 per day (retrospective for 90 days)	0.18 (0.08-0.40	Acceptable
Under five deaths, per 10 000 per day (retrospective for 90 days)	0.29 (0.07-1.21)	Acceptable
Women Nutrition Status	N= 383	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	N=0 0	Critical
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	N=10 4.3 (1.5-6.9)	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=68 28.8 (20.9-36.7)	Serious
Food security phase	Stressed	Serious
Overall Risk to Deterioration	Stable	
Overall Situation Analysis	Very Critical	

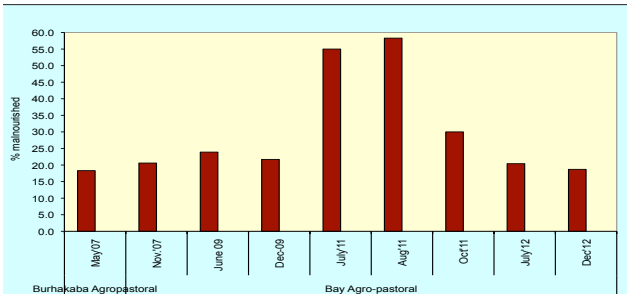
Bay Region

Historical Overview - Post *Gu* 2012

Food security

The FSNAU Post *Gu* 2012 integrated food security analysis classified the agro-pastoral (low and high potential) livelihood zones of Bay region in sustained Crisis**,** but with increased number of people in crisis. The increase in the number of the people in food security crisis was attributed to poor crop production as a result of below normal rainfall, long dry spell and cricket damage, Cereal production in *Gu 2012* season was well below average. It's was the second lowest *Gu*' cereal production in the region since 2005.

Figure15: Trend in levels of acute malnutrition (WHZ< -2 or oedema, WHO 2006) Bay Agropastoral, 2007- 2012



Nutrition

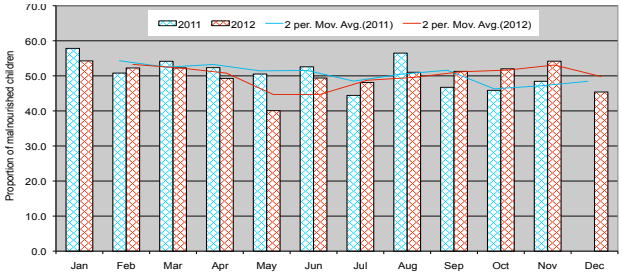
The nutrition situation of the Bay agro-pastoral livelihood population was classified as *Very Critical*, indicating an improvement from *Extreme* levels in the *Deyr* 2011/12 when the population was recovering from famine. The sustained poor nutrition situation of the Bay agro-pastoral populations was attributed to chronic food insecurity linked to overall poor crop production, high debt levels from the previous season, reduced wage rates, low agricultural labour coupled with high morbidity and limited humanitarian assistance. Figure 15 shows the trend of acute malnutrition among population in Bay Agro-pastoral for the period 2007-2012.

Current situation, Post *Deyr* 2012/13

Food security

The FSNAU Post *Deyr* 2012/13 integrated food security analysis classifies the agro-pastoral (low and high potential) livelihood zones of Bay region in **Stressed** phase, indicating an improvement from *Crisis* in the previous *Gu* 2012 season. The main factor contributing to the improvement in the food security situation in the region is related to above normal *Deyr* 2012/13 rainfall performance. This has resulted in above average crop production, increased farm labor opportunities, improved rangeland and enhanced livestock condition and decreased local cereal prices. The continued humanitarian assistance though in limited areas is also contributing to the improvement.

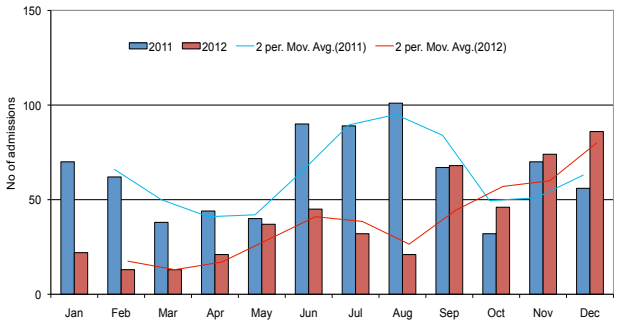
Figure 16: HIS Malnutrition Trends in Bay Agropastoral MCHs 2011-2012
(Source: SRCS, DMO)



Nutrition

The Post *Deyr* 2012/13 integrated nutrition situation analysis, using data from nutrition assessments, health and feeding facilities classifies the nutrition situation of the Bay agro-pastoral livelihood population as ***Critical***, indicating an improvement from the *Very Critical* levels in the *Gu* 2012. The nutrition situation of the IDPs from Baidoa town indicates a ***Critical*** nutrition situation. The nutrition situation has improved in the populations of IDPs from Baidoa town, from *Critical* in *Gu* 2012 to ***Serious***

Figure 17: Admission trends in Bay Hospital Stabilization Centre 2011 - 2012
(Source: COOPI)



A nutrition survey conducted in December 2012 in the agro-pastoral livelihood zone of Bay region reported a GAM rate of **18.7** percent (14.7-23.4) and a SAM rate of **2.0** (0.8- 5.0) (with four (0.6 percent) oedema cases. These rates show a ***Critical*** nutrition situation, and an improvement from the *Very Critical* nutrition situation reported in the July 2012, when GAM and SAM rates reported were 20.4 percent and 6.9 percent. However there is a significant improvement in the SAM rates (*p=0.001).* A higher proportion of assessed boys **22.4** percent (17.4-28.3) are acutely malnourished compared to girls **15.6** percent (11.3-21.0), although the difference is not statistically significant. The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.80** (0.52-1.25) and **1.86** (1.15-3.00) indicate a *Serious* situation according to UNICEF classification, similar to the respective CDR and U5DR of 1.40 (0.93-2.10) and 2.70 (1.89-3.89) reported in July 2012. The health facilities indicate a high number (>50 percent) and stable trend of acutely malnourished children (Figure

16). Data from Stabilization center in Bay hospital indicate high and increasing numbers (Figure 17). Morbidity levels reported in the two weeks prior to the assessment were high at 29.1 percent and immunization status for measles and vitamin A supplementation is extremely low (<10 percent) compared with the Sphere recommended coverage of 95 percent. The low coverage could be attributed to low access to health services as well as limited humanitarian access. According to WHO Bulletin in January 2013, suspected measles outbreaks still persist, and although on a lower scale may still negatively affect the nutritional status of the population.

Poor shelter in Baidoa IDPs

The bumper cereal harvest and improved milk access and income from sale of cereals and livestock and related products as well as humanitarian assistance may have mitigated further deterioration and contributed to the reduction of the GAM and SAM rates. The increased ToT (labour to sorghum), increased labour opportunities and *zakaat* have also contributed to the improved nutrition situation. Immediate and routine health, food and livelihood interventions are required to mitigate further deterioration and to address the critical rates of acute malnutrition. The key nutrition reference indicators of the analysis on the nutrition phase classification are provided in Table 11.

Baidoa IDPs

Baidoa Town is host IDPs fleeing Banadir, Bay and Bakool regions mainly because of insecurity and/or drought. Often, IDPs are faced with numerous problems including lack of food, high malnutrition, poor sanitation and shelter due to loss of assets and a disruption of livelihood system.

In December 2012, FSNAU conducted a comprehensive nutrition survey among the Baidoa IDPs which recorded GAM and SAM rates of **12.8** (10.1-16.1) and **3.5** percent (2.4-5.0) respectively indicating a ***Serious*** nutrition situation (Table 11). When compared to the July 2012 nutrition assessment findings which reported a GAM rate of 15.5 percent (11.6-20.4) and a SAM rate of 5.1 percent (3.1-8.5), there is no significant change in the both GAM and SAM rates (*p=>0.05)* but a improvement in phase classification from *Critical* in *Gu* 2012 to the current ***Serious***. Slightly more girls 13.3 percent (9.8-17.8) than boys (12.3 percent 9.2-16.2) are acutely malnourished but the difference is not statistically significant. The 90 days retrospective CDR and U5DR of **0.48** (0.28-0.84) and **0.67** (0.27-1.61) indicate *Acceptable* according to UNICEF levels. The CDR and U5DR show a slight improvement from the *Alert* levels from respective rates of 0.42 (0.27-0.66) and 1.52 (0.92-2.53) reported in the July 2012 assessment. Morbidity, a key nutrition aggravating factor remains high (29.3 percent) among the IDPs.

Malnutrition rates for pregnant and lactating women (MUAC <23.0 cm) is 23.1 percent (14.3-31.9). This rate is high and slightly above the baseline median rate of 22.0 percent recorded from nutrition surveys in Somalia conducted between 2007-2010. Humanitarian interventions in the form of targeted interventions including active case finding and referrals of malnourished children and access to labour opportunities from both urban and agricultural areas may have assisted to mitigate the poor nutrition situation among the IDPs. The population still remains highly vulnerable and heavily rely on the interventions currently in place. Lack of stable livelihood systems among the IDPs coupled with lack access to basic services continue to expose this population group to risks of malnutrition, ill health and food insecurity. Interventions to improve and stabilize food access and provision of health services are crucial in addressing food insecurity and in tackling the high morbidity levels, thereby stabilizing the high levels of acute malnutrition.

Gender and nutrition analysis in Bay Region

The analysis of the nutrition data in the assessed rural livelihoods as well as the Baidoa IDP populations shows no statistically significant difference in distribution of the malnutrition cases between boys and girls. A high proportion of boys than girls are acutely malnourished, stunted and underweight across Bay agro-pastoral livelihood and Baidoa IDP populations, with the exception of Baidoa IDPs where slightly higher girls than boys are stunted. For example, in Bay agro-pastoral 22.4 percent (17.4-28.3) of boys compared to 15.6 percent (11.3-21.0) girls are acutely malnourished, 55.2 percent (48.3-61.9) boys compared to 43.3 percent (35.4-51.5) of girls are stunted and 47.0 percent(37.6-56.5) of boys as opposed to 32.8 percent (25.1-41.5) of girls are underweight**.** Nevertheless, the distribution of malnutrition cases assessed by MUAC measurements in both assessments show equally distributed among boys Vs girls identified as acutely malnourished with MUAC<12.5 cm or oedema (Table 11).

Table 11: Summary of Key Nutrition Findings in Bay Agropastoral Livelihood Zones, December 2012

	Bay Agro-pastoral (December 2012) (N=642;Boys=295, Girls= 347)		**Baidoa IDP (December 2012) (N= 858 ;Boys= 391 Girls= 467)**	
Indicator	Results	Outcome	Results	Outcome
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**18.7** (14.7-23.4) 22.4 (17.4-28.3) 15.6 (11.3-21.0)	Critical	12.8 (10.1-16.1) 13.3 (9.8-17.8) 12.3 (9.2-16.2)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**2.0** (0.8- 5.0) 2.0 (0.8- 5.0) 2.0 (0.7- 5.4)	Acceptable	**3.5** (2.4- 5.0) 3.6 (2.0- 6.4) 3.3 (1.9- 5.7)	Serious
Mean of Weight for Height Z Scores	-0.83±1.14	Serious	-0.76±1.09	Serious
Global Acute Malnutrition (NCHS)	15.3 (11.1-20.6	Critical	12.2 (9.5-15.5)	Serious
Severe Acute Malnutrition (NCHS)	1.2 (0.4- 3.7)	Acceptable	1.7 (1.0- 3.0)	Acceptable
Proportion with MUAC<12.5 cm or oedema Boys Girls	10.5 (7.1-15.1) 10.7 (6.8-16.5) 10.3 (6.7-15.4)	Critical	7.5 (5.7- 9.9) 7.3 (4.9-10.9) 7.7 (5.5-10.7	Serious
Proportion with MUAC<11.5 cm or oedema Boys Girls	2.3 (1.1- 4.8) 2.0 (0.8- 5.0) 2.6 (1.1- 5.8	Critical	3.1 (1.9- 5.0) 2.7 (1.4- 5.1) 3.5 (1.9- 6.4	Critical
Stunting (HAZ<-2) Boys Girls	48.7 (42.4-55.1) 55.2 (48.3-61.9) 43.3 (35.4-51.5	Critical	43.5 (36.6-50.8) 42.8 (36.5-49.3) 44.2 (35.2-53.7)	Critical
Underweight (WAZ<-2) Boys Girls	39.3 (31.6-47.5) 47.0 (37.6-56.5) 32.8 (25.1-41.5	Critical	30.7 (25.5-36.5) 33.1 (27.5-39.3) 28.5 (22.5-35.3)	Critical
HIS Nutrition Trends(Jan – July 2012)	High (>50 percent and a stable trend	Very Critical	N/A	N/A
Admission trends at TFPs/SFPs Bay Region – (Jan-July 2012)	Low and fluctuating number of admissions	Critical	N/A	N/A
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 29.1 Boys-28.7; Girls-29.3 Diarrhoea – 10.2 Boys- 10.4:Girls-9.9 Pneumonia-8.0 Boys-6.7;Girls- 9.1	Very Critical	Morbidity- 41.5 Boys-42.1;Girls-41.0 Diarrhoea – 16.8 : Boys- 17.4:Girls-16.4 Pneumonia- 11.8 Boys-11.7;Girls-11.9	Very Critical
Immunization Status	Vitamin A – 8.0 Boys- 7.7;Girls- 8.3 Measles Vacc –5.0 Boys-5.0;Girls-5.1	Very Critical	Vitamin A –14.3 Boys-12.5;Girls-15.9 Measles Vacc – 15.1 Boys-13.3;Girls-16.7	Very Critical
Death Rates				
Crude deaths, per 10 000 per day (retrospective for 90 days)	0.80 (0.52-1.25)	Serious	0.48(0.28-0.84)	Acceptable
Under five deaths, per 10 000 per day (retrospective for 90 days)	1.86 (1.15-3.00)	Serious	0.67 (0.27-1.61)	Acceptable
Women Nutrition Status	N=397		N=450	
Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm)	N=0	Acceptable	N=0 0	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	N=19 6.3 (2.6-9.0)		N=17 5.3 (2.3-8.2)	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=70 23.1 (14.3-31.9)	Serious	N=79 24.2 (17.6-30.9)	Serious
Food security phase	**Stressed**	Serious	Crisis	Critical
Overall Risk to Deterioration	Stable		Unstable	
Overall Situation Analysis	Critical		Serious	

MATERNAL NUTRITION STATUS IN BAY AND BAKOOL

In Bay Region, a significantly higher proportion of pregnant and/or lactating women are acutely malnourished (MUAC< 23.0 cm) than non-pregnant and non-lactating women (MUAC<18.5 cm) across all livelihoods and among the Baidoa IDPs settlements. Information on maternal nutrition indicates a worrying nutrition situation among women. Acute malnutrition (MUAC <23.0 cm) rates for pregnant and lactating women among the Bay agro-pastoral, Baidoa IDPs and Bakool Pastoral livelihoods are 23.1 percent (14.3-31.9), 24.2 percent (17.6-30.9) and 28.8 percent (20.9-36.7) respectively. These rates are extremely high and are either similar to or significantly above the baseline median rate of 22.0 percent recorded from the FSNAU surveys conducted between 2007-2010. (Table 12). The high level of acute malnutrition among the pregnant and/or lactating women is linked to increased nutrient demands during pregnancy needs which are not being met.

Table 12: Proportion of malnourished women in Bay and Bakool Regions

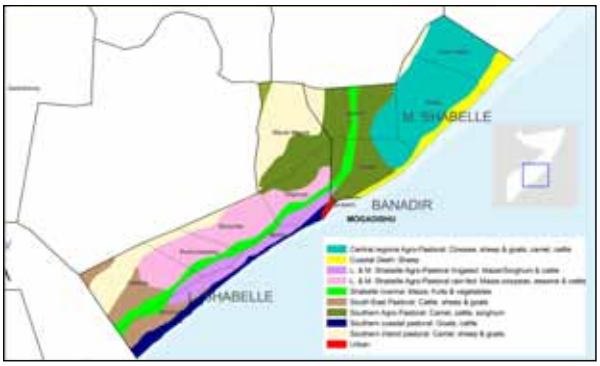
Bay /Bakool Surveyed population	Pregnant and/or Lactating women			Non-pregnant/lactating women	
	No. Assessed	Proportion with MUAC<23cm	Proportion with MUAC <21cm	No. Assessed	Proportion with MUAC<18.5 cm
Bay agro-pastoral	303	23.1 (14.3-31.9)	6.3(2.6-9.0)	94	0
Baidoa IDP	326	24.1 (17.6-30.9)	5.3(2.3-8.2)	124	0
Bakool Pastoralists	236	28.8 (20.9-36.7)	2.4 (0.7-4.0)	236	0

A Woman Sifts Maize FSNAU, 2012

4.4 MIDDLE AND LOWER SHABELLE REGIONS

Middle and Lower Shabelle rural livelihoods comprise of riverine (pure farmers) and agro-pastoralists (Map 9). The riverine population, located within 10 km of the Shabelle river cultivates maize, sesame and a variety of vegetables and fruits, and keep limited livestock holdings as a result of tsetse fly infestation. The agro-pastoral zone extends 20-40 km from the Shabelle River and incorporates both cultivation of crop (maize, cowpeas, sesame and fruit), and livestock rearing. The agricultural potential, as well as the labour and income opportunities in the area makes it a haven for seasonal casual work, and also for vulnerable populations in the event of shocks. The Shabelle regions continue to struggle with the negative impacts of civil insecurity. This has affected the population's well being, through disruption of livelihoods, continued lack of access to humanitarian interventions, and a high number of IDPs in the region.

Map 9: Shabelle Livelihood Zones



Historical Overview - Post *Gu* 2012

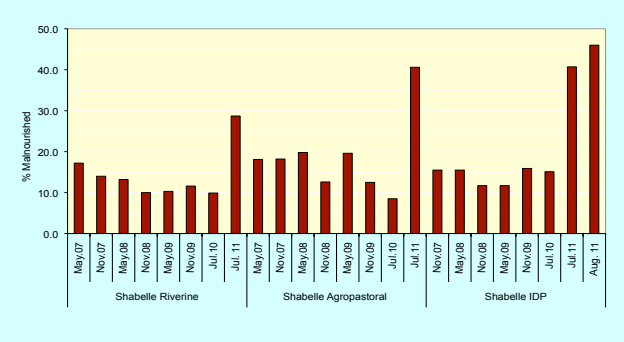
Food Security

The FSNAU Post *Gu* 2012 integrated analysis showed food security and livelihood situations in Middle and Lower Shabelle regions continued improving through the *Deyr* 2011/12 and *Gu* 2012 seasons. A significant number of people in Adale and Aden Yabaal districts of Middle Shabelle remain in Crisis**,** however the number affected had been reducing since the *Deyr* 2011/12. This was attributed to the positive impacts of good Gu 2012 rainfall that led to above average crop production, improved livestock condition and purchasing power, and resulted in improved availability of milk and milk products in Middle Shabelle region. The rest of the population was classified as Stressed.

Nutrition

Due to the lack of access in the region for security reasons, no surveys were conducted in the Shabelle valley rural livelihoods. However, data from health facilities in the region showed high (>30 percent) and stable trends of malnutrition among the Lower Shabelle agro-pastoral population and a high (>10 percent) and declining trend amongst the riverine population. Although the nutrition situation could not be classified due insufficient data, it was probable the nutrition situation had improved from the *Very Critical* levels recorded in July/August 2011 when nutrition surveys were last conducted. Figure 18 show the trends of acute malnutrition 2007-2011.

Figure 18: Trend in levels of acute malnutrition (WHZ< -2 or oedema, WHO 2006) Shabelle Valley, 2007- July 2011

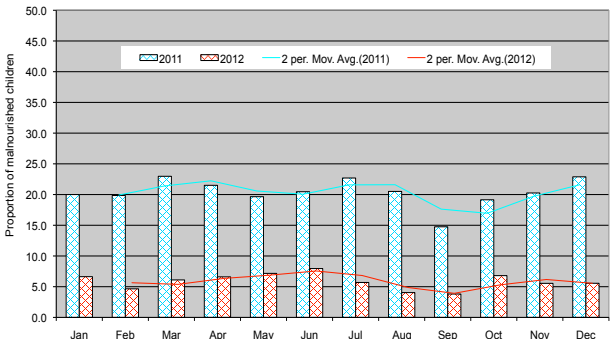


Current Situation, Post *Gu* 2012

Food Security

The FSNAU Post *Deyr* 2012/13 analysis classifies all the rural livelihoods in Middle and Lower Shabelle as ***Stressed,*** indicating a sustained situation and an improvement in Aden Yabaal and Adale districts that were in *Crisis* in *Gu* 2012. The situation has generally improved due to the normal *Deyr* 2012/13 rains that have contributed to improvements in livestock performance, milk production, above average crop production (maize and sesame) with reduced cereal prices and positive goat/cereal ToT, since the *Deyr* 2011/12. However, livestock holding is still below baseline and insecurity instigated- road blocks and high taxation for crops and livestock have restricted trade movements and humanitarian access thus aggravating the situation.

Figure 19: HIS Malnutrition trends in Shabelle Riverine MCHs,2010-2011



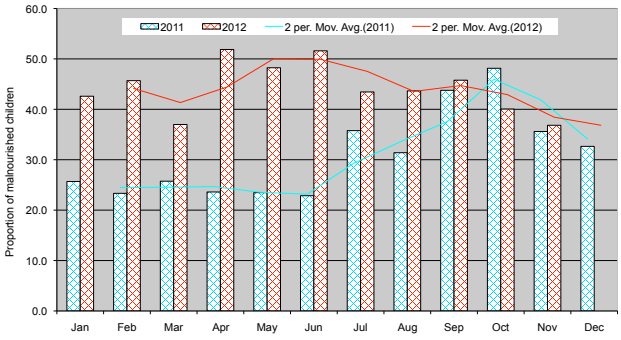
Nutrition

In the Middle and Lower Shabelle regions, there were no nutrition surveys conducted since *Gu* 2011 due to lack of access. The last surveys to be conducted in the region were done in July 2011. Due to the lack of sufficient data, there is no overall nutrition situation estimate for the Middle and Shabelle Shabelle regions. However data from health facilities in the region shows a high (>10 percent) and declining trend amongst the riverine population (Figure 19), and high (>30 percent) and stable

trends of malnutrition among the Lower Shabelle agro-pastoral population and (Figure 20).

The nutrition situation in the coming months is expected to improve given the positive food security indicators in Shabelle. However the degree of gains will depend on the population's exposure to risk factors which include seasonal outbreaks of acute watery diarrhoea (AWD) in May-June, reduced access to humanitarian interventions with the suspension of key actors and the increasing civil insecurity in the region. Persistent chronic factors - such as very limited access to specifically feeding and health programmes, inappropriate child feeding and care practices, poor access to safe water and sanitation facilities and civil insecurity are additional factors likely to negatively affect the nutrition situation. Therefore, close monitoring of the situation remains crucial.

Figure 20: HIS Malnutrition trends in Shabelle Agro-pastoral MCHs,2010-2011



Mogadishu and Afgoye Urban

In December 2012, FSNAU and partners conducted repeat nutrition surveys in Banadir region among the IDP and urban population of Mogadishu town. The survey findings reported ***Alert*** and ***Critical*** nutrition situations among the town and IDP populations respectively. In the town survey a GAM rate of **9.7** percent (7.1-13.2) and a SAM rate of **1.6** percent (0.8-3.4), indicating a sustained situation in July 2012 when a similar borderline GAM rate of 10.8 percent (8.3-13.9) and SAM rate of 1.5 percent (0.7-3.0) were recorded. The 90 days retrospective crude and under five deaths reported were 0.92 (0.55-1.50) and 0.65 (0.25-1.70) and respectively indicating *Serious* and *Alert* levels respectively according UNICEF classification and a slight improvement from the respective *Critical* and *Serious* CDR and U5DR of 1.23 (0.81-1.85) and 1.54 (0.82-2.85) recorded in the July 2012 assessment (Table 14).

A nutrition survey conducted during the same period in the Afgoye town population also recorded similar GAM and SAM rates of 8.7 percent (6.9-10.9) and 2.1 percent (1.2-3.6) respectively, indicating an ***Alert*** situation. However, the mortality rates were slightly elevated with respective CDR and U5DR of 0.74 (0.49-1.12) and 1.43 (0.71-2.88), both indicating Serious situation according to UNICEF classification. This was the first survey among this population, thus there is no data to compare to. The findings of the Mogadishu and Afgoye towns assessments are summarized in Table 13.

Mogadishu IDPs

The nutrition survey conducted in December 2012, among the IDPs in Mogadishu reports a GAM and SAM rates of **16.0** percent (12.8-19.8) and **3.6** percent (2.4-5.3) respectively, indicating a ***Critical*** nutrition situation. The nutrition situation has deteriorated from the *Serious* phase in *Gu* 2012, when a nutrition assessment reported a borderline GAM rate of 9.6 percent (7.1-13.0) and a Sam rate of 1.8 percent (1.0-3.2). The mortality rates remain elevated, with the 90 days retrospective crude and under five death rates of **0.88** (0.60-1.29) and **2.04** (1.36-3.05) respectively, indicating a *Serious* phase according to UNICEF classification and a slight reduction from the respective *Critical* CDR and U5DR of 1.41 (0.99-2.02) and 2.81 (1.82-4.33) in the July 2012 assessment (Table 13). HIS data from health facilities in Medina, Waaberi, Hamarweyne and Hamarjajab show high proportion (>10 percent) and stable trend of acutely malnourished children for the previous six months period (July-December). The deterioration among the IDPs is linked to the reduced scale in the multi-sectoral humanitarian interventions such as feeding, health, water sanitation and hygiene (WASH) and shelter programmes that were effected in the town in the last seasons. The population remains highly vulnerable and heavily reliant on the interventions currently in place. A disruption in the provision of humanitarian interventions may lead to a sudden deterioration in the nutrition situation of the population.

Gender: Analysis of findings from the nutrition assessments conducted in Mogadishu (Town and IDPs) and Afgoye town generally indicate a higher proportion of boys than girls as acutely malnourished (WHZ<-2 or oedema). However, these differences were generally not statistically significant (p>0.05). Other child data such as dietary diversity, illness, feeding practices, and immunization status, do not show any clear differences by gender. Table 15 indicates gender disaggregated data of the assessed children.

MATERNAL NUTRITION STATUS IN SOUTH EAST SOMALIA

Acute malnutrition rates for pregnant and lactating women (MUAC <23.0 cm) in Shabelle and Banadir regions are at *Acceptable* levels and below the FSNAU median rate of 22.0 percent recorded from surveys between 2007-2010. The acute malnutrition rates for pregnant and lactating women (MUAC <23.0 cm) in Hiran are however, elevated with 20 percent in Beletwyne district and 33.6 percent in Mataban. Continued efforts in humanitarian assistance in activities like wet-feeding, supplementary and therapeutic programmes remain essential.

Table 13: Proportion of malnourished women in Banadir and Hiran Regions

Surveyed population	Pregnant and/or Lactating women			Non-pregnant/lactating women	
	No. Assessed	Proportion with MUAC<23cm	Proportion with MUAC <21cm	No. Assessed	Proportion with MUAC<18.5 cm
Mogadishu Town	350	3.2 (1.5-4.8)	1.3 (0. 2-2.3)	126	0.0
Mogadishu IDPs	616	9.7 (7.2-12.2)	2.2 (1.3-3.1)	196	1.0 (0.0-3.0)
Afgoye Town	566	7.1 (5.1-9.0)	3.2 (1. 8-4.5)	176	0.0

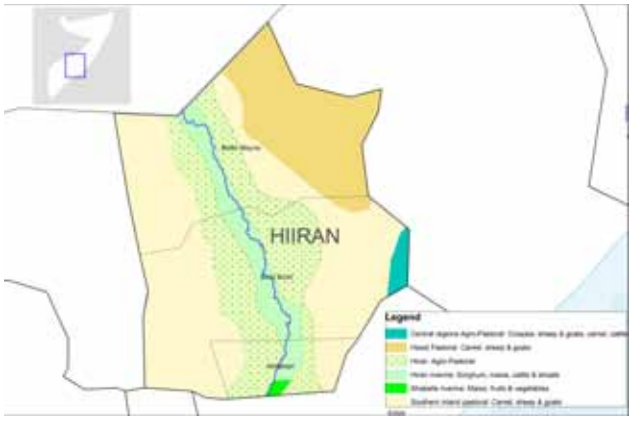
Table 14: Summary of Key Nutrition Findings in Mogadishu and Afgoye Towns, and Mogadishu IDPs

	Mogadishu Town December 2012 (N= 635 Boys 323; Girls 312)		Afgoye Town December 2012 (N= 946. Boys.463-Girls-483)		Mogadishu IDP December 2012 (N=900(Boys 499,Girls 491)	
Indicator	**Results percent**	**Outcome**	**Results percent**	**Outcome**	**Results percent**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	9.7 (7.1-13.2) 9.2 (5.9-14.0) 10.3 (6.7-15.4)	Alert	7.9 (5.9-10.9) 10.6 (6.9-15.8) 5.4 (4.6-6.3)	Alert	16.0 (12.8-19.8) 17.2 (13.1-22.2) 14.8 (11.119.5)	Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	1.6 (0.8-3.4 1.3 (0.5- 3.3) 2.0 (0.6- 6.0)	Acceptable	1.2 (0.6-2.3) 1.7 (0.7-4.0) 0.6 (0.4-0.9)	Acceptable	3.6 (2.4- 5.3) 4.2 (2.6- 6.6) 2.9 (1.6- 5.2	Serious
Mean WHZ (WHO, 2006)	0.45±1.18	Alert	-0.43±1.09	Alert	-0.75±1.17	Serious
Oedema	0	Acceptable	0.1	Very Critical	0.0	Acceptable
Global Acute Malnutrition (NCHS)	10.7 (8.0-14.1)	Serious	7.8(6.5-9.2)	**Alert**	15.7 (12.4-19.6	Critical
Severe Acute Malnutrition (NCHS)	2.2 (1.4- 3.6)	Acceptable	0.6(0.4-0.9)	Acceptable	2.9 (1.9- 4.4)	Alert
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	11.3 (8.3-14.4) 10.5 (6.5-14.5) 12.2 (7.6-16.8)	Very Critical	Very Critical	Serious	8.5 (6.3-10.6) 5.8 (3.6-8.0) 11.2 (7.7-14.7)	Critical
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	3.5 (2.0-4.8) 2.8 (1.1-4.5) 4.2 (1.6-6.7)	Very Critical	0.3 (0.2-0.4) 0.6 (0.4-0.9) 0.0 (0.0-0.0)	Acceptable	1.8 (0.9-2.7) 1.4 (0.4-2.4) 2.2 (0.8-3.7)	Critical
Stunting (HAZ<-2) Boys Girls	5.2 (4.0-6.8) 8.0 (6.8-9.5) 2.3 (1.5-3..3)	Acceptable	7.1 (4.1-11.9) 9.6 (4.9-18.2) 4.5 (3.0-6.7)	Acceptable	47.4 (40.4-54.4)	Critical
Underweight (WAZ<-2) Boys Girls	10.0 (8.3-11.9) 10.2 (6.9-15.0) 9.6 (7.2-12.8)	Acceptable	9.4 (7.8-11.4) 13.8 (11.1-17.0) 5.1 (4.5-5.9)	Acceptable	8.7 (5.5-11.8) 46.1 (37.7-54.4) 13.7 (8.9-18.5)	Very Critical
HIS Nutrition Trends (Jul –Dec 2012)	High (>20 percent and stable trend	Very Critical	Low(<10 percent) and stable trend	Acceptable	High (>20 percent) Proportion and stable trend	Very Critical
TFPs/SFPs Admission trends	Reduced numbers of admissions to SFPs (ACF. CONCERN & OXFOM	Serious	N/A		High and increasing number of admission	Very Critical
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.92(0.55-1.54	Very Critical	0.74 (0.49-1.12)	Critical	0.88 (0.60-1.29)	Serious
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.65(0.25-1.71)	Serious	1.43 (0.71-2.88)	Critical	2.04 (1.36-3.05)	Critical
Women Nutrition	**N=350**		**N= 566**		**N= 616**	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0.0 percent	Acceptable	0.0	Acceptable	1.0 (0.1-0.3)	Very Critical
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.3 (0.2-2.3)	Acceptable	3.2 (1.8-4.5)	Acceptable	2.2 (1.3-3.1)	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	3.2 (1.5-4.8)	Acceptable	7.1(5.1-9.0)	Acceptable	9.7 (7.2-12.2)	Acceptable
Food Security						
Proportion who reported to have consumed <4 food groups Male headed Female headed	N/A		N/A		N/A	
Household's Main Food Source Own production Purchase Food aid Borrowing	N/A		N/A		N/A	
Food security phase	Stressed		Stressed		Stressed	
Overall Situation Analysis	**Alert**		**Alert**		**Serious**	

4.5 HIRAN REGION

Hiran region comprises of three main livelihood groups: the Pastoral (Southern Inland and Hawd pastoral) covering Mataban and Mahas districts; and the agro-pastoral and Riverine livelihood systems, both of which cut across Beletweyne, Buloburti and Jalalaqsi districts. (Map 10). Like many other regions in South Central Somalia, Hiran has not escaped the effects of high intensity civil conflict, which has affected people's means of livelihood. Intermittent localised civil conflict, as well as the targeting of aid workers in the region, has continued to hinder humanitarian access.

Map 10: Hiran Livelihood Zones



Historical Overview - Post *Gu* 2012

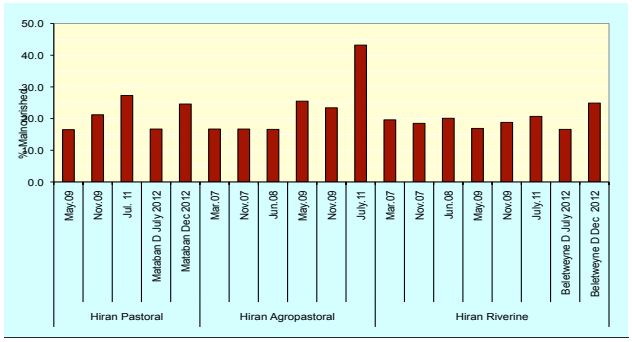
Food Security

The food security situation of Hiran region showed a mixed trend in the *Gu* 2012 season. Hawd livelihood zone of the region, remained in Stress, while Southern inland pastoral improved to Stress phase. The agro-pastoral livelihood was the worst affected and classified in Crisis phase. In addition, the riverine livelihood population, in rural areas were in Stress. The improvement in the pastoral livelihoods of the region was primarily attributable to average *Gu*' 2012 seasonal rainfall performances that resulted in improved water availability pasture and browse conditions. Subsequently, livestock body condition continued to improve, resulting in increased number of saleable animals with increased prices. In riverine livelihood zones where rainfall performances was similar to agropastoral zones, the poor wealth group was not able to cover high irrigation costs due to poor economical position and thus faced with poor crop production. However, they had some cereal stocks in few months and benefited cash crop production employment. Levels of social support such as *zakat* continued to improve in pastoral zones due to average seasonal performances while it indicated declined trend in agro-pastoral and riverine zones of the region as the result of poor rainfall performances.

Nutrition

In the *Gu* 2012 season, lack of access to conduct livelihood based nutrition surveys in the region persisted, however in July 2012, FSNAU and partners were able to conduct administrative based nutrition surveys in Beletweyne and Mataban districts of Hiran region which were accessible. The majority of the sampled clusters in Beletweyne district were riverine, while in Mataban district the clusters were predominantly pastoral. No surveys were undertaken in Buloburti and Jalaqsi districts, therefore no overall nutrition situation was reported for these two districts because of lack of adequate sufficient data**.**
Figure 21 shows trend of acute malnutrition in Hiran for 2007-2012.

Figure 21: Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema) in Hiran Region (2007- 2012)



Current Situation – Post *Deyr* 2012/13

Food Security

The food security situation of Hiran region has improved in this post-*Deyr* 2012/13. Hawd, Southern Inland Pastoral and the riverine livelihoods remains in **Stressed,** with further improvement from the last *Gu* 2012. The agro-pastoral livelihood is also classified in **Stressed** phase, indicating an improvement from **Crisis** phase in *Gu* 2012, with a decreasing number of affected people. The improvement in the different livelihood zones of the region is primarily attributable to average to good *Deyr* 2012/13 seasonal rainfall performance that has resulted in improved availability of water, pasture and browse. Subsequently, the livestock body condition continued to improve resulting in an increased number of saleable animals with a higher value. Accumulated debts continue to decline in the rural areas given the good seasonal performance for livestock and crop production. Generally, the herd sizes of livestock owned by poor households have increased in light of the three consecutive seasons of average seasonal performances in the pastoral zones of the region but current holding is still below baseline level.

Nutrition

In the **Post *Deyr* 2012/13** season, lack of access to conduct livelihood based nutrition surveys in the region persisted, however in December 2012, FSNAU and partners were able to conduct administrative based nutrition surveys in Beletweyne and Mataban districts of Hiran region which were accessible. The majority of the sampled clusters in Beletweyne district were riverine, while in Mataban district the clusters were predominantly pastoral. No surveys were undertaken in Buloburti and Jalaqsi districts, therefore no overall nutrition situation is reported for these two districts because of lack of sufficient adequate data.

A nutrition survey conducted in December 2012 in the agro-pastoral livelihood zone of Beletweyne district reported a GAM rate of **24.9** percent (16.4-35.9) and **11.1** (5.4-21.3) including five (0.8 percent) oedema cases.. These rates show a ***Very Critical*** nutrition situation, and a deterioration from the *Critical* nutrition situation reported in the July 2012, when GAM and SAM rates reported were **16.6** percent (11.7-22.9) and **3.3** percent (1.7-6.3). A higher proportion of assessed boys 25.5 (17.0-36.4)) are acutely malnourished compared to girls 24.3 (15.1-36.7) but this difference is not statistically significant. The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.20** (0.08-0.51) and **0.83** (0.32-2.12) indicate a *acceptable* situation according to UNICEF classification, an improvement from *Serious* and *Critical levels* to the respective CDR and U5DR of 0.80 (0.53-1.22) and 2.32 (1.30-4.11) reported in July 2012 (Table 16).

The overall morbidity was very high with more than half (53.3 percent) of the assessed children falling ill in the two weeks prior to the survey, with 20.4 percent suffering from diarrhoea. High morbidity levels predisposes the children to acute malnutrition. The high morbidity rates coupled with the extremely low immunization status measles 8.7 percent and vitamin A supplementation of 11.2 percent increase the children's vulnerability to malnutrition and should be addressed urgently.

The Mataban district nutrition survey also conducted in December 2012 reported similar GAM and SAM rates of **24.6** (19.1-31.1**)** and **7.1** (4.7-10.5) respectively. These rates show a ***Very Critical*** nutrition situation, and a deterioration from the *Critical* nutrition situation reported in the July 2012, when GAM and SAM rates reported were **16.7** percent (13.2-20.8) and **4.2** percent (2.3-7.3). A higher proportion of assessed boys 26.5 percent (19.8-34.6) are acutely malnourished compared to girls 22.8 percent (16.6 - 30.6), although the difference is not statistically significant.

The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.99** (0.30-1.00) and **1.44** (0.58-3.56**)** indicate a *Serious* situation according to UNICEF classification, similar to the respective CDR and an improvement U5DR of **0.99** (0.70-1.41) and **4.50** (3.02-6.64) reported in July 2012.The area has extremely limited health facilities and services, with the proportion of children immunized against measles and having received vitamin A supplementation is very low at 15.1 percent and 11.8 percent respectively. The overall morbidity is high with 50.3 percent of the assessed children falling ill in the two weeks prior to the survey. The integrated nutrition situation analysis indicates a ***Very Critical*** nutrition situation, an deterioration from the *Critical*, situation reported among the pastoral population in the preceding season. The high morbidity rates and extremely low immunization rates are alarming and should be immediately addressed.

The poor nutrition situation in Hiran region is mainly attributed to the lack of access to health facilities (high morbidity rates, low immunization coverage), in addition to the impacts of chronic food insecurity (especially among the agro-pastoral population) and civil insecurity in the region. Although the projected outlook of the nutrition situation is likely to improve due to the anticipated increase in milk availability/production and the current positive food security indicators in the region, unless appropriate health interventions are accessible in the region to control the high morbidity levels reported, the situation may not improve.

MATERNAL NUTRITION STATUS IN HIRAN

Acute malnutrition rates for pregnant and lactating women (MUAC <23.0 cm) in Hiran are elevated with 20 percent in Beletwyne district and 33.6 percent in Mataban (Table 15). Continued efforts of humanitarian assistance in activities like wet-feeding, supplementary and therapeutic programmes remain essential.

Table 15: Proportion of malnourished women in Hiran Region

Surveyed population	Pregnant and/or Lactating women			Non-pregnant/lactating women	
	No. Assessed	Proportion with MUAC<23cm	Proportion with MUAC <21cm	No. Assessed	Proportion with MUAC<18.5 cm
Beletweyne District	454	20.0 (15.0-25.1)	4.0 (1.7-6.2)	151	0.2 (0.2-0.7)
Mataban District	303	33.6 (29.9-43.4)	18.2 (13.7-22.5)	83	0.3 (0.4-1.0)

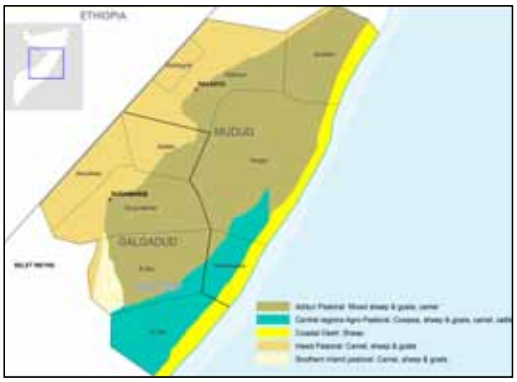
Table 16: Summary of Key Nutrition Findings, Hiran Hiran Region

	Beledweyn (N=: 599 Boys 303; Girls 296)		Mataban (N=: 549 (Boys 267; Girls 282)	
Indicator	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**
Child Nutrition Status				
Global Acute Malnutrition (WHO 2006) Boys Girls	**24.9** (16.4-35.9) 25.5 (17.0-36.4 95l) 24.3 (15.1-36.7)	Very Critical	**24.6** (19.1-31.1) 26.5 (19.8-34.6) 22.8 (16.6-30.6)	Very Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	**11.1** (5.4-21.3) 11.7 (5.8-22.2) 10.4 (4.8-21.0)	Very Critical	**7.1** (4.7-10.5) 7.3 (4.2-12.4) 6.9 (4.3-10.8)	Very Critical
Mean WHZ (WHO, 2006)	-1.17±1.24	Very Critical	-1.27±1.14	Very Critical
Global Acute Malnutrition (NCHS)	**23.9** (15.3-35.4)	Very Critical	**24.4** (19.3-30.4)	Very Critical
Severe Acute Malnutrition (NCHS)	**7.1** (2.9-16.6)	Very Critical	**3.9** (2.4- 6.1)	**Serious**
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	**23.0** (13.8-32.2) 23.4 (15.3-31.5) 22.6 (11.5-33.8)	Very Critical	**20.8** (13.4-28.1) 19.5 (11.0-28.0) 22.0 (14.3-29.6)	Very Critical
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	**6.0** (2.8-9.2) 5.3 (2.4-8.1) 6.8 (2.2-11.3)	Very Critical	**4.0** (2.4-5.6) 2.2 (0.5-4.0) 5.7 (3.0-8.4)	Very Critical
Stunting (HAZ<-2) Boys Girls	**28.0** (21.8-35.0) 32.4 (23.9-42.2) 23.7 (17.6-31.1)	Very Critical	**13.7** (11.0-17.0) 15.4 (11.4-20.6) 12.0 (8.1-17.5)	Acceptable
Underweight (WAZ<-2) Boys Girls	**33.3** (23.9-44.2) 33.8 (24.1-45.1) 32.8 (22.9-44.4)	Very Critical	19.8 (15.9-24.5) 24.2 (18.7-30.8) 15.6 (11.1-21.5)	Alert
HIS Nutrition Trends(Jan – Jun 2012)	High (>20 percent) and increasing trend	Very Critical	Not available due to closed health facilities	--
TFPs/SFPs Admission trends				
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak- None Morbidity -53.3 Boys -54.1 Girls -52.3 ; Diarrhoea -20.4 Boys -19.4;Girls-21.2 Pneumonia -18.3 Boys-19.8 Girls 16.8 Measles- 0.2 Boys-0.3 Girls -0.0	Very Critical	Outbreak–None Morbidity-50.3-Boys 49.4-Girls-51.0 Diarrhoea -7.7-Boys 8.9;Girls-6.3 Pneumonia-10.4 Boys-8.6-Girls-12.0 Measles-0.4-Boys – 0.0-Girls-0.7	Very Critical
Immunization Status	Vitamin A-11.2 Boys-9.9; Girls-12.5 Measles Vacc- 8.7 Boys-8.5; Girls-8.7 Polio-11.4; Boys-10.5;Girls-12.1	Very Critical	VitaminA-15.1 Boys-15.7-Girls-14.5 Measles Vacc- 11.8 Boys-12.3;Girls-11.3 Polio-31.0; Boys-29.2; Girls-32.6	Very Critical
Death Rates				
Crude deaths per 10,000 per day (retrospective for 90 days)	0.20 (0.08-0.51)	Acceptable	0.99 (0.30-1.00)	**Serious**
Under five deaths per 10,000 per day (retrospective for 90 days)	0.83 (0.32-2.12)	Acceptable	1.44 (0.58-3.56)	**Serious**
Women Nutrition & Immunization Status	**N=454**		**N= 303**	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0.2 (-0.2-0.7)	Acceptable	0.3 (-0.4-1.0)	Acceptable
Proportion of acutely malnourished non pregnant/lactating women (MUAC <21.0cm)	4.0 (1.7-6.2)	Acceptable	18.2 (13.7-22.5)	Critical
Proportion of acutely malnourished pregnant/lactating women (MUAC <23.0)	20.0 (15.0-25.1)	Alert	33.6 (29.9-43.4)	Alert
Food Security				
Food security phase	Stressed	**Serious**	Stressed	**Serious**
Overall Situation Analysis		Very Critical		Very Critical

4.6 CENTRAL REGIONS

Central Somalia comprises of two regions, Galgadud and South Mudug. There are four main livelihood zones, namely the purely pastoral Addun and Hawd; the fishing and pastoral Coastal *Deeh* and the agro-pastoral Cowpea Belt. The Hawd and Addun pastoral livelihoods extend across Galgadud, Mudug and southern Nugal regions, while the Coastal *Deeh* extends from the coast of Shabelle through Galgadud up to Allula district in Bari region, cutting across the South, Central and Northeast zones (Map 11). This section will discuss the nutrition situation of the Hawd and Addun pastoral livelihood zones together with the other livelihood zones in the Central zone.

Map 11: Central regions Livelihood Zones



Historical Overview - Post *Gu* 2012

Food Security:

The FSNAU Post *Gu* 2012 analysis classified the Addun pastoral population of Central regions of Somalia as *Stressed,* indicating an improvement from the previous *Crisis* phase in the Post *Deyr* 2011/12 analysis. The Hawd pastoral livelihood sustained the *Stressed* phase since *Deyr* 2011/12. The food security situation was however, sustained at *Crisis* phase in the Cowpea agro-pastoral livelihood. Though below normal, the *Gu* 2012 rains followed a good rainfall season in the cowpea belt in the *Deyr* 2011/12, and cumulatively contributed to some improvements in livestock performance, reduced cereal prices and positive goat/cereal ToT. The Coastal *Deeh* of central regions however, remained in *Emergency* phase due to the significant loss of livestock in the past, caused by the previous successive poor rainfall seasons, in addition to wide spread civil insecurity, limited humanitarian access and trade disruptions. Humanitarian access remains limited, aggravating the fragile food security and nutrition situation in the region further in Haradhere, Eldhere, and Elbur districts.

Nutrition:

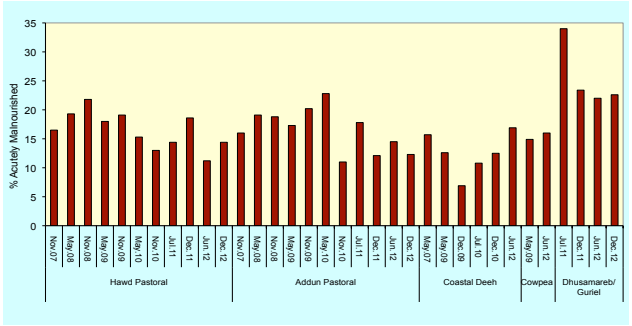
The Post *Gu 2*012 integrated nutrition analysis depicted a mixed picture of either sustained or improved nutrition situation in the Central livelihood zones compared to the Post *Deyr* 2011/12. The nutrition situation improved from *Critical* to *Serious* among the Hawd pastoral livelihood population. The improvement in nutrition situation in the Hawd was attributed to favourable food security indicators including increased access to milk and improved dietary diversity. Besides, there was no disease outbreak in the area unlike in *Deyr* 2011/12 when AWD/cholera outbreak was the main aggravating factor in the nutrition situation. The populations of the Addun pastoral livelihood showed a sustained *Serious* nutrition situation since *Deyr* 2011/12. The stable nutrition situation in Addun was linked to improved access to milk, and dietary diversity, social support, and humanitarian programmes (health services, supplementary feeding, and WASH) in the region. Assessments conducted in the Cowpea agro-pastoral and Coastal *Deeh* pastoral livelihoods of Central Somalia showed *likely Critical* nutrition situation and a sustained or improvement from the respective *Critical* and *Very Critical* situations reported in the *Gu* 2011. No assessment were carried out in the *Deyr* 2011/12 nutrition analysis in these two livelihoods due to civil insecurity challenges. The Dhusamareb IDPs were classified in a *Very Critical* nutrition phase, a situation sustained since post *Gu* 2011. Figure 22 shows the historical trends of acute malnutrition in different livelihood groups of central Somalia.

Current Situation- Post *Deyr* 2012/13

Food Security

The FSNAU Post *Deyr* 2012/13 analysis classifies the Hawd and Addun pastoral populations of Central regions of Somalia as **Stressed**, indicating a sustained situation since *Deyr* 2011/12 and *Gu* 2012 in Hawd and Addun respectively. The situation has been improved to **Stressed** phase in the Cowpea agro-pastoral livelihood from the **Crisis** phase in *Gu* 2012. The normal *Deyr* 2012/13 rains have contributed to some improvements in livestock performance, average cow pea production with reduced cereal prices and positive goat/cereal ToT, since the *Deyr* 2011/12 in the cowpea belt. The Coastal *Deeh* of central regions has also improved from persistent **Emergency** phase in the previous three seasons to **Crisis** this season. The coastal area has average to good pasture and water conditions from the *Deyr* 2012/13 rainfall, and records improved ToT and income from livestock sales. However, low milk production, indebtedness and presence of destitute, though reduced in number, are still aggravating the situation. The population in humanitarian crisis has been

Figure 22: Trend in Levels of acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Central Regions, 2007-2012



gradually decreasing and recovering from the significant loss of livestock in the past, caused by the previous successive poor rainfall seasons, in addition to wide spread civil insecurity, limited humanitarian access and trade disruptions. Livestock holding is still limited and far below the baseline. Humanitarian access remains limited, aggravating the fragile food security and nutrition situation in the region.

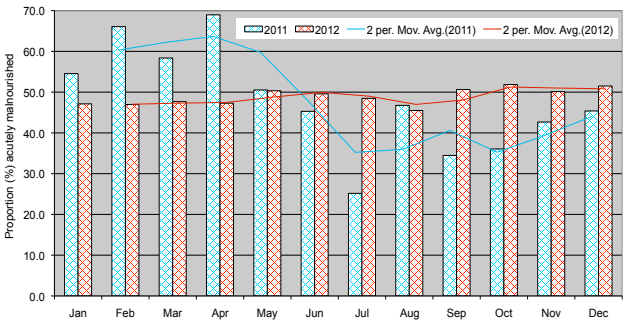
Nutrition

The current Post *Deyr* 2012/13 integrated nutrition analysis shows a general improvement or sustained nutrition situation in the Central livelihood zones compared to the Post *Gu* 2012. The nutrition situation improved from likely *Critical* to *likely* ***Serious*** among the central agro-pastoral (Cowpea Belt) population, due to improved dietary diversity and access to crop and livestock products. The populations of the Hawd and Addun pastoral livelihoods have shown a sustained ***Serious*** nutrition situation since *Gu* 2012. The stable nutrition situation in the Hawd and Addun is linked to improved access to milk, and dietary diversity, social support, and humanitarian programmes (health services, supplementary feeding, and water, sanitation and hygiene) in accessible areas of the region. However, the nutrition situation in Coastal *Deeh* pastoral livelihoods of Central Somalia show a sustained *likely* ***Critical*** nutrition situation since *Gu* 2012. The Dhusamareb/Guriel IDPs are in a sustained ***Very Critical*** nutrition phase since post *Gu* 2011.

Gender*:* In nutrition assessments conducted in the Galgadud and Mudug regions of Somalia, a higher proportion of boys than girls were acutely malnourished among the Hawd pastoral population ($p<0.05$). However, there was no statistically significant difference ($Pr<0.75$) among the Addun pastoralists and Dhusamareb IDPs. Other forms of malnutrition followed the same pattern, reporting a higher proportion of malnourished boys than girls. However, other child data such as dietary diversity, illness, feeding practices, and immunization status, did not show any clear differences by gender. Analysis of household data by gender of who controls household resources did not find any significant difference nor clear trend in the proportion with access to sanitation facilities, access to safe drinking water nor consumption of a diversified diet. The gender disaggregated data by sex of the assessed children is summarized in Table 17.

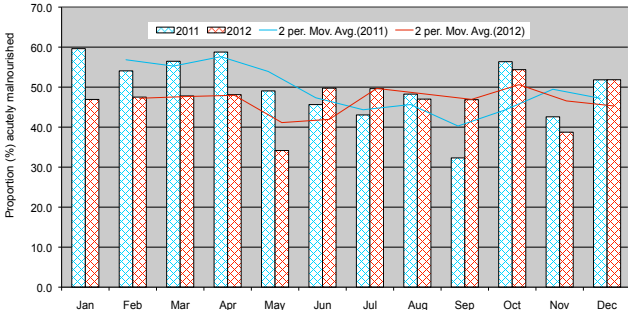
Hawd and Addun pastoral livelihoods of Central and Northeast regions

Figure 23: HIS Malnutrition Trends in Hawd L/Z of Central Areas MCHs (2011-2012)



The integrated analysis of data from nutrition assessments conducted in December 2012 among the populations of Hawd and Addun Livelihood zones of Northeast (Nugal) and Central (Mudug and Galgadud), and the health and feeding facilities' information shows a sustained ***Serious*** nutrition situation in the two pastoral livelihoods. The nutrition assessment conducted in December 2012 in the Hawd pastoral livelihood zone reported a GAM rate of **14.4** percent (11.2-18.3) and a SAM rate of **1.9** (1.1-3.4). No oedema was reported (Table 17). Significantly more boys (17.4 percent) than girls (11.0 percent) were acutely malnourished (Relative Ration RR=1.55, 95 percent CI: 1.12-2.14). The results are similar ($Pr<75$ percent) to the July 2012 findings when GAM of **11.2** percent (8.9-14.0) and a SAM rate of **1.8** percent (0.9 – 3.4) were reported. The retrospective crude (CDR) and under-five death (U5DR) rates of **0.37** (0.15-0.90) and **1.03** (0.15-1.47) respectively indicate *Acceptable* and *Alert* levels according to UNICEF classification and indicates no significant change from the respective rates (CDR and U5DR) of 0.49 (0.28-0.84) and 0.86 (0.30-2.41) in *Gu* 2012. The deaths are mainly attributed to diarrheal diseases and suspected measles. No disease outbreak was reported, although morbidity (37 percent) remained high among the assessed children. The HIS data from health facilities in the Hawd pastoral livelihood zone (Figure 23) show high (>30 percent) and stable trends (Jul-Dec 2012).

Figure 24: HIS Malnutrition Trends in Addun L/Z of Central Areas MCHs (2011-2012)



In the December 2012 Addun assessment, the GAM rate of **12.3** percent (9.5-16.0) and the SAM rate of **3.1** (1.9-5.2) with three (0.5 percent) oedema case reported, indicating a sustained ***Serious*** nutrition situation and no change from the respective GAM and SAM rates of **14.5** percent (11.1-18.9) and **2.4** percent (1.3 – 4.3) recorded in July 2012. There are no significant differences in the level of acute malnutrition by gender, with 13.8 percent of assessed boys and 11.6 percent girls acutely malnourished. The retrospective CDR and U5DR rates are **0.13** (0.05-0.34) and **0.46** (0.15-1.47) both indicating *Acceptable* levels according to UNICEF classification, and no change from CDR and U5DR rates are 0.48 (0.25-0.92) and 0.58 (0.19–1.76) reported in the July 2012 assessment. The deaths are mainly attributed to diarrhoea and are consistent with the seasonal morbidity levels from the health facilities. Data from health facilities in the Addun pastoral livelihood zone of Central Somalia reported a high (>30 percent) and fluctuating proportion of acutely malnourished children (Figure 24)

Limited humanitarian interventions in the form of targeted interventions are ongoing in parts of the Hawd and Addun livelihood areas and may have assisted to mitigate the poor nutrition situation in Central regions. The support needs to be continued and expanded to the villages of Cow pea Belt and Coastal *Deeh* livelihood.

Dhusamareb/Guriel IDPs

In December 2012, FSNAU conducted an exhaustive survey among IDPs in Dhusamareb/Guriel, who have been displaced from South Somalia or are pastoral destitute from the Central pastoral livelihood zones. The GAM and SAM rates of **22.6** percent and **5.8** percent were reported respectively, indicating a ***Very Critical*** nutrition situation. These findings are similar to the Post *Gu* 2012 results when respective GAM and SAM rates of **22.0** percent (16.1-29.3) and **5.0** percent (2.5-9.8) were reported. Most of the IDPs in Dhusamareb are integrated into the host community, many others have since returned of Mogadishu, and most of the assessed population were from 11 settlements in Guriel. Humanitarian interventions especially health care services are limited in this population and despite the social support and improving food security situation in the host and surrounding communities, the nutrition situation has remained ***Very Critical***. The IDPs remain vulnerable to malnutrition, food insecurity and other health challenges, current interventions are include SFP and OTP programs in Dhusamareeb town and only SFP in Guriceel which require continued and improved interventions.

The key nutrition evidence indicators of the analysis on the nutrition phase classification are provided in Table12.

Table 17: Summary of Key Nutrition Findings in Hawd, Addun and Dhusamareeb IDPs Central regions Post *Deyr*, 2012/13

	Hawd (N=686: 363 boys; 323 girls)		**Addun (N=649:** (347boys;302 girls)		**Dusamareb/Guriel IDPs (N=571:** 280 boys; 286 girls)	
Indicator	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**14.4** (11.2-18.3) 17.4 (12.8-23.3) 11.0 (8.1-14.7)	Serious	**12.3** (9.5-16.0) 12.9 (9.1-18.0) 11.7(8.3-16.3)	Serious	22.6 23.2 22.0	Very Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	**1.9** (1.1 – 3.3) 2.8 (1.5-5.3) 0.9 (0.3-3.0)	Acceptable	**3.1** (1.9-5.2) 3.2 (1.6-6.3) 3.0 (1.5-6.1)	Alert	5.8 7.9 3.8	Critical
Mean WHZ (WHO, 2006)	-0.79±1.08	Serious	-0.76±1.06	Serious	-1.14	Critical
Global Acute Malnutrition (NCHS)	13.0 (10.2.-16.3)	Serious	11.9 (9.0-15.6)	Serious	20.9	Very Critical
Severe Acute Malnutrition (NCHS)	1.3 (0.5 – 3.2)	Acceptable	1.6(0.8-3.0)	Acceptable	2.5	Alert
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	7.4 (5.2-10.6) 6.9 (4.4-10.5) 8.1 (5.2-12.2)	Serious	5.1(3.6-7.2) 4.3 (2.5-7.5) 6.0 (3.9-9.0)	Serious	15.8 12.8 18.7	Very Critical
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	1.6 (0.6-4.3) 1.7 (0.4-6.5) 1.6 (0.7-3.5)	Critical	0.9 (0.4-2.3) 0.6 (0.1-2.4) 1.3 (0.4-4.5)	Alert	1.4 1.4 1.4	Serious
Stunting (HAZ<-2) Boys Girls	13.7 (10.0-18.6) 14.9 (11.3-19.5) 12.3 (6.9-21.1)	Acceptable	6.1 (3.8-9.5) 7.0 (4.4-10.8) 5.0 (2.3-10.5)	Acceptable	15.7 16.7 14.7	Acceptable
Underweight (WAZ<-2) Boys Girls	13.5 (10.3-17.5) 16.6 (12.9-21.0) 10.0 (6.3-15.4)	Alert	10.4 (7.8-13.7) 12.1 (8.5-16.9) 8.4 (5.4-12.9	Alert	20.4 19.1 21.6	Serious
HIS Nutrition Trends(Jul – Dec 2011)	High proportion but fluctuating trends	Serious	High (15 percent) but decreasing	Critical	N/A	N/A
Proportion of acutely malnourished registered in SFs Boys Girls	5.3 5.7 4.9	Very Critical	4.1 4.0 4.3	Very Critical	27.9 26.3 25.6	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak–None **Morbidity**– 37.0 Boys– 38.2 Girls -35.6 **Diarrhea** 13.1 Boys-12.4 Girls-13.9 **Pneum** 5.8 Boys- 6.3 Girls-5.8 **Fever** 24.1 Boys-25.3 Girls-22.6 **Measles** 6.9 Boys-7.2 Girls-6.5		Outbreak–None **Morbidity**-41.6 Boys – 43.8 Girls -39.0 **Diarrhoea** -12.2 Boys 13.8 Girls- 10.2 **Pneum** – 9.9 Boys-9.7 Girls-9.9 **Fever**-35.1 Boys-35.4 Girls-34.7 **Measles**-3.1 Boys-4.0 Girls-1.9		Outbreak -None **Morbidity**–37.3 Boys- 36.1 Girls- 38.4 **Diarrhea -11.4** Boys-11.3 Girls-11.4 **Pneum-10.5** Boys-9.2 Girls-11.7 **Fever-14.7** Boys -15.2 Girls-14.1 **Measles-0.7** Boys-0.3 Girls-1.3	

Table 17: Summary of Key Nutrition Findings in Hawd, Addun and Dhusamareeb IDPs Central regions Post Deyr, 2012/13 (*Continued*)

	Hawd (N=686: 363 boys; 323 girls)		Addun (N=649: (347boys;302 girls)		Dusamareb/Guriel IDPs (N=571: 280 boys; 286 girls)	
Indicator	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**
Immunization Status	**Vitamin A**-72.7 Boys – 75.1 Girls – 69.9 **Measles** – 69.2 Boys – 71.0 Girls – 61.1		**Vitamin A** –59.9 Boys – 59.0 Girls -60.9 **Measles** – 57.1 Boys – 56.4 Girls -57.9		**Vitamin A**-55.9 Boys-52.8 Girls-58.8 Measles-12.1 Boys-13.1 Girls-11.0	N/A
Infant and Young child feeding	**N= 245**		**N=233**		-	
Proportion still breastfeeding Boys - Girls -	33.1 31.5 34.7	Serious	33.5 38.5 27.3	Serious	N/A	N/A
Proportion meeting recommended feeding frequencies Boys - Girls -	45.3 43.8 46.9	Critical	41.2 44.0 37.7	Critical	N/A	N/A
Proportion who reported to have consumed <4 food groups Boys Girls -	95.9 96.1 95.6	Very Critical	94.4 93.7 95.2	Very Critical	N/A	N/A
Death Rates						
Crude death per 10,000 per day (retrospective for 90 days)	0.37 (0.15-0.90)	Acceptable	0.13 (0.05-0.34)	Acceptable	0.85	Critical
Under five deaths per 10,000 per day (retrospective for 90 days)	1.03 (0.33–3.18)	Serious	0.46 (0.15–1.47)	Acceptable	1.90	Serious
Women Nutrition & Immunization Status	N=386		N=372		270	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	1.0 (0.0-2.9)	Acceptable	0.5 (0.0-1.4)	Acceptable	24.4 11.1	Very Critical
Proportion of acutely malnourished pregnant/lactating women (MUAC≤21.0cm)	4.3 (1.1-7.5)	Acceptable	3.8 (0.3-7.3)	Acceptable	N/A	N/A
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	19.4 (12.2-26.4)	Alert	22.0 (12.8-31.2)	Serious	43.0 19.9	-
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	22.8 11.9 21.8 43.5	Critical	32.8 18.3 19.4 29.6	Critical	N/A	-
Public Health Indicators	**N=320**		**N= 316**		**N= 321**	
Household with access to sanitation facilities Male headed Female headed	62.5 61.6 67.3	Critical	48.8 48.5 50.0	Very Critical	N/A	-
Household with access to safe water Male headed Female headed	32.2 32.8 28.5	Critical	18.8 21.2 9.3	Very Critical	N/A	-
Food Security	**N=320**		**N=316**			
Proportion who reported to have consumed <4 food groups Male headed Female headed	3.8 3.6 4.0	Acceptable	2.5 2.4 4.8	Acceptable	N/A	-
Household's Main Food Source Own production Purchase: Borrowing Food aid	1.7 96.9 0.7 0.7	Very Critical	0.0 92.6 2.3 4.1	Very Critical	N/A	-
Food security phase	**Stressed**	**Stressed**	**Stressed**		HE	
Overall Situation Analysis	**N/A**		N/A		**N/A**	

Central Agro-pastoral (Cow Pea Belt) and Coastal *Deeh* pastoral livelihoods of Central Somalia

The integrated analysis of data from MUAC assessments conducted in December 2012 among the populations of Cow pea belt and Coastal *Deeh* of Central (South Mudug and Galgadud) regions shows an improvement from likely *Critical* to *likely* ***Serious*** phase in the cow pea belt and a sustained *likely* ***Critical*** in the Coastal *Deeh* livelihood.

The Cow Pea (central agro-pastoral) livelihood assessment reported acute malnutrition (MUAC<12.5/oedema) and severe acute malnutrition (MUAC<11.5/oedema) rates of 8.0 percent (5.4-11.7) and 0.9 percent (0.3-3.3) respectively, indicating likely ***Serious*** situation and an improvement from the *likely Critical* rates observed in *Gu* 2012 when a GAM rate of **16.0** percent was reported. Among the assessed population in Coastal *Deeh*, the acute malnutrition (MUAC<12.5/oedema) and severe acute malnutrition (MUAC<11.5/oedema) rates of 10.1 percent and 2.2 percent respectively were reported, indicating a *likely* ***Critical*** situation, similar to the situation in *Gu* 2012 when a GAM rate of 16.9 percent was reported. The findings are summarized in Table 18.

Table 18 Summary of Key Nutrition Findings in Coastal Deeh and Cowpea Central regions Post *Deyr* 2012/13

	Cowpea belt N=424		**Coastal *Deeh* N=358**	
Indicator	**Results (percent)**	**Outcome**	**Results (percent)**	**Outcome**
Child Nutrition Status				
Proportion with MUAC (<12.5 cm or oedema) Boys Girls	8.0 (5.4-11.7) 9.2 (5.6-14.6) 6.8 (3.7-12.1)	Serious	10.1 (6.5-15.1) 8.8 (5.2-14.5) 11.4 (6.7-	Critical
Mean MUAC (mm)	142.1±14.6	-	140.8±12.9	-
Proportion with MUAC (<11.5 cm or oedema) Boys Girls	0.9 (0.3-3.3) 1.4 (0.3-6.2) 0.5 (0.0-5.2)	Alert	2.2 (0.7-6.8) 1.6 (0.3-8.7) 2.8 (0.7-10.9)	Critical
HIS Nutrition Trends(Jul – Dec 2012)	N/A		N/A	
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak–None Morbidity-42.0 Diarrhoea -11.1 Pneumonia-9.4 Fever-20.0 Measles-8.3		Outbreak–None Morbidity–14.2 Diarrhoea - Pneumonia 10.6 Fever - Measles- 0.3	
Immunization Status	Vitamin A –24.3 Measles – 17.2 Polio-24.5	-	Vitamin A-24.9 Measles – 19.6 Polio -26.0	
Infant and Young child feeding	N/A		N/A	
Death Rates				
Crude deaths per 10 000 per day (retrospective for 90 days)	0.34 (0.16-0.72)	Acceptable	0.27 (0.08-0.99)	Acceptable
Under five deaths per 10 000 per day (retrospective for 90 days)	1.21 (0.54-2.68)	Alert	0.55 (0.10–2.84)	Acceptable
Overall Situation Analysis	***Likely Serious***		***Likely Critical***	

4.7 NORTHEAST REGIONS

Map 12: Northeast Livelihood Zones

The Northeast regions are predominately pastoral with seven livelihood zones namely: the Hawd, Addun, Coastal *Deeh*, East Golis, Karkaar/Dharoor Valley, Nugal valley and Sool Plateau. The Addun cuts across the Northeast and Central regions and the Hawd cuts across the Northeast, Northwest and Central regions and the East Golis, Sool and Nugal valley livelihoods cut across the Northeast and Northwest regions. (Map 12).

Historical Overview – Post *Gu* 2012

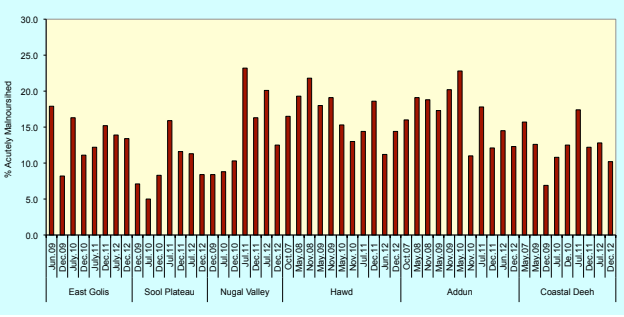
Food Security

The *Gu* 2012 integrated food security analysis classified the East Golis/ Karkaar/Dharoor valley, the Hawd and Addun livelihood zones of Nugal and northern Mudug regions in sustained Stressed phase. The Sool plateau and Nugal Valley livelihood zones of Bari and Nugal regions were also classified in Stressed phase, indicating an improvement from the *Crisis* phase in *Deyr* 2011/12 . The upper parts of Coastal *Deeh* livelihood zone of Bari region (Alluula and Iskushuban) was classified in a sustained Emergency since *Deyr* 2010/11. However, the lower parts of Coastal *Deeh* (Bandar beyla, Eyl and Jarriban) improved to Crisis from Emergency in *Deyr* 2011/12 . Food security improvements in the Sool plateau and Nugal Valley livelihood zones were attributed to a combination of factors such as improved access to milk and strengthened purchasing power resulting from increased goat to rice ToT, and less restricted humanitarian access in the northeast regions. The lower part of Coastal *Deeh* (Bandar beyla, Eyl and Jarriban) also showed improvement in goat/rice ToT, and increased milk production. However, limited (below baseline) livestock holding, low fishing activities, poor milk production in most parts of the Coastal *Deeh* livelihood and presence of pastoral destitute aggravated the food security situation. The situation was projected to improve in the upper part of the livelihood in the following six months due to anticipated improvements in livestock body condition and sales, following the good rainfall prospects for the area and a reduction in the international antipiracy activities opening up fishing opportunities. However, low kidding/calving and associated milk production was expected for all species due to low conception rates in the current season.

Nutrition

The Post *Gu* 2012 nutrition situation depicted a mixed picture in the nutrition situation in the livelihood zones compared to the *Deyr* 2011/12 season (Figure 25). The nutrition situation improved in the populations of East Golis and Hawd livelihoods, from Critical in *Deyr* 2011/12 to *Serious.* The nutrition situation in Sool, Addun and Coastal *Deeh* were classified in a sustained *Serious* phase. However, the nutrition situation deteriorated among the populations of Nugal Valley to *Very* Critical from Critical in *Deyr* 2011/12 . The situation in Nugal valley followed a seasonal pattern of improvements in *Deyr* and deteriorations in *Gu*, having improved from Critical in *Deyr* 2011/12 and deteriorated back to the *Very* Critical phase reported in *Gu* 2011. A measles outbreak reported in parts of the western districts of Nugal Valley largely contributed to the worsened situation, despite the positive food security indicators. The improvements in East Golis and Hawd were linked to improved milk access, dietary diversity and humanitarian intervention. The WHO/ MoH had reported AWD and cholera outbreaks in the Hawd areas of Galkayo and Adaado districts that aggravated the situation in *Deyr* 2011/12, however, this was controlled and there was no disease outbreak reported in the livelihood zone in *Gu* 2012. Consistent with historical data on nutrition surveys conducted among the IDPs in the northeast region, which highlights the chronic nutritional vulnerabilities, the nutrition situation improved in Bossaso and Galkayo from *Very* Critical to Critical level, and sustained Critical and *Very Critical* levels in Garowe and Qardho respectively. The results are consistent with historical data on nutrition surveys conducted among the IDPs in the northeast region, which highlights the chronic nutritional vulnerabilities.

Figure 25: Trends in Levels of acute malnutrition (WHZ<-2 or oedema, WHO 2006) Northeast Regions, (2009-2012)



Current Situation

Food Security

The current FSNAU Post *Deyr* 2012/13 integrated food security analysis has classified the East Golis/ Karkaar/Dharoor valley in **Stressed** phase, sustained from *Gu* 2012. The Sool Plateau and Nugal valley livelihood zones of Bari and Nugal regions also remain in **Stressed** phase. The Coastal *Deeh* livelihood zone has improved from Emergency (in the upper

part) and Crisis (in the lower part) in *Gu* 2012 to **Stressed** phase, while Hawd and Addun pastoral livelihoods in Nugal and northern Mudug regions have also sustained **Stressed** phase from *Gu* 2012. Food security improvements in the Golis, Hawd and Addun livelihood zones are attributed to a combination of factors such as the impact of good *Deyr* 2012/13 rainfall leading to improved pasture and water conditions, improved income from frankincense sales/export (East Golis) and livestock trade during *Hajj*, increased income from livestock sales, improved terms of trade, strengthened purchasing power resulting from increased goat to rice ToT, and humanitarian access in the northeast regions. However, the huge in-migration in Sool Plateau livelihood of Bari and Nugal regions would result an early depletions of water and pasture resources, and together with the impact of two cyclones (Murjan and Tropical 4) in Coastal *Deeh*and Sool Plateau livelihoods of Bari and Nugal regions are aggravating factors for food security situation.

Nutrition

The Post *Deyr* 2012/13 nutrition situation shows either sustained or general improvement in the nutrition situation in all of the livelihood zones compared to the *Gu* 2012 season. The nutrition situation has improved in the populations of Sool Plateau, from *Serious* to ***Alert*** and from *Very Critical* in *Gu* 2012 to ***Serious*** in the Nugal valley livelihood zone in the current season.

The nutrition situation is in sustained ***Serious*** phase in the remaining livelihood zones of East Golis, Hawd, Addun and Coastal *Deeh*. The improvements or sustenance are due to the improved food security situation in all the livelihoods with improved milk access and dietary diversity in all the livelihood zones. The nutrition situation has also improved among Garowe IDPs from the *Critical* phase in *Gu* 2012 to ***Serious***, but sustained a ***Very Critical*** situation in Qardho and a ***Critical*** phase in Galkayo IDPs while Bossaso IDPs have deteriorated from *Critical* in *Gu* 2012 to ***Very Critical*** in this season.

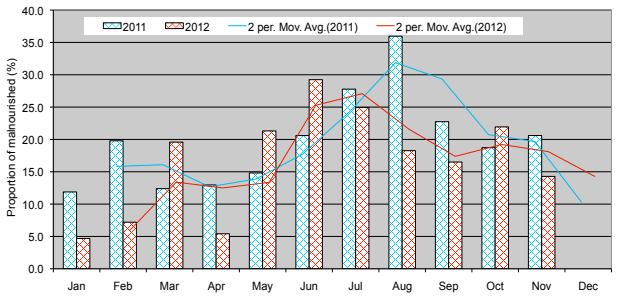
Gender*:* Analysis of findings from the nutrition assessments conducted in the northeast regions of Somalia generally indicates a higher proportion of boys than girls as acutely malnourished (WHZ<-2 or oedema). Conversely, a higher proportion of girls than boy were acutely malnourished based on MUAC (< 125 mm or oedema). However, these differences were not statistically significant (Pr<0.75), except for Bossaso IDPs. Other child data such as dietary diversity, illness, feeding practices, and immunization status, do not show any clear differences by gender. The gender disaggregated data by sex of the assessed children per livelihood is summarized on Tables 19-20. The detailed results of the assessments in the Hawd and Addun, cutting across both Northeast and Central regions are discussed in the section for Central zone. The results of the key indicators are summarized in Tables 19-20.

East Golis/ Karkaar/Dharoor Livelihood Zones

The current Post *Deyr* 2012/13 integrated nutrition situation analysis classifies the nutrition situation of the population in East Golis/Karkaar/Dharoor livelihood zone of Bari region as ***Serious.*** Besides the chronic poor infrastructure, the area has below baseline livestock holdings due to below normal rainfall in the previous seasons and the recovery from livestock losses and debts is slow. The normal rain performance in most of East Golis has led to normal pasture and water availability in the areas with normal milk production. However, improved goat kidding has increased access to milk.

In December 2012, FSNAU and partners conducted a nutrition survey in the East Golis/Karkaar/Dharoor livelihood zone of Bari region. The results reported a GAM rate of **13.4** percent (10.2 -17.5) and a SAM rate of **3.4** percent (2.2-5.3). No oedema case was recorded in the survey. These rates show a sustained level from the situation reported in the July 2012 assessment conducted in the same livelihood covering Bari region, when the GAM rate was 13.9 percent (10.8-17.6) and the SAM rate 4.1 percent (2.6-6.5) with no oedema cases recorded. Higher proportions of assessed boys (14.9 percent) were acutely malnourished as compared to girls (12.0 percent), although the difference was not statistically significant. The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.07(0.02-0.29)** and **0.27 (0.07-1.14)** respectively recorded in the December 2012 assessment indicate an *Acceptable* situation according to UNICEF classification and similar to the respective CDR and U5DR of 0.11 (0.03-0.34) and 0.15 (0.02-1.18) reported in the July 2012 assessment.

Figure 26: HIS Malnutrition Trends in East Golis/ Karkaar LZ (2011-2012)



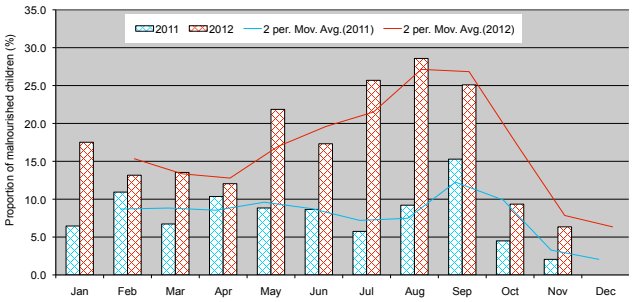
Data from the health facilities namely Ufeyn, and Iskushuban indicate high proportions (>15 percent) of acutely malnourished children, with a decreasing trend in four (Jul-Nov 2012) months (Figure 26).

Considering these HIS trends, reduction in mortality rates, together with gradual recovery of food security indicators, the nutrition situation among the East Golis livelihood population is likely to sustain a ***Serious*** phase. The population remains vulnerable to natural shocks and require close monitoring and the need to address the chronic issues affecting the nutrition status of the population such as inadequate health and sanitation facilities, poor child feeding and care practices and lack of adequate safe drinking water, besides the emergency interventions aimed at rehabilitating the acutely malnourished children is a priority.

Sool Plateau Livelihood Zone of Northeast

The nutrition situation of the Sool Plateau of Bari and Nugal regions has improved to ***Alert*** from *Serious* levels reported during the Post *Gu* 2012 integrated nutrition analysis. Results from the nutrition survey conducted in December 2012 covering four regions of Bari, Nugal, Sool and Sanag reported a GAM rate of **8.4** percent (5.9-11.9) and a SAM rate of **0.9** percent (0.4-1.9). Both rates indicate an improvement in phase but no significant change (Pr<75 percent) from the July 2012 GAM and SAM rates of 11.3 (9.3-13.8), and a SAM rate of 1.7 (0.9-3.0). A higher percentage of boys (11.0 percent) than girls (6.0 percent) were acutely malnourished, though not statistically significant (p>0.05). HIS data in the area recorded low numbers (<10 percent) with a decreasing trend (same trend of 2011 *Deyr*) of acutely malnourished children screened at health facilities (Figure 27). The improved nutrition situation in the livelihood is mainly attributed to increased access to milk and other livestock products in the area, following good *Deyr* 2012 rains and localized humanitarian interventions such as cash relief, food aid, health and nutrition that need to be expanded. The vulnerability of the region to natural shocks, e.g. drought, rise in prices, and disease outbreaks necessitates continued close monitoring of the situation.

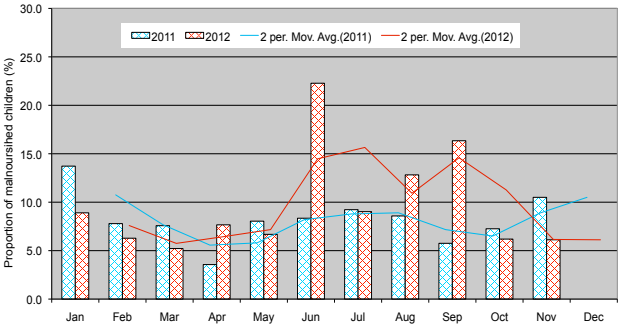
Figure 27: HIS Malnutrition Trends in Sool Plateau LZ (2011-2012)



Nugal valley Livelihood Zone

The current Post *Deyr* 2012/13 integrated nutrition analysis classifies the nutrition situation of the Nugal Valley as ***Serious*** and an improvement from the *Very Critical* levels in the *Gu* 2012 (Table 19). In the nutrition survey conducted in December 2012 by FSNAU and partners covering the Nugal valley livelihood zone that cut across Northwest and Northeast regions, a GAM rate of **12.5** percent (9.2-16.8) and a SAM rate of **2.4** percent (1.4-4.1) were recorded. These results show a significant improvement from the GAM rate of 20.1 percent (16.5-5.24.3) and SAM rate of 5.4 percent (3.9-7.5) reported in the July 2012 assessment.

Figure 28: HIS Malnutrition Trends in Nugal Valley LZ (2011-2012)



The 90 days retrospective crude (CDR) and under five death rates (U5DR) of **0.13** (0.04-0.4) and **0.35** (0.09-1.42) respectively, are *Acceptable* and did not show any significant change from the respective CDR and U5DR of 0.04 (0.01-0.32) and 0.19 (0.02-1.46) recorded in July 2012. Though not statistically significant, a slightly higher proportion of assessed girls (12.8 percent) than boys (12.2 percent) were acutely malnourished. The improvement is likely linked to improved dietary diversity and increased intake of milk and meat products following the good *Deyr*'12 rains in neighbouring livelihoods especially Sool plateau of Bari and Nugal, and access to humanitarian support given the relative stability in the area. Data from the health facilities namely Sinujiif, Gambool and Waaberi, indicates low proportion (<10 percent) and decreasing trend of acutely malnourished children (Figure 28).

High morbidity rates (25 percent) reported from the survey and from the local health facilities, low vitamin A supplementation status (70.2 percent) and measles vaccination status (69.5 percent), poor water and sanitation and limited health facilities in the community are some of the aggravating factors for the *Serious* nutrition situation. More than one third (40.9 percent) of the households reportedly do not have sanitation facilities while more than two thirds (73.2 percent) of the assessed population do not have safe drinking water. Therefore, the population groups in this livelihood zone need continued nutrition and livelihood interventions with close monitoring especially in light of the seasonal fluctuation in the nutrition and food security situation of the area. The key findings for East Golis, Sool and Nugal livelihood zones are summarized in Tables 19-20.

Table 19: Summary of Key Nutrition Findings in Northeast Regions

	East Golis/Karkaar		Coastal *Deeh*		Sool plateau (N=748: Boys= 365; Girls=383)	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status	**N= 705**		**N=729**			
Global Acute Malnutrition (WHZ<-2 or oedema) Global Acute Malnutrition (WHZ<-2 or oedema) Boys Global Acute Malnutrition (WHZ<-2 or oedema) Girls	(95) 13.5 percent(10.2-17.5) (53) 14.9 percent(10.9-20.1) (42) 12.0 percent(8.5-16.8)	Serious	(74) 10.2 percent (7.7-13.3) (41) 11.3 percent(8.4-14.9) (33) 9.0 percent(5.9-13.5)	Serious	**8.4** (5.9-11.9) 11.0 (7.5-15.8) 6.0 (3.8-9.3)	Alert
Severe Acute Malnutrition (WHZ<-3 or oedema) Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Severe Acute Malnutrition (WHZ<-3 or oedema) Girls	(24) 3.4 percent (2.2-5.3 (11) 3.1 percent (1.5 – 6.1) (13) 3.7 percent(2.3 – 6.1)	Alert	(11) 1.5 percent (0.8-2.8) (6) 1.6 percent(0.8-3.4) (5) 1.4 percent (0.5-3.7)	Acceptable	**0.9** (0.4-1.9) 1.6 (0.7-3.7) 0.3 (0.0-2.2)	Acceptable
	-0.88±1.08		-0.71±1.04		-0.53±1.03	Alert
Oedema	0 percent	acceptable	0 percent	Acceptable	0.2	Alert
Global Acute Malnutrition (NCHS)	(98) 13.8 percent(10.2-18.3)	Serious	(75)10.2 percent(7.8-13.3	Serious	8.0 (5.5-11.3)	Serious
Severe Acute Malnutrition (NCHS)	(15) 2.1 percent (1.0-4.4)	acceptable	(6) 0.8 percent (0.3 – 2.0)	Acceptable	0.8 (0.3-1.8)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema in nutrition surveys)	(25) 3.5 percent (2.2–5.5) (9) 2.5 percent (1.1-5.4) (16) 4.5 percent (2.8-7.1)	Alert	(32) 4.3 percent(2.7-6.8) (12) 3.2 percent (1.8-5.7) (20) 5.4 percent (3.1-9.3)	Alert	1.8 (0.8-3.9) 2.2 (1.0-4.7) 1.5 (0.3-7.0)	Alert
Severe Acute malnutrition by MUAC (<11.5 cm or oedema in nutrition surveys)	(5) 0.7 percent(0.3-1.6) (2) 0.5 percent (0.1-2.2) (3) 0.8 percent(0.3-2.6)	acceptable	(4) 0.5 (0.2-1.8) (2)0.5 percent(0.1-2.2) (2) 0.5 percent (0.1-2.3)	Acceptable	0.6 (0.2-1.6) 0.9 (0.3-2.8) 0.3 (0.0-2.2)	Serious
Stunting (HAZ<-2)	(59) 8.4 percent(5.7-12.2) (35) 9.9 percent(6.6-14.5) (24) 5.7 percent(3.3-9.5)	Alert	(100) 13.9 percent(10.917.4) (57) 15.8 percent (11.3-21.8) (43) 11.9 percent (9.6-14.0)	Serious	6.7 (4.4-10.0) 8.0 (4.9-12.8) 5.3 (3.1-8.9)	Acceptable
Underweight (WAZ<-2)	(88) 12.3 percent(9.8-15.4) (47) 13.0 percent(9.5-17.5) (41) 11.6 percent(8.7-15.3)	Serious	(79) 10.8 percent(8.0-14.3 (51)13.9 percent(10.0-19.2 (28) 7.6 percent (5.2-11.0)	Serious	6.4 (4.3-9.4) 7.8 (4.7-12.5) 5.0 (2.8-8.8)	Acceptable
HIS Nutrition Trends(Aug-Nov'08)	High (>10 percent) but decreasing	Serious	High (>10 percent) but decreasing	Serious	Low (<10 percent and trend	Alert
Proportion of malnourished registered in SFs Boys Girls	*5.9 (0.1-11.8* *3.0 (0.2-5.8)* *4.4 (1.1 – 7.8)*		*5.0 (0.0-11.1)* *2.9 (1.0-6.9)* *2.7 (2.2-7.6)*		15.8 12.7 20.0	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity: 28.3 (22.0-34.5) Diarrhea 7.6 percent Fever 23.3 percent Pneumonia 13.2 percent Measles 1.9 percent	Critical	Morbidity: 36.9 percent (29.4-44.4) Diarrhea 7.3 percent Fever 20.2 percent Pneumonia 20.6 percent Measles 2.7 percent	Critical	Morbidity-34.4 Boys-35.0 Girls-33.9 Diarrhoea – 10.1 Boys-9.3 Girls-10.9 Pneumonia- 8.0 Boys-8.1 Girls-8.0	Critical
Immunization Status	Vitamin A: 80.9 (72.7-89.0) Measles: 76.3 (66.6-86.2)	Serious	Vitamin A: 67.8 (58.1-77.4) Measles: 69.4(59.5-79.2)	Serious	Vitamin A- 82.6 Boys-84.2 Girls-81.1 Measles – 81.3 Boys- 83.0 Girls-79.6	Serious Serious
Infant and Young child feeding	N= 241		N=233		N=248	
Proportion still breastfeeding Boys Girls	41.1 36.7 43.1	Serious	37.8 42.7 32.7	Serious	41.9 42.7 41.2	Serious
Proportion meeting recommended feeding frequencies Boys Girls	33.2 30.7 35.4	Serious	50.0 49.1 50.8	Alert	51.6 47.4 55.0	Very Critical
Proportion who reported to have consumed <4 food groups Boys Girls	94.6 93.1 95.9	Critical	95.1 94.3 95.9	Critical	83.1 80.3 85.9	Very Critical
Mortality						
Crude Mortality Rate per 10 000 per day (retrospective for 90 days)	0.07 (0.02-0.29	acceptable	0.19 (0.08 – 0.43)	Acceptable	0.12 (0.05-0.31)	Acceptable
Under five mortality rate per 10 000 per day (retrospective for 90 days)	0.27 (0.07-1.14	acceptable	0.56 (0.21 – 1.46)	Acceptable	0.29(0.07-1.23)	Acceptable
Women Nutrition Status						
Proportion of malnourished non pregnant women (MUAC≤18.5 cm)	**0**	acceptable	**0**	Acceptable	N=268 0.4 (0.0-0.0)	Acceptable
Proportion of malnourished pregnant and Lactating women (MUAC<23.0).	30.7 percent (21.1 – 40.3)	Critical	15.0 percent (10.2–19.8)	Alert	N=289 4.1(15.2-????? N=228 2.8 (2.4-	Acceptable

Proportion of malnourished pregnant and Lactating women (MUAC<21.0).	11.0 (1.1-20.9)		2.2 (0.0-4.6)		N=228 2.8 (2.4-??)	Acceptable
Public Health Indicators						
Proportion of Women who received Tetanus Immunization 0 Dose 1 Dose 2 Dose 3 Dose	 32.0 5.9 21.1 40.9		 21.0 23.7 33.6 21.8		 16.8 17.8 34.0 31.3	
Households with access to safe water	41.1 percent (23.9-58.3)		63.1 (47.0-79.2)		16.2	
Household with access to sanitation facilities	66.5 (53.5-79.5)		60.0 (44.0 – 75.9)		80.6	
Households with access to health facility						
Food Security						
Households with poor dietary diversity (< 4 food groups)	20.0 (13.0-27.0)	Serious	17.6 (9.0-26.2)	Serious	0.5 1.8 0	Acceptable
Household's Main Food Source Purchase: Own Production Food aid	 99.6 0.2 0		 96.1 0.2 2.3		93.7	
Food security phase		Stressed		Stressed	Stressed	Serious
Overall Situation Analysis		Serious		Serious	**Alert**	

Coastal *Deeh* Livelihood Zone of Northeast

The nutrition situation of the Coastal *Deeh* population of Nugal, Bari and North Mudug regions has sustained ***Serious*** levels since *Deyr* 2011/12. The area received good *Deyr* 2012 rains, which has improved the access to milk and income associated with favorable terms of trade (local goat to rice).

A nutrition survey conducted in December 2012, reported a GAM rate of **10.2** percent (7.7-13.3) and SAM rate of **1.5** percent (0.8-2.8), indicating a ***Serious*** nutrition situation and no change from the situation in *Gu* 2012 when a GAM rate of 12.8 percent (8.7-18.4) and SAM rate of 3.5 percent (1.7-6.8) were recorded. A higher proportion of assessed boys (11.3 percent) were acutely malnourished (WHZ<-2 or oedema) compared to girls (9.0 percent) but this difference was not statistically significant. The 90-days retrospective crude death rate (CDR) and under five death rates (U5DR) of **0.07** (0.02-0.29) and **0.27** (0.07-1.14) respectively were recorded, both indicating *Acceptable* levels and a slight improvement from the *Alert* levels with respective CDR and U5DR of 0.56 (0.27-1.14) and 1.34 (0.73-2.44) recorded in July 2012. The reported deaths were suspected to have mainly been caused by diarrhoea. Data from health facilities in the coastal areas of Northeast Somalia also indicate a high (>10 percent) but decreasing proportion of acutely malnourished children.

Morbidity, poor access to sanitation and drinking water in the area remain critical, with 36.9 percent of the assessed children reported to have fallen ill in the two weeks preceding the assessment and only 60.0 percent and 63.1 percent of the households having access to sanitation facilities and safe drinking water respectively. Previous consecutive rain failures in the *Deyr* 2010/11 and *Gu* 2011 led to a significant deterioration of livestock body conditions and deaths resulting in reduced household income, and meat and milk consumption. Therefore the livestock holdings are still below the baseline with high debt level. Therefore, the situation needs close monitoring amidst seasonal changes in labour opportunities from fishing activities due to the anti-pirate activities, chronically poor infrastructure and frequent disease outbreaks. The findings for Coastal *Deeh* pastoral livelihoods are summarized in Table 19.

Table 20. Summary of Key Nutrition Findings in Northeast Regions

	Hawd (N= 686, 356 Boys; 318 Girls)		**Addun** (N=649: 341 Boys; 299 Girls)		**Nugal Valley** (N=619: 311 Boys; 308 Girls)	
Indicator	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**14.4** (11.2-18.3) 17.4 (12.8-3.3) 11.0(8.1-14.7)	Serious	**12.3** (9.5-16.0) 12.9 (9.1-18.0) 11.7 (8.3-16.3)	Serious	**12.5** (9.2-16.8) 12.2(8.8-16.7) 12.8 (8.3-19.1)	Serious
Severe Acute Malnutrition (WHO 2006) Boys Girls	**1.9** (1.1-3.4) 2.8 (1.5-5.3) 0.9 (0.3-3.0)	Acceptable	**3.1** (1.9- 5.2) 3.2 (1.6-6.3) 3.0 (1.5-6.1)	Alert	**2.4** (1.4-4.1) 2.7 (1.3-5.4) 2.1(1.0-4.2)	Alert
Mean WHZ (WHO, 2006)	-0.79±1.08	Serious	-0.76±1.06	Serious	-0.83±1.08	Serious
Oedema	0.0	Acceptable	0.5	Critical	0	Acceptable
Global Acute Malnutrition (NCHS)	13.0 (10.2-16.3)	Serious	11.9(9.0-15.6)	Critical	11.1(7.8-15.5)	Serious
Severe Acute Malnutrition (NCHS)	1.3 (0.5-3.2)	Acceptable	1.6 (0.8-3.0)	Acceptable	0.9 (0.4-1.9)	Acceptable
Proportion with MUAC <12.5 cm or edema Boys Girls	7.4 (5.2-10.6) 6.9 (4.4-10.5) 8.1 (5.2-12.2)	Serious	5.1 (3.6-7.2) 4.3(2.5-7.5) 6.0(3.9-9.0)	Alert	2.0 (0.9-4.5) 1.7 (0.6-4.7) 2.4 (1.0-5.7)	Alert
Proportion with MUAC <11.5 cm or edema Boys Girls	1.6 (0.0-4.3) 1.7 (0.4-6.5) 1.6 (0.7-3.5)	Serious	0.9(0.4-2.3) 0.6(0.1-2.4) 1.3(0.4-4.5)	Alert	0.3 (0.0-2.5) 0 0.7 (0.1-5.1)	Serious

Stunting (HAZ<-2) Boys Girls	13.7 (10.0 –18.6) 14.9 (13.3-19.5) 12.3 (6.9-21.1)	Acceptable	6.1(3.8-9.5) 7.0(4.4-10.8) 5.0(2.3-10.5)	Acceptable	3.1 (1.7-5.4) 3.7(7.5-7.8) 2.4 (0.9 -6.5)	Alert
Underweight (WAZ<-2) Boys Girls	13.5 (10.3-17.5) 16.6 (12.9-21.0) 10.0 (6.3-15.4)	Alert	10.4(7.8-13.7) 12.1(8.5-16.9) 8.4 (5.4-12.9)	Alert	7.5 (5.3-10.5) 7.7 (5.1-11.6) 7.2 (4.3-12.0)	Alert
HIS Nutrition Trends(Jul-Dec 2011)	Low (<10 percent) and decreasing	Alert	**High (10 -15 percent) and fluctuating**	Serious	Low (<10 percent) and decreasing	Serious
Proportion of acutely malnourished registered in SFs	5.3 (1.9-9.4) 5.7 (1.9-6.5) 4.9 (0.4-9.5)	Very Critical	4.1 (1.7-6.5) 4.0 (-6.5) 4.3 (1.3-7.2)	Very Critical	19.8 22.9 16.1	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 37.0 Boys 38.2 Girls-35.6 Diarrhoea – 13.1 Boys 12.4 Girls- 13.9 Pneumonia- 5.8 Boys- 6.3 Girls- 5.2 Fever= 24.1 Boys- 25.3 Girls- 22.6 Measles: 6.9 Boys 7.2 Girls 6.5	Serious	Morbidity- 41.6 Boys-43.8 Girls-39.0 Diarrhoea – 12.2 Boys-13.8 Girls-10.2 Pneumonia- 9.9 Boys-9.7 Girls-9.9 Fever= 35.1 Boys- 35.4 Girls- 34.7 Measles: 3.1 Boys 4.0 Girls 1.9	Critical	outbreak No outbreaks Morbidity- 25.0 Boys-24.0 Girls-26.1 Diarrhoea – 5.8 Boys-5.3 Girls-6.2 Pneumonia- 8.5 Boys-7.3 Girls-9.6	Serious
Immunization Status	Vitamin A – 72.7 Boys- 75.2 Girls- 69.9 Measles –69.2 Boys-71.0 Girls-67.1	Alert Serious	Vitamin A – 59.9 Boys-59.0 Girls-60.9 Measles – 57.1 Boys-56.4 Girls-57.9	Critical Critical	Vitamin A –70.2 Boys-70.0 Girls-70.4 Measles – 69.5 Boys-69.3 Girls-69.8	Serious Serious
Infant and Young child feeding	N= 245		N=233		N=248	
Proportion still breastfeeding Boys Girls	33.1 31.5 34.7	Serious	33.5 38.5 27.3	Serious	49.5 48.7 50.5	Serious
Proportion meeting recommended feeding frequencies Boys Girls	45.3 43.8 46.9	Critical	41.2 44.0 37.7	Critical	52.4 54.0 50.5	Critical
Proportion who reported to have consumed <4 food groups Boys Girls	95.9 96.1 95.6	Critical	94.4 93.7 95.2	Critical	95.6 95.7 95.5	Critical
Death Rates						
Crude death per 10 000 per day (retrospective for 90 days)	0.37(0.15-0.90)	Acceptable	0.13(0.05-0.34)	Acceptable	0.13 (0.04-0.4)	Acceptable
Under five deaths per 10 000 per day (retrospective for 90 days)	1.03 (0.33-3.18)	Acceptable	0.46 (0.15-1.47)	Acceptable	0.35 (0.09-1.42)	Acceptable
Women Nutrition & Immunization Status	N= 386		N=372		N=474	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	1.0(0.0-2.9)	Serious	N= 0.5 (0.0-1.4)	Alert	N=299 0.8 (0.0-1.7)	Alert
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤21.0cm)	4.3(0.1-7.5)		3.8(0.3-7.3)		N=184 2.9 (0.0-7.2)	
Proportion of acutely malnourished pregnant/ lactating women (MUAC<23.0).	N= 186 19.4(12.2-26.5)	Serious	N= 159 30.7(21.1-40.3)	Critical	N=256 6.5 (0.7-12.4)	Acceptable
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	22.8 (17.4-28.2) 11.9 (7.2-16.6) 21.8 (16.6-26.9) 43.5 (35.4 – 51.6)	Alert	32.8 (21.7 – 43.9) 18.3 (10.6 -26.0) 19.4 (11.5-27.2) 29.6 (20.2 -38.9)	Serious	24.7 23.8 16.2 35.4	Serious
Public Health Indicators	**N= 413**		**N= 390**		N= 425	
Household with access to sanitation facilities Male headed- Female headed-	66.6 (51.7-81.5)	Critical	52.3(40.1–64.5)	Critical	59.1 56.7 60.2	Critical
Household with access to safe water Male headed- Female headed-	41.9 (24.0 – 59.8)	Serious	38.5(20.4 – 56.5)	Critical	26.8	Very Critical
Food Security						
Proportion who reported to have consumed <4 food groups Male headed- Female headed-	26.9 (19.9-33.8)	Serious	15.6 (8.1-23.2)	Serious	1.3	Acceptable
Household's Main Food Source Own production Purchase: Borrowing	1.7 (0.0 – 3.5) 96.9 (94.4-99.3)	Acceptable	0 92.6 (87.7-97.4) 2.3(0.1-4.5)	Acceptable	97.2	Acceptable
Food security phase	Stressed	Alert	Stressed	Alert	Stressed	Serious
Overall Risk to Deterioration	Uncertain		Uncertain		Uncertain	
Overall Situation Analysis	Serious		Serious		Serious	

IDPs of the Northeast: Bossaso, Qardho, Garowe and Galkayo

The nutrition situation of IDPs in the Northeast regions has either improved or remains at sustained *Critical-Very Critical* phases as classified in the Post *Gu* 2012. Based on surveys conducted in November 2012, the nutrition situation is currently classified as ***Very Critical*** among Bossaso and Qardho IDPs, ***Critical*** in Galkayo IDPs, and ***Serious*** among Garowe IDPs, as the population remains vulnerable to effects of pastoral destitution, conflict and unfavourable market forces.

Findings from the Bossaso IDPs assessment recorded a GAM rate of **20.6** percent (17.1-24.6) and SAM rate of **4.3** percent (3.0-6.1), with one (0.1 percent) oedema case. Significantly more boys (24.1 percent) than girls (17.4 percent) were acutely malnourished (Pr>87.5 percent), a disparity possibly explained by the use of the new WHO 2006 sex-differentiated reference standards, which has been observed to discriminatively identify more boys as acutely malnourished. The results indicate a phase change from the ***Critical*** nutrition situation in June 2012 assessment when a GAM rate of 18.7 percent (15.7-22.1) and SAM rate of 3.9 percent (2.8 - 5.4) were recorded, although the change in the rates were not statistically significant. The retrospective crude and under five death rates of **0.41** (0.17-1.00) and **0.98** (0.33-2.93), both indicate *Acceptable* levels among the Bossaso IDPs according to UNICEF classification. The CDR and U5DR show no change from the *Acceptable* levels with respective rates of 0.33 (0.15 – 0.73) and 0.61 (0.28-1.32) reported in the June 2012 assessment. The results also show no change from seasonal levels of GAM rates >20 percent usually observed in this population since 2009. Data from health facilities in Bossaso indicated a high (>15 percent) and stable trend of acutely malnourished children.

The factors mitigating the situation include the interventions by humanitarian organizations and the Puntland authorities in the form of targeted food distributions for the acutely malnourished and other nutrition and health services. Other factors such as the poor housing conditions in some IDP camps, poor feeding practices and frequent fire outbreaks, still contribute to the persistent poor nutrition situation. The findings of IDPs assessments among Bossaso, Garowe and Galkayo IDPs are presented in Table 21.

Among the Qardho IDPs, a nutrition survey conducted in November 2012, reported a GAM rate of **21.8** percent (17.8-27.3) and SAM rate of **7.9** percent (5.4-11.4), indicating a ***Very Critical*** nutrition situation. These findings are consistent with the June 2012 assessment that reported a GAM rate of 21.7 percent (16.8-27.6) and SAM of 5.6 percent (3.3-9.2), indicating a sustained *Very Critical* nutrition levels. Similar proportions of boys (22.3 percent) and girls (21.2 percent) were acutely malnourished based on weight-for-height Z scores (<-2) and/or oedema. The retrospective crude and under five death rates of **0.50** (0.25-0.98) and **1.49** (0.81-2.27), both indicate *Alert* level. The displaced populations in Qardho have also benefited from the supplementary and therapeutic nutrition interventions by Puntland authorities, together with local and international organizations.

The results of the Garowe nutrition assessment conducted in November 2012 show a GAM rate of **14.3** percent (11.4-17.8) and a SAM rate of **3.7** percent (2.6-5.3), including two (0.2 percent) oedema cases, indicating an improvement from *Critical* to ***Serious*** nutrition situation compared to the June 2012 survey with reported GAM and SAM rates of 19.2 percent (15.9-23.1) and 4.7 percent (0.9- 3.7) respectively. Although not statistically significant, more boys (16.7 percent) than girls (12.0 percent) were acutely malnourished (WHZ<-3/oedema). The CDR and U5DR of **0.19** (0.08-0.43) and **0.56** (0.21 -1.46), both indicate *Acceptable* levels among the Garowe IDPs according to UNICEF (2005) classification. The CDR and U5DR show similar levels to the retrospective rates of 0.43 (0.25-0.75) and 0.59 (0.25-1.39) reported in the June 2012 survey. The internally displaced populations in Garowe have historically reported stable *Serious-Critical* levels since June 2010 (Fig. 31). Continued government and non-governmental organization interventions including active case finding and referral of acutely malnourished children and Diaspora support, have contributed to the stability, and in mitigating possible deterioration in this vulnerable population. However, continued conflict-related displacements from the south-central regions have exerted pressure on the host communities, coupled with limited labour opportunities and high food prices have constrained access to food and economic resources among the IDPs.

Results for the Galkayo IDP assessment conducted in November 2012 recorded a GAM rate of **17.0** percent (13.0-20.0) and a SAM rate of **4.4** percent (3.1-6.3) including three (0.3 percent) cases of oedema, indicating a sustained ***Critical*** nutrition situation. The proportion of boys (18.6 percent) who were acutely malnourished was higher than that of girls (15.5 percent), but the difference was not statistically significant. These findings show similar phase from *Critical* levels of 19.2 percent (16.1-22.8) and 4.1 percent (3.0-5.6) for GAM and SAM rates respectively reported in June 2012. The retrospective crude and under five death rates of **0.06** (0.0.1- 0.24) and **0.22** (0. 05-0.92) among Galkayo IDPs are both within the *Acceptable*

levels according to WHO classification and similar to the respective *Acceptable* rates of 0.22 (0.11-0.43) and 0.62 (0. 27-1.44) reported in the June 2012 survey.

Table 21: Summary of Key Nutrition Findings in Northeast IDPs

	Bossaso (N=797; 409 boys and 388 girls**)**		**Garowe (N=827:** 401 boys;410 girls**)**		**Galkayo (N=900:** 420 boys; 458 girls**)**		**Qardho IDPs (N=735:** 376 boys; 359 girls**)**	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status								
Global Acute Malnutrition (WHO 2006) Boys Girls	**20.6** (17.1-24.6) 24.1 (20.2 – 28.4) 17.4 (13.3 – 22.3)	Very Critical	**14.3** (11.4-17.8) 16.7 (13.1-21.1) 12.0 (8.5-16.5)	Serious	**17.0** (13.9-20.0) 18.6 (13.9-24.3) 15.5 (11.8-20.1)	Critical	**21.8** (17.1-27.3) 22.3(17.8-27.7) 21.2 (15.6-28.0)	**Very Critical**
Severe Acute Malnutrition (WHO 2006) Boys Girls	**4.3** (3.0 – 6.1) 5.6 (3.6-8.5) 3.2 (1.6-6.2)	Serious	**3.7** (2.6-5.3) 4.5 (2.8-7.2) 2.8 (1.6-5.2)	Serious	**4.4** (3.1-6.3) 5.7 (3.6-9.1) 3.3 (2.0-5.3)	Critical	**7.9** (5.4-11.4) 7.7 (5.0-11.6) 8.1 (4.9-12.9)	**Very Critical**
Mean WHZ (WHO, 2006)	-1.11±1.04	Critical	-0.90±1.08	Serious	-0.92±1.10	Critical	-1.04±1.10	Critical
Global Acute Malnutrition (NCHS)	19.0 (15.3-23.3)	Critical	12.5 (9.6-16.1)	Critical	16.3 (13.3-19.8)	Critical	21.9 (17.1-27.5)	**Very Critical**
Severe Acute Malnutrition (NCHS)	1.8(1.1-2.9)	Acceptable	1.5 (0.9-2.4)	Acceptable	2.8 (1.8-4.4)	Alert	4.3(2.6-7.2)	Serious
Proportion with MUAC <12.5 cm or oedema Boys Girls	11.0(8.3-14.6) 11.3(8.4-15.0) 10.8(7.2-16.0)	Critical	8.7 (6.7-11.6) 9.3 (6.7-12.7) 8.2 (5.5-12.0)	Critical	5.6 (3.7-8.2) 3.7 (1.9-7.1) 7.3 (5.1-10.3)	Serious	8.7 (6.3-11.8) 7.1 (4.1-12.1) 10.3 (7.3-14.3)	Critical
Proportion with MUAC <11.5 cm or oedema	3.1(2.1-4.6)	Very Critical	1.8 (1.1-2.9)	Serious	0.9 (0.4-1.9)	Very Critical	2.0 (1.2-3.3) 1.3 (0.5-3.7) 2.8(1.4-5.5)	Serious
Stunting (HAZ<-2) Boys Girls	21.1 (26.1-38.9) 37.1 (29.6-45.3) 27.6 (21.7-34.4)	Alert	31.1 (26.0-36.7) 35.3 (29.6-41.4) 27.0(21.0-34.0)	Serious	20.5 (15.1-27.3) 24.3 (17.6-32.5) 17.1 (12.1-23.6)	Alert	19.0 (15.7-22.7) 19.4 (15.7-23.6) 18.5 (13.6-24.7)	*Alert*
Underweight (WAZ<-2) Boys Girls	35.9(30.3-42.0) 40.4(33.1-48.2) 31.8(26.5-37.6)	Critical	25.9 (21.9-30.2) 33.2 (28.2-38.6) 18.6(14.1-24.2)	Serious	22.5 (17.6-28.2) 24.3(18.2-31.8) 20.8 (15.7-27.0)	Serious	31.4 (26.5-36.7) 34.7 (29.6-40.1) 27.8 (22.2-34.2)	Critical
HIS Nutrition Trends(Jan-Dec'12)	High (>15 percent) levels and stable	Critical	N/A	-	N/A	-	N/A	
Admission trends at TFPs/ SFPs (– Jan-Dec'12)	High and stable trend	Critical	N/A		N/A		N/A	
Proportion of acutely malnourished registered in SFs Boys Girls	4.2 2.6 2.6	Very Critical	13.2 10.9 11.3	Very Critical	5.7 2.7 3.6	Very Critical	10.5 (6.3-14.7) 6.1 (3.4-8.7) 8.3 (4.7-11.9)	Very Critical
Child Morbidity & Immunization								
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak –Malaria outbreak Morbidity-46.6 Boys- 46.7 Girls- 46.4 Diarrhoea -28.1 Boys- 28.8 Girls- 28.1 Pneumonia- 16.4 Boys- 15.4 Girls- 18.9 Fever-29.6 Boys- 28.4 Girls- 30.2 Measles 0.9 Boys 1.6 Girls 0.2	Very Critical	Outbreak -None Morbidity–38.3 Boys- 38.0 Girls- 38.6 Diarrhea 17.5 Boys-16.5 Girls-18.4 Pneumonia-6.4 Boys-6.3 Girls-6.4 Fever-29. Fever 31.2 Boys-31.2 Girls-31.1 Measles 1.8 Boys-1.2 Girls-2.3	Critical	Outbreak –None Morbidity–32.9 Boys-32.6 Girls-33.1 Diarrhea 17.6 Boys-17.1 Girls-17.9 Pneumonia-7.1 Boys-6.4 Girls-7.6 Fever-23.6. Boys-23.6 Girls-23.6 Measles 3.7 Boys-4.3 Girls-2.9	Critical	Outbreak – None Morbidity- 31.8 Boys- 30.9 Girls-32.5 Diarrhoea -8.8 Boys- 9.2 Girls-8.3 Pneuonia-10.0 Boys- 9.5 Girls-10.5 Fever->18.7 Boys- 17.4 Girls-20.0	Critical
Immunization Status	Vitamin A–84.3 Boys-82.9 Girls- 85.5 Measles – 80.2 Boys-78.4 Girls-81.6	Acceptable	Vitamin A– 57.7 Boys-55.3 Girls-59.9 Measles- 74.7 Boys-74.1 Girls- 75.3	Critical Critical	Vitamin A– 86.0 Boys-85.8 Girls-86.0 Measles- 84.4 Boys-85.4 Girls-83.3	Critical Acceptable	Vitamin A –55.6 Boys- 57.6 Girls- 53.3 Measles –36.1 Boys-40.2 Girls-31.7	Critical
Infant and Young child feeding	**N=295**		**N=295**		**N=210**		**N/A**	
Proportion still breastfeeding Boys Girls	56.3 59.7 53.0	Alert	59.2 62.0 56.5	Alert	33.8 34.7 33.1	Serious		
Proportion meeting recommended feeding frequencies Boys Girls	41.0 40.9 41.1	Critical	41.5 46.2 37.2	Very Critical	32.0 34.7 29.9	Critical		
Proportion who reported to have consumed <4 food groups Boys Girls	80.7 80.7 80.7	Critical	96.7 95.8 97.5	Critical	92.6 92.0 93.0	Critical		
Death Rates								

Table 21: Summary of Key Nutrition Findings in Northeast IDPs (Continued)

Crude death, per 10,000 per day (retrospective for 90 days)	0.41 (0.17-1.00)	Acceptable	0.20 (0.09-0.41)	Acceptable	0.06 (0.01-0.24)	Acceptable	0.50 (0.25-0.98)	Alert
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.98 (0.33 – 2.93)	Acceptable	0.47 (0.18-1.25)	Acceptable	0.22 (0.05-0.92)	Acceptable	1.49 (0.81-2.72)	Alert
Women Nutrition & Immunization Status	**N=462**		**N=464**		**N= 482**		**N=506**	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	1 (0.0-1.7)	Critical	0.5(0.0-1.7)	Alert	0.3 (0.0-1.0)	Acceptable	1.4 (0.0-3.5)	Critical
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤21.0cm)	2.2 (0.0-4.3)	Alert	2.5(0.4-4.5)	Alert	4.2 (1.4-7.1))	Alert	14.7 (9.3-20.1))	Serious
Proportion of acutely malnourished pregnant/ lactating women (MUAC<23.0).	23.9(16.9-31.0)	Serious	15.7 (11.2-20.2)	Alert	19.0(11.1-27.0)	Critical	43.9 (34.8-52.9)	Very Critical
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	6.5 (3.2-9.8) 5.0 (2.8-7.2) 14.3 (8.3-20.3) 74.2 (66.3-82.1)	Serious	19.4 (14.5-24.3) 8.6(5.3-12.0) 30.6 (25.2-36.0) 41.4 (34.6-48.2)	Serious	19.1 (14.0-24.2) 12.4 (7.8-17.1) 28.6 (22.8-34.6) 39.8 (31.9-47.7)	Alert	N/A	
Public Health Indicators	**N=489**		**N=512**		N=351		N/A	
Household with access to sanitation facilities Male headed Female headed	67.9 (51.2-84.6)	Critical	77.7	Serious	98.7	Acceptable		
Household with access to safe water Male headed Female headed	67.7 (63.7-91.7)	Critical	67.9	Critical	97.7	Alert		
Food Security	**N=489**		**N=520**		N=351			
Proportion who reported to have consumed <4 food groups Male headed Female headed	29.9 (23.3-36.4)	Critical	20.8	Serious	2.7	Acceptable		
Household's Main Food Source Purchase: Borrowing Food Aid	96.5 (94.4 – 98.7) 0.6 (0.0-1.3 0.8 (0.0-1.2)		85.6 0 13.7		82.7 2.5 13.1			
Food security phase	Humanitarian Emergency		Humanitarian Emergency		Humanitarian Emergency		Humanitarian Emergency	
Overall Situation Analysis	**Very Critical**		Serious		Critical		Very Critical	

MATERNAL NUTRITION STATUS IN NORTHEAST AND CENTRAL SOMALIA

The proportion of the total and severe acutely malnourished pregnant and/ or lactating women based on the Sphere MUAC cut-offs of 23.0, and 21.0cm, and/or bilateral oedema in the Northeast and Central regions, vary widely from *Acceptable-Alert* in most rural livelihood population groups to *Very Critical* situation in some IDP population groups. For the non-pregnant or non-lactating, the situation is within *acceptable* levels in most surveys based on MUAC cut off of 18.5cm or presence of bilateral oedema (Table 22).

Table 22: Proportion of malnourished women Northeast and Central Regions

	Pregnant and/or Lactating Women			Non Pregnant/Lactating Women	
	No Assessed	Proportion with MUAC <23cm(percent)	Proportion with MUAC <21cm(percent)	No Assessed	Proportion with MUAC <18.5cm(percent)
Bossaso IDPs	184	23.9 (16.9-31.0)	2.2 (0.02-4.3)	278	0.7 (0.0-1.7)
Qardho IDPs	281	15.7 (11.2-20.2)	2.5 (0.4-4.5)	183	0.5 (0.0-1.7
Garowe IDPs	367	43.9 (34.8-52.9)	14.7 (9.3-201)	139	1.4 (0.0-3.5)
Galkayo IDPs	189	19.0 (11.1-27.0)	4.2 (1.4-7.1)	293	0.3 (0.0-1.0)
Hawd	186	19.4 (12.2-26.5)	4.3 (1.1-7.5)	200	1.0 (0.0-2.9)
Addun	159	22.0 (12.8-31.2)	3.8 (0.3-7.3)	213	0.5 (0.0-1.4)
Coastal Deeh	274	15.0 (10.2-19.8)	2.2 (0.0-4.6)	205	0.0
Nugal Valley	256	6.5 (0.7-12.4)	2.9 (0.0-7.2)	299	0.8 (0.0-1.7)
Sool Plateau	289	13.8 (8.2-19.4)	2.4 (0.0-5.1)	270	0.5(0.0-1.4)
East Golis	127	30.7 (21.1-40.3)	11.0 (1.1-20.9)	313	0.0

POSSIBLE CAUSES OF HIGH LEVELS OF MALNUTRITION AMONG BOSSASO IDPS

Bossaso port city is the regional capital of Bari region and is the biggest commercial city in Puntland with different types of business located there. Given the many business activities and port activities in the town, it has attracted many internally displaced persons looking for safety and income earning opportunities. According to the UNHCR, UNOCHA and DRC head counts of the displaced persons in September 2011, it was established that a total of 99 251 IDPs was staying 3in 1 camps in Bosasso town. The number has not been static but been increasing gradually.

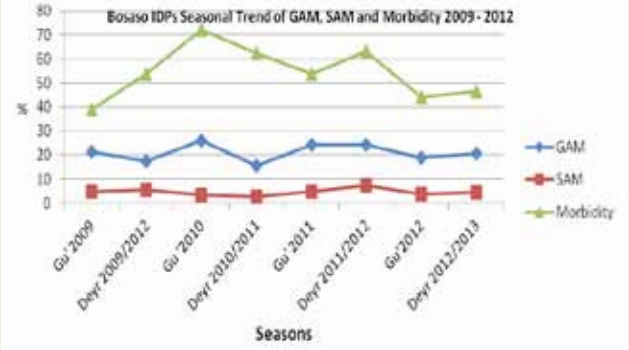
Like many other displaced populations in Somalia, the IDPs in Bossaso lack stable livelihoods and have to depend on humanitarian assistance or social support. This put the population at increased risks of food and nutrition insecurity coupled with poor shelter and limited access to basic human services such shelter, sanitation facilities and lack of safe water.

FSNAU has been monitoring the nutrition situation of Bossaso IDPs over years and a review of the assessment data for the last four years (2009-2012) show a persistence of precarious situation. Since 2009, the eight assessments conducted among this population have recorded *Critical* to *Very Critical* nutrition situation. Five out of these assessments have recorded GAM rates of >20 percent with the most recent assessment conducted in November 2012 reporting GAM rate of 20.6 percent (17.1-24.6). Several factors have been identified as possible cause of persistently high levels of acute malnutrition and include;

1. High morbidity trend where in the last eight assessments conducted among this population since 2009, the reported childhood morbidity within two weeks prior to the assessment ranged between 38-72 percent. Morbidity and malnutrition exhibits a vicious cycle where morbidity increases risks of malnutrition while malnourished children have lowered immunity and are more susceptible to illnesses. This relationship is well demonstrated in figure 29 that show how high morbidity correspond with an equally high acute malnutrition among the Bossaso IDPs.

2. Seasonal factors: Bossaso town experiences yearly seasons of extremely high temperature in the months of May to October which causes out-migration of the economically better off people from Bossaso town. This reduces sources of income among the IDP who rely on the casual labour provided by the better off. Fire outbreaks frequently occur in the season of high temperatures destroying shelters and few resources owned by IDPs. In addition, seasonal high sea tides that occur in *Gu* and *Hagaa* seasons leads to sea activities closure or significantly reduce the sea activities. This reduces income earning opportunites among IDPs, thereby affecting food and non-food items access. This explain the high levels of acute malnutrition in *Gu* seasons as compared to *Deyr* season when income opportunities are relatively better (Figure 29).

Figure 29: Bossaso IDPs Seasonal Trend of GAM and Morbidity 2009 -2012



3. The population of the Bossaso IDPs keep increasing posing a challenge to the implementing agency especially where food and non food resources initially targeted for a smaller number of IDPs has to be shared with newly arrived IDPs. This reduces the impact of such interventions. The photo below show different types of IDP shelter where some of the IDP are in relatively better shelter than others

4. Limited access to basic human services such as shelter, safe water and sanitation facilities predisposes the population to illness, an immediate cause of malnutrition.

The paper calls for immediate rehabilitative interventions to address the high levels of acute malnutrition and morbidity which should be linked with long term programmes to address the underlying causes of malnutrition. Nutrition and health intervention needs to be continued and expanded in the short term and should be coupled with awareness and education strategies aimed at boosting utilization of these services. Programmes aimed at increasing or diversifying sources of income, improving shelter and environmental sanitation, safe water access are essential. These interventions need to be integrated and coordinated for maximum impact.

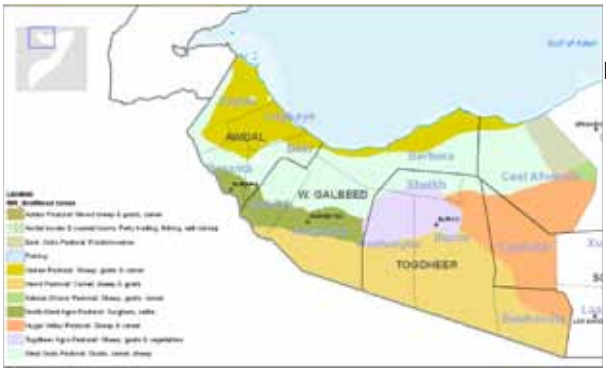
Majority of IDPs in Bossaso are still in Poor shelter housing Conditions

Some IDPs in Bosaso have better shelter

4.8 NORTHWEST REGIONS

The Northwest Somalia region comprises mainly of pastoral livelihood zones namely: West Golis, Guban, East Golis/ Gebbi Valley of Sanaag region, the Hawd of Hargeisa and Togdheer, Sool Plateau and the Nugal Valley. Additionally, there is an agro-pastoral livelihood zone that is sub-divided into two, namely, the NorthwestAgro-pastoral of Awdal and Woqooyi Galbeed regions and Agro-pastoral on Togdheer region. The livelihood zones cut across the five administrative regions of Awdal, Woqooyi Galbeed, Togdheer, Sool and Sanaag (Map 13). The East Golis, Nugal Valley and Sool plateau also extend to the Northeast regions of Bari and Nugal respectively.

Map 13: Northwest Livelihood Zones



In

Historical Overview Post Gu 2012

Food Security

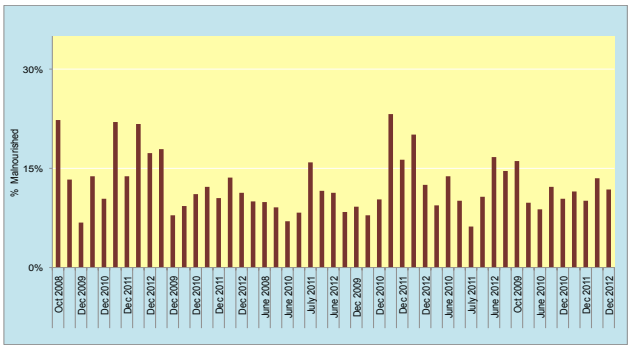
The FSNAU Post *Gu* 2012 integrated food security analysis classified the food security situation in the agro-pastoral, and in the Hawd, Sool Plateau and Nugal Valley pastoral livelihoods as Stressed and improvement from Crisis for Nugal Valley and Sool plateau in *Deyr* 2011/12 but a sustained situation for the other livelihoods. The general improvement in the food security situation in these livelihoods was attributed to the positive impact normal of *Gu* 2012 rainfall in most parts of these livelihoods which improved livestock body conditions and production and thus increased milk availability and access. Improved pasture and water availability and kidding among the small rumminats also increased income from sale of livestock and livestock products (milk and ghee) which increased households' purchasing power for both food and non-food items. The food security situation among the population in West Golis, Guban and East Golis livelihood was classified as Crisis**,** a deterioration from Stressed phase in *Deyr* 2011/12. The deterioration in these livelihoods was linked to the effect of failure of the *Hays* rains over last two seasons in most parts of West Golis and Guban livelihoods affecting water availability and rangeland condition thereby resulting in poor livestock body condition, low milk production and limited saleable livestock. These together with the increased level of indebtness, affected food availability and access in these livelihoods.

An Enumerator conducting interview in Hargeisa IDP Camp

Nutrition

The Post *Gu* 2012 integrated nutrition situation analysis showed either stable or deteriorating trend in the nutrition situation in Northwest livelihoods compared to the *Deyr* 2011/12. The nutrition situation for the West Golis/Guban and Nugal Valley livelihoods was *Very Critical,* and deteriorated from *Serious* and *Critical* levels respectively in *Deyr* 2011/12. The nutrition situation among the population in the Hawd livelihood also showed a significant deterioration from the *Serious* levels in *Deyr* 2011/12 to *Critical* levels in *Gu* 2012. The deterioration was attributed to reduced food access especially household milk access in Guban[1] where following below normal *Gu* rainfall performance, livestock were forced to out-migrate in search of water and pasture while those remaining in the area were weak with low milk production. In Nugal Valley and Hawd livelihoods where food security was either stable or improved, high morbidity and especially measles outbreak in Burao and Ainabo districts was a significant aggravating factor. On the other hand, the nutrition situation among the populations in the Sool Plateau, East Golis/Gebbi Valley and Agro-pastoral livelihoods remained stable at *Serious* levels since *Deyr* 2011/12.

Figure 30: Trend in Levels of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Northwest IDPs (2006-2012)



1 For nutrition assessment, West Golis and Guban livelihoods are sampled together as one population and therefore there is one GAM rate, however food security assessment and classification treat the two livelihoods separately

The nutrition situations among the displaced persons in Hargeisa and Berbera towns were sustained at *Serious* and *Critical* levels respectively since *Deyr* 2011/12, while the situation among the Burao IDPs showed improvement from *Very Critical* in *Deyr* 2011/12 to *Critical* in *Gu* 2012. Household access to food, health and other basic services among the IDPs is highly dependent on humanitarian services and availability of casual labour and petty trades in the host urban areas making them highly vulnerable to malnutrition and food insecurity.The historical trend of malnutrition in the respective livelihoods since 2008 is shown in figure 30.

Current Situation Post *Deyr* 2012/13

Food Security

The FSNAU Post *Deyr* 2012/13 integrated food security analysis indicates a **Stressed** food security situation in all livelihood zones in Northwest regions with exception of Guban livelihood which is facing a sustained **Crisis** food insecurity since *Gu* 2012. The analysis shows a sustained food security situation among the Northwest Agro-pastoral, Hawd, Sool Plateau and Nugal Valley pastoral livelihoods but an improvement in East and West Golis livelihoods from Crisis phase recorded in *Gu* 2012. The general improvement in the food security situation in these livelihoods is mainly attributed to the positive impact (improved pasture condition and water availability) of the normal *Gu* 2012 rainfall in most parts of these livelihoods which improved livestock body conditions and production and thus increased milk availability and access as well as increased income from sale of livestock and livestock products (milk and ghee). The good *Gu/Karan* crop production in the agro-pastoral livelihood has also increased cereal availability and access in these livelihoods as has the high terms of trade for goat to rice. Sool Plateau and parts of Nugal Valley livelihoods received poor *Deyr* 2012 rainfall which has affected water and pasture availability in these livelihoods and promted abnormal livestock out-migration to Bari region. The out-migration of livestock has contributed to limited milk availability in these livelihood in Northwest regions. High level of indebtedness reported in Sool Plateau and Nugal Valley livelihoods is further limiting food availability and access.

On the other hand, the Guban livelihood which remains in **Crisis** has experienced cumulative seasons of below normal rainfall which has resulted in poor pasture and limited water availability. Consequently, livestock are in poor body condition, have poor milk production and had none to low calving and kidding in *Deyr* 2012 season. There are limited saleable animals. These factors together with the sustained high level of indebtedness has affected food availability and access in this livelihood and contributed to the worst food security situation among the livelihoods in Northwest.

Nutrition

The Post *Deyr* 2012/13 integrated nutrition situation analysis shows either an improvement or sustained nutrition situation in Northwest livelihoods compared to the situation in *Gu* 2012. The nutrition situation among the population in West Golis and Nugal Valley livelihoods has improved from *Very Critical* in *Gu* 2012 to ***Critical*** and ***Serious*** situation respectively. Similarly, the nutrition situation among the population in the Hawd livelihood has improved from the *Critical* levels in *Gu* 2012 to the current ***Serious***. In Sool Plateau, the nutrition situation is ***Alert***, indicating an improvement from *Serious* in *Gu* 2012. The improvement is mainly attributed to improved food security situation especially increased household milk access in West Golis, Nugal valley and Hawd livelihoods. The increased milk availability and access follows positive performance of *Deyr* 2012 rainfall which has resulted in improved water and pasture availability and thus, good livestock body conditions and production. The livestock that was reportedly out-migrated from these livelihoods in Post *Gu* 2012 seasons have since returned boosting access to livestock products and livestock-related income. The situation of high morbidity, in particularly related to a measles outbreak reported in Burao and Ainabo districts that was a significant nutrition aggravating factor in Nugal and Hawd livelihoods in *Gu* 2012, has improved. In Sool Plateau, although the food security indicators are reflecting a deteriorating situation, the population in this livelihood are benefiting from strong local and diaspora support, as well as humanitarian assistance, factors which explain the better dietary diversity recorded. The change in nutrition situation in Sool Plateau is not statistically significant. On the other hand, the nutrition situation among the populations in the East Golis/Gebbi Valley and agro-pastoral livelihoods has remained stable at ***Serious*** levels since *Deyr* 2011/12. Good cereal harvest in the agro-pastoral livelihoods has enhanced cereal access in the area, as well as income from sale of cereals and other agricultural produce, thereby mitigating the nutrition situation.

The nutrition situation of the displaced people in Hargeisa and Berbera towns is sustained at ***Serious*** among Hargeisa IDPs and ***Critical*** in both Burao and Berbera IDPs since *Gu* 2012. The internally displaced populations in Northwest regions lack stable livelihoods and are highly dependent on humanitarian services and availability of casual labour and petty trades in the host urban areas to access income to purchase food. This makes the IDPs more vulnerable to the changing economic situations in urban areas, especially fluctuations in food prices that expose them to risks of malnutrition, morbidity and food insecurity. The impact of the humanitarian assistance and access to income generating activities such as petty trade and casual labour explains the relative stability and better nutrition situation among the Hargeisa IDPs as compared to other IDPs settlements in Hargeisa.

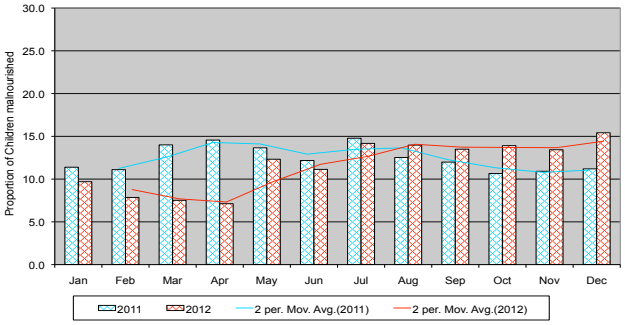
Gender: The analysis of nutrition data among the assessed rural livelihood population as well as the IDPs populations of the northwest regions, shows no statistical differences in the distribution of acute malnutrition, morbidity levels, access to vitamin A supplementation and immunization services between boys and girls. However, across all livelihoods and IDPs, slightly higher proportion of boys than girls are acutely malnourished, stunted and underweight.

Pastoral Livelihood Zones

West Golis, Nugal Valley and Sool Plateau Livelihood Zones

The *Deyr* 2012/13 integrated nutrition analysis shows an improvement of the nutrition situation among the populations in West Golis/Guban, Nugal Valley and Sool Plateau livelihoods from the levels recorded in *Gu* 2012 to the current ***Critical***, ***Serious*** and ***Alert*** levels respectively. The results of the nutrition surveys conducted in December 2012 among West Golis/Guban population indicate a GAM rate of **17.3** percent (13.5-21.9) and a SAM rate of **2.1** percent (1.2-3.6) indicating a ***Critical*** nutrition situation. Results also show an improvement from a *Very Critical* situation reported in *Gu* 2012 when July 2012 assessment recorded a GAM rate of 21.percent (17.9-26.1) and a SAM rate of 5.5 percent (3.7-7.9), but the change in GAM rate is not statistically significant (P>0.05). However, results shows a significant reduction in the levels of severe acute malnutrition (P<0.05). In Nugal Valley, results show a GAM rate of **12.5** percent (9.2-16.8) and a SAM rate of **2.4** percent (1.4-5.2), indicating a ***Serious*** nutrition situation and a significant improvement compared with the *Very Critical* situation reported in *Gu* 2012 when a GAM rate of 20.1 percent (16.5-24.3) and a SAM rate of 5.4 percent (3.9-7.5), was recorded in this population. A similar trend of improvement is recorded among the population in Sool plateau, where the current GAM rate of **8.4** percent (5.9-11.9) and a SAM rate of **0.9** percent (0.4-1.9) indicate an ***Alert*** nutrition situation. This is an improvement from *Serious* situation in *Gu* 2012 when nutrition assessment in this population recorded a GAM rate of 11.3 percent (9.3-13.8) and a SAM rate of 1.7 percent (0.9-3.0). The change is however statistically insignificant *(P>0.05)* but a reflection of phase change as per the nutrition classification framework. The nutrition data from health facilities shows varied trends of malnutrition with data from West Golis/Guban and Nugal Valley livelihood zone indicating a high (>10 percent) and stable proportion of acutely malnourished children (Figure 31), while in Sool plateau, a low (<10 percent) and fluctuating trend of malnutrition is recorded.

Figure 31: HIS Malnutrition Trends in Nugal Valley MCHs (Jan 2011 - Dec 2012)



Morbidity, a key nutrition aggravating factor, remains high in the three livelihoods with 30.5 percent of assessed children in West Golis/Guban, 34.4 percent in Sool Plateau and 25 percent reportedly been ill two weeks prior to the assessments. Rates of child feeding practices in terms of continued breastfeeding, feeding frequency and dietary diversity are persistently below the recommended standards. The measles immunization and vitamin A supplementation status of 69-82 percent in these livelihoods is below the recommended SPHERE standard of 95 percent. The CDR and U5DR is **0.11** (0.03-0.34) and **0.32** (0.10-1.31) respectively among West Golis; **0.13** (0.04-0.41) and **0.35** (0.09-1.42) among Nugal Valley, and **0.12** (0.06-0.31) and **0.29** (0.07-1.23) in Sool plateau. These death rates are all within the *Acceptable* levels, according to UNICEF classification. In addition, these results show a stable *Acceptable* situation when compared with respective crude and under five death rates of 0.24 (0.11-0.53) and 0.45 (0.10-1.89) among West Golis; 0.04 (0.02-0.32) and 0.19 (0.02-1.46) among Nugal Valley, and 0.12 (0.05-0.31) and 1.22 (0.13-1.24) in Sool plateau recorded in *Gu* 2012 mortality assessments. The key nutrition findings in these livelihoods which form the basis of the analysis and classification outcome are provided in table 23.

The improvement recorded in these livelihoods is mainly attributed to improved food security situation especially increased household milk access in West Golis, Nugal valley and Hawd livelihoods. The livestock that was reportedly out-migrated in Post *Gu* 2012 seasons have since returned, boosting access to livestock products and livestock-related income. The only exception to improved food security situation is Guban livelihoods where poor rainfall performance has affected livestock body condition and production. Dietary diversity has improved in the three livelihoods with >90 percent of the assessed households consuming diversified diets comprised of four or more food groups. High morbidity and especially measles outbreak reported in Burao and Ainabo districts that was a significant nutrition aggravating factor in Nugal and Hawd livelihoods in *Gu* 2012 has improved.

Notably, in the past two successive *Gu* seasons, Nugal Valley and West Golis/Guban livelihoods recorded a *Very Critical* nutrition situation indicating seasonal vulnerability of these populations in *Gu* seasons. It is projected that the positive trend recorded in the current post *Deyr* season may be reversed in *Gu* season if there are no interventions to address the seasonal hunger gaps in these livelihoods. The proposed interventions should among others address milk deficits experienced whenever livestock out-migrate to other regions in search of water and pasture, as well as diversifying sources of income to cater for the diminished seasonal loss of income from sale of livestock and livestock products. Improved income generation is crucial for the purchase of food and other non-food items. Health interventions are also required to tackle the persistently high morbidity across livelihoods and seasons.

Table 23: Summary of Key Nutrition Findings in West Golis/Guban, Nugal Valley and Sool Plateau Livelihood Zones, December 2011

	West Golis/Guban (N=673: Boys=340; Girls=333)		Nugal Valley (N=591: Boys=300; Girls=291)		Sool plateau (N=662: Boys= 323; Girls=339)	
Indicator	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**17.3** (3.5-21.9) 18.7 (14.2-24.1) 15.9 (10.8-22.6)	Critical	**12.5** (9.2-16.8) 12.2(8.8.-16.7) 12.8 (8.3-19.1)	Serious	**8.4** (5.9-11.9) 11.0 (7.5-15.8) 6.0 (3.8-9.3)	Alert
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**2.1** (2.1-3.6) 2.7 (1.4-5.1) 1.5(0.7-3.5)	Acceptable	**2.4** (1.4-4.1) 2.7 (1.3-5.4) 2.1 (1.0-4.2)	Acceptable	**0.9** (0.4-1.9) 1.6 (0.7-3.7) 0.3 (0.0-2.2)	Acceptable
Mean of Weight for Height Z Scores	-0.87±1.13	Serious	-0.83±1.08	Serious	-53±1.03	Alert
Oedema	0.1	Very Critical	0	Acceptable	0.2	Acceptable
Global Acute Malnutrition (NCHS)	16.8 (2.9-21.6)	Critical	11.1(7.8-15.5)	Serious	8.0 (5.5-11.3)	Alert
Severe Acute Malnutrition (NCHS)	1.3(0.6-3.0)	Acceptable	0.9 (0.4-1.9)	Acceptable	0.8 (0.3-1.8)	Acceptable
Proportion with MUAC<12.5 cm or oedema) Boys Girls	5.5 (3.9-7.7) 4.4 (2.7-7.2) 6.6(4.3-10.0)	Alert	2.0 (0.9-4.5) 1.7 (0.6-4.7) 2.4 (1.0-5.7)	Alert	1.8 (0.8-3.9) 2.2 (1.0-4.7) 1.5 (0.3-7.0)	Acceptable
Proportion with MUAC<11.5 cm or oedema Boys Girls	1.0 (0.5-2.0) 0.9(0.3-2.) 1.2(0.5-3.1)	Serious	0.3 (0.0-2.5) 0.0 0.7 (0.1-5.1)	Acceptable	0.6 (0.2-1.6) 0.9 (0.3-2.8) 0.3 (0.0-2.2)	Acceptable
Stunting (HAZ<-2) Boys Girls	9.7 (6.4-14.2) 10.5 (6.7-16.1) 8.8 (5.4-14.1)	Acceptable t	3.1 (1.7-5.4) 3.7(7.5-7.8) 2.4 (0.9 -6.5)	Acceptable	6.7 (4.4-10.0) 8.0 (4.9-12.8) 5.3 (3.1-8.9)	Acceptable
Underweight (WAZ<-2) Boys Girls	13.5 (9.8-18.3) 14.2(10.7-18.5) 12.7 (8.0-19.6)	Alert	7.5 (5.3-10.5) 7.7 (5.1-11.6) 7.2 (4.3-12.0)	Acceptable	6.4 (4.3-9.4) 7.8 (4.7-12.5) 5.0 (2.8-8.8)	Acceptable
Malnutrition Trends at Health facilities (January – July 2012)	High (>15 percent and stable trend of acutely malnourished children in MCHs	Critical	High (>10 percent) and stable trend of acutely malnourished children in MCHs	Serious	Low (<10 percent and fluctuating trend	Alert
Proportion of acutely malnourished children in SFs Boys Girls	8.9 (1.0-16.7) 10.3(0.7-19.9) 6.9(1.8-15.0)	Very Critical	3.7(0.8-8.2) 7.7(2.2-13.1) 0	Very Critical	9.0 (0.65-18.9) 5.6 (2.6-24.8) 6.7 (3.3-16.6)	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 30.6 Boys- 30.0 Girls-31.2 Diarrhoea– 19.3 Boys- 18.8 Girls- 19.8 Pneumonia- 4.8 Boys-4.1 Girls- 5.4	Very Critical	No outbreak Morbidity- 25.0 Boys-24.0 Girls-26.1 Diarrhoea – 5.8 Boys-5.3 Girls-6.2 Pneumonia- 8.5 Boys-7.3 Girls-9.6	Very Critical	Morbidity-34.4 Boys-35.0 Girls-33.9 Diarrhoea – 10.1 Boys-9.3 Girls-10.9 Pneumonia- 8.0 Boys-8.1 Girls-8.0	Very Critical
Immunization Status	Vitamin A –81.6 Boys- 82.0 Girls- 81.8 Measles –79.8 Boys-79.7 Girls-79.9	Alert Serious	Vitamin A –70.2 Boys-70.0 Girls-70.4 Measles – 69.5 Boys-69.3 Girls-69.8	Serious Serious	Vitamin A- 82.6 Boys-84.2 Girls-81.1 Measles – 81.3 Boys- 83.0 Girls-79.6	Alert Alert
Infant and Young Child Feeding (6-24 Months)	N= 258		N=210		N=248	
Proportion still breastfeeding Boys Girls	52.3 55.9 48.4	Alert	49.5 48.7 50.5	Serious	41.9 42.7 41.2	Serious
Proportion meeting recommended feeding frequencies Boys Girls	57.4 59.6 54.9	Critical	52.4 54.0 50.5	Critical	51.6 47.4 55.0	Critical
Proportion who reported to have consumed <4 food groups Boys Girls	99.2 98.5 100	Very Critical	95.7 95.6 95.9	Very Critical	83.1 80.3 85.9	Very Critical
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.11 (0.03-0.34)	Acceptable	0.13 (0.04-0.4)	Acceptable	0.12 (0.05-0.31)	Acceptable
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.32 (0.08-1.31)	Acceptable	0.35 (0.09-1.42)	Acceptable	0.29(0.07-1.23)	Acceptable
Women Nutrition and Immunization Status						
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	N=318 0.5 (0.0-1.6)	Alert	N=299 0.8 (0.0-1.7)	Seriou	N=268 0.4 (0.0-0.0)	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	N=260 7.6(2.3-12.9)		N=184 2.9 (0.0-7.2)		N=289 2.4	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=251 15.8(9.1-22.5)	Alert	N=256 6.5 (0.7-12.4)	Acceptable	N=289 15.2	Acceptable
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	11.4 15.9 33.0 39.7	Alert	24.7 23.8 16.2 35.4	Serious	16.8 17.8 34.0 31.3	Alert

Table 23: Summary of Key Nutrition Findings in West Golis/Guban, Nugal Valley and Sool Plateau Livelihood Zones, July 2012-Continued

Public Health Indicators	N= 397		N= 425		N=351	
Household with access to sanitation facilities	35.8	Very Critical	59.1	Critical	80.6	Critical
Household with access to safe water	43.8	Very Critical	26.8	Very Critical	16.2	Very Critical
Food Security						
Proportion who reported to have consumed <4 food groups	6.0	Acceptable	1.3	Acceptable	0.5	Acceptable
Household's Main Food Source- Purchase	85.7	Acceptable	98.9	Acceptable	84.6	Acceptable
Food security phase	Crisis- Guban Stressed- West Golis		Stressed		Stressed	
Overall Risk to Deterioration	Unstable		Unstable		Stable	
Overall Situation Analysis	Very Critical		Very Critical		Serious	

East Golis/Gebbi Valley and Hawd Livelihood Zones of NW

The integrated nutrition analysis of East Golis/Gebbi Valley and Hawd livelihoods indicates a ***Serious*** nutrition situation, a sustained phase for East Golis/Gebbi Valley but an improvement for Hawd livelihood from *Critical* levels in *Gu* 2012. A nutrition survey among the population in East Golis/Gebbi Valley livelihood in December 2012 reported a GAM rate of **11.3** percent (9.1-13.9) and a SAM rate of **2.7** percent (0.9-3.2) indicating a sustained ***Serious*** nutrition situation since *Gu* 2012. These results are similar with those recorded in July 2012 assessment when a GAM 13.6 percent (10.5-17.5) and a SAM rate of 2.6 percent (1.5-4.5) were reported. The assessment conducted among the Hawd livelihood population recorded a GAM rate of **14.6** percent **(**10.6-19.8) and a SAM rate of **3.0** percent (1.7-5.2), indicating a ***Serious*** nutrition situation. In addition, the results show an improvement from *Critical* nutrition levels recorded in a similar assessment in July 2012, when a GAM rate of 16.7 percent **(**11.5-23.5) and a SAM rate of 4.2 percent (2.3-7.6) was recorded. The improvement is however not statistically significant *(P>0.05).* The improvement among the Hawd livelihood population is largely linked declining measles cases, especially in Burao district where an outbreak was reported during the *Gu* season. It is important to point out that even though no outbreak was reported, the general morbidity trend remains high (>20 percent) and requires concerted efforts to sustain the improving trend. The improved milk production and access in the livelihood zone and increased income from livestock sales have also impacted positively to the current nutrition situation.

The analysis of nutrition data from health facilities in Hawd areas of Northwest indicates high (>15 percent) and stable proportions of acutely malnourished children recorded in these facilities. In East Golis livelihoods, data from health facilities shows a low (<10 percent) and stable trend of acutely malnourished children, following a similar pattern as in *Deyr* 2011/12. Good access to milk at household level in East Golis/Gebbi Valley livelihoods, as well as better access to humanitarian support and income from the sale of frankincense are key mitigating factors to acute malnutrition.

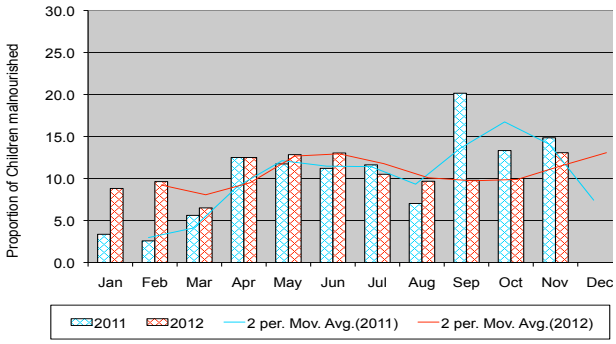
The retrospective crude and under five death rates of **0.17** (0.04-0.67) and **0.46** (0.10- 2.06) respectively in Hawd and of **0.25** (0.11-0.56) and **0.65** (0.24-1.62) in East Golis/Gebbi Valley livelihood, are all within the *Acceptable* level according to UNICEF classification. These show similar levels as the retrospective crude and under five death rates of of 0.26 (0.09-0.75) and 0.47 (0.11- 1.95) respectively in Hawd and of 0.18 (0.06-0.49) and 0.36 (0.09-1.52) in East Golis/Bebbi Valley livelihood respectively reported in *Gu* 2012 mortality assessments. The key nutrition findings in these areas, which form the basis of the analysis in the classification outcome, are provided in Table 24.

Northwest Agro-pastoral Livelihood Zones: Awdal/Galbeed and Togdheer Agropastoral

The Northwest agro-pastoral zone comprises of two groups: the agro-pastoralists of Togdheer who are more pastoral leaning than agro-pastoralists and mainly grow grass/hay for livestock; and the agro-pastoralist of Awdal and Galbeed Regions, who mainly practice crop farming alongside keeping different types of livestock. The integrated nutrition situation analysis of the Northwest agro-pastoral population indicates a stable ***Serious*** nutrition situation since Post *Deyr* 2010/11. The nutrition assessment conducted among the agro-pastoral population in December 2012 reported a GAM rate of **11.8** percent (8.8-18.6) and a SAM rate of **1.3** percent (0.6-3.0) indicating a sustained ***Serious*** nutrition situation. A similar level of acute malnutrition was recorded in the July 2012 assessment when a GAM rate of 13.5 percent (10.3-17.3) and a SAM rate of 1.1 percent (0.5-2.6) were reported. The nutrition data from health facilities indicates a high (>10 percent) and stable proportion of acutely malnourished children reflecting a *Serious* nutrition situation Figure 32. A good *Gu/Karan* crop production from the agro-pastoral livelihood has increased cereal access as well as crop-related income which has boosted the nutrition well being of the population. It is worth noting that in the current season, high morbidity levels (38.1 percent) persist in this livelihood and is a key aggravating factor that requires attention for a better nutrition situation in the population. The death rates from the current assessments indicate stable and *Acceptable* mortality levels with CDR of **0.18** (0.06-0.49) and U5DR of **0.69**

(0.20-2.32). These rates are similar to those reported in *Gu* 2012 mortality assessment when CDR of 0.21 (0.05-0.75) and U5DR of 0.36 (0.09-1.52) was recorded. The key nutrition findings in these areas which form the basis of the analysis in the classification outcome are provided in Table 24.

Figure 32: HIS Malnutrition Trends in Northwest Agropastoral MCHs (Jan 2011 - Dec 2012)



Overall, across all livelihoods in Northwest region, both pastoral and agro-pastoral population in the rural areas are characterized with persistent sub-optimal childfeeding practices where children are breastfed for short periods, are fed infrequently and are consuming poorly diversified diets. In addition, limited access to safe water, sanitation and health facilities is evidenced across all rural livelihoods, predisposing children to diarrhoeal disease. Morbidity trends are persistently high in these livelihoods with all livelihoods recording >20 percent of the assessed children as having been sick two weeks prior to the assessment. The measles vaccination and vitamin A supplementation status which has a protective effect against morbidity and malnutrition is below the recommended SPHERE standards of 95 percent and needs to be improved. It is recommended that besides the immediate rehabilitative interventions to treat acute malnutrition, long term programmes to address positive behaviour changes on health seeking, child care and feeding practices and provision of safe drinking water, adequate health and sanitation facilities are required to improve the nutrition situation of the population.

Table 24: Summary of Key Nutrition Findings in Hawd, East Golis and Agro-pastoral Livelihood Zones, July 2012

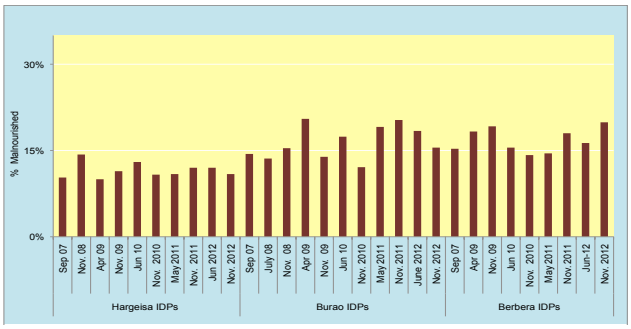
	The Hawd Livelihood Zone (N=410: Boys=215; Girls=195)		**East Golis/Gebbi Valley (N=504: Boys=232; Girls=272)**		**Agro-pastoral Zone (N=451:Boys=233; Girls=218)**	
Indicator	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**14.6** (10.6-19.8) 16.2 (10.9-23.3) 13.0 (8.7-18.9)	Serious	**11.3** (9.1-13.9) 12.3 (9.1-16.4) 10.3 (7.2-14.4)	Serious	**11.8** (10.3-17.3) 17.0 (12.3-32.9) 9.7 (6.8-13.6)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**3.0** (1.7-5.2) 3.9 (2.0-5.9) 2.0 (0.7-5.9)	Alert	**1.7** (0.9-3.2) 2.5 (1.1-5.4) 1.0(0.3-2.9)	Acceptable	**1.1** (0.5-2.6) 0.9 (0.2-3.6) 1.4 (0.5-4.2)	Acceptable
Mean of Weight for Height Z Scores	-0.72±1.16	Serious	-0.66±1.08	Alert	-0.74±1.04	Serious
Oedema	0.2	Very Critical	0.5	Very Critical	0.2	Very Critical
Global Acute Malnutrition (NCHS)	15.4 (11.3-20.6)	Critical	10.5 (8.6-12.7)	Serious	14.0 (11.1-17.6)	Serious
Severe Acute Malnutrition (NCHS)	2.1 (0.9-4.7)	Acceptable	1.3 (0.5-2.8)	Acceptable	1.0 (0.4-2.4)	Acceptable
Proportion with MUAC <12.5 cm or oedema Boys Girls	1.8 (0.9-3.3) 1.9 (0.7-5.2) 1.6 (0.7-3.7)	Acceptable	1.7 (0.9-3.4) 1.8 (0.8-4.2) 1.6 (0.7-3.8)	Acceptable	2.8 (1.6-4.6) 1.6 (0.7-3.5) 4.1 (2.2-7.3)	Alert
Proportion with MUAC <11.5 cm or oedema Boys Girls	0.3 (0.1-1.3) 0.0 0.6 (0.2-2.5)	Acceptable	0.6 (0.2-2.1) 0.9 (0.2-3.9) 0.3 (0.0-2.4)	Acceptable	0.3 (01-1.3) 0 0.7 (0.2-2.7)	Acceptable
Stunting (HAZ<-2) Boys Girls	4.7 (2.9-7.6) 5.8 (3.4-9.7) 3.6 (1.9-6.6)	Acceptable	0.3 (0.1-1.3) 0.3 (0.0-2.3) 0.3 (0.0-2.4)	Acceptable	5.3 (3.5-7.8) 6.1 (4.1-8.9) 4.4 (2.3-8.3)	Alert
Underweight (WAZ<-2) Boys Girls	11.3 (7.9-15.8) 13.8 (9.8-19.0) 8.8 (5.5-13.7)	Alert	3.6 (2.3-5.6) 4.9 (2.7-8.7) 2.3 (1.1-4.4)	Acceptable	8.2 (5.4-12.3) 11.6 (6.9-18.7) 4.6 (2.8-7.4)	Acceptable
Malnutrition Trends at the health facilities (Janauray- July 2012)	High (>15 percent) and stable trends	Critical	Low (<10 percent) and stable trend	Alert	Low (>10 percent) and stable trend	Serious
Proportion of acutely malnourished children in SFs	5.8 (-6.3-18.0) 0 25.0(30.1-80.159)	Very Critical	9.9 (3.4-16.5) 10.0 (0.4-9.6) 9.8 (2.6-17.2)	Very Critical	7.7(1.0-16.7) 20 (1.3-15.0) 0	Very Critical
Child Morbidity & Immunization						

Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	No outbreak Morbidity-24.4 Boys-27.8 Girls-23.0 Diarrhoea– 8.0 Boys- 9.3 Girls-6.8 Pneumonia- 9.0 Boys-11.5 Girls-6.5 Measles; 2.4 0.0-4.9	Very Critical	No outbreak Morbidity- 18.2 Boys-17.3 Girls-17.2 Diarrhoea – 6.1 Boys-6.1 Girls-6.1 Pneumonia-5.6 Boys-4.8 Girls-6.4	Critical	Recent measles out break in Xaabaale village Morbidity- 38.1 Boys-38.2 Girls-37.9 Diarrhoea– 15.8 Boys-15.7 Girls-14.8 Pneumonia-13.0 Boys-10.0 Girls-16.1	Very Critical
Immunization Status	Vitamin A– 78.2 Boys- 76.4 Girls-69.9 Measles – 74.6 Boys-75.4 Girls-73.8	Serious Serious	Vitamin A– 55.5/95.5 Boys-55.8 Girls-55.1 Measles – 53.1 Boys-52.4 Girls-58.8	Critical Critical	Vitamin A-67.9 Boys-68.0 Girls-67.8 Measles –69.9 Boys-69.3 Girls-70.5	Critical Critical
Infant and Young Child Feeding (6-24 Months)	N=244		N=221		N=234	
Proportion still breastfeeding Boys Girls	39.8 47.9 32.0	Serious	52.5 46.2 59.6	Alert	59.8 64.2 55.3	Alert
Proportion meeting recommended feeding frequencies Boys Girls	66.0 68.1 69.0	Serious	62.0 59.8 64.4	Serious	81.2 85.8 76.3	Alert
Proportion who reported to have consumed <4 food groups Boys Girls	100 100 100	Very Critical	99.5 99.1 100	Very Critical	99.0 100 98.2	Very Critical
Death Rates						
Crude deaths, per 10,000 per day retrospective for 90 days)	0.17 (0.04-0.67)	Acceptable	0.25 (0.11-0.56)	Acceptable	0.18 (0.06-0.49)	Acceptable
Under five deaths, per 10,000 per day retrospective for 90 days)	0.46 (0.10-2.06)	Acceptable	0.65 (0.24-1.62)	Acceptable	0.69 (0.20-2.32)	Acceptable
Women Nutrition and Immunization Status						
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0	Acceptable	N=423 0	Acceptable	N=270 0.3 (0.0-0.9)	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0 cm)	1.4 (0.0-3.7)		3.5 (0.5-6.6)		1.5 (0.0-3.3)	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0 cm)	N=127 4.1 (0.0-9.3)	Acceptable	N=172 11.1 (2.7-19.5)	Acceptable	N=208 4.4 (0.5-8.4)	Acceptable
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 35.2 28.0 20.0 16.8	Critical	 24.0 22.0 27.3 26.8	Serious	 14.3 16.1 38.4 31.2	Alert
Public Health Indicators	N= 321		N= 336		N=341	
Household with access to sanitation facilities	38.0 (26.0-50.0)	Very Critical	27.1	Very Critical	23.1	Very Critical
Household with access to safe water	25.0(0.0-5.6)	Very Critical	9.5	Very Critical	12.3	Very Critical
Food Security						
Proportion who reported to have consumed <4 food groups	7.8	Alert	8.9	Alert	1.5	Acceptable
Household's Main Food Source-Purchase	99.5	Acceptable	97.6	Acceptable	80.1	Acceptable
Food security phase	Stressed		Stressed		Stressed	
Overall Risk to Deterioration	Stable		Stable		Stable	
Overall Situation Analysis	Critical		Serious		Serious	

IDPs of the North West: Hargeisa, Burao and Berbera

The integrated nutrition situation analysis of the Northwest IDPs indicates a sustained ***Serious*** situation among the IDPs in Hargeisa town and stable ***Critical*** nutrition sitaution among the IDPs in both Berbera Burao towns since *Gu* 2012. The results of a nutrition assessment conducted among the IDPs in Hargeisa town in November 2012 reported a GAM rate of **10.9** percent (8.7-13.6) and a SAM rate of **2.3** percent (1.2-4.2), indicating a ***Serious*** nutrition situation. These rates are similar to the a GAM rate of 12.0 percent (9.2-15.5) and a SAM rate of 2.9 percent (1.7-4.8) recorded in the previous assessment in this population in June 2012, showing a stable situation. Among the Berbera IDPs, a GAM rate of **19.9** percent (15.4-25.3) and a SAM rate of **6.6** percent (3.8-11.0) was recorded in November 2012 assessments indicating a stable ***Critical*** nutrition situation. These results are within similar nutrition levels as the findings of nutrition survey in June 2012 that recorded a GAM rate of 16.3 percent (13.6-19.3) and a SAM rate of 3.5 percent (2.1-5.6).

Figure 33: Trend in Levels of acute Malnutrition (WHZ<-2 or oedema, WHO 2007) in Northwest Regions Region, 2007-2012



In Burao IDPs assessment, a GAM rate of **15.5** percent (11.6-20.5) and a SAM rate of **2.1** percent (1.0-4.1) are reported indicating a sustained ***Critical*** nutrition situation with acute malnutrition rates that are within the same levels as a GAM rate of 18.4 percent (14.7-22.7) and a SAM rate of 4.3 percent (2.6-6.9) recorded in June 2012 assessment. It is important to point out that seasonally, Burao IDPs record a better nutrition situation in *Deyr* seasons when livestock-related export casual labour opportunities increases in Burao town during *Haji* festivities. This increases essential income for the purchase of food and non-food items. On the contrary, the forthcoming *Gu* season is characterized with reduced income earning opportunities and often records poor nutrition situation. Therefore, it is imperative to put in place interventions to prevent anticipated deterioration of nutrition status of the population. Figure 33 shows trends of acute malnutrition for the period between 2007-2012 in the three IDPs groups.

The mortality rates are within *acceptable* UNICEF levels in Hargeisa with crude death rates (CDR) of **0.19** (0.08-0.44) and under five death rate of **0.35** (0.08-1.48) and among the Berbera IDPs with recorded CDR of **0.20** (0.07-0.55) and U5DR of **0.21** (0.03-1.60). These rates are within same levels as the respective crude and underfive death rates of 0.14 (0.03-0.61) and 0.21 (0.03-1.65) among Hargeisa IDPs, and CDR of **0.49** (0.39-0.79) and U5DR of **0.74** (0.28-1.97) reported among the Berbera IDPs in June 2012 assessments. Similarly, among the Burao IDPs an *Acceptable* CDR of **0.28** (0.12-0.63) and U5DR of **0.35** (0.08-1.46) was reported. However, these rates show a slight improvement when compared with CDR of rate of 0.50 (0.28-0.88) and a U5DR of 1.01 (0.36-2.80) recorded June 2012.

Morbidity levels remain high among IDPs in the three host towns, with the reported morbidity in the two weeks prior to the assessment of 24.8 percent in Hargeisa, 28.4 percent in Burao and 24.4 percent in Berbera. Household dietary diversity is relatively better among the IDPs in Hargeisa and Berbera but remains a concern among the displaced population in Burao where more than a quater (26.2 percent) of the households were consuming poorly diversified diets comprised of three or fewer food groups. Access to basic human services such as access to safe water and sanitation facilities among the IDPs is relatively better when compared with the rural populations in Northwest regions. However, this high coverage is mainly linked to humanitarian organizations working in among the displaced persons. The key nutrition findings in these areas which form the basis of the analysis are provided in Table 25.

Immediate interventions to rehabilitate acutely malnourished children and address food and health need to be continued. In the absence of a stable livelihood system among the displaced populations, they are constantly faced with chronic food insecurity and poor nutrition situation. In view of the fact that the IDPs are hosted in urban areas and rely on purchase as the main source of food and non-food items, there is need to boost their economic status through introduction of income generation activities. This will also minimise dependance on humanitarian assistance. These interventions should also be backed with sustained interventions to improve child care and feeding practices so as to maximise nutrition benefits from available food. High morbidity rates that persist among the assessed IDPs also need to be addressed through both curative and preventive measures which include educating the population on prompt health seeking behaviours. A long term solution such as permanent settlement of the protracted IDPs will be required in the long run for the people to have stable livelihood and bring to an end the humanitarian dependence status of the displaced people in Somaliland. In the mean time continued monitoring to assess the constantly changing food security and nutrition situation among the IDPs should be maintained, so as to provide up-to-date information that will guide on appropriate interventions to meet the needs of this vulnerable group.

Table 25: Summary of Key Nutrition Findings for Hargeisa, Burao and Berbera IDPs, June 2012

	Hargeisa IDPs (N=497 Boys=238; Girls=259)		**Burao IDPs Returnees** (N=517: Boys=257; Girls=260)		**Berbera IDPs Returnees** (N=555 Boys=257; Girls=260)	
Indicator	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**10.9** (8.7-13.6) 12.2 (9.3-15.8) 9.6 (6.7-13.5)	Serious	**15.5** (11.-20.5) 20.0 (14.2-27.4) 11.2 (7.2-17.1)	Critical	**19.9** (15.4-25.3) 23.9 (18.2-30.7) 16.7 (12.0-22.8)	Critical
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**2.3** (1.2-4.2) 2.4 (0.9-6.3) 2.1 (1.0-4.6)	Acceptable	**2.1** (1.0-4.1) 2.5 (1.1-5.3) 1.7 (0.7-4.0)	Acceptable t	**6.6** (3.8-11.0) 7.7 (4.0-14.2) 5.7 (3.2-10.0)	Very Critical
Mean of Weight for Height Z Scores	**-0.55** ±1.15	Alert	-0.81 ±1.09	Serious	-1.02 ±1.16	Very Critical
Oedema	0.3	Very Critical	0	Acceptable	0.4	Very Critical
Global Acute Malnutrition (NCHS)	14.4 (8.1-13.3)	Serious	14.3 (10.9-18.4)	Serious	19.4 (14.8-25.0)	Critical
Severe Acute Malnutrition (NCHS)	1.0 (0.4-2.5)	Acceptable	0.7 (0.3-1.8)	Acceptable	4.8 (2.9-7.8)	Critical
Proportion with MUAC <12.5 cm or oedema Boys Girls	2.9 (1.7-4.8) 2.0 (0.9-4.3) 3.8 (2.1-7.0)	Alert	2.6 (1.3-5.2) 2.1 (0.8-5.1) 3.1 (1.3-6.9)	Alert	7.7 (4.9-11.7) 7.5 (4.4-12.5) 7.8 (4.3-13.7)	Serious
Proportion with MUAC <11.5 cm or oedema Boys Girls	0.7 (0.3-1.8) 0.0 1.4(0.5-3.5)	Acceptable	0.7 (0.2-2.3) 1.0 (0.2-4.6) 0.3 (0.0-2.6)	Acceptable	2.1 (1.1-3.8) 1.9 (0.7-4.8) 2.2 (0.9-5.4)	Critical
Stunting (HAZ<-2) Boys Girls	8.8 (5.4-14.0) 9.4 (5.4-16.1) 8.1 (4.2-15.2)	Acceptable	3.1 (1.5-6.3) 4.2 (1.9-8.9) 2.0 (0.9-4.3)	Acceptable	9.4 (5.8-14.8) 10.9 (6.6-17.4) 8.2 (4.3-15.4)	Acceptable
Underweight (WAZ<-2) Boys Girls	8.6 (6.3-11.6) 9.1 (5.8-13.9) 8.1 (5.4-12.1)	Acceptable	8.1 (5.1-12.6) 10.8 (6.3-17.8) 5.4 (3.1-9.2)	Acceptable	17.2 (12.7-22.0) 22.4 (16.2-30.1) 13.1 (8.4-19.9)	Alert
HIS Nutrition Trends(January – July 2012)	Low (<10 percent) but increasing	Alert	High (>14 percent) and increasing trend	Serious	High (<10 percent) and stable	Alert
Proportion of acutely malnourished children in SFs	-		-			
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity-24.8 Boys-26.2 Girls-23.3 Diarrhoea– 13.8 Boys- 4 Girls-13.6 Measles- 1.7 Boys-1.7 Girls-1.7	Very Critical	Morbidity-28.4 Boys-27.0 Girls-29.8 Diarrhoea– 7.0 Boys- 6.2 Girls 7.8 Measles- 1.2 Boys-0.7 Girls-1.7	Very Critical	Morbidity-24.4 Boys-23.0 Girls-25.6 Diarrhoea– 18.4 Boys- 18.8 Girls-18.1 Measles- 0.2 Boys-0.0 Girls-0.4	Very Critical
Immunization Status	Vitamin A– 87.4 Boys- 86.4 Girls-88.5 Measles – 85.9 Boys- 1.7 Girls- 1.7	Alert Alert	Vitamin A– 89.5 Boys- 90.3 Girls-88.4 Measles – 88.0 Boys-87.9 Girls-88.1	Alert Alert	Vitamin A– 84.3 Boys- 86.9 Girls-82.2 Measles – 89.0 Boys-91.5 Girls-87.0	Alert Alert
Infant and Young Child Feeding (6-24 Months)						
Proportion still breastfeeding Boys Girls	56.2 54.2 58.3	Alert	50.0 51.5 51.1	Alert	52.2 46.7 54.5	Alert
Proportion meeting recommended feeding frequencies Boys Girls	51.3 46.6 56.5	Critical	33.1 35.9 30.8	Critical	41.5 46.7 37.7	Critical
Proportion who reported to have consumed <4 food groups Boys Girls	93.3.6 91.5 95.4	Very Critical	85.2 87.4 83.5	Very Critical	93.8 90.7 96.0	Very Critical
Death Rates						
Crude deaths, per 10,000 per day retrospective for 90 days)	**0.19** (0.08-0.44)	Acceptable	**0.28** (0.12-0.63)	Acceptable	**0.20** (0.07-0.55)	Acceptable
Under five deaths, per 10,000 per day retrospective for 90 days)	**0.35** (0.08-1.48)	Acceptable	**0.35** (0.08-1.46)	Acceptable	**0.21** (0.03-1.60)	Acceptable
Women Nutrition and Immunization Status						
Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm)	N=178 0.6 (0.0-1.7)	Acceptable	N=299 0	Acceptable	N=269 4.0(0.2-7.7)	Very Critical
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	N=313 0		0		0.1 (0.0- 3.0)	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=313 4.4 (0.3-8.6)	Acceptable	N=299 0.9 (0.0-2.7)	Acceptable	N=138 5.1 (1.4-8.7)	Acceptable
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	11.2 (6.7-15.7) 8.3 (5.4-11.2) 33.1 (24.9-41.5) 47.3 (38.0-56.6)	Alert	17.1 (7.3.8-26.8) 10.0 (4.8-15.2) 25.8 (16.1-35.4) 47.2 (34.2-60.1)	Alert	4.8 (1.3-8.4) 7.5 (2.7-12.9) 39.8 (28.9-50.6) 47.6 (35.9-59.3)	Acceptable

Public Health Indicators	N=314		N=256		N=273	
Household with access to sanitation facilities	94.3	Alert	82.4	Alert	87.5	Alert
Household with access to safe water	97.8	Acceptable	98.4	Acceptable	97.4	Acceptable
Food Security						
Proportion who reported to have consumed <4 food groups	3.2	Acceptable	26.2	Critical	5.9	Alert
Household's Main Food Source-Purchase	100	Acceptable	73.6	Acceptable	88.0	Acceptable
Food security phase	Stressed		Stressed		Stressed	
Overall Risk to Deterioration	**Stable**		**Stable**		**Stable**	
Overall Situation Analysis	Serious		Critical		Critical	

Gender and nutrition analysis in North West Regions

Analysis of the nutrition data in the assessed rural livelihoods as well as among the internally displaced populations shows no statistically significant differences in the distribution of the acute malnutrition cases between boys and girls. However, among all the rural and IDPs assessed (with exception of Nugal Valley), more boys than girls were acutely malnourished but the diffences were statistically insignificant. For instance, 16.2 percent (10.9-23.3) of boys as compared with 13 percent (8.7-18.9) of girls were acutely malnourished in Hawd Livelihood while among the Hargeisa IDPs 12.2 percent (9.3-15.8) of boys as compared to 9.6 percent (6.7-13.5) were acutely malnourished. A similar trend is evidenced in distribution of chronic malnutrition where for instance 6.1 percent (4.1-8.9) of boys compared with 4.4 percent (2.3-8.3) of girls in Agro-pastoral livelihoods were stunted whereas among the Burao IDPs 4.2 percent (1.9-8.9) of boys compared with 2 percent (0.9-4.3) of girls were stunted. The differences were statistically insignificant *(p>0.05).*

This trend of having more boys being acutely malnourished is likely given the use of the new WHO 2006 sex-differentiated reference standards, which has been observed to discriminatively identify more boys as malnourished than girls. With the new WHO reference standards, a girl of a certain height has to be much lighter than a boy of the same height to meet the WHZ<-2 threshold for acute malnutrition. A review of TFC data from 13 African countries found that when children 6-59 months were admitted using UNISEX tables; there was no significant difference in the number of boys and girls admitted and there was no significant difference in the mortality rate[2[1]]. It is important to note that for most of the assessed livelihood, the proportion of acutely malnourished girls as identified by MUAC<12.5 cm or oedema was higher than that of boys, but the difference was statistically insignificant *(p>0.05).*

The distribution by sex of morbidity cases, childfeeding practices and access to health services such as measles vaccination and vitamin A supplements showed a mixed pattern where in some surveys a higher proportion of boys than girls was ill, better fed or had higher access to health and nutrition services while the opposite was true in other surveys. The differences were however not statistically significant *(p>0.05).* The gender disaggregated data by sex of the assessed children per livelihood and IDP groups is summarized on Tables 23-25.

MATERNAL NUTRITION STATUS IN NORTHWEST

In the northwest, a significantly higher proportion of pregnant and/or lactating women were acutely malnourished (MUAC< 23.0 cm) than non-pregnant and non-lactating women (MUAC<18.5 cm) across all livelihoods and among the three IDPs settlements. The proportion of malnourished (MUAC<23cm) pregnant and/or lactating women ranged between 0.9 percent (*Acceptable*) among the Burao IDPs to 15.2 percent (*Alert)* among women in Sool Plateau livelihood. Using a cut-off of 21 cm for identification of malnutrition among the pregnant and/or lactating women, 0-7.6 percent were classified as malnourished. Among the assessed non-pregnant and non-lactating women, less than one percent were identfied as malnourished MUAC<18.5 cm with exception of Berbera IDPs where 4 percent were malnourished. (see Table 26). The high level of malnutrition among the pregnant and/or lactating women is linked to increased nutrients needs which are not being met.**Table 26: Proportion of malnourished women, Northwest Regions**

NW/IDPs Surveyed population	Pregnant and/or Lactating women			Non-pregnant/lactating women	
	No. Assessed	Proportion with MUAC<23cm	Proportion with MUAC <21cm	No. Assessed	Proportion with MUAC<18.5 cm
Hargeisa IDP	313	4.4 (0.3-8.6)	0	178	0.6(0.0-1.7)
Berbera IDP	138	5.1(1.4-8.7)	0.10(0.0-3.0)	168	4.0(0.2-7.7)
Burao IDP	299	0.9(0.0-2.7)	0	299	0
West Golis	251	15.8(9.1-22.5)	7.6(2.3-12.9)	318	0.5(0.0-1.7)
NW Hawd	127	4.1(0.2-9.3)	1.4(0.0-3.7	621	0
NW Agro-pastoral	208	4.4(0.5-8.4)	1.5(0.0-0.9)	270	0.3(0.0-0.9)
Nugal Valley	256	6.5(0.7-12.4)	2.9(0.0-7.2)	299	0.8(0.0-1.7)
Sool Plateau	289	13.8 (8.2-19.4)	0.5 (0.0-1.4)	268	2.4 (0.0-5.1)
East Golis	172	11.1(2.7-19.5)	3.5(0.0-0.9)	621	0

2[1] Golden, M., Grellety, Y., Schwartz, H., & Tchibindat, F. (2010). Report of a Meeting to harmonize the criteria for monitoring and evaluation of the treatment of acute malnutrition in West and Central Africa. 30th November – 1st December 2010; Dakar, Senegal. Retrieved February 27, 2012 http://www.ennonline.net/pool/files/ife/consensus-meeting-on-m&e-imam-dakar-2010-eng.pdf

5. URBAN NUTRITION SITUATION

Northwest Regions:
Results from the Deyr 2012/13 nutrition surveys in the Northwest urban populations indicated an ***Alert-Serious*** nutrition situation. Awdal and Sanaag Regions are in ***Alert*** phase, while Woqoyi Galbeed and Togdheer Regions have deteriorated to ***Serious***, from *Alert* phase in *Gu* 2012. Sool Region is in sustained ***Serious*** phase.

Northeast Regions:
In Bari Region, the situation has deteriorated to ***Very Critical*** from *Critical*, with GAM of **18.4** percent (14.4-23.2) and SAM of **4.7** percent (3.1- 7.2). In Nugal Region, the situation is in sustained ***Serious*** phase, while in Mudug and Galgadud, the situation has improved to ***Serious*** from *Critical* phase in *Gu* 2012 (Table 27).

Southern Regions
Mogadishu Town is in an ***Alert*** phase with GAM of **9.7** percent (7.1-13.2) and SAM of **1.6** percent (0.8-3.4). The crude death rate, 0.92 (0.55-1.54) is within *Alert* levels.

Afgoye Town is in an ***Alert*** phase with GAM of **8.7** percent (6.9-10.9) and SAM of **2.1** percent (1.2-3.6). The crude death rate, 0.74 (0.49-1.12) per 10,000 per day is within *Alert* phase.

Table 27: Summary of Urban Findings

Population Assessed	GAM WHO	SAM WHO	MUAC<12.5 cm	MUAC<11.5 cm	Morbidity	Estimated Nutrition Situation
	North west Region					
Awdal	9.9 (7.4-13.1)	1.3 (0.6- 2.8)	1.5 (0.4- 5.2)	0.2 (0.0-1.7)	7.2(3.9-10.4)	***Serious sustained***
W. Galbeed	10.6 (7.9-14.1)	1.4 (0.6-3.1)	1.6(0.6- 3.9)	0.4 (0.1- 1.7)	11.0(6.1-15.8)	***Alert-Sustained***
Togdheer	12.1 (8.2-17.5)	1.6 (0.7- 3.5)	6.1(2.9-12.6)	0.0 (0.0-0.0)	13.7(9.8-17.6)	***Serious-Deteriorated*** from *Alert*
Sool	**7.1 (4.8-10.5)**	**1.1 (0.5-2.6)**	3.8 (2.2- 6.5)	0.9 (0.3- 2.3)	13.6 (9.0-18.2)	***Serious-Sustained***
Sanaag	13.9 (11.9-16.1)	1.7 (1.2- 2.5)	4.4(3.8—5.1)	0.4(0.3—0.6)	33.7(27.7-40.0)	***Alert -sustained***
	North East Region					
Bari	18.4 (14.4-23.2)	4.7(3.1- 7.2)	**5.8 (4.3-7.8)**	**1.9 (1.1-3.3)**	17.7 (13.3-22.1)	***Very critical -deterioration from Critical***
Nugal	13.3 (10.7-16.5)	2.6 (1.5- 4.6)	**4.5 (93.1-6.5)**	**0.5(0.2-1.5)**	21.4(17.7-25.0)	***Serious -sustained***
Mudug	12.8 (9.8-16.5)	2.2 (1.1- 4.3)	**7.7 (5.9 –9.9)**	**1.3 (0.7 –2.4)**	23.7(19.0-28.5)	***Serious- improvement from Critical-***
Galgadud	10.7(6.8-16.4 95)	2.3 (1.2- 4.5 95)	**12.4 (10.3-14.82)**	**1.8(1.1- 3.0)**	15.3(8.6-22.0)	***Serious - improvement from Critical-***
South						
Afgoye	8.7 (6.9-10.9)	2.1 (1.2-3.6)	6.4 (4.7-8.1)	1.2 (0.3-2.2)	**24.6** (20.1-29.1)	***Alert -***
Mogadishu	9.7 (7.1-13.2)	1.6 (0.8-3.4)	11.3 (8.3-14.4)	3.5 (2.0-4.8)	**38.4** (32.7-44.2)	***Alert- improvement from Serious***

6. PLAUSIBILITY CHECKS

Guidance for use of the Plausibility checks

Digit preference DP for weight and height: Indicates how accurately children were weighed and when done correctly there shouldn't be any digit preference. This normally occurs when enumerators round to the nearest cm/kg or half cm/kg. The signs; +, ++, +++ indicate if there was any DP for a number and if it was, mild, moderate or severe, respectively. Digit Preference scores for weight and hight are graded as; (0-5 Excellent,> 5-10 Good, >10-20 Accept and > 20 Problematic)

Standard Deviation (SD) of WHZ: Indicates whether there was a substantial random error in measurements. In a normal distribution the SD is equal to +1, but should lie between 0.8 and 1.2 Z score. SD increases as the proportion of erroneous results in the data set increases.

Skewness of WHZ: This is a measure of degree of asymmetry of the data around the mean. A normal distribution is symmetrical and has zero skewness and should lie between +1 or -1. Positive skewness indicates a long right tail and negative skewness indicates a long left tail.

Kurtosis of WHZ: This demonstrates the relative peakedeness or flatness compared to a normal distribution. The normal distribution has zero kurtosis and surveys should lie between +1 and -1. Positive kurtosis indicates a peaked distribution while negative indicates a flat one.

Percent of flag: Flags are measurement that are highly unlikely to occur in nature and are therefore highlighted by the software. These incoherent measurements should be corrected or discarded prior to analysis, 0 percent flags is ideal but should be less that 2-3 percent of children measured.

Age distribution: This allows for a view of the representativeness of the sample, and should be similar to the distribution within the population. Age bias is of particular concern for anthropometry. As younger aged (6-29) children are more likely to be malnourished than the older age group (30-59), this means under representation of the younger age group may give a lower prevalence than the actual one and vice versa. The age ratio allows a view of this relationship and should fall between 0.78 and 1.18 with an ideal falling around 1.0.

Sex ratio: Allows a view of the representativeness of the sample and should be similar to the distribution within the population. This should not vary too much from the expected sex ratio and should fall between 0.8 and 1.2.

Poisson Distribution: Tests if cases are randomly distributed or aggregated over the clusters by calculation of the Index of Dispersion (ID) and comparison with the Poisson distribution.

Table 28 provides a summary of findings on plausibility checks for nutrition assessments conducted in the *Gu* 2012.

Table 28: Plausibility checks

Location		Criteria	Missing/ Flagged data	Overall sex ratio	Overall age distribution	Digit Preference score-weight	Digit Preference score-Height	SD WHZ	Skewness WHZ	Kurtosis WHZ	Poisson Distribution
Northeast											
Bossaso IDPs	Nov-12	Category	Excellent	Excellent	Problematic	Excellent	Good	Excellent	Excellent	Excellent	Excellent
		Score	0 (1.3 %)	0 (p=0.215)	10 (p=0.000)	0 (3)	2 (8)	0 (1.04)	0 (-0.11)	0 (-0.11)	0 (p=0.521)
Garowe IDPs	Nov-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Excellent	Excellent	Excellent	Good
		Score	0 (1.9 %)	0 (p=0.808)	4 (p=0.027)	0 (3)	2 (7)	0 (1.08)	0 (0.01)	0 (0.07)	1 (p=0.035)
Galkayo IDPs	Nov-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Good	Excellent	Excellent	Excellent
		Score	0 (2.5 %)	0 (p=0.230)	4 (p=0.002)	0 (4)	2 (8)	2 (1.10)	0 (-0.09)	0 (-0.17)	3 (p=0.005)
QardhoIDPs	Nov-12	Category	Excellent	Excellent	Good	Excellent	Excellent	Problematic	Excellent	Excellent	Acceptable
		Score	0 (0.3 %)	0 (p=0.484)	2 (p=0.062)	0 (3)	0 (4)	20 (1.30)	0 (-0.15)	0 (-0.68)	3 (p=0.005)
Dhusamareb IDPs	Nov-12	Category	Excellent	Excellent	Problematic	Excellent	Good	Excellent	Excellent	Excellent	Problematic
		Score	0 (0.9 %)	0 (p=0.770)	10 (p=0.000)	0 (5)	2 (10)	0 (1.09)	0 (-0.07)	0 (-0.32)	5 (p=0.000)
East Golis-NE	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Excellent	Excellent	Excellent	Good
		Score	0 (2.4 %)	0 (p=0.766)	4 (p=0.004)	0 (4)	2 (8)	0 (1.08)	0 (-0.06)	0 (-0.13)	1 (p=0.014)
Northwest											
Hargeisa IDPs	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Good	Excellent	Excellent	Excellent
		Score	0 (1.9 %)	0 (p=0.564)	4 (p=0.009)	0 (4)	2 (8)	2 (1.15)	0 (-0.02)	0 (-0.29)	0 (p=0.584)
Burao IDPs	Dec-12	Category	Excellent	Excellent	Acceptable	Good	Good	Excellent	Excellent	Excellent	Acceptable
		Score	0 (0.9 %)	0 (p=0.804)	4 (p=0.021)	2 (6)	2 (9)	0 (1.09)	0 (-0.04)	0 (-0.30)	3 (p=0.004)
Berbera IDPs	Dec-12	Category	Excellent	Acceptable	Good	Excellent	Good	Acceptable	Excellent	Excellent	Excellent
		Score	0 (2.3 %)	4 (p=0.010)	2 (p=0.087)	0 (4)	2 (9)	6 (1.16)	0 (-0.24)	0 (-0.24)	0 (p=0.084)
West Golis	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Good	Excellent	Excellent	Acceptable
		Score	0 (1.2 %)	0 (p=0.787)	4 (p=0.008)	0 (4)	2 (10)	2 (1.13)	0 (0.12)	0 (-0.38)	3 (p=0.005)
NW Agropastoral	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Excellent	Excellent	Excellent	Excellent	Good
		Score	0 (2.1 %)	0 (p=0.398)	4 (p=0.039)	0 (3)	0 (5)	0 (1.04)	0 (0.12)	0 (-0.26)	1 (p=0.030)
East Golis	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Excellent	Excellent	Excellent	Excellent
		Score	0 (0.6 %)	0 (p=0.477)	4 (p=0.001)	0 (5)	2 (7)	0 (1.08)	0 (0.02)	0 (-0.38)	0 (p=0.481)
Hawd-NW	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Acceptable	Excellent	Excellent	Acceptable
		Score	0 (1.9 %)	0 (p=0.873)	4 (p=0.002)	0 (3)	2 (8)	6 (1.16)	0 (-0.07)	0 (-0.37)	3 (p=0.001)
Sool plateau	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Excellent	Excellent	Excellent	Acceptable
		Score	0 (1.4 %)	0 (p=0.534)	4 (p=0.002)	0 (4)	2 (6)	0 (1.03)	0 (-0.07)	0 (-0.12)	3 (p=0.003)
Nugal valley	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Good	Excellent	Excellent	Excellent	Acceptable
		Score	0 (1.0 %)	0 (p=0.711)	4 (p=0.032)	0 (4)	2 (9)	0 (1.08)	0 (0.04)	0 (-0.27)	3 (p=0.007)
Central											
Addun	Dec-12	Category	Excellent	Good	Good	Excellent	Good	Excellent	Excellent	Excellent	Excellent
		Score	0 (1.4 %)	2 (p=0.077)	2 (p=0.052)	0 (5)	2 (10)	0 (1.06)	0 (-0.17)	0 (0.04)	0 (p=0.055)
Hawd	Dec-12	Category	Excellent	Excellent	Excellent	Excellent	Acceptable	Excellent	Excellent	Excellent	Acceptable
		Score	0 (1.7 %)	0 (p=0.127)	0 (p=0.729)	0 (4)	4 (11)	0 (1.08)	0 (-0.03)	0 (-0.19)	3 (p=0.010)
Coastal Deeh	Dec-12	Category	Excellent	Excellent	Excellent	Excellent	Good	Excellent	Excellent	Excellent	Excellent
		Score	0 (1.4 %)	0 (p=0.971)	0 (p=0.250)	2 (9)	2 (9)	0 (1.04)	0 (0.13)	0 (-0.02)	0 (p=0.055)
Southern regions											
Afgoye	Dec-12	Category	Excellent	Excellent	Problematic	Excellent	Excellent	Excellent	Excellent	Excellent	Excellent
		Score	0 (2.0 %)	0 (p=0.748)	10 (p=0.000)	0 (3)	0 (5)	0 (1.09)	0 (-0.04)	0 (-0.07)	0 (p=0.271)
Mogadishu IDPs	Dec-12	Category	Good	Excellent	Problematic	Excellent	Acceptable	Acceptable	Excellent	Excellent	Acceptable
		Score	5 (3.3 %)	0 (p=0.799)	10 (p=0.000)	0 (5)	4 (11)	6 (1.17)	0 (-0.14)	0 (-0.34)	3 (p=0.001)
Mataban	Dec-12	Category	Excellent	Excellent	Excellent	Excellent	Acceptable	Good	Excellent	Excellent	Problematic
		Score	0 (2.4 %)	0 (p=0.522)	0 (p=0.639)	0 (4)	4 (11)	2 (1.14)	0 (-0.05)	0 (-0.18)	5 (p=0.000)
Beletweyne	Dec-12	Category	Good	Excellent	Excellent	Excellent	Acceptable	Problematic	Excellent	Excellent	Problematic
		Score	5 (3.5 %)	0 (p=0.775)	0 (p=0.230)	2 (5)	4 (14)	20 (1.24)	0 (-0.23)	0 (-0.46)	5 (p=0.000)
Mogadishu Urban	Dec-12	Category	Good	Excellent	Excellent	Excellent	Good	Acceptable	Excellent	Excellent	Acceptable
		Score	5 (2.7 %)	0 (p=0.662)	0 (p=0.420)	3 (5)	2 (7)	6 (1.18)	0 (-0.09)	0 (-0.34)	3 (p=0.005)
Bakool Pastoral	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Acceptable	Excellent	Excellent	Excellent	Problematic
		Score	0 (2.0 %)	0 (p=0.199)	4 (p=0.003)	4 (5)	4 (13)	0 (0.93)	0 (0.54)	0 (0.14)	5 (p=0.000)
Bay Agro Pastoral	Dec-12	Category	Excellent	Acceptable	Problematic	Excellent	Good	Good	Excellent	Excellent	Excellent
		Score	0 (1.1 %)	4 (p=0.041)	10 (p=0.000)	5 (5)	2 (8)	2 (1.14)	0 (0.34)	0 (-0.58)	0 (p=0.187)
Baidoa IDPS	Dec-12	Category	Excellent	Excellent	Problematic	Excellent	Good	Excellent	Excellent	Excellent	Good
		Score	0 (2.4 %)	0 (p=0.220)	10 (p=0.000)	6 (5)	2 (9)	0 (1.09)	0 (-0.03)	0 (0.00)	1 (p=0.021)
North Gedo Riverine	Dec-12	Category	Excellent	Excellent	Excellent	Excellent	Problematic	Excellent	Excellent	Excellent	Excellent
		Score	0 (2.0 %)	0 (p=0.109)	0 (p=0.210)	7 (5)	10 (22)	0 (1.09)	0 (-0.21)	0 (-0.31)	0 (p=?No cluster)
North Gedo Pastoral	Dec-12	Category	Excellent	Excellent	Acceptable	Excellent	Acceptable	Excellent	Excellent	Excellent	Excellent
		Score	0 (0.6 %)	0 (p=0.132)	4 (p=0.006)	8 (5)	4 (16)	0 (1.08)	0 (-0.05)	0 (-0.49)	0 (p=?No cluster)
		Category	Excellent	Excellent	Acceptable	Excellent	Problematic	Excellent	Excellent	Excellent	Excellent

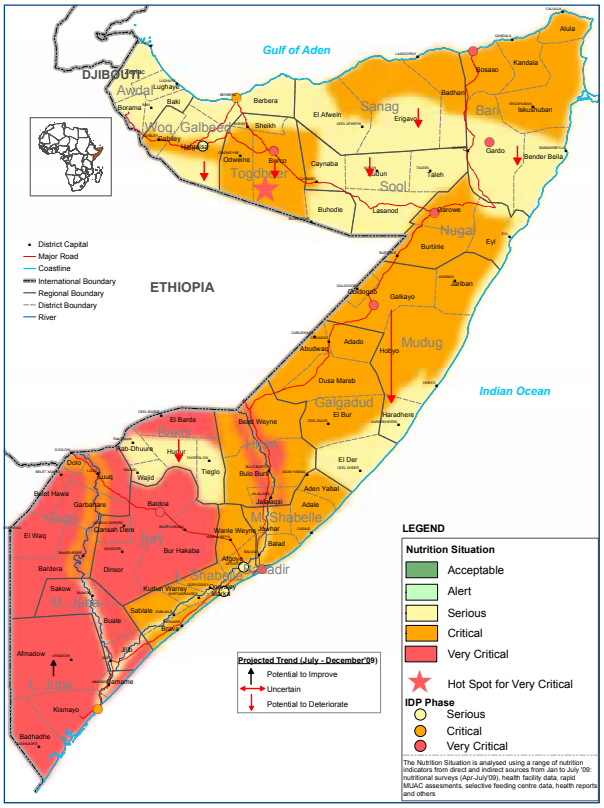
Table 29: Summary of Nutrition Assessments (October - December *Deyr* 2012 Survey Findings)

Livelihood Zone/ Population assessed	Sample Size	GAM	SAM	Total stunted	Severely stunted	Morbidity	Vitamin A supplementation status	CDR	U5DR
NW Agropastoral	617	**11.8** (8.8-15.6)	**1.3** (0.6-3.0)	**5.3 (3.5-7.8)**	**1.5 (0.7-3.1)**	**38.1 (33.2-43.0)**	**69.9 (63.0)**	**0.18** (0.06-0.49)	**0.69** (0.20-2.32)
WGolis/Guban	673	**17.3** (13.5-21.9)	**2.1** (1.2-3.6)	**9.7 (6.4-14.2)**	**2.6 (1.4-4.6)**	**30.6 (23.3-37.9)**	**81.6 (73.7-89.5)**	**0.11** (0.03-0.34)	**0.32** (0.08-1.31)
EGolis (NW)	642	**11.3** (9.1-13.9)	**1.7** (0.9-3.20	**0.3** (0.1-1.3)	0	**18.2** (13.0 -23.4)	**55.5** (43.0-67.9)	**0.25** (0.11-0.56)	**0.65** (0.24-1.62)
Hawd (NW)	622	**14.6** (10.6-19.8)	**3.0** (1.7-5.2)	**4.7** (2.9-7.6)	**0**	**25.4** (18.4-32.4)	**73.2** (61.4 - 84.9)	**0.17** (0.04-0.67)	**0.46** (0.10-2.06)
Sool plateau	662	**8.4** (5.9-11.9)	**0.9** (0.4-1.9)	**6.7** (4.4-10.0)	**0.8** (0.3-2.1)	**34.4** (25.3 - 43.6)	**82.6** (75.5 -89.7)	**0.12** (0.05 -0.31)	**0.29** (0.07-1.23)
Hargeisa IDPs	588	**10.9** (8.7-13.6)	**2.3** (1.2-4.2)	**8.8** (5.4-14.0)	**2.1** (0.8-5.5)	**24.8** (19.5-30.2)	**87.4** (82.8 -92.1)	**0.19** (0.08-0.44)	**0.35** (0.08-1.48)
Burao IDPs	584	**15.5** (11.6-20.5)	**2.1** (1.0-4.1)	**3.1** (1.5-6.3)	**0.2** (0.0-1.3)	**28.4** (21.5 -35.4)	**89.5** (86.7-92.4)	**0.28** (0.12-0.63)	**0.35** (0.08-1.46)
Berbera IDPs	483	**19.9** (15.4-25.3)	**6.6** (3.8-11.0)	**9.4** (5.8 -14.8)	**2.3** (1.1-4.8)	**24.4** (18.2-30.6)	**84.3** (79.0-89.6)	**0.20** (0.07-0.55)	**0.21** (0.03-1.60)
EGolis (NE)	649	**13.5** (10.2-17.5)	**3.4** (2.2- 5.3)	**8.4** (5.7-12.2)	**1.7** (0.8- 3.5)	**41.6** (35.1-48.1)	**59.9** (47.2-72.7)	**0.13** (0.05-0.34)	**0.46** (0.15-1.47)
Coastal deeh (NE)	729	**10.2** (7.7-13.3)	**1.5** (0.8-2.8)	**13.9** (10.9-17.4)	**2.9** (1.7-5.0)	**36.9** (29.4-44.4)	**67.8** (58.2-77.4)	**0.19** (0.08-0.40)	**0.56** (0.21-1.46)
Nugal0712	593	**12.5** (9.2-16.8)	**2.4** (1.4-4.1)	**3.1** (1.7-5.4)	**0.3** (0.1-1.4)	**25.0** (16.6-33.4)		0.13(0.04-0.41)	0.35(0.09-1.42)
Bossaso IDPs	797	**20.6** (17.1-24.6)	**4.3** (3.0-6.1)	**32.1** (26.1-38.9)	**12.7** (9.9-16.2)	**46.6** (40.6-52.5)	**84.3** (79.9-88.7)	**0.41** (0.17-1.00)	**0.98** (0.33-2.93)
Qardho IDPs	737	**21.8** (17.1-27.5)	**7.9** (5.4-11.4)	**19.0** (15.7-22.7)	**7.1** (5.0-9.9)	**31.8** (25.3-38.2)	**55.6** (50.0-61.1)	0.50(0.25-0.98)	1.49(0.81-2.72)
Garowe IDPs	827	**14.3** (11.4-17.8)	**3.7** (2.6-5.3)	**31.1** (26.0-36.7)	**11.4** (8.3-15.4)	**38.3** (33.1-43.5)	**76.1** (72.4-79.8)	**0.20** (0.09-0.41)	**0.47** (0.18-1.25)
Galkayo IDPs	900	**17.0** (13.9-20.6)	**4.4** (3.1-6.3)	**20.5** (15.1-27.3)	**6.6** (4.0-10.5)	**32.9** (27.2 -38.6)	**86.0** (81.6-90.3)	**0.06** (0.01-0.24)	**0.22** (0.05-0.92)
Hawd0612	686	**14.4** (11.2-18.3)	**1.9** (1.1-3.4)	**13.7** (10.0-18.6)	**3.3** (1.8-6.0)	**37** (30.6-43.5)	**72.7** (66.2-79.3)	**0.37** (0.15-0.90)	**1.03** (0.33-3.18)
Addun0612	649	**12.3** (9.5-16.0)	**3.1** (1.9-5.2)	**6.1** (3.8-9.5)	**0.8** (0.3-1.8)	**41.6** (35.1-48.1)	**59.9** (47.272.7)	**0.13** (0.05-0.34)	**0.46** (0.15-1.47)
Guriel/Dusamareb IDPs	571	**22.6**	**5.8**	**15.7**	**2.9**	**37.3**	**55.9**	**0.85**	**1.9**
BayAgrop	642	**18.7** (14.7-23.4)	**2.0** (0.7-5.4)	**48.7** (42.4-55.1)	**21.6 (16.2-28.1)**	**29.1** (23.3-34.8)	**8.0** (0.5-15.3)	**0.80** (0.52-1.25)	**1.86** (1.15-3.00)
BakoolPast	608	**24.5** (19.1-30.9)	**2.0** (1.2-3.3)	**11.3** (8.2-15.2)	**2.8 (1.6-7.8)**	**29.7 (23.4-35.9)**	**80.2** (71.8-88.5)	**0.18** (0.08-0.40)	**0.29** (0.07-1.21)
Baidoa IDPs	751	**12.8** (10.1-16.1)	**3.5** (2.4-5.0)	**43.5** (36.6-50.8)	**18.6 (13.2-24.10**	**41.5** (35.7 (47.4)	**14.3** (9.7-18.8)	**0.48** (0.28-0.84)	**0.67** (0.27-1.61)
Mogadishu IDPs	990	16.0 (12.8-19.8)	3.6 (2.4-5.3)	**8.4** (6.4-10.9)	**0.7** (0.3-1.4)	**47.4** (40.4-54.4)	**8.7** (5.5-11.8)	**0.88** (0.60-1.29)	**2.04** (1.36-3.05)
Afgoye Town	966	8.7 (6.9-10.9)	2.1 (1.2-3.6)	**7.1** (5.3-9.3)	**0.5** (0.2-1.2)	**24.6** (20.1-29.1)	**2.6** (0.6-4.6)	**0.74** (0.49-1.12)	**1.43** (0.71-2.88)
Mogadishu Town	635	9.7 (7.1-13.2)	1.6 (0.8-3.4)	**5.2** (3.5-7.7)	**0.8** (0.3-1.8)	**38.4** (32.7-44.2)	**12.3** (8.4-16.1)	**0.92** (0.55-1.54)	**0.65** (0.25-1.71)
Beletweyne District	539	**17.3(12.7-23.0)**	4.9(2.9-8.3)	**28.0** (21.8-35.0)	**9.1** (6.3-13.0)	**53.3** (42.6-63.9)	**11.2** (3.6-18.8)	**0.20** (0.08-0.51)	**0.83** (0.32-2.12)
Mataban District	558	25.2 (19.4-32.0)	7.4 (4.9-11.0)	**13.7** (11.0-17.0)	**2.7** (1.5-4.9)	**50.3** (39.2-61.3)	**15.1** (7.6-22.6)	**0.55** (0.30-1.00)	**1.44** (0.58-3.56)
Daawo pastoral	507	15.6 (12.4-19.4)	1.8 (0.1-3.3)	**13.6(10.8-16.9)**	**3.2(1.9-5.2)**	52.5(29.4.55.6)	87.4(77.2-97.6)	0.63 (0.37-1.04)	2.00 (1.06-3.74)
North Gedo Agro-pastoral	567	15.5 (11.1-21.1)	3.8 (2.3-6.1)	**19.6(16.5-23.1)**	**5.4(3.8-7.6)**	**41**(30.2-53.5)	86 (75.3-97.5)	0.67 (0.34-1.32)	0.71 (0.27-1.83)
North Gedo Riverine	581	13.6 (10.7-17.1)	2.1 (1.1-4.1)	**7.4(5.5-9.8)**	**0.4(0.1-1.3)**	27(19.7-36.6)	81.2(68.9-93.5)	1.45 (0.82-2.56)	3.66 (1.94-6.70)
Dolow IDPs	627	24.9	**5.4**	**33.6(29.9-37.6)**	**12.6(10.1-15.5)**	**40.2**	**91.6**	**1.27**	**2.87**
Dobley IDPs	1114	20.8	**5.1**	**13.9(12.0-16.1)**	**4.1(3.1-5.5)**	**32.2**	**99.6**	**1.92**	**2.53**
Kismayo IDPs	837	20.5 (17.3-24.2)	4.0 (2.8-5.9)	**41.5 (38.2-44.9)**	**16 (13.6-18.7)**	**24.6**	**86.4**	0.49 (0.31-0.76)	**1.28 (0.76-2.15)**
Galgadud Region Urban LZ	870	10.7(6.8-16.4 95)	2.3 (1.2- 4.5 95)	10.8 (6.2-18.1 95)	3.7 (1.6- 8.3)	15.3(8.6-22.0)	_	_	_
Sool Region Urban LZ	449	7.1 (4.8-10.5)	1.1(0.5- 2.6)	Not plausible	Not plausible	13.6 (9.0-18.2)	_	_	_
Sanaag Region Urban LZ	468	13.9 (11.9-16.1)	1.7 (1.2- 2.5)	Not plausible	Not plausible	33.7(27.7-40.0)	_	_	_
Bari Region Urban LZ	672	18.4 (14.4-23.2)	4.7(3.1- 7.2)	14.3 (11.1-18.3)	3.3 (2.2- 5.1)	17.7 (13.3-22.1)	_	_	_
Nugal Region Urban LZ	640	13.3 (10.7-16.5)	2.6 (1.5- 4.6)	8.2 (5.9-11.4)	1.4 (0.8- 2.5)	21.4(17.7-25.0)	_	_	_
Mudug Region Urban LZ	704	12.8 (9.8-16.5)	2.2 (1.1- 4.3)	14.6 (9.8-21.2)	3.5 (1.8- 6.6)	23.7(19.0-28.5)	_	_	_
Awdal Region Uban LZ	460	9.9 (7.4-13.1)	1.3 (0.6- 2.8)	10.3 (7.4-14.3)	2.6 (1.6- 4.4)	7.2(3.9-10.4)	_	_	_
Galbeed Region Urban LZ	501	10.6 (7.9-14.1)	1.4 (0.6- 3.1)	Not plausible	Not plausible	11.0(6.1-15.8)	_	_	_
Togdheer Region Urban LZ	459	12.1 (8.2-17.5)	1.6 (0.7- 3.5)	6.0 (3.7- 9.4)	0.4 (0.1- 1.8)	13.7(9.8-17.6)	_	_	_

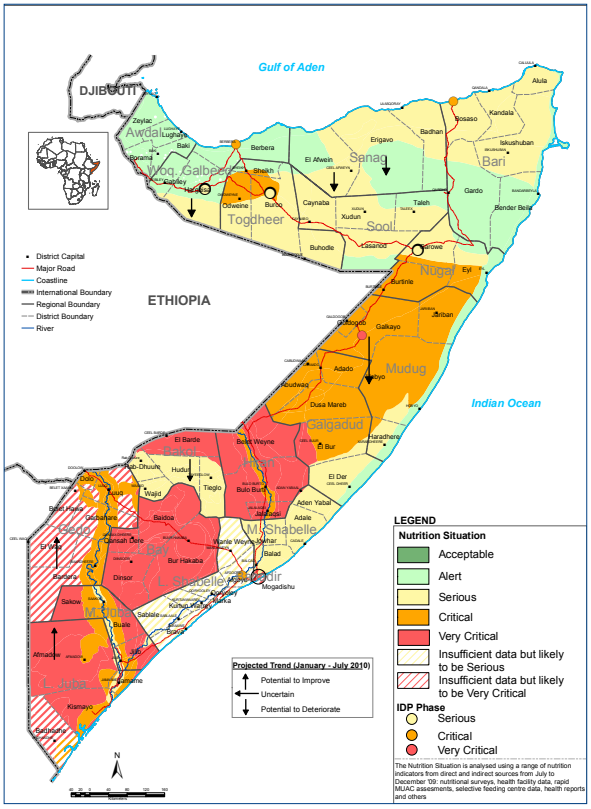
7. APPENDICES

7.1 Progression of Estimated Nutrition Situation *Gu* 2009 - *Deyr* 2012/13

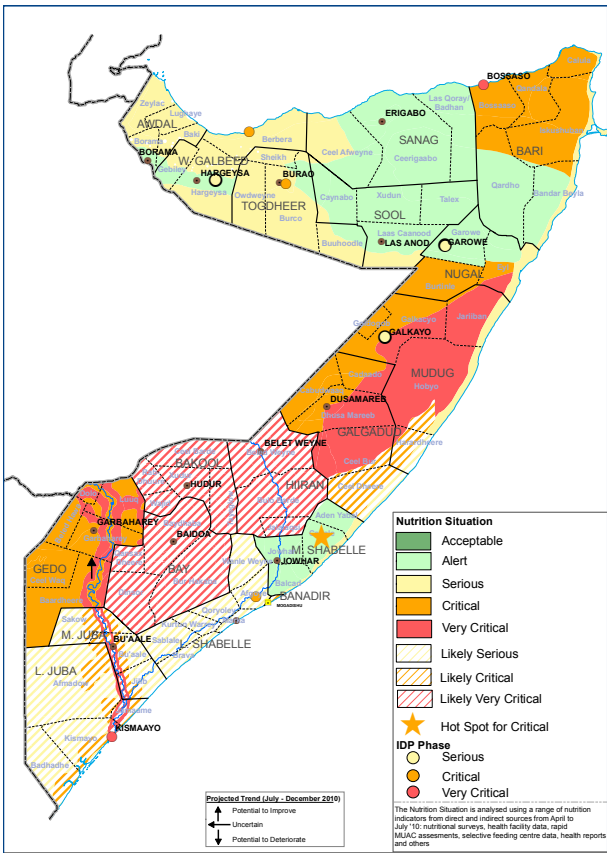
Gu 2009



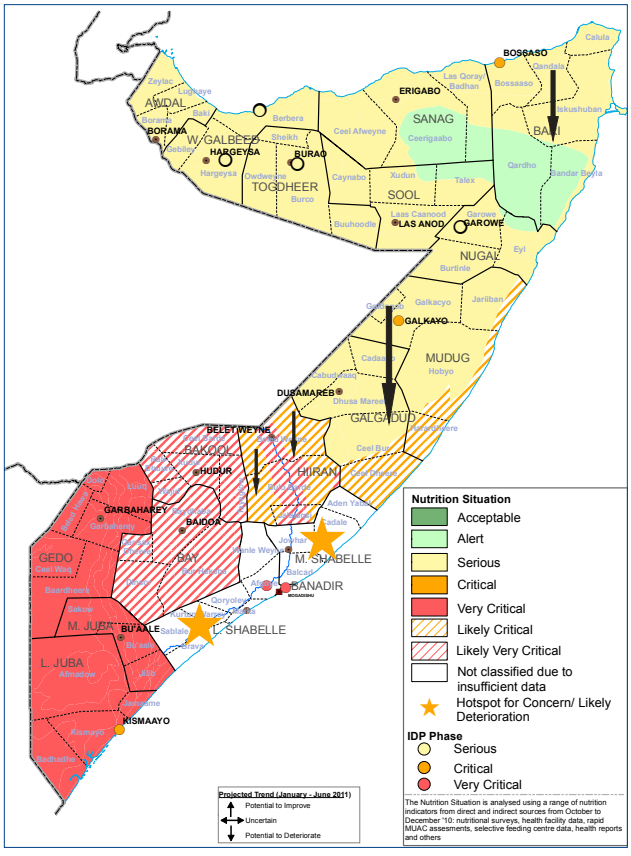
Deyr 2009/10



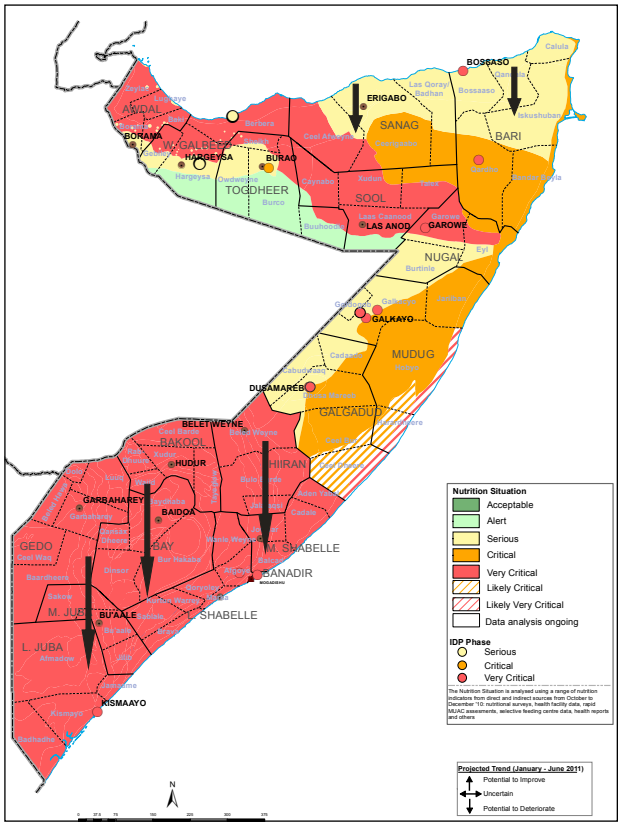
Gu 2010



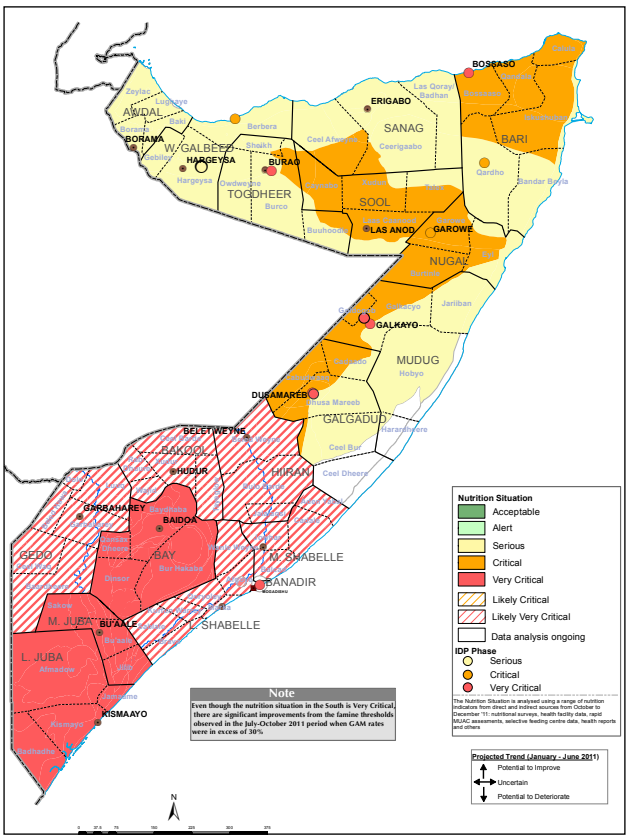
Deyr 2010



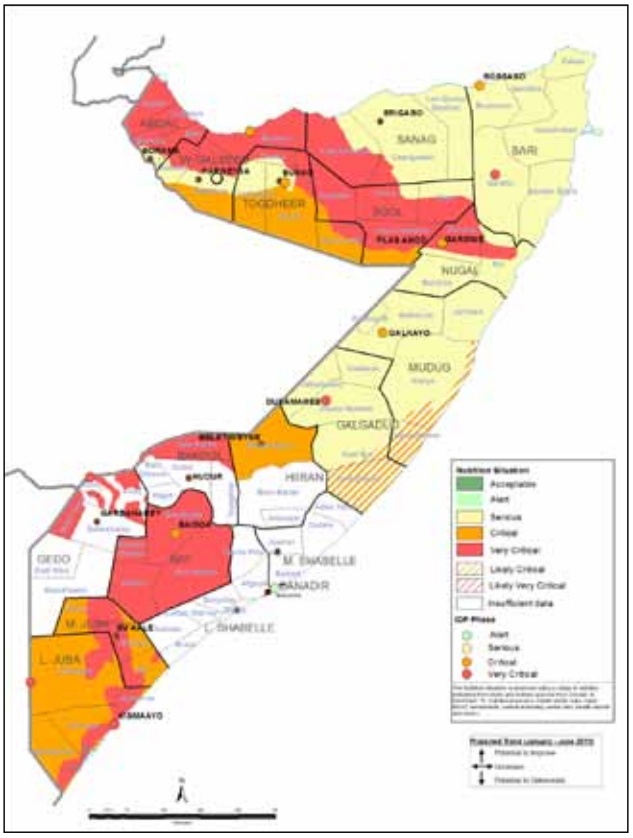
***GU* 2011**



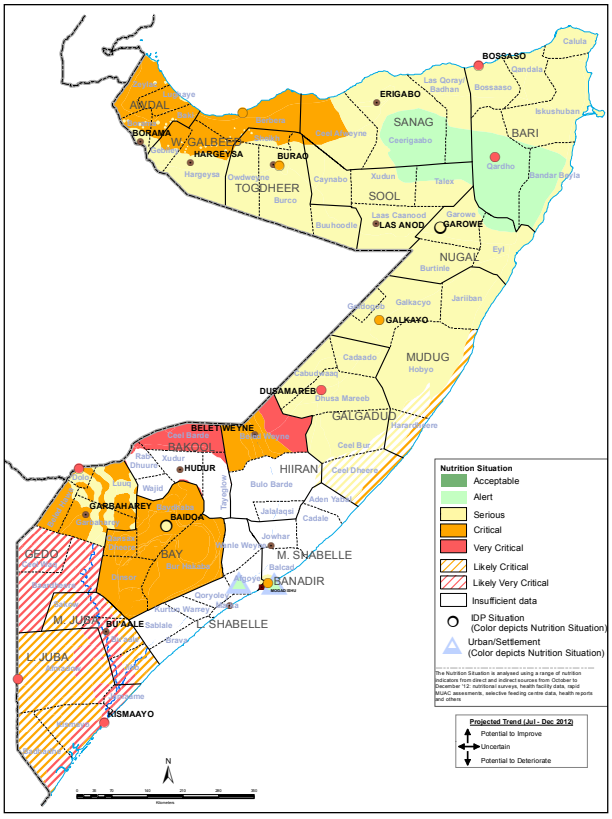
***Deyr* 2011/12**



***Gu* 2012**



***Deyr* 2012/13**



7.2 Nutrition Assessment Tools Post *Deyr* 2012/'13

NUTRITION ASSESSMENT HOUSEHOLD QUESTIONNAIRE- AGRO-PASTORAL *Nov-Dec* 2012

Household Number _____ **Date**_____ **Team Number** _____ **Cluster Number** _____ **ClusterName** _____ **District:** _____

Q1-7 Characteristics of Household

Q1. Household size[1] : (i) Today_____ (ii) In the last 30 days_____ **Q2.** Number of children less than 5 years (0-59 months) Today: _____

Q3a. Who controls and makes key decisions for and on behalf of the household members on: i) household resources (livestock, assets, income, and food)? ___, ii) health and social matters? ____.
1=Male 2=Female

Q3b. Marital status of caregiver: 1=Married & staying with spouse 2=Married but not stayed with spouse for 6 months or more 3=Widow/ widower 4=Divorced 5=Never married

Q3c. Highest level of mother's/caregiver's education: **0**=None **1**= Primary/Intermediary **2**= Secondary **3**= Tertiary (college/university)

Q4a .How long has this household lived in this locality? 1= Resident 2= IDP<6 Months 3=IDP >6 months 4=Returnee (within the last 6 months) 5=Refugee 6=Migrant

b. Are you hosting any recently (in the last 6 months) internally displaced persons? 0= No 1= Yes

c. If yes, Number of persons _____

Q5. How many mosquito nets does the household have? 0=none 1=one 2=two 3=three 4= 4 or more

Q6. What was the source of the net? 1= NGO 2=Health Centre 3= Purchase

Q7. What is the household's main source of income? 1= Animal & animal product sales 2= Crop sales/farming 3= Trade 4= Casual labor
5= Salaried/wage employment 6= Remittances 7=Self-Employment (Bush products/handicraft)
8=gifts/ *zakat*9= Others, specify _____

Q8-15 Feeding and immunization status of children aged 6 – 59 months in the household.

First Name	**Date of Birth** -- /-- /--	**Q8** **Child Age** (months) *(**if** child is more than 24 months old, **skip** to **Q12**)*	**Q9** Are you breast-feeding[1] the child? *(mention by name)* *0= No* *1=Yes*	**Q10** How many times did you feed the child in the last 24 hours *(besides breast milk)*? *0=Zero times* *1= 1 time* *2=2 times* *3 = 3 times* *4=-4 times* *5= 5 or more times*	**Q11** How many times did you feed the child with **milk** in the last 24 hours *(besides breast milk)*? *0=None* *1= 1 time* *2=2 times* *3=-3 times* *4= 4 times* *5= 5 times or more*	**Q 12** Has child been provided with Vitamin A in the last 6 months? *(show sample)* *0= No* *1=Yes* *9=Don't know*	**Q13** Has child been immunized against measles[2] in the last 6 months? *0= No* *1=Yes* *9=Don't know*	**Q14** No of doses of polio vaccine given to the child orally? 0=none 1=one 2=two 3=three or more *9=Don't know*	**Q15** Does child have immunization card? *0= No* *1=Yes*
1									
2									
3									
4									

1 Number of persons who live together and eat from the same pot

Q16-28 Anthropometry and morbidity for children aged 6 – 59 months in the household

First Name	Q16a Sex *1=Male 2=Female*	Q16b Age (month)	Q17 Weight (kg) *To the nearest tenth of a kg*	Q18 Height (cm) *To the nearest tenth of a cm*	Q19 Oedema *0= No 1=yes*	Q20 MUAC (cm) *To the nearest tenth of a cm (≥6 mo)*	Q21a Diarrhea[3] in last two weeks *0= No 1=yes*	Q21b If yes in Q21a, for how many days did the child have diarrhea?	Q22 Pneumonia (*oof wareen/ wareento*)[4] in the last two weeks *0= No 1=yes*	Q23 Fever[5] in the last two weeks *0= No 1=yes*	Q25 Suspected Measles[6] in last one month *0= No 1=yes 9=Don't know*	Q26 Did the child sleep under a mosquito net last night? *0= No 1=yes*	Q27 Where did you seek healthcare assistance when child was sick? (If yes in ***Q21 – 25)*** *0 = No assistance sought 1 = Own medication 2=Traditional healer 3 = Sheikh/ Prayers 4=Private Clinic/ Pharmacy 5 = Public health facility*	Q28 Is the child currently registered in any feeding centres? 0= None 1= SFP 2= TFC/SC 3= OTP 4= Other
1														
2														
3														
4														

29a. Anthropometry (MUAC) for adult women of childbearing age (15-49 years) present at the household

Sno	Name	Age (years)	No of doses of Tetanus vaccine received *0= None 1= One 2= Two 3=Three*	MUAC (cm)	Physiological status *1= Pregnant 2= Lactating (infant <6months) 3= None of the above*	Did the woman sleep under the mosquito net last night *0= No 1=yes*	Is women currently registered in 0=None 1=SFP (food) 2=MCHN (Food and Vitamins) 3=MCH - vitamins 4=Other, (specify)	Illness in last 14 days? If yes, what illness? *(use codes on the right)* If no, skip to 29b	***Codes** for adult **illnesses*** 0= None 1= ARI 2=Diarrheal 3=Fever/Febrile 4=Joint 5=Urinary tract infection (UTI) 6=Pain in the chest 7= Pain in lower abdomen/pelvis 8=Anemia 9 = Reproductive 10=Other, specify
1	*Mother:*								

29b. Where do you usually seek health assistance when sick? **0**=No assistance sought **1**=Own medication **2**=Traditional healer **3**=Sheikh/Prayers **4**=Private clinic/ Pharmacy **5**= Public health facility

29c. If 'No assistance' in 28b, why? 1 = Too expensive 2 = Too far 3 = Not enough time 4 = Security concerns 5= Other, specify ……

30a. Child dietary Diversity

Please describe the foods (all meals and snacks) that the children (6-24 months) ate yesterday during the day and night, whether at home or outside the home. Start with the first food you ate yesterday morning. Record the respective codes to the foods mentioned. *When a mixed dish is reported, ask about and tick all of the ingredients in their respective columns.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

First Name	Breakfast	Snack	Lunch	Snack	Dinner	Snack
1.						

When the respondent[7] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed by the children.	**If 6-24 months** Did the child (Name) consume food from any these food groups in the last 24 hours?[8] *0=No 1= Yes*		
	Child 1	Child 2	Child 3
1. Cereals, roots and tubers (*maize, ground maize, wheat, millet, rice, sorghum, spaghetti, bread, chapatti, macaroni, canjera; white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from these)*			
2. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*			
3. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*			
4. Flesh (meat, fish and poultry) products *(fish, beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*			
5. Eggs *(eggs of chicken, or eggs of fowl)*			
6. Vitamin A rich fruits and vegetables *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus fruit; yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*			
7. Other fruits and vegetables *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices; tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*			
Q 30b. Total number of food groups consumed by each child			

Q31a **Household Food Consumption & Dietary Diversity[2]:** *Please describe the foods (meals and snacks) that members of your household ate or drank yesterday during the day and night at home[3]. Start with the first food or drink of the morning. Include wild foods e.g. game meat, honey, fruits, vegetables, leaves.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

Breakfast	**Snack**	**Lunch**	**Snack**	**Dinner**	**Snack**

When the respondent[9] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed	Any household member[10] *0=No 1= Yes*
1. Cereals and cereal products (*maize, ground maize, wheat, white wheat, wholemeal wheat, millet, rice, white grain sorghum, red sorghum, spaghetti, bread, chapatti, macaroni, canjera)*	
2. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*	
3. Vitamin A rich vegetables and tubers *(yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*	
4. Dark green leafy vegetables *(amaranth, kale, spinach,, onion leaf, pumpkin leaves, cassava leaves, dark green lettuce)*	
5. Other vegetables *(tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*	
6. Vitamin A rich fruits *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus frui,)*	
7. Other fruit *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices)*	
8. Organ meat *(liver, kidney, heart or other organ meat)*	
9. Meat and Poultry *(beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*	
10. Eggs *(eggs of chicken, or eggs of fowl)*	
11. Fish *(fresh or dried) and other seafood (shellfish)*	
12. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*	
13. White roots and tubers (*white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from roots)*	
14. Oils and Fats *(cooking fat or oil, ghee, butter, sesame oil, margarine)*	
15. Sweets (*sugar, honey, sweetened soda and fruit drinks, chocolate biscuit, cakes,, candies, cookies, Sugar cane and sweet sorghum)*	
16. Coffee, tea and Spices (*coffee, tea, spices such as black pepper, cardamoms, cinnamon, ginger, nutmeg, cloves, salt. Condiments such as ketchup, soy sauce, chilli sauce)*	
Q 31b. Total number of food groups consumed?	
Q 31c. Did you or anyone in your household eat anything (meal or snack) OUTSIDE of the home yesterday	

2 FAO Household Dietary Diversity Tool
3 Include foods prepared inside the home but consumed outside the home

Q32 a. In the last three months, what is the main source in the household of these foods: i) Staple cereal? _____ii) Milk? _____ *(Use codes below)*

1= Own production 2= Purchasing 3=Community Gifts/Donations 4= Food aid 5= Bartering 6= Borrowing 7= Gathering

Q32b. How many times did you receive cereal food aid in the last 6 months? 0=never 1= once 2= twice 3= three times 4= fourth 5= five times 6= six times or more

Q33 How many meals[4] has the household had in the last 24 hours (from this time yesterday to now)? 0= none 1= One 2=Two 3= Three 4=Four +

Coping Strategies

Q 34. In the past 30 days, if there have been times when people did not have enough food or money to buy food, which of the following coping strategies did they use?

Agro-pastoralists Livelihood:

In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	0=Never (zero times/week) 1=Hardly at all (<1 times/ week) 2=Once in a while (1-2 times/ week) 3= Pretty often? (3-6 times/week) 4=All the time (Every day)
a. Shift from high priced cereal varieties to low price cereal varieties?	
b. Shift from high quality cereals to low quality cereals *(*from *osolo to obo)*?	
c. Borrow food on credit from shop *(Deyn)*?	
d. Borrow food on credit from another household *(Aamah)*?	
e. Reduce home milk consumption and sell more of milk produced?	
f. Reduce the number of meals in a day by adults?	
g. Stop all home milk consumption and sell all milk produced?	
h. Rely on food donations (gifts) from the close relatives *(Qaraabo)*?	
i. Rely on food donations (gifts) from the clan/community *(Kaalmo)*?	
j. Skip (go an) entire days without eating *(Qadoodi)*?	
k. Community identified your household as in need of food and fives support? (Qaraan)	
l. Send household children to live or eat with relatives (elsewhere)?	

WATER & SANITATION

Q35-36 Access to drinking water and sanitation facilities

Q35 What is the household's main source of drinking water?
Protected sources: 1 = Household connection 2 = Standpipe (Kiosk/Public tap/Taps connected to a storage tank) 3 = Protected Shallow well (covered with hand pump/motorized pump) 4 = Tanker 5 = Spring 6 = Bottled water 7 = Rooftop rainwater
Unprotected sources 8 = *Berkads* 9 = River/stream 10 = Dam/Pond *(Balley)* 11 = Open Shallow well 12 = other (specify) …

Q36 What type of toilet is used by most members of the household?
0 = No toilet is available (an open pit/open ground is used) 1 = Household latrine 2 = Communal/Public latrine 3 = Flush toilet

Checked by Supervisor (Sign) _____

(Footnotes)

1 Child having received breast milk either directly from the mothers or surrogate mother breast within the last 12 hours
2 Measles immunization is a shot in the upper arm given to children after 6 months of age at health clinics or by mobile health teams
3 Diarrhea is defined for a child having three or more loose or watery stools per day
4 ARI asked as oof wareen or wareento. The three signs asked for are chest in-drawing, cough, rapid breathing/nasal flaring and fever
5 Fever – The three signs to be looked for are periodic chills/shivering, fever, sweating and convulsions
6 Measles (Jadeeco): a child with more than three of these signs– fever and, skin rash, runny nose or red eyes, and/or mouth infection, or chest infection
7 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver
8 WHO, 2008. Indicators for assessing infant and young child feeding practices: Conclusion of a consensus meeting held 6-8 November 2007 in Washington D.C., USA ;FANTA 2002 Summary Indicators for Infant and Child Feeding Practices;
9 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver

4 *A meal refers to food served and eaten at one time (excluding snacks) and includes one of the three commonly known: - breakfast, lunch and supper/dinner*

7.3 NUTRITION ASSESSMENT HOUSEHOLD QUESTIONNAIRE- PASTORAL *Nov-Dec* 2012

Household Number _____ **Date**_____ **Team Number** _____ **Cluster Number** _____
Cluster Name _____ **District:** _____

Q1-7 Characteristics of Household

Q1. Household size[1] : (i) Today_____ (ii) In the last 30 days_____ **Q2.** Number of children less than 5 years (0-59 months) Today: _____

Q3a. Who controls and makes key decisions for and on behalf of the household members on: i) household resources (livestock, assets, income, and food)? ___, ii) health and social matters? ____.
1=Male 2=Female

Q3b. Marital status of caregiver: 1=Married & staying with spouse 2=Married but not stayed with spouse for 6 months or more 3=Widow/widower 4=Divorced 5=Never married

Q3c. Highest level of mother's/caregiver's education: **0**=None **1**= Primary/Intermediary **2**= Secondary **3**= Tertiary (college/university)

Q4a .How long has this household lived in this locality? 1= Resident 2= IDP<6 Months 3=IDP >6 months 4=Returnee (within the last 6 months) 5=Refugee 6=Migrant

b. Are you hosting any recently (in the last 6 months) internally displaced persons? 0= No 1= Yes

c. If yes, Number of persons _____

Q5. How many mosquito nets does the household have? 0=none 1=one 2=two 3=three 4= 4 or more

Q6. What was the source of the net? 1= NGO 2=Health Centre 3= Purchase

Q7. What is the household's main source of income? 1= Animal & animal product sales 2= Crop sales/ farming 3= Trade 4= Casual labor 5= Salaried/wage employment 6= Remittances 7=Self-Employment (Bush products/handicraft) 8=gifts/ *zakat* 9= Others, specify _____

Q8-15 Feeding and immunization status of children aged 6 – 59 months in the household.

First Name	**Date of Birth** -- /-- /--	**Q8** **Child Age** (months) *(**if** child is more than 24 months old, **skip** to **Q12**)*	**Q9** Are you breast-feeding[1] the child? *(mention by name)* *0= No 1=Yes*	**Q10** How many times did you feed the child in the last 24 hours *(besides breast milk)*? *0=Zero times 1= 1 time 2=2 times 3 = 3 times 4=-4 times 5= 5 or more times*	**Q11** How many times did you feed the child with **milk** in the last 24 hours *(besides breast milk)*? *0=None 1= 1 time 2=2 times 3=-3 times 4= 4 times 5= 5 times or more*	**Q 12** Has child been provided with Vitamin A in the last 6 months? *(show sample)* *0= No 1=Yes 9=Don't know*	**Q13** Has child been immunized against measles[2] in the last 6 months? *0= No 1=Yes 9=Don't know*	**Q14** No of doses of polio vaccine given to the child orally? 0=none 1=one 2=two 3=three or more *9=Don't know*	**Q15** Does child have immunization card? *0= No 1=Yes*
1									
2									
3									
4									

1 Number of persons who live together and eat from the same pot

Q16-28 Anthropometry and morbidity for children aged 6 – 59 months in the household

First Name	Q16a Sex *1=Male 2=Female*	Q16b Age (month)	Q17 Weight (kg) *To the nearest tenth of a kg*	Q18 Height (cm) *To the nearest tenth of a cm*	Q19 Oedema *0= No 1=yes*	Q20 MUAC (cm) *To the nearest tenth of a cm* *(≥6 mo)*	Q21a Diarrhea[3] in last two weeks *0= No 1=yes*	Q21b If yes in Q21a, for how many days did the child have diarrhea?	Q22 Pneumonia *(oof wareen/ wareento)*[4] in the last two weeks *0= No 1=yes*	Q23 Fever[5] in the last two weeks *0= No 1=yes*	Q25 Suspected Measles[6] in last one month *0= No 1=yes 9=Don't know*	Q26 Did the child sleep under a mosquito net last night? *0= No 1=yes*	Q27 Where did you seek healthcare assistance when child was sick? (If yes in ***Q21 – 25)*** *0 = No assistance sought 1 = Own medication 2=Traditional healer 3 = Sheikh/ Prayers 4=Private Clinic/ Pharmacy 5 = Public health facility*	Q28 Is the child currently registered in any feeding centres? 0= None 1= SFP 2= TFC/ SC 3= OTP 4= Other
1														
2														
3														
4														

29a. Anthropometry (MUAC) for adult women of childbearing age (15-49 years) present at the household

Sno	Name	Age (years)	No of doses of Tetanus vaccine received *0= None 1= One 2= Two 3=Three*	MUAC (cm)	Physiological status *1= Pregnant* *2= Lactating (infant <6months)* *3 = None of the above*	Did the woman sleep under the mosquito net last night *0= No 1=yes*	Is women currently registered in 0=None 1=SFP (food) 2=MCHN (Food and Vitamins) 3=MCH - vitamins 4=Other, (specify)	Illness in last 14 days? If yes, what illness? *(use codes on the right)* If no, skip to 29b	***Codes for adult illnesses*** 0= None 1= ARI 2=Diarrheal 3=Fever/Febrile 4=Joint 5 = Urinary tract infection (UTI) 6=Pain in the chest 7= Pain in lower abdomen/pelvis 8=Anemia 9= Reproductive 10=Other, specify
1	*Mother:*								

29b. Where do you usually seek health assistance when sick? **0**=No assistance sought **1**=Own medication **2**=Traditional healer **3**=Sheikh/Prayers **4**=Private clinic/ Pharmacy **5**= Public health facility

29c. If 'No assistance' in 28b, why? 1 = Too expensive 2 = Too far 3 = Not enough time 4=Security concerns 5= Other, specify ……

30a. Child dietary Diversity

Please describe the foods (all meals and snacks) that the children (6-24 months) ate yesterday during the day and night, whether at home or outside the home. Start with the first food you ate yesterday morning. Record the respective codes to the foods mentioned. *When a mixed dish is reported, ask about and tick all of the ingredients in their respective columns.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

First Name	Breakfast	Snack	Lunch	Snack	Dinner	Snack
1.						

When the respondent[7] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed by the children.	**If 6-24 months** Did the child (Name) consume food from any these food groups in the last 24 hours?[8] *0=No 1= Yes*		
	Child 1	Child 2	Child 3
1. Cereals, roots and tubers (*maize, ground maize, wheat, millet, rice, sorghum, spaghetti, bread, chapatti, macaroni, canjera; white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from these)*			
2. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*			
3. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*			
4. Flesh (meat, fish and poultry) products *(fish, beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*			
5. Eggs *(eggs of chicken, or eggs of fowl)*			
6. Vitamin A rich fruits and vegetables *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus fruit; yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*			
7. Other fruits and vegetables *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices; tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*			
Q 30b. Total number of food groups consumed by each child			

Q31a Household Food Consumption & Dietary Diversity[2]: *Please describe the foods (meals and snacks) that members of your household ate or drank yesterday during the day and night at home[3]. Start with the first food or drink of the morning. Include wild foods e.g. game meat, honey, fruits, vegetables, leaves.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

Breakfast	Snack	Lunch	Snack	Dinner	Snack

When the respondent[9] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed	Any household member[10] *0=No 1= Yes*
1. Cereals and cereal products (*maize, ground maize, wheat, white wheat, wholemeal wheat, millet, rice, white grain sorghum, red sorghum, spaghetti, bread, chapatti, macaroni, canjera)*	
2. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*	
3. Vitamin A rich vegetables and tubers *(yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*	
4. Dark green leafy vegetables *(amaranth, kale, spinach,, onion leaf, pumpkin leaves, cassava leaves, dark green lettuce)*	
5. Other vegetables *(tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*	
6. Vitamin A rich fruits *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus frui,)*	
7. Other fruit *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices)*	
8. Organ meat *(liver, kidney, heart or other organ meat)*	
9. Meat and Poultry *(beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*	
10. Eggs *(eggs of chicken, or eggs of fowl)*	
11. Fish *(fresh or dried) and other seafood (shellfish)*	
12. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*	
13. White roots and tubers (*white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from roots)*	
14. Oils and Fats *(cooking fat or oil, ghee, butter, sesame oil, margarine)*	
15. Sweets (*sugar, honey, sweetened soda and fruit drinks, chocolate biscuit, cakes,, candies, cookies, Sugar cane and sweet sorghum)*	
16. Coffee, tea and Spices (*coffee, tea, spices such as black pepper, cardamoms, cinnamon, ginger, nutmeg, cloves, salt. Condiments such as ketchup, soy sauce, chilli sauce)*	
Q 31b. Total number of food groups consumed?	
Q 31c. Did you or anyone in your household eat anything (meal or snack) OUTSIDE of the home yesterday	

Q32 a. In the last three months, what is the main source in the household of these foods: i) Staple cereal? _____ ii) Milk? _____ *(Use codes below)*

1= Own production 2= Purchasing 3=Community Gifts/Donations 4= Food aid 5= Bartering 6= Borrowing 7= Gathering

2 FAO Household Dietary Diversity Tool

3 Include foods prepared inside the home but consumed outside the home

Q32b. How many times did you receive cereal food aid in the last 6 months? 0=never 1= once 2= twice 3= three times 4= fourth 5= five times 6= six times or more

Q33 How many meals[4] has the household had in the last 24 hours (from this time yesterday to now)? 0= none 1= One 2=Two 3= Three 4=Four +

Coping Strategies

Q 34. In the past 30 days, if there have been times when people did not have enough food or money to buy food, which of the following coping strategies did they use? *(Select based on relevant livelihood system)*

Pastoralist Livelihood: Indicate type of Pastoralism practiced : 1= Nomadic/mobile 2= Sedentary/settled

In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	0=Never (zero times/week) 1=Hardly at all (<1 times/ week) 2=Once in a while (1-2 times/ week) 3= Pretty often? (3-6 times/week) 4=All the time (Every day)
a. Reduce home milk consumption and sell more of milk produced?	
b. Consume less preferred cereals	
c. Borrow food on credit from another household *(Aamah)*?	
d. Reduce number of meals per day?	
e. Reduce the portion size/quantity consumed at meal times *(Beekhaamis)*?	
f. Rely on food donations (gifts) from the clan/community *(Kaalmo)*?	
g. Consume weak un-saleable animals *(caateysi)?*	
h. Send household members to eat (for food) elsewhere?	
i. Skip (go an) entire days without eating *(Qadoodi)*?	
j. Beg for food *(Tuugsi/dawarsi)*?	
k. Rely on hunting for food *(ugaarsi)?*	

WATER & SANITATION

Q35-36 Access to drinking water and sanitation facilities

Q35 What is the household's main source of drinking water?
Protected sources: 1 = Household connection 2 = Standpipe (Kiosk/Public tap/Taps connected to a storage tank) 3 = Protected Shallow well (covered with hand pump/motorized pump)4 = Tanker 5 = Spring 6 = Bottled water 7 = Rooftop rainwater
Unprotected sources 8 = *Berkads* 9 = River/stream 10 = Dam/Pond *(Balley)* 11 = Open Shallow well 12 = other (specify) …

Q36 What type of toilet is used by most members of the household?
0 = No toilet is available (an open pit/open ground is used) 1 = Household latrine 2 = Communal/Public latrine 3 = Flush toilet

Checked by Supervisor (Sign) _____

(Footnotes)
1 Child having received breast milk either directly from the mothers or surrogate mother breast within the last 12 hours
2 Measles immunization is a shot in the upper arm given to children after 6 months of age at health clinics or by mobile health teams
3 Diarrhea is defined for a child having three or more loose or watery stools per day
4 ARI asked as oof wareen or wareento. The three signs asked for are chest in-drawing, cough, rapid breathing/nasal flaring and fever
5 Fever – The three signs to be looked for are periodic chills/shivering, fever, sweating and convulsions
6 Measles (Jadeeco): a child with more than three of these signs– fever and, skin rash, runny nose or red eyes, and/or mouth infection, or chest infection
7 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver
8 WHO, 2008. Indicators for assessing infant and young child feeding practices: Conclusion of a consensus meeting held 6-8 November 2007 in Washington D.C., USA ;FANTA 2002 Summary Indicators for Infant and Child Feeding Practices;
9 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver
10

4 *A meal refers to food served and eaten at one time (excluding snacks) and includes one of the three commonly known: - breakfast, lunch and supper/dinner*

7.4 NUTRITION ASSESSMENT HOUSEHOLD QUESTIONNAIRE, *November,* 2012- IDP

Household Number _____ **Date**_____ **Team Number** _____ **Cluster Number** _____
Cluster Name _____ **District:** _____

Q1-7 Characteristics of Household

Q1. Household size[1] : (i) Today_____ (ii) In the last 30 days_____ **Q2.** Number of children less than 5 years (0-59 months) Today: _____

Q3a. Household head: 1=Male 2=Female

Q3b. Marital status of caregiver: 1=Married & staying with spouse 2=Married but not stayed with spouse for 6 months or more 3=Widow/widower 4=Divorced 5=Never married

Q3c. Highest level of mother's/caregiver's education: **0**=None **1**= Primary/Intermediary **2**= Secondary **3**= Tertiary (college/university)

Q4a .How long has this household lived in this locality? 1= Resident 2= IDP<6 Months 3=IDP >6 months 4= Retunee (within the last 6 months) 5=Refugee 6=Migrant

b. Are you hosting any recently (in the last 6 months) internally displaced persons? 0= No 1= Yes

c. If yes, Number of persons _____

Q5. How many mosquito nets does the household have? 0=none 1=one 2=two 3=three 4= 4 or more

Q6. What was the source of the net? 1= NGO 2=Health Centre 3= Purchase

Q7. What is the household's main source of income? 1= Animal & animal product sales 2= Crop sales/ farming 3= Trade 4= Casual labor 5= Salaried/wage employment 6= Remittances 7=Self-Employment (Bush products/handicraft) 8=gifts/ *zakat* 9= Others, specify _____

Q8-15 Feeding and immunization status of children aged 6 – 59 months in the household.

First Name	**Date of Birth** -- /-- /--	**Q8** **Child Age** (months) *(**if** child is more than 24 months old, **skip** to **Q12**)*	**Q9** Are you breast-feeding[1] the child? *(mention by name)* *0= No* *1=Yes*	**Q10** How many times did you feed the child in the last 24 hours *(besides breast milk)*? *0=Zero times* *1= 1 time* *2=2 times* *3 = 3 times* *4=-4 times* *5= 5 or more times*	**Q11** How many times did you feed the child with **milk** in the last 24 hours *(besides breast milk)*? *0=None* *1= 1 time* *2=2 times* *3=-3 times* *4= 4 times* *5= 5 times or more*	**Q 12** Has child been provided with Vitamin A in the last 6 months? *(show sample)* *0= No* *1=Yes* *9=Don't know*	**Q13** Has child been immunized against measles[2] in the last 6 months? *0= No* *1=Yes* *9=Don't know*	**Q14** No of doses of polio vaccine given to the child orally? 0=none 1=one 2=two 3=three or more *9=Don't know*	**Q15** Does child have immunization card? *0= No* *1=Yes*
1									
2									
3									
4									

1 Number of persons who live together and eat from the same pot

Q16-27 Anthropometry and morbidity for children aged 6 – 59 months in the household

First Name	Q16a Sex *1=Male 2=Female*	Q16b Age (month)	Q17 Weight (kg) *To the nearest tenth of a kg*	Q18 Height (cm) *To the nearest tenth of a cm*	Q19 Oedema *0= No 1=yes*	Q20 MUAC (cm) *To the nearest tenth of a cm (≥6 mo)*	Q21 Diarrhea[3] in last two weeks *0= No 1=yes*	Q22 Pneumonia (*oof wareen/ wareento*)[4] in the last two weeks *0= No 1=yes*	Q23 Fever[5] in the last two weeks *0= No 1=yes*	Q24 Suspected Measles[6] in last one month *0= No 1=yes 9=Don't know*	Q25 Did the child sleep under a mosquito net last night? *0= No 1=yes*	Q26 Where did you seek healthcare assistance when child was sick? (If yes in ***Q21 – 24***) *0=No assistance sought 1 = Own medication 2=Traditional healer 3 = Sheikh/ Prayers 4=Private Clinic/ Pharmacy 5= Public health facility*	Q27 Is the child currently registered in any feeding centres? 0= None 1= SFP 2= TFC/SC 3= OTP 4= Other
1													
2													
3													
4													

28a. Anthropometry (MUAC) for adult women of childbearing age (15-49 years) present at the household

Sno	Name	Age (years)	No of doses of Tetanus vaccine received *0= None 1= One 2= Two 3=Three*	MUAC (cm)	Physiological status *1= Pregnant 2= Lactating (infant <6months) 3= None of the above*	Did the woman sleep under the mosquito net last night *0= No 1=yes*	Is women currently registered in 0=None 1=SFP (food) 2=MCHN (Food and Vitamins) 3=MCH - vitamins 4=Other, (specify)	Illness in last 14 days? If yes, what illness? If no, skip to 28c	***Codes** for adult **illnesses*** 0= None 1= ARI 2=Diarrheal 3=Fever/Febrile 4=Joint 5=Urinary tract infection (UTI) 6=Pain in the chest 7=Pain in lower abdomen/pelvis 8=Anemia 9 = Reproductive 10=Other, specify
1	*Mother:*								

28b. Where do you seek health assistance when sick? **0**=No assistance sought ***1***=Own medication **2**=Traditional healer **3**=Sheikh/ Prayers **4**=Private clinic/ Pharmacy **5**= Public health facility

28c. If 'No assistance' in 28b, why? 1 = Too expensive 2 = Too far 3 = Not enough time 4=Security concerns 5= Other, specify ……

29a. Child dietary Diversity

Please describe the foods (all meals and snacks) that the children (6-24 months) ate yesterday during the day and night, whether at home or outside the home. Start with the first food you ate yesterday morning. Record the respective codes to the foods mentioned. *When a mixed dish is reported, ask about and tick all of the ingredients in their respective columns.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

First Name	Breakfast	Snack	Lunch	Snack	Dinner	Snack
1.						

When the respondent[7] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed by the children.	**If 6-24 months** Did the child (Name) consume food from any these food groups in the last 24 hours?[8] *0=No 1= Yes*		
	Child 1	Child 2	Child 3

7.5 FIELD SUPERVISOR– VERBAL AUTOPSY

1. Cereals, roots and tubers (*maize, ground maize, wheat, millet, rice, sorghum, spaghetti, bread, chapatti, macaroni, canjera; white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from these)*			
2. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*			
3. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*			
4. Flesh (meat, fish and poultry) products *(fish, beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*			
5. Eggs *(eggs of chicken, or eggs of fowl)*			
6. Vitamin A rich fruits and vegetables *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus fruit; yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*			
7. Other fruits and vegetables *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices; tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*			
Q 29b. Total number of food groups consumed by each child			

Q30a **Household Food Consumption & Dietary Diversity[2]:** *Please describe the foods (meals and snacks) that members of your household ate or drank yesterday during the day and night at home[3]. Start with the first food or drink of the morning. Include wild foods e.g. game meat, honey, fruits, vegetables, leaves.*

Write down all foods and drink mentioned. When composite dishes are mentioned, ask for the list of ingredients. *The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.*

Breakfast	Snack	Lunch	Snack	Dinner	Snack

When the respondent[9] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed	Any household member[10] *0=No 1= Yes*
1. Cereals and cereal products (*maize, ground maize, wheat, white wheat, wholemeal wheat, millet, rice, white grain sorghum, red sorghum, spaghetti, bread, chapatti, macaroni, canjera)*	
2. Milk and milk products *(Fresh/fermented/powdered sheep, goat, cow or camel milk, Cheese (sour milk), condensed milk, yoghurt)*	
3. Vitamin A rich vegetables and tubers *(yellow fleshed pumpkins, carrots, orange sweet potatoes, yellow cassava)*	
4. Dark green leafy vegetables *(amaranth, kale, spinach,, onion leaf, pumpkin leaves, cassava leaves, dark green lettuce)*	
5. Other vegetables *(tomato, onion, squash, bell pepper, cabbage,light green lettuce, white radish)*	
6. Vitamin A rich fruits *(ripe mangoes, pawpaw, wild fruits such as gob, hobob, berde, isbandlays, kabla, coasta, red cactus frui,)*	
7. Other fruit *(banana, orange, apple, coconut, custard apple, dates, unripe mangoes, grapes, guava, wild fruits and 100 percent fruit juices)*	
8. Organ meat *(liver, kidney, heart or other organ meat)*	
9. Meat and Poultry *(beef, lamb, goat, camel, wild game, such as Dik Dik, chicken, other birds such as guinea fowl and francolin)*	
10. Eggs *(eggs of chicken, or eggs of fowl)*	
11. Fish *(fresh or dried) and other seafood (shellfish)*	
12. Legumes, nuts and seeds *(cowpeas, beans, lentils, peanut, pumpkin seed, lentil seed, sunflower seed, wild nuts)*	
13. White roots and tubers (*white potatoes, cassava, arrowroot, white sweet potatoes, or foods made from roots)*	
14. Oils and Fats *(cooking fat or oil, ghee, butter, sesame oil, margarine)*	
15. Sweets (*sugar, honey, sweetened soda and fruit drinks, chocolate biscuit, cakes,, candies, cookies, Sugar cane and sweet sorghum)*	
16. Coffee, tea and Spices (*coffee, tea, spices such as black pepper, cardamoms, cinnamon, ginger, nutmeg, cloves, salt. Condiments such as ketchup, soy sauce, chilli sauce)*	
Q 30b. Total number of food groups consumed?	
Q 30c. Did you or anyone in your household eat anything (meal or snack) OUTSIDE of the home yesterday	

Q31 a. In the last three months, what is the <u>main</u> source in the household of: i) Staple cereal? _____ ii) Milk? _____ *(Use codes below)*

1= Own production 2= Purchasing 3=Community Gifts/Donations 4= Food aid
5= Bartering 6= Borrowing 7= Gathering

2 FAO Household Dietary Diversity Tool
3 Include foods prepared inside the home but consumed outside the home

Q31b. How many times did you receive cereal food aid in the last 6 months? 0=never 1= once 2= twice 3= three times 4= fourth 5= five times 6= six times or more

Coping Strategies

Q 32. In the past 30 days, if there have been times when people did not have enough food or money to buy food, which of the following coping strategies did they use? *(Select based on relevant livelihood system)*

Urban/IDPs Livelihood Group

In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	0=Never (zero times/week) 1=Hardly at all (<1 times/ week) 2=Once in a while (1-2 times/ week) 3= Pretty often? (3-6 times/week) 4=All the time (Every day)
a. Shift to less preferred (low quality, less expensive) foods *(from osolo to obo)*?	
b. Limit the portion/quantity consumed in a meal *(Beekhaamis)*?	
c. Take fewer numbers of meals in a day?	
d. Borrow food on credit from the shop/market *(Deyn)*?	
e. Borrow food on credit from another household *(Aamah)*?	
f. Restrict consumption of adults in order for small children to eat?	
g. Rely on food donations from relatives *(Qaraabo)*?	
h. Rely on food donations from the clan/community *(Kaalmo)*?	
i. Seek or rely on food aid from humanitarian agencies?	
j. Send household members to eat elsewhere?	
k. Beg for food *(Tuugsi/dawarsi)*?	
l. Skip entire days without eating *(Qadoodi)*?	
m. Consume spoilt or left-over foods	

WATER, SANITATION AND HYGIENE

Q33-38 Access to water (quality and quantity)

Q33 What is the household's main source of drinking water?
Protected sources: 1 = Household connection 2 = Standpipe (Kiosk/Public tap/Taps connected to a storage tank) 3 = Protected Shallow well (covered with hand pump/motorized pump)4 = Tanker 5 = Spring 6 = Bottled water 7 = Rooftop rainwater
Unprotected sources 8 = *Berkads* 9 = River/stream 10 = Dam/Pond *(Balley)* 11 = Open Shallow well 12 = other (specify) …

Q34a If the household has no access to protected water sources (if the answer to Q33 is 8, 9, 10, 11 or 12), what is the main reason?
0 = Not Available 1 = Distance too far 2= Security Concerns 3 = Cannot afford 4 = Queuing time is too long 5 = Other reasons (specify)

Q34b If you get your water from a protected water source (if the answer to Q33 is 1, 2, 3, 4, 5, 6 or 7), How many days in the last year month were you NOT able to get water from the protected source 1= None 2 = 1-5 days 3 = >5 days

Q34c What was reason for not getting water? 1 = couldn't afford 2 = source dried up 3 = machine broke down 4 = other, specify _____

Q35a What is the average time taken per TRIP to and from the main water source *(including waiting and collecting time)?*
1 = Less than 30 minutes 2 = 30 to 60 minutes 3 = More than 1 hour

Q35b Most days (on average) how much water do you collect for the household

	Jerican (20 liter)	Jerican (5 liter)	Drum (200liters)	*Haan* (local container with capacity of about 12.5 liters)	Other container *(specify)*	**Total No. of Liters**
No. of containers						

Q36 Is the water for drinking treated and/or chlorinated[4] at the Household level? 0 = No 1 = Yes

Q37 If Yes, what is the method of treatment (*select more than 1 option if applicable*)?
1 = Boiling 2 = Chlorination 3 = Straining/filtering 4 = Decanting/letting it stand and settle 5 = Leaving the water out in the sun 6 = Other (specify)

4 Chlorinated water should have a characteristic taste and smell

Q38 Does the family pay for drinking water? 0 = No 1 = Yes

Q39-40 Sanitation and Hygiene (access and quality)

Q39a What type of toilet is used by most members of the household?
0 = No toilet is available (an open pit/open ground is used) 1 = Household latrine 2 = Communal/Public latrine 3 = Flush toilet

Q39b If the answer to Q39a is 0, what is the main reason?
1 = Pastoral/ frequent movements 2 = Lack resources to construct 3 = Lack of space to construct 4 = Don't see the need 9 = Don't know

Q39c If the answer to Q39a is 1,2 or 3, how many households share/use the same toilet? 1= One 2= 2 to 3 3= 4 to 9 4= 10 or more 9 = Don't know

Q40 When you wash your hands, what substance do you use for hand washing?
0= None (only with water) 1= Soap/Shampoo 2= Sand 3= Ash 4= Plant extracts

Q41 Have you been exposed to information on correct personal hygiene and sanitation practices in the last 3 months? *(select more than 1 option if applicable)*
0= No 1= Yes via mass media 2= Yes via printed media 3= Yes via interpersonal communication 4= Yes via group meetings

Checked by Supervisor (Sign) _____

(Footnotes)

1 Child having received breast milk either directly from the mothers or surrogate mother breast within the last 12 hours
2 Measles immunization is a shot in the upper arm given to children after 6 months of age at health clinics or by mobile health teams
3 Diarrhea is defined for a child having three or more loose or watery stools per day
4 ARI asked as oof wareen or wareento. The three signs asked for are chest in-drawing, cough, rapid breathing/nasal flaring and fever
5 Fever – The three signs to be looked for are periodic chills/shivering, fever, sweating and convulsions
6 Measles (Jadeeco): a child with more than three of these signs– fever and, skin rash, runny nose or red eyes, and/or mouth infection, or chest infection
7 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver
8 WHO, 2008. Indicators for assessing infant and young child feeding practices: Conclusion of a consensus meeting held 6-8 November 2007 in Washington D.C., USA ;FANTA 2002 Summary Indicators for Infant and Child Feeding Practices;
9 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver

7.6 Rapid Nutrition Assessment Form

Date: _____ District: _____ Livelihood: _____ Cluster Name: _____ Cluster No. __ Team No. ___

	Women aged 15-49 yrs		Children aged 6-59 months									
Household Number	**Physiological Status:** 1=Pregnant 2=Lactating 3 = Not pregnant/ lactating	**MUAC** (cm) [for Woman]	**Child No.**	**Sex:** 1=Male 2=Female	**Age** (Months)	**Weight** (kg)	**Height** (cm)	**Oedema** 1= Yes 2=No	**MUAC** (cm)	**Illness in past 14 days?** **No = 0** **If Yes,** specify (indicate ALL that apply) [1] *1=Diarrhoea 2=Pneumonia 3=Fever 4= Measles*	**Vaccination in the last 6 months** **No = 0** **If Yes,** specify (indicate ALL that apply) *1=Polio 2=Vitamin A supp 3=Measles*[2]	**Registered in feeding centre?** 0=None 1=SFP 2=TFC/SC 3=OTP

(Footnotes)

1 *Diarrhea* is defined for a child having three or more loose or watery stools per day; *Pneumonia* asked as oof wareen or wareento. The three signs asked for are chest in-drawing, cough, rapid breathing/nasal flaring and fever; *Fever* – The three signs to be looked for are periodic chills/shivering, fever, sweating and convulsions; *Measles* (Jadeeco): a child with more than three of these signs– fever and, skin rash, runny nose or red eyes, and/or mouth infection, or chest infection

2 *Measles immunization* is a shot in the upper arm given to children after 6 months of age at health clinics or by mobile health teams

7.7 Urban Survey Questionnaire

Sno	Cluster Number	Household Number	Sex: 1=Male 2=Female	Age (Months)	Oedema 1= Yes 2=No	Weight	Height	MUAC	Illness in past 14 days? No = 0 Yes specify *Diarrhoea=1 Pneumonia=2 Malaria=3, Measles=4*

Date_____ Team No:_____ Cluster Name_____ Town_____
District_____Region

7.8 Mortality Questionnaire, November 2012

Household No ___ **Date**_____ **Team No** ___ **Cluster No** _____ **Cluster Name** _____

Enumerator _____

No.	**1**: First Name	**2**: Sex *(1=M; 2=F)*	**3**: Age (yrs)	**4**: Born since __ / **09/ 2012**	**5**: Arrived since __ / **09/ 2012**	**6**: Reason for leaving	**7**: Cause of death
a) How many members are present in this household now? List them.							
b) How many members have left this household (out migrants) since **September** __, **2012**? List them							
c) Do you have any member of the household who has died since **September** __, **2012**? List them							

Codes

Reason for migration

1= Civil Insecurity
2= Food Insecurity
3= Employment
4=Divorce/ Married away
5=Visiting
6= Hospitalised
7= In boarding school
8= Grazing/herding
9= Other, specify

Cause of death

1= Diarrhoea
2= Fever
3= Measles
4= Breathing Difficulty
5= Malnutrition/Hunger
6= Violence/Physical injuries
7= Pregnancy/Birth complications
8= Other, specify (e.g. still birth)

Summary*

	Total	**U5**
Current HH Members		
Arrivals during the Recall period		
Number who have left during Recall period		
Births during recall		
Deaths during recall period		

* *For Supervisor Only*

7.9 VERBAL AUTOPSY FORM - OCT-DEC 2012

Household No: _____ Team No: _____ Cluster No: ____

FIELD SUPERVISOR– VERBAL AUTOPSY

Instructions to interviewer:

1) Introduce yourself and explain the purpose of your visit.
2) Ask to speak to the mother or to another adult caretaker who was present during the illnesses that lead to death.
   a. If this is not possible, arrange a time to revisit the household when the mother or caretaker will be home.

I. Information on the deceased

Name: _____ **Age** :_____ **Date of birth:** ____/_____/_____ **Sex:** 1=Male 2=Female	**If IDP, Date of arrival to the camp:** ____/_____/_____ **Settlement:** _____ **Section**: _____	**Date of death:** ____/_____/_____ **Place of death**: 1=Home 2= Hospital 3=Other, specify**:** _____

II. Information about the respondent

Name: _____ **Age:** _____ **Relationship with deceased**: _____

III. Respondents accounting of illness

1-2 days before death:

1 week before death:

1=Seen at health post 2=Discharged from the hospital 3=Inpatient/outpatient diagnosis
4= Stayed at home

Could you tell me about the events that led to his/her death?

iv. Symptoms during illness

Tell me if the patient had any of the following symptoms during the illness that led to death (answer all questions)

1. Did s/he have **cough/ difficulty in breathing**? 0= No 1= Yes *If NO, go to question 2*	**If YES:** a. For how long did s/he have cough? _____days b. Was the cough severe? 0=No 1= Yes 9=Don't Know c. Was there any blood in the sputum? …….. 0=No 1= Yes 9=Don't Know d. Did s/he have fast breathing OR chest indrawing? 0=No 1= Yes 9=Don't Know e. Did s/he have difficulty in breathing? 0=No 1= Yes 9=Don't Know
2. Did s/he have **fever**? 0= No 1= Yes *If NO, go to question 3*	**If YES:** a. For how long did s/he have fever? _____ days b. Did s/he have chills/rigors?? 0=No 1= Yes 9=Don't Know
3. Did s/he have **diarrhoea**? 0= No 1= Yes *If NO, go to question 4*	**If YES:** a. For how long did s/he have diarrhoea? _____ days b. When the diarrhoea was most severe, how many times did s/he pass watery stool in a day? _____ times c. Was there mucous with blood in the stools? 0=No 1= Yes 9=Don't Know d. What was the color of stool? ……
4. Did s/he **vomit**? 0= No 1= Yes *If NO, go to question 5*	**If YES:** a. For how long did s/he vomit? _____ days b. When the vomiting was most severe, how many times did s/he vomit in a day? _____ times c. What was the colour of the vomit? …… d. Did s/he have abdominal pain? 0=No 1= Yes 9=Don't Know
5. Did s/he **headache**? 0= No 1= Yes *If NO, go to question 6*	**If YES** : a. For how long did s/he headache? _____ days b. Did s/he have **stiff neck OR bulging fontanelle**? 0=No 1= Yes 9=Don't Know c. if YES For how long did she have stiff neck? _____ days
6. Did s/he have **convulsions**? 0= No 1= Yes *If NO, go to question 7*	**If YES**: a. For how long did s/he have convulsions? _____ days

7. Did s/he have **skin rash**? 0= No ǀ1= Yes *If NO, go to question 8*	**If YES:** a. For how long did s/he skin rash? _____ days b. Where was the rash located? 1=ǀ Face ǀ2=Trunk ǀ3=All over the body c. What did the rash look like?? ǀ1= Measles rash ǀ2= Rash with clear fluid ǀ3= Rash with pus ǀ9= Don't Know d. Did s/he have red eyes/ running nose? 0=No ǀ 1= Yes ǀ 9=Don't Know
8. Did s/he **become very thin** or did s/he **have leg or foot swelling ?** 0= No ǀ1= Yes *If NO, go to question 9*	**If YES**: a. Did s/he receive nutrition support? 0=No ǀ 1= Yes ǀ 9=Don't Know **if YES**: Please specify which programme ……1= SFP/OTP ǀ2= Discharged from SC/ ITFC
9. Did s/he have **yellow discoloration of the eyes/ palms**?	0=No ǀ 1= Yes ǀ 9=Don't Know
10. Did s/he have any animal bite? 0= No ǀ1= Yes	**If YES**: What type of bite?..... 1=snake bite 2=dog bite 3= Insect bite 4= Water animals (shark, crocodile, hippos, etc) 5= Other, specify ……..
11. Did s/he suffer any physical injuries? 0= No ǀ1= Yes	**If YES**: What type of injury?..... 1=gunshot 2=stabbed 3= explosion 4= burns 5= severe falls 6=car accidents 7= Other, specify ……
12. Any other fatal events 0= No ǀ1= Yes	**If YES**: What type?..... 1=suicide 2=drowning 3= Other, specify ……..
ONLY for mothers who died while pregnant or up to 6 weeks after delivery	
1. Where did she give birth? ǀ 1= Home ǀ 2=Hospital ǀ 3=Other, specify ……..	
2. Was there excessive bleeding before/during/after delivery? ǀ 0=No ǀ 1= Yes ǀ 9=Don't Know	
3. Convulsions before or after delivery? ǀ 0=No ǀ 1= Yes ǀ 9=Don't Know	
ONLY for INFANTS who died in the first 28 days after birth.	
1. Where was the baby born? ǀ1= Home ǀ 2=Hospital ǀ 3=Other, specify ……..	
2. Was s/he able to breathe after birth? ǀ0=No ǀ 1= Yes ǀ 9=Don't Know	
3. Was s/he able to suckle in a normal way after birth? 0=No ǀ 1= Yes ǀ 9=Don't Know	

II. Any previously known medical conditions? ǀ 0=No ǀ 1= Yes ǀ 9=Don't Know

List: _____ _____ _____

FOR SUPERVISOR'S USE ONLY

Ia. Suspected Primary (immediate) cause of death*: _____

Ib. Due to (underlying cause of death):_____**

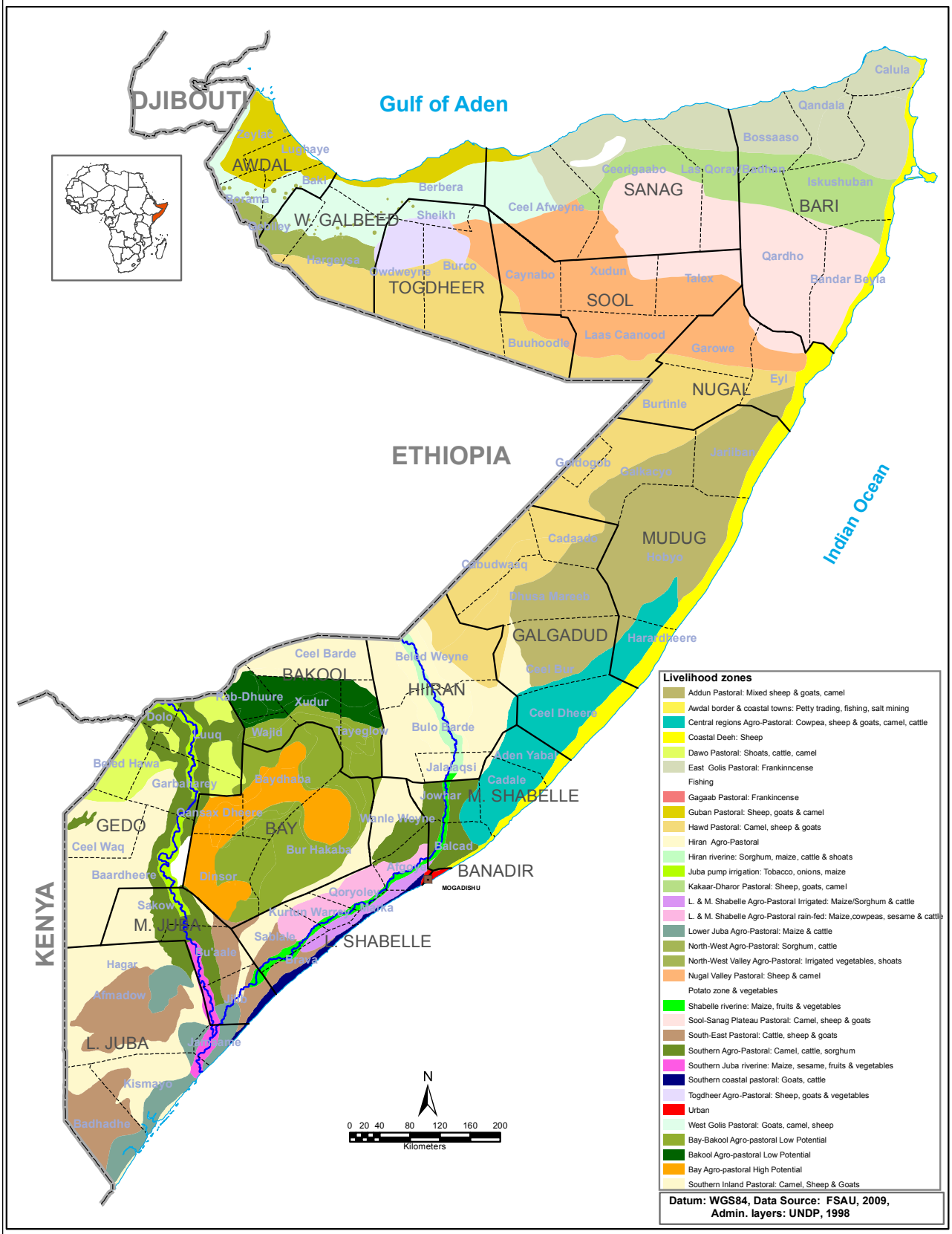
Ic. Significant conditions not related to the primary cause of death: _____ ––

Supervisor's Signature: _____

** Use the code below*

****Immediate causes***	****Underlying Causes***
1. Diarrhea 2. Fever 3. Coughs 4. Hemorrhage 5. Crush 6. Suffocation/chocking (Asphyxia) 7. Acute malnutrition (marasmus, kwashiorkor) 8. Physical injuries (Gunshot wounds, stabs, deep cuts) 9. Road accident 10. Killed (fighting/revenge execution) 11. Drowning 12. Hypertension 13. Animal bites (snake, dog, insect, or water animals) 14. Burn 15. Falls	1. Cholera 2. Measles 3. Malaria 4. Meningitis 5. Anemia 6. Hepatitis 7. Whooping cough 8. Tuberculosis (TB) 9. Pneumonia 10. Pregnancy/birth complications 11. Hunger/Starvation 12. Accidents 13. Poison 14. Food Poisoning 15. Asthma 16. Cancer, 17. Diabetes 18. Coronary heart disease 19. Suicide 20. STD/HIV/AIDS

14. Somalia Livelihood Zones



Food Security Analysis Unit - Somalia http://www.fsausomali.org
P.O. Box 1230 Village Market, Nairobi, Kenya Email: fsauinfo@fsau.or.ke
tel: 254-20-3745734 fax:254-20-3740598
FSAU is managed by FAO.

9. 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.

ACKNOWLEDGEMENTS

Data Analysis and Report Writing:	**- FSNAU Nutrition Team**
Abukar Yusuf Nur	- Nutrition Analyst
Joseph Waweru	- Nutrition Analyst
Mohamed Borle	- Nutrition Analyst
Louise Masese-Mwirigi	- Nutrition Analyst
Elijah Odundo	- Nutrition Data Analyst/Biostatistician
Tom Oguta	- Senior Nutrition Analyst
Ahono Busili	- Nutrition Team Manager

Data Collection and Support in Report Writing **-FSNAU Nutrition Field Team**
Fuad Hassan Mohamed, Osman Abdi Warsame, Abdullahi Warsame Mohamed, Khaliif Abdullahi Nouh, Abdulkarim Husein Duale, Mohamed Mohamoud Hassan, Saynab Ahmed Farah, Mohamed Moalim Hussein, Bashiir Mohamed Wayrah, Mohamed Haji Nour, Abdulkarim Mohamud Aden, Bashiir Osman Ahmed, Ibrahim Mohamed Mohamoud,

Special Contributions	
Tamara Nanitashvili	-Officer-in-Charge, FSNAU
Anne Bush	- Nutrition Technical Advisor
Abdi Roble	- Deputy Food Security Technical Manager
Fatuma Adan	- UNFAO Somalia Monitoring &Evaluation
Design and Publishing	
Barasa Sindani	- Design and Publications Officer
Catherine Kimani	- Graphics Assistant

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), EPInfo/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 satelitte 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