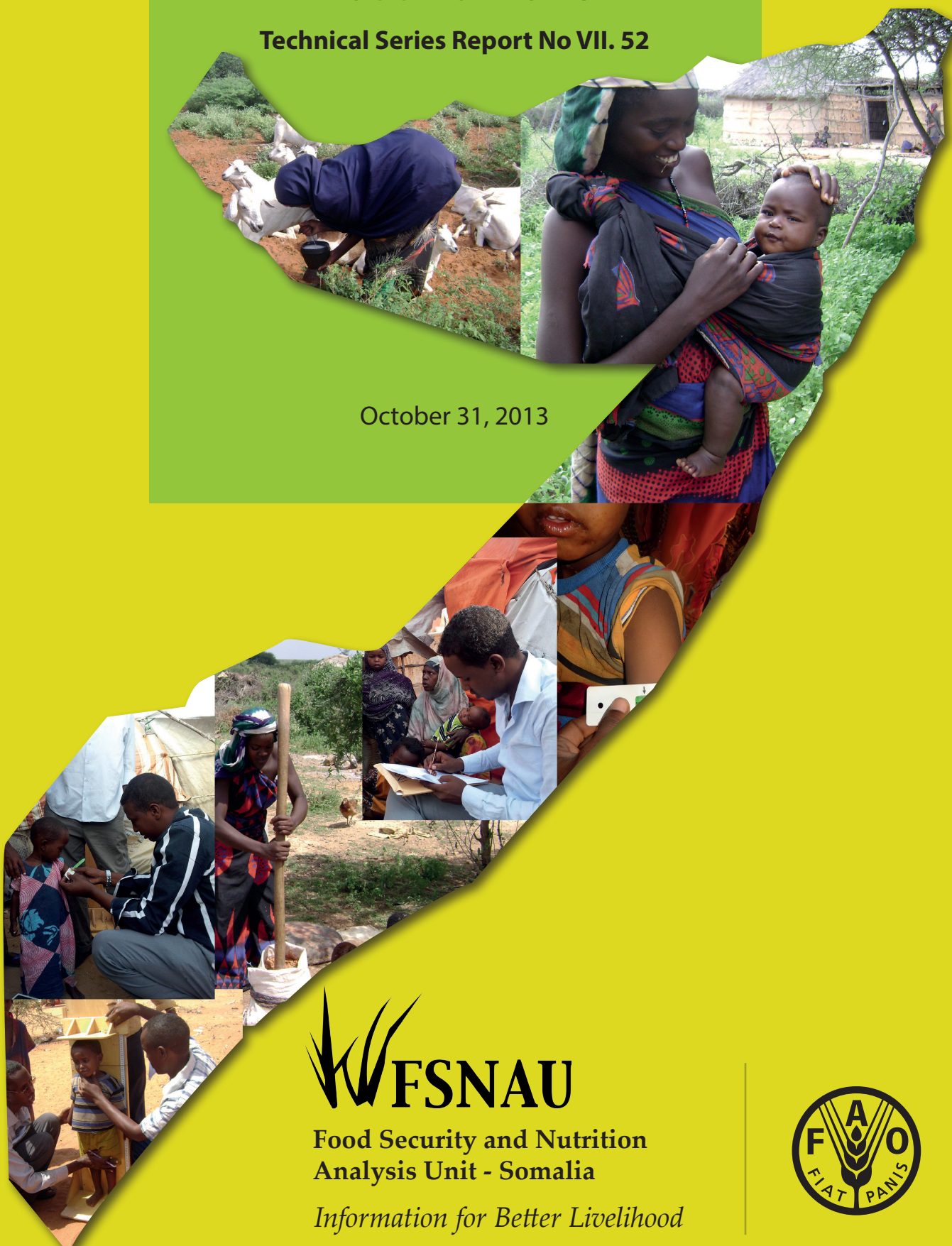


Nutrition Analysis Post *Gu* 2013

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Food Security and Nutrition
Analysis Unit - Somalia

Information for Better Livelihood



Technical Partner



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This report summarizes the results of the *Gu* 2013 Nutrition Surveys across Somalia of under five children (6-59 months) by the Food Security and Nutrition Analysis Unit (FSNAU). From May through July 2013, a total of 50 nutrition surveys were conducted, 42 of which were based on standard SMART methodology and 8 on random MUAC assessments.

The dedication of the assessment teams and the participation of the parents and caregivers of 34,415 children across the assessed areas is highly appreciated as this was the cornerstone for the success of the *Gu* 2013 survey. Additionally, nutrition data from about 130 health and nutrition facilities was reviewed and is included in the analysis and report. Without the support and expertise of the 11 local NGOs, 3 International NGOs, 3 Local Authorities, 8 line Ministries and 2 UN agencies (27 in total), this exercise would not have been possible. The participation and inputs from the 38 participants drawn from 3 UN agencies, 6 INGO and 21 local NGOs in the Nutrition Vetting meeting held on 27th August 2013 in Nairobi has contributed to the refining of the results presented and is greatly appreciated. Special thanks are due to UNICEF, WFP and the Somalia Nutrition Cluster for their continued technical support.

A sincere note of appreciation also goes to the FSNAU nutrition technical staff based in Somalia who worked hard to produce such high quality professional work. The contribution of field surveyors and data entry staff in conducting the fieldwork and collecting the required data was instrumental to this survey.

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LIST OF ACRONYMS USED

| | |
|--------|---|
| BF | Breast Feeding |
| CDR | Crude Death Rate per 10,000 people/day |
| ENA | Energy Networks Associations |
| FAO | Food and Agricultural Organization |
| FSNAU | Food Security and Nutrition Analysis Unit for Somalia |
| GAM | Global Acute Malnutrition |
| HAZ | Height For Age Z Scores |
| HIS | Health Information System |
| IDPs | Internally Displaced Persons |
| IYCF | Infant and Young Child Feeding |
| LZ | Livelihood Zones |
| MDG | Millennium Development Goals |
| MSF | Médecins Sans Frontières |
| MUAC | Mid Upper Arm Circumference |
| n or N | Sample size |
| NE | North East |
| NW | North West |
| P | Probability (P-value) |
| PLW | Pregnant Lactating Women |
| r | linear correlation coefficient |
| R | Reliability Score |
| SAM | Severe Acute Malnutrition |
| SMART | Standardized Monitoring and Assessment of Relief and Transitions |
| U5DR | Under-5 Death Rate |
| UN | United Nations |
| UNDP | United Nation Development Programme |
| UNICEF | United Nation Children's Fund |
| WAZ | Weight For Age Z Scores |
| WFP | World Food Programme |
| WHZ | Weight For Height Z Scores |
| WHO | World Health Organization |

FOREWORD

This Post *Gu*2013 Technical Series Report is the ninth edition of bi-annual nutrition situation technical series launched by the Food Security and Nutrition Analysis Unit (FSNAU) for Somalia, in February 2009. The publication provides specific focus on current nutrition information and outlook for Aug-Dec 2013.

The report includes a detailed analysis of the comprehensive nutrition situation by region and by rural livelihoods, displaced and urban population. We trust that you will find the report informative and useful.

For questions, comments, and feedback on this report please contact info@fsnau.org.



EXECUTIVE SUMMARY

A large proportion of Somali population remains poor and vulnerable. Disruptions, lack of essential health services and support structures increase the malnutrition risk to the population, in particular children, pregnant and nursing women. Nutrition assessment is a critical first step in efforts aimed at improving the nutritional status of the Somali population.

Between May – July 2013, FSNAU conducted 50 nutrition surveys across Somalia covering all regions & livelihood zones. Forty two of these surveys were based on SMART methodology and eight were surveys that used Mid Upper Arm Circumference (MUAC) as an indicator of wasting. Results show that acute malnutrition continues to be a serious public health problem in Somalia. A National median Global Acute Malnutrition (GAM) rate of 14.4 percent suggests that one out of every seven children (6-59 months) suffers from acute malnutrition and requires nutritional support. Significant association between prevalence of GAM and Severe Acute Malnutrition (SAM) was noted ($r=0.83$, $p<0.05$). The 2013 *Gu* survey results also show that despite high levels of GAM and frequent illness, mortality rates were not elevated. Under five death rate (U5DR) < 1.0/10,000/day was seen in most of the populations surveyed.

Gu 2013 estimates suggest that a total of 206,100 children 6-59 months are estimated to suffer from acute malnutrition including 40,950 children with severe acute malnutrition. This is a slight reduction in the number from December 2012 when 215,000 acute malnourished children were estimated. It was observed that 68 percent of these children (2 out of every 3 acute malnourished Children) were from South –Central Somalia even though the region accounts for only 56 percent share of the total population. The median GAM rate of 16.1 percent in South-Central Somalia was significantly higher than 11.4 percent median GAM in Northwest Somalia. Highest GAM levels was seen in Bakool pastoral livelihood region (27.4 %) of South Somalia.

Acute malnutrition (GAM) among IDPs was significantly higher (17.3 %) than among the urban populations (10.1 %) or rural livelihoods (14.4 %). Similar trends were noted for SAM as 3.1 percent of 6-59 month children suffered from SAM in IDPs compared to 1.2 percent in urban areas or 2.0 percent in rural areas. Critical levels of SAM were seen in Dobley IDPs (6.4 %) and Garowe IDPs (5.8 %) besides Bay Agro pastorals (6.0 %). Serious levels of SAM were observed in Bakool pastoral (5.4 %), North Gedo pastoral and North Gedo Agro pastorals (5.0 %). The results of *Gu* survey suggest that under five death rate tended to be higher in population groups with higher SAM prevalence though the association is statistically not significant.

Higher morbidity rate was seen in children with greater prevalence of acute malnutrition, though no significant association was observed. The morbidity rate in Northeast Somalia was higher than other regions and it is attributed to high concentration of IDPs in this region. This was also reflected by the higher morbidity rate in IDPs, (39.3 %) which was higher than morbidity rates seen in Urban (21.8 %) or rural livelihoods (23.9 %).

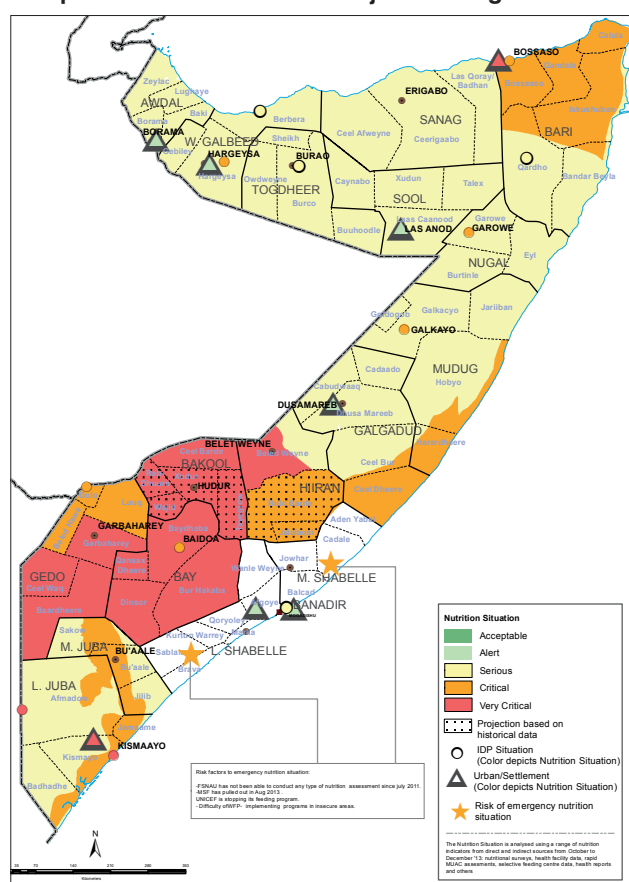
Results of *Gu* 2013 assessment suggest that Stunting is not a serious public health issue in Somalia. Stunting was seen in only 10.8 percent of 6-59 month old children surveyed. Exceptions were seen in some population groups: critical level of stunting in Bay Agro pastorals (46.9 %) of which 23.1 percent had severe levels of stunting. In Mogadishu IDPs alert levels of stunting (22.1%) were observed of which 46.7 percent had severe form of stunting. No significant association between acute malnutrition and stunting was observed. However prevalence of stunting in children (6-59 months) showed a significant correlation with prevalence of underweight ($r = 0.93$, $p < 0.01$) in different regions.

Prevalence of malnutrition: (wasting, stunting and underweight) tended to be higher in boys compared to girls but differences were not statistically significant.

Vitamin A supplementation coverage is of serious public health concern as only in two of the surveyed populations, ≥ 90 percent of the 6-59 month children were reported to have received Vitamin A supplementation (Burao IDPs and Sool plateau). If children have insufficient vitamin A, their ability to resist diseases such as diarrhoea, measles and acute respiratory infections is greatly hampered. High acute and chronic malnutrition were observed in the areas (Kismayo IDPs, Bay Agro pastorals, Kismayo town) where < 10 percent of children were reported to have

Infant Young Child Feeding (IYCF) practices directly affect the nutritional status of children under two years of age and, ultimately, impact child survival. In Somalia, poor infant and young child feeding practices were observed as only 67 percent of the children in North West and South compared to 51 percent in North East and Central received breast milk in addition to complementary food at one year of age. And the proportion of children who were breastfed till 2 years (20–23 months) declined to 12.1 percent in South Somalia, 16.7 percent in North East and Central regions and 14.9 percent in North west region.

Map 2: Nutrition Situation Projection Aug-Oct 2013



The reasons for persistently high rates of GAM and morbidity suggest that the interventions must be multi-sectoral and integrate food, health, hygiene, sanitation and care. Supporting and protecting optimal infant and young child feeding in Somalia is an essential intervention to save children's lives. Treatment is urgently needed for those who are acutely malnourished (206,100 children). However additional support interventions are needed in order to prevent malnutrition.

1: BACKGROUND

Malnutrition in Somalia is a huge public health problem, negatively affecting growth, development and survival of the population. Recognizing this, the overall goal of Somalia's nutrition strategy is to contribute to improved survival and development of Somali people through enhanced nutritional status.¹ Understanding the extent of malnutrition, its underlying causes, and how these change over time is essential to the design and implementation of nutrition and food security programs. FSNAU conducted 50 nutrition surveys across Somalia (Table 1) as part of its 2013 *Gu* Season Assessment, covering 34,415 children (6-59 months) from all regions and livelihood zones. The objectives of the *Gu* assessment were:

1. To assess the nutrition situation by quantifying the acute malnutrition and mortality in children aged 6-59 months from different population groups: IDPs, rural and urban.
2. To estimate the morbidity rates.
3. Estimate measles vaccination and Vitamin A supplementation rates.
4. To assess the infant and young child feeding practices amongst the community.
5. Analyse and identify the main potential factors contributing to malnutrition.

The nutrition assessments were planned in conjunction with the government authorities and partner agencies. The study population was drawn from regions and livelihoods across Somalia- 13 urban, 24 rural livelihood and 13 IDPs.

Three type of assessments were done:

1. Assessment using SMART² Methodology – Integrated Nutrition & Food Security (IDPs, n =8604); Only Nutrition – (Rural livelihoods , n=11399).
2. Rapid assessment – Urban Areas (n = 6987).
3. MUAC based nutrition assessment – areas with insecurity (n=7425).

Survey tools and details about when and where the survey was planned was shared (through the Nutrition Cluster) for coordination with and participation by partners.

Table 1: Details of *Gu* 2013 surveys conducted

| Region | Rural livelihood | Urban livelihood | IDPs | Total |
|---|---|---------------------|----------------|-------|
| South | Bakool Pastoral | Mogadishu Town | Mogadishu IDPs | 22 |
| | Bay Agro pastoral- | Afgoye Town | Kismayo IDPs | |
| | N Gedo agro pastoral | Kismayo town | Baidoa IDPs | |
| | N Gedo pastoral | Hiran – Beletwayne | Dhobley IDPs | |
| | N Gedo Riverine | Hiran-Mataban | Dolo IDPs | |
| | Juba Pastoral * | | | |
| | Juba Agro pastoral* | | | |
| | S Gedo Pastoral* | | | |
| | S Gedo Agro pastoral* | | | |
| | S Gedo Riverine* | | | |
| | Juba Riverine* | | | |
| Total | 12 | 5 | 5 | |
| Central | Addun | Galgadud./S Mudug | Dusamareb IDPs | 6 |
| | Coastal Deeh * | | | |
| | Cow pea Belt* | | | |
| | Hawd Pastoral * | | | |
| Total | 4 | 1 | 1 | |
| North East | Sool Plateau ** | Bari Region Urban | Bossaso IDPs | 10 |
| | E Golis/Kakaar Pastoral | Nugal Region | Qardho IDPs | |
| | Nugal Valley Pastoral ** | | Garowe IDPs | |
| | Coastal Deeh | | Galkayo IDPs | |
| | Total | 4 | 2 | 4 |
| North West | Agro pastoral LZ (Togdheer & | Sanaag Region Urban | Hargeisa IDPs | 12 |
| | W Golis /Guban Pastoral | Awdal Region | Burao | |
| | Sool Plateau ** | Woq Galbeed Region | Berbera IDPs | |
| | East Golis/Kakaar Pastoral | Togdheer Region | | |
| | Nugal Valley Pastoral** | Sool Region Urban | | |
| | Agro pastoral LZ (Togdheer & Northwest) | | | |
| | Total | 4 | 5 | 3 |
| TOTAL ASSESSMENTS – 50 | | | | |
| 42 comprehensive assessments and 8 MUAC assessments | | | | |

Survey Limitations

- Insecurity resulted in limited access to the population of interest in some areas: Shabelle. Populations living in highly insecure areas tend to have a worse nutritional status and higher mortality than those living in more secure areas
- Underestimation of the magnitude of the malnutrition in Somalia. FSNAU estimates the number of malnourished children are made on basis of UNDP population figures (2005) of 7.5 million people whereas numbers of 10.2 million populations are reported in July 2012 by other sources.
- There were inherent difficulties in determining the exact age of some children and this may have led to inaccuracies when analysing chronic malnutrition. Recall bias may lead to inaccurate age which then leads to wrong weight for age and height for age indices.

¹ Somalia Nutrition Strategy 2011-2013.

² Standardized Monitoring and Assessment of Relief and Transitions

2: METHODOLOGY

FSNAU and partners conducted a cross-sectional and a comprehensive nutrition assessment using pretested survey tools (Annex 2-3.) Sample included 34,415 children (6-59 months) from households selected using a two stage probability proportionate to size (PPS) cluster sampling methodology, based on SMART recommendations. Both qualitative and quantitative data collection techniques were used. Quantitative data was collected through a standard household questionnaire for nutrition assessments in Somalia. Retrospective mortality data for 90 days prior to the assessments was also collected among the study households using the household questionnaires (Annex 4).

Training and Supervision

A four to five days training of enumerators and supervisors was generally conducted. The training covered interview techniques, sampling procedure, inclusion and exclusion criteria, sources and reduction of errors, taking of accurate measurements (height, weight and MUAC), diagnosis of oedema and measles, verification of deaths within households, handling of equipment, and the general courtesy during the assessment. During the last day of the training a standardization test was conducted to evaluate performance of each surveyor regarding the precision and accuracy of anthropometric measurements. Each survey team member measured twice at least ten healthy children of the age 6-59 months. Pre-testing of the questionnaire and equipment were carried out in a non-selected village/ urban.

Quality Assurance

Quality of data was also ensured through:

- a. Supervision of fieldwork by FSNAU coordination team.
- b. Crosschecking of filled questionnaires on daily basis and recording of observations and confirmation of measles, severe malnutrition and death cases by supervisors. All households sampled were visited and details recorded including empty ones.
- c. Daily review was undertaken with the teams to address any difficulties encountered.
- d. Progress evaluation was carried out according to the time schedule and progress reports shared with partners on regular basis.
- e. Monitoring accuracy of equipment (weighing scales) by regularly measuring objects of known weights.
- f. quality assurance during data collection and entry.
- g. validation of data quality by running frequencies.
- h. Defining boundaries for exclusion
 - If Sex is missing the observation is excluded from analysis.
 - If Weight is missing, no WHZ and WAZ are calculated, and the programme derives only HAZ.
 - If Height is missing, no WHZ and HAZ are calculated, and the programme derives only WAZ.
 - For any child records with missing age (age in months) only WHZ will be calculated.
 - If a child has oedema only his/her HAZ is calculated.
- i. Continuous reinforcement of good practices. All measurements were loudly shouted by both the enumerators reading and recording them to reduce errors during recording.
- j. All the 42 surveys passed the nutrition survey quality test (plausibility test).

Reliability

Plausibility of the entered data checks was checked¹ using following parameters: Digit preferences for weight and height; standard Deviation of WHZ; Skewness of WHZ; Kurtosis of WHZ; percentage of Flags; age distribution; sex ratio; and Poisson distribution. This helped to ensure calculations are as reliable as possible (Table 2).

Out of the 42 surveys conducted in Gu'13, 4.8 percent were problematic, 47.6 percent were acceptable and 23.8 percent were good and excellent apiece. This suggest that only 1 in 20 surveys conducted in Somalia during the Gu' 13 seasonal assessment could have been problematic and consequently giving a 95 percent confidence in the disseminated survey results.

¹ [Measuring Mortality, Nutritional Status, and Food Security in Crisis Situations: SMART Methodology. SMART Manual .2012](#)

Table 2: Plausibility Checks

| | 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 | Overall Score |
|----------------------|-----------------------------|----------------------|-----------------------------|---|---|------------|-----------------|-----------------|-------------------------|------------------|
| RATING | | | | | | | | | | |
| Excellent | 0-2.5(0) | >0.1(0) | >0.1(0) | 0-7(0) | 0-7(0) | <1.1 (0) | <±0.2(0) | <±0.2(0) | >0.05(0) | 0-4 |
| Good | >2.5-5.0 (5) | >0.05(2) | >0.05(2) | 8--12(2) | 8--12(2) | <1.15(2) | <±0.4(1) | <±0.4(1) | >0.01 (1) | 5--9 |
| Acceptable | >5.0-7.5(10) | >0.001 (4) | >0.001 (4) | 13-20(4) | 13-20(4) | <1.20 (6) | <±0.6(3) | <±0.6(3) | >0.001(3) | 10--15 |
| Problematic | >7.5 (20) | <=0.001(10) | <=0.001(10) | > 20 (10) | > 20 (10) | >=1.20(20) | >=±0.6 (5) | >=±0.6 (5) | <=0.001(5) | >15 |
| LOCATION | Northeast | | | | | | | | | |
| Bosasso IDPs | 0 (2.4 %) | 2 (p=0.106) | 10 (p=0.000) | 0 (2) | 2 (9) | 0 (1.04) | 0 (-0.07) | 0 (-0.17) | 0 (p=0.000) | 14 |
| Garowe IDPs | 0 (1.0 %) | 0 (p=0.148) | 4 (p=0.028) | 0 (4) | 2 (8) | 6 (1.19) | 0 (-0.13) | 0 (-0.42) | 0 (p=0.000) | 12 |
| Galkayo IDPs | 0 (2.4 %) | 0 (p=0.251) | 4 (p=0.001) | 0 (2) | 0 (5) | 2 (1.13) | 0 (0.30) | 0 (-0.21) | 0 (p=0.000) | 6 |
| QardhoIDPs | 0 (2.3 %) | 0 (p=0.419) | 4 (p=0.016) | 0 (3) | 2 (10) | 2 (1.11) | 0 (0.09) | 0 (-0.13) | 0 (p=0.000) | 8 |
| East Golis-NE | 0 (2.5 %) | 0 (p=0.413) | 0 (p=0.291) | 0 (4) | 0 (5) | 2 (1.15) | 0 (0.09) | 1 (-0.39) | 0 (p=0.000) | 3 |
| Bari Urban | 0 (2.1 %) | 0(p=0.454) | 0 (p=0.151) | 0 (4) | 0(5) | 2 (1.15) | 0 (0.00) | 1 (-0.26) | 3 (p=0.001) | 6 |
| Northwest | | | | | | | | | | |
| Hargeisa IDPs | 0 (1.4 %) | 0 (p=0.753) | 4 (p=0.002) | 0 (3) | 0 (7) | 0 (1.01) | 0 (0.13) | 0 (-0.04) | 0 (p=0.060) | 4 |
| Burao IDPs | 0 (0.6 %) | 0 (p=0.114) | 4 (p=0.002) | 2 (8) | 2 (8) | 0 (1.05) | 0 (-0.15) | 0 (-0.13) | 0 (p=0.364) | 8 |
| Berbera IDPs | 0 (1.4 %) | 0 (p=0.757) | 4 (p=0.013) | 2 (7) | 0 (5) | 0 (1.01) | 0 (0.00) | 0 (0.13) | 0(p=0.12) | 6 |
| West Golis | 0 (2.5 %) | 0 (p=0.453) | 4 (p=0.001) | 0 (3) | 4 (11) | 0 (1.04) | 0 (0.00) | 0 (-0.02) | 1 (p=0.030) | 9 |
| NW Agropastoral | 0 (0.4 %) | 0 (p=0.275) | 10 (p=0.000) | 0 (2) | 2 (7) | 0 (0.97) | 0 (-0.09) | 0 (-0.11) | 0 (p=0.072) | 12 |
| East Golis | 0 (1.7 %) | 0 (p=0.649) | 2 (p=0.057) | 0 (4) | 2 (6) | 2 (1.14) | 0 (-0.03) | 0 (-0.40) | 0 (p=0.056) | 6 |
| Hawd-NW | 0 (1.8 %) | 0 (p=0.413) | 4 (p=0.008) | 2 (6) | 2 (9) | 2 (1.13) | 0 (0.11) | 0 (-0.43) | 0 (p=0.587) | 10 |
| Sool plateau | 0 (1.4 %) | 0 (p=0.908) | 0 (p=0.400) | 0 (3) | 2 (6) | 0 (1.01) | 0 (-0.09) | 0 (-0.12) | 0 (p=0.529) | 2 |
| Nugal valley | 0 (0.3 %) | 0 (p=0.822) | 4 (p=0.003) | 2 (6) | 2 (7) | 0 (1.05) | 0 (-0.07) | 1 (-0.38) | 0 (p=0.397) | 9 |
| Sanaag Urban | 0 (0.2 %) | 0 (p=0.965) | 0 (p=0.411) | 2 (6) | 4 (11) | 6 (1.18) | 0 (-0.03) | 0 (-0.30) | 0 (p=0.241) | 12 |
| Awdal urban | 0 (0.0 %) | 2 (p=0.050) | 10 (p=0.000) | 0 (3) | 2 (10) | 0 (1.01) | 0 (0.23) | 0 (-0.01) | 0 (p=0.436) | 14 |
| W. Galbeed Urban | 0 (0.9%) | 0 (p=0.432) | 10 (p=0.000) | 0 (4) | 4 (11) | 0 (1.03) | 0 (0.11) | 0 (-0.32) | 0 (p=0.722) | 14 |
| Central | | | | | | | | | | |
| Addun | 0 (1.6 %) | 0 (p=0.358) | 0 (p=0.101) | 0 (5) | 2 (6) | 0 (1.00) | 0 (0.13) | 0 (0.12) | 0 (p=0.000) | 2 |
| Hawd/NE | 0 (2.2 %) | 2 (p=0.062) | 0 (p=0.312) | 0 (4) | 2 (9) | 0 (1.09) | 0 (-0.02) | 0 (0.06) | 0 (p=0.000) | 4 |
| Coastal Deeh | 0 (2.4 %) | 0 (p=0.887) | 10 (p=0.000) | 0 (5) | 2 (7) | 2 (1.12) | 0 (0.03) | 0 (-0.22) | 0 (p=0.000) | 14 |
| Dhusamareb IDPs | 0 (1.9 %) | 0 (p=0.177) | 10 (p=0.000) | 2 (6) | 4 (p=12) | 0 (1.08) | 0 (-0.06) | 0 (-0.48) | 0 (p=0.000) | 16 |
| Sool Urban | 0 (0.2%) | 0 (p=0.502) | 4 (p=0.046) | 0 (4) | 2 (6) | 2 (1.12) | 0 (0.15) | 0 (-0.63) | 0 (p=0.645) | 8 |
| Togdheer Urban | 0 (0.2 %) | 0 (p=0.963) | 10 (p=0.000) | 0 (5) | 2 (9) | 0 (1.04) | 0 (0.33) | 0 (0.01) | 0 (p=0.000) | 12 |
| Southern Regions | | | | | | | | | | |
| Afgoye | 0 (2.0 %) | 0 (p=0.518) | 4 (p=0.002) | 0 (5) | 2 (7) | 0 (1.02) | 0 (-0.31) | 0 (-0.18) | 0 (p=0.000) | 6 |
| Mogadishu IDPs | 5 (3.5 %) | 0 (p=0.467) | 10 (p=0.000) | 0 (3) | 0 (5) | 2 (1.15) | 0 (-0.14) | 0 (-0.21) | 1 (p=0.011) | 18 |
| Mataban | 2 (p=3.5) | 0 (p=0.517) | 2 (p=0.056) | 0 (3) | 4 (15) | 2 (1.15) | 0 (0.08) | 0 (-0.23) | 0 (p=0.000) | 10 |
| Beletweyne | 0 (2.1 %) | 4 (p=0.002) | 10 (p=0.000) | 0 (3) | 2 (10) | 2 (1.10) | 0 (-0.05) | 0 (-0.05) | 0 (p=0.063) | 18 |
| Mogadishu Urban | 0 (2.3 %) | 0 (p=0.867) | 4 (p=0.025) | 2 (7) | 2 (7) | 0 (1.05) | 0 (-0.18) | 0 (0.07) | 0 (p=0.000) | 8 |
| Bakool Pastoral | 5 (2.8 %) | 0 (p=0.881) | 0 (p=0.269) | 0 (5) | 4 (16) | 2 (1.15) | 0 (0.27) | 0 (-0.15) | 0 (p=0.000) | 11 |
| Bay Agro_Pastoral | 0 (0.5 %) | 0 (p=0.459) | 10 (p=0.000) | 2 (8) | 2 (9) | 0 (1.06) | 0 (-0.25) | 0 (0.03) | 0 (p=0.000) | 14 |
| Baidoa IDPS | 0 (1.0 %) | 0 (p=0.299) | 4 (p=0.001) | 0 (4) | 0 (5) | 6 (1.16) | 0 (-0.04) | 0 (-0.35) | 0 (p=0.000) | 10 |
| North Gedo Riverine | 0 (0.6 %) | 2 (p=0.090) | 4 (p=0.001) | 2 (6) | 4 (19) | 0 (1.05) | 0 (-0.04) | 0 (-0.10) | 0 (p=0.000) | 10 |
| North Gedo Pastoral | 0 (1.6 %) | 0 (p=0.677) | 4 (p=0.001) | 2 (7) | 2 (8) | 2 (1.10) | 0 (0.02) | 0 (-0.02) | 0 (p=0.000) | 10 |
| North Gedo APastoral | 0 (1.2 %) | 0 (p=0.390) | 4 (p=0.001) | 0 (5) | 4 (15) | 2 (1.13) | 0 (-0.03) | 0 (-0.26) | 0 (p=0.000) | 10 |
| Dolow IDPs | 0 (0.6 %) | 0 (p=0.850) | 10 (p=0.000) | 0 (5) | 4 (13) | 0 (1.09) | 0 (0.09) | 0 (-0.15) | 0 (p=0.000) | 14 |
| Kismayu IDP | 0 (1.2 %) | 0 (p=0.289) | 10 (p=0.000) | 2 (9) | 2 (6) | 0 (0.90) | 0 (0.00) | 0 (0.47) | 0 (p=0.699) | 14 |
| Dobley IDP | 0 (1.8 %) | 2 (p=0.065) | 4 (p=0.005) | 0 (5) | 2 (8) | 6 (1.16) | 0 (-0.04) | 0 (-0.19) | 0 (p=) | 14 |
| Mudug Urban | 0 (2.1 %) | 0 (p=0.940) | 4 (p=0.016) | 0 (4) | 0 (5) | 0 (1.05) | 0 (-0.03) | 0 (-0.21) | 1 (p=0.034) | 5 |
| Nugal Urban | 0 (0.7%) | 0 (p=0.780) | 0 (p=0.120) | 0 (4) | 2 (8) | 2 (1.13) | 0 (-0.05) | 0 (-0.16) | 0 (p=0.748) | 4 |
| Kismayo town | 0 (1.8 %) | 0 (p=0.449) | 4 (p=0.018) | 2 (10) | 2 (8) | 0 (0.92) | 0 (-0.021) | 0 (0.85) | 0 (p=0.000) | 8 |
| Afgoye Town | 0 (0.2 %) | 0 (p=0.518) | 4(p=0.002) | 0 (5) | 0 (7) | 0 (1.02) | 1 (-0.31) | 0 (-0.18) | 3 (p=0.001) | 8 |

Data Analysis and Interpretation:

ENA software was used in the analysis of anthropometric and mortality data, and Epi Info in the cross tabulations and analysis of non-anthropometric data. Interpretation of findings on child growth indicators are based on internationally recognized thresholds, mainly the WHO¹. Household access to a variety of food was estimated through Dietary diversity, a qualitative measure of food consumption². The Primary data collected through the SMART surveys was triangulated with secondary data: – Morbidity trends and admissions trends of malnourished children into feeding programs.

The contextually relevant analysis forms the basis for data interpretation:

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

Reference indicators were categorized into five different phases based on the recognized thresholds: Acceptable, Alert, Serious, Critical and Very Critical³. The outcome of the integrated nutrition situation analysis process, the estimated nutrition situation, is based on convergence of evidence of the findings from the multiple indicators. A minimum of 2 anthropometric indicators (for example global and severe acute malnutrition rates) were used to make an analysis and classification of the situation into one of the 5 different phases. The overall analysis is consolidated into the Estimated Nutrition Situation Map. In the cartographical presentation, reliability of data source was illustrated through solid colour (for survey data which is quite reliable, R=1), or through slash marks (when statistically representative data is not available, in which case data reliability is lower and, R=2).

Analytical process

To make a statement on the:

- Nutrition situation: A minimum of two Core indicators were used (Annex 5).
- Projected trend: A minimum of two risk factors (immediate or underlying) were used (Annex 6).

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

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

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

³ Integrated Food Security Phase Classification. Technical Manual. Version 2. The Food and Agriculture Organization of the United Nations. Rome. 2012

3: FINDINGS OF NUTRITION ASSESSMENT (Gu 2013)

Serious to Critical levels of acute malnutrition persist in many parts of Somalia

GLOBAL ACUTE MALNUTRITION (GAM)

GAM among children aged 6- 59 months is a key indicator commonly used for describing the presence and magnitude of humanitarian emergencies. If 10 percent or more of children are classified as suffering from GAM, it is considered to be a serious emergency and with over 15 percent the emergency is considered critical.

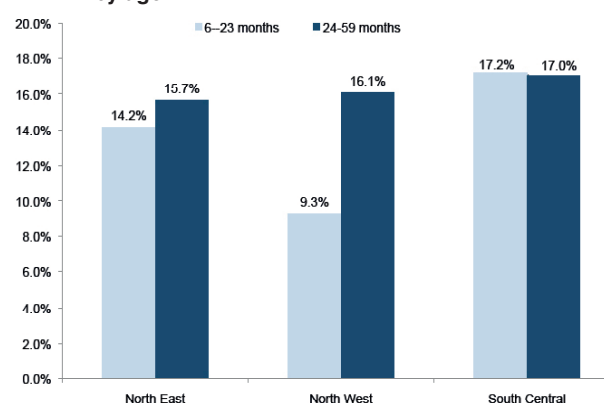
Map 1 summarizes the prevalence of GAM in Somalia. It was observed that consistently high levels of acute malnutrition continue to be a serious problem in Somalia (median GAM= 14.4 %). This suggests that one out of every seven children under-five are in need of nutritional improvement, even if they have not yet fallen below thresholds for stunting or wasting.

In 42 livelihoods out of 50 regions surveyed, serious to critical levels of acute malnutrition were observed (GAM > 10 % or MUAC < 12.5 cm in more than 10 percent of children). Significantly higher GAM levels were observed among IDPs (17.3 percent) compared with urban (10.1 percent) or rural areas (14.4 %). Hargeisa IDPs in NW used to be an exception with stable trends of GAM but critical levels were seen in Gu 2013 (18.2 %) because of measles outbreak.

Significant regional differences were noted in the prevalence of acute malnutrition (Table 3). Higher median GAM rates of (16.1 percent) were seen in south central Somalia compared to 15.8 percent in North East and 11.4 percent GAM in North West. Highest GAM prevalence in the country was seen in Bakool pastoral region (27.4 %) and Bay Agro pastorals (22.6 %).

Figure 1 shows the age differences in prevalence of GAM among 6-23 month old children compared to 24-59 month old children. It was observed that prevalence of acute malnutrition was higher in older children (23 – 59 months) compared to younger children (6-23 months), in Northeast and Northwest Regions.

Figure 1: GAM prevalence in different regions of Somalia by age



SEVERE ACUTE MALNUTRITION (SAM)

A child with SAM has a limited ability to respond to stresses (infection and environmental) and has a high mortality risk. It was observed that the prevalence of SAM was significantly higher in resource-poor environments: IDPs (Figure 2). The median SAM in IDPs was 3.1 percent compared to 1.3 percent in urban areas and 2.0 percent in rural livelihood zones.

Figure 2: SAM prevalence in 6-59 month old children in different livelihoods (% surveyed)

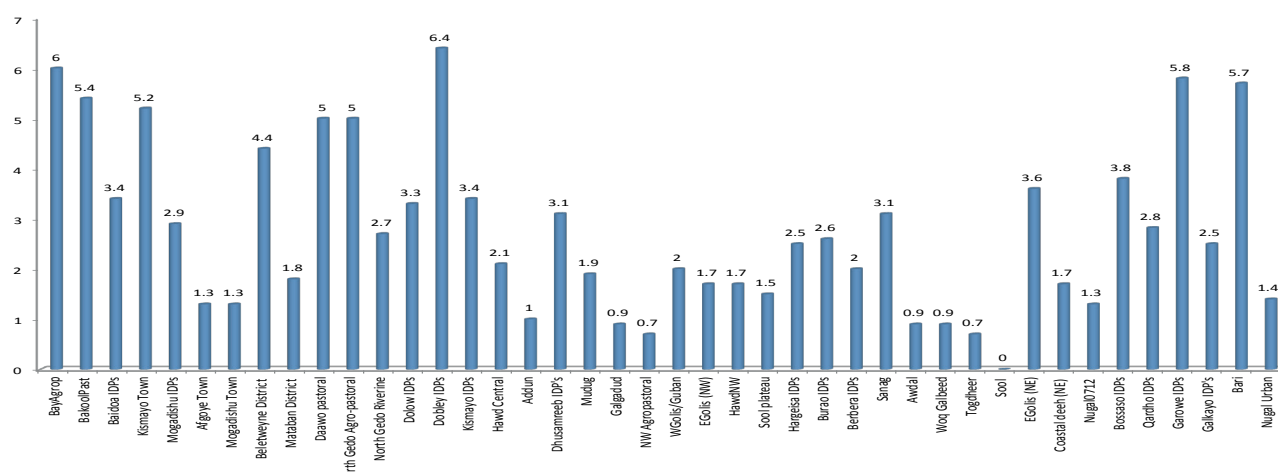


Table 3: Nutrition situation in different regions of Somalia

| Population assessed | GAM % | SAM % | Stunted % | Underweight % | CDR | U5DR | PLW < 23 cm % |
|--------------------------|-------------|-------------|-----------|---------------|-----------|----------|---------------|
| Acceptable | <5 | <3 | < 20 | < 10 | < 0.5 | < 1 | < 9.5 |
| Alert | 5 - 9.9 | 3 - 4.4 | 20 - 29.9 | 10 - 19.9 | 0.5 - < 1 | 1 - 1.99 | 9.5 - 14.9 |
| Serious | 10 - 14.9 | 4.5 - 5.4 | 30 - 39.9 | 20 - 29.9 | 1 - 2 | 2 - 3.9 | 15 - 21.9 |
| Critical | 15 - 19.9 | 5.5 - 6.9 | >40 | > 30 | 2 - 4.9 | 4 - 9.9 | 22 - 27.9 |
| Very Critical | >20 | >7 | | | > 5 | > 10 | > 28 |
| SOUTH | | | | | | | |
| Bay Agropastoral | 22.6 | 6.0 | 46.9 | 44.9 | 0.29 | 0.44 | 14.4 |
| Bakool Pastoral | 27.4 | 5.4 | 8.9 | 13.6 | 0.27 | 0.14 | 11.3 |
| Baidoa IDPs | 15.8 | 3.4 | 36 | 24.3 | 0.11 | 0.81 | 6.0 |
| Kismayo Town | 19.2 | 5.2 | 39.2 | 40.4 | 0.03 | 0.62 | 28.1 |
| Mogadishu IDPs | 12.6 | 2.9 | 22.1 | 19.0 | 1.07 | 0.85 | 3.6 |
| Afgoye Town | 9.8 | 1.3 | 6.1 | 8.1 | 0.5 | 0.73 | 1.5 |
| Mogadishu Town | 8.6 | 1.3 | 10.6 | 10.1 | - | - | - |
| Beletweyne District | 20.2 | 4.4 | 7.5 | 19.1 | 0.23 | 0.37 | 12.7 |
| Mataban District | 10 | 1.8 | 8.2 | 10.9 | 0.72 | 1.70 | 32.5 |
| Gedo North pastoral | 18.8 | 5.0 | 16.3 | 18.2 | 0.4 | 0.16 | 19.3 |
| North Gedo Agro-pastoral | 18.6 | 5.0 | 18.1 | 16.4 | 0.89 | 1.18 | 24.8 |
| North Gedo Riverine | 15.2 | 2.7 | 11.8 | 15.8 | 0.6 | 0.3 | 24.6 |
| Dolow IDPs | 16.4 | 3.3 | 33.6 | 30.4 | 0.75 | 0.87 | 7.3 |
| Dobley IDPs | 20.3 | 6.4 | 14.2 | 15.9 | 1.53 | 1.96 | 26.6 |
| Kismayo IDPs | 17.6 | 3.4 | 40.1 | 41.7 | 0.59 | 1.52 | 44.4 |
| | MUAC < 12.5 | MUAC < 11.5 | | | | | |
| Juba Pastoral | 7.1 | 0.5 | - | - | - | - | - |
| Juba Agropastoral | 10.4 | 1.9 | - | - | - | - | - |
| Juba riverine | 10.9 | 1.5 | - | - | - | - | - |
| S. Gedo Pastoral | 15.9 | 0.1 | - | - | - | - | - |
| S. Gedo Agropastoral | 14.4 | 1.6 | - | - | - | - | - |
| S. Gedo Riverine | 17.0 | 1.9 | - | - | - | - | - |
| Cowpea Belt | 8.6 | 1.2 | - | - | - | - | - |
| CENTRAL | | | | | | | |
| Addun | 8.0 | 1.0 | 9.3 | 9.1 | 0.36 | 0.95 | 6.6 |
| Hawd Central | 10.6 | 2.1 | 9.5 | 12.1 | 0.26 | 0.43 | 16.5 |
| Cowpea Belt | 9.7 | 2.0 | - | - | 0.41 | 0.25 | 8.1 |
| Dhusamreeb IDP's | 21.4 | 3.1 | 11.6 | 17.4 | 0.35 | 0.8 | 22.4 |
| Mudug | 12.5 | 1.9 | 11.0 | 12.0 | - | - | - |
| Coastal Deeh | 9.7 | 2.0 | | | 0.23 | 0.25 | |
| NORTHEAST | | | | | | | |
| EGolis (NE) | 16.7 | 3.6 | 9.7 | 15.1 | 0.28 | 0.53 | 23.9 |
| Coastal deeh (NE) | 10.8 | 1.7 | 14.7 | 18.7 | 0.11 | 0.36 | 18.6 |
| Nugal Valley | 11.3 | 1.3 | 2.0 | - | 0.03 | 0 | |
| Bossaso IDPs | 17.3 | 3.8 | 30.0 | 29.9 | 0.18 | 0.35 | 17.1 |
| Qardho IDPs | 14.9 | 2.8 | 22.9 | 21.8 | 0.26 | 0.28 | 17.7 |
| Garowe IDPs | 19.2 | 5.8 | 14.1 | 19.7 | 0.16 | 0.26 | 10.9 |
| Galkayo IDP's | 19.4 | 2.5 | 27.7 | 28.1 | 0.22 | 0.23 | 28.8 |
| Bari | 21.2 | 5.7 | 6.6 | 15.1 | - | - | - |
| Nugal Urban | 10.3 | 1.4 | 4.3 | 6.3 | - | - | - |
| NORTHWEST | | | | | | | |
| NW Agropastoral | 9.4 | 0.7 | 1.8 | 4.9 | 0.18 | 0.37 | 13.0 |
| WGolis/Guban | 14.9 | 2 | 6.4 | 15.6 | 0.07 | 0.15 | 16.3 |
| EGolis (NW) | 14.4 | 1.7 | 5.2 | 6.7 | 0.11 | 0.81 | 4.0 |
| HawdNW | 14.4 | 1.7 | 2.5 | 5.7 | 0.26 | 0.43 | 0.8 |
| Sool plateau | 10.8 | 1.5 | 5.0 | 6.2 | 0.04 | 0 | 13.0 |
| Hargeisa IDPs | 18.2 | 2.5 | 8.2 | 12.3 | 0.23 | 0.57 | 4.7 |
| Burao IDPs | 14.2 | 2.6 | 2.6 | 5.4 | 0.17 | 0.61 | 4.2 |
| Berbera IDPs | 10.8 | 2 | 2.4 | 6.1 | 0.28 | 0.77 | 6.3 |
| Sanaag | 12.7 | 3.1 | 3.7 | 8.2 | - | - | - |
| Adwal | 9.8 | 0.9 | 14.1 | 14.0 | - | - | - |
| Woq Galbeed | 7.7 | 0.9 | 2.6 | 4.9 | - | - | - |
| Toghdeer | 11.5 | 0.7 | 0.9 | 3.5 | - | - | - |
| Sool | 3.6 | 0 | 1.2 | 3.0 | - | - | - |

Critical levels of SAM were seen in Dobley IDPs (6.4 percent) and Garowe IDPs (5.8 percent) besides Bay Agro pastorals (6.0 %). Serious levels of SAM were observed in Bakool pastoral (5.4 percent), North Gedo pastoral and North Gedo Agro pastorals (5.0 %).

Figure 3: SAM prevalence in different regions of Somalia by age

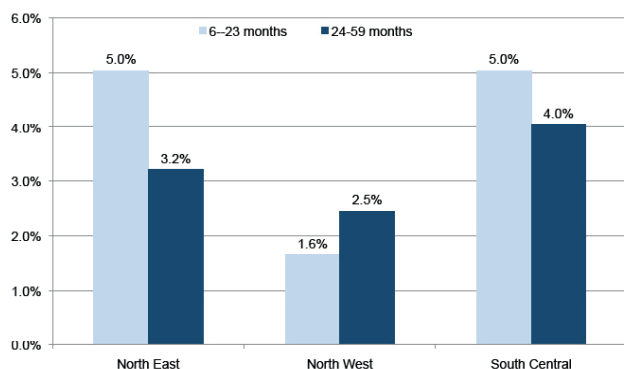
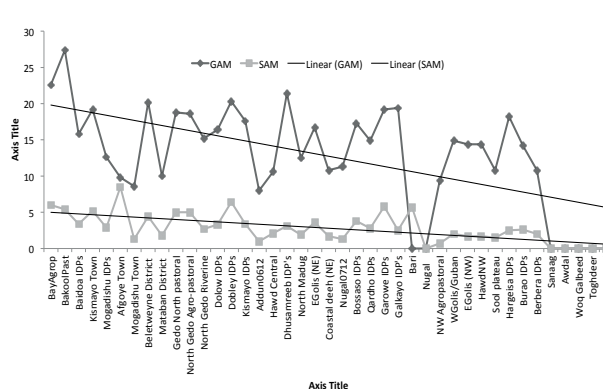


Figure 4: Scatter Plot of GAM and SAM prevalence in different livelihoods



Regional differences in prevalence of SAM were noted. Figure 3 shows that SAM was more prevalent in 6-23 month old children compared to 24- 59 month old children in North East region and South Central region.

Significant positive association between prevalence of GAM and SAM was seen ($r = 0.83$, $p < 0.05$). SAM prevalence was observed to be higher in populations with higher GAM rate (Figure 4). This was not unexpected as moderate acute malnutrition compromise a child's immune system, leaving them more susceptible to illness and disease resulting in deterioration of child's nutritional status.

MID UPPER ARM CIRCUMFERENCE (MUAC)

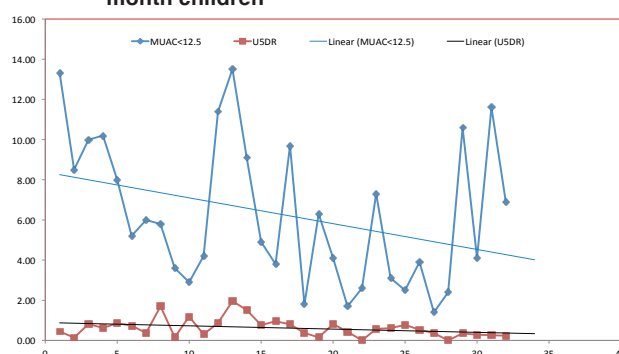
MUAC was measured for all under five children. It is a proxy measure of nutrient reserves in muscle and fat and an indicator of acute malnutrition that reflects mortality risk¹. MUAC < 125 mm corresponds to GAM and MUAC < 115 mm with or without Oedema corresponds to SAM. The Gu 2013 results show a significant correlation between the MUAC and weight for height measurements used for GAM and SAM calculations (Table 4). This suggests that if taking weight and height measurements is difficult, MUAC measurements could provide some picture of the nutrition situation in an area.

Figure 5 shows that U5DR was higher in children with MUAC < 125 mm (moderate + severe acute malnutrition) though the association was statistically not significant.

Table 4: Association between MUAC & Weight for Height

| Acute Malnutrition | MUAC < 115 mm | MUAC < 125 mm |
|--------------------|---------------------|---------------|
| | Pearson Correlation | |
| GAM | 0.493 | 0.621 |
| SAM | 0.558 | 0.681 |

Figure 5: Scatter Plot of MUAC < 125 mm and U5MR in 6-59 month children



MALNUTRITION HOTSPOTS

Based on results of Gu 2013 survey, FSNAU identified regions with GAM > 15 percent or MUAC < 125 mm in more than 10 percent of children surveyed as the “malnutrition hotspots” (Table 5). These areas need immediate emergency intervention. Unless adequate resources (human and financial) are made available in these areas on priority basis to increase coverage and access to treatment for these malnourished children, along with preventive measure against acute malnutrition, they will suffer devastating consequences on health, learning, future earning potential, economic development, resilience & security. Resources invested in these hot spots will have a maximum impact on helping every child get the nutrition needed for a healthy and promising future.

Table 5: Hotspots for Acute Malnutrition in Somalia GAM > 15 % or MUAC < 12.5 cm in > 10 % of 6-59 months old children

| Hotspot areas | IDPs | GAM (%) | Livelihood | GAM (%) | Urban | GAM (%) |
|---------------|------------------|---------|----------------------|---------|-----------------------|---------|
| North East | Bossaso IDPs | 17.3 | E Golis | 16.7 | Bari | 21.1 |
| | Garowe IDPs | 19.2 | | | | |
| | Galkayo IDP's | 19.4 | | | | |
| North West | Hargeisa IDPs | 18.2 | | | | |
| South Central | Baidoa IDPs | 15.8 | Bay Agropastoral | 22.6 | Kismayo Town District | 19.2 |
| | Mogadishu IDPs | 12.6 | Bakool Pastoral | 27.4 | | 20.2 |
| | Dolow IDPs | 16.4 | Gedo North pastoral | 18.8 | | |
| | Dobley IDPs | 20.3 | N Gedo pastoral | 18.8 | | |
| | Kismayo IDPs | 17.6 | N Gedo Agropastoral | 18.6 | | |
| | Dhusamreeb IDP's | 21.4 | N Gedo Riverine | 15.2 | | |
| | | | S. Gedo pastoral* | 15.9 | | |
| | | | S. Gedo Riverine* | 17.0 | | |
| | | | S Gedo Agropastoral* | 14.4 | | |
| | | | Juba Riverine* | 10.9 | | |
| | | | Juba Pastoral* | 10.4 | | |

* MUAC Assessment

Severe acute malnutrition can lead to a case fatality rate of up to 21 percent without effective intervention

¹ Vella V, Tomkins A, Ndiku J. et al Anthropometry as a predictor for mortality among Ugandan children, allowing for socio-economic variables. Eur J Clin Nutr 1994. 48(3)189–197

NUMBER AND DISTRIBUTION OF CHILDREN WITH ACUTE MALNUTRITION IN SOMALIA:

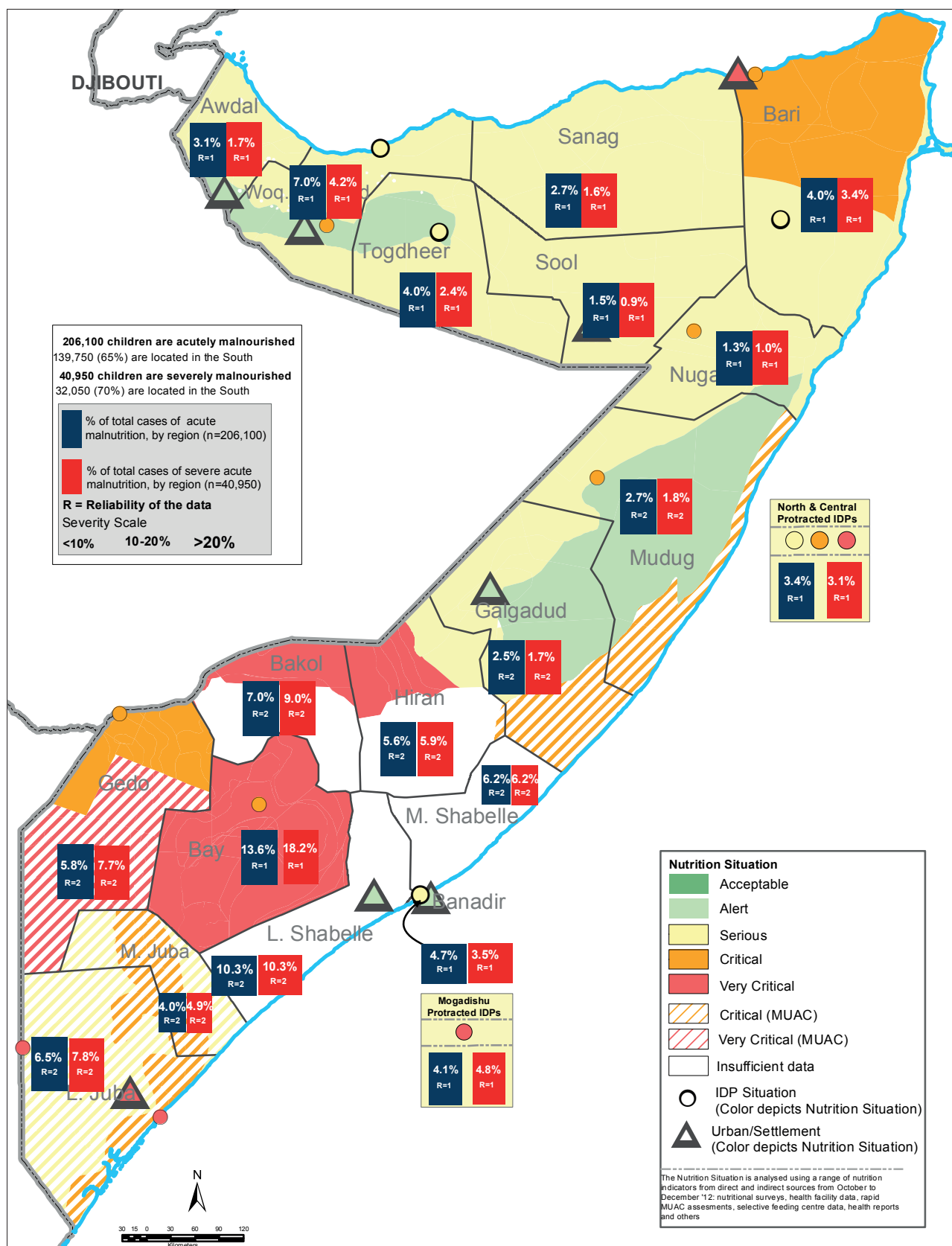
FSNAU in collaboration with nutrition cluster partners calculated the distribution of GAM/SAM cases in Somalia to draw the attention of response agencies and donors to the needs in different regions of Somalia. By multiplying the prevalence rates of GAM/SAM in each assessed population group to the total under five populations during the *Gu* 2013, cases of acutely malnourished children were calculated. The cumulative total cases at regional level were 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) but 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* 2012/13 were applied. Population figures from the UNDP 2005 settlement survey are used as the standard reference for Somalia.

Current estimates put the number of under-five children at risk of acute malnutrition as 206,100 including 40,950 cases of severe acute malnutrition (Table 6). This caseload is a slight improvement from 215,000 cases seen in *Deyr* 2012-13 which included 45,000 severe malnutrition cases. South and Central Somalia accounts for 73.9 percent of GAM caseload and 82.4 percent of SAM caseload even though it has only 56 percent of Somalia's population.

Table 6: Estimated Cases of Acute Malnutrition in Somalia-Gu 2013

| ZONE | REGION | GAM CASES | PROPORTION BY REGION | SAM CASES | PROPORTION BY REGION |
|-------------------------|----------------------|-----------|----------------------|-----------|----------------------|
| SOUTH | Bay | 28050 | 13.60% | 7450 | 18.20% |
| SOUTH | Lower Shabelle | 21150 | 10.30% | 4200 | 10.30% |
| SOUTH | Bakool Region | 14350 | 7.00% | 3700 | 9.00% |
| SOUTH | Lower Juba (Hoose) | 13350 | 6.50% | 3200 | 7.80% |
| SOUTH | Middle Shabelle | 12850 | 6.20% | 2550 | 6.20% |
| SOUTH | Gedo | 12050 | 5.80% | 3150 | 7.70% |
| SOUTH | Hiran Region | 11450 | 5.60% | 2400 | 5.90% |
| SOUTH | Banadir | 9700 | 4.70% | 1450 | 3.50% |
| SOUTH | Mogadishu IDP | 8500 | 4.10% | 1950 | 4.80% |
| SOUTH | Middle Juba (Dheexe) | 8300 | 4.00% | 2000 | 4.90% |
| CENTRAL | Mudug | 5500 | 2.70% | 750 | 1.80% |
| CENTRAL | Galgadud | 5200 | 2.50% | 700 | 1.70% |
| IDPs | Central IDPs | 1800 | 0.90% | 250 | 0.60% |
| TOTAL for South Central | | 152250 | 73.90% | 33750 | 82.40% |
| NORTH WEST | Woq Galbeed | 14450 | 7.00% | 1700 | 4.20% |
| NORTH WEST | Togdheer | 8300 | 4.00% | 1000 | 2.40% |
| NORTH WEST | Awdal | 6350 | 3.10% | 700 | 1.70% |
| NORTH WEST | Sool | 3100 | 1.50% | 350 | 0.90% |
| NORTH WEST | Sanaag | 5600 | 2.70% | 650 | 1.60% |
| IDPs | NW IDPs | 3050 | 1.50% | 500 | 1.20% |
| Total for North West | | 40850 | 19.80% | 4900 | 12.00% |
| NORTH EAST | Bari | 8200 | 4.00% | 1400 | 3.40% |
| NORTH EAST | Nugal | 2650 | 1.30% | 400 | 1.00% |
| IDPs | NE IDPs | 2150 | 1.00% | 500 | 1.20% |
| Total for North East | | 13000 | 6.30% | 2300 | 5.60% |
| TOTAL FOR SOMALIA | | 206100 | | 40950 | |

Map 3: Distribution of proportion of Acutely Malnourished Children in Somalia



MORTALITY

Various studies show that malnutrition is responsible, directly or indirectly for about one third of deaths among children under five. Well above two thirds of these deaths, often associated with inappropriate feeding practices, occur during the first year of life.

When children suffer from acute malnutrition, their immune systems are so impaired that the risks of mortality are greatly increased.

Acute malnutrition is an unstable condition resulting from a relatively short duration of nutritional deficit that is often complicated by concurrent infective illness. The *Gu* 2013 survey results show that despite high levels of GAM and frequent illness, mortality rates were not elevated (Figure 6). U5DR < 1.0 was seen in most of the populations surveyed. Alert situation in Motaban district, north Gedo agro pastorals and in Doble and kismayo IDPS was suggested by U5DR levels > 1 percent. SAM is a major cause of avoidable mortality. The results of *Gu* survey show that U5DR is higher in population groups with higher SAM prevalence though the association is statistically not significant (Figure 7).

MORBIDITY

Morbidity was assessed retrospectively over 14 days. Malnutrition is one of the most common causes of morbidity and mortality of children. Higher morbidity rate in North East Somalia was noted (Table 7) and this could be because IDPS are concentrated more in NE region compared to other regions. Higher morbidity rate was observed in IDPs (39.3 %) compared to Urban (21.8 %) or rural (23.9 %) populations.

Acute malnutrition affects contribute to increased morbidity and mortality. Though morbidity rate was higher in children with greater prevalence of acute malnutrition, no significant association was observed between GAM or SAM levels and prevalence of morbidity (Figure 8 and 9).

Figure 6: Scatter plot of GAM vs U5DR

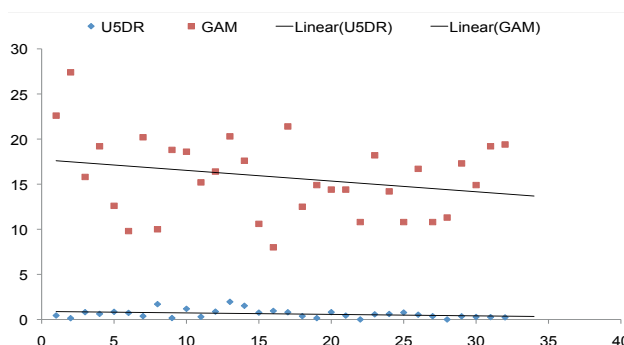


Figure 7: Scatter plot of SAM vs U5DR

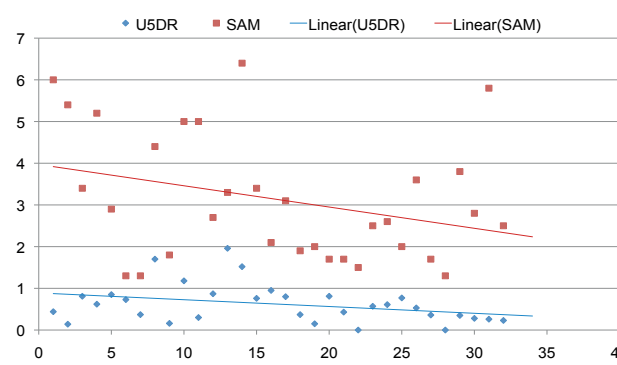


Table 7:: Morbidity in under 5 children

| Population surveyed | Median morbidity |
|---------------------|------------------|
| Rural | 23.9 |
| IDP | 39.3 |
| Urban | 21.8 |
| South | 30.3 |
| Central | 27.0 |
| North West | 15.9 |
| North East | 37.2 |

Figure 8: Scatter Plot of GAM vs Morbidity in children 6-59 months

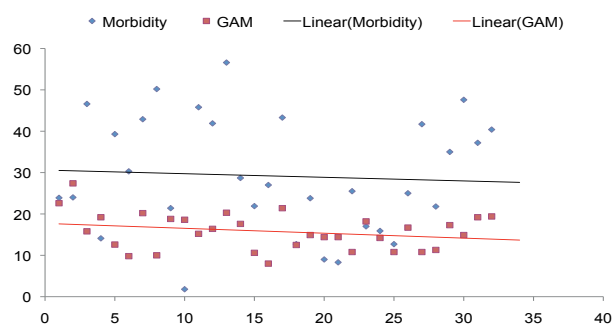
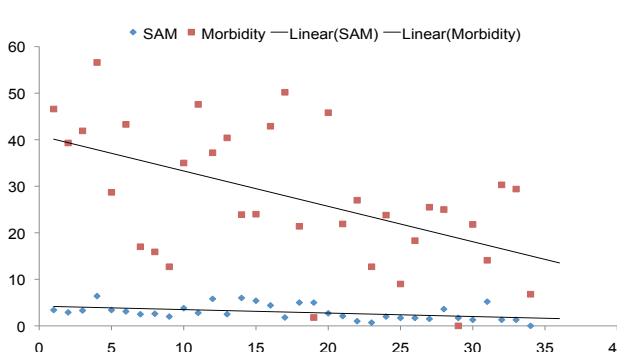


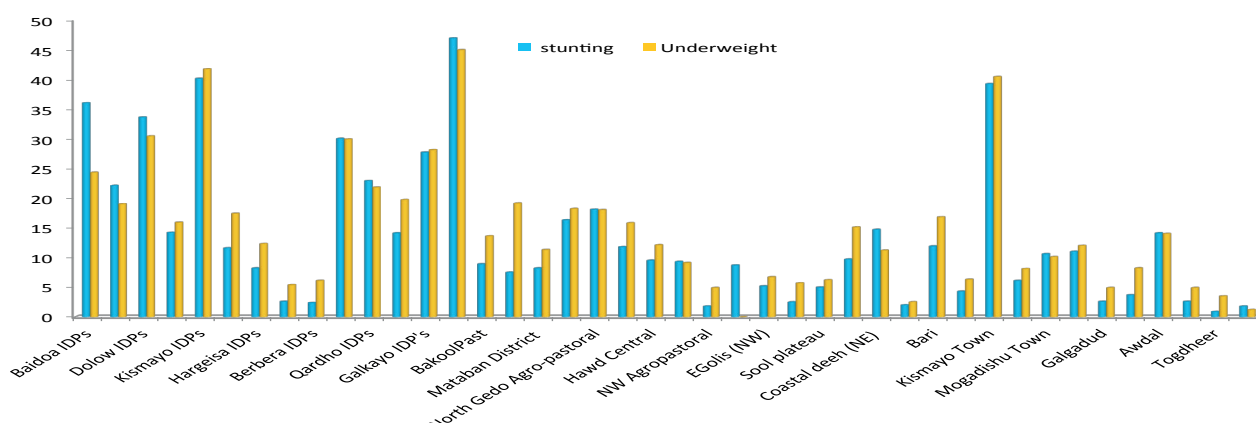
Figure 9: Scatter Plot of SAM and Morbidity in 6-59 month old children



STUNTING

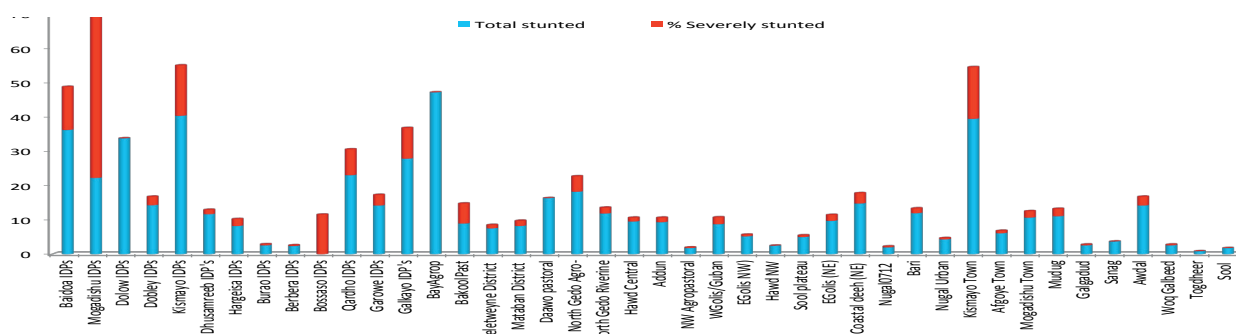
Results of *Gu* assessment show that stunting is not a serious public health issue in Somalia. Stunting was seen in only 10.8 percent of under five children surveyed (Figure 10).

Figure 10: Prevalence of Stunting and Underweight in 6-59 monthold children in different livelihoods (% surveyed)



Stunting in a child is not only about being too short for his or her age. It can also mean suffering from stunted development of the brain and cognitive capacity. The children who are stunted are at greater risk of illness and death, and those who survive are more likely to perform less well at school. In some population groups, stunting levels are of concern. Critical level of stunting in Bay Agropastorals (46.9 %) were observed and in 23.1 percent of these children stunting levels were severe. (Figure 11). The 6-59 month old children from Mogadishu IDPs showed alert level of stunting (22.1 %) and for 46.7 percent of these children, severe levels of stunting were observed. There was no significant association between levels of acute malnutrition observed and prevalence of stunting.

Figure 11: Proportion of 6-59 month old stunted children who are severely stunted



UNDER WEIGHT

Underweight is one of the indicators used to assess progress towards MDG. It is a composite measure of both stunting and wasting. The underweight children are at substantial increased risk of severe acute malnutrition and death. *Gu* results show that 15.9 percent of the under five children surveyed were suffering from underweight. The underweight in children did not show any significant association between GAM prevalence and underweight (Figure 12) but underweight and Stunting in the under five children was significantly correlated ($R=0.923$, P value <0.01 (Figure 13).

Figure 12: Scatter plot of GAM vs Underweight

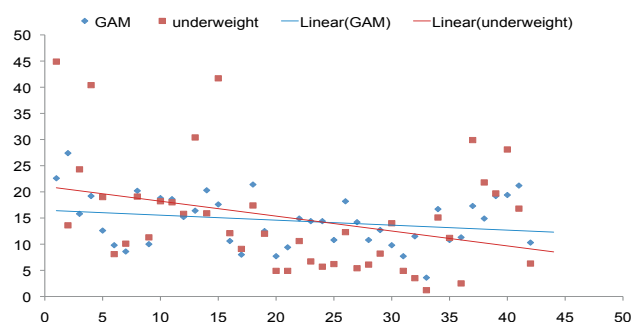
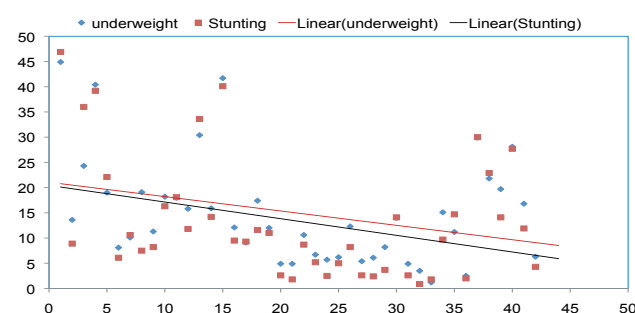


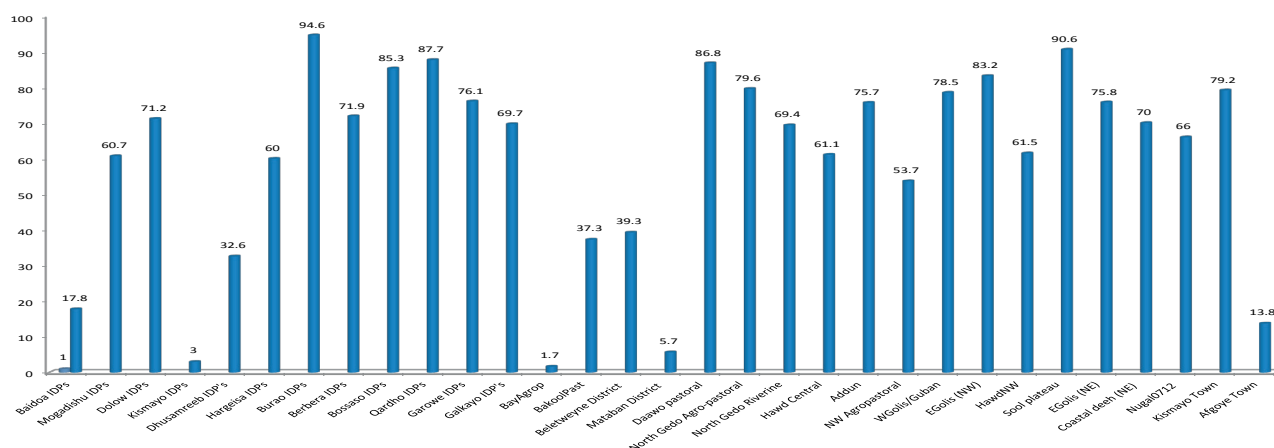
Figure 13: Linear plot of Underweight vs Stunting



VITAMIN A SUPPLEMENTATION

Vitamin A is essential for the functioning of the immune system and the healthy growth and development of children. The Lancet lists vitamin A supplementation among the key interventions achievable at a large scale that have proven potential to reduce the number of preventable child deaths each year². Vitamin A deficiency is a well-established risk factor for measles-related mortality. WHO³ has recommended Vitamin A supplementation for infants and children 6-59 months of age. In two of the surveyed populations, ≥ 90 percent of 6-59 month children reported receiving Vitamin A supplementation (Burao IDPs and Sool plateau). High acute and chronic malnutrition was observed in the areas (Kismayo IDPs, Bay Agro pastorals, Kismayo town) where <10 percent of children reported receiving Vitamin supplementation is of serious concern because if children have insufficient vitamin A, their ability to resist diseases such as diarrhoea, measles and acute respiratory infections is greatly hampered (Figure 12). Improving the vitamin A status of under five children can decrease childhood deaths from such illnesses by 23 per cent, or nearly a quarter of childhood deaths.

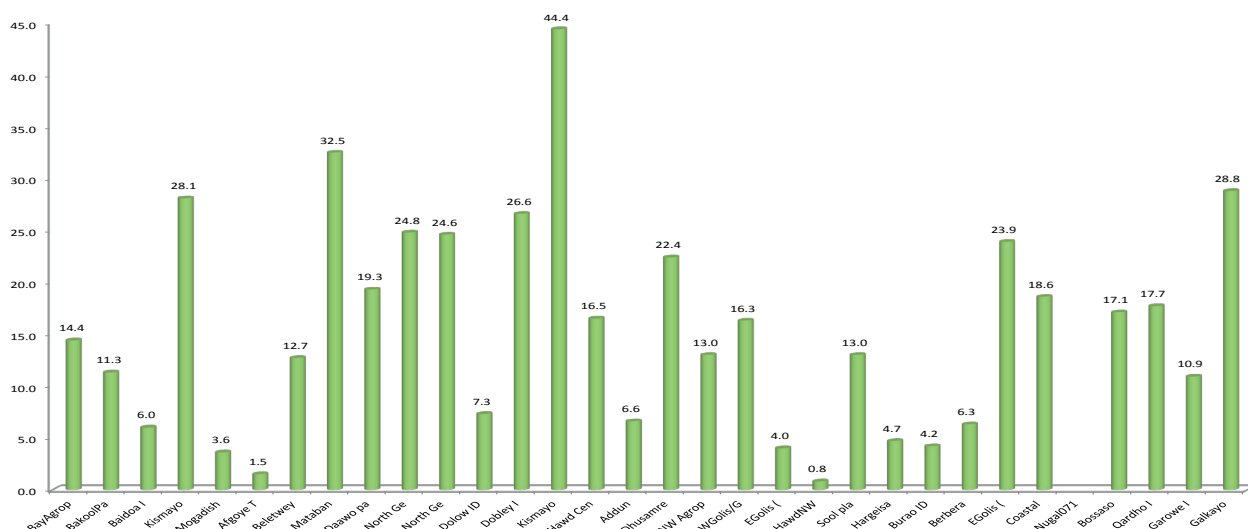
Figure 14: Vitamin A supplementation in children 6-59 months (% surveyed)



MATERNAL MALNUTRITION

The health and nutritional status of mothers and children are intimately linked. A child's future nutrition status is affected before conception and is greatly dependent on the mother's nutrition status prior to and during pregnancy. A chronically undernourished woman will give birth to a baby who is likely to be undernourished as a child, causing the cycle of under nutrition to be repeated over generations. MUAC < 23 cms (moderate risk) in pregnant /lactating women has been shown to carry a risk of growth retardation of the foetus. Gu 2013 results show very critical levels of maternal malnutrition in Kismayo town as well as Kismayo IDPs, Galkayo IDPs and in Mataban District. Maternal malnutrition was critical in N Gedo Agro-pastoral, N Gedo Riverine, E Golis (NE), Doble IDPs, Dhusamreeb IDPs (Figure 15).

Figure 15: Maternal Malnutrition in different livelihoods (% with MUAC < 23 cms)



2 Jones, Gareth, et al., 'How Many Child Deaths can we Prevent this Year?', The Lancet, vol. 362, 5 July 2003, pp. 65-71.

3 Guideline: Vitamin A supplementation in infants and children 6-59 months of age. World Health Organization 2011

A significant correlation between maternal nutrition status and prevalence of both underweight ($R = 0.43$, P value < 0.05) and stunting ($R = 0.47$, P value < 0.01) was observed (Figure 16 and 17). This suggests the importance of promoting good nutrition for pregnant and lactating women. Improvement in maternal nutritional status will help fight the widespread and growing problem of under nutrition (stunting and underweight) in Somalia. promoting good nutrition for pregnant and lactating women.

Figure 16: Scatter Plot of Maternal MUAC < 23 cms and Stunting in 6-59 months

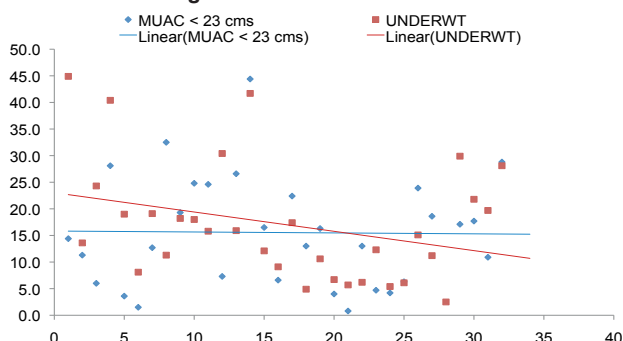
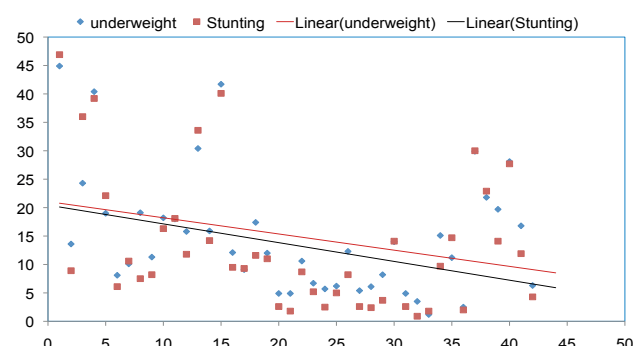


Figure 17: Scatter plot of Maternal MUAC < 23 cms and Underweight in 6-59 children



GENDER DIFFERENCES IN PREVALENCE OF ACUTE MALNUTRITION

Numerous studies have documented gender differences in nutrition status in developing areas, generally finding boys to be at an advantage over girls. However for Somalia, the gender disaggregated data from *Gu* 2013 assessment show that irrespective of region, prevalence of acute malnutrition (GAM/SAM) was higher in boys compared to girls though the differences were statistically not significant. Figure 18 show that GAM levels in boys were critical (GAM > 15 %) while serious levels were seen in girls (GAM > 10 % < 15 %). Similar trends were noted for SAM prevalence (Figure 19). Prevalence of SAM was higher in boys compared to girls.

Figure 18: Gender Differences in GAM prevalence in different regions of Somalia

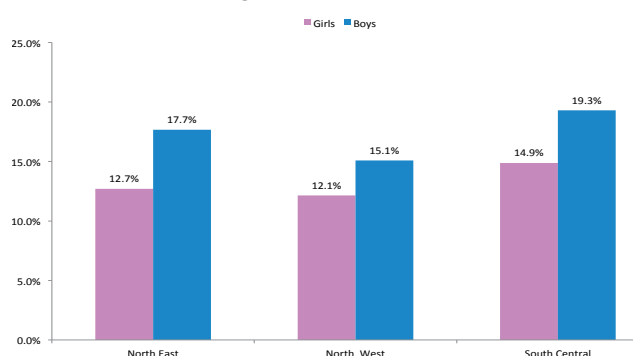
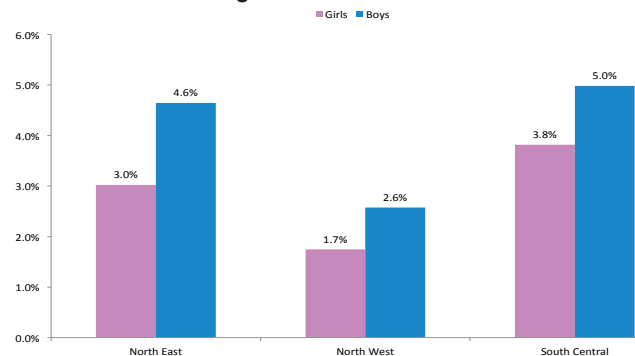


Figure 19: Gender differences in SAM prevalence in different regions of Somalia



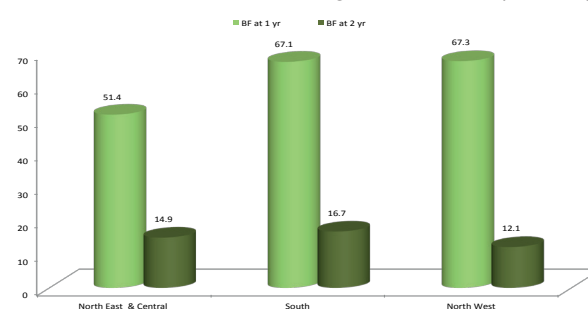
INFANT YOUNG CHILD FEEDING

Infant and young child feeding are a cornerstone of care for childhood development. Even in resource poor settings, improved feeding practices can lead to improved intakes of energy and nutrients, leading to better nutritional status. FSNAU collected information on following core and optional IYCF indicators in the livelihood zones where access was not an issue.

Figure 20 shows the proportion of children 12–15 months of age who are fed breast milk at 1 year. No significant regional differences were noted in continuation of breast feeding at 1 year. However it was observed that only 51 percent of 1 year old children in North East and Central region received breast milk at 1 year in addition to complementary food compared with 67 percent of the children in North West and South region.

| Core Indicators | Optional indicators |
|-----------------------------------|------------------------------------|
| Continued breastfeeding at 1 year | Continued breastfeeding at 2 years |
| Minimum meal frequency | |
| Minimum acceptable diet | |

Figure 20: Continued Breastfeeding at 1 yr and 2 yr in 6-24 month children in different regions of Somalia (% Surveyed)

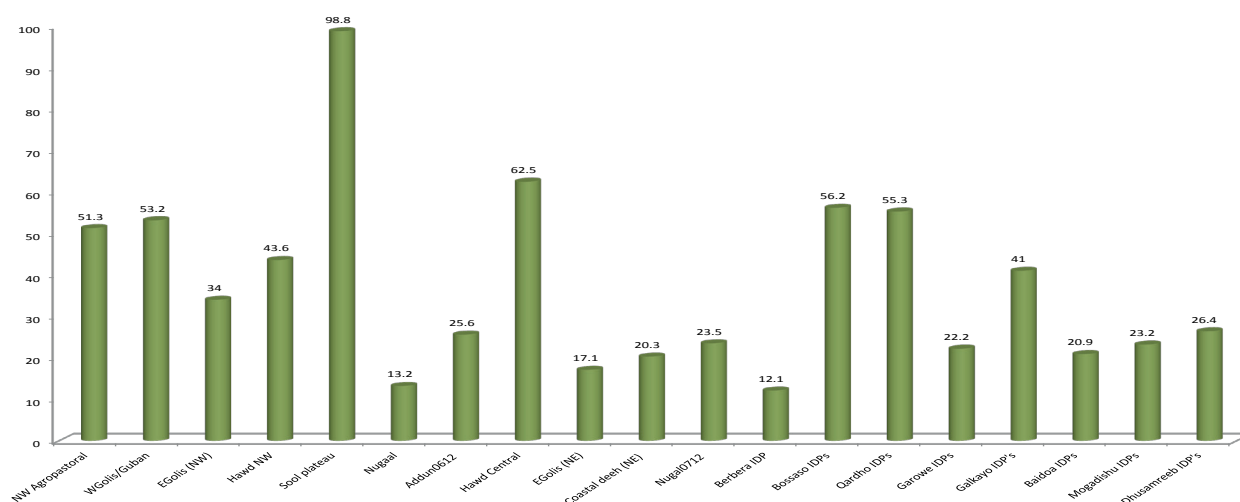


WHO and UNICEF recommend breastfeeding up to 2 years or beyond. In the populations surveyed, the proportion of 2 year old who were fed breast milk was 12.1 percent in South, 16.7 percent in North East and Central regions and 14.9 percent in Northwest region.

Around the age of 6 months, an infant's need for energy and nutrients starts to exceed what is provided by breast milk and complementary foods are necessary to meet energy and nutrient requirements. If complementary foods are not introduced when a child has completed 6 months of age, or if they are given inappropriately, an infant's growth may falter and malnutrition starts, contributing significantly to the high prevalence of malnutrition in children under five years of age.

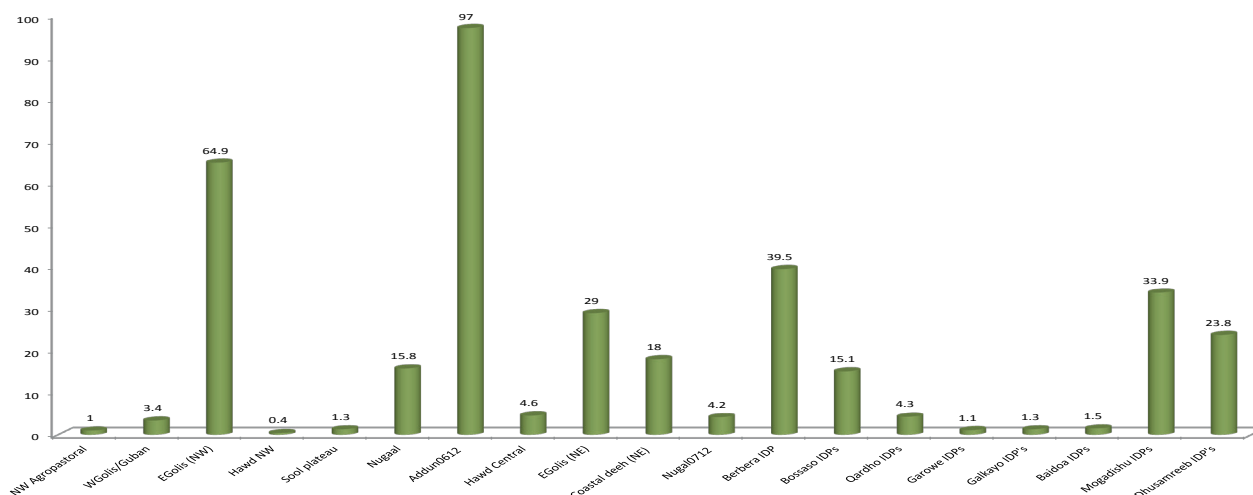
WHO recommends that infants start receiving complementary foods at 6 months of age in addition to breast milk, initially 2-3 times a day between 6-8 months, increasing to 3-4 times daily between 9-11 months and 12-24 months with additional nutritious snacks offered 1-2 times per day, as desired. Figure 21 shows median of 25.6 percent minimum meal frequency which suggests that only 1 in 4 children received complementary foods as recommended by WHO. Regional differences in minimum meal frequency were seen in South (34 %) of children in south, compared to 22 percent in Northeast and Central region and 26 percent in Northwest region.

Figure 21: Minimum meal frequency in 6-24 month children (% Surveyed)



Dietary diversity is a proxy for adequate micronutrient-density of foods. Minimum Dietary Diversity refers to proportion of children 6–23 months of age who receive foods from 4 or more food groups. Consumption of foods from at least 4 food groups on the previous day would mean that the child had a high likelihood of consuming at least one animal-source food and at least one fruit or vegetable, in addition to a staple food. A very large variation in dietary diversity for child feeding was noted – from low of 1 percent among NW Agropastorals to high of 97 percent among Addun (Figure 22).

Figure 22: Minimum Dietary Diversity for 6-24 month children (% Surveyed)



CHANGE IN ACUTE MALNUTRITION IN SOMALIA FROM *DEYR* 2012/13 TO *GU* 2013

The GAM levels seen in *Gu* 2013 were compared with the levels seen in *Deyr* 2012/13. IN Northwest region, the nutrition situation has improved since *Deyr* 2012/13 in West Golis/Guban, Berbera and Burao IDPs and in Agro-pastoral livelihood but deteriorated in Sool Plateau and in Hargeisa IDPs.

| | Change GAM since Deyr' 2012 | North West | NE | Central | South |
|------------------|-----------------------------|--|--|-----------------------------|--|
| Rural Livelihood | Improved | NW Agro (11.8%) W. Golis (17.3%) Hawd (14.6) | Nugal (12.5) | Addun (12.3) Hawd (14.4) | Juba Past (9.6%) Juba Agro (14.4%) Juba Rev (18.7%) |
| | Deteriorated | E. Golis (11.3%) Sool Plateau (8.4%) | E. Golis (13.5%) Coastal Deeh (10.2%) | Coastal Deeh (8.0%) | Bay Agro (18.7%) Bakool Past (24.5%) Gedo Past (15.6%) Gedo Rev (13.6%) Gedo Agro (15.5%) |
| Urban | Improved | Sanaag (13.9%) Woq Galbeed (10.6%) Toghdeer (12.1%) Sool (7.1%) | | | Mogadishu (9.7%) Mataban(25.2%) |
| | Stable | Adwal (9.9%) | | | |
| IDPs | Deteriorated | Bari (18.4%) | | | Afgoye (8.7%) Beletweyne (17.3%) Mogadishu (16.0%) Dolow (24.9%) Dobley (20.8%) Kismayo (20.5%) |
| | Improved | Buroa (15.5%) Berbera (19.9%) | Bossaso (20.6%) Qardho (21.8%) | Dhusamreeb (22.6%) | |
| | Deteriorated | Hargeisa (10.9%) | Garowe (14.3%) Galkayo (17.0%) | | Baidoa (12.8%) |

In North East the nutrition situation has deteriorated in East Golis, Sool Plateau and in Garowe IDP but it has improved in Addun. However in South: In *Deyr* 12/13 the acute malnutrition in North Gedo Agro pastoral, Bay Agro-pastoral has deteriorated in *Gu* 2013. The riverine and pastoral and the southern part of the region as well as Bakool pastoral and Dolow IDPs, Baidoa IDPs remain stable. In Juba region, the pastoral, agro pastoral and riverine and the IDPs in Kismayo and Dobley have improved.

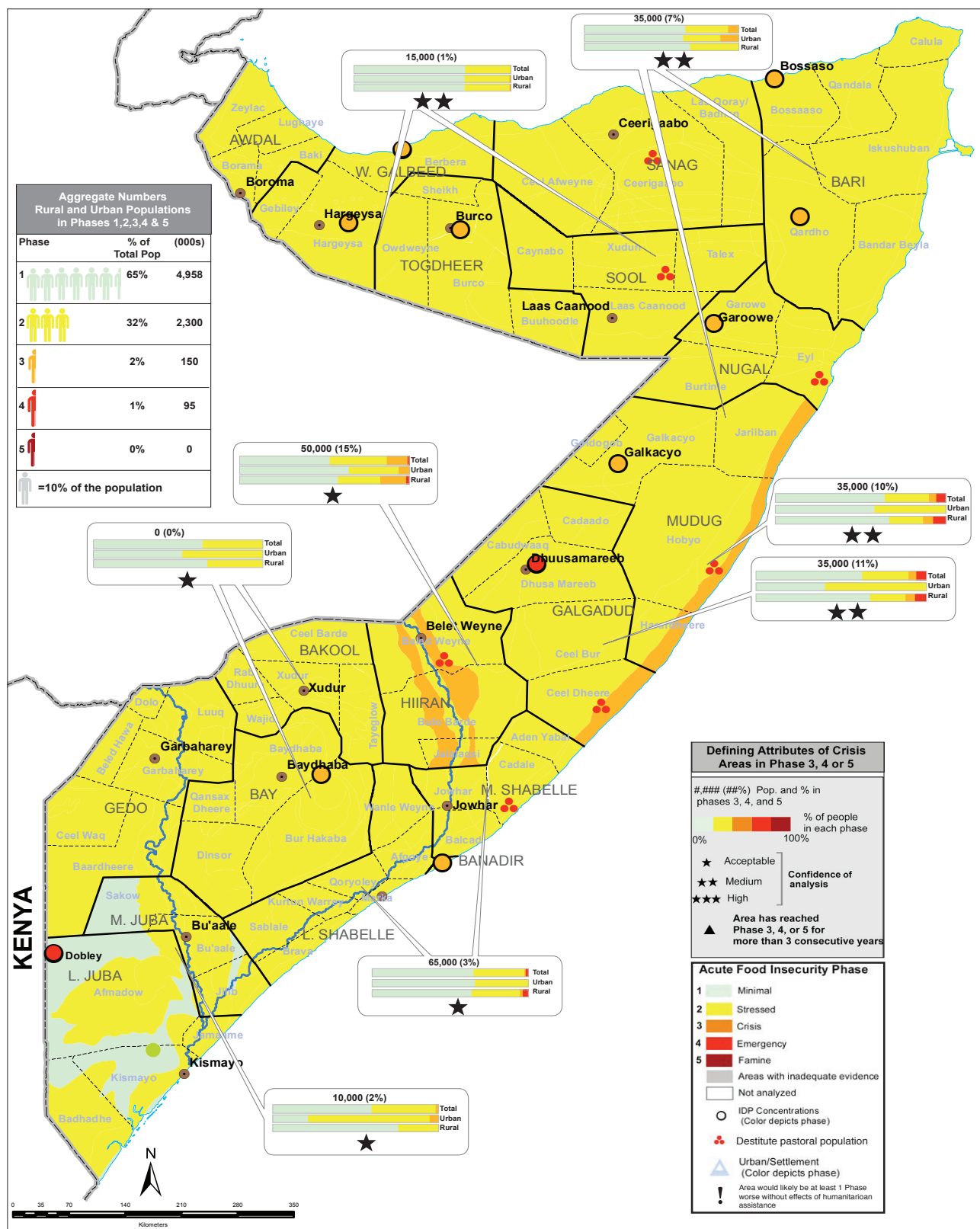
FOOD SECURITY

Gu 2013 assessment of food security situation in Somalia indicates an estimated 870,000 people will be in Crisis and Emergency (IPC Phase 3 and Phase 4) from August to December 2013. The situation has significantly improved since 2011 when 4 million Somalis were in extreme food security crisis. The recent figures also represent a continued improvement since January when an estimated 1,050,000 people were in Crisis and Emergency (IPC Phases 3 and 4). Improvements are attributed to a near average July/August 2013 *Gu* harvest, increased livestock prices, increased livestock herd sizes, improved milk availability, low prices of both local and imported staple food commodities, higher purchasing power from income, labour, livestock sales, and sustained humanitarian interventions over the last six months.

However, nearly 2.3 million additional people, one-third of Somalia's population, are classified as Stressed (IPC Phase 2); their food security remains fragile. This group of households may struggle to meet their own minimal food requirement through the end of the year, and they remain highly vulnerable to major shocks that could push them back to food security crisis.

Food security outcomes for poor households will likely be affected by the significantly below average July/August crop harvest for the *Gu* 2013, leading to limited household and market cereal stocks. Despite cattle milk availability between August and early September, income from the milk sales is likely to decline from mid-September through December as some cows quit milking and milk production falls. This will further reduce poor household income. In addition, due to lack of own produced crops for consumption through December; poor households will have an extended lean season from August to December. Poor households will primarily depend on food purchases on credit between now and December. Milk gifts and zakat in the form of locally produced crops for the poor will likely be well below average due to the impact of the failed season on better off households. However, in November/December, some poor households may receive small ruminants as zakat, but this type of food source will likely be limited to a very small number of particular households. Humanitarian assistance within Hiran Region will be concentrated in Beletweine District, so outside of that District, it will likely

Map 4: Somalia Acute Food Insecurity Situation Overview
Rural, Urban & IDP Populations: August - December, 2013, Most Likely Scenario



remain insignificant due to insecurity issues surrounding humanitarian access to areas under Al Shabaab's control. Following poorly distributed March to May *Gu* rains and a dry and windy July to September Hagaa season, wild fruit availability is likely to be very low, and this will not represent a very effective source of food for poor households.

To respond to the declining food security outcomes, poor households will likely seek cash and food loans,

further increasing their debt burdens. They will also reduce their use of preferred foods such as white sorghum, rice and opt for red sorghum. However, from October to December with normal to below normal *Deyr* rains forecast, agricultural labour income will likely support some poor households' access to food, but it will be unlikely that this income will be enough to eliminate food consumption gaps. From August to December, due to increased debt levels, reduced income from livestock sales, and an exhaustion of saleable animals for many poor households, reduced access to food loans, and overstretched social support systems, poor households' food security outcomes will likely deteriorate. Many poor households will fall into Crisis (IPC Phase 3) between August to December and will remain there until the *Deyr* harvest starts in January.

NUTRITION OUTLOOK (SEPT-DEC 2013)

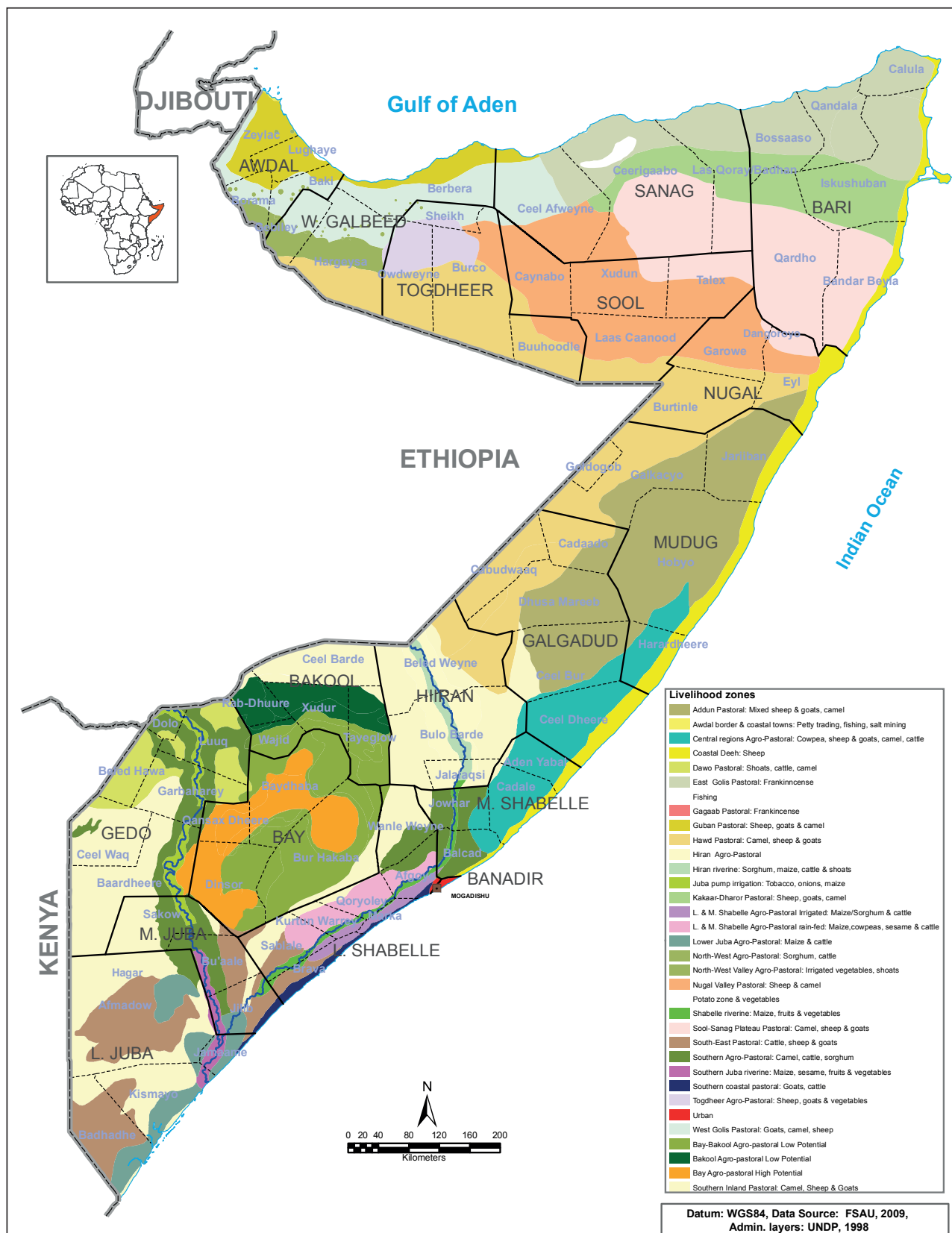
The nutrition forecast for Sept-Dec 2013 is based on four factors: Situation in *Gu* 2013, historical nutrition trends for the season, the food security and the health situation during this period. The outlook in Northwest for September- October 2013 is stable Serious nutrition situation across all rural livelihoods. In view of the low cereal production in the Agro-pastoral livelihood which will affect cereal access and income from cereals, the livelihood will marginally deteriorate from Alert to Serious nutrition situation. In Northeast the nutrition situation is expected to remain stable in all livelihoods with exception of Addun livelihood which is expected to slightly deteriorate from Alert to Serious.

In South the current projection of the GAM situation is that the Gedo will remain critical in Northern while the Southern will remain very critical, due to high morbidity, low immunization status, poor water and sanitation. Juba livelihoods will remain the same – serious GAM levels in Pastoral and critical levels in agro pastoral and riverine, while GAM levels in the IDPs in Kismayo and Doble and Kismayo town are expected to deteriorate to very critical. The nutrition situation in Bay agro-pastoral and Bakool Pastoral is likely to remain very critical due to declining access to humanitarian interventions (Health and Nutrition), high morbidity and withdrawal of MSF from Dinsor district of Bay region Good nutrition care starts with good assessment (measurement and classification) of nutritional status.

4: REGIONAL NUTRITION ASSESSMENT

FSNAU conducted 50 nutrition surveys and assessed nutrition status of 34,415 children, and five children drawn from different livelihood zones in Somalia (22 in south, 6 in central, 10 in Northeast and 12 in northwest). The nutrition surveys were done among rural populations (24), urban populations (13) and among IDPs (13).

Map 5: Somalia Livelihood Zones



4.1 NORTHWEST REGIONS

BACKGROUND

The Northwest region of Somalia comprises five regions, namely Awadal, Woqooyi Galbeed, Togdheer, Sool and Sanag. According to the UNDP 2005 data, the Northwest region was estimated to have a total population of 1,828,739 people, of whom 44.8 percent lived in urban areas. The Northwest regions comprise mainly pastoral livelihood zones. They are West Golis, Guban, East Golis/ Gebbi Valley of Sanaag region, the Hawd of Hargeisa and Togdheer, Sool Plateau and the Nugal Valley. In addition, there is an agro-pastoral livelihood zone that is sub-divided into two, namely, the Agro-pastoral of Awdal and Woqooyi Galbeed regions and Agro-pastoral of Togdheer region. The livelihood zones cut across the five administrative regions (See maps below).

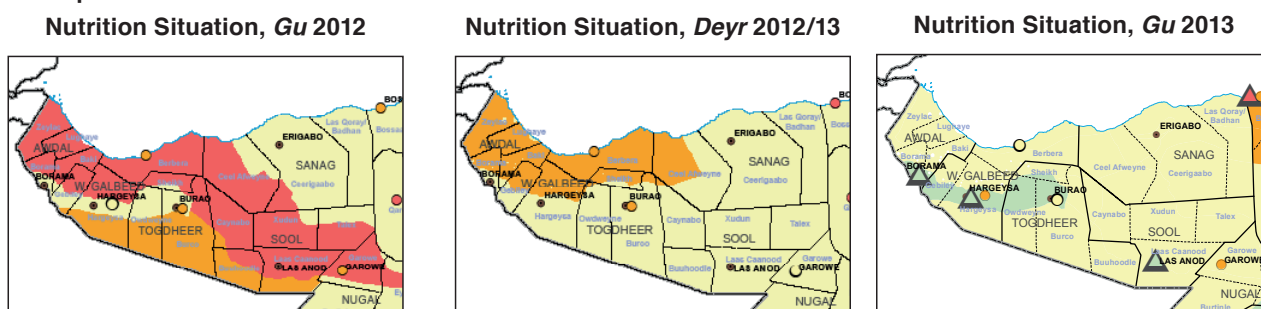
Food Security Situation

The FSNAU Post *Gu* 2013 integrated food security analysis indicates a sustained **Stressed** (IPC Phase 2) food security situation in all livelihood zones in Northwest regions. The *Guban* livelihood which was in a **Crisis** (IPC Phase 3) food insecurity since *Gu* '12 has improved to **Stressed** food security phase during post *Gu* 2013. The improved food security is attributed to several factors which include the results of several successive seasons of average to above average rainfall, low food prices, increased livestock prices, increased livestock herd sizes, and sustained humanitarian response. Of concern though is the Sool plateau livelihoods, particularly in the Bari region where food security is expected to deteriorate through October due to a significant reduction of pasture and unavailability of milk. The current Stressed Food security situation in Northwest is projected to remain stable through December 2013.

Post *Gu* 2013 Nutrition Situation

The nutrition situation among urban, IDPs and rural populations in Northwest regions has for the last twelve months (*Gu* 2012 to *Gu* 2013) ranged between **Alert** to **Critical** levels. The nutrition situation has largely been influenced by food security factors particularly access to milk among the predominant pastoral communities and morbidity patterns. Overall, the level of acute malnutrition in Northwest region has been on an improving trend since *Gu* 2013 as indicated in the maps below.

The maps below show the trends of nutrition situation from *Gu* 2012 to *Gu* 2013.



CURRENT NUTRITION SITUATION (*Gu* 2013)

Nutritional status of 6,638 children <5 years were assessed in the *Gu* 2013 survey. The integrated Nutrition situation for the urban, IDPs and rural populations in Northwest is summarized in Table 8. Median GAM rate of 11.4 percent and SAM rate of 1.6 percent was observed while median Crude Death Rate (CDR) was 0.18/10,000 persons/Day and Under Five Death Rate (U5DR) 0.5/10,000 persons/Day. Highest GAM rate was observed among the Hargeisa IDPs which was not surprising in view of the measles outbreak reported in the settlement from January 2013.

Table 8 : Nutrition Situation in NW Somalia (*Gu* 2013)

| Population assessed | GAM | SAM | Stunting | Underweight | CDR | U5DR | PLW<23 |
|---------------------|------------|-------|----------|-------------|---------------|-------|--------|
| NW Agropastoral | 9.4 | 0.7 | 1.8 | 4.9 | - | - | 13.0 |
| WGolis/Guban | 14.9 | 2 | 6.4 | 15.6 | - | - | 16.3 |
| EGolis (NW) | 14.4 | 1.7 | 5.2 | 6.7 | 0.11 | 0.81 | 4.0 |
| Hawd NW | 14.4 | 1.7 | 2.5 | 5.7 | 0.26 | 0.43 | 0.8 |
| Sool plateau | 10.8 | 1.5 | 5.0 | 6.2 | - | - | 13.0 |
| Hargeisa IDPs | 18.2 | 2.5 | 8.2 | 12.3 | 0.23 | 0.57 | 4.7 |
| Burao IDPs | 14.2 | 2.6 | 2.6 | 5.4 | 0.17 | 0.61 | 4.2 |
| Berbera IDPs | 10.8 | 2 | 2.4 | 6.1 | 0.28 | 0.77 | 6.3 |
| Sanaag | 12.7 | 3.1 | 3.7 | 8.2 | - | - | - |
| Adwal | 9.8 | 0.9 | 14.1 | 14.0 | - | - | - |
| Woq Galbeed | 7.7 | 0.9 | 2.6 | 4.9 | - | - | - |
| Toghdeer | 11.5 | 0.7 | 0.9 | 3.5 | - | - | - |
| Sool urban | 3.6 | 0 | 1.2 | 3.0 | - | - | - |
| Colour Code | Acceptable | Alert | Serious | Critical | Very Critical | MUAC* | |

The summary results for West Golis, Nugal Valley and Sool Plateau Pastoral Livelihood Zones are given in table 9

The key highlights are:

Acute Malnutrition

The Nutrition situation among the population in West Golis/Guban livelihood shows an improving trend from *Very Critical* in *Gu* 2012, to *Critical* in *Deyr* 2012 and to **Serious** in the current post *Gu* 2013 season with a GAM rate of **14.9** percent. Population in Nugal valley shows a stable **Serious** nutrition situation since *Deyr* 2012 with a GAM rate of **11.3** percent in *Gu* 2013 and an improvement when compared with the *Very Critical* levels seen in in *Gu* 2012. This improvement is attributed to the increased access to milk for consumption and sales in the two livelihoods. In Sool Plateau, the nutrition situation has slightly deteriorated from *Alert* in *Deyr* 2012 to **Serious** in the current *Gu* 2013 season with a GAM rate of **10.8** percent which is similar to the rates recorded in *Gu* 2012. The trend of acutely malnourished children from the health facilities from January to July 2013 varies across livelihoods but generally shows a stable or decreasing trends with a high (>15%) and decreasing trend recorded in West Golis/Guban, low (<10%) and decreasing trend in Sool plateau and high (>10%) and stable trend in Nugal valley livelihoods.

Mortality

The results shows a stable *Acceptable* Crude Death Rate (<0.5/10,000 person/day) and Underfive Death Rate (<1/10,000 children/day) in the three livelihoods since *Gu* 2012.

Morbidity

Reported morbidity in the past two weeks prior to the assessment ranges between 21.8 percent in Nugal Valley to 25.5 percent in Sool Plateau livelihood. This indicates that 1 out of every 4 children across the three livelihoods was suffering from at least one of the common childhood illness two weeks prior to the assessment.

Immunization

The reported Vitamin A supplementation, measles vaccination and Polio immunization by recall in the three livelihoods is high (>80%) but falls below the recommend SPHERE standard of 95 percent with the exception of Polio immunization status of 97.3 percent in West Golis/Guban. The other exception is low (<80%) reported status of Vitamin A supplementation in both West Golis and Nugal Valley and measles vaccination in Nugal Valley livelihood.

Maternal Malnutrition:

Serious levels of maternal malnutrition (MUAC<23 cm) among 16.3 percent of the pregnant and lactating was seen in West Golis /Guban. This is of concern as *Alert* levels of underweight in children < 5 years were also noted in the same livelihood. In Sool Plateau livelihood, an *Alert* level of maternal malnutrition is recorded. An *Acceptable* level (<9.5%) of maternal malnutrition is recorded in Nugal Valley livelihood.

Table 9: Summary of Key Nutrition Findings in West Golis/Guban, Nugal Valley and Sool Plateau Livelihood Zones, July 2013

| | West Golis/Guban (N= 710: Boys=365 Girls= 345) | | Nugal Valley (N= 710: Boys=365 Girls= 345) | | Sool plateau (N=658: Boys=329; Girls=329) | |
|--|---|------------------------------|---|------------------------------|--|------------------------------|
| Indicator | Results | Change from <i>Deyr</i> 2012 | Results | Change from <i>Deyr</i> 2012 | Results | Change from <i>Deyr</i> 2012 |
| Global Acute Malnutrition (WHZ<-2 or oedema) | 14.9 (11.7-18.7) | | 11.3 (8.9-14.2) | | 10.8 (8.5-13.6) | |
| Boys | 15.0 (11.0-20.0) | Improved | 13.1 (9.9-17.1) | Improved | 12.2 (8.8-16.5) | Deteriorated |
| Girls | 14.8 (10.8-20.0) | | 9.4 (6.8-12.8) | | 9.4 (6.8-13.0) | |
| Severe Acute Malnutrition (WHZ<-3 or oedema) | 2.0 (1.1-3.8) | | 1.3 (0.6-2.9) | | 1.5 (0.8-3.0) | |
| Boys | 2.0 (1.1-4.5) | Improved | 1.1 (0.3-3.7) | Improved | 2.4 (1.1-5.4) | Deteriorated |
| Girls | 1.8 (0.7-4.2) | | 1.4 (0.5-3.9) | | 0.6 (0.1- 2.6) | |
| Mean of Weight for Height Z Scores | -0.91 ±1.04 | Improved | -0.67±1.05 | Improved | -0.68±1.01 | Deteriorated |
| Oedema | 0.1 | Improved | 0 | Sustained | 0.3 | Deteriorated |
| Proportion with MUAC<12.5 cm or oedema) | 6.2 (4.0-9.4) | | 2.4 (1.4-4.1) | | 2.6 (1.7- 3.8) | |
| Boys | 6.3 (4.0-9.8) | Deteriorated | 3.1 (1.6-5.7) | Improved | 2.7 (1.6- 4.6) | Deteriorated |
| Girls | 5.5 (3.4-10.6) | | 1.7 (0.7-4.1) | | 2.4 (1.2- 4.6) | |
| Proportion with MUAC<11.5 cm or oedema | 0.6 (0.2-1.4) | | 0.4 (0.1-1.3) | | 0.8 (0.3-1.8) | |
| Boys | 0.5 (0.1-2.1) | Improved | 0.6 (0.1-2.3) | Improved | 0.6 (0.1-2.5) | Improved |
| Girls | 0.6 (0.1-2.3) | | 0.3 (0.0-2.1) | | 0.9 (0.3- 2.9) | |
| Stunting (HAZ<-2) | 6.4 (4.2-9.5) | | 2.0 (0.9-4.1) | | 5.0 (3.3-7.6) | |
| Boys | 8.3 (4.9-13.7) | Improved | 3.1 (1.5-6.1) | Improved | 7.3(4.4-11.8) | Improved |
| Girls | 4.3 (2.7-6.7) | | 0.9 (0.2-3.7) | | 2.8(1.4-5.5) | |

| | | | | | | |
|---|-----------------------------|--------------|------------------------|--------------|--------------------------------|--------------|
| Underweight (WAZ<-2) | 15.6 (12.3-19.5) | | 2.5 (1.4-4.5) | | 6.2(4.1-9.2) | |
| Boys | 17.9 913.5-23.4) | Deteriorated | 3.6 (2.1-6.2) | Improved | 8.5 (5.6-12.6) | Deteriorated |
| Girls | 13.0 (9.2-18.3) | | 1.4 (0.6-3.30) | | 3.9(2.2-7.0) | |
| Malnutrition Trends at Health facilities (January – July 2012) | High (>15 and stable trend) | Sustained | High (>10%) and stable | Sustained | Low (<10) and decreasing trend | Improved |
| Crude deaths, per 10,000 per day (retrospective for 90 days) | 0.07 (0.02-0.28) | Improved | 0.13 (0.04-0.41) | Improved | 0.04 (0.01-0.34) | Improved |
| Under five deaths, per 10,000 per day (retrospective for 90 days) | 0.15 (0.02-1.14) | Improved | 0 | Improved | 0 | Improved |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0) | 6.5 (2.2-10.8) | Improved | 2.0 (0.0-4.1) | Improved | 2.6 (0.0-6.5) | Deteriorated |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) | 16.3 (7.9-24.7) | deteriorated | 14.8 (6.6-23.0) | Deteriorated | 13.0 (5.4-20.6) | Improved |
| <i>Underlying & Risk Factors</i> | | | | | | |
| Overall reported morbidity | 23.8 (16.4-31.2) | | 21.8 (10.0-33.5) | | 25.5 (18.3-32.7) | |
| Boys | 21.9 (13.0-30.9) | | 20.1 (9.2-30.9) | | 25.7 (16.7-34.7) | |
| Girls | 25.8 (18.4-33.2) | | 23.5 (10.2-36.8) | | 25.3 (17.2-33.4) | |
| Diarrhoea | 12.3 (7.2-17.3) | | 2.8 (1.3-4.3) | | 4.9 (2.0-7.9) | |
| Boys | 12.3 (6.4-18.2) | | 2.9 (1.0-4.5) | | 4.8 (1.3-8.2) | |
| Girls | 12.2 (6.6-17.8) | | 2.8 (1.0-4.6) | | 5.1 (1.0-2.8) | |
| Pneumonia | 3.2 (1.6-1.6-4.8) | | 7.4 (3.2-11.7) | | 6.4 (3.2-9.7) | |
| Boys | 3.6 (0.9-6.2) | | 7.2 (2.4-12.1) | | 5.7 (1.9-9.4) | |
| Girls | 1.9 (1.0-4.8) | | 7.6 (3.1-12.1) | | 7.2 (3.6-10.9) | |
| Fever | 18.9 (11.9-25.9) | | 17.4 (6.6-28.2) | | 20.2 (13.6-26.9) | |
| Boys | 17.8 (9.2-26.4) | | 15.9 (6.3-25.4) | | 20.9 (12.6-29.1) | |
| Girls | 20.0 (12.9-27.1) | | 19.0 (6.4-31.5) | | 19.6 (12.5-26.7) | |
| Measles | 1.0 (0.0-2.1) | | 2.1 (0.0-1.8) | | 1.0 (0.2-1.9) | |
| Boys | 0.5 (0.0-1.7) | | 2.5 (0.0-6.9) | | 0.9 (0.0-1.9) | |
| Girls | 1.4 (0.0-3.0) | | 1.7 (0.0-4.8) | | 1.2 (0.0-2.4) | |
| Vitamin A supplementation | 78.5 (67.0-89.9) | | 66.0 (51.7-80.3) | | 90.6 (86.8-94.4) | |
| Boys | 80.0 (68.4-91.6) | | 66.6 (52.9-80.2) | | 89.8 (84.6-94.9) | |
| Girls | 76.8 (64.0-89.6) | | 65.4 (49.9-81.0) | | 91.5 (88.1 -94.8) | |
| Measles Vaccination | 87.8 (84.2-91.3) | | 62.8 (50.5-75.1) | | 82.6 (74.5-90.8) | |
| Boys | 87.7 (82.8-92.5) | | 63.0 (51.1-74.9) | | 82.5 (73.5-91.5) | |
| Girls | 87.8 (84.0-91.7) | | 62.6 (49.0-76.2) | | 82.7 (74.2-91.3) | |
| Polio immunization | 97.3 (95.6-99.1) | | 93.1 (89.9-96.3) | | 92.4 (86.5-98.4) | |
| Boys | 97.5 (95.4-99.6) | | 93.3 (89.9-96.7) | | 91.9 (84.5-99.3) | |
| Girls | 97.1 (94.8-99.4) | | 92.9 (89.1-96.8) | | 93.0 (87.9-98.1) | |
| <i>Infant and Young Child Feeding (6-24 Months)</i> | N= 295 | | N=216 | | | |
| Continued breastfeeding up to 1 year | 67.3 (50.2-84.4) | | 47.4 (25.4-69.4) | | 71.2 (55.2-87.2) | |
| Boys | 70.8 (50.8-90.8) | | 43.5 (21.8-65.2) | | 72.4 (53.1-91.7) | |
| Girls | 64.3 (41.4-87.2) | | 53.3 (24.2-82.4) | | 69.6 (47.3-91.8) | |
| Continued breastfeeding up to 2 years | 18.9 (8.1-29.7) | | 13.2 (0.0-33.4) | | 21.4 (2.8-40.0) | |
| Boys | 22.2 (7.7-36.8) | | 13.6 (0.0-39.9) | | 21.4 (0.0-43.5) | |
| Girls | 15.8 (0.5-31.1) | | 12.9 (0.0-29.9) | | 21.4 (0.0-50.6) | |
| Proportion meeting recommended feeding frequencies | 53.2 (42.4-64.0) | | 84.2 (77.4-91.1) | | | |
| Boys | 53.7 (40.8-66.7) | | 83.5(74.4-92.6) | | 98.8 | |
| Girls | 52.7 (41.8-63.6) | | 85.0 (77.4-91.1) | | | |
| Proportion who reported to have consumed ≥4 food groups | 3.4 (0.9-5.6) | | 4.2 (0.4-7.9) | | | |
| Boys | 4.1 (0.3-7.8) | | 0.9 (0.0-2.8) | | 95.2 | |
| Girls | 2.7 (0.2-5.3) | | 7.5 (1.7-13.3) | | | |
| Proportion of Women who received at least one dose of Tetanus immunization | 91.0 (85.6-96.5) | | 80.1 (71.7-88.4) | | 79.9 (68.1-91.8) | |
| <i>Public Health Indicators</i> | N=396 | | N=344 | | N=382 | |
| Household with access to sanitation facilities | 44.2 (31.1-57.3) | | 51.4 (33.8-69.1) | | 32.2 (18.3-46.1) | |
| Household with access to safe water | 70.0 (54.4-85.5) | | 8.7 (0.0-17.4) | | 53.9 (35.3-72.5) | |
| Proportion who reported to have consumed <4 food groups | 4.3 (1.1-7.5) | | 2.0 (0.5-3.6) | | 1.3 (0.0-3.4) | |
| Overall Situation Analysis | Serious | | Serious | | Serious | |

Hawd and East Golis and Northwest Agro-pastoral livelihoods results are summarized in Table 10.

Key highlights

Acute Malnutrition

The nutrition assessments among the population in Hawd and East Golis pastoral livelihoods recorded GAM rate of **14.4** percent in both livelihoods indicating a stable **Serious** nutrition situation since *Deyr* 2012. When compared with *Gu* 2012, the nutrition situation among the Hawd population has improved from *Critical* then to *Serious* due to increased access to milk while the situation in East Golis has remained stable. Data from the health facilities in East Golis show a low (<10%) and increasing proportion of acutely malnourished children while in Hawd livelihood, a high (>15%) and increasing trend of acutely malnourished children is reported.

The GAM rate of **9.4** percent recorded in *Gu* 2013 among the Agro-pastoral indicates an **Alert** nutrition situation and an improvement from *Serious* nutrition situation observed in *Gu* 2012 and *Deyr* 2012. The improvement is linked to improved access to milk and health facilities. Data from the agro-pastoral areas show a high (>10%) and decreasing trend of acutely malnourished children.

Mortality

The results shows a stable *Acceptable* Crude (<0.5/10,000 person/day) and under five (<1/10,000 children/day) death rate in the three livelihoods since *Gu* 2012.

Morbidity

Reported morbidity in the past two weeks to the assessment ranges between 9 percent in East Golis to 18.3 percent in Sool Plateau livelihood indicating that 1 out of 10 children in the three livelihoods was suffering from at least one of the common childhood illness two weeks prior to the assessment. There was no disease outbreak reported in these livelihoods.

Immunization

The reported Vitamin A supplementation, measles vaccination and Polio immunization by recall in the three livelihoods is high at >80 percent but falls below the recommend SPHERE standard of 95 percent. The exception is low (<80%) measles vaccination among East Golis and Agro-pastoral populations and Vitamin A supplementation in Hawd and Agro-pastoral livelihoods.

Maternal Malnutrition:

Malnutrition (MUAC<23 cm) among the pregnant and lactating women in the three livelihoods ranges from **Acceptable** (<9.5%) levels among in East Golis and Hawd to **Alerts** (<15%) in Agro-pastoral population.

Table 10: Summary of Key Nutrition Findings in East Golis, Hawd and Agro-pastoral Livelihood Zones, July 2013

| | Agro-pastoral (N= 568: Boys=297 Girls= 271) | | East Golis (N=575: Boys=294; Girls=281) | | Hawd (N=591: Boys=282; Girls=309) | |
|---|--|------------------------------|--|------------------------------|--------------------------------------|------------------------------|
| Indicator | Results | Change from <i>Deyr</i> 2012 | Results | Change from <i>Deyr</i> 2012 | Results | Change from <i>Deyr</i> 2012 |
| GAM (WHZ<-2 or oedema) | 9.4 (6.7-13.0) | Improved | 14.4 (11.5-17.9) | Deteriorated | 14.4 (11.5-17.9) | Improved |
| Boys | 8.8(5.6-13.6) | | | | 16.0 (11.4-21.8) | |
| Girls | 10.0 (6.5-15.1) | | 17.3 (13.1-22.6) | | 12.9 (9.1-18.2) | |
| | | | 11.4 (7.8-16.2) | | | |
| SAM (WHZ<-3 or oedema) | 0.7 (0.3-1.8) | Improved | 1.7 (1.1- 2.7) | Sustained | 1.7 (0.9-3.1) | Improved |
| Boys | 1.0 (0.3-1.8) | | 1.7 (0.7- 3.9) | | 1.8 (0.6-4.9) | |
| Girls | 0.4 (0.0-2.9) | | 1.8 (0.8- 3.9) | | 1.6 (0.7-3.8) | |
| Mean of Weight for Height Z Scores | -0.70 ±0.97 | Improved | -0.72 ± 1.14 | Deteriorated | -0.72±1.14 | Improved |
| Oedema | | Improved | 0.0 | Improved | 0 | Improved |
| Proportion with MUAC<12.5 cm or oedema) | 1.8 (0.9-3.4) | Improved | 4.1 (2.6- 6.5) | Deteriorated | 1.7 (0.7-3.6) | Improved |
| Boys | 1.3 (0.4-4.5) | | 2.7 (1.2- 5.9) | | 1.4 (0.4-4.6) | |
| Girls | 2.2 (0.9-5.2) | | 5.6 (3.4- 8.9) | | 1.9 (0.8-4.6) | |
| Proportion with MUAC<11.5 cm or oedema | 0 | Improved | 0.3 (0.1- 1.4) | Deteriorated | 0.0 | Improved |
| Boys | | | 0.3 (0.0- 2.6) | | 0.0 | |
| Girls | | | 0.3 (0.0- 2.7) | | 0.0 | |

| | | | | | | |
|---|-------------------|----------|--------------------------------|--------------|----------------------------|-----------|
| Stunting (HAZ<-2) | 1.8 (0.8-3.9) | Improved | 5.2 (3.1- 8.7) | Sustained | 2.5 (1.3-4.8) | Improved |
| Boys | 2.4 (1.1-5.2) | | 6.2 (3.3-11.2) | | 3.9 (2.1-7.0) | |
| Girls | 1.1 (0.1-8.1) | | 4.3 (2.2- 8.0) | | 1.3 (0.5-3.4) | |
| Underweight (WAZ<-2) | 4.9 (2.9-8.3) | Improved | 6.7 (4.7- 9.4) | Improved | 5.7 (4.0-7.9) | Improved |
| Boys | 6.1 (3.3-10.9) | | 8.8 (5.4-13.9) | | 7.8 (4.7-12.5) | |
| Girls | 3.7 (1.8-7.5) | | 4.5 (2.8- 7.2) | | 5.0 (2.8-8.8) | |
| Malnutrition Trends at Health facilities (January – July 2013) | | | Low (<10) and increasing trend | Deteriorated | High (>15%) and increasing | Sustained |
| CDR | 0.18 (0.07-0.51) | Improved | 0.16 (0.05-0.53) | Improved | 0.26 (0.11-0.6)) | Improved |
| U5DR | 0.37 (0.09-1.52) | Improved | 0.41 (0.06-3.15) | Improved | 0.43 (0.11-2.7) | Improved |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0) | 3.6 (0.0-7.3) | Improved | 2.0 (0.2-3.8) | Improved | N=289 0.5 (0.0-1.1) | Improved |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) | 13.0 (4.6-21.3) | Improved | 4.0 (0.1-7.9) | Improved | N=289 0.8 (0.0-1.7) | Improved |
| <i>Underlying & Risk Factors</i> | | | | | | |
| Overall reported morbidity | 12.7 (8.8-16.5) | | 9.0(4.5 – 13.5) | | 18.3 (13.4-23.2) | |
| Boys | 11.8 (6.6-17.0) | | 7.0 (2.0 – 12.1) | | 18.7 (12.5-24.9) | |
| Girls | 13.7 (8.4–18.9) | | 11.1 (5.9 – 16.3) | | 17.9 (12.2-23.6) | |
| Diarrhoea | 4.0 (2.2-5.9) | | 3.3 (1.3 – 5.3) | | 5.0 (2.5-7.5) | |
| Boys | 4.4 (2.0-6.8) | | 3.1 (0.2 – 6.0) | | 5.9 (2.7-9.1) | |
| Girls | 3.7 (0.9-6.4) | | 3.5 (1.4 – 5.7) | | 4.2 (1.5-1.3) | |
| Pneumonia | 6.9 (4.2-9.6) | | 1.4 (0.4 – 2.4) | | 5.8 (3.2-8.4) | |
| Boys | 5.7 (1.5-9.9) | | 2.1 (0.7 – 3.5) | | 5.2 (2.2-8.2) | |
| Girls | 8.1 (4.2-12.0) | | 0.7 (0.0 – 1.7) | | 6.4 (3.0-9.8) | |
| Fever | 6.7 (3.6-9.8) | | 4.8 (1.3 – 8.2) | | 12.8 (8.4-17.2) | |
| Boys | 5.1 (1.7-8.4) | | 2.4 (0.0 – 4.8) | | 13.4 (8.3-18.5) | |
| Girls | 8.4 (3.7-13.3) | | 7.2 (2.0 – 12.3) | | 12.1 (6.4-17.9) | |
| Measles | 0.7 (0.0-1.4) | | 1.1 (0.0 – 2.3) | | 1.2(0.0-2.4) | |
| Boys | 0.3 (0.0-1.0) | | 0.7 (0.0 – 1.7) | | 1.9 (0.0-4.1) | |
| Girls | 1.1 (0.0-2.3) | | 1.4 (0.0 – 3.2) | | 0.3 (0.0-1.1) | |
| Vitamin A supplementation | 53.7 (39.5 -67.9) | | 83.2 (75.1 – 91.4) | | 61.5 (47.1-75.8) | |
| Boys | 55.2 (40.2-70.3) | | 83.4 (73.9 – 93.0) | | 63.3 (49.2-77.5) | |
| Girls | 52.0 (37.7-66.3) | | 83.0 (74.8 – 91.3) | | 59.7 (44.6-75.0) | |
| Measles Vaccination | 63.9 (50.8-77.0) | | 78.7 (69.6 – 87.7) | | 82.9 (76.1-89.7) | |
| Boys | 64.0 (49.2-78.7) | | 80.3 (71.3 – 89.2) | | 83.4 (76.2-90.6) | |
| Girls | 63.8 (51.8-75.8) | | 77.0 (66.8 – 87.1) | | 82.4 (75.5-89.4) | |
| Polio immunization | 87.7 (81.6-93.7) | | 92.6 (87.5 – 97.6) | | 92.1 (86.7-97.6) | |
| Boys | 86.9 (80.0-93.8) | | 91.0 (84.7 – 97.3) | | 89.5 (82.1-97.0) | |
| Girls | 88.6 (82.0-95.1) | | 94.2 (89.8 – 98.7) | | 94.6 (88.5-100.6) | |
| <i>Infant and Young Child Feeding (6-24 Months)</i> | | | | | N=248 | |
| Continued breastfeeding up to 1 year | 52.8 (38.5-67.2) | | 76.1 (61.9-90.3) | | 44.9 (30.5-59.3) | |
| Boys | 44.4 (24.9-64.0) | | 78.6 (54.2-102.9) | | 40.0 (11.9-68.1) | |
| Girls | 61.5 (42.3-80.8) | | 75.0 (58.1-91.9) | | 48.3 (30.9-65.6) | |
| Continued breastfeeding up to 2 year | 7.0 (0.0-14.6) | | 18.5 (6.1-30.9) | | 7.0 (0.0-14.1) | |
| Boys | 7.4 (0.0-17.7) | | 16.1 (4.0-28.3) | | 0 | |
| Girls | 6.3 (0.0-19.6) | | 21.7 (1.5-42.0) | | 12.1 (0.0-14.1) | |
| Proportion meeting recommended feeding frequencies | 51.3 (41.6-61.0) | | 34.0 (25.9 – 42.1) | | 43.6 (34.9-52.4) | |
| Boys | 50.5(39.0-62.0) | | 36.2 (26.4 – 45.9) | | 42.5 (31.5-53.6) | |
| Girls | 53.3 (42.2-64.3) | | 32.1 (22.8 – 41.4) | | 45.2 (34.7-55.6) | |
| Proportion who reported to have consumed ≥4 food groups | 1.0 (0.0-2.4) | | 64.9 (54.7-76.0) | | 0.4 (0.0-1.3) | |
| Boys | 0 | | 62.4 (50.5-74.3)) | | 0 | |
| Girls | 2.2(0.0-5.1) | | 67.1 (54.9-79.3) | | 0.7 (0.0-2.2) | |

| | | | |
|--|------------------|--------------------|------------------|
| Proportion of Women who received at least one dose of Tetanus immunization | 64.6 (51.7-77.4) | 72.2 (54.5-90.0) | 70.1 (58.6-81.6) |
| Public Health Indicators | N=317 | N=297 | N=351 |
| Household with access to sanitation facilities | 39.7 (23.9-55.6) | 27.1 (11.9 – 42.4) | 59.2 (47.3-71.1) |
| Household with access to safe water | 6.3 (0.0-14.9) | 15.7 (3.8 – 27.6) | 100 |
| Proportion who reported to have consumed <4 food groups | 11.4 (3.9-18.8) | 3.2 (0.0 – 7.1) | 5.0 (0.2-9.7) |
| Overall Situation Analysis | Alert | Serious | Serious |

Hargeisa, Berbera and Burao IDPs results are summarized in Table 11.

Key highlights

Acute Malnutrition

Serious nutrition situation is observed in *Gu* 2013 among Burao IDP with a **GAM** rate of **14.2** percent and **10.8** percent in Berbera IDPs which is an improvement from *Critical* nutrition situation noted in both *Gu* and *Deyr* 2012 seasons. Improvement is linked to humanitarian assistance and improved food access because of declining food prices in the host urban areas. However, a GAM rate of **18.2** percent recorded among Hargeisa IDPs indicate a **Critical** nutrition situation which is a deterioration from stable *Serious* situation recorded in *Gu* and *Deyr* 2012. The deterioration is partly linked to morbidity especially measles outbreak and reported movement of the urban poor and IDPs hosted in the community to IDP camps in order to access humanitarian assistance.

Mortality

The results shows a stable *Acceptable* Crude (<0.5/10,000 person/day) and under five (<1/10,000 children/day) death rate among the three IDP populations since *Gu* 2012.

Morbidity

Reported morbidity in the two weeks prior to the assessment ranges between 12.7 percent in Berbera IDPs to 17 percent in Hargeisa IDP indicating that 3 out of 20 children in the three IDP groups was suffering from at least one of the common childhood illnesses two weeks prior to the assessment.

Immunization

The reported Vitamin A supplementation, measles vaccination and Polio immunization status by recall was within or above the recommend SPHERE standard of 95 percent. In Hargeisa and Berbera the reported status of measles vaccination and vitamin A supplementation was low (<80%) while Polio immunization was high at >90 percent.

Maternal Malnutrition:

Acceptable levels of maternal malnutrition (MUAC<23 cm in <9.5%) levels of the pregnant and lactating women in the three IDPs settlements were observed.

| Table 11: Summary of Key Nutrition Findings in IDPs Hargeisa Berbera and \Burao livelihood Zones July 2013 | | | | | | |
|--|---|---------------------------------|---|---------------------------------|---|---------------------------------|
| | Hargeisa IDPs | | Burao IDPs Returnees | | Berbera IDPs Returnees | |
| | 30 Clusters (N=495 Boys=244 Girls=251) | | 32 Clusters (N=706 Boys=374 Girls=332) | | 28 Clusters (N=513 Boys=260 Girls=253) | |
| Indicator | Results | Change from <i>Deyr</i> 2013 | Results | Change from <i>Deyr</i> 2013 | Results | Change from <i>Deyr</i> 2013 |
| Global Acute Malnutrition (WHZ<-2 or oedema) | 18.2 (14.3-23.0) | | 14.2 (11.5-17.5) | | 10.8 (8.7-13.5) | |
| Boys | 19.7 (14.0-26.9) | Deteriorated | 16.5 (12.1-22.0) | Improved | 11.7 (7.8-17.1) | Improved |
| Girls | 16.9 (12.6-22.2) | | 11.7 (8.6-15.8) | | 10.0 (7.3-13.5) | |
| Severe Acute Malnutrition (WHZ<-3 or oedema) | 2.5 (1.3-4.7) | | 2.6 (1.7-3.9) | | 2.0 (1.2-3.3) | |
| Boys | 3.3 (1.6-6.8) | Deteriorated | 3.5 (2.2-5.6) | Deteriorated | 1.6 (0.6-4.0) | Improved |
| Girls | 1.6 (0.6-4.1) | | 1.5 (0.6-3.5) | | 2.4 (1.1-5.1) | |
| Mean of Weight for Height Z Scores | -1.01±1.01 | | -0.92±1.05 | | -0.75±1.02 | |
| Oedema | 0.8 | Deteriorated | 0.0 | | 0 | Improved |

| | | | | | | |
|---|-----------------------|--------------|----------------------------|--------------|---------------------------|--------------|
| Proportion with MUAC<12.5 cm or oedema | 7.3 (5.4-9.8) | Deteriorated | 3.1 (2.0-4.8) | Deteriorated | 2.5 (1.3-4.8) | Improved |
| Boys | 7.4 (4.7-11.5) | | 2.1 (1.2-3.9)) | | 0.8 (0.2-3.2) | |
| Girls | 7.2 (5.1-10.0) | | 4.2 (2.3-7.5) | | 4.3 (2.3-8.0) | |
| Proportion with MUAC<11.5 cm or oedema | 2.6 (1.5-4.5) | Deteriorated | 0.1 (0.0-1.1) | Improved | 0.6 (0.2 -1.8) | Improved |
| Boys | 3.3 (1.7-6.2) | | 0 | | 0.4 (0.0-3.0) | |
| Girls | 2.0 (0.9-4.6) | | 0.3 (0.0-2.3) | | 0.8 (0.2-3.2) | |
| Stunting (HAZ<-2) | 8.2 (4.9-13.2) | | 2.6 (1.3-5.1) | | 2.4 (1.3-4.4) | |
| Boys | 10.4 (5.3-19.3) | | 3.8 (7.5)) | | 2.7 (1.1-6.4) | |
| Girls | 6.0 (3.5-10.1) | | 1.2 (0.5-3.2) | | 2.0 (0.7-5.5) | |
| Underweight (WAZ<-2) | 12.3 (8.6-17.2) | | 5.4 (3.9-7.5) | | 6.1 (3.9-9.3) | |
| Boys | 16.2 (11.2-22.9) | | 6.7 (4.1-10.6) | | 8.1 (4.9-13.0) | |
| Girls | 8.5 (5.3-13.4) | | 3.9 (2.3-6.5) | | 4.0 (2.1-7.5) | |
| Malnutrition Trends at Health facilities (January – July 2013) | Low (<10%) and stable | Sustained | High (>15%) and decreasing | Deteriorated | Low (<5%) and fluctuating | Sustained |
| Crude deaths, per 10,000 per day (retrospective for 90 days) | 0.23 (0.07-0.78) | Improved | 0.17(0.06-0.50) | Improved | 0.28 (0.14-0.55) | Deteriorated |
| Under five deaths, per 10,000 per day (retrospective for 90 days) | 0.57 (0.13-2.00) | Improved | 0.61(0.23-1.60) | Deteriorated | 0.77(0.30-2.00) | Deteriorated |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0) | 4.7 (0.0-11.1) | | 0 | Sustained | 1.2 (0.0-3.0) | Improved |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) | 1.5 (0.0-3.7) | Improved | 4.2 (0.0-10.9) | deteriorated | 6.3 (0.0-15.3) | Improved |
| <i>Underlying & Risk Factors</i> | | | | | | |
| Overall reported morbidity | 17.0 (12.9-21.1)) | | 15.9 (8.3-23.4) | | 12.7 (4.7-20.6) | |
| Boys | 15.6(10.9-20.3) | | 16.8(8.2-25.5) | | 11.2(4.0-18.4) | |
| Girls | 18.2(11.5-25.2) | | 14.8(7.6-22.0) | | 14.2(5.1-23.4) | |
| Diarrhoea | 7.3(4.2-10.3) | | 5.1 (2.2-8.0) | | 6.2(0.7-11.7) | |
| Boys | 7.4(4.4-10.3) | | 5.3(1.7-9.0) | | 5.4(0.7-10.1) | |
| Girls | 7.2(2.9-11.4) | | 4.8(1.9-7.7) | | 7.1(0.5-13.7) | |
| Pneumonia | 6.1(3.3-8.9) | | 5.1 (2.2-8.0) | | 7.2(2.3-12.2) | |
| Boys | 5.3(2.3-8.4) | | 6.4(2.2-10.6) | | 6.5(1.9-11.2) | |
| Girls | 6.8(2.8-10.7) | | 3.6(0.1-7.1) | | 7.9(2.1-13.7) | |
| Measles | 7.3 (4.2-10.3) | | | | | |
| Boys | 1.2 (0.0-2.7) | | 0.6 (0.0-1.5) | | 1.8 (0.0-4.0) | |
| Girls | 0.4(0.0-1.3) | | 0.5(0.0-1.6) | | 1.5(0.0-3.4) | |
| Fever | 2.0(0.0-2.0) | | 0.6(0.0-1.5) | | 2.0(0.0-4.8) | |
| Boys | 8.3 (4.3-12.2) | | 11.0 (5.6-16.5) | | 7.8 (1.4-14.2) | |
| Girls | 7.8(3.2-12.2) | | 11.8(5.8-17.8) | | 6.9(1.0-12.9) | |
| Vitamin A supplementation | 8.8(2.8-10.7) | | 10.2(4.5-16.0) | | 8.7(1.4-16.0) | |
| Boys | 60.0 (47.0-73.0) | | 94.6 (91.0-98.2) | | 71.9 (58.2-85.7) | |
| Girls | 60.7(46.7-74.6) | | 93.6(89.1-98.2) | | 72.7(58.3-87.0) | |
| Measles Vaccination | 59.4(46.1-72.7) | | 95.8(92.0-99.6) | | 71.1(57.1-85.2) | |
| Boys | 58.8 (47.5-70.1) | | 96.0 (93.4-98.6) | | 64.7 (52.0-77.4) | |
| Girls | 59.8(47.2-72.5) | | 95.7(92.1-99.4) | | 67.7(53.4-82.0) | |
| Polio immunization | 57.8(46.1-69.4) | | 96.4(93.9-98.9) | | 61.7(49.1-74.1) | |
| Boys | 90.9 (87-94.8) | | 96.7 (94.5 -99.0) | | 97.9 (95.7-100) | |
| Girls | | | | | | |
| Infant and Young Child Feeding (6-24 Months) | N= 195 | | N=268 | | N=147 | |
| Continued breastfeeding up to 1 year | | | | | | |
| Boys | 32.5 (16.8-48.2) | | 56.9 (40.2-73.5) | | 72.7 (53.8-91.6) | |
| Girls | | | | | | |
| Continued breastfeeding up to 2 years | | | | | | |
| Boys | 6.8 (0.0-14.60) | | 9.2 (1.3-17.1) | | 12.1 (0.0-26.4) | |
| Girls | | | | | | |

| | | | |
|--|------------------|-------------------|-------------------|
| Proportion meeting recommended feeding frequencies | 55.4 (44.1-66.6) | 65.4 (55.4-75.5) | 61.2 (49.0-75.9) |
| Boys | 56.5 (41.8-71.2) | 62.9 (52.2-73.4) | 58.7(41.5-75.9) |
| Girls | 54.4 (40.8-67.9) | 68.3 (54.8-81.7) | 63.1 (50.1-76.1) |
| Proportion who reported to have consumed <4 food groups | 3.6 (0.0-1.4) | 2.6 (0.0-6.0) | 8.3 (1.4-15.2) |
| Boys | 3.4 (0.0-8.0) | 0 | 9.5 (0.8-18.3) |
| Girls | 3.9 (0.2-7.6) | 3.4 (0.0-16.5) | 8.3 (1.4-15.2) |
| Proportion of Women who received at least one dose of Tetanus immunization | 88.5 (84.1-92.8) | 97.1 (94.9 -99.2) | 93.9 (90.7-97.2) |
| Public Health Indicators | N= 265 | N= 305 | N=147 |
| Household with access to sanitation facilities | 94.9 (91.9-97.9) | 100 | 99.2 (98.1-100.3) |
| Household with access to safe water | 74.0 | 98.7 (96.6-100.0) | 94.8 (91.4-98.2) |
| Proportion who reported to have consumed <4 food groups | 75.5 (66.5-84.5) | 95 (96.6-100.0) | 87.3 (78.9-95.6) |
| Overall Situation Analysis | Critical | Serious | Serious |

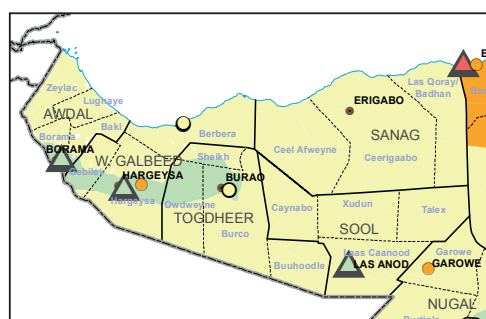
Hot spot for Acute Malnutrition in Northwest Somalia

Hargeisa IDPs with GAM rate of exceeding 15 percent is a hot spot requiring immediate interventions to both treat the acutely malnourished children and prevent further deterioration of the nutrition situation.

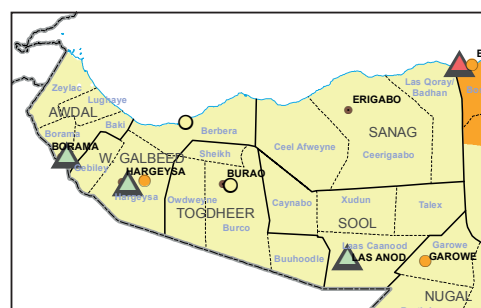
Outlook

The nutrition situation in Northwest regions is largely expected to remain stable in the coming two months with exception of agro-pastoral which are expected to deteriorate marginally to *Serious* levels in line with seasonal trends and in light of the low crop harvest recorded in *Gu* 2013 season. The maps below show current and projected nutrition situation in Northwest regions. The current Stressed food security situation in Northwest regions is similarly projected to remain stable up to December 2013.

Nutrition Situation, July 2013



Projected Nutrition Situation
Aug-Oct 2013



4.2 NORTHEAST REGIONS

BACKGROUND

The North East region, constitutes 2 main regions namely, Bari and Nugal, with an estimated population of 500, 000 according to UNDP 2005 figures. The population is predominately pastoral with seven livelihood zones: the Hawd, Addun, Coastal *Deeh*, East Golis, Karkaar/Dharoor Valley, Nugal valley and Sool Plateau. The Hawd and Addun cut across the Northeast and Central regions and the East Golis, Sool and Nugal valley livelihoods cut across the Northeast and Northwest regions.

Food security situation

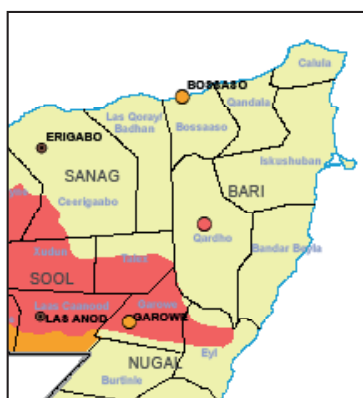
According to food security analysis, there has been an improvement in the food security situation in most of North east region since *Deyr* 12/13. The areas' snapshot analysis indicate all the livelihoods in the region are classified as **Stressed** (IPC Phase 2). Projections for the next 6 months indicate that the food security situation in the area will remain the same.

Post Gu 2013 Nutrition situation

The Post *Gu* 2013 nutrition situation indicate a mixed picture across the NE livelihood zones in past 12 months. Seasonality of malnutrition in Somalia point to the fact that there is increased vulnerability during *Gu*. IDP and Urban population also indicate increased vulnerability with acute malnutrition sustained above emergency levels (15%) except Qardho IDP, which showed significant improvement since *Deyr* 12/13. (See progression maps below):

The maps below show the trends of nutrition situation in Northeast Region, *Gu* 2012 to *Gu* 2013.

Nutrition Situation, *Gu* 2012



Nutrition Situation, *Deyr* 2012/13



Nutrition Situation, *Gu* 2013

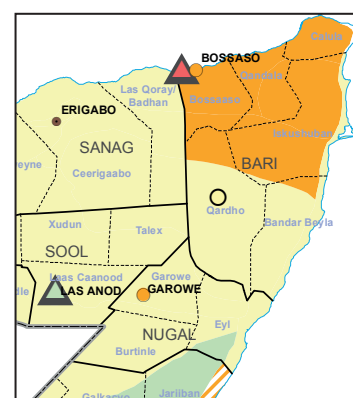


Table 12: Summary Results Table of the Northeast Surveys, *Gu* 2013

| Population assessed | GAM | SAM | Total Stunting | Underweight | CDR | U5DR | PLW<23 |
|---------------------|------|-----|----------------|-------------|------|------|--------------|
| EGolis (NE) | 16.7 | 3.6 | 9.7 | 15.1 | 0.28 | 0.53 | 23.9 |
| Coastal deeh (NE) | 10.8 | 1.7 | 14.7 | 11.2 | 0.11 | 0.36 | 18.6 |
| Nugal0712 | 11.3 | 1.3 | 2 | 2.5 | 0.03 | 0 | |
| Bossaso IDPs | 17.3 | 3.8 | 30 | 29.9 | 0.18 | 0.35 | 17.1 |
| Qardho IDPs | 14.9 | 2.8 | 22.9 | 21.8 | 0.26 | 0.28 | 17.7 Plateau |
| Garowe IDPs | 19.2 | 5.8 | 14.1 | 19.7 | 0.16 | 0.26 | 10.9 |
| Galkayo IDP's | 19.4 | 2.5 | 27.7 | 28.1 | 0.22 | 0.23 | 28.8 |
| Bari Urban | 21.2 | 5.7 | 11.9 | 16.8 | | | |
| Sool Plateau | 10.8 | 1.5 | 5 | 6.2 | 0.04 | 0 | 13.0 |
| Nugal Urban | 10.3 | 1.4 | 4.3 | 6.3 | | | |

Key Highlights among the Rural Livelihoods in NE Region

Acute Malnutrition

- The *Gu* 2013 analysis results show **Critical** nutrition situation in East Golis with a GAM of 16.7 percent and SAM of 3.6 percent suggesting 1 in every 6 children aged 6-59 months is at increased risk of morbidity and death. In the past 6-12 months, the nutrition situation has been at *Serious* levels and therefore indicating a deterioration since *Deyr* 12/13 attributed to poor milk access as a result of below average *Gu*'13 rains.
- In Nugal, the malnutrition situation has shown a downward trend indicating overall improvement in two consecutive seasons. The *Gu* 2013 assessment revealed **Serious** nutrition situation with a GAM of 11.3 percent and a SAM of 1.3 percent. Improved milk access resulting from above average *Deyr* 12 and *Gu*'13 rain performance in Nugal region has been attributed to steady improvement observed over the past 12 months, from *Very critical* nutrition situation (*Gu* 12) to *Serious* in the current season.
- In Sool plateau a deterioration in the past 6 months was registered with *Gu* 2013 reporting a **Serious** nutrition situation from *Alert* in *Deyr* 12/13. The situation was the same in *Gu* last year, further indicating the seasonality of acute malnutrition in Somalia suggesting increased vulnerability during *Gu*.
- While all other areas showing a mixed picture, the coastal Deeh strip has registered sustained **Serious** nutrition situation over the previous 12 months.

Mortality rates

In all rural livelihoods of NE region, the CDR and U5DR registered acceptable levels indicating a stable health situation in the previous 12 months.

Morbidity:

High morbidity rates contribute to high rates of malnutrition. As observed among displaced populations, morbidity burden is a public health concern as well in rural livelihoods. Overall disease incidence indicate 1 in every 4 children reportedly fell ill in the two week period prior to assessments suggesting heavy morbidity burden.

Immunization:

In all the rural livelihoods, overall Measles vaccination and Vitamin A supplementation fell below the recommended thresholds (>95%). This is an indication that there is still a gap in health intervention programmes.

Maternal Malnutrition:

The assessment of maternal malnutrition for pregnant and lactating women (MUAC <23.0cm) show that on average 1 in every 6 pregnant and lactating women is at risk of malnutrition and consequently have increased likelihood of poor birth outcomes.

The table below show the results from 3 rural livelihoods of Sool plateau, E.Golis and Coastal Deeh.

Table 13: Summary of Key Nutrition Findings in Sool Plateau, East golis NE, and Coastal Deeh NE Livelihood Zones, September 2013

| Indicator | Sool plateau (N=658: Boys=329; Girls=329) | | E.golisNE(N=581: Boys=282; Girls=299) | | Coastal deeh (NE) (N=771: Boys=389; Girls=382) | |
|------------------------------------|--|-----------------------|--|-----------------------|---|-----------------------|
| | Results | Comment | Results | Comment | Results | Comment |
| | | Since <i>Deyr</i> '12 | | Since <i>Deyr</i> '12 | | Since <i>Deyr</i> '12 |
| GAM (WHZ<-2 or oedema) | 10.8 (8.5-13.6) | Deteriorated | 16.7 (14.0-19.8) | Deteriorated | 10.8(8.7-13.3) | Deteriorated |
| Boys | 12.2 (8.8-16.5) | | 16.7 (12.9-21.3) | | 12.9(9.4-17.4) | |
| Girls | 9.4 (6.8-13.0) | | 16.7 (12.4-22.1) | | 8.6 (5.7-13.0) | |
| SAM (WHZ<-3 or oedema) | 1.5 (0.8-3.0) | Deteriorated | 3.6 (2.4-5.3) | Deteriorated | 1.7 (1.1-2.7) | Deteriorated |
| Boys | 2.4 (1.1-5.4) | | 3.2 (1.7- 5.9) | | 2.3 (1.2-4.5) | |
| Girls | 0.6 (0.1- 2.6) | | 4.0 (2.4- 6.5) | | 1.0 (0.4- 2.7) | |
| Mean of Weight for Height Z Scores | -0.68±1.01 | | -0.90±1.15 | | -0.60±1.12 | |
| Oedema | 0.3 | | | | | |
| MUAC<12.5 cm or oedema) | 2.6(1.7- 3.8) | Deteriorated | 3.9 (2.3- 6.5) | Deteriorated | 1.4 (0.7- 2.8) | Improved |
| Boys | 2.7 (1.6- 4.6) | | 2.8(1.2- 6.1) | | 0.5(0.1- 2.1) | |
| Girls | 2.4 (1.2- 4.6) | | 4.9 (2.8- 8.4) | | 2.3 (1.0- 5.0) | |
| MUAC<11.5 cm or oedema | 0.6(0.8-1.8) | Deteriorated | 1.3 (0.6- 3.0) | Deteriorated | 0.4 (0.1-1.7) | Improved |
| Boys | 0.5 (0.1-2.5) | | 1.4 (0.5- 3.5) | | 0.0 | |
| Girls | 0.8 (0.3- 2.9) | | 1.3 (0.4- 4.3) | | 0.8 (0.2- 3.3) | |

| | | | | | | |
|--|---------------------------------|-----------|-----------------------------|--------------|---------------------------|--------------|
| Stunting (HAZ<-2) | 5.0 (3.3-7.6) | | 9.7 (6.8-13.4) | | 14.7 (11.8-18.2) | |
| Boys | 7.3(4.4-11.8) | | 13.9 (9.8-19.5) | | 19.6(15.3-24.7) | |
| Girls | 2.8 (1.4-5.5) | | 5.7 (3.5- 9.1) | | 9.8 (6.9-13.9) | |
| Underweight (WAZ<-2) | 6.2 (4.1-9.2) | | 15.1 (12.4-18.2) | | 11.2 (9.2-13.6) | |
| Boys | 8.5 (5.6-12.6) | | 15.0 (11.7-19.0) | | 12.9 (9.6-17.1) | |
| Girls | 3.9 (2.2-7.0) | | 15.2 (11.3-20.3) | | 9.5 (6.7-13.3) | |
| Malnutrition Trends at Health facilities (January – July 2012) | Low (<10%) and decreasing trend | | High (<10-20%) &fluctuating | | High (15%) but decreasing | |
| CDR | 0.04(0.01-0.34) | Sustained | 0.28 (0.12-0.68) | Deteriorated | 0.11 (0.04-0.35) | Improved |
| U5DR | 0 | Improved | 0.53(0.17-1.61) | Deteriorated | 0.36 (0.12 – 1.12) | Improved |
| Pregnant and lactating women (MUAC<21.0) | 2.6 (0.0-6.5) | Improved | 7.7(2.8-12.8) | N/A | 4.2 (1.2-7.2) | N/A |
| Pregnant and lactating women (MUAC<23.0) | 13.0 (5.4-20.6) | N/A | 23.9(17.2-30.7) | Improved | 18.6 (13.0-24.2) | Deteriorated |
| Underlying & Risk Factors | | | | | | |
| Overall reported morbidity | 25.5 (18.3-32.7) | | 25.0 (14.9-35.0) | | 41.7 (30.8-52.5) | |
| Boys | 25.7 (16.7-34.7) | | 23.9(13.2-34.7) | | 38.0 (26.4-49.6) | |
| Girls | 25.3 (17.2-33.4) | | 25.9(15.7-36.2) | | 45.3 (34.3-56.3) | |
| Diarrhoea | 4.9 (2.0-7.9) | | 4.5(2.4-7.0) | | 7.0 (4.2-9.8) | |
| Boys | 4.8 (1.3-8.2) | | 3.1(1.0-5.4) | | 5.5 (2.2-8.9) | |
| Girls | 5.1 (1.0-2.8) | | 5.8(3.0-8.7) | | 8.4 (5.3-11.5) | |
| Pneumonia | 6.4 (3.2-9.7) | | 10.4(4.3-16.5) | | 19.1 (12.3-25.9) | |
| Boys | 5.7 (1.9-9.4) | | 10.8(3.7-17.8) | | 17.4 (10.8-23.9) | |
| Girls | 7.2 (3.6-10.9) | | 10.1(4.3-15.8) | | 20.9 (13.5-28.2) | |
| Measles | 1.0 (0.2-1.9) | | 0.2(0.0-0.5) | | 2.9 (1.1-4.5) | |
| Boys | 0.9 (0.0-1.9) | | 0.3(0.0-1.1) | | 3.0 (0.7-5.3) | |
| Girls | 1.2 (0.0-2.4) | | 0.0 | | 2.5 (0.7-4.4) | |
| Fever | 20.2 (13.6-26.9) | | 19.1(12.3-25.9) | | 26.1 (19.8-32.4) | |
| Boys | 20.9 (12.6-29.1) | | 18.1(10.4-25.7) | | 26.4 (18.2-34.7) | |
| Girls | 19.6 (12.5-26.7) | | 20.1(12.7-27.5) | | 25.7 (19.6-31.8) | |
| Vitamin A supplementation | 90.6 (86.8-94.4) | | 75.8 (61.9-89.8) | | 70.0 (57.0-83.1) | |
| Boys | 89.8 (84.6-94.9) | | 75.0(60.4-89.6) | | 72.0 (60.3-83.7) | |
| Girls | 91.5 (88.1 -94.8) | | 76.6(62.9-90.4) | | 67.9 (52.7-83.1) | |
| Measles Vaccination | 82.6 (74.5-90.8) | | 72.1(58.4-85.8) | | 68.6 (55.9-81.3) | |
| Boys | 82.5 (73.5-91.5) | | 71.9(57.6-86.1) | | 71.0 (59.5-82.6) | |
| Girls | 82.7 (74.2-91.3) | | 72.4(58.4-86.3) | | 66.2 (51.5-80.8) | |
| Polio immunization | 92.4 (86.5-98.4) | | 86.4(79.9-92.9) | | 83.3 (77.0-89.6) | |
| Boys | 91.9 (84.5-99.3) | | 87.8(81.4-94.3) | | 83.1 (77.0-89.2) | |
| Girls | 93.0 (87.9-98.1) | | 85.1(77.5-92.7) | | 83.5 (75.4-91.5) | |
| IYCF (6-24 Months) | n=164 | | n=202 | | n=260 | |
| Proportion still breastfeeding | 56.5 (45.5-67.5) | | 38.0(28.4-47.7) | | 51.0 (42.7-59.2) | |
| Boys | 61.3 (48.9-73.7) | | 34.1(23.9-44.3) | | 50.7 (38.9-62.6) | |
| Girls | 51.5 (39.9-63.2) | | 41.7(29.3-54.1) | | 51.2 (42.0-60.4) | |
| Proportion meeting recommended feeding frequencies | | | | | | |
| Boys | 30.0 (26.3-33.6) | | 17.1 (12.6-21.6) | | 20.3 (17.7-22.8) | |
| Girls | 31.9 (26.6-37.3) | | 17.4 (11.9-22.8) | | 21.7 (17.8-25.5) | |
| | 28.0 (21.9-34.1) | | 16.9 (12.2-21.6) | | 18.3 (15.1-22.6) | |
| Proportion who reported to have consumed <4 food groups | 98.8(97.0-100.0) | | 92.1(86.8-97.3) | | 94.6(89.4-99.9) | |
| Boys | 98.5(95.5-100.0) | | 92.6(86.6-98.5) | | 95.5(90.0-100.0) | |
| Girls | 99.2(97.5-100.0) | | 91.7(84.7-98.6) | | 93.7(87.4-100.0) | |
| Women who received at least one dose of Tetanus immunization | 12.8 (7.7-17.8) | | 11.1(5.8-16.3) | | 8.8 (5.7-11.9) | |
| Public Health Indicators | n=385 | | n=416 | | n=483 | |
| Access to sanitation facilities | 32.2 (18.3-46.1) | | 59.8 (41.5 -78.0) | | 63.7 (49.6 – 77.8) | |
| Access to safe water | 53.9 (35.3-72.5) | | 52.0 (32.9 – 71.6) | | 64.2 (46.5 – 81.9) | |
| Proportion who reported to have consumed <4 food groups | 1.3 (0.0-3.4) | | 1.9(0.2-3.6) | | 1.3 (0.0-2.8) | |
| Overall Situation Analysis | Serious | | Critical | | Serious | |

Key Highlights among the IDPs in NE region

Acute Malnutrition

- During the *Gu* 2013, Bossaso IDPs reported **Critical** nutrition situation with a GAM of 17.3 percent and a SAM of 3.8 percent suggesting 1 in every 6 children aged 6-59 months is malnourished and at increased risk of morbidity and death. Significantly more boys (22.2 %) than girls (12.9 %) were acutely malnourished. Overall, a slight improvement was noted from *Very critical* situation reported six months ago- *Deyr* 12/13.
- In Qardho IDP, a GAM of 14.9 percent and a SAM of 2.8 percent were reported indicative of the **Serious** nutrition situation. There was a significant improvement from *Very critical* nutrition situation reported in *Deyr* 2012/13. The improvement has largely been attributed to intensified intervention that has had a positive impact on malnutrition and morbidity rates.
- Assessment of the Garowe IDP's indicate deterioration since *Deyr* 2012/13 from *Serious* to **Critical** nutrition situation with a GAM of 19.2 percent and a SAM of 5.8 percent.
- In Galkayo, a **Critical** nutrition situation with a GAM of 19.4 percent and SAM of 2.5 percent were reported suggesting 1 in every 5 children aged 6-59 months are malnourished and consequently at increased risk of morbidity and death. *Critical* nutrition situation has been sustained over the previous 12 months.

Mortality rates

Among all the four IDPs in the NE region, mortality assessment showed acceptable levels for both CDR and U5DR indicating normal situation in the surveyed population.

Morbidity:

Morbidity is an important risk factor of acute malnutrition and has indicated to significantly correlate with acute malnutrition among the IDPS. Garowe IDPs reported 37.3 percent overall illness while Bossaso and Galkayo findings reported 35.0 and 40.4 percent respectively. Similarly, in Qardho a high proportion, 35 percent, of children aged between 6-59 months reported some form of illness. These rates suggest high incidence of morbidity estimated at 1 in every 3 children aged between 6-59 months reportedly fell ill in the two week period prior to assessments.

Immunization:

Overall measles vaccination and Vitamin A supplementation are below the recommended Sphere thresholds of (>95%) for all IDP camps.

Maternal Malnutrition:

Poor maternal health has been shown to impact negatively on the nutritional well-being of unborn child and birth outcomes. In the IDP camps, malnutrition rates among the pregnant and lactating women are reportedly high with an average of 1 in every 6 pregnant and lactating women malnourished and therefore likely to give birth to a nutritionally at risk child. This situation indicate that maternal health in IDP camps is a public health concern.

The tables 14 below show *Gu* 13 findings for Bossaso, Qardho, Garowe, Galkayo and Nugal valley.

Table 14: Summary of Key Nutrition Findings in Bossaso, Qardho and Garowe IDPs, August 2013

| Indicator | Bossaso IDP's | | Qardho IDP's | | Garowe IDP's | |
|------------------------------------|------------------------------|---------------------------|---------------------------|---------------------------|-------------------------------|---------------------------|
| | (N=863: Boys406=; Girls=457) | | (N=374: Boys=; Girls=349) | | (N=756: Boys= 356; Girls=400) | |
| | Results | Comment: Since Deyr'12 | Results | Comment: Since Deyr'12 | Results | Comment: Since Deyr'12 |
| GAM (WHZ<-2 or oedema) | 17.3 (14.5-20.5) | Improved | 14.9 | Improved | 19.2 (16.1 – 22.6) | Improved |
| Boys | 22.2 (18.1-26.8) | | 19.3 | | 21.6 (18.0 – 25.8) | |
| Girls | 12.9 (10.1-16.4) | | 10.3 | | 17.0 (13.0 – 21.9) | |
| SAM (WHZ<-3 or oedema) | 3.8 (2.6-5.6) | Improved | 2.8 | Improved | 5.8 (4.6 – 7.4) | Improved |
| Boys | 5.7 (3.7 – 8.7) | | 3.5 | | 7.6 (5.6 – 10.2) | |
| Girls | 2.2 (1.1 – 4.2) | | 2.0 | | 4.3 (2.5 – 7.0) | |
| Mean of Weight for Height Z Scores | 1.01 ± 1.04 | | 0.84±1.11 | | 0.98±1.19 | |
| Oedema | 0 | | 0.1 | | 0 | |
| MUAC<12.5 cm or oedema) | 10.6 (8.4-12.9) | Improved | 4.1 | Improved | 11.6 (9.4 – 14.2) | Improved |
| Boys | 8.2 (5.8-11.0) | | 4.5 | | 15.0 (11.9 – 18.8) | |
| Girls | 12.8 (10.0-15.8) | | 3.6 | | 8.5 (5.9 – 12.2) | |
| MUAC<11.5 cm or oedema | 2.0 (1.1-3.7) | Improved | 1.5 | Improved | 2.9 (2.1 – 4.1) | Improved |
| Boys | 1.0 (0.3- 3.2) | | 2.1 | | 4.2 (2.5-6.8) | |
| Girls | 3.0 (1.5- 5.6) | | 0.8 | | 1.8 (0.9-3.2) | |

| | | | | | | |
|--|-------------------|----------|------------------|----------|--------------------|----------|
| Stunting (HAZ<-2) | 30.0 (24.2-36.6) | | 22.9 | | 14.1 (11.5 – 17.2) | |
| Boys | 31.1 (24.4-38.7) | | 25.3 | | 16.3 (13.2 – 20.0) | |
| Girls | 29.1 (23.1-35.9) | | 20.5 | | 12.2 (9.1 -16.2) | |
| Underweight (WAZ<-2) | 29.9 (25.2-35.1) | | 21.8 | | 19.7 (16.5 – 23.2) | |
| Boys | 34.5 (28.9-40.6) | | 27.4 | | 23.5 (19.8 – 27.6) | |
| Girls | 25.8 (20.5-32.0) | | 15.9 | | 16.2 (12.5 – 20.7) | |
| CDR | 0.18 (0.09-0.39) | Improved | 0.26/10,000/day | N/A | 0.16 (0.05-0.53) | Improved |
| U5DR | 0.35 (0.11-1.10) | Improved | 0.28 /10,000/day | N/A | 0.26 (0.06-1.09) | Improved |
| Non pregnant/lactating women (MUAC <18.5 cm) | 0.3 (0.0-0.9) | | 0.0 | N/A | 0.0 | |
| Pregnant and lactating women (MUAC<21.0) | 4.1 (1.3-6.9) | | | N/A | | |
| Pregnant and lactating women (MUAC<23.0) | 17.1 (13.0-21.4) | Improved | 17.7 | Improved | 10.9 (7.5-14.3) | Improved |
| Underlying and Risk Factors | | | | | | |
| Overall reported morbidity | 35 (25.7-44.3) | | 47.6 | | 37.2 (32.5-41.8) | |
| Boys | 38.1 (27.5-48.7) | | 51.2 | | 40.7 (35.7-45.8) | |
| Girls | 32.3 (22.9-41.7) | | 43 | | 34.0 (28.0-40.0) | |
| Diarrhoea | 5.9 (3.0-9.0) | | 15.5 | | 11.0 (8.7-13.3) | |
| Boys | 6.1 (2.7-9.5) | | 17.5 | | 11.9 (8.8-15.0) | |
| Girls | 5.7 (2.1-9.3) | | 13.3 | | 10.2 (7.3-13.1) | |
| Pneumonia | 23.7 (16.6-30.7) | | 19.0 | | 5.1 (3.1-7.1) | |
| Boys | 25.7 (17.7-33.8) | | 19.9 | | 5.8 (3.4-8.2) | |
| Girls | 21.9 (14.8-29.0) | | 18.1 | | 4.5 (1.9-7.1) | |
| Measles | 0.7 (0.0-1.5) | | 3.8 | | 3.7 (1.9-5.4) | |
| Boys | 0.2 (0.0-0.6) | | 5.0 | | 5.0 (2.4-7.5) | |
| Girls | 1.4 (0.2-2.6) | | 2.5 | | 2.5 (0.7-4.1) | |
| Fever | 21.3 (12.7-30.0) | | 36.4 | | 28.3 (22.4-34.2) | |
| Boys | 19.2 (10.6-27.9) | | 40.4 | | 31.6 (24.7-38.5) | |
| Girls | 23.6 (14.3-32.9) | | 32.2 | | 25.4 (19.2-31.5) | |
| Vitamin A supplementation | 85.3 (77.6-92.7) | | 87.7 | | 76.1 (70.8-81.4) | |
| Boys | 85.7 (77.5-94.0) | | 48.8 | | 73.5 (67.6-79.3) | |
| Girls | 85.0 (77.6-92.4) | | 90.8 | | 78.4 (72.5-84.2) | |
| Measles Vaccination | 79.7 (71.8-87.4) | | 70.8 | | 68.9 (62.8-75.1) | |
| Boys | 79.8 (71.3-88.3) | | 72.5 | | 66.0 (59.6-72.4) | |
| Girls | 79.6 (71.5-87.7) | | 68.9 | | 71.4 (64.4-78.4) | |
| Polio immunization | 96.9 (95.2-98.6) | | 94.2 | | 89.6 (86.6-92.5) | |
| Boys | 97.9 (96.7-99.1) | | 92.4 | | 88.9 (84.7-93.1) | |
| Girls | 96.0 (93.4-98.6) | | 96.1 | | 90.1 (86.3-93.8) | |
| Infant and Young Child Feeding (6-24 Months) | n=341 | | n=255 | | n=263 | |
| Proportion still breastfeeding | 58.0 (48.8-67.1) | | 46.8 | | 52.7 (40.3-65.2) | |
| Boys | | | 45.8 | | 60.4 (44.8-76.0) | |
| Girls | | | 47.7 | | 44.2 (26.5-61.9) | |
| Proportion meeting recommended feeding frequencies | 96.7 (89.9-100.0) | | 55.3 | | 22.2(14.7-19.7) | |
| Proportion who reported to have consumed <4 food groups | 15.1 (8.7-21.5) | | 4.3 | | 1.1 (0.0-2.2) | |
| Women who received at least one dose of Tetanus immunization | 98.2 (96.6-99.7) | | 87.0 | | 89.2 (85.9-92.4) | |
| Public Health Indicators | n=650 | | n=526 | | n=497 | |
| Access to sanitation facilities | 92.4 (84.1-100) | | 93.6 | | 75.4 (66.2-84.7) | |
| Access to safe water | 20.3 (6.8-33.8) | | 92.9 | | 99.3 (98.5-100) | |
| Proportion who reported to have consumed >=4 food groups | 99.7 (99.1-100.0) | | 98.0 | | 47.5 (45.5-49.4) | |
| Overall Situation Analysis | Critical | | Serious | | Critical | |

Table 15 Summary of Key Nutrition Findings in Galkayo IDP and Nu Livelihood Zones, December 2013

| Indicator | Galkayo IDP's (N=907: Boys=475; Girls=432) | | Nugal (N=710: Boys=365; Girls=345) | |
|--|---|-------------------------------------|---------------------------------------|-------------------------------------|
| | Results | Comment change since Deyr' 2012-13' | Results | Comment change since Deyr' 2012-13' |
| GAM (WHZ<-2 or oedema) | 19.4 (17.0-21.1) | Improved | 11.3 (8.9-14.2) | Improved |
| Boys | 20.0 (16.8-23.6) | | 13.1 (9.9-17.1) | |
| Girls | 18.8 (15.4 – 22.6) | | 9.4 (6.8-12.8) | |
| SAM (WHZ<-3 or oedema) | 2.5 (1.8 – 3.6) | Improved | 1.3 (0.6-2.9) | Improved |
| Boys | 2.3 (1.3 – 4.2) | | 1.1 (0.3-3.7) | |
| Girls | 2.8 (1.7 – 4.4) | | 1.4 (0.5-3.9) | |
| Mean of Weight for Height Z Scores | -1.00 ± 1.13 | | -0.67±1.05 | |
| Oedema | 0 | | 0 | |
| MUAC<12.5 cm or oedema) | 6.9 (4.3 – 10.8) | Deteriorated | 2.4 (1.4-4.1) | Deteriorated |
| Boys | 5.8 (3.6 – 9.2) | | 3.1 (1.6-5.7) | |
| Girls | 8.1 (4.9 – 13.1) | | 1.7 (0.7-4.1) | |
| MUAC<11.5 cm or oedema | 0.6(0.3 – 1.6) | Improved | 0.4 (0.1-1.3) | Deteriorated |
| Boys | 0.8 (0.2- 2.8) | | 0.6 (0.1-2.3) | |
| Girls | 0.4 (0.1- 1.8) | | 0.3 (0.0-2.1) | |
| Stunting (HAZ<-2) | 27.7 (21.7 – 34.5) | | 2.0 (0.9-4.1) | |
| Boys | 27.8 (21.4 – 35.4) | | 3.1 (1.5-6.1) | |
| Girls | 27.5 (20.8-35.3) | | 0.9 (0.2-3.7) | |
| Underweight (WAZ<-2) | 28.1 (22.8-34.1) | | 2.5 (1.4-4.5) | |
| Boys | 28.3(21.8-35.7) | | 3.6 (2.1-6.2) | |
| Girls | 27.9 (22.4 – 34.1) | | 1.4 (0.6-3.30) | |
| Malnutrition Trends at Health facilities (January – July 2012) | | | | |
| CDR | 0.22 (0.08 – 0.58) | Improved | NA | NA |
| U5DR | 0.23 (0.06 – 0.95) | Improved | NA | NA |
| Non pregnant/lactating women (MUAC <18.5 cm) | 0.7 (0.0-1.4) | Deteriorated | 0 | |
| Pregnant and lactating women (MUAC<21.0) | 5.3 (2.0-8.5) | Deteriorated | 2.0 (0.0-4.1) | Deteriorated |
| Pregnant and lactating women (MUAC<23.0) | 28.8 (24.0-33.7) | Deteriorated | 14.8 (6.6-23.0) | Deteriorated |
| Overall reported morbidity | 40.4 (32.5-48.2) | | 21.8 (10.0-33.5) | |
| Boys | 36.3 (28.0-44.6) | | 20.1 (9.2-30.9) | |
| Girls | 44.7 (36.7-52.8) | | 23.5 (10.2-36.8) | |
| Diarrhoea | 14.0 (9.8-18.2) | | 2.8 (1.3-4.3) | |
| Boys | 12.4 (8.0-16.8) | | 2.9 (1.0-4.5) | |
| Girls | 15.7 (10.6-20.7) | | 2.8 (1.0-4.6) | |
| Pneumonia | 16.6 (11.6-21.5) | | 7.4 (3.2-11.7) | |
| Boys | 15.7 (10.3-21.2) | | 7.2 (2.4-12.1) | |
| Girls | 17.5 (11.6-23.3) | | 7.6 (3.1-12.1) | |
| Measles | 6.0 (3.0-9.1) | | 17.4 (6.6-28.2) | |
| Boys | 5.2 (2.2-8.2) | | 15.9 (6.3-25.4) | |
| Girls | 7.0 (3.1-10.8) | | 19.0 (6.4-31.5) | |
| Fever | 32.3 (26.4-38.1) | | 2.1 (0.0-1.8) | |
| Boys | 29.0 (22.7-35.3) | | 2.5 (0.0-6.9) | |
| Girls | 35.8 (29.2-42.4) | | 1.7 (0.0-4.8) | |
| Vitamin A supplementation | 69.7 (59.2-80.2) | | 66.0 (51.7-80.3) | |
| Boys | 63.3 (59.0-79.6) | | 66.6 (52.9-80.2) | |
| Girls | 70.1 (58.4-81.8) | | 65.4 (49.9-81.0) | |
| Measles Vaccination | 82.5 (77.8-87.1) | | 62.8 (50.5-75.1) | |
| Boys | 80.6 (75.3-85.8) | | 63.0 (51.1-74.9) | |
| Girls | 84.5 (79.2-89.8) | | 62.6 (49.0-76.2) | |
| Polio immunization | 85.9 (80.8-91.1) | | 93.1 (89.9-96.3) | |
| Boys | 86.3 (82.0-90.7) | | 93.3 (89.9-96.7) | |
| Girls | 85.5 (78.6-92.3) | | 92.9 (89.1-96.8) | |
| Infant and Young Child Feeding (6-24 Months) | n=317 | | n=227 | |

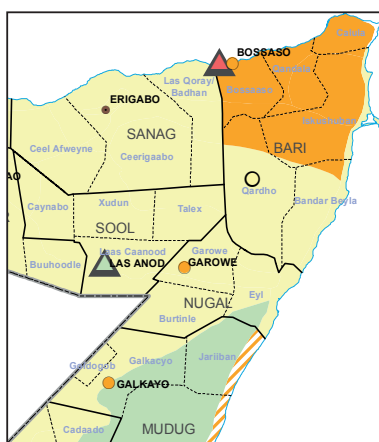
| | | |
|--|-------------------|------------------|
| Proportion still breastfeeding | 48.1 (41.1-55.0) | 55.6 (42.3-68.8) |
| Boys | 45.8 (35.6-56.0) | 57.8 (41.9-73.7) |
| Girls | 50.3 (42.7-57.9) | 53.2 (41.1-65.4) |
| Proportion meeting recommended feeding frequencies | 41.0 (34.8-47.2) | 23.5(15.2-31.8) |
| Boys | 38.9 (30.1-47.7) | 24.5(15.1-31.9) |
| Girls | 43.1 (36.0-50.2) | 22.4(15.4-31.6) |
| Proportion who reported to have consumed <4 food groups | 1.3 (0.0-2.6) | 4.2 (0.4-7.9) |
| Boys | 1.3 (0.0-3.1) | 0.7 (0.0-2.8) |
| Girls | 1.3 (0.0-2.9) | 7.5 (1.7-13.3) |
| Proportion of Women who received at least one dose of Tetanus immunization | 82.0 (76.4-87.6) | 80.1 (71.7-88.4) |
| <i>Public Health Indicators</i> | n=585 | n=344 |
| Household with access to sanitation facilities | 3.3(1.1-5.5) | 51.4 (33.8-69.1) |
| Household with access to safe water | 97.6 (94.9-100.2) | 8.7 (0.0-17.4) |
| Proportion who reported to have consumed >=4 food groups | 89.9(86.2-93.6) | 98(95.8-100.0) |
| Overall Situation Analysis | Critical | Serious |

Hot spots: Based on *Gu* 2013 nutrition situation analysis, Bossaaso, Garowe, Galkayo IDPs and East Golis are reporting acute malnutrition above emergency levels and therefore are key hot spots that need priority intervention and close monitoring.

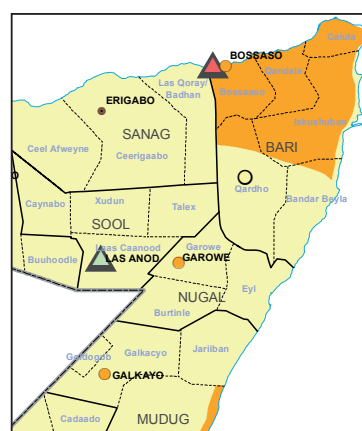
Outlook

Based on the current food security situation, disease pattern and seasonal trends of malnutrition, the Nutrition situation is expected to sustain in all livelihoods.

**Current Nutrition Situation
Estimates, July, 2013**



**Projected Nutrition Situation
Estimates, Aug-Oct 2013**



4.3 CENTRAL REGION

BACKGROUND

Geographically, Central region occupies the area between Northeast region, also known as Puntland, and the South East region of Somalia (Shabelle and Hiran). The area constitutes of Galgadud and Mudug regions and borders India Ocean to the east and Zone 5 of Ethiopia to the West. The population estimate is 680, 000¹ people with approximately 350,000 in Mudug and 330, 000 in Galgadud and administratively divided into 5 districts in each region.

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.

Food security situation

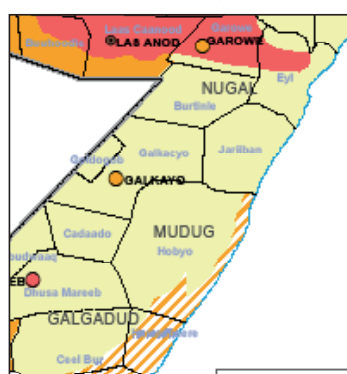
Given the improved food security situation in most central livelihoods, the July 2013 snapshot according to Food security analysis indicate that most livelihoods in Central region have been classified as **Stressed** with the exception of Coastal *Deeh*, classified in **Crisis**. The projection indicate that the situation is likely to remain the same in the next 4-6 months.

Post Gu 2013 Nutrition situation

The current post *Gu* 2013 nutrition analysis indicate a sustained nutrition situation in most of central livelihood zones over the last 6 to 12 months and an improvement in Addun pastoral since last *Deyr* 12/13 (see map below). Given the good *Gu* rain performance in many parts of Central, improved milk access has played a key role in the sustained to improved nutrition situation observed in this predominantly pastoral population.

Nutrition situation in Central Somalia *Gu* 2012 to *Gu* 2013

Nutrition Situation, *Gu* 2012



Nutrition Situation, *Deyr* 2012/13



Nutrition Situation, *Gu* 2013

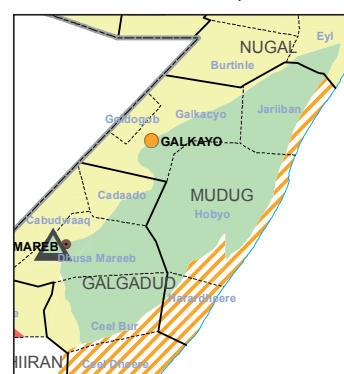


Table 16: Summary Results Table of the Central Surveys, *Gu* 2013

| Population assessed | GAM | SAM | Total stunted | Underweight | CDR | U5DR | PLW<23 |
|----------------------|------------|------------|---------------|-------------|------|------|--------|
| Hawd Central | 10.6 | 2.1 | 9.5 | 12.1 | 0.39 | 0.76 | 16.5 |
| Addun | 8.0 | 1.0 | 9.3 | 9.1 | 0.36 | 0.95 | 6.6 |
| Dhusamareeb IDP's | 21.4 | 3.1 | 11.6 | 17.4 | 0.35 | 0.80 | 22.4 |
| Mudug | 12.5 | 1.9 | 11.0 | 12.0 | | | |
| Galgadud | 7.7 | 0.9 | 2.6 | 4.9 | | | |
| | MUAC< 12.5 | MUAC< 11.5 | | | | | |
| Cow pea belt | 8.6 | 1.2 | | | 0.41 | 0.25 | 8.1 |
| Coastal Deeh | 9.7 | 2.0 | | | 0.23 | 0.25 | |

1 UNDP 2005 Population figures (projections not considered)

Key Highlight

Acute malnutrition

- The nutrition situation of Hawd central is Serious, with GAM and SAM rates of 10.6 percent and 2.1 percent respectively. The nutrition situation has remained at sustained serious level over the past 12 months, mainly attributed to good access to milk as well as access to more diversified diets by majority of households.
- The nutrition situation improved from Serious to Alert among the Aduun pastoral livelihoods population majorly due to improved milk access. Survey findings recorded a GAM rate of 8.0 percent and SAM rate of 1.0 percent.
- Dhusamareb IDP, for the three consecutive seasons have reported very critical nutrition levels, suggesting 1 in every five children is malnourished and therefore at risk of death. This indicates that malnutrition is public health concern among the displaced population. Survey findings in Gu 2013 revealed a GAM of 21.4 percent and SAM of 3.1 percent indicating a **very critical** nutrition situation. The IDPs remain vulnerable to malnutrition, food insecurity and other health challenges.
- In Coastal Deeh and Cow pea belt of Central region, with difficult access, rapid assessments conducted revealed a serious nutrition situation, with Coastal Deeh showing sustained levels of nutrition since Deyr 12/13 while there was reported improvement in Cow pea belt from Critical nutrition levels.

Mortality rate

The overall mortality rates are within acceptable levels in all central livelihoods and sustained over the past 6- 12months.

Morbidity

The morbidity levels remains relatively low among the rural livelihoods but high among Dhusamareb IDPs, with nearly 1 in every 2 children reportedly falling ill in the two weeks period before the assessments. This is a clear indication of the increased vulnerability of IDP population to increased incidences of morbidity and malnutrition.

Immunizations

Measles Immunization and Vitamin A supplementation coverage fall disturbingly below the recommended thresholds of 95 percent. Apart from Hawd and Addun, 6-8 children in every 10 have not received any vaccination and therefore are at increased risk of disease and malnutrition.

Maternal nutrition

In the central regions the pregnant and lactating women remain vulnerable to malnutrition. Nearly 1 in every 5 are malnourished and will likely have poor birth outcome results.

Table 17: Summary of Key Nutrition Findings in Hawd central , Aduun, and Dhusamareb Livelihood Zones, September 2013

| Indicator | Hawd Central (N=635: Boys=341; Girls=294) | | Dhusamareb IDP (N=383: Boys=174; Girls=209) | | Addun Central (N=615 Boys=318; Girls=297) | |
|------------------------------------|--|--------------|--|----------|--|----------|
| | Results | Comment | Results | Comment | Results | Comment |
| GAM (WHZ<-2 or oedema) | 10.6 (8.1-13.8) | Improved | 21.4 | Improved | 8.0(5.3-11.9) | Improved |
| Boys | | | 23.6 | | 9.4(6.6-13.3) | |
| Girls | | | 19.6 | | 6.4(3.3-12.0) | |
| SAM (WHZ<-3 or oedema) | 2.1(1.2-3.7) | Deteriorated | 3.1 | Improved | 1.0(0.4-2.3) | Improved |
| Boys | 2.1 (1.0-4.5) | | 2.9 | | 0.9(0.3-2.8) | |
| Girls | 2.1 (1.0-4.4) | | 3.3 | | 1.0(0.3-3.2) | |
| Mean of Weight for Height Z Scores | -0.66±1.09 | | -0.99±1.10 | | -0.63±1.0 | |
| Oedema | 0 | | 0 | | 0 | |
| MUAC<12.5 cm or oedema) | 4.9(3.1-7.7) | Improved | 9.7 | Improved | 3.8(2.4-6.2) | Improved |
| Boys | 3.2(1.8-5.7) | | 8.3 | | 2.8(1.6-4.8) | |
| Girls | 6.8(3.9-11.6) | | 11 | | 5.0(2.5-9.7) | |
| MUAC<11.5 cm or oedema | 1.6 (0.7-3.4) | Sustained | 3.6 | Improved | 0.3(0.1-1.2) | Improved |
| Boys | 0.9 (0.3-2.8) | | 3.9 | | 0.3(0.0-2.0) | |
| Girls | 2.4 (0.9-6.4) | | 3.3 | | 0.3(0.1-2.0) | |
| Stunting (HAZ<-2) | 9.5 (6.8-12.9) | | 11.6 | | 9.3(6.0-14.1) | |
| Boys | 12 (8.5-16.7) | | 14.2 | | 11.7(7.3-18.3) | |
| Girls | 6.6 (4.0-10.6) | | 9.3 | | 6.8(3.9-11.4) | |
| Underweight (WAZ<-2) | 12.1 (9.4-15.4) | | 17.4 | | 9.1(6.5-12.7) | |
| Boys | 13.0 (9.5-17.5) | | 20.5 | | 10.2(6.5-15.7) | |
| Girls | 11.0 (7.6-15.6) | | 14.8 | | 8.0(4.9-12.8) | |

| Malnutrition Trends at Health facilities (January – July 2012) | Low (<10%) and stable levels | | | | High (15 & Stable) | |
|--|------------------------------|--------------|------------------|----------|--------------------|--------------|
| CDR | 0.39 (0.20-0.77) | Deteriorated | 0.35/10,000/day | Improved | 0.36(0.20-0.65) | Deteriorated |
| U5DR | 0.76 (0.31-1.84) | Improved | 0.80 /10,000/day | Improved | 0.95(0.38- 1.52) | Deteriorated |
| Non pregnant/lactating women (MUAC <18.5 cm) | 0.9(0.0-2.1) | Improved | 1.8 | Improved | 0.0 | Deteriorated |
| Pregnant and lactating women (MUAC<21.0) | 3.8 (0.5-7.1) | Improved | 10.3 | N/A | 3.5(1.9-5.2) | Improved |
| Pregnant and lactating women (MUAC<23.0) | 16.5 (6.9-26.1) | Improved | 22.4 | Improved | 6.6(3.4-9.8) | Improved |
| Overall reported morbidity | 21.9 (16.4-27.4) | | 43.3 | | 27.0(18.0-36.0) | |
| Boys | 24.3 (17.3-31.4) | | 41.7 | | 27.0(17.0-37.0) | |
| Girls | 19.0 (14.1-20.0) | | 44.8 | | 27.0(16.8-37.1) | |
| Diarrhoea | 3.0 (1.3-4.7) | | 8.5 | | 4.1(1.4-6.7) | |
| Boys | 3.2 (0.5-5.9) | | 7.2 | | 4.8(1.0-8.7) | |
| Girls | 2.7 (1.0-4.5) | | 9.5 | | 3.3(1.1-5.5) | |
| Pneumonia | 4.9 (1.9-7.9) | | 12.8 | | 8.0(1.4-14.6) | |
| Boys | 5.3 (1.3-9.2) | | 12.8 | | 8.3(1.1-15.5) | |
| Girls | 4.4 (1.4-7.5) | | 12.9 | | 7.6(1.1-14.2) | |
| Measles | 1.6 (0.3-2.9) | | 2.6 | | 3.2(0.0-7.5) | |
| Boys | 2.1 (0.4-3.7) | | 3.3 | | 0.3(0.0-7.5) | |
| Girls | 1.0 (0.0-2.2) | | 1.9 | | 1.1(0.0-2.5) | |
| Fever | 18.9 (13.9-23.9) | | 38.2 | | 23.4(3.8-15.5) | |
| Boys | 20.2 (14.4-26.0) | | 37.2 | | 22.8(14.7-31.0) | |
| Girls | 17.3 (12.2-22.5) | | 39.0 | | 24.1(14.6-33.5) | |
| Vitamin A supplementation | 61.1 (47.0-75.2) | | 32.6 | | 75.7(68.2-83.2) | |
| Boys | 61.6 (46.8-76.4) | | 33.5 | | 77.0(67.4-86.6) | |
| Girls | 60.5 (45.9-75.2) | | 31.8 | | 74.3(67.1-81.5) | |
| Measles Vaccination | 60.8 (47.0-74.5) | | 26.0 | | 77.3(71.2-83.4) | |
| Boys | 60.4 (45.6-75.2) | | 27.6 | | 79.9(73.6-86.1) | |
| Girls | 61.2 (47.1-75.4) | | 24.6 | | 74.5(66.7-82.4) | |
| Polio immunization | 84.3 (80.3-89.2) | | 71.3 | | 19.0(12.7-25.3) | |
| Boys | 84.2(78.8-89.5) | | 73.9 | | 16.8(9.9-23.6) | |
| Girls | 85.4 (80.3-90.5) | | 69.0 | | 21.5(12.9-30.2) | |
| Infant and Young Child Feeding (6-24 Months) | n=227 | | n=145 | | n=203 | |
| Proportion still breastfeeding | 36.6 (29.7-43.5) | | 50.7 | | 48.4(13.1-21.2) | |
| Proportion meeting recommended feeding frequencies | 62.5 (50.8-74.2) | | 92.6 | | 25.6(16.6-34.6) | |
| Proportion who reported to have consumed >=4 food groups | 4.6 (0.5-8.7) | | 0.7 | | 3.0(0.0-6.5) | |
| Women who received at least one dose of Tetanus immunization | 20.1 (13.9-26.2) | | 70.8 | | 15.2(7.3-1.5) | |
| Public Health Indicators | n=393 | | n=266 | | n= 395 | |
| Household with access to sanitation facilities | 81.4 (71.8-91.0) | | 57.4 | | 31 (37.8-24.2) | |
| Household with access to safe water | 49.5 (31.6-67.4) | | 97.5 | | 28.5(21.8-35.2) | |
| Proportion who reported to have consumed <4 food groups | 1.3 (0.2-2.3) | | 23.4 | | 0.8(0.0-2.2) | |
| Overall Situation Analysis | Serious | | Very Critical | | Alert | |

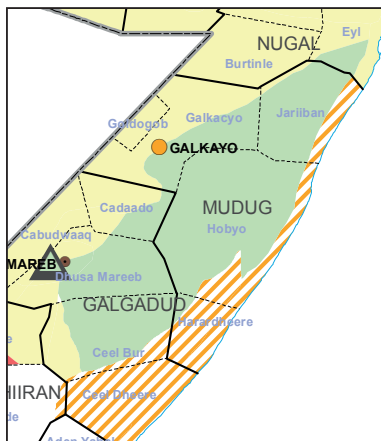
Hotspots

Dhusamareb IDP reported GAM prevalences above Emergency thresholds (15%) and requires close monitoring.

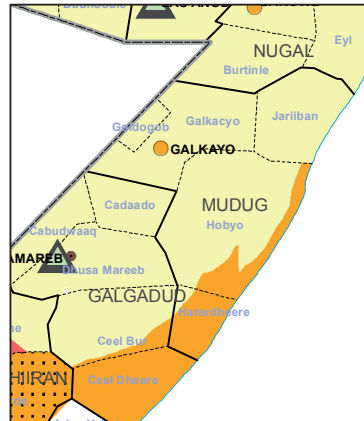
Outlook

Based on the current food security situation, disease pattern and seasonal trends of malnutrition, the Nutrition situation is expected to remain stable in all livelihoods with exception of Addun livelihood which is expected to slightly deteriorate from Alert to Serious.

**Nutrition Situation
Estimates, July, 2013**



**Nutrition Situation Estimates,
Aug - Oct, 2013**



4.4 SOUTH REGIONS

Nutrition status of 17,929 6-59 month old children from 12 Rural livelihoods, 5 urban livelihoods and 5 IDPs were assessed during the *Gu* 2013 surveys. Because of constraints in access, nutrition situation in agropastorals, pastorals & riverine livelihoods of South Gedo and Juba and the cowpea belt were assessed through MUAC and not through SMART surveys. Summary of nutrition situation is given in Table 18 and details are given in chapters 4.4-4.8.

Table 18: Overview of Malnutrition Situation in South Somalia

| Population assessed | GAM | SAM | Total stunted | Underweight | CDR | U5DR | PLW<23 |
|--------------------------|-------------|-------------|---------------|-------------|------|------|--------|
| SOUTH | | | | | | | |
| Bay Agropastoral | 22.6 | 6.0 | 46.9 | 44.9 | 0.29 | 0.44 | 14.4 |
| Bakool Pastoral | 27.4 | 5.4 | 8.9 | 13.6 | 0.27 | 0.14 | 11.3 |
| Baidoa IDPs | 15.8 | 3.4 | 36 | 24.3 | 0.11 | 0.81 | 6.0 |
| Kismayo Town | 19.2 | 5.2 | 39.2 | 40.4 | 0.03 | 0.62 | 28.1 |
| Mogadishu IDPs | 12.6 | 2.9 | 22.1 | 19.0 | 1.07 | 0.85 | 3.6 |
| Afgoye Town | 9.8 | 1.3 | 6.1 | 8.1 | 0.5 | 0.73 | 1.5 |
| Mogadishu Town | 8.6 | 1.3 | 10.6 | 10.1 | - | - | - |
| Beletweyne District | 20.2 | 4.4 | 7.5 | 19.1 | 0.23 | 0.37 | 12.7 |
| Mataban District | 10 | 1.8 | 8.2 | 10.9 | 0.72 | 1.70 | 32.5 |
| Gedo North pastoral | 18.8 | 5.0 | 16.3 | 18.2 | 0.4 | 0.16 | 19.3 |
| North Gedo Agro-pastoral | 18.6 | 5.0 | 18.1 | 16.4 | 0.89 | 1.18 | 24.8 |
| North Gedo Riverine | 15.2 | 2.7 | 11.8 | 15.8 | 0.6 | 0.3 | 24.6 |
| Dolow IDPs | 16.4 | 3.3 | 33.6 | 30.4 | 0.75 | 0.87 | 7.3 |
| Dobley IDPs | 20.3 | 6.4 | 14.2 | 15.9 | 1.53 | 1.96 | 26.6 |
| Kismayo IDPs | 17.6 | 3.4 | 40.1 | 41.7 | 0.59 | 1.52 | 44.4 |
| | MUAC < 12.5 | MUAC < 11.5 | | | | | |
| Juba Pastoral | 7.1 | 0.5 | - | - | - | - | - |
| Juba Agropastoral | 10.4 | 1.9 | - | - | - | - | - |
| Juba riverine | 10.9 | 1.5 | - | - | - | - | - |
| S. Gedo Pastoral | 15.9 | 0.1 | - | - | - | - | - |
| S. Gedo Agropastoral | 14.4 | 1.6 | - | - | - | - | - |
| S. Gedo Riverine | 17.0 | 1.9 | - | - | - | - | - |
| Cowpea Belt | 8.6 | 1.2 | - | - | - | - | - |
| CENTRAL | | | | | | | |
| Addun | 8.0 | 1.0 | 9.3 | 9.1 | 0.36 | 0.95 | 6.6 |
| Hawd Central | 10.6 | 2.1 | 9.5 | 12.1 | 0.26 | 0.43 | 16.5 |
| Cowpea Belt | 9.7 | 2.0 | - | - | 0.41 | 0.25 | 8.1 |
| Dhusamreeb IDP's | 21.4 | 3.1 | 11.6 | 17.4 | 0.35 | 0.8 | 22.4 |
| Mudug | 12.5 | 1.9 | 11.0 | 12.0 | - | - | - |
| Coastal Deeh | 9.7 | 2.0 | | | 0.23 | 0.25 | |

4.4.1: GEDO REGION

Gedo region in SW Somalia administratively comprises of six districts: Luuq, Dolo, Belet Hawa, Garbaharey, El Wak, and Bardera. It 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. According to UNDP 2005 the total population estimates in Gedo region was 328,378, while the urban population was 81,302 (24.7 %). Insecurity in the South limited FSNAU access and nutrition situation was assessed through MUAC.

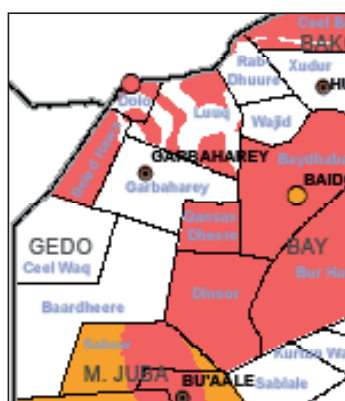
Food security situation

Since post-*Deyr* (Feb-Jun 2013) the food security situation is showing an improving trend in all livelihoods of Gedo region. In the July 2013 snapshot analysis, all livelihoods of the region were classified as **Stressed** Phase. In the most likely scenario, the area classification remains the same in all livelihoods in August-December 2013. In July 2013, the number of rural population classified in **Stressed** Phase 2 was estimated at 85,000 people, unchanged from the post *Deyr* 2012/13 figures. The population estimates in the projection period (August-December 2013) also remain unchanged.

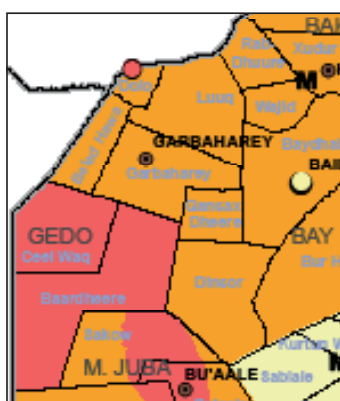
CURRENT NUTRITION SITUATION

For the 3 livelihoods of : Gedo North Pastoral, Gedo North **Agro-Pastoral** and Gedo North Riverine, nutrition assessment was done using SMART methodology.

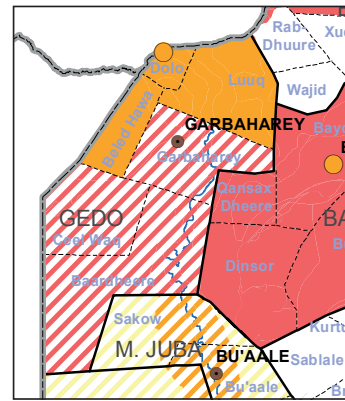
Nutrition Situation Estimates,
Gu 2012



Nutrition Situation Estimates,
Deyr 2012/13



Nutrition Situation Estimates,
Gu 2013



Northern and the Southern Gedo Livelihood Zones

Key Highlight

Acute malnutrition

The levels of acute malnutrition in North Gedo pastoral and riverine livelihood populations remain **Critical (GAM > 15%)** since *Deyr* 2012/13, though it is an improvement from very critical levels seen in in *Gu* 2012. Acute Malnutrition levels in North Gedo agro-pastoral has deteriorated to Critical, from Serious in *Deyr* 2012. This is due to high morbidity because of poor water/sanitation conditions because of below average rainfall .

Since *Deyr* 2012 , very critical levels of Acute malnutrition seen in South Gedo pastoral, agro-pastoral and riverine livelihood populations are sustained in *Gu* 2013. These sustained very critical nutrition situation are mainly attributed to the lack of humanitarian assistance, low immunization status, and high morbidity rates. High GAM and SAM rates were observed in areas with where high morbidity was reported .

The numbers of assessed children in pastoral livelihood was 686 children, among them were 349 boys and 337 girls and has been noted that there is no statistically significant difference between the boys and girls. Among the children assessed agro pastoral and riverine populations town were 483 and 6770 respectively, the number of boys and girls assessed in agro-pastoral were 251 and 232, while the number of boys and girls assessed in the riverine community were 357 and 313 respectively. the Dolow IDPs the children assessed was 697, while the number of boys and girls assessed were 345 and 352 respectively.

Mortality rates:

Gu 2013 results show that, the crude death and the under-five mortality rates for the pastoral remain acceptable as in *Deyr* 2012/13. An alert situation exists in agro-pastoral livelihoods in *Gu* 2013 (0.89) though it is an improvement from CDR level of (1.45) seen in *Deyr* 2012/13. In the riverine livelihood populations, the crude death rate levels suggest an alert situation but the

under-five mortality rates are in the acceptable range. This suggests that in the riverine communities the CDR situation has worsened since Deyr '12, when both the crude death and the under-five mortality rates were acceptable.

Morbidity:

morbidity in different parts of Gedo ranged between 18-45.8 percent indicating 1-2 out of every five children were ill two weeks prior to the assessment.

Immunization:

Coverage with Vit A supplementation & measles immunization was below 80 percent in Gedo north Riverine and Agro pastorals. This is mainly attributable to low health services in the region.

Maternal Malnutrition:

Malnutrition in pregnant lactating women ranged from **Serious** to (19.3%) in Gedo North pastorals to **Critical** (24.8%) in the Agro-pastoral & Riverine livelihoods. This is of concern as maternal malnutrition levels show a significant correlation with stunting and wasting in children surveyed.

Table 19: Summary of Key Nutrition Findings Gedo Region

| Indicator | Gedo North Pastoral (N=686: Boys=349; Girls=337) | | Gedo North Riverine (N=670: Boys=357; Girls=313) | | Gedo North Agro-Pastoral (N=483: Boys=251; Girls=232) | |
|---|---|--------------|---|--------------|--|--------------|
| | Results | Outcome | Results | Outcome | Results | Outcome |
| Child Nutrition Status | | | | | | |
| GAM (WHZ<-2 or oedema) | 18.8(16-21.9) | | 15.2 (12.8-18) | | 18.6(14.7-23.2) | |
| Boys | 18.6 (15.1-22.8) | Stable | 15.4 (11.7-20.1) | stable | 20.7(15.7-26.8) | deteriorated |
| Girls | 19 (14.7-24.2) | | (11.2-19.8) | | 16.4(11.2-23.4) | |
| SAM (WHZ<-3 or oedema) | 5 (3.3-7.4) | | 2.7 (1.6-4.4) | | 5(2.8-8.6) | |
| Boys | 4.3 (2.5-7.2) | deteriorated | 2.0(0.9-4.4) | improved | 4.4(2-9.2) | deteriorated |
| Girls | 5.6 (3.1-10.1) | | 3.5(2.1-5.9) | | 5.6(3.2-9.8) | |
| Mean of Weight for Height Z Scores | 0.0±1.10 | improved | 0.0±1.05 | improved | 0.0±1.3 | improved |
| Oedema | 0 | Stable | 0 | Stable | 0 | Stable |
| GAM (NCHS) | 17.4 (14.5-20.7) | | 15.6(12.7-19.1) | | 18.1(13.9-23.1) | |
| Boys | 17.4 (13.4-22.3) | Stable | 14.6(10.3-20.3) | Stable | 20.1(15.1-26.3) | Stable |
| Girls | 17.4(13.3-22.4) | | 16.9(12.8-21.9) | | 15.9(10.4-23.6) | |
| SAM (NCHS) | 2.3 (1.3-4.2) | | 1.5(0.8-2.8) | | 1.4(0.6-3.5) | |
| Boys | 0.9 (0.3-2.7) | deteriorated | 1.1(0.4-2.9) | Stable | 1.6(0.4-5.5) | Stable |
| Girls | 3.8 (1.9-7.7) | | 1.9(0.8-4.5) | | 1.3(0.4-3.8) | |
| MUAC<12.5 cm or oedema) | 3.6 (2.3-5.6) | | 4.2(2.9-6.0) | | 2.9(1.1-7.2) | |
| Boys | 2.5 (1.2-5.1) | improved | 3.3(1.8-6.2) | improved | 2.0(0.5-7.2) | improved |
| Girls | 4.7 (3-7.1) | | 5.1(3.1-8.2) | | 3.8(1.6-8.8) | |
| MUAC<11.5 cm or oedema | 0.3 (0.1-1.2) | | 0.3(0.1-1.2) | | 0.4(0.1-1.7) | |
| Boys | 0.6 (0.1-2.3) | improved | 0.0 | improved | 0 | improved |
| Girls | 0.0 | | 0.6(0.2-2.6) | | 0.9(0.2-3.4) | |
| Stunting (HAZ<-2) | 16.3(12-21.8) | | 11.8(8.6-15.9) | | 18.1(13.8-23.2) | |
| Boys | 18.9(13.6-25.7) | deteriorated | 13.9(9.9-19.4) | deteriorated | 21.1(15.6-27.8) | stable |
| Girls | 13.7(9.8-18.9) | | 9.4(6.1-14.2) | | 14.7(9.4-22.3) | |
| Underweight (WAZ<-2) | 18.2(14.3-22.8) | | 15.8(12.4-19.9) | | 16.4(12.1-21.8) | |
| Boys | 18.1(13.6-23.6) | stable | 17.4(12.9-23) | stable | 17.7(13.3-23.2) | stable |
| Girls | 18.3(12.9-25.2) | | 14(9.7-19.8) | | 14.9(9.4-22.7) | |
| Child Morbidity & Immunization | | | | | | |
| Morbidity | 21.4(8-24.5) | | 45.8(26.6-65.1) | | 18(6.8-29.1) | |
| Boys | 22.6(17-28.2) | stable | 57.3(26.7-68.9) | deteriorated | 16.1(4.3-28) | deteriorated |
| Girls | 20.1(16.2-24) | | 42.7(22.3-61.5) | | 20(8.4-31.6) | |
| Diarrhoea | 6.6(5-8.2) | | 15.9(7.5-24.3) | | 6.1(0.3-12) | |
| Boys | 7.3(4.8-9.9) | stable | 18.4(9-27.9) | stable | 4.3(0-9.1) | stable |
| Girls | 5.8(3.4-8.3) | | 13(4.6-21.4) | | 8.1(0.1-16.1) | |
| Pneumonia | 7.7(5.6-9.9) | | 14(6.2-23) | | 4.1(0-8.4) | |
| Boys | 9.3(6.1-12.6) | stable | 14.2(6.6-21.8) | stable | 3.9(0-8.4) | stable |
| Girls | 6.1(3.5-8.7) | | 15.2(5-25.5) | | 4.3(0-9.2) | |
| Fever | 14.8(11.2-18.3) | | 29.5(16.7-42.4) | | 10.8(5-16.6) | |
| Boys | 16.1(0.5-21.7) | stable | 30.1(17.5-42.7) | stable | 9.8(2.9-16.8) | stable |
| Girls | 13.4(9.9-17) | | 28.9(15-42.8) | | 11.9(6.2-17.7) | |

| | | | | | | |
|--|-----------------|----------|---------------------|----------|--------------------|--------------|
| Measles | 0 | | 0.3(0-0.9) | | 0 | |
| Boys | 0 | | 0.6(0-1.7) | stable | 0 | |
| Girls | 0 | | 0 | | 0 | |
| Vitamin A Supplementation | 86.8(84.1-89.5) | | 69.4(58.5-80.3) | | 79.6(66.8-92.7) | |
| Boys | 87.6(83.9-91.3) | stable | 70.5(59.4-81.5) | stable | 78.3(64.1-92.6) | stable |
| Girls | 86(82.3-89.2) | | 68.3(56.1-80.4) | | 81.3(68.6-94) | |
| Measles Vaccination | 83.8(80.8-86.8) | | 68.7(57.6-79.8) | | 79.6(66-93.5) | |
| Boys | 82.8(78-87.5) | stable | 67.1(55.3-79) | stable | 79.5(64.7-94.3) | stable |
| Girls | 84.8(80.7-89) | | 70.5(59-81.9) | | 80(66.7-93.3) | |
| Polio Immunization | 95.1(93-97.3) | | 93.3(88.9-97.7) | | 93.7(86.2-101) | |
| Boys | 94.6(91.5-97.8) | stable | 93.0(88.4-97.6) | stable | 93.7(87.6-99.7) | stable |
| Girls | 95.6(92.9-98.4) | | 93.7(88.4-98.9) | | 93.6(84.2-103) | |
| CDR | 0.4(0.18-0.91) | Improved | 0.6(0.36-0.98) | stable | 0.89(0.55-1.43) | Improved |
| U5DR | 0.16(0.02-1.26) | Improved | 0.3(0.07-1.24) | Improved | 1.18(0.62-2.24) | Improved |
| Pregnant and lactating women (MUAC<21.0) | 5.6(3.5-8.0) | stable | 18.6(2.5-11.1) | stable | 14.6(2.6-103) | stable |
| Pregnant and lactating women (MUAC<23.0) | 19.3(14.9-23.8) | Improved | 64 (24.6(18.1-30.0) | stable | 53.24.8(18.3-31.2) | deteriorated |
| Overall Nutrition Analysis | Critical | | Critical | | Critical | |

Dolow IDPs

Acute malnutrition:

The levels of acute malnutrition in Doolow IDPs show a situation of **Critical (GAM > 15%)**, which is an improvement from very critical from *Deyr* 2012/13 and as well as in *Gu* 2012. This improvement is mainly attributable to humanitarian assistance, health, nutrition services, as well as water and sanitation facilities.

Mortality rates:

The results in *Gu* 2013 shows that the crude death and the under-five mortality rates for the Dolow IDPs were alert and acceptable respectively, which were an improvement compared to in *Deyr* 2012/13.

Morbidity:

In Dolow IDPs morbidity was high 41.9 percent indicating 4 out of every 5 children were ill two weeks prior to the assessment. Comparing to *Deyr* 12/13 and *Gu* 12 shows that a sustained high morbidity of 40.2 and 36.7 respectively.

Immunization:

Coverage with Vit A supplementation & measles immunization was below 80 percent, while the polio immunization, was high 97.3 are mainly attributable to the current polio immunization campaigns in the IDPs camp.

Maternal malnutrition:

Malnutrition in pregnant lactating women was **Acceptable** (7.3%) in the IDPs camp, which was an improvement from *Deyr* '12/13's very critical situation.

Table 20: Summary of Key Nutrition Findings Dolow IDP's

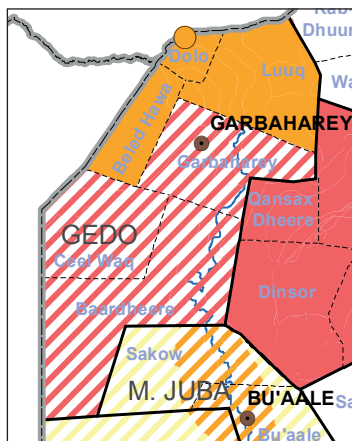
| Indicator | Dolow IDP's (N=697: Boys=345; Girls=352) | |
|--|---|----------|
| | Results | Outcome |
| <i>Child Nutrition Status</i> | | |
| Global Acute Malnutrition (WHZ<-2 or oedema) | 16.4 | improved |
| Boys | 17.4 | |
| Girls | 15.3 | |
| Severe Acute Malnutrition (WHZ<-3 or oedema) | 3.3 | improved |
| Boys | 4.9 | |
| Girls | 1.7 | |
| Mean of Weight for Height Z Scores | 0.0±1.09 | improved |
| Oedema | 0 | improved |
| Global Acute Malnutrition (NCHS) | 15.1 | improved |
| Boys | 16.2 | |
| Girls | 13.9 | |

| | | |
|---|----------|----------|
| Severe Acute Malnutrition (NCHS) | 1.1 | improved |
| Boys | 1.2 | |
| Girls | 1.2 | |
| Proportion with MUAC<12.5 cm or oedema | 11.4 | Stable |
| Boys | 11.8 | |
| Girls | 11.0 | |
| Proportion with MUAC<11.5 cm or oedema | 1.40 | Stable |
| Boys | 2.0 | |
| Girls | 0.8 | |
| Stunting (HAZ<-2) | 33.6 | Stable |
| Boys | 38.1 | |
| Girls | 29.4 | |
| Underweight (WAZ<-2) | 30.4 | Stable |
| Boys | 34.7 | |
| Girls | 26.1 | |
| <i>Child Morbidity & Immunization</i> | | |
| Morbidity | 41.9 | Stable |
| Boys | 38.8 | |
| Girls | 45 | |
| Diarrhoea | 15.3 | Stable |
| Boys | 15.8 | |
| Girls | 14.7 | |
| Pneumonia | 11.1 | Stable |
| Boys | 11.2 | |
| Girls | 11.0 | |
| Measles | 0.1 | Stable |
| Boys | 0.3 | |
| Girls | 0.0 | |
| Fever | 33.8 | Stable |
| Boys | 30.1 | |
| Girls | 37.4 | |
| Vitamin A Supplementation | 71.2 | Stable |
| Boys | 70.9 | |
| Girls | 79.3 | |
| Measles Vaccination | 86.4 | Stable |
| Boys | 85.1 | |
| Girls | 87.8 | |
| Polio Immunization | 97.3 | Stable |
| Boys | 96 | |
| Girls | 98.6 | |
| <i>Death Rates</i> | | |
| Crude deaths, per 10,000 per day (retrospective for 90 days) | 0.75 | Stable |
| Under five deaths, per 10,000 per day (retrospective for 90 days) | 0.87 | |
| <i>Women Nutrition and Immunization Status</i> | | |
| Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm) | 0.3 | |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0) | 32.6 | Stable |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) | 7.3 | Stable |
| Overall Nutrition Analysis | Critical | |

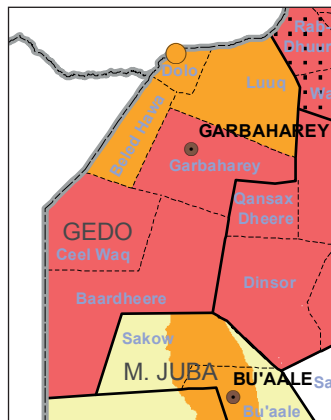
Outlook

The current projection of the nutrition situation in north Gedo LZs in September the level of acute malnutrition is expected to remain at Critical and Very Critical in rural areas of northern and southern Gedo Region due to high morbidity, low immunization coverage, and poor access to water and sanitation.

**Nutrition Situation Estimates,
July 2013**



**Nutrition Situation- Projection,
Aug- Oct 2013**



4.4.2: MIDDLE AND LOWER JUBA REGIONS

BACKGROUND

The region is named after the Jubba River that runs through it. The vegetation is primarily semi-arid savannah with thorn bushes. The valley, however, is one of the most fertile lands in Somalia and constitutes one of the principal bread-baskets of the country. 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. According to UNDP 2005 the total population estimates in Juba region was 624,667, of which urban figures are 179,421 (28.7 %) .

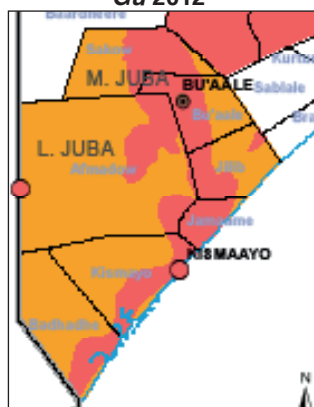
Food Security

Continued improvement in the food security situation is observed in all livelihoods of the Juba regions in *Gu* 2013 compared to post-Deyr (Feb-June 2013). In the July 2013 post *Gu* analysis, all the livelihoods of both Middle and Lower Juba regions were classified in **Stressed** phase, except the southern Inland pastoral livelihood which improved to **Minimal** Phase. In the most likely scenario, the area classifications will remain the same for all the livelihoods in August-December 2013

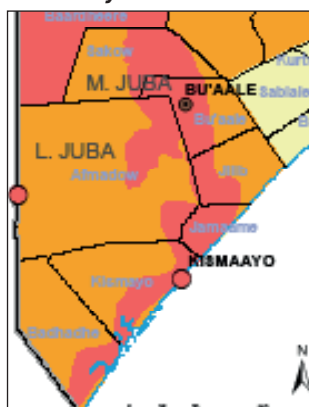
Nutrition

Nutrition assessments (*Gu* 2013) in Juba region were done among IDPs in Dhobley and Kismayo and in Kismayo Urban (capital of lower Juba). Table 21 shows the summary results of nutrition assessment in Dhobley and Kismayo IDPs and Kismayo Urban.

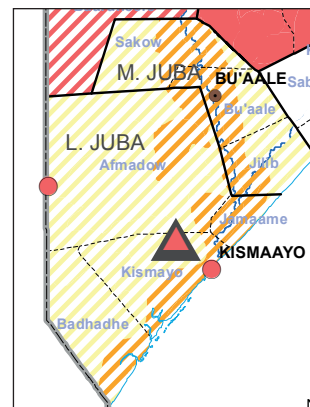
Nutrition Situation Estimates,
Gu 2012



Nutrition Situation Estimates,
Deyr 2012/13



Nutrition Situation Estimates,
Gu 2013



Key Highlights

Acute malnutrition

Serious levels of acute malnutrition (MUAC < 12.5 CM) were seen in Juba pastoral livelihood populations. This is an improvement from **Critical** levels since *Deyr* 2012/13 and **Very Critical** in *Gu* 2012. Improvement in the agro-pastoral and riverine to **Critical** levels in *Gu* 2013 was noted compared to **Very Critical** GAM levels seen in from *Deyr* '12/13 and *Gu* 2012.

Since *Deyr* 2012/13 the levels of acute malnutrition in Dhobley remain **Very Critical** (20.3% GAM in *Gu* 2013). These **sustained** levels of **very critical** nutrition situation in Dhobley IDPs are mainly attributed to the lack of humanitarian assistance, low immunization status, and high morbidity rates.

Improvement in acute malnutrition among the Kismayo IDPs to **Critical** (17.6 % GAM) in *Gu* 2013 was seen compared to **very critical** GAM levels seen in *Deyr* 2012/13 and *Gu* 2012. **Critical** level of GAM (19.2 % GAM) and **serious** levels of SAM (5.2%)) were also seen in Kismayo town.

Mortality rates:

Serious levels of CDR (1.53) and **Alert** U5MR (1.96) levels seen in *Gu* 2013 for the Doblely IDPs are an improvement since *Deyr* 2012/13.

In Kismayo IDPs **Alert** situation was suggested by CDR of 0.59 and U5 MR 1.52 respectively in *Gu* 2013, which is an improvement from *Deyr* 2012/13. **Acceptable** levels of both - CDR and U5MR were seen in Kismayo town

Stunting and Underweight

Very high severity of malnutrition prevalence was indicated by the stunting (the hidden face of poverty) and underweight level seen in both Kismayo town and among IDPs. In Gu 2013, **Critical** levels of Stunting was observed among the Kismayo IDPs (40.1%); and **serious** levels in Kismayo town (39.2 %). 14.6 percent of stunted children in the Kismayo IDPs showed severe levels of stunting and are at a greater risk of suffering illness and death.

The stunting rate of 14.2 percent in Dhobley IDPs suggests an *acceptable* nutrition situation.

Critical nutrition situation (underweight is ≥ 30 percent) was observed in Kismayo IDPs (41.7%) and in Kismayo town (40.4%). The underweight prevalence rate of 15.9 percent in Dhobley IDPs suggests an alert situation.

Morbidity:

56.6 percent morbidity in under five children was reported in Dhobley IDPs. This is not surprising as there is acute shortage of clean drinking water and people in IDPs have to travel long distance to carry water to their homes.

The morbidity in IDPs of Kismayo was 28.7 percent which was nearly twice as high as seen in Kismayo town (14.1%).

Immunization:

Only 3 percent of 6-59 month old children in Kismayo IDPs reported receiving Vitamin A supplementation. This is of serious concern as critical levels of acute and chronic malnutrition and underweight in children are seen in this IDP.

In Kismayo town 79.2 percent of 6-59 month old children reported receiving vitamin A supplementation. This is mainly attributable to better health services in the region. Kismayo urban also reported a high polio immunization, above the sphere standard (95%).

Maternal Malnutrition:

Malnutrition in pregnant lactating women ranged from **Critical** to (26.6%) in Dhobley IDPs to **Very Critical** (44.4%) in Kismayo IDPs. This is of concern as maternal malnutrition levels show a significant correlation with stunting and wasting in children surveyed.

Table 21: Summary of Key Nutrition Findings Lower and Middle Juba

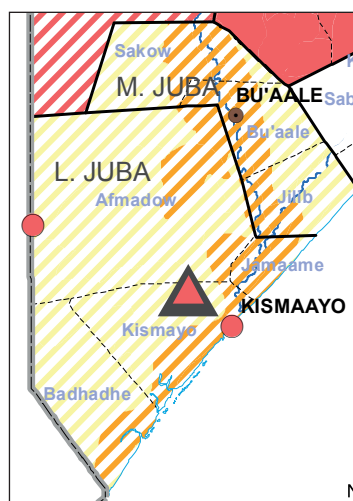
| Indicator | Kismayo Town (N=829: Boys=424; Girls=405) | | Kismayo IDP's (N=845: Boys=405; Girls=440) | | Dhobley IDP's (N=694: Boys=370; Girls=324) | |
|---|--|---------|---|----------|---|---------|
| | Results | Outcome | Results | Outcome | Results | Outcome |
| <i>Child Nutrition Status</i> | | | | | | |
| GAM (WHZ<-2 or oedema) | 19.2(16.6-22) | | 17.6(14.8-20.9) | | 20.3 | |
| Boys | 25.5(21.6-29.8) | Stable | 24.0(20.1-28.3) | Improved | 20.8 | Stable |
| Girls | 12.6(9.7-16.2) | | 11.8(8.5-16.2) | | 19.8 | |
| SAM (WHZ<-3 or oedema) | 5.2(3.9-6.9) | | 3.4(2.4-4.9) | | 6.4 | |
| Boys | 7.3(5.2-10.2) | Stable | 4.7(3.0-7.2) | Improved | 5.4 | Stable |
| Girls | 3.0(1.7-5.1) | | 2.3(1.3-4.0) | | 7.4 | |
| Mean of Weight for Height Z Scores | 0.0±0.92 | Stable | 0.0±0.9 | | 0.0±1.16 | Stable |
| Oedema | 0.1 | Stable | 0.2 | Improved | 0.2 | Stable |
| GAM (NCHS) | 16.5(14.1-19.1) | | 15(12.3-18.3) | | 17.8 | |
| Boys | 22.7(19-26.9) | Stable | 20(15.9-24.9) | Improved | 17.4 | Stable |
| Girls | 9.9(7.3-13.1) | | 10.4(7.3-14.6) | | 18.3 | |
| SAM (NCHS) | 3.1(2.1-4.5) | | 1.8(1.0-3.0) | | 3.2 | |
| Boys | 4.4(2.8-6.8) | Stable | 1.5(0.7-3.1) | Improved | 2.9 | Stable |
| Girls | 1.7(0.8-3.5) | | 2.0(1.0-4.0) | | 3.4 | |
| MUAC<12.5 cm or oedema | 10.2(8.3-12.4) | | 9.1(7.4-11.2) | | 13.5 | |
| Boys | 12.5(9.7-15.9) | Stable | 9.7(7.2-13) | Improved | 10.8 | Stable |
| Girls | 7.8(5.6-10.8) | | 8.6(6.5-11.3) | | 16.5 | |
| MUAC<11.5 cm or oedema | 1.9(1.2-3.1) | | 1.2(0.6-2.2) | | 3.8 | |
| Boys | 1.8(0.9-3.6) | Stable | 1.5(0.7-3.1) | Improved | 2.9 | Stable |
| Girls | 1.9(1.0-3.8) | | 0.9(0.3-2.3) | | 4.9 | |
| Stunting (HAZ<-2) | 39.2(35.9-42.6) | | 40.1(35.7-44.7) | | 14.2 | |
| Boys | 46.3(41.6-51.1) | Stable | 46(39.8-52.4) | Improved | 13.8 | Stable |
| Girls | 31.9(27.5-36.5) | | 34.5(29.6-39.8) | | 14.7 | |
| Underweight (WAZ<-2) | 40.4(37.2-43.8) | | 41.7(37.3-46.2) | | 15.9 | |
| Boys | 50.2(45.5-54.9) | Stable | 50.2(44-56.5) | Improved | 16 | Stable |
| Girls | 30.1(25.8-34.7) | | 33.8(28.9-39) | | 15.8 | |
| <i>Child Morbidity & Immunization</i> | | | | | | |

| | | | | | | |
|--|------------------|--------|-----------------|----------|----------|--------|
| Morbidity | 14.1(11.7-16.5) | | 28.7(25.6-31.8) | | 56.6 | |
| Boys | 12.7(9.7-15.6) | Stable | 27.9(23.6-32.2) | Improved | 56.6 | Stable |
| Girls | 15.6(11.8-19.4) | | 29.6(25.9-33.2) | | 56.5 | |
| Diarrhoea | 9.7(7.4-12.0) | | 13.4(11.1-15.8) | | 28.4 | |
| Boys | 11.2(7.7-14.7) | Stable | 13.4(9.8-17.0) | Improved | 27.8 | Stable |
| Girls | 8.3(5.8-10.9) | | 13.5(10.3-16.8) | | 29.2 | |
| Pneumonia | 1.3(0.6-2.0) | | 3.7(2.5-4.9) | | 24.2 | |
| Boys | 1.6(0.5-2.8) | Stable | 3.4(1.9-4.9) | Improved | 25.4 | Stable |
| Girls | 1.0(0.1-1.9) | | 4.1(2.3-5.8) | | 22.8 | |
| Measles | 0 | | 0.8(0.1-1.4) | | 7.2 | |
| Boys | 0 | Stable | 1.5(0.1-2.8) | Improved | 6.3 | Stable |
| Girls | 0 | | 0.2(0.0-0.7) | | 8.2 | |
| Fever | 3.3(2.0-4.6) | | 11.3(1.9-13.4) | | 43.3 | |
| Boys | 2.8(1.2-4.3) | Stable | 10.4(7.3-13.6) | Improved | 41.8 | Stable |
| Girls | 3.9(1.9-5.9) | | 12.2(8.9-15.5) | | 45.0 | |
| Vitamin A Supplementation | 79.2 (75.1-83.2) | | 3(1.6-4.4) | | | |
| Boys | 81.5 (77.1-85.8) | Stable | 2.4(0.6-4.3) | Improved | 0 | Stable |
| Girls | 76.5 (69.5-83.3) | | 3.6(1.7-5.5) | | | |
| Measles Vaccination | 4.0 (2.6-5.3) | | 5.7(4.2-7.2) | | | |
| Boys | 4.6 (2.6-6.6) | Stable | 5.3(2.9-7.8) | Improved | 0 | Stable |
| Girls | 3.4 (1.6-5.2) | | 6.1(4.1-8.1) | | | |
| Polio Immunization | 95.8(94.5-97.1) | | 66.7(63.4-70.1) | | | |
| Boys | 95.6(93.3-97.9) | Stable | 67.2(62.6-71.8) | Improved | 0 | Stable |
| Girls | 96.1(94.4-97.8) | | 66.4(61.5-71.2) | | | |
| Death Rates | | | | | | |
| CDR | 0.03(0.03-0.05) | Stable | 0.59(0.36-0.97) | Improved | 1.53 | Stable |
| U5DR | 0.62(0.39-0.96) | Stable | 1.52(0.84-2.73) | Stable | 1.96 | Stable |
| Women Nutrition and Immunization Status | | | | | | |
| Pregnant and lactating women (MUAC<21.0) | 17.6(15.9-51.2) | Stable | 28.7(1.7-55.8) | Improved | 12.2 | Stable |
| Pregnant and lactating women (MUAC<23.0) | 28.1(11.9-68.2) | Stable | 44.4(15.1-73.7) | Improved | 26.6 | Stable |
| Overall Nutrition Analysis | Critical | | Critical | | Critical | |

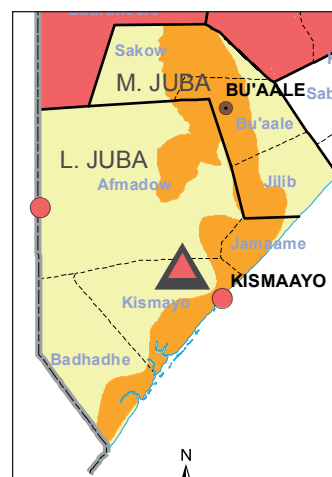
Outlook

Malnutrition rates will likely remain at Serious levels in pastoral areas and at Critical levels in agro pastoral and riverine areas in Lower and Middle Juba Regions. Malnutrition rates among IDPs in Kismayo and Dhobley and among urban households in Kismayo are expected to deteriorate from Critical to Very Critical due to expected disease outbreak such as measles and the withdrawal of *Medicines Sans Frontiers* (MSF).

Nutrition Situation Estimates, July 2013



Nutrition Situation Projection, Aug-Oct 2013



4.4.3: MIDDLE AND LOWER SHABELLE REGIONS

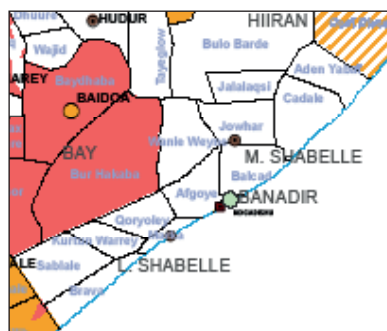
BACKGROUND

Lower Shabelle is one of the principal agricultural regions of Somalia, where the main types of farming are rain-fed, flood and irrigation. Shabelle accounts for 18.5 percent of Somalia population. Estimated population is 850,651 with 80 percent rural population. Middle Shabelle is located in the central regions of Somalia with population estimated at 514,901 with 80 per cent living in the rural areas. Rural livelihoods depend on both agriculture and pastoralism and comprise of riverine (pure farmers) and agro-pastoralists. The riverine population, 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.

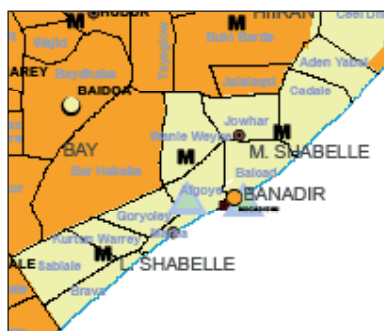
FOOD SECURITY SITUATION

The food security situation in the Shabelle regions has improved in most rural livelihoods of Shabelle regions in the post *Gu* 2013 compared to post *Deyr* (Feb- Jun 2013). In July 2013 snapshot analysis shows that all livelihoods of the Shabelle regions were classified as **stressed** (IPC Phase 2). In the most likely scenario, the area classification remains the same in all livelihoods in August-December 2013. Estimates suggest that in Middle Shabelle, 96,000 persons are expected to be in **Stressed** (IPC Phase 2) and 48,000 in **Crisis and Emergency** (Phase 3 and 4) during August-December 2013, same number of affected people as seen in July 2013. However in Lower Shabelle, it is estimated that 238,000 persons will be **Stressed** (IPC Phase 2) while 21,000 people from Lower Shabelle agro-pastoral (maize) will fall into **Crisis** (IPC Phase 3) due to deterioration in rain-fed maize agro pastoral livelihoods (along the coast) owing to poor *Gu* 2013 harvest and the lack of food stocks.

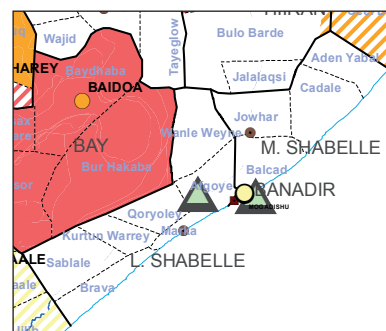
Nutrition Situation *Gu* 2012



Nutrition Situation *Deyr* 2012



Nutrition Situation *Gu* 2013



CURRENT NUTRITION SITUATION (*GU* 2013)

Nutrition assessment (*Gu* 2013) was done in **Afgoye town** in lower Shabelle and in **Mogadishu town** and in **Mogadishu IDPs** using SMART methodology. The summary of *Gu* 2013 nutrition assessment in Livelihood Zones of Mogadishu Town, Mogadishu IDPs and Afgoye Town is summarized in Table 22.

KEY HIGHLIGHTS

Acute Malnutrition

Acute malnutrition levels in Banadir (Mogadishu IDPs) show a slight improvement from **Critical** in *Deyr* 2012/13 to **serious** levels in *Gu* 2013 while alert levels are sustained in Afgoye town and Mogadishu town. This was not surprising as the majority of the region's households are not food-poor, as the region is relatively rich in food crops and livestock products.

- Mogadishu IDPs: The nutrition assessment show 12.6 percent GAM and 2.9 percent SAM with no oedema cases. This indicates a **Serious** nutrition situation though it is an improvement from the **Critical** levels (GAM \geq 15 percent) reported in *Deyr* 2012 when a GAM rate of 16.0 percent and SAM rate of 3.6 percent was recorded.
- Mogadishu Town: Sustained **Alert** levels of acute malnutrition are indicated by 8.6 percent GAM while acceptable levels of SAM (1.3%) with no oedema cases was observed in the urban area of Mogadishu. Similar nutrition situation was observed in *Deyr* 2012/13 when 9.7 percent GAM and 1.6 percent SAM was recorded.
- Afgoye Town: Sustained **Alert** acute malnutrition situation was indicated by 9.8 percent GAM in *Gu* 2013 while acceptable levels of SAM (1.3%) was recorded in *Gu* 2013. However there is a slight deterioration in acute malnutrition in *Gu* 2013 when compared to *Deyr* 2012/13 when prevalence of 8.7 percent GAM and 2.1 percent SAM was noted.

Stunting

Levels of Stunting or chronic malnutrition were acceptable in the urban areas (Afgoye town and Mogadishu) but alert levels were seen in IDPs. Stunting level seen in Mogadishu IDPs (22.1 %) was not only twice as high as in urban areas (≤ 10 percent) but severe stunting was seen in 46.8 percent of these children. In urban areas severe stunting was not observed.

Underweight

Prevalence of underweight in children in Mogadishu IDPs (19%) was nearly twice as high as in urban areas (8.1% in Afgoye and 10.1% in Mogadishu)

Mortality

In urban livelihoods surveyed in *Gu* 2013, acceptable levels of both CDR ($<0.5/10,000$ persons/day) and U5DR ($<1/10,000$ children/day) death rate are sustained since *Gu* 2012. However alert CDR levels were seen in Mogadishu IDPs (1.07/10,000 persons/day).

Vitamin A supplementation

Coverage with Vitamin A supplementation was higher in IDPs (60.7 %) compared to urban areas of Mogadishu (29.4 %) or Afgoye (13.8 %).

Morbidity

Slight improvement in *Gu* 2013 is suggested by the total morbidity rate of 39.3 percent observed in Mogadishu IDPs in *Gu* 2013 compared to 47.4 percent in *Deyr* 2012/13. High morbidity rates still persists in these livelihoods because of unstable livelihood systems for the displaced populations who are faced with chronic food insecurity, poor access to basic services such as safe water, and sanitation facilities. The lack of health facilities is reported as the major problem and access to health facilities and medical personnel is hindered by long distances that residents have to travel

An overall morbidity rate of 29.4 percent was seen in Mogadishu urban indicate sustained alert levels. However in Afgoye town slight a deterioration in morbidity was noted in *Gu* 2013 (30.3percent) compared to 24.6percent in *Deyr* 2012/13.

Immunization

The reported coverage with Vitamin A supplementation, measles vaccination and Polio immunization was below 80percent in Mogadishu IDPs and Afgoye town.

Maternal Malnutrition:

Levels of maternal malnutrition (MUAC <23 cm) were in the acceptable range in the two livelihoods: Mogadishu IDPs and Afgoye Town. Prevalence of severe acute malnutrition in PLW was 1 percent or lower in these livelihoods suggesting maternal malnutrition is not a public health problem in these areas.

| Table 22: Summary of Key Nutrition Findings in Mogadishu and Afgoye Town, and Mogadishu IDPs, August 2013 | | | | | | |
|---|--|--------------|---|--------------|--|--------------|
| | Mogadishu Town (N=673: Boys=340; Girls=333) | | Afgoye Town (N=591: Boys=300; Girls=291) | | Mogadishu IDP (N=662: Boys= 323; Girls=339) | |
| Indicator | Results | Comment | Results | Comment | Results | Comment |
| GAM (WHZ <-2 or oedema) | 8.6 (6.0–12.4) | | 9.8 (6.5–14.6) | | 12.6 (9.9–16.0) | |
| Boys | 8.7 (5.6–13.5) | Sustained | 10.3 (6.1–16.7) | Sustained | 14.0 (10.1–9.0) | Improved |
| Girls | 8.6 (5.4–13.3) | | 9.4 (5.7–15.0) | | 11.2 (7.1–17.3) | |
| SAM (WHZ <-3 or oedema) | 1.3 (0.6–2.5) | | 1.3 (0.6–2.7) | | 2.9 (1.9–4.5) | |
| Boys | 1.1 (0.4–3.3) | Improved | 1.8 (0.8–4.3) | Improved | 2.4 (1.2–4.8) | Improved |
| Girls | 1.4 (0.5–3.7) | | 0.8 (0.2–3.2) | | 3.4 (1.9–6.0) | |
| Mean of Weight for Height Z Scores | -0.47 \pm 1.05 | Deteriorated | -0.55 \pm 1.02 | Deteriorated | -0.66 \pm 1.15 | Improved |
| Oedema | 0.0 (0.0–0.0) | Sustained | 0.0 (0.0–0.0) | Improved | 0.0 (0.0–0.0) | Sustained |
| MUAC <12.5 cm or oedema) | 7.9 (5.4–11.6) | | 5.2 (3.6–7.5) | | 8.0 (6.0 – 10.5) | |
| Boys | 6.4 (3.8–10.7) | Improved | 4.3 (2.5–7.3) | Improved | 5.7 (3.7 – 8.9) | Improved |
| Girls | 9.4 (5.8–15.1) | | 6.1 (3.7–10) | | 10.3 (7.2 – 14.5) | |
| MUAC <11.5 cm or oedema | 1.9 (1.0–3.6) | | 1.1 (0.5–2.4) | | 1.9 (1.1–3.4) | |
| Boys | 1.4 (0.6–3.6) | Improved | 1.1 (0.3–3.3) | Improved | 1.4 (0.6 – 3.3) | Deteriorated |
| Girls | 2.4 (1.1–5.4) | | 1.1 (0.4–3.5) | | 2.4 (1.2 – 5.0) | |

| | | | | | | |
|--|---------------------------------------|--------------|---|-----------|---------------------------------------|--------------|
| Stunting (HAZ<-2) | 10.6 (7.0–15.8) | | 6.1 (4.2-8.8) | | 22.1 (16.9–28.2) | |
| Boys | 12.4 (8.2–18.4) | Deteriorated | 8.7 (5.9-12.6) | Improved | 26.6 (21.0–33.0) | Improved |
| Girls | 8.8 (5.3–14.4) | | 3.4 (1.4-8.1) | | 17.3 (11.2– 5.9) | |
| Underweight (WAZ<-2) | 10.1 (6.6 –15.1) | | 0.7 (0.2-2.5) | | 19.0 (15.2–23.3) | |
| Boys | 12.5 (8.0– 19.1) | Sustained | 1.4 (0.4-4.7) | Improved | 22.8 (18.0–8.4) | Improved |
| Girls | 7.7 (4.6– 12.7) | | 0.0 (0.0-0.0) | | 14.9 (10.6–20.6) | |
| Malnutrition Trends at Health facilities (January – July 2013) | Low (<15percent) and decreasing trend | Improved | Low (<10percent) and decreasing trend (HIS Jan-July'13) | Sustained | Low (<15percent) and decreasing trend | Improved |
| CDR | | | 0.50 (0.28-0.90) | Improved | 1.07 (0.7 – 1.7) | Deteriorated |
| U5DR | | | 0.73 (0.28-1.90) | Improved | 0.85 (0.4 – 1.8) | Improved |
| Pregnant and lactating women (MUAC <21.0) | | | N= 316 0.7 (0.0-1.6) | Improved | N= 544 1.1 (0.4 – 1.7) | Improved |
| Pregnant and lactating women (MUAC<23.0) | | | N= 316 1.5 (0.2-2.8) | Improved | N= 544 3.6 (2.1 – 5.1) | Improved |
| Underlying & Risk Factors | | | | | | |
| Overall reported morbidity | 29.4 (23.6 – 35.2) | | 30.3 (22.5-38.1) | | 39.3 (32.9 – 45.7) | |
| Boys | 30.6 (23.0 – 38.7) | | 28.0 (20.0-35.8) | | 37.6 (30.0 – 45.3) | |
| Girls | 28.0 (21.9 – 34.0) | | 32.8 (23.6-42.1) | | 41.0 (34.0 – 48.1) | |
| Diarrhoea | 7.6 (4.4 – 10.8) | | 8.4 (5.4-11.3) | | 8.9 (5.7 – 12.0) | |
| Boys | 9.6 (5.0 – 14.2) | | 8.3 (4.3-12.3) | | 9.2 (5.3 – 13.0) | |
| Girls | 6.0 (2.0 – 9.2) | | 8.4 (5.3-11.5) | | 8.5 (4.8 – 12.3) | |
| Pneumonia | 3.5 (1.7 – 5.3) | | 11.5 (5.6-14.4) | | 4.1 (1.5 – 6.7) | |
| Boys | 3.5 (1.3 – 5.8) | | 10.1 (4.6-15.7) | | 4.9 (1.2 – 8.5) | |
| Girls | 3.5 (1.1 – 5.9) | | 13.0 (5.7-20.2) | | 3.3 (0.3 – 6.4) | |
| Measles | 0.4 (0.0 – 0.9) | | 0.2 (0.0-0.6) | | 1.7 (0.2 – 3.3) | |
| Boys | 0.0 (0.0 – 0.0) | | 0.4(0.0-1.1) | | 1.4 (0.0 – 2.9) | |
| Girls | 0.7 (0.0 – 1.7) | | 0.0 (0.0-0.0) | | 2.1 (0.0 – 4.3) | |
| Fever | 24.3 (19.0 – 29.6) | | 14.9 (10.8-19.0) | | 33.7 (27.7 – 39.6) | |
| Boys | 24.5 (17.6 – 31.3) | | 14.5 (8.8-20.2) | | 33.0 (25.8 – 40.1) | |
| Girls | 24.1 (18.5 – 29.8) | | 15.3 (10.7-19.8) | | 34.4 (27.2 – 41.7) | |
| Vitamin A supplementation | | | 13.8 (4.7-22.8) | | 60.7 (51.3 – 70.1) | |
| Boys | | | 13.0 (3.3-22.8) | | 64.5 (55.2 – 73.8) | |
| Girls | | | 14.5(5.8-23.2) | | 56.8 (45.7 – 67.9) | |
| Measles Vaccination | | | 8.6 (1.2-15.9) | | 48.1 (36.8 – 59.3) | |
| Boys | | | 9.1 (0.4-17.7) | | 49.9 (37.7 – 62.0) | |
| Girls | | | 8.0 (1.6-14.5) | | 46.2 (34.2 – 58.2) | |
| Polio immunization | | | 79.9 (71.9-88.0) | | 72.2 (63.0 – 81.5) | |
| Boys | | | 84.4 (77.4-91.4) | | 76.6 (68.7 – 84.4) | |
| Girls | | | 75.2 (64.8-85.6) | | 67.8 (56.1 – 79.2) | |
| Infant and Young Child Feeding (6-24 Months) | | | | | | |
| Proportion still breastfeeding | | | | | 18.4 (15.0 – 21.8) | |
| Boys | | | | | 18.9 (13.8 – 23.9) | |
| Girls | | | | | 21.8 (17.2 – 26.3) | |
| Proportion meeting recommended feeding frequencies | | | | | 23.2 (19.6 – 26.8) | |
| Boys | | | | | 22.0 (16.8 – 27.2) | |
| Girls | | | | | 24.5 (20.4 – 28.5) | |

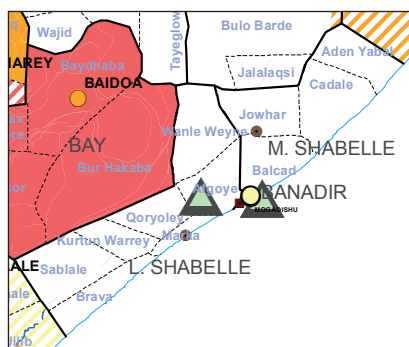
| | | | |
|--|--------------------|--------------|--------------------|
| Proportion who reported to have consumed <4 food groups | | | 25.3 (21.1 – 29.4) |
| Boys | | | 25.1 (19.9 – 30.4) |
| Girls | | | 25.4 (20.6 – 30.1) |
| Women who received at least one dose of Tetanus immunization | | | 56.6 (50.1 – 63.0) |
| <i>Public Health Indicators</i> | N= 407 | | N= 413 |
| Household with access to sanitation facilities | 43.0 (37.3 – 48.7) | | 54.3 (49.0 – 59.6) |
| Household with access to safe water | 43.0 (37.1 – 48.9) | | 54.5 (49.1 – 59.9) |
| Proportion who reported to have consumed <4 food groups | | | 29.3 (26.7 – 31.9) |
| Overall Situation Analysis | Alert | Alert | Serious |

Outlook

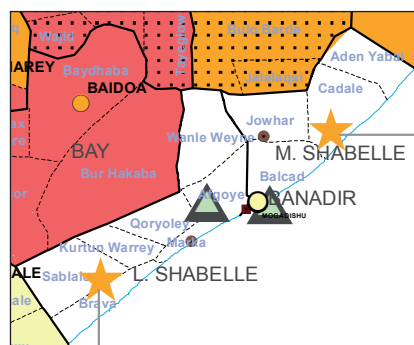
The acute malnutrition nutrition situation is projected to remain as **Alert** in both Afgoye Town and Mogadishu Town, while **Serious** situation is projected for Mogadishu IDPs. However remaining Shabelle regions is projected to be in risk of **emergency levels** of acute malnutrition because of following aggravating factors

- Insecurity remains a serious challenge and limits access.
- Poor rainfall distribution caused inadequate crop development due to dry spells which coincided with critical periods for crop growth.
- FSNAU has not been able to conduct any type of nutrition assessment since July 2011.
- MSF was providing basic health care through a network of health centres especially in Middle Shabelle region but pulled out in Aug 2013.
- UNICEF has stopped its feeding program.
- WFP-can not implement program in insecure areas.

Nutrition Situation, July 2013



Projected Nutrition Situation
Aug - Oct 2013



4.4.4: HIRAN REGION

BACKGROUND

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. Like many other regions in South Central Somalia, Hiran has not escaped the effects of high intensity civil conflict, which has affected people's means of livelihood. Intermittent localised civil conflict, as well as the targeting of aid workers in the region, has continued to hinder humanitarian access. According to UNDP 2005 population estimate for Hiran was 329,811 out of which 69,113 are Urban (20.9%) while 260,689 are the rural livelihood.

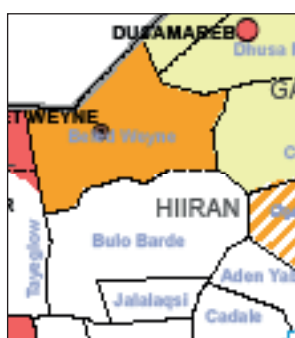
Food security situation

An improvement in the food security situation in pastoral livelihood zones of Hiran region is seen in this post-*Gu* 2013 though all the livelihoods remain in **Stressed** (IPC Phase 2), as in the post-*Deyr*, 2012/13. However, 50 percent of the agro pastoral populations are in Crisis (IPC Phase 3). due to poor season crop production leading to increased number of the population moving into **Crisis** (IPC Phase 3). Currently, the total number of affected people identified in **Crisis** (IPC Phase 3) and **Emergency** (IPC phase 4) is estimated at 27000 people, indicating a significant increase (69%) from the post-*Deyr* 2012/13 (16,000 people). During the projected period of August-December 2013, the food security situation of agro pastoral and riverine livelihoods is likely to deteriorate further due to poor crop production in *Gu* 2013 leading to increase in number of people in Crisis by 63 percent (from current 27,000 people to 44,000 people). Southern Inland Pastoral and Hawd livelihoods will remain in **Stress** (IPC Phase 2).

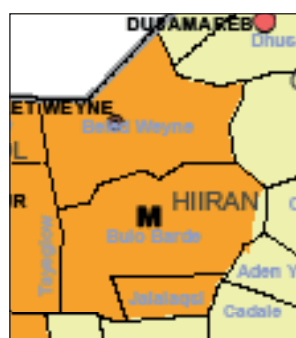
Post *Gu* 2013 Nutrition Situation

For the last twelve months (*Gu* 2012 to *Gu* 2013) the nutrition situation among the Hiran Rural livelihoods has ranged between **Serious** to **Very Critical** levels. The nutrition situation has largely been influenced by food security factors particularly access to milk among the riverine and Agro pastoral and high morbidity patterns. The maps below show the change in trends of nutrition situation from *Gu* 2012 to *Gu* 2013 (See maps below).

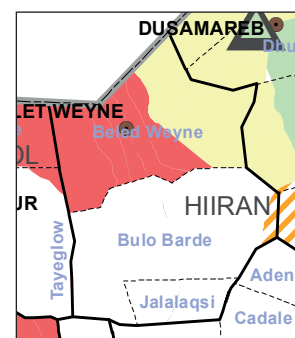
Nutrition Situation *Gu* 2012



Nutrition Situation *Deyr* 2012/13



Nutrition Situation *Gu* 2013



CURRENT NUTRITION SITUATION (*Gu* 2013)

Results of *Gu* 2013 Assessment in Pastoral, Agro-pastoral & Riverine Livelihoods are summarized in Table 23.

Key Highlights

Acute malnutrition

Nutrition assessment in Beletweyne district (*Gu* 2013) shows deterioration to **Very Critical nutrition** situation from **sustained Critical nutrition situation** observed in post *Gu* 2012 and post *Deyr* 2012/2013 with GAM 17.3 percent and SAM of 4.9 percent prevalence of acute malnutrition was observed to be higher proportion of boys 23.5 percent to girls 17.6 percent in Beletweyne and similar trends were observed for Mataban. Improvement in the nutrition situation in Matabaan District to serious levels (GAM rate of 10.0%) is observed from critical in Post *Gu* 2012 and ,Very Critical in post *Deyr* 2012/2013. The improvement in the pastoral livelihoods of the region is primarily attributable to average *Gu* 2013 seasonal rainfall performances that resulted in improved availability and access to milk, water, pasture and livestock body conditions resulting in higher Livestock price , and improved access leading to scale up of humanitarian interventions.. Generally, the herd sizes of livestock owned by poor households have increased in light of the four consecutive seasons of average seasonal rain performance.

Mortality

The 90 days retrospective CDR of **0.23** and U5DR of **0.37** indicated sustained **acceptable** situation in Beletweyne. In Mataban an improvement in both CDR and U5DR to **acceptable** levels was noted in *Gu* 2013 compared to **serious** levels seen in in post *Gu* 2012/*Deyr* 2012-13.

Morbidity

High morbidity was observed in both Beletweyn (42.9%) and Mataban (50.2%). This suggests that 1 out of every 2 children in the district populations had suffered from at least one of the common childhood illness during the two weeks prior to the assessment.

Immunization:

Coverage with Vit A supplementation & measles immunization was far below < 80 percent both in Beletweyne and Mataban. This is mainly attributable to low coverage by health facilities and poor availability of health services in the region and very limited humanitarian presence in the region.

Maternal malnutrition:

Acute malnutrition rates for pregnant and lactating women (MUAC <23.0 cm) in Beletweyne district indicating sustained **alert** situation when compared to post *Deyr* 2012/2013. This is of concern as alert levels of underweight in children are also observed. In Mataban **very critical** levels of maternal malnutrition seen in *Gu* 2012 and *Deyr* 2012-13 are sustained in *Gu* 2013.

Table 23: Summary of Key Nutrition Findings in Hiran Region August 2013

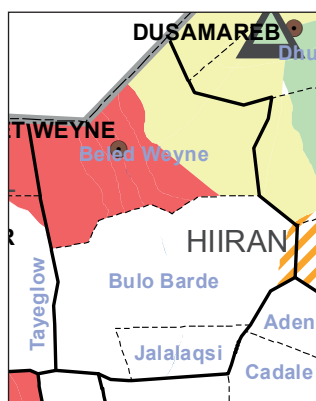
| Indicator | Beletweyn | | Mataban | |
|--|--|---------------|---|-----------|
| | (N=825: Boys=366; Girls=459) | | (N=671: Boys=344; Girls=327) | |
| | Results | Comment | Results | Comment |
| GAM (WHZ<-2 or oedema) | 20.2 (17.3-23.5) | | 10.0 (7.0-14.0) | |
| Boys | 23.5 (19.4-28.2) | Deterioration | 11.3 (7.5-16.8) | Improved |
| Girls | 17.6 (14.0-22.0) | | 8.6 (5.2-13.8) | |
| SAM (WHZ<-3 or oedema) | 4.4 (3.1- 6.1) | | 1.8 (1.0-3.1) | |
| Boys | 4.9(3.2- 7.5) | Improved | 2.3 (1.1-4.7) | Improved |
| Girls | 3.9 (2.5- 6.2) | | 1.2 (0.4-3.3) | |
| Mean of Weight for Height Z Scores | -1.06±1.10 | Improved | -0.60 ± 1.15 | Improved |
| Oedema | 0.0 | Improved | 0.0 | Improved |
| Global Acute Malnutrition (NCHS) | 20.5 (17.2-24.3) | Sustained | 10.7(7.8-14.4) | Improved |
| Severe Acute Malnutrition (NCHS) | 4.2 (2.8- 6.3) | Improved | 2.0 (1.2-3.5) | Improved |
| MUAC<12.5 cm or oedema) | 6.0 (4.6- 7.9) | | 5.8 (3.8-8.7) | |
| Boys | 4.8 (3.0- 7.7) | Improved | 6.5 (4.3-9.9) | Improved |
| Girls | 7.1 (5.0- 9.9) | | 5.1 (3.0-8.4) | |
| MUAC<11.5 cm or oedema | 6.0 (4.6- 7.9) | | 1.2 (0.5-2.7) | |
| Boys | 4.8 (3.0- 7.7) | Sustained | 0.9 (0.3-2.5) | Improved |
| Girls | 7.1 (5.0- 9.9) | | 1.5 (0.7-3.2) | |
| Stunting (HAZ<-2) | 7.5(5.6-10.0) | | 8.2 (5.3-12.5) | |
| Boys | 11.4 (8.2-15.8) | Improved | 9.1 (5.7-14.3) | Improved |
| Girls | 4.3 (2.8- 6.5) | | 7.2 (3.7-13.6) | |
| Underweight (WAZ<-2) | 19.1(15.6-23.2) | | 10.9 (8.0-14.8) | |
| Boys | 24.8(19.5-31.0) | Improved | 14.5 (10.2-20.3) | Improved |
| Girls | 14.6 (11.2-18.7) | | 7.2 (4.8-10.6) | |
| Malnutrition Trends at Health facilities (January – July 2012) | High (>15% and stable trend of acutely malnourished children in MCHs | Sustained | High (>10%) and stable trend of acutely malnourished children in MCHs | Improved |
| CDR | 0.23 (0.09-0.57) | Sustained | 0.37 (0.18-0.76) | Improved |
| U5DR | 0.37 (0.08-1.65) | Improved | 0.69 (0.50-0.95) | Sustained |
| Pregnant and lactating women (MUAC<21.0) | N= 563 3.2(0.5-5.8) | Improved | N= 414 9.9 (6.5-13.2) | Improved |
| Pregnant and lactating women (MUAC<23.0) | N=563 12.7(7.6-17.7) | Improved | N= 414 32.5 (26.0-39.1) | Improved |
| Underlying & Risk Factors | | | | |
| Overall reported morbidity | 42.9 (35.1-50.8) | | 50.2 (44.5-46.0) | |
| Boys | 44.9 (35.4-54.5) | | 46.6 (40.3-52.9) | |
| Girls | 41.3 (32.9-49.7) | | 54.0 (47.5-60.6) | |
| Diarrhoea | 27.8 (19.3-36.2) | | 10.6 (8.1-13.2) | |
| Boys | 28.5 (18.8-38.1) | | 9.7 (7.0-12.3) | |
| Girls | 27.2 (18.7-35.7) | | 11.6 (7.1-16.2) | |

| | | |
|----------------------------|------------------|------------------|
| Pneumonia | 18.9 (12.8-24.9) | 13.5 (8.5-18.6) |
| Boys | 22.1 (14.9-29.2) | 11.4 (6.4-16.3) |
| Girls | 16.3 (9.9-22.6) | 15.8 (9.4-22.2) |
| Measles | 1.2 (0.0-2.4) | 0.0 |
| Boys | 2.1 (0.0-4.3) | 0.0 |
| Girls | 0.4 (0.0-1.0) | 0.0 |
| Fever | 34.0 (26.7-41.4) | 34.1 (28.5-39.6) |
| Boys | 34.3 (25.6-42.9) | 32.7 (26.4-39.0) |
| Girls | 33.8 (25.8-41.8) | 35.5 (29.1-41.9) |
| Vitamin A supplementation | 39.3 (25.4-53.1) | 5.7 (0.0-11.7) |
| Boys | 38.0 (23.5-52.6) | 6.8 (0.0-14.5) |
| Girls | 40.3 (25.8-54.7) | 4.5 (0.0-9.1) |
| Measles Vaccination | 38.7(24.7-52.6) | 0.6 (0.0-1.5) |
| Boys | 37.8(22.9-52.5) | 0.3 (0.0-0.9) |
| Girls | 39.4(25.0-53.8) | 0.9 (0.0-2.2) |
| Polio immunization | 50.5(35.1-65.9) | 77.7 (65.1-90.4) |
| Boys | 49.7(33.8-65.6) | 80.4 (68.8-92.0) |
| Girls | 51.2(35.3-67.0) | 74.9 (61.0-88.9) |
| Overall Situation Analysis | Very Critical | Serious |

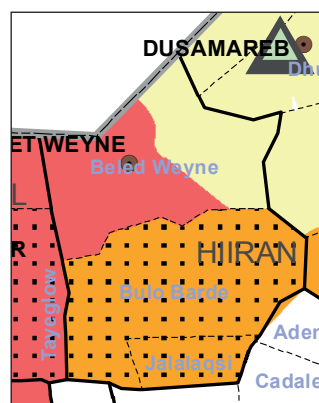
Outlook

The integrated analysis of assessment data indicate a **Very Critical** nutrition situation in Beletweyne and improved Nutrition situation in Mataban districts from **Critical** to **Serious** nutrition situation. The projected nutrition situation in September-December 2013, Mataban is likely to be in Sustained **serious** levels with improving food security situation, while Belet-weyne also projected to remain in **Very critical**, due to lack of access to health facilities (high morbidity rates, low immunization coverage), in addition to the impacts of chronic food insecurity (especially among the agro-pastoral population) and civil insecurity in the region.

Current Nutrition Situation, July 2013



Projected Nutrition Situation
(August - October 2013)



4.4.5: BAY AND BAKOOL REGIONS

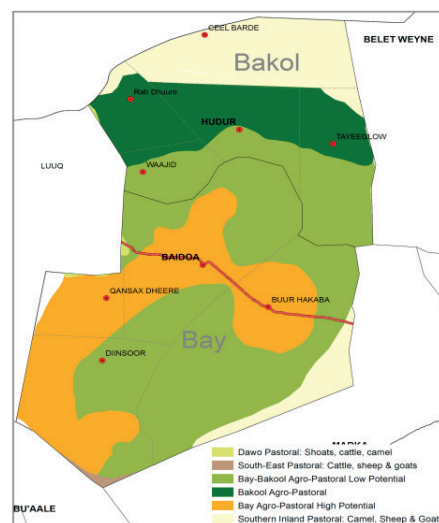
BACKGROUND

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 pastoral found mainly in Elberde district of Bakool region (referred herein as Bakool pastoralists). (Map 7).

Bay region comprises of four districts, namely Baidoa, (Baidoa town is the regional capital), Qansahdere, Dinsor and Burhakaba. According to the UNDP 2005 data, the Bay region was estimated to have a total population of 620,562 people, 126,813 of whom lived in the urban areas (20%). The main livelihoods that have been recognized, include Agro-pastoral High potential (70% of zonal population excluding Urban), Agro-pastoral low potential (20%), and Agro-pastoral low potential pastoral (10%), due to its high altitude (100-500 m-altitude), that provides high cereal production and became Somalia's sorghum basket.¹

Bakool region has five districts namely Huddur (Huddur Town is the regional capital), Wajid, Tieglow, Rabdure and Elberde. According to the UNDP 2005 data, its total population estimate is 310,627 people, 61,438 of whom lived in the urban areas (19.7%). The main livelihoods include the agro-pastoral, found in southern parts and the Southern pastoral. The area is comprised of a mixture of pasture and rangeland, suitable for livestock rearing and grazing and some limited farming. The climate is hot and dry throughout much of the year with the exception of some erratic rainfall during the wet seasons. Livestock such as camel, cattle, sheep and goat serves as the main economic resource for households within the LZ. Drought, deforestation and insecurity are the livelihood's main constraints. They limit access to water and pasture and trigger livestock migration. (Map 7).

Map 7 : Bay and Bakool Livelihood Zones



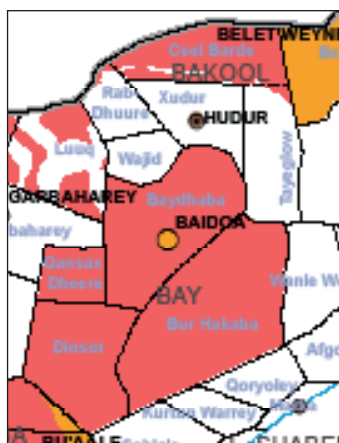
Food security

The food security situation in Bay and Bakool regions showed improvement in the *Gu* 2013 season. The FSNAU Post *Gu* 2013 analysis classifies the all livelihoods in **Stressed** (IPC-phase 2), indicating a sustained situation since Post *Deyr* '12/13. The improvement in the food security situation is mainly attributed to the positive impact of the normal to above normal *Gu*'13 rainfall performance which improved access to food and income from reduced local cereal prices and favourable livestock prices, near average crop production, increased farm labour opportunities. The increased access to humanitarian interventions in parts of the region is also boosting food availability and access.

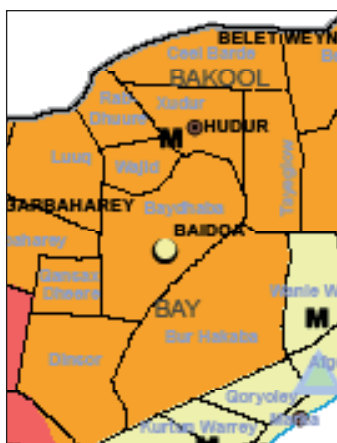
Post *Gu* 2013 Nutrition Situation

for the last twelve months (*Gu* 2012 to *Gu* 2013) the nutrition situation among the IDPs and rural livelihoods in Bay and bakool regions has ranged between **Critical to Very Critical** levels. The nutrition situation has largely been influenced by displacement associated with civil insecurity, low access to humanitarian and high morbidity. The maps below show the trends of nutrition situation from *Gu* 2012 to *Gu* 2013.

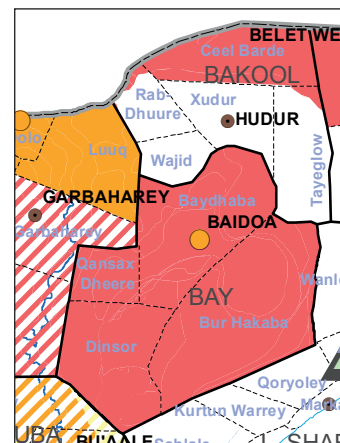
Nutrition Situation *Gu* 2012



Nutrition Situation *Deyr* 2012/13



Nutrition Situation *Gu* 2013



Bay agro-pastoral Livelihood Zones

The integrated Nutrition situation for the IDPs and Rural livelihoods in Bay and Bakool is summarized in the Table 24.

Key Highlights

Acute malnutrition

- Critical levels of acute malnutrition (GAM > 15%) are seen in the Bay agropastoral Livelihood Zones.
- Critical levels of severe acute malnutrition (6%) was seen along with critical levels of stunting (46.9%) with severe stunting of 23.1 percent and underweight of 44.9 percent makes the under-five children extremely vulnerable to mortality and morbidity.
- The nutrition situation in Bay agro-pastoral is sustained as **Very Critical**, since *Gu* 2012, though this is and deteriorated from **Critical** levels seen in *Deyr* '12/13. There is a significant increase in cases of severe acute malnutrition to 6 percent from 2.0 percent seen in *Deyr* '12/13.
- In Bakool pastoral, nutrition situation in *Gu* 2013 was sustained as **Very Critical**, similar to the rates recorded in *Gu* 2012 and *Deyr* '12/13. The high malnutrition is attributable to reduced access to humanitarian intervention (health Nutrition and WASH) and high morbidity. 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 (>30%), and a stable trend of acutely malnourished children
- **IDPs** Population in Baidoa town shows **Critical** nutrition situation, this is similar to the levels in *Gu* 2012 but an improvement when compared with the Serious levels in *Deyr* 2012. Humanitarian interventions in the form of targeted interventions including rehabilitation 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.

Mortality rates:

Gu 2013 results show that, stable **Acceptable** Crude (<0.5/10,000 person/day) and under-five (<1/10,000 children/day) death rate in the three livelihoods since *Gu* 2012, with the exception Bay agro-pastoral which reported **alert** Crude (0.5-<1/10,000 person/day) and **alert** under-five (1-1.1.99/10,000 children/day) in *Deyr* '12/13 and Serious mortality levels in *Gu* 2012.

Morbidity:

The morbidity reported in the past two weeks prior to the assessment ranges between 23.9 percent in Bay agro-pastoral to 24.0 percent in bakool pastoral indicating that 1 out of 4 children was suffering from at least one of the common childhood illness. The Baidoa IDP results show 46.6 percent morbidity of indicating 1 out of every 2 children had been ill in the past 2 weeks.

Immunization:

The reported Vitamin A supplementation, measles vaccination and Polio immunization by recall in Bakool pastoral livelihoods is high (>80%) but falls below the recommend SPHERE standard of 95 percent. Coverage with Vit A supplementation status of 37.3 percent is very low. Even in Bay agro-pastoral and Baidoa IDPs low coverage (<20%) was reported for Vitamin A supplementation and measles immunization. The low coverage could be attributed to low access to health services as well as limited humanitarian access.

Maternal Malnutrition:

Alert levels of maternal malnutrition (14.4 %) in both the Bay agro-pastoral and 11.3 percent in Bakool pastoral livelihoods were observed. This is of concern as maternal malnutrition levels show a significant correlation with stunting and wasting in children surveyed and in Bay nearly one in 2 under-five children is stunted and/or underweight.

Hotspot for malnutrition

Bay agro-pastoral with acute G AM>15 percent, stunting (46.9%) with severe stunting of 23.1percent and underweight (44.9%) is a hot spot in Bay region for both acute&chronic malnutrition. Bakool Pastoral and Baidoa IDPs with >15 is also hot spot for acute malnutrition. Therefore, the situation need immediate interventions and close monitoring to prevent further deterioration for nutrition situation.

Table 24: Summary of Key Nutrition Findings in Bay Agro-pastoral, Bakool pastoral and Baidoa IDPs, September 2013

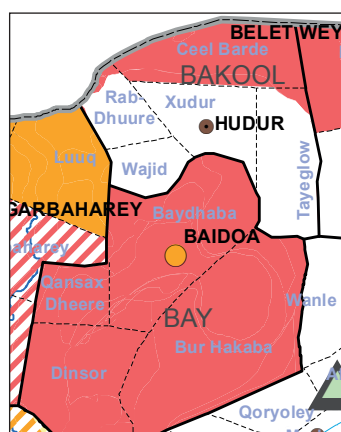
| | Bay agro-pastoral | | Bakool Pastoral | | Baidoa IDPs | |
|--|------------------------------|---------------------|------------------------------|---------------------|------------------------------|---------------------|
| | (N=960: Boys=470; Girls=490) | | (N=690: Boys=347; Girls=343) | | (N=714: Boys=370; Girls=344) | |
| Indicator | Results | Comment | Results | Comment | Results | Comment |
| GAM (WHZ<-2 or oedema) | 22.6 (18.5-27.3) | | 27.4 (22.8-32.5) | | 15.8 (12.3 - 0.0) | |
| Boys | 27.0 (21.4-33.4) | Deteriorated | 31.1 (24.5-38.6) | Sustained | 17.3 (12.9 - 22.7) | Deteriorated |
| Girls | 18.4 (14.5-22.9) | | 23.6 (18.3-29.9) | | 14.2 (10.4 - 19.2) | |
| SAM (WHZ<-3 or oedema) | 6.0 (4.5- 8.0) | | 5.4 (3.6-8.0) | | 3.4 (2.0 - 5.6) | |
| Boys | 7.9 (5.4-11.4) | Deteriorated | 6.6 (3.8-11.3) | Deteriorated | 4.6 (2.6 - 8.1) | Sustained |
| Girls | 4.3 (2.8- 6.6) | | 4.1 (2.4-6.8) | | 2.0 (1.1 - 3.9) | |
| Mean of Weight for Height Z Scores | -1.17±1.06 | Deteriorated | -1.19±1.15 | Sustained | -0.74 ± 1.16 | Sustained |
| Oedema | 0.9 | Deteriorated | 1.2 | Deteriorated | 0.0 | |
| GAM (NCHS) | 20.3 (16.4-24.9) | | 24.0 (19.2-29.6) | | 14.2 (10.9 -18.3) | Improved |
| SAM (NCHS) | 4.0 (2.5-6.4) | | 4.0 (2.5-6.4) | | 1.4 (0.6- 3.0) | Sustained |
| MUAC<12.5 cm or oedema) | 13.3 (10.0-17.4) | | 8.6 (5.9-12.3) | | 10.0 (7.3 - 13.6) | |
| Boys | 13.8 (9.8-19.2) | Sustained | 8.4 (5.4-12.8) | Improved | 8.5 (5.9 - 12.2) | Deteriorated |
| Girls | 12.8 (9.4-17.0) | | 8.8 (5.5-13.8) | | 11.6 (7.9 - 16.5) | |
| Proportion with MUAC<11.5 cm or oedema | 2.2 (1.3- 3.7) | | 1.5 (0.7- 3.4) | | 1.2 (0.6 - 2.6) | |
| Boys | 2.3 (1.2- 4.3) | Sustained | 2.0 (0.7- 5.1) | Sustained | 0.5 (0.1 - 2.2) | Sustained |
| Girls | 2.0 (1.0- 4.1) | | 1.1 (0.4- 3.5) | | 2.0 (0.9 - 4.4) | |
| Stunting (HAZ<-2) | 46.9 (39.5-54.4) | | 8.9 (6.2-12.5) | | 36.0 (32.1 - 40.1) | |
| Boys | 53.3 (44.6-61.7) | Sustained | 11.8 (8.2-16.8) | Sustained | 37.6 (32.7 - 42.7) | Improved |
| Girls | 40.9 (33.6-48.7) | | 6.0 (3.2-10.8) | | 34.3 (29.4 - 39.6) | |
| Underweight (WAZ<-2) | 44.9 (36.6-53.4) | | 13.6 (9.7-18.9) | | 24.3 (20.4 - 28.7) | |
| Boys | 52.3 (43.0-61.3) | Sustained | 17.2 (12.0-24.0) | Sustained | 24.9 (20.1 - 30.3) | Improved |
| Girls | 37.8 (29.6-46.8) | | 10.1 (6.1-16.1) | | 23.7 (19.1 - 29.0) | |
| Malnutrition Trends at Health facilities (January – July 2012) | High (>40% and stable trend) | Sustained | N/A | --- | | -- |
| Crude deaths, per 10,000 per day (retrospective for 90 days) | 0.29 (0.16-0.52) | Sustained | 0.27 (0.12-0.61) | Sustained | 0.11 (0.03 – 0.39) | Sustained |
| Under five deaths, per 10,000 per day (retrospective for 90 days) | 0.44 (0.18-1.09) | Sustained | 0.14 (0.02-1.05) | Sustained | 0.81 (0.23 – 2.80) | Sustained |
| Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm) | N=186 0 | Sustained | N=187 0 | Sustained | N=133 0.0 | Sustained |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0) | N=381 3.9 (1.2-6.7) | Improved | N=394 2.5 (0.5-4.3) | Improved | N=304 1.0 (0.2 – 1.8) | Improved |
| Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) | N=381 14.4(8.4-20.4) | Improved | N=394 11.3 (7.0-16.0) | Improved | N=304 6.0 (3.5 – 8.5) | Improved |
| <i>Underlying & Risk Factors</i> | | | | | | |
| Overall reported morbidity | 23.9 (18.4-29.5) | | 24.0 (17.8-30.1) | | 46.6 (37.9 – 55.3) | |
| Boys | 25.4 (18.7-32.3) | | 24.3 (16.5-32.2) | | 45.1 (35.6 – 54.6) | |
| Girls | 22.5 (16.0-28.9) | | 23.5(17.1-30.0) | | 48.1 (38.7 – 57.6) | |
| Diarrhoea | 9.6 (6.5-12.8) | | 12.3 (8.7-15.7) | | 14.5 (10.5 – 18.5) | |
| Boys | 11.7 (7.1-16.3) | | 12.0 (8.1-15.9) | | 14.9 (9.6 – 20.1) | |
| Girls | 7.7 (4.4-11.0) | | 12.4 (8.1-16.7) | | 14.0 (10.0 – 18.1) | |
| Pneumonia | 11.1 (6.1-16.1) | | 4.8 (2.1-7.5) | | 24.9 (15.7 – 34.1) | |
| Boys | 12.1 (6.6-17.6) | | 4.7 (1.6-7.8) | | 25.2 (16.3 – 34.1) | |
| Girls | 10.1 (5.0-15.3) | | 4.8 (1.5-8.1) | | 24.6 (13.5 – 35.7) | |
| Measles | 0.21(0.1-0.5) | | 0.0 | | 4.0 (0.7 – 7.3) | |
| Boys | 0.2 (0.0-0.6) | | 00 | | 5.0 (0.6 – 9.5) | |
| Girls | 0.2 (0.0-0.6) | | 00 | | 2.9 (0.6 – 5.2) | |

| | | | |
|--|------------------|------------------|--------------------|
| Fever | 13.1 (10.4-15.7) | 11.6 (8.6-14.4) | 29.9 (23.6 – 36.2) |
| Boys | 12.5 (8.7-16.4) | 11.4 (7.1-15.8) | 28.4 (20.9 – 35.9) |
| Girls | 13.5 (9.5-17.6) | 11.6 (8.3-14.8) | 31.5 (24.3 – 38.8) |
| Vitamin A supplementation | | | 17.8 (11.3 – 24.2) |
| Boys | 1.7 (0.5-2.8) | 37.3 (26.4-48.2) | 18.0 (10.7 – 25.4) |
| Girls | 1.6 (0.3-3.1) | 37.8 (26.2-49.4) | 17.5 (11.4 – 23.6) |
| Measles Vaccination | 1.6(0.0-3.3) | 36.8 (25.4-48.1) | |
| Boys | 0.7(0.0-1.5) | 82.0 (71.3-92.7) | 20.7 (12.8 – 28.6) |
| Girls | 0.8(0.0-1.9) | 82.1 (71.0-93.1) | 18.6 (9.9 – 27.2) |
| Polio immunization | 0.6(0.0-1.5) | 82.0 (71.0-93.0) | 22.9 (14.2 – 31.6) |
| Boys | 21.8 (10.6-33.0) | 89.0 (78.2-100) | 82.2 (75.7 – 88.8) |
| Girls | 22.9 (11.2-34.7) | 88.7 (78.1-99.4) | 82.0 (75.5 – 88.5) |
| Infant and Young Child Feeding (6-24 Months) | 20.6 (9.2-32.0) | 89.2 (78.1-100) | 82.5 (74.8 – 90.2) |
| Proportion still breastfeeding | | | N=266 |
| Boys | N/A | N/A | 23.1 (19.4-27.2) |
| Girls | N/A | N/A | 24.1 (18.1-30.2) |
| Proportion meeting recommended feeding frequencies | | | 22.3 (16.9- 27.6) |
| Boys | N/A | N/A | 20.9 (16.3-25.5) |
| Girls | N/A | N/A | 22.1 (16.1- 28.0) |
| Proportion who reported to have consumed >4 food groups | | | 19.4 (13.6-25.3) |
| Boys | N/A | N/A | 1.5 (0.0-3.9) |
| Girls | N/A | N/A | 0.9 (0.0-2.9) |
| Proportion of Women who received at least one dose of Tetanus immunization | | | 2.2 (0.0-5.3) |
| Public Health Indicators | | | 14.7 (11.0 – 18.4) |
| Household with access to sanitation facilities | N/A | N/A | N=424 |
| Household with access to safe water | N/A | N/A | 31.2 (26.4 – 36.0) |
| Proportion who reported to have consumed <4 food groups | N/A | N/A | 7.9 (3.5 – 12.3) |
| Overall Situation Analysis | Very Critical | Very Critical | 65.4 (62.0 – 68.8) |
| | | | Serious |

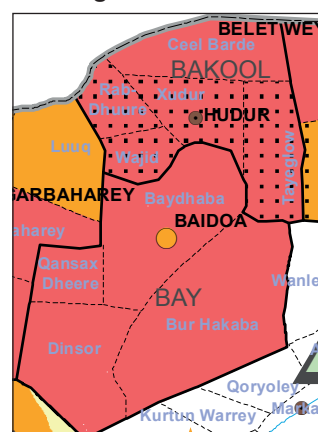
Outlook

The current projection of the nutrition situation in Bay agro-pastoral Bakoool pastoral and Bakoool agro-pastoral LZs will remain very **Critical**, due to declining of humanitarian assistance, high morbidity rates, low immunization status, poor water and sanitation.

Nutrition Situation, July 2013



Projected Nutrition Situation, August – Oct 2013



5. APPENDICES

5.1: Time frame for the Gu 2013 survey

| Region | Livelihood Zone | Planned |
|---------------------|---|-----------|
| South | Mogadishu IDPs | May 2013 |
| South | Mogadishu Town | May 2013 |
| South | Afgoye Town | May 2013 |
| Northwest | Hargeisa IDPs-10.9 | May 2013 |
| Northwest | Burao IDPs | May 2013 |
| Northwest | Berbera IDPs | May 2013 |
| Northeast | Bossaso IDPs | May 2013 |
| Northeast | Bossaso town- Bari | May 2013 |
| Northeast | Qardho IDPs | May 2013 |
| Northeast | Garowe IDPs | May 2013 |
| Northeast | Galkayo IDPs | May 2013 |
| Central | Dusamareb IDPs | May 2013 |
| South | Bakool Pastoral | June 2013 |
| South | Kismayo town- | May 2013 |
| South | Kismayo IDPs | May 2013 |
| South | Dhobley IDPs | May 2013 |
| South | Baidoa IDPs | June 2013 |
| South | Dolo IDPs | June 2013 |
| South | Bay Agro pastoral | June 2013 |
| South | Gedo North LZs | June 2013 |
| South | Juba Pastoral | June 2013 |
| South | Juba Agro pastoral | June 2013 |
| South | Juba Riverine | June 2013 |
| Northwest | Agro pastoral LZ (Togdheer & Northwest) | July 2013 |
| Northwest | W Golis / Guban Pastoral | July 2013 |
| Northwest/Northeast | Sool Plateau LZ | July 2013 |
| Northwest | Hawd Pastoral LZ | July 2013 |
| Northwest | East Golis/Kakaar Pastoral LZ (Northwest) | July 2013 |
| Northeast | East Golis/Kakaar Pastoral LZ (Northeast) | July 2013 |
| Northwest/Northeast | Nugal Valley Pastoral LZ (NWZ and NEZ) | July 2013 |
| Northeast | Coastal Deeh LZ | July 2013 |
| Central | Coastal Deeh (Central) | July 2013 |
| Central | Cow pea Belt (Central) | July 2013 |
| Northwest | Hawd Pastoral LZ (Central and Northeast) | July 2013 |
| Northwest | Sool Region Urban LZ- | July 2013 |
| Northwest | Sanaag Region Urban LZ | July 2013 |
| Northeast | Bari Region Urban LZ | July 2013 |
| Northeast | Nugal Region Urban LZ | July 2013 |
| Central | North Mudug Urban LZ | July 2013 |
| Northwest | Awdal Region Urban | July 2013 |
| Northwest | Woq Galbeed Urban | July 2013 |
| Northwest | Togdheer Region Urban | July 2013 |
| South | Hiran –Beletwayne town | July 2013 |
| South | Hiran-Mataban urban- | July 2013 |

5.2 CORE OUTCOME INDICATORS (Anthropometry & Mortality)

| Annex 5: Core Indicators | | | | | |
|--|---|--|--|---|---------------|
| Reference Indicators | Acceptable | Alert | Serious | Critical | Very Critical |
| Global Acute Malnutrition (IPC Reference) Reliability (R) =1 | <5% | 5 to < 9.9%; | 10 to<14.9% or | 15 to<20% or | 20 % |
| 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 | |
| SAM (WHZ and oedema) (WHO to advice on thresholds) R=1) | < 3.0% | 3.0 – 4.4% | 4.5 – 5.4% | 5.5 – 6.9 | >7 |
| Crude death rate/ 10,000/day (R=1) | <0.5 | <0.5-<1 | 1.0 to <2 | 2to < 5 | >5 |
| Under five death rates /10,000/day (R=1) | <1 | 1.0-1.99 | 2-3.9 | 4 - 9.9 | >10 |
| MUAC Children: (% <12.5cm): | <5.0% | < 5 but increase from seasonal trend | 5.0-9.9 | 10.0- 14.9 %, or where there is significant increase from seasonal trends | >15 |
| MUAC<11.5cm (R=2) | ≤ 1 | | | ≥1 | |
| Adult MUAC - Pregnant and Lactating (%<23.0cm) | <9.5 | 9.5-14.9 | 15.0-21.9 | 22.0-27.9 | >28.0 |
| HIS Trends of Acutely Malnourished Children, (R=3) | V. low (<5%) proportion in the preceding 3mths relative to ≥2yr seasonal trends | Low proportion (5 to <10%) and stable trend in the preceding 3mths relative to ≥2yr seasonal trends | Moderate (10 to <15%) and stable or low (5 to <10%) but increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends | High (≥ 15%) and stable proportion in the preceding 3mths relative to ≥2yr seasonal trends | High |
| Sentinel Site Trends: levels of children identified as acutely malnourished(WHZ), | Very low (<5%) and stable levels | Low levels (5 to <10%)and one round indicating increase, seasonally adjusted | Low (5 to < 10%) & increasing or moderate (10 to <15%) levels based on two rounds (seasonally adjusted) | High levels (≥ 15%) of malnourished children and stable (seasonally adjusted) | |
| OVERAL NUTRITION SITUATION | Acceptable | Alert | Serious | Critical | Very Critical |

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

| DRIVING FACTORS | | | | | |
|--|------------|--------|---------|----------|---------------|
| Reference Indicators | Acceptable | Alert | Serious | Critical | Very Critical |
| Complementary feeding in addition to breastfeeding | | | | | |
| i. Introduction of complementary food at 6 months of age: %introduced | ≥95% | 80-94% | 60-79% | 0-59% | 0-59% |
| ii. Meeting minimum recommended feeding frequency | ≥95% | 80-94% | 80-94% | 0-59% | 0-59% |
| iii. Dietary diversity score | ≥95% | 80-94% | 80-94% | 0-59% | 0-59% |

| | | | | | |
|--|---|--|--|---|---------------------------------|
| Breastfeeding (BF) Practices | | | | | |
| <i>i. Exclusive BF for 6mths</i> | ≥90% | 50-89% | 12-49% | 0-11% | |
| <i>ii). Continued BF at 1 yr.</i> | ≥90% | 50-89% | 12-49% | 0-11% | |
| <i>iii). Continued BF at 2yr reference</i> | >90% | 50-89% | 12-49% | 0-11% | |
| Measles immunization/Status | >95% | 80-94.9% | <80% | | |
| Vitamin A Supplementation Coverage: 1 dose in last 6 months | >95% | 80-94.9% | <80% | | |
| Population have access i). to a sufficient quantity of water for drinking, cooking, personal & domestic hygiene—min 15lts pp/ day | 100% | TBC | TBC | TBC | TBC |
| ii). Sanitation facilities | 100% | TBC | TBC | TBC | TBC |
| Affected pop with access to formal/informal services: health services | Should not be necessary | Access to humanitarian interventions for most vulnerable | Reduced access to humanitarian support for most vulnerable | Limited access to humanitarian support for majority | Negligible or no access |
| Selective Feeding Programs Available: Coverage of TFP /SFP & referral systems(Sphere04); | Should not be necessary | Access for most vulnerable | None available | | |
| -Admissions trends (R=3) | | | | | |
| 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 | <i>Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months' time</i> <i>No change: Stable; Uncertain: Potential to deteriorate Potential to improve:</i> | | | | |

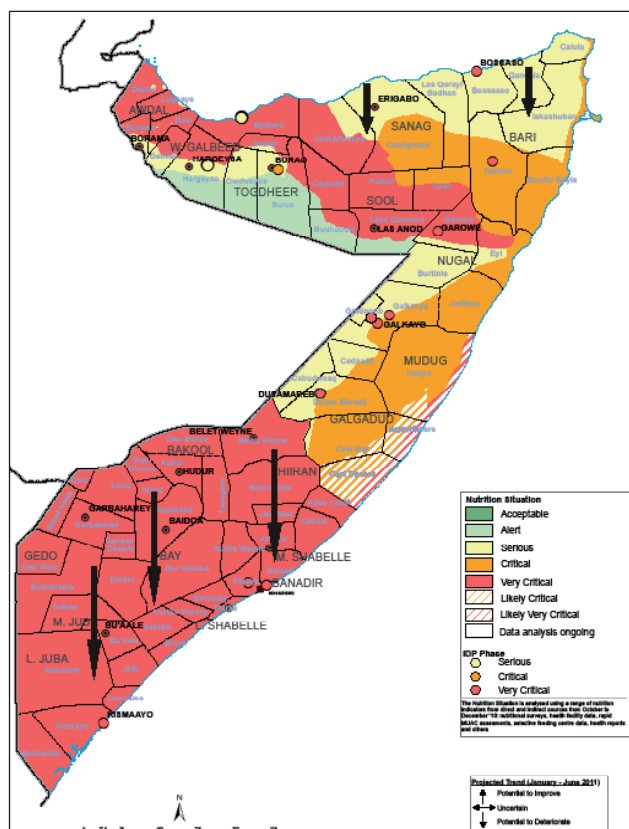
5.3 WHO cut-off values for public health significance¹

| Indicator | Prevalence cut-off values for public health significance |
|---|--|
| Underweight weight for age < -2 standard deviations (SD) of the WHO Child Growth Standards median | < 10%: Low prevalence 10-19%: Medium prevalence 20-29%: High prevalence = 30%: Very high prevalence |
| Stunting height for age < -2 SD of the WHO Child Growth Standards median | < 20%: Low prevalence 20-29%: Medium prevalence 30-39%: High prevalence = 40%: Very high prevalence |
| Wasting weight for height < -2 SD of the WHO Child Growth Standards median | < 5%: Acceptable 5-9%: Poor 10-14%: Serious = 15%: Critical |

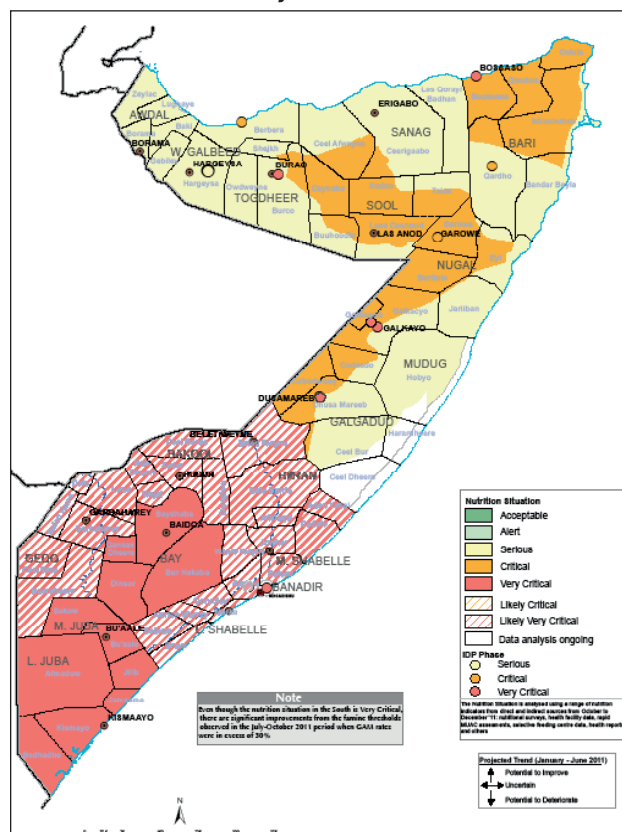
¹ <http://www.who.int/nutgrowthdb/en/>

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

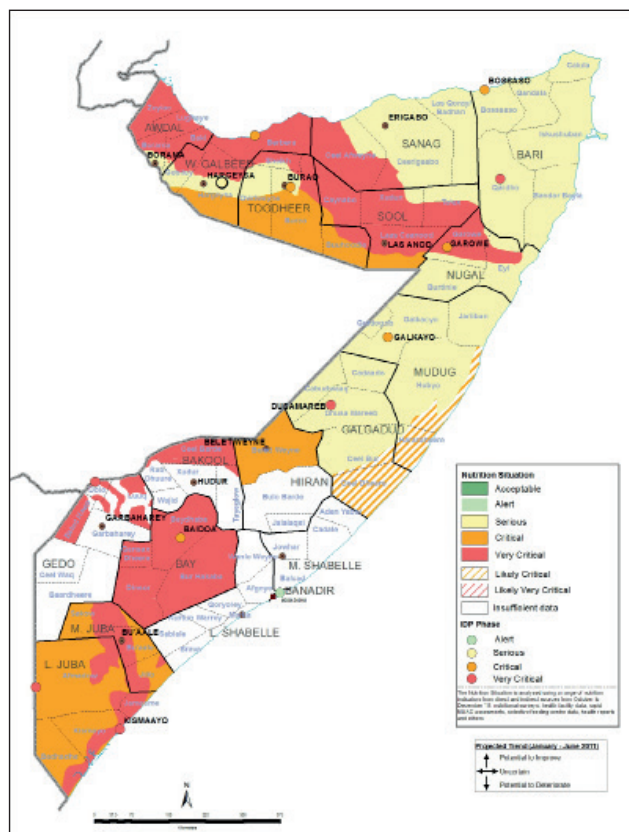
Gu 2011



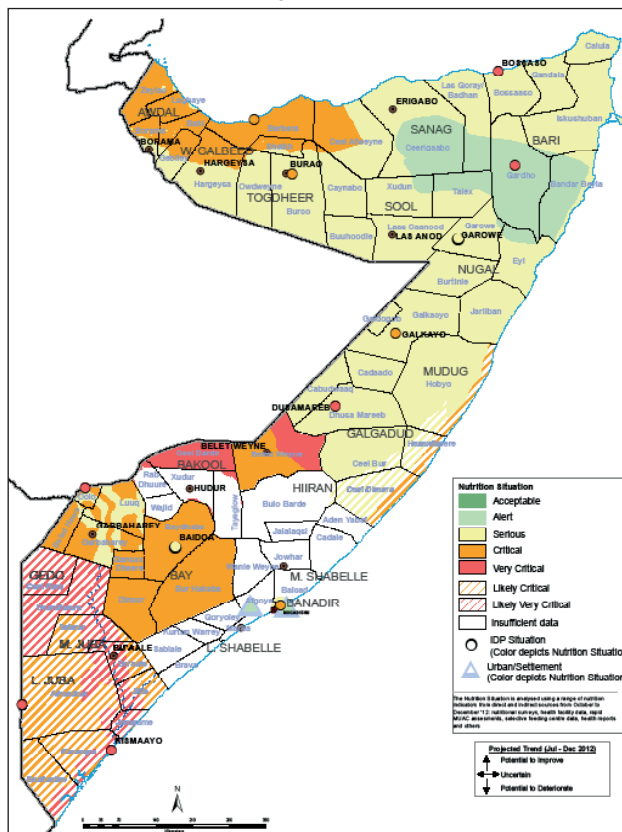
Deyr 2011/12



Gu 2012



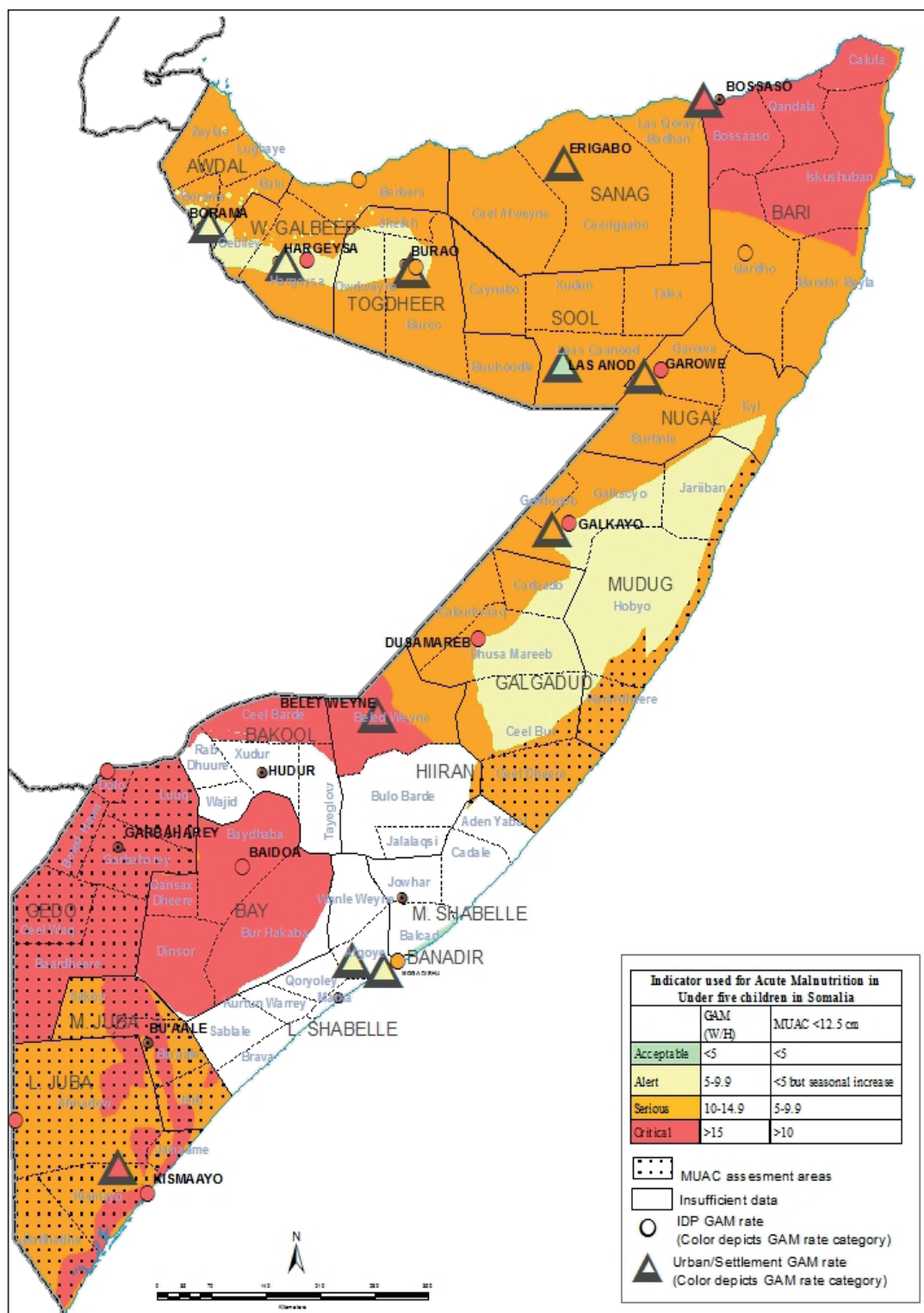
Deyr 2012/13



The information displayed in Maps 1 and 2 were developed using the classification of Acute Malnutrition of the IPC framework. For comparison purposes, the same information is used to develop an alternative map using the WHO-UNICEF classification (See below table and map 6) .

| GAM Classification | Acceptable | Alert | Serious | Critical | Very Critical |
|--------------------|------------|-------|---------|----------|----------------|
| IPC | <5 | 5-9.9 | 10-14.9 | 15-20 | >20 |
| WHO | <5 | 5-9.9 | 10-14.9 | ≥15 | Not Applicable |

Map 6: Acute Malnutrition in Under five Children (June/July 2013) using WHO standards



5.5 List of Participants for Nutrition Vetting

| NAME | ORGANIZATION |
|------------------------|----------------------|
| Abdifatah Ahmed | EPHCO |
| Falis Abdi Samatar | HIRDA |
| Sarah King | Concern Worldwide |
| Ayan Barre | JCC |
| Willem Muhren | Nutrition Cluster |
| Charles Mthuri | DIAL Africa |
| Bashir Abdi Gedi | HRDO |
| Nicolas Joanic | WFP |
| Alexandra Rutishauser | IMC |
| Fatuma Abdirahman | Oxfam |
| Hassan Ahmed Shariif | SWISSO KALMO |
| Fuad Hassan Mohamed | FSNAU |
| Faith M Mailu | WOCCA |
| Aslam Khan | UN OCHA |
| Nina Dodd | FSNAU |
| Komborero Chirenda | Nutrition Cluster |
| Daniel Molla | FSNAU |
| Ahono Busili | SAGE |
| Jacquellne Amolo | SAF uk |
| Ruth Njagi | SYPD |
| Everuyne Adhiambo | CAFDARO |
| Abdirizak Haji Mohamed | GELDA |
| Solomon Rutto | TOOS |
| Naema Hirad | FSNAU |
| Sagal Dirie | FSNAU |
| Hassan Iftin | ARD Africa |
| John Bod Odhiambo | Mulray International |
| Abdiwahid Ibrahim Ali | CRO |
| Aden Sheikh Mohamed | BTSC |
| Abdi Muse Mohamed | SAF |
| Issack Alio Hassan | Access Aid |
| Ali Deif Hussein | Juba Foundation |
| David W Thagana | CAFDARO |
| Hussein Mohamed Yaqub | URDO |
| Shalini Gudini | UNICEF |
| Daud Hussein | SAF |
| Jacob Korir | WVI |

6. 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 improves; wasting is measured by the weight-for-height index.

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

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

The Information Management Process

Gathering & processing

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

Validation of Analysis

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

Products and Dissemination

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

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