Somalia Nutrition Analysis

Post Deyr 2015/16

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FSNAU

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This report summarizes the results of Post *Deyr* 2015 nutrition assessments by the Food Security and Nutrition Analysis Unit (FSNAU) which assessed nutrition status of children (6-59 months) across most regions and livelihood zones of Somalia. The nutrition assessments and analysis including the preparation of this report was made possible through the financial contribution of the donors whose logos appear on the front cover of this report. Our special appreciation goes to:

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- The survey team, for their endurance, dedication and team spirit for collecting the required data under challenging circumstances
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FSNAU TEAM

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LIST OF ACRONYMS USED

AWD	Acute Watery Diarrhea
CDC	United States Center For Disease Control and Prevention
CDR/ CMR	Crude Death Rate / Crude Mortality Rate
CISP	Comitato Internazionale per lo Sviluppo dei Popoli
ENA	Emergency Nutrition Assessments
EPI	Expanded Program Immunization
FAO	Food and Agriculture Organisation of the United Nations
FSNAU	Food Security and Nutrition Analysis Unit for Somalia
GAM	Global Acute Malnutrition
HADMA	Humanitarian Affairs and Disaster Management Agency
HAZ	Height for Age Z Scores
HIS	Health Information System
IDPs	Internally Displaced Persons
IPC	Integrated Food Security Phase Classification
IYCN	Infant and Young Child Nutrition
JRC	Joint Research Centre
LZ	Livelihood Zones
MAM	Moderate Acute Malnutrition
MOH	Ministry of Health
MUAC	Mid Upper Arm Circumference
NCA	Nutrition Causal Analysis
NE	North East
NW	North West
Oxfam	Oxford Committee for Famine Relief:
PLW	Pregnant Lactating Women
QRCS	Qatar Red Crescent Society
SAM	Severe Acute Malnutrition
SC	South Central
SMART	Standardised Monitoring and Assessment of Relief and Transition
SNS	Strengthening Nutrition in Somalia
U5DR	Under-5 Death Rate
UN	United Nations
UNDP	United Nation Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
WASH	Water Sanitation and Hygiene
WAZ	Weight for Age Z Scores
WFP	World Food Programme
WHO	World Health Organisation
WHZ	Weight for Height Z Scores

FOREWARD

This Post *Deyr* 2015/16 Nutrition Technical Series Report is the latest edition of bi-annual nutrition assessment report launched by the Food Security and Nutrition Analysis Unit (FSNAU). The publication complements the FSNAU bi-annual seasonal food security and nutrition technical series reports and provides specific focus on current nutrition information (*Deyr* season) and outlook for the period from February – April, 2016. The report includes a detailed analysis of the 34 comprehensive nutrition assessments and 6 MUAC assessments across Somalia.

We at FSNAU trust that you will find the report informative and useful.

Please contact FSNAU@fa.org with any questions, comments and feedback on this report.

EXECUTIVE SUMMARY

Between September through December 2015, FSNAU conducted 40 standard nutrition assessments across most regions and livelihood zones of Somalia, covering displaced, urban and rural populations. The assessment covered 27 455 Children (6-59 months) from 16 538 households. Both Weight-for-Height and MUAC measurements were taken for the 34 surveys while, only Mid-Upper Arm Circumference (MUAC) measurement was taken in the remaining 6 surveys due to security constraints.

The national median GAM and SAM during this reporting period are 12.2 percent and 2.2 percent respectively. According to livelihood disaggregation, 11 out of 34 livelihoods surveyed using Weight-for-Height Z-Score, the prevalence of acute malnutrition is considered Critical and exceeds the UN trigger for emergency action (Global Acute Malnutrition-GAM ≥ 15%) while Serious levels of GAM (≥10 to <15%) were observed in 16 out of 34 population groups surveyed. Alert level of GAM (≥5 to <10%) were reported in the remaining seven.

Highest prevalence of acute malnutrition (based on Weight for Height Z-Scores) was recorded among Dolow IDPs (25.0% GAM) and Guban Pastoral Livelihood Zone (22.3% GAM). Critical to Very Critical levels of acute malnutrition were also recorded among rural livelihoods of South Gedo Pastoral (Gedo Region) and Coastal Deeh (Central Regions) based on MUAC measurements (i.e. 10.7% or more of children having a Mid-Upper Arm Circumference-MUAC below the 12.5 centimetres threshold).

Over the past seven consecutive seasons, Critical levels of GAM were sustained among the following population groups: Garowe IDPs (Nugaal Region), Galkayo IDPs (Mudug Region), Mataban and Beletweye Districts (pastoral parts of Hiran Region), North Gedo Pastoral (Gedo Region), North Gedo Riverine (Gedo Region) and Dolow IDPs (Gedo Region). Sustained Critical level of GAM in the above mentioned areas is symptomatic of the protracted nature of the nutrition crisis among these population groups and calls for multifaceted interventions that address contributing factors and underlying causes of acute malnutrition in these areas. Relative nutritional improvements in population groups such as IDPs located in Mogadishu were observed in recent seasons, primarily due to sustained humanitarian interventions which could be reversed if humanitarian assistance is scaled down as witnessed during the *Gu* 2014.

The overall stunting prevalence in the 2015 Deyr assessment in Somalia is 8.9 percent and is considered Low (<20%). However, there are major differences between different parts and population groups of the country: 12.6 percent in South and Central Somalia; 7.7 percent in the Northeast; 2.7 percent in the Northwest; and 14.9 percent among IDPs across the country. Stunting in this particular season is not therefore, a public health problem in Somalia as most population groups reported Low (<20%) to Medium (20-30%) stunting prevalence with the exception of Kismayo IDPs that reported Very High (>40%) prevalence.

The overall Underweight prevalence in Somalia is 11.1 percent and is considered to be Medium (10-19.9%), with substantial variation across the three zones: 13.5 percent in South and Central Somalia; 10.2 percent in the Northeast and 5.8 percent in the Northwest. However, Kismayo IDP reported 30.1 percent underweight prevalence which is considered Very High (>30%); High underweight prevalence (20-20.9%) was also observed in Bay agro-pastoral livelihood (20.4%), Baidoa IDPs (23.6%), Dolow IDPs (29.7), Garowe IDPs (24.0%) and Galkacyo IDPs (21.4%).

Concurrent to the nutrition assessments, 36 out of the 40 study population groups were targeted for mortality assessments. The results from these surveys indicated that 34 of the surveys showed Acceptable levels of Under-Five Death Rate (U5DR). However, Mogadishu IDPs and Guban Pastoral had Under-Five Death Rate (U5DR) exceeding 1/10 000/day which is considered as an Alert situation.

There was no major outbreak in communicable disease reported in this period. However, morbidity incidences in the two weeks prior to the assessments showed higher rates (morbidity >20%) in 25 out of 34 population groups surveyed. Morbidity rates are generally lower among population groups in Northwest parts of the country where GAM prevalence are also lower relative to other parts of Somalia.

Based on GAM prevalence estimates from the 2015*Deyr* nutrition assessments, an estimated 304 700 children under the age of five across Somalia were suffering from acute malnutrition. Out of this total, 58 300 were severely malnourished. Approximately, 58 percent of the acutely malnourished children are found in Southern and Central Somalia, with Lower Shabelle, Banadir and Bay regions accounting for one third of the total.

Although GAM prevalence in Mogadishu IDP settlements are relatively lower (10-14.9% GAM or Serious), they deserve particular attention as they account for 51 percent of the total number of acutely malnourished IDP children under-five.

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

- Guban Pastoral (Awdal and W. Galbeed Regions)
- Garowe IDP, Bosaaso IDP and Bari Urban (Bari Region)
- Galkayo IDP (Mudug Region)
- Coastal Deeh of Central Regions (Mudug and Galgadud)
- Mataban District and Beletweyne District (Hiran Region)
- Bay agro-pastoral (Bay Region) ; and
- Dolow IDP, North Gedo Pastoral, North Gedo Riverine and South Gedo Pastoral (Gedo Region)

The nutrition situation in the drought affected areas of Northwest agro-pastoral and Northern Inland Pastoral livelihoods (NIP) is also expected to deteriorate to serious levels of acute malnutrition (10-14.9%) through the Jilaal period and until the next *Gu* rains are fully established in April. Deterioration of the current nutrition situation is also expected in Addun Livelihood.

Urgent nutrition and health support for the acutely malnourished is needed now and through mid-2016. However, this is not enough for populations experiencing persistently high levels of acute malnutrition. They need additional multifaceted interventions such as the Scaling Up Nutrition (SUN) movement aimed at addressing the underlying causes and contributing factors.

1: BACKGROUND

For decades high levels of under-nutrition have characterised the nutrition situation in Somalia, a prominent factor deterring economic growth in the country and leading to loss in productivity. The nutritional status of children under the age of five is widely used as a sensitive indicator of the socio-economic conditions in a country. Of the total population of approximately 12.3 million [1]people, out of which 20% 2.5 million) are children under five years of age.

In the face of increasing demand for quality and reliable data by humanitarian agencies and the donor community, FSNAU has been conducting seasonal nutritional assessment (*Deyr* and Gu) and rapid assessments since 2000.

The current *Deyr* assessment covers the period from September to December 2015 whereby FSNAU conducted 40 nutrition assessments covering 27 445 Children (6-59 months) from 16 538 households across most regions and livelihood zones of Somalia. The primary objectives of the *Deyr* 2015 assessment which covered 13 IDPs settlements of rural livelihoods and 6 urban areas in Somalia was to :

- Assess the prevalence of acute malnutrition amongst children aged 6 – 59 months
- Determine retrospective crude mortality rate (CMR) and under five mortality rate (U5MR) within 90 days recall period
- Determine Morbidity rate in children aged 6 – 59 months

The secondary objectives were to:

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

Two types of assessments were conducted:

1. Assessment using SMART[2] Methodology – Integrated Nutrition & Food Security Surveys in IDPs Urban livelihoods and Rural livelihoods (n=34)
2. Representative MUAC based nutrition assessment — areas with insecurity (n=6)

The assessment among displaced, rural and urban population used comprehensive standardized monitoring and assessment of relief and transitions (SMART) methodology and assessment tools where access as a result of insecurity was not a challenge. Nevertheless, in areas where insecurity would be a threat to conduct full assessment, MUAC as a primary wasting measurement index and brief health and nutrition tool was adopted. Details of the assessment areas and time plan (when and where) were shared with MOH and all nutrition stakeholders across Somalia as well as in Nairobi for coordination and participation by nutrition partners (Annex 1).

SURVEY LIMITATIONS

- Insecurity limits access to the population of concern and lack of qualified partners in some areas: Juba, parts of Bakool, Hiran and Shabelle Regions
- Precise age estimation is a challenge due to recall bias and lack of documentations indicating birth dates this may led to inaccuracy when analyzing height for age(HFA) and weight for age(WFA) indexes

1 Population statistic(UNFPA,2014)

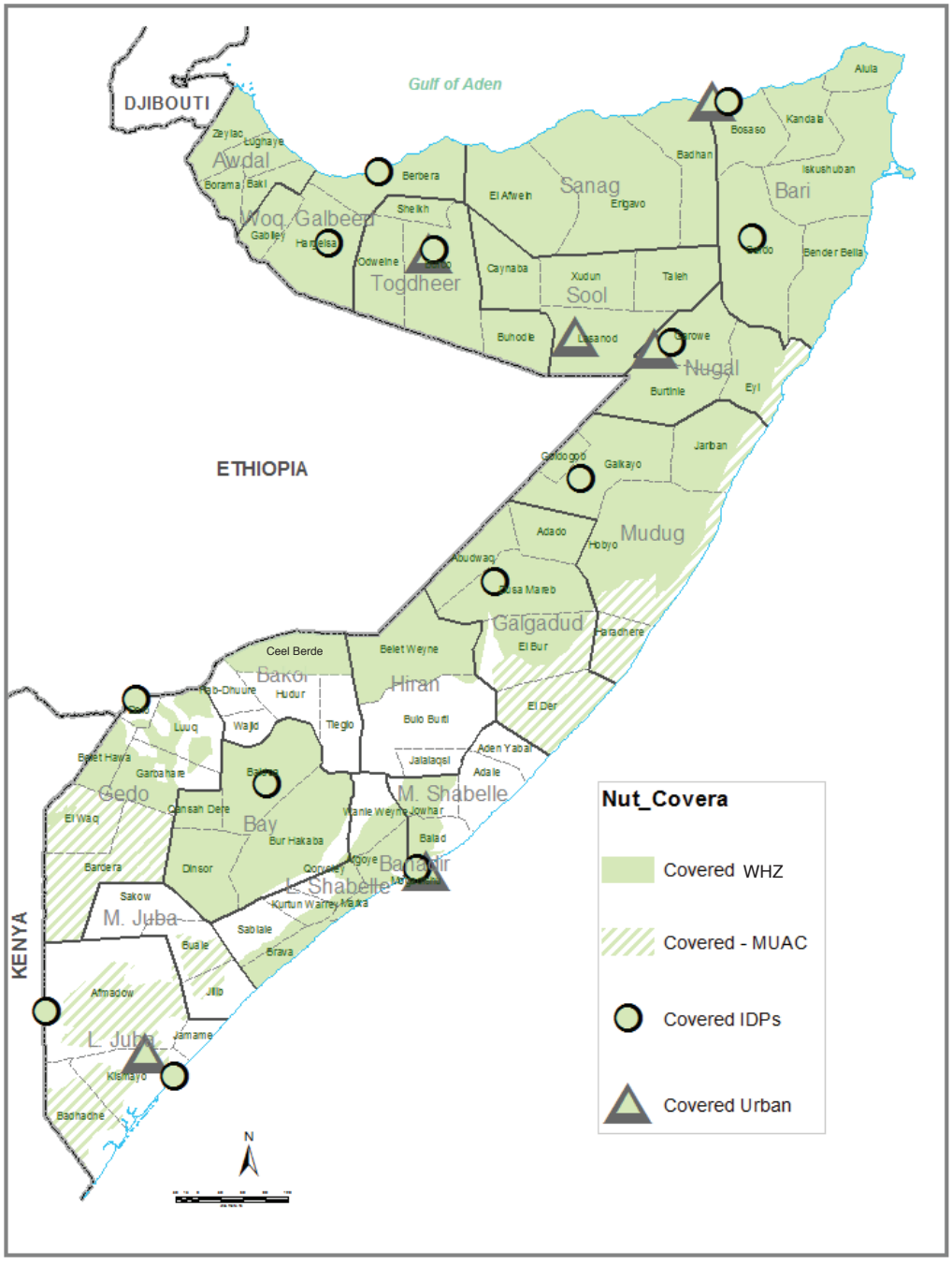
2 Standardized Monitoring and Assessment of Relief and Transitions

2: METHODOLOGY

FSNAU and partners working in Somalia conducted 40 nutrition assessments covering all regions and livelihood zones (Map 1) from September- December, 2015 (*Deyr* assessment). These were cross-sectional assessments, 34 of which were based on comprehensive SMART methodology and 6 were surveys that used Mid Upper Arm Circumference (MUAC) as an indicator of wasting. The survey covered 27 445 children aged 6-59 months from 16 538 households. Local events calendar was used to estimate age of the children under-fives.

The first stage of sampling was selection of clusters based on Probability Proportional to Size (PPS) and the second stage involved selection of households from particular clusters either using exhaustive, simple random sampling or use of modified EPI with segmentation as per the nature of the survey area (urban, rural or IDP livelihood). In terms of assessment coverage, 61 percent of the total nutrition assessments were carried out in South Central Somalia, 25 percent in North West and 12 percent in North East.

Map 1: *Deyr* 2015 Assessed Areas



The anthropometric and mortality sample sizes were calculated using ENA for SMART Software (July 2015 version) after considering important factors such as the minimum precision around the estimate of malnutrition or death rate and likely design effect.

Both qualitative and quantitative data collection techniques used either integrated household questionnaire or rapid nutrition and health questionnaire. Retrospective mortality data for 90 days prior to the assessments was also collected among the study households using household mortality questionnaires. The 90 days recall period was calculated based on the mid-point of data collection days to the last day of the assessment period across all survey regions/livelihoods.

Tools used include:

- Integrated household questionnaire (nutrition and health, food security, WATSAN)
- Household mortality questionnaire,
- Rapid nutrition and health questionnaire

TRAINING AND SUPERVISION

Prior to data collection, FSNAU conducted 3-5 days training of enumerators and supervisors (depending on the type of survey). The training covered interview techniques, sampling procedures, 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 ethical procedures during the assessment.

Standardization exercises were 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 (6-59 months). During the last day of the training, pre-testing of the questionnaire and equipment's were carried out in non-selected clusters. The teams go through all the steps in conducting the survey, under supervision, in that village. After the field exercise, views were exchanged to address the difficulties identified, appropriateness of the questions, review of questionnaires and appropriate changes were made.

DATA ENTRY, CLEANING AND ANALYSIS

The data was entered into the computer using the EPi info (version 7) data entry template and transferred to Excel and ENA Software (July, 2015) for anthropometry and mortality dataset analysis. Before doing the definitive analysis, errors in the data were identified and corrected. This was done partly during data entry. Data cleaning was also done using plausibility check. The computer automatically examines the data to see if there are values outside the usual or expected range and lists them in Microsoft Word. These values were then reviewed and checked against the original written data collection sheets. Any errors in data entry was corrected immediately.

QUALITY ASSURANCE

This was checked by using automated plausibility checks function in ENA for SMART surveys which tests the following parameters:

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

The plausibility check for *Deyr* 2015 assessments highlights quality of the anthropometric data, both in terms of sample representativeness and quality of anthropometric measurements as shown on annex 6.7.

Quality of data was also ensured through:

a. Supervision of field work by FSNAU coordination team
b. Cross checking of filled questionnaires on daily basis and recording of observations and confirmation of measles, severe malnutrition and death cases by supervisors undertaking daily review with the teams to address any difficulties encountered.
c. Progress evaluation was carried out according to the time schedule. Progress reports were shared with partners on regular basis.
d. Monitoring accuracy of equipment (weighing scales) by regularly measuring objects of known weights.
e. Quality assurance during data collection and entry.
f. Data Quality validation by running frequencies.
g. 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.
h. Continuous reinforcement of good practices. All measurements were loudly shouted by both the enumerators reading and recording them to reduce errors during recording.

DATA ANALYSIS AND INTERPRETATION

FSNAU survey results were analyzed in ENA software (July, 2015) version for anthropometric and mortality data and Epi info for cross tabulations and analysis of non-anthropometric data. Interpretation of findings on child growth indicators are based on internationally recognized thresholds, mainly the WHO-UNICEF/Sphere[1].

Low weight-for-height identifies wasted children. Acute malnutrition rates are estimated from the weight for height (WFH) index values as well as presence of bilateral oedema. Anthropometrical data from this survey will mainly be computed and inferred with WHO (2006) standards, and presented in terms of z-scores. Global Acute Malnutrition is defined as <-2 z-scores and/or presence of bilateral pitting oedema, and Severe Acute Malnutrition is defined as <-3 z-scores and/or presence of bilateral pitting oedema

Height-for-age z-scores were calculated to give the prevalence of chronic malnutrition or stunting. Stunting can be assessed by comparing a child's height with the height of a healthy child of the same age. Stunting is an index of long-term nutritional deprivation where growth is being compromised to conserve nutrients and energy for the maintenance of the body. Stunting is defined as <-2 z-scores, whereas severe stunting is defined as <-3 z-scores.

Weight-for-age z-scores were calculated to give the prevalence of underweight malnutrition. Underweight can be assessed by comparing a child's weight with a healthy child of the same age. Underweight is composite index between long term and short term malnutrition. Underweight is defined as <-2 z-scores, whereas severe underweight is defined as <-3 z-scores.

Household access to a variety of food was estimated through Dietary diversity, a qualitative measure of food consumption[2]. The Primary data collected through the SMART surveys was triangulated with secondary data. Data was interpreted taking into consideration many factors including:

- Trends and changes
- Seasonality
- Aggravating factors
- Mortality levels
- CDC calculator for comparison of statistical significance between two surveys
- Cross tabulation was also done for measure of association. e.g. wasting and immunization coverage, wasting and morbidity, morbidity and immunization (vitamin A and/or measles etc.
- Data was disaggregated for age and gender

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

Context analysis also forms the basis for data interpretation:

- ❑ Reference Indicators- overall nutrition situation- GAM/SAM/CMR/U5MR/MUAC Children & Adults/HIS trends/Admissions in feeding centers
- ❑ Immediate Causes-Household Dietary Diversity, Morbidity/Disease outbreak
- ❑ Driving Factors-: Infant young child feeding, Vitamin A supplementation coverage, Measles immunization coverage, access to safe water and sanitation

Reference indicators were categorized into five different phases based on the recognized thresholds: Acceptable, Alert, Serious, Critical and Very Critical[3]. (Annex 3). The outcome of the integrated nutrition situation analysis process, the estimated nutrition situation was 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 prevalence) were used to make an analysis and classification of the situation into one of the 5 different phases. The overall analysis was consolidated into the Estimated Malnutrition Situation Map. In the cartographical presentation, reliability of data source was illustrated through solid color (for survey data which is quite reliable, R=3), or through slash marks (when statistically representative data is not available, in which case data reliability is lower and R=1).

ANALYTICAL PROCESS

To make a statement on the

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

The overall classification of the nutrition situation for a given area was done taking into account historical nutrition and contextual data. Triangulation of all indicators was also undertaken: GAM prevalence with HIS trends and data from feeding centres. 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.

ESTIMATION OF NUMBER OF CHILDREN WITH ACUTE MALNUTRITION

Caseload numbers is the approximation of the number of children who are acutely malnourished based on the current acute malnutrition prevalence obtained from biannual nutrition assessments conducted in Somalia[4]. The prevalence is normally based on WFH and MUAC indicators. Where a prevalence of acute malnutrition is not available the prevalence observed in similar livelihoods is applied considering the food security situation and seasonal trends for the region. The population figures currently used by FSNAU are the UNFPA 2014 estimates of 12,327,529 million people. Given the global demographic patterns, children under the age of 5 years are estimated to account for 20 percent of the population. Because of the occurrence of new cases, an Incidence rate is factored in the computation which is the addition of new cases that would occur over time. Currently, for Somalia, an incidence factor of 1.6 is applied for estimating incidence over 6 months period. The prevalence and incidence caseload estimates are presented in the form of map and graphs by regions.

Formula for Caseload computation: Caseload = N x P x K

N is the size of the population. *This is the population aged* 6 and 59 months which is commonly estimated as 20% of the total population and 5% for P&L mothers.

- ***P is estimated prevalence of GAM/SAM/MUAC prevalence.*** This is usually estimated using a nutritional anthropometry survey (e.g. a SMART survey).
- ***K is a correction factor to account for new (incident cases) over a given time period (1.6).***
  - WFH in admitting case-definitions= lower levels of coverage
  - MUAC in admitting case-definitions= higher levels

N= At FSNAU the denominator is UNDP 2005 census figures…..
P- This obtained from seasonal survey results conducted in Somalia (*Deyr and Gu Surveys*)

Case definitions
- GAM<-2 WHZ or SAM<-3 WHZ
- MUAC< 12.5cm or MUAC <11.5cm

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

4 The caseload estimation is done for the whole of Somalia which includes areas that have not been surveyed.

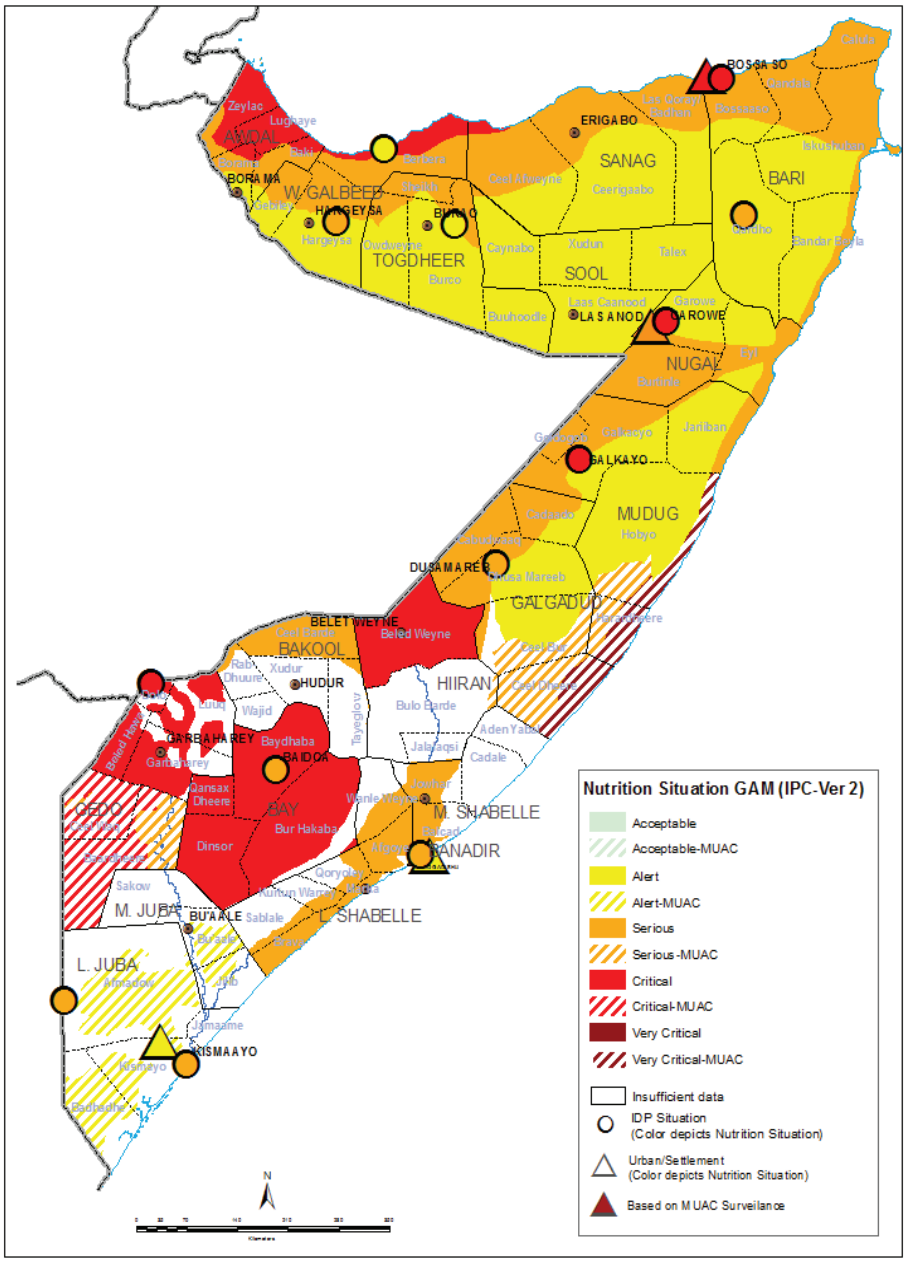
3: OVERALL NUTRITION ASSESSMENT FINDINGS

Global Acute Malnutrition (GAM) prevalence

Results from the 2015 *Deyr* assessment revealed that 12.2 percent of all children under the age of five in Somalia were acutely malnourished, with 2.2 percent being severely malnourished. In 10 out of the 40 livelihoods assessed, the prevalence of acute malnutrition exceeds the UN trigger for emergency action (GAM ≥ 15% or Critical prevalence). Highest prevalence of acute malnutrition (based on Weight for Height Z-Scores) was recorded among livelihoods of Dolow IDPs (25%) and Guban pastoral (22.3%) [Map 1].

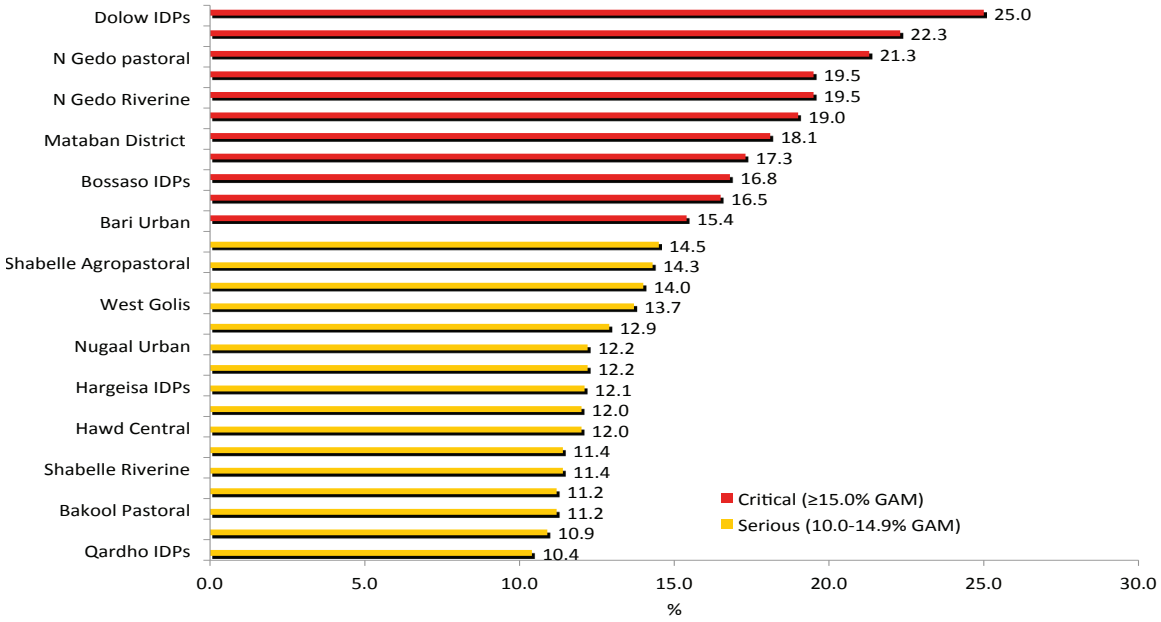
In four out of the 13 IDP settlements assessed, Critical prevalence of acute malnutrition (GAM) are recorded. These are Dollow IDPs, (Gedo), Garowe (Nugaal), Bosaaso (Bari) and Galkayo (Mudug). It is of concern that acute malnutrition levels in three of these IDP settlements (Dollow, Garowe and Galkayo) are sustained at Critical levels over the past three seasons. Serious GAM levels (≥10 and < 15 %) were recorded among IDPs in Mogadishu, Kismayo, Dhobley, Baidoa and Dhusamareb in South Central region, Qardho in Northeast region and Hargeisa IDPs in Northwest.

Map 2 : Somalia Estimated Malnutrition Situation (GAM) January 2016



Critical levels of GAM prevalence was prevalent in five rural livelihoods. Critical levels of acute malnutrition was also recorded among rural livelihoods of South Gedo (Pastoral, and Coastal Deeh central) based on MUAC measurements (i.e. 10.7% or more of children have Mid-Upper Arm Circumference below the 125 millimetres threshold).

Figure 1: Livelihoods with Serious (10-<14.9% GAM) to Critical (15-<30 % GAM) prevelance – Deyr 2015

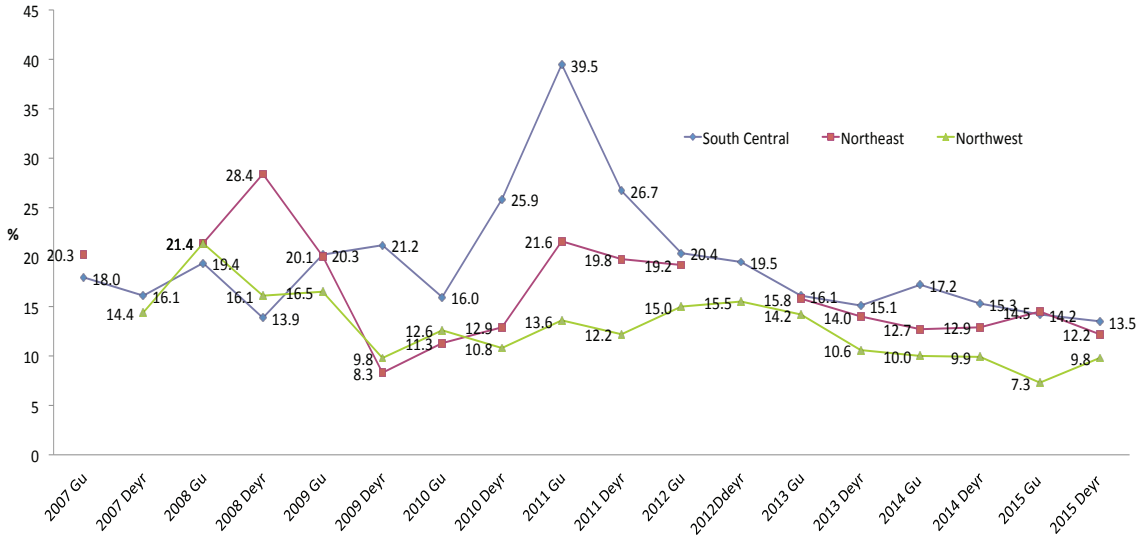


Sustained Critical situation was observed among livelihoods of Beletweyne and Mataban Districts, North Gedo pastoral, North Gedo riverine, Bari Urban, South Gedo Pastoral, Dollow IDP, Garowe IDP, Galkayo IDP and Coatal-deeh Central. Significant improvement in nutrition situation in *Deyr* 2015 compared to *Gu* 2015 was noted among Mogadishu urban, Nugal urban and Dhobley IDPs. Seasonal fluctuations may have some role in generating peaks of wasting prevalence recorded among Bosaaso IDPs.

Total acutely malnourished population identified from the 2015 *Deyr* assessment findings (304 700) has not changed significantly from the levels reported for 2015 *Gu* assessment (307 800). In other words, prevalence of wasting has stagnated over the last six month period.

It was observed that the prevalence of GAM and SAM is higher among boys (6-23 months and 24-59 months) compared to girls across all livelihoods.

Figure 2: GAM trends in different regions of Somalia



Severe Acute Malnutrition (SAM) prevalence

Serious (2.5-4%) and Critical SAM (>4%) prevalence was recorded among 15 out of 39 livelihoods (Figure 3).

It was observed that Critical levels of SAM (> 4%[1]) were recorded only among livelihoods in South Central Somalia namely: Bay Agro pastorals, North Gedo pastorals, North Gedo riverine, Mataban district, Dolow and Baidoa IDPs (Map 3). Since *Deyr* 2014, significant increase in SAM prevalence has been noted among populations in Dolow IDPs, Kismayo IDPs, Addun pastoral, Coastal Deeh, Cowpea belt and North Gedo riverine. Significant decrease in prevalence of SAM was observed among Shabelle Agro-pastoral, Juba cattle pastoral and South Gedo Agro-pastoral and West Golis as well as among IDPs in Galkacyo.

The median SAM prevalence in South Central region was 2.8 percent, which is higher compared to levels observed in Northeast (2.1%) and nearly two times higher compared to prevalence recorded in Northwest (1.6%).

Map 3 : Somalia Malnutrition Situation (SAM) January 2016

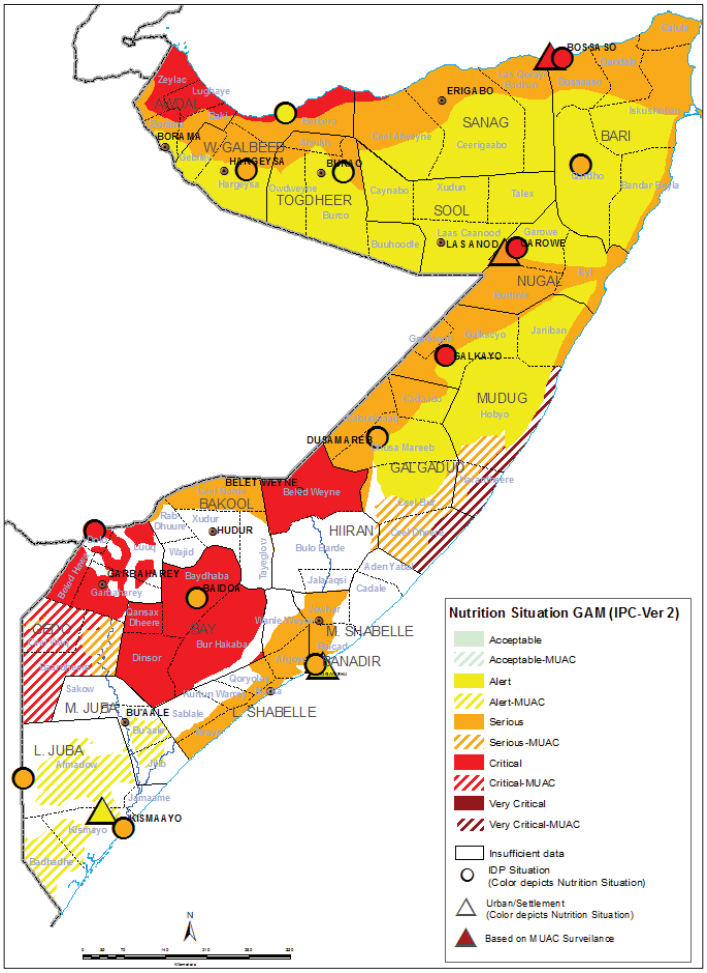
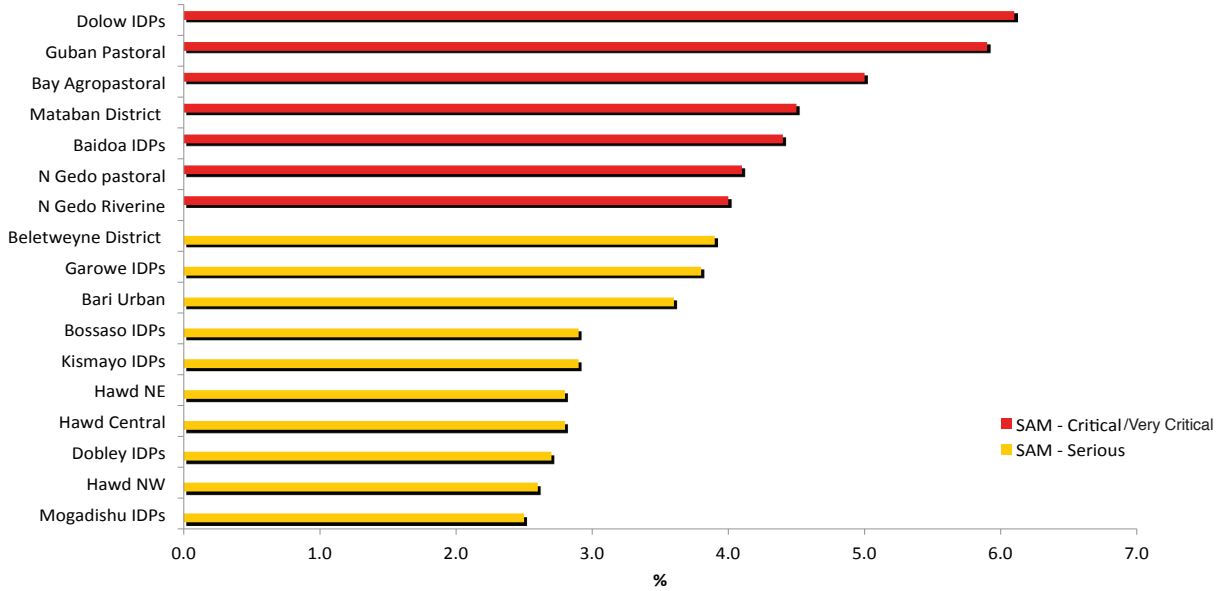


Figure 3 : Livelihoods with Serious (2.5-4%) or Critical/Very Critical (>4%) SAM prevalence - Deyr 2015



Mid Upper Arm Circumference (MUAC)

GAM-MUAC (<12.5 cms) measurement for children under five shows Critical levels of acute malnutrition in two out of 40 livelihoods (10.7-16.7 %) and Serious levels in another three livelihoods. Prevalence of SAM-MUAC (<11.5 cms) was Critical in two livelihoods (Coastal Deeh of Central and Cowpea Belt).

1 FSNAU threshold

Figure 4: Livelihoods with Serious (7.5-10.6 %) and Critical (10.7-16.7%) MUAC <12.5 cm

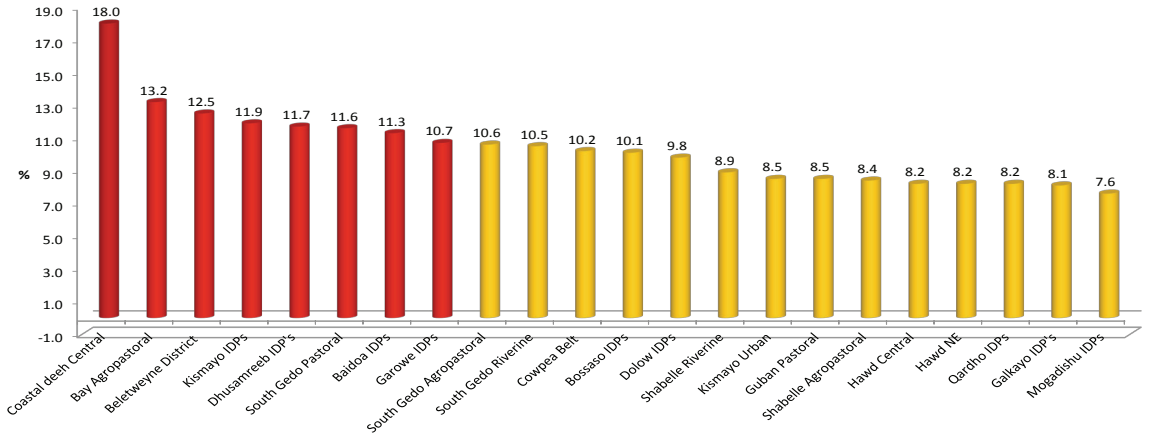
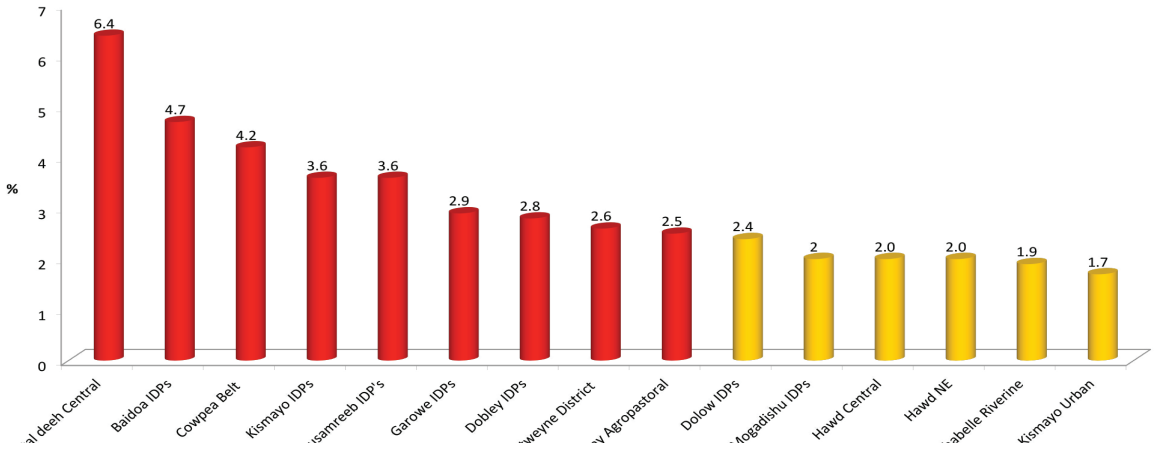


Figure 5: Livelihoods with Serious (1.7-2.4%) and Critical/Very Critical (2.5-4%) MUAC <11.5 cm



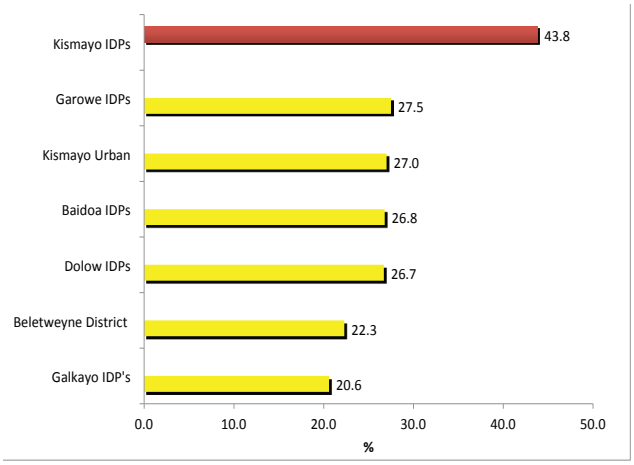
Gender differences in prevalence of acute malnutrition

Both overall and Livelihood zone analysis showed higher prevalence of GAM in boys under the age of five compared to girls across all livelihoods. The difference was statistically significant in all areas surveyed. Post *Gu* 2015 and Post *Deyr* 2014 show similar results, indicating a continued higher GAM prevalence among boys compared to girls.

Stunting prevalence

The overall stunting prevalence in Somalia is 8.9 percent and is considered Low (<20%). However, there are major differences between different livelihoods: 12.6 percent in South and Central; 7.7 percent in Northeast; 2.7 percent in Northwest; and 14.9 percent among IDPs. Stunting is not therefore, a public health problem in Somalia as majority of areas reported Low prevalence (<20%) or Medium prevalence 20.0-30.0%) with the exception of Kismayo IDPs that reported Very High prevalence. This is also reflected in the significant association observed between GAM and Stunting (r=0.37; p<0.05).

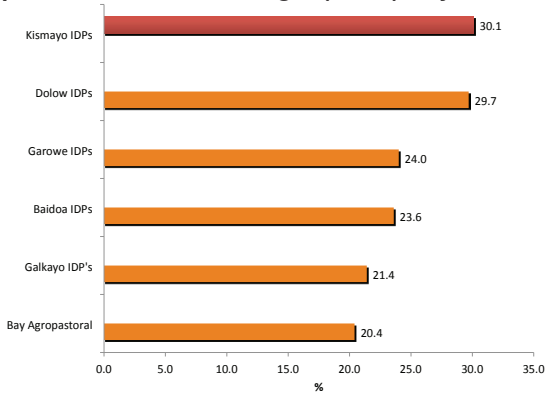
Figure 6: Livelihoods with Medium (20.0-30.0%) and Very High (>40%) Stunting prevalence - Deyr 2015



Underweight prevalence

The overall Underweight prevalence in Somalia is 11.1 percent and is considered Medium (10.0-19.9%). However, there are major differences between different livelihoods: 12.6 percent in South and Central; 7.7 percent in Northeast; 2.7 percent in Northwest; and 14.9 percent among IDPs. Underweight, is not therefore, a public health problem in this particular season in Somalia as majority of areas reported Low prevalence (<10%) or Medium (10-19.9%) with the exception of Bay Agropastoral, Galkayo IDPs, Garowe IDPs, Dollow IDPs and Kismayo IDPs that reported High or Very High Underweight prevalence. Significant association between prevalence of underweight and GAM (r=0.54; p<0.01) is noted.

Figure 7: Livelihoods with High and Very High prevalence of Underweight (>20%) Deyr 2015



Mortality

Out of 40 population groups surveyed, 35 showed Acceptable levels of Under-Five Death Rate (U5DR). Only two of the livelihoods (Mogadishu IDP and Guban Pastoral) recorded 1.50 deaths/10,000/day and 1.32 deaths/10 000/day respectively which fall under Alert threshold. The increase in U5DR is closely associated with infection and illness as Kismayo IDPs recorded the highest prevalence of morbidity (62.3%) which is significantly higher than levels reported in *Gu* 2014 (41.2%). Diarrhoea was reported as the main cause of death in 11 out of 13 children.

Figure 8: Livelihoods with Serious and Critical Crude Death Rate

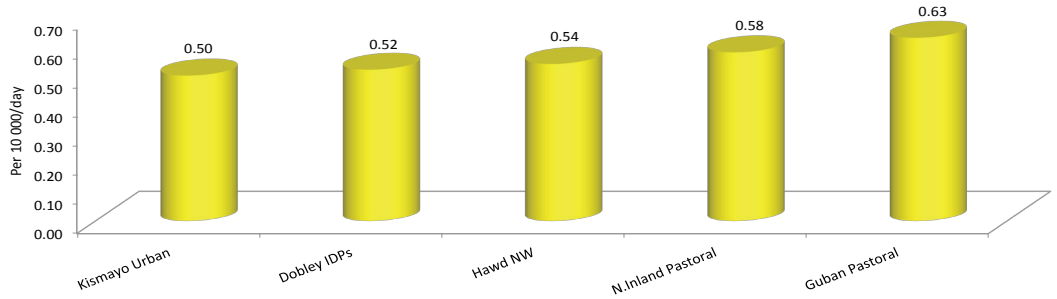
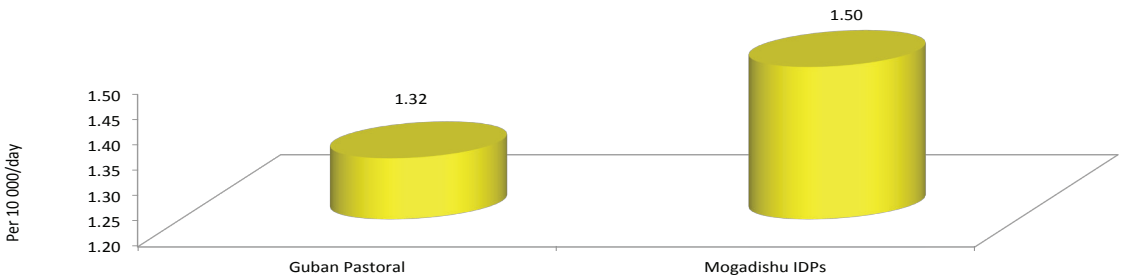


Figure 9: Livelihoods with Serious and Critical Under Five Death Rate



Morbidity

There was no major outbreak in communicable disease reported this period. However, morbidity incidences in two weeks prior to the assessments showed higher rates (>25%) in all IDPs. Dhobley and Garowe consistently reported morbidity exceeding 30 percent, while low morbidity (<10 %) were seen in Northwest. Morbidity rate and pattern among rural pastoral livelihoods tends to be the highest in Addun of Northeast (42.2%) while it is lowest in Bakool Pastoral (10.5%). It is estimated that acute malnutrition contributes to increased morbidity and

Deyr 2015 results showed no positive association between prevalence of GAM and prevalence of morbidity p>0.05). Median morbidity rates during the *Deyr* 2015 assessment varied from a low of 19.5 percent in North West region to high of 29.2 percent in North East and 25.5 percent in South Central Somalia.

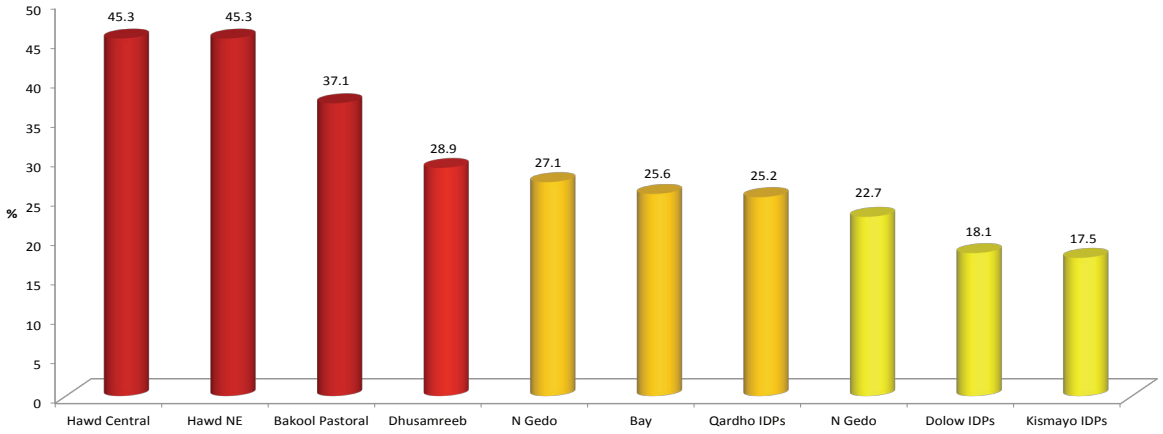
Immunization coverage

Immunization is an important public health intervention which protects children from illness. According to the *Deyr* 2015 results, all regions in Somalia reported low measles vaccination below the Sphere standards of 95 percent. Similarly, coverage for vitamin A supplementation was below the Sphere standards recommendation (> 95%), in all of surveyed livelihoods. It is worrying to know that that less than10 percent of children in livelihoods of Bay Agro pastorals received both Vitamin A supplementation and measles vaccination and this coverage has not improved since the 2014 *Deyr* assessment.

Prevalence of maternal malnutrition

It has been well documented that the nutrition status and well-being of a mother consequently has an impact on child nutritional well-being. *Deyr* 2015 results indicate prevalence of Very Critical levels (>31.5 %) of Maternal malnutrition among Hawd (45.3%),Bakool pastoral (37.1 %) and Critical levels observed among Dhusamareb IDPs (28.9%). North Gedo Riverine (27.1%), Bay Agropastroa (25.6%), Qardho IDPs (25.2%) as shown in (Figure 10). The result suggests that unless the current maternal malnutrition is addressed immediately the intergenerational cycle of poverty and growth failure will continue in Somalia.

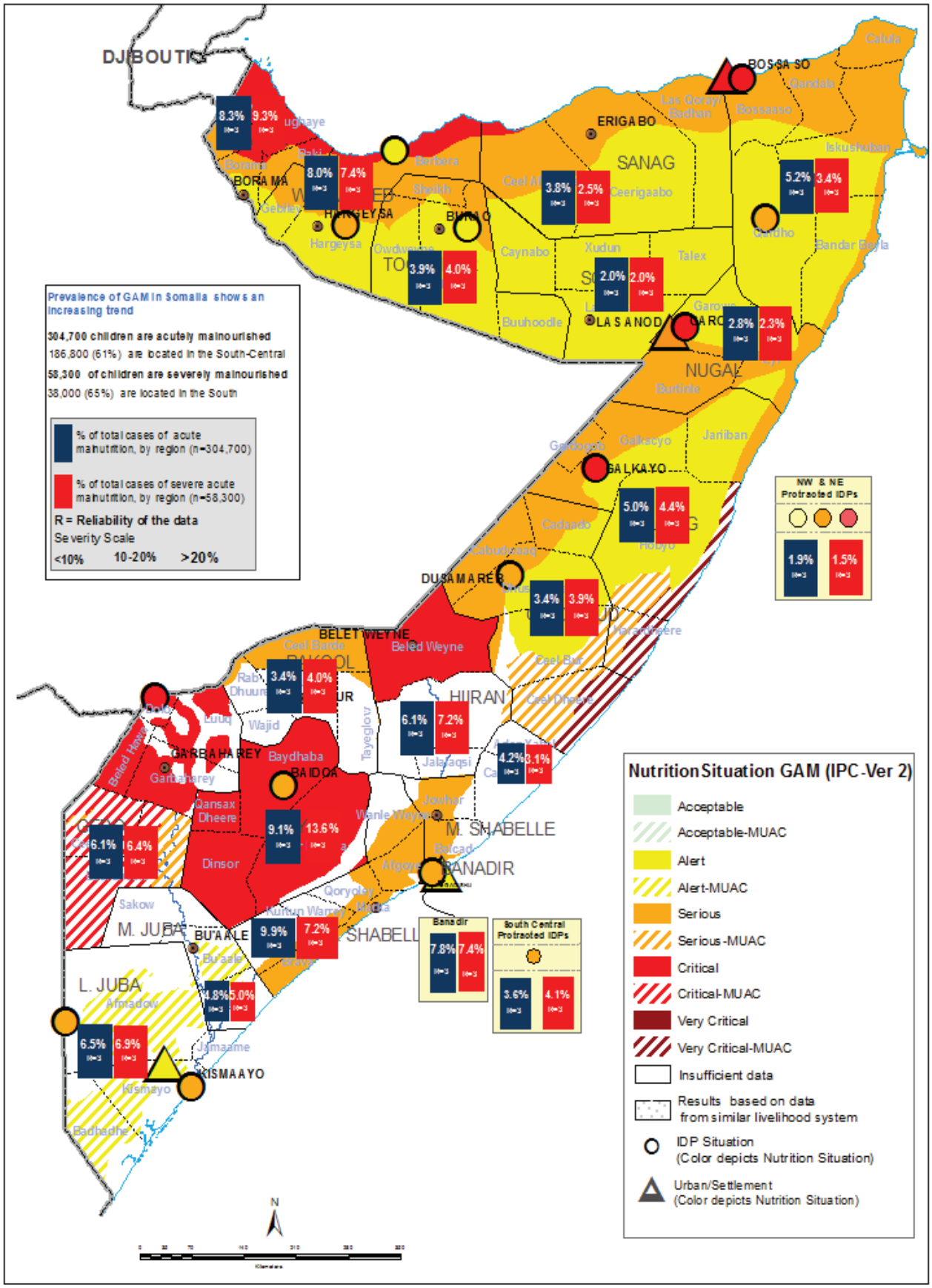
Figure 10: Livelihoods with Serious and Critical/Very Critical (>4 %) Maternal MUAC <11.5 cms



Number of acutely malnourished children in Somalia - January 2016

Map 4 shows the current caseloads for acute malnutrition based on prevalence. For population groups where representative nutrition survey data for the whole population forms the main reference, reliability of data is high and is ranked as 3 (according to IPC Version 2.0 the highest reliability score is 3 with the least being 1). But for the Juba Regions where it was not possible to collect nutrition survey data, the median rates for the surveys conducted in the *Deyr* 2015 were applied. Population figures from UNFPA 2014 (PESS Survey) settlement survey are used as the standard reference for Somalia. Map 4 shows the distribution of acutely malnuorished children based on GAM which indicates Lower Shabelle having the highest number of malnourished children compared to other regions of Somalia.

Map 4: Distribution of Propotion of Acutely Malnourished Children (<5 Years) in Somalia by Region Based on Prevalence (January 2016)



Based on Weight for Hieght Z-Scores the current (January 2016) number of acutely malnourished children under-five across Somalia is estimated at 304 700 including 58 300 cases of severe acute malnutrition (Table 1). These caseloads are calculated 'based on prevalence and fails to account for those children who develop acute malnutrition at another point in the year, when the survey is not being carried out.

Table 1: Zonal and IDP Distribution of Acute Malnourished children in Somalia (Based on Prevalence) Deyr 2015

Region	GAM WHZ<-2	% GAM	SAM WHZ<-3	% SAM
Northwest	74,750	24.5%	13,850	23.8%
Northeast	37,450	12.3%	5,600	9.6%
South Central	176,000	57.8%	35,650	61.1%
IDPs	16,500	5.4%	3,200	5.5%
Total Prevalence	**304 700**		**58 300**	

For operational, response, planning and programming purposes, the above acute prevalence estimates need to be translated into estimated acute malnutrition burden which depends on calculating a number of elements but primarily the prevalence, the incidence correction factor and the population.

Table 2 shows the regional breakdown for acute malnutrition. It can be observed that one third of the total number of children suffering from severe acute malnutrition come from three livelihoods: Lower Shabelle (7.2%), Bay (13.6%) and Awdal region (9.3%) of Somalia.

Regional distribution of caseloads show that South and Central of Somalia accounts for 58 percent of the GAM caseloads (2 out of every 3) and 61 percent of the SAM caseloads. Although mortality is still low, the critical GAM levels suggest treatment of SAM and MAM[2] cases must become more central to the healthcare agendas.

Table 2: Regional Distribution of Acutely Malnourished children in Somalia (Based on Prevalence) Deyr 2015

Region	GAM	SAM	GAM Proportion	SAM Proportion
Lower Shabelle	28,400	3,950	9.9%	7.2%
Bay	26,050	7,500	9.0%	13.6%
Awdal	24,000	5,100	8.3%	9.3%
Woqoyi Galbeed	23,000	4,100	8.0%	7.4%
Banadir	22,550	4,100	7.8%	7.4%
Lower Juba	18,700	3,800	6.5%	6.9%
Gedo	17,600	3,550	6.1%	6.4%
Hiran Region	17,500	3,950	6.1%	7.2%
BARI	15,000	1,900	5.2%	3.4%
Mudug	14,500	2,450	5.0%	4.4%
Middle Juba	13,700	2,750	4.8%	5.0%
Middle Shabelle	12,000	1,700	4.2%	3.1%
Togdheer	11,100	2,200	3.9%	4.0%
Sanaag	10,950	1,350	3.8%	2.5%
Bakool	9,800	2,200	3.4%	4.0%
Galgadud	9,700	2,150	3.4%	3.9%
Nugal	7,950	1,250	2.8%	2.3%
Sool	5,700	1,100	2.0%	2.0%

Deyr 2015 Hotspots

Population groups with GAM exceeding 15 percent or MUAC less than 12.5cm found in more than 10.7 percent of children are considered hotspots in need of urgent humanitarian response interventions. These are Dolow IDPs, Garowe IDPs, Bosaaso IDPs, Galkayo IDPs, Bari Urban, Guban Pastoral, North Gedo Pastoral, North Gedo Riverine, Hiran pastoral-Mataban District, Beletweyne district, Bay agro-pastoral, South Gedo pastoral and Coastal Deeh of Central Region.

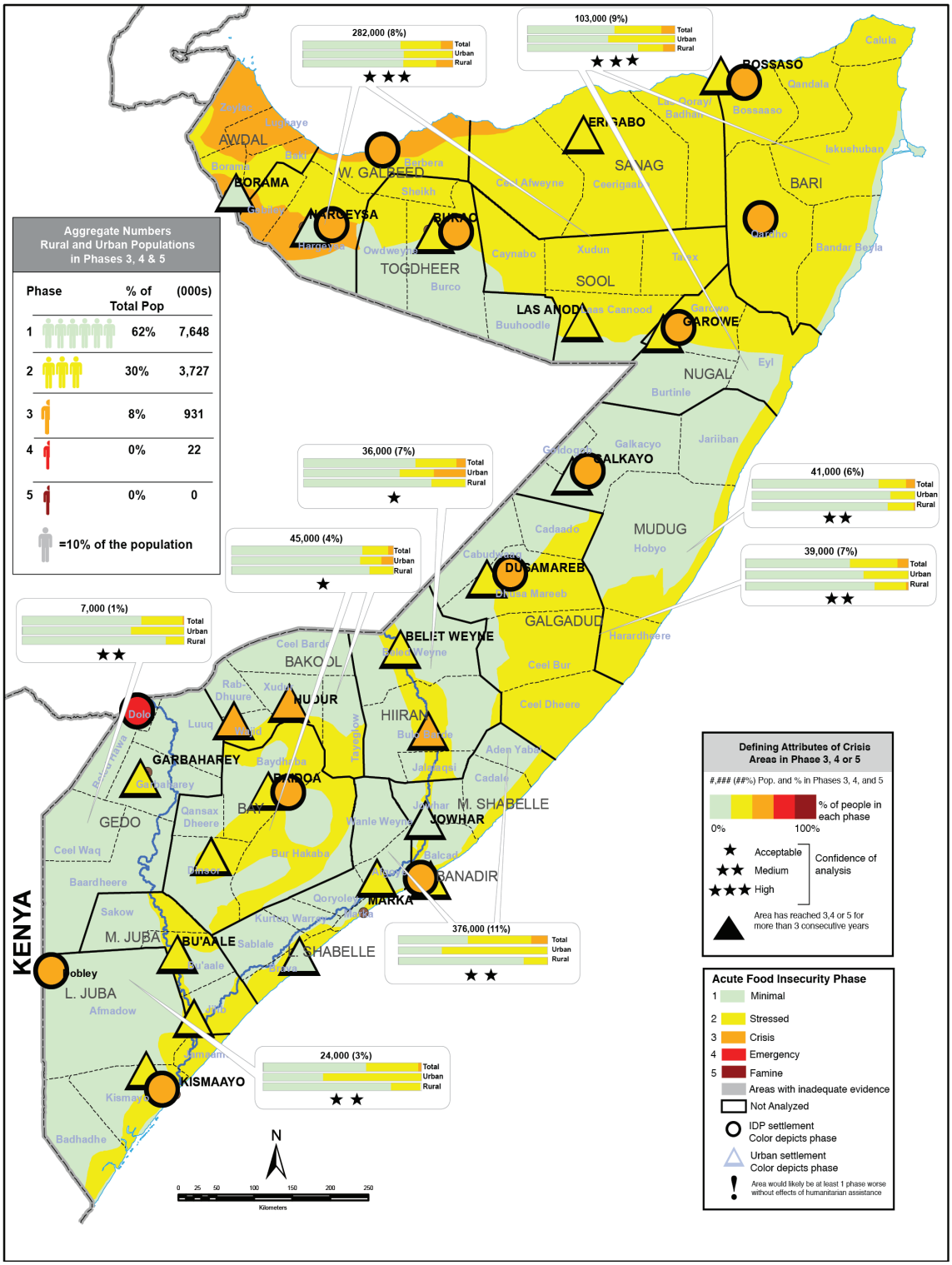
Food security outlook

Somalia faces large-scale food insecurity between now through June 2016 as a result of poor rainfall and drought conditions in several areas, trade disruption, a combination of protracted and new population displacement, all of which is exacerbated by chronic poverty.

2 Moderate Acute Malnutrition

The latest findings from the 2015 Post *Deyr* countrywide seasonal assessment by FSNAU and partners indicate that 931 000 people will be in Crisis (IPC Phase 3) and 22 000 people in Emergency (IPC Phase 4) across Somalia through June 2016. Internally displaced persons (IDPs) represent 68 percent of the total number of people in Crisis and Emergency, rural populations (26 percent) and urban populations (6 percent). Approximately 3.7 million additional people across the country are classified as Stressed (IPC Phase 2) through mid-2016. In total, nearly 4.7 million people or 38 percent of the total population of Somalia are acutely food insecure and will be in need of humanitarian assistance through mid 2016.

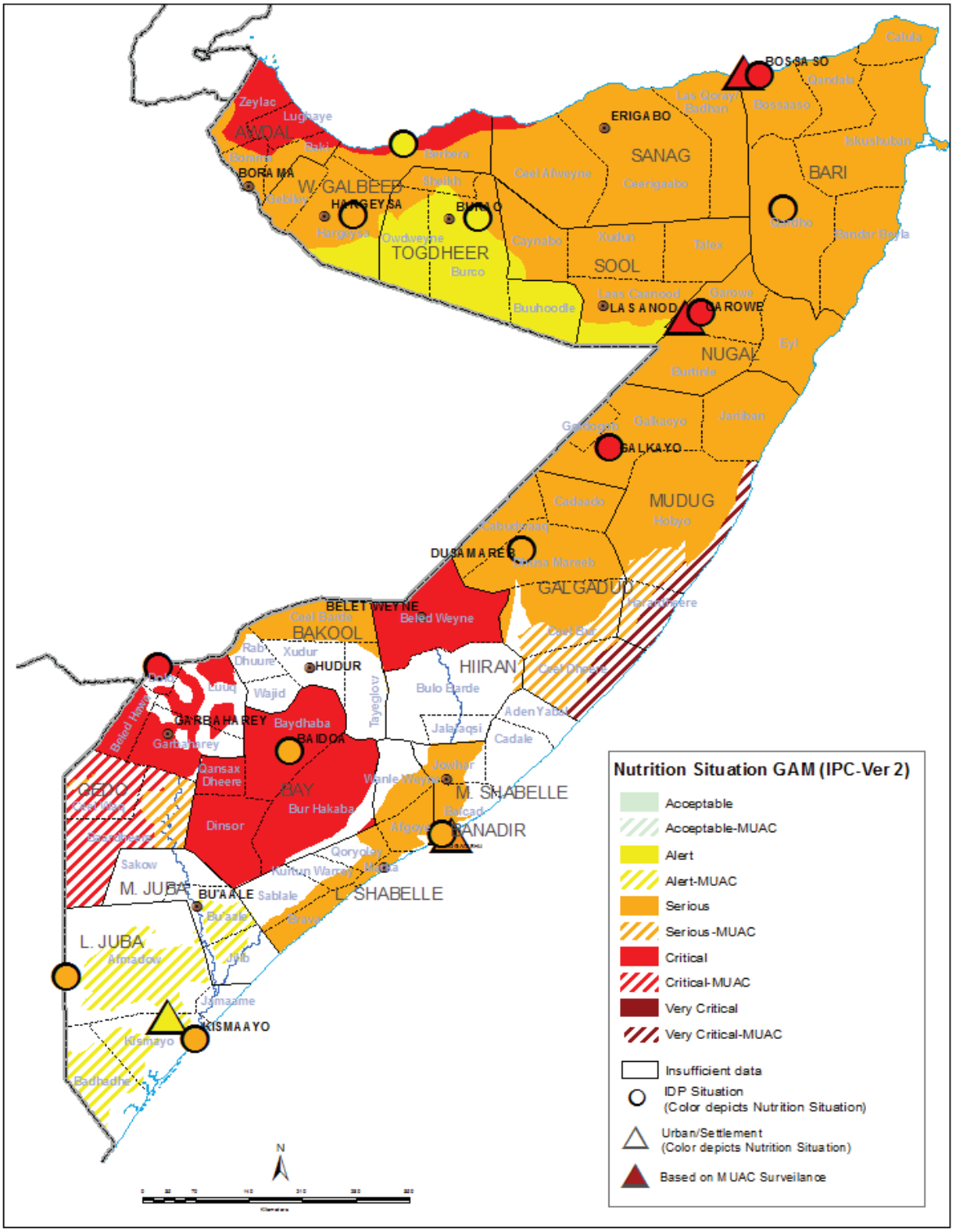
Map 5: Somalia Food Security Situation, Most Likely Scenario February - June 2016



Nutritional Outlook (February - April 2016)

The nutrition situation in the drought affected areas of Northwest agro-pastoral and Northern Inland Pastoral livelihoods (NIP) is expected to deteriorate to serious levels of acute malnutrition (10-14.9%) through the Jilaal period and until the next *Gu* rains are fully established in April (Map 6). Deterioration of the current nutrition situation is also expected in Addun Livelihood. Map 7 shows the projected (most likely) nutrition situation between February to April 2016.

Map 6: Nutrition Situation Outlook (February – April 2016)



Conclusion and recommendation

An estimated 304 700 children under the age of five are acutely malnourished, including 58 300 who are severely malnourished and face a high risk of morbidity and death. Regional distribution of these figures show that South and Central Somalia account for 58 percent of the total number of acutely malnourished children (GAM) [2 out of every 3] and 61 percent of the SAM caseloads. Although mortality rates in Somalia are Low, the sustained High GAM prevalence suggest the critical need for scaling up multi-sectoral efforts to address the underlying causes of malnutrition, supported by robust and continued humanitarian action.

With Critical[3] rates of acute malnutrition, the following livelihood zones and population groups are considered as priorities for nutrition programming: North Gedo Pastoral, North Gedo Riverine, Hiran Pastoral–Mataban District, Beletweyne District, Bay agro-pastoral, South Gedo pastoral, Coastal Deeh in Central and Dolow IDPs are prioritized from the South Central Region. Guban Pastoral in Northwest region, Bari urban, Garowe IDPs, Bosaaso IDPs and Galkayo IDPs will need to be prioritized from Northeast region. Current efforts underway to treat malnutrition must be intensified, but bringing sustainable reductions in child malnutrition requires an integrated package of measures that tackle both the causes and effects of malnutrition, supported by strong political and institutional support:

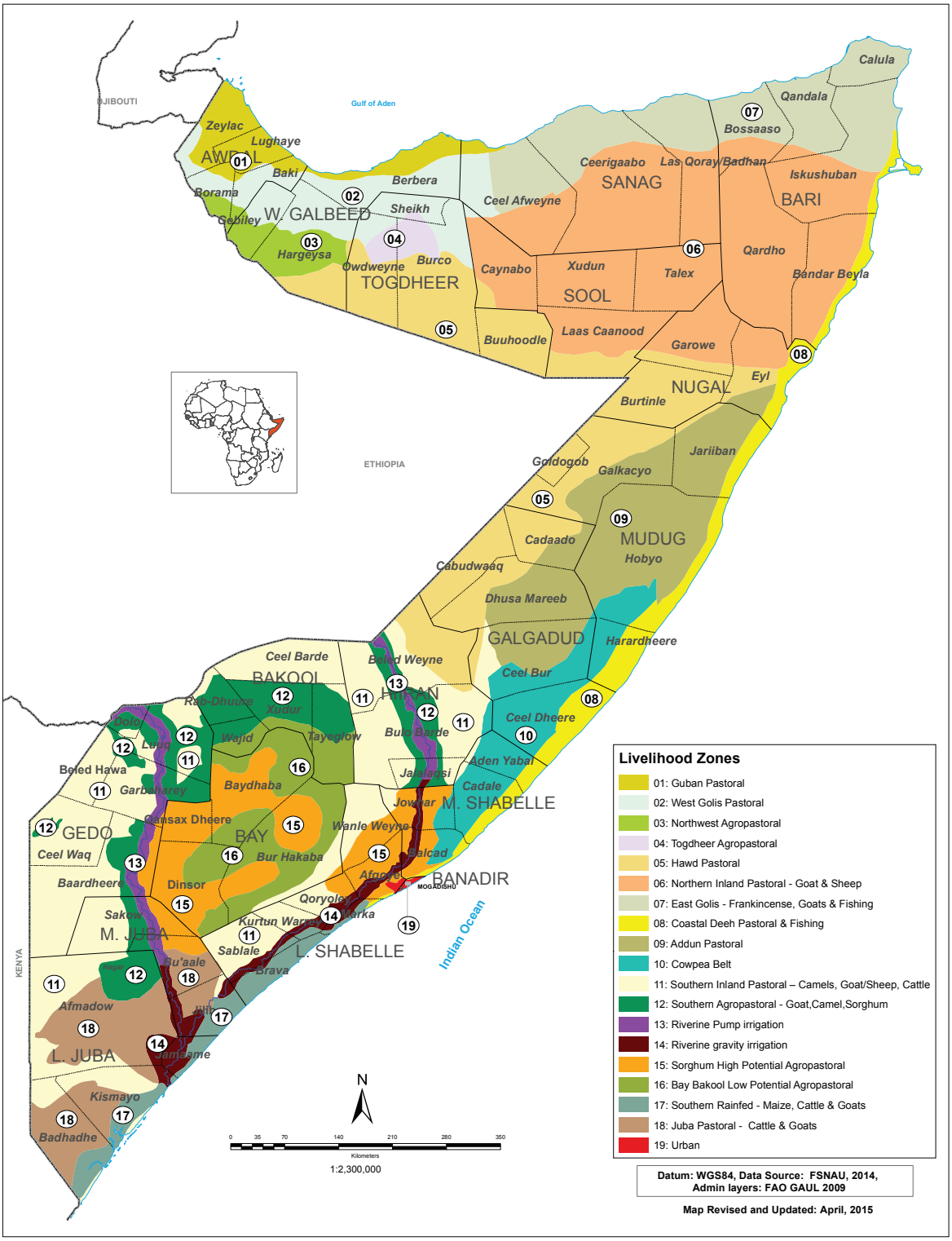
- Rehabilitation of acutely malnourished children through comprehensive and integrated emergency nutrition programming should be prioritized
- There is a need to continue targeting other vulnerable group such as pregnant & lactating mothers to curb intergenerational malnutrition through lifecycle approach
- Critical levels of acute malnutrition tend to persist in a number of population groups and this calls for both in-depth research to identify underlying causes as well as critically review the effectiveness of current intervention modalities in addressing such causes
- Address sustained high level of malnutrition through integrated multi-sectoral (WASH, Health and food security) interventions, including Scaling Up Nutrition (SUN)
- Establish/expand safety net programmes and other social protection programs
- Although GAM rates among Mogadishu IDPs are relatively lower (10-14.9% GAM or Serious), they deserve particular attention as they account for 51 percent of the total number of acutely malnourished IDP children under-five.
- Urgent lifesaving humanitarian assistance and livelihood support is required for populations in Emergency and Crisis (IPC Phases 4 and 3) through June 2016. Populations experiencing acute food security Stress (IPC Phase 2) remain highly vulnerable to shocks that could push them to Crisis or Emergency (IPC Phases 3 or 4). They should be supported in order to protect their livelihoods and boost their resilience to shocks.

3 Nutrition Situation is considered as Critical if Global Acute Malnutrition (GAM) prevalence is 15% or higher or if 10.7% or more of children have Mid-Upper Arm Circumference (MUAC) below the 125 millimeters (mm) threshold.

4: REGIONAL NUTRITION ASSESSMENT FINDINGS

FSNAU conducted 40 nutrition surveys and assessed the nutritional status of 27 455 children(6-59 months) drawn across different livelihood zones in Somalia (18 in the South, 5 in central, 10 in Northeast and 8 in Northwest). Out of the total, 20 nutrition surveys were conducted among rural populations, 6 among urban populations and 13 among IDPs. The samples for all nutritional assessments were designed and conducted on the basis of combination of regional boundaries and livelihood zones (Map 7).

Map 7: Somalia Livelihood Zones



4.1: NORTHWEST REGIONS

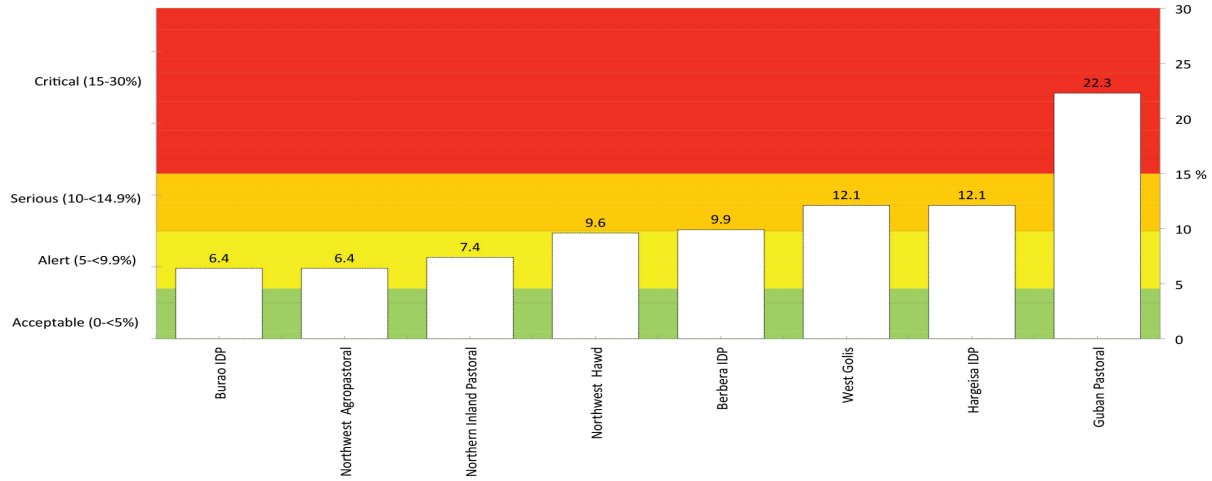
During *Deyr* 2015 seasonal assessment, FSNAU together with Somaliland ministry partners conducted seven comprehensive assessments in Northwest region of Somalia (3 IDPs and 4 rural livelihoods). A total of 3 508 children (6-59 months) and 745 pregnant and lactating women from 2 340 households were surveyed. A summary of the *Deyr* 2015 results is provided and discussed below:

Acute Malnutrition prevalence

The survey findings from the *Deyr* 15 assessment in Northwest region are summarized in Figure 11 below.

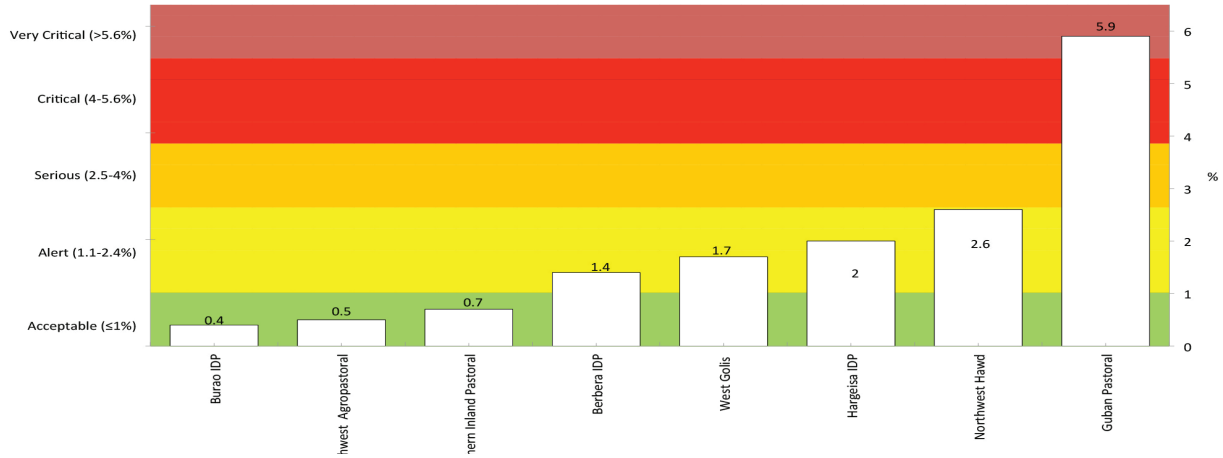
According to the *Deyr* 15 findings, 5 (71%) of the 7 livelihoods assessed, recorded Alert prevalence of GAM. These were Burao IDPs **(**6.4%) Northwest Agro-pastoral (6.4**%)**, Northern Inland Pastoral (8.0%), Northwest Hawd (9.6 %) and Berbera IDPs (9.9%). Serious prevalence was reported among Hargeisa IDPs (12.1**%)** and in West Golis livelihood (13.7**%)**. Critical GAM prevalence was observed in Guban assessment (Refer to Special report on Guban released in October 2015). Apart from the Guban pastoral assessment, findings from these assessments reported prevalence rates below the WHO critical thresholds for GAM (15%) and SAM (4%) used to declare nutritional emergency.

Figure 11: Prevalence of GAM in Northwest Region, *Deyr* 2015



Low prevalence of severe acute malnutrition (< 4%) was reported in the 7 assessments (Figure 12). -*9*s Severe Acute Malnutrition prevalence of 2.6 percent was reported among the pastorals of Northwest Hawd whereas Alert levels were recorded in 3 assessments; West Golis (1.7%) and among the internally displaced populations in Hargeisa (2.0 %) and Berbera (1.4%). Acceptable levels of SAM were observed in the remaining livelihoods; NIP (0.7 %), Northwest Agro Pastoral (0.5%) and Burao IDP (0.4 %). Severe acutely malnourished children are at increased risk of morbidity and mortality and therefore require immediate rehabilitation.

Figure 12: Prevalence of SAM in Northwest Region, *Deyr* 2015



Key highlights

West Golis: In the *Deyr* 2015 assessment, GAM of 13.7 percent and SAM of 1.7 percent were recorded indicating Serious and Alert levels respectively. Season-on-season comparison with *Deyr* 2014 indicate, statistically significant (p=0.0164) deterioration in nutrition situation, from Alert (8.0%) to Serious (13.7%). A myriad of factors may be attributed to this change; including, nearly three fold (62.1%) increase in morbidity incidences compared to 12 months ago (from 14.5% to 38.3%), declining EPI coverage and significantly low milk availability at the household level due to lack of water and pasture for livestock following the drought conditions. SAM prevalence has also more than doubled (2.4) over the same period, further indicating rapidly deteriorating situation. However, in the past six months, GAM prevalence has been sustained in Serious phase while SAM has slightly improved from Serious (2.5%) to Alert (1.7%). Further analysis by age-group indicate older children (above 53 months) were significantly at increased risk of malnutrition (GAM-21.5%) compared to their younger counterparts (<29 months-GAM 11.6%). This pattern is commonly observed during seasons of acute food insecurity when the likelihood of younger children being fed more frequently than their older counterparts is common place. Also analysis by sex indicates boys (GAM-17.7%) are nearly twice likely to be acutely malnourished than girls (GAM-9.9%) and 3.5 times at higher risk of severe acute malnutrition.

- **Northwest Agro-pastoral**: Alert GAM prevalence of 6.4 per cent with Acceptable SAM prevalence of 0.5 percent was recorded during *Deyr* 2015 assessment. This represents a deterioration aand a phase change compared to *Deyr* 2014 when Acceptable GAM (4.8%) was reported. This change is mainly linked to acute food insecurity resulting from the consecutive drought-like situation reported in this region due to failed 2015 *Gu* and *Deyr* rains. Whereas in the last six months, a sustained Alert nutrition situation has been recorded.

- **Northwest Hawd**: In this assessment, GAM prevalence of 9.6 percent and SAM of 2.6 were reported, indicating Alert and Serious levels respectively. In comparison to same season last year, when GAM prevalence of 8.1 percent was reported, Alert phase has been sustained. However, severe acute malnutrition has more than doubled over the same period indicating a statistically significant deterioration (p<0.05).

- **Hargeisa IDP**: During the *Deyr* 2015 assessment, Hargeisa IDPs recorded Serious levels of GAM prevalence - 12.1 percent with Alert levels of SAM (2.0%). Serious nutrition situation has been sustained since *Deyr* 2014 (Serious GAM of 11.1%). Same phase was reported in 2015 *Gu* (10.5% GAM). Serious nutrition situation is typical for the displaced populations in Hargeisa, who are mainly protracted IDPs. Given that these IDPs are mainly dependent on wage labour; their household food security is adversely affected by high and fluctuating food prices. However, vulnerable groups such as children ubder five and the pregnant and lactating mothers intermittently benefit from interventions targeted at the IDPs.

- **Berbera IDP:** In *Deyr* 2015, Berbera IDPs settlement recorded Alert nutrition situation for both GAM (9.9%) and SAM (1.4%). The Alert levels have been sustained in the last 12 months, a situation vitally linked to the continued humanitarian support targeting the displaced population in this settlement, notably Maternal Child Health and Nutrition (MCHN) programmes.

- **Burao IDP:** *Deyr* 2015 nutrition assessment among Burao IDPs recorded Alert levels of GAM (6.4%) and Acceptable SAM prevalence (0.4%). This shows sustained Alert phase in the last 12 months. SAM has also remained stable in the past twelve months.

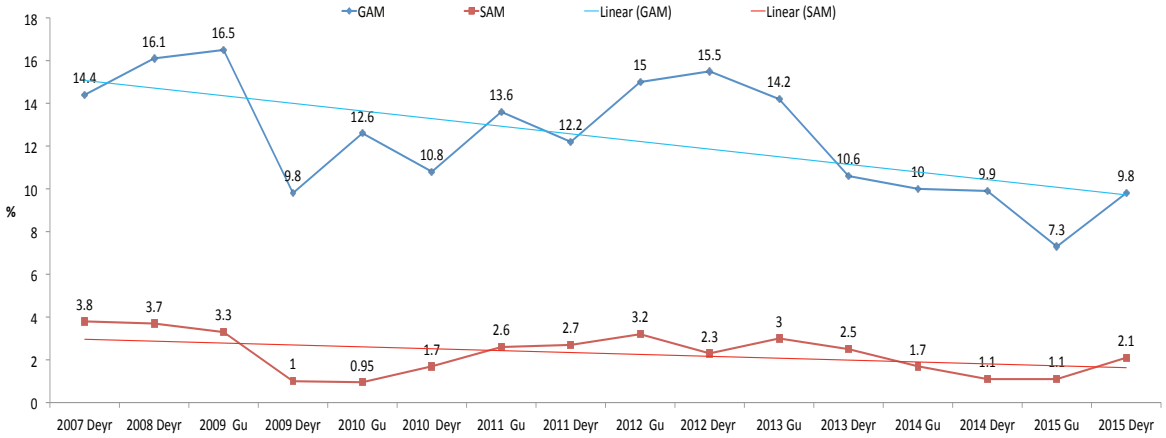
- **Northern Inland Pastoral (NIP):** Recorded Alert levels of GAM (8.0%) and Acceptable levels of SAM (0.7%). This is a predominantly pastoral community and therefore milk availability at the household level significantly contribute to the nutritional well-being of children. Milk production in the region has declined due to poor rainfall performance. However, the nutrition situation is likely to deteriorate during the dry Jilaal season when the impact of poor rainfall and drought deepen.

Trends in Acute Malnutrition

Season-on-season trends of acute malnutrition as illustrated in Figure 13 suggest stable and improving trends compared to the previous *Deyr* seasons. In the last eight seasons, the prevalence of acute malnutrition reported in *Deyr* 2015 (9.8%) ranks as the second lowest median estimate in recent years. This is evidence of the improving nutrition situation in Northwest zone. However, the changes observed in the last six months indicate a slight

deterioration. This trend is mainly attributed to the impact of drought; mainly the Agro-pastoral and Northern Inland Pastoral (NIP) livelihoods. As a result, milk availability declined and thus affected nutrition of the predominantly pastoral population who are highly dependent on milk. Prevalence of severe acute malnutrition has also shown deteriorating trends compared to *Deyr* 2014 as well as *Gu* 2015 illustrating the impact of reduced milk availability due to drought in parts of Northwest zone.

Figure 13: Trends in Acute Malnutrition in Northwest Region



Stunting prevalence

Stunting has been used as an indicator of poverty and also to monitor progress made towards health related Millennium Development Goals. Although in other parts of the world it has successfully served this role, the same may not be said about Somalia. Like many other predominantly pastoral communities in the region, chronic malnutrition, expressed through stunting, is significantly low and therefore not a public health concern. According to the *Deyr* 2015 findings, stunting prevalence reported rates below 10 percent**.** The median stunting rate for Northwest region is estimated at 2.5 percent with the highest prevalence reported in Guban pastoral assessment (6.5%)**.**

Underweight prevalence

As a composite indicator, the prevalence of underweight among under-fives is used as one of the two hunger related indicators for tracking progress towards health related millennium development goals. Northwest 2015 *Deyr* assessments results indicate low prevalence of underweight in the seven livelihoods surveyed in Northwest including IDPs. A median rate of 4.0 percent was reported with the highest underweight prevalence reported in the Guban pastoral (15.7%).

Mortality

Retrospective mortality as per *Deyr* 2015 survey findings from the seven assessments recorded Acceptable levels for both CDR (≤0.5/10 000) and U5DR (≤ 1/ 10 000). This indicates a stable public health and civil security situation in the Northwest region. These stable trends have been reported in nine consecutive mortality assessments conducted across Northwest zone.

Morbidity

Overall morbidity in the assessed livelihoods of Northwest region have reported relatively stable incidence rates with a median rate of 13.4 percent. This shows just one in eight of the children assessed reported some form of illness in the two week period prior to the assessments. The highest morbidity burden was reported in West Golis (38.3%), followed by NIP (23.6%), Northwest Hawd (13.8%), Northwest AP (13.4%), Hargeisa IDP (6.5%), Berbera IDP (6.5%) and Burao IDP (2.9%). Of the assessed common childhood illnesses, fever (7.3%) and diarrhoea (6.1%) reported highest prevalence in the 14 day recall period. Pneumonia and suspected measles reported median of 3.0 and 0.9 per cent respectively.

Immunization coverage

According to the *Deyr* 2015 findings, other than polio vaccination, the coverage of the other health programmes including Vitamin A supplementation and Measles vaccination in the assessed livelihoods were below the recommended SPHERE standards of 95%. Although in majority of the assessed livelihoods, the findings are indicating improving coverage for Vitamin A supplementation and measles vaccination, the need to enhance and expand coverage for health programmes still remains of high importance. Of concern is low immunization coverage in IDPs, particularly Berbera IDPs (Vit A-28.6%, Measles Vaccination-36%), nearly 2 in 3 under-five children have not received these vital vaccinations and supplementations to control the dreadful yet preventable common childhood diseases.

Maternal malnutrition

Nutritional status of pregnant and lactating women was assessed in both the IDP and rural livelihoods through Middle Upper Arm Circumference (MUAC). Low prevalence of maternal malnutrition in Northwest region is illustrated by a paltry 3.4 percent median rate for pregnant and lactating mothers with MUAC < 23 cm. Highest prevalence was reported in Northwest AP (12.7%), followed by Hargeisa (5.7%), NIP (5.3%), Northwest Hawd (3.4%), and West Golis (3.0%). A stable trend has been observed in the last 12 months in all the seven livelihoods that were assessed.

Dietary diversification

Household dietary diversity was measured as proportion of households consuming more than four food groups. The findings indicate majority of households in the region are having diversified diets with no significant change compared to *Deyr* 2014 and *Gu* 2015. Milk is a staple food in majority of these livelihoods and appears to play an important role in their diets. Studies have consistently shown seasonal improvement in nutrition wellbeing of children in periods when milk availability is improved.

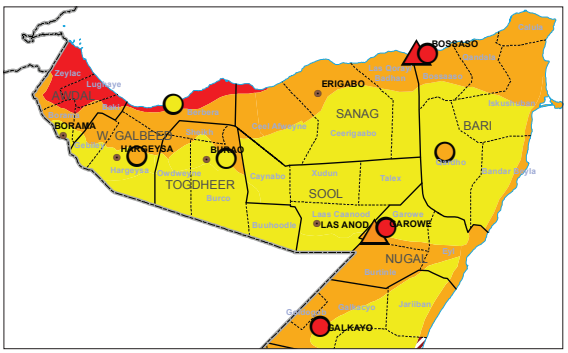
Current food security situation (January 2016)

The food security situation remained stable in most livelihoods of the Northwest regions compared to post *Gu* 2015 (August- December 2015) with the exception of Northern Inland pastoral (NIP) and Northwest Agro pastoral livelihoods, where it has deteriorated. In January 2016, East Golis, NIP and Togdheer Agro pastoral livelihoods were classified as Stressed (IPC Phase 2); Hawd and West Golis remain as Minimal (IPC Phase 1). uban pastoral and Northwest Agro pastoral remain in Crisis (IPC Phase 3); [Map 8, Tables 3,5 and 5]. Compared to the post *Gu* 2015, the estimated number of rural population in Stressed (IPC Phase 2) increased slightly (19%) to 341 000 people in January 2016 from 287 000 people in post *Gu* 2015. The total population in Crisis (IPC Phase 3) has increased significantly (175%) in the same period (from 60 000 to 165 000 people). This increase of population in Crisis mainly comes from- Northwest Agro-pastoral and NIP, mostly due to reduced income and food sources from own production such as crop, Livestock and frankincense market disruption in East Golis (Yemen Conflict).

Current nutrition situation (January 2016)

The map below shows the current nutrition situation for *Deyr* 2015. The nutrition situation among the IDP livelihoods in Northwest region has for the last twelve months (since *Deyr* 2014) been sustained in Serious phase among Hargeisa IDPs and Alert among Burao and Berbera IDPs. West Golis changed from Alert to Serious while sustained Alert nutrition situation was reported among Northwest Agro pastorals. Both Northwest Hawd and the newly created livelihood of NIP reported Alert nutrition situation.

Map 8 : Northwest Nutrition Situation (Jan 2016)

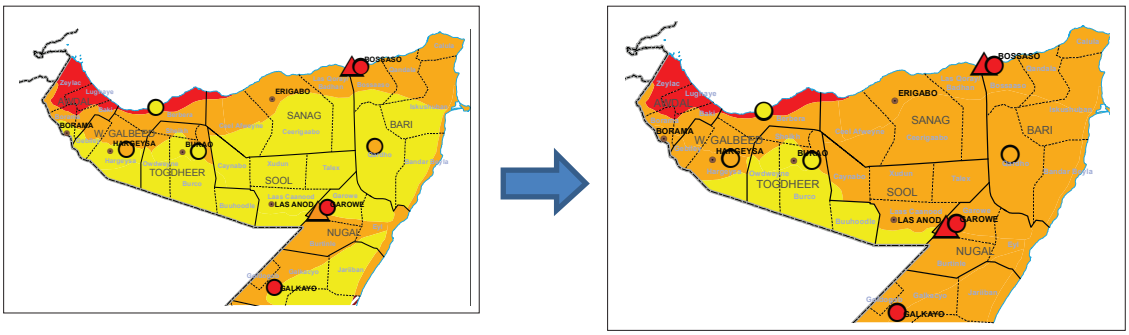


Nutrition Outlook (February to April 2016)

The impact of the drought is likely to continue to be felt in parts of Northwest Agro pastoral, West Golis and Guban pastoral. The drought situation is characterized by limited water availability for livestock which has a direct impact on milk availability at household level and also likely to result in increased milk prices in the markets. Also the poor crop production in *Deyr* 2015 is likely to drive up local food prices further affecting food access at household level. Milk consumption plays a major role in nutrition well-being of the pastoral population. Part of coping mechanisms employed by pastoral population during drought, is livestock migration to the Hawd region. As result, the nutrition situation is likely to deteriorate further from *Alert* to *Serious* among Northwest Agro pastoral and sustained *Serious* and *Critical* nutrition situation in West Golis and Guban pastoral respectively. NIP livelihood is other area likely to deteriorate due poor milk availability resulting from deteriorated pastures and water conditions for livestock during the Jilaal season (January to March). Sustained nutrition situation is expected in all IDP settlements.

Figure 14: Current Nutrition Situation and Outlook for February to April 2016 in Northwest regions

Current Nutrition Situation - Jan 2016 **Projected Nutrition Situation - Feb-Apr 2016**



In Northwest regions, acute malnutrition remains a seasonal health problem with fluctuations observed between *Gu* and *Deyr* aggravated further in 2015 by drought impact. Therefore intervention programs should aim at strategically positioning help during lean seasons in order to maximize the benefit of the intervention programmes. Meanwhile, emergency programmes aimed at treating acutely malnourished children should pay particular attention to children below 24 months. Studies have shown that targeting children in this agegroup offers the greatest window of opportunity, when maximum benefit of correcting malnutrition and enhancing child health and survival can be obtained. Efforts to fight the scourge of acute malnutrition among children in Northwest should include both short and long term programs, including scaling up treatment of acute malnutrition, enhancing primary healthcare programs such as EPI and programs that promote IYCN practices. To prevent intergenerational effects of malnutrition, programs aimed at supporting pregnant and lactating mothers should be strengthened and access ensured at the community level.

Table 3: Summary of Key Nutrition Findings: Northwest IDPs Livelihoods *Deyr* 2015

	Hargeisa IDPs		**Berbera IDPs**		**Burao IDPs**	
	Clusters: 30		**Clusters :30**		**Clusters: 30**	
	(n=461; Boys=235; Girls=226)		**(n=423:Boys208=;Girls=215)**		**(n;451 Boys=224; Girls=227)**	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	12.1(8.9-16.4) 16.(11.7-21.9) 8.0(5.0-12.5)	Sustained	9.9(6.7-14.4) 11.1 (7.1-16.9) 8.8(4.3-17.3)	Sustained	6.4(3.7-10.9) 7.6(3.9-14.3) 5.3(2.7-10.0)	Sustained

	Hargeisa IDPs		Berbera IDPs		Burao IDPs	
	Clusters: 30 (n=461; Boys=235; Girls=226)		Clusters :30 (n=423:Boys208=;Girls=215)		Clusters: 30 (n;451 Boys=224; Girls=227)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.0 (1.0- 3.8)	Sustained	1.4 (0.6- 3.5)	Sustained	0.4(0.1- 1.7)	Sustained
Boys	3.4(1.6- 7.0)		1.4(0.5- 4.3)		0.9(0.2- 3.5)	
Girls	0.4(0.1- 3.3)		1.4 (0.4- 4.4)		0.0(0.0- 0.0)	
Mean of Weight for Height Z Scores	-0.66±1.10		-0.67±1.02		-0.11±1.19	
Oedema	0.2		0.0		0.0	
Proportion with MUAC<12.5 cm or oedema)	3.4(2.0- 5.6)	Sustained	1.9(0.9- 3.8)	Sustained	0.9(0.3- 2.3)	Sustained
Boys	2.9(1.2- 6.9)		1.4(0.3- 6.0)		1.3(0.4- 4.1)	
Girls	3.9(1.8- 8.0)		2.3 (1.0- 5.2)		0.4(0.1- 3.5)	
Proportion with MUAC<11.5 cm or oedema	0.8 (0.3- 2.2)	Sustained	0.0(0.0- 0.0)	Sustained	0.0(0.0- 0.0)	Improved
Boys	0.4(0.1- 3.2)		0.0(0.0- 0.0)		0.0(0.0- 0.0)	
Girls	1.3(0.4- 3.8)		0.0(0.0- 0.0)		0.0(0.0- 0.0)	
Stunting (HAZ<-2)	5.0 (3.1- 7.8)	Sustained	2.3 (1.0- 5.5)	Sustained	1.8(0.6- 4.8)	Sustained
Boys	5.5(3.3- 9.0)		4.2(1.6-10.5)		3.1(1.2- 7.9)	
Girls	4.4(1.8-10.4)		0.5 (0.1- 3.6)		0.4(0.1- 3.4)	
Severe Stunting (HAZ<-3)	2.2 (1.1- 4.4)	Sustained	0.7(0.2- 3.2)	Sustained	0.0(0.0- 0.0)	Sustained
Boys	1.3(0.4- 4.0)		1.4 (0.3- 6.3)		0.0(0.0- 0.0)	
Girls	3.1 (1.2- 7.7)		0.0 (0.0- 0.0)		0.0(0.0- 0.0)	
Underweight (WAZ<-2)	9.0 (6.6-12.2)	Sustained	7.5 (5.0-11.0)	Sustained	2.7 (1.4- 5.1)	Sustained
Boys	11.4 (7.9-16.2)		9.9 (6.4-14.9)		4.0(2.0- 8.0)	
Girls	6.5(3.9-10.8)		5.1(2.7- 9.5)		1.3(0.3- 5.8)	
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.14(0.04-0.44)	Sustained	0.40(0.20-0.79)	Sustained	0.15(0.05-0.46)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.47(0.12-1.87)	Sustained	0.46(0.06-3.47)	Sustained	0.23(0.03-1.73)	Sustained
Morbidity Rates						
Morbidity	10.8 (6.1-15.6)	Sustained	6.4(3.4-9.5)	Sustained	2.9(1.3-4.4)	Sustained
Boys	13.0(6.5-19.4)		7.4(3.2-11.7)		4.0(1.6-6.4)	
Girls	8.6(3.8-13.4)		5.5(2.3-8.8)		1.8(0.0-3.9)	
Diarrhoea	6.0(2.9-10.6)	Sustained	3.7(1.4-6.0)	Sustained	1.8(0.5-3.1)	Sustained
Boys	6.7(1.7--11.7)		3.7(0.1-7.4)		2.7(0.6-4.7)	
Girls	5.2(1.1-9.2)		3.7(1.0-6.3)		0.9(0.0-2.1)	
Pneumonia	4.7(2.2-7.2)	Sustained	2.1(0.4-3.8)	Sustained	0.4(0.0-1.3)	Sustained
Boys	5.0(1.9-8.2)		2.3(0.3-4.3)		0.4(0.0-1.3)	
Girls	4.3(1.3-7.4)		1.8(0.0-3.6)		0.4(0.0-1.3)	
Fever	4.7(2.4-7.0)	Sustained	3.0(0.8-5.2)	Sustained	1.3(0.0-2.6)	Sustained
Boys	5.4(2.2-8.6)		3.7(0.9-6.6)		1.3(0.0-2.8)	
Girls	3.9(1.1-6.6)		2.3(0.0-4.7)		1.3(0.0-3.3)	
Measles	1.1(0.0-2.5)	Sustained	0	Sustained	0.9(0.0-2.0)	Sustained
Boys	1.7(0.0-4.3)		0		1.3(0.0-2.9)	
Girls	0.4 (0.0-1.3)		0		0.4(0.0-2.7)	

	Hargeisa IDPs		Berbera IDPs		Burao IDPs	
	Clusters: 30 (n=461; Boys=235; Girls=226)		Clusters :30 (n=423:Boys208=;Girls=215)		Clusters: 30 (n;451 Boys=224; Girls=227)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Vitamin A Supplementation	59.4(47.2-71.7)		28.6(17.6-39.6)		70.5(59.3-81.7)	
Boys	61.9(49.2-74.7)	Sustained	29.4(16.9-41.8)	Improved	70.8(58.8-82.8)	Sustained
Girls	57.0(43.4-70.4)		28.1(46.5-73.7)		70.2(58.5-81.9)	
Measles Vaccination	59.4(48.0-70.9)		36.0(23.9-48.2)		75.6(69.1-82.0)	
Boys	62.8(51.3-74.2)	Sustained	36.7(25.5-48.0)	Improved	76.5(69.0-84.1)	Sustained
Girls	56.0(43.2-68.9)		35.3(20.9-49.4)		74.6(66.5-82.6)	
Polio Immunization	96.7 (94.2-99.0)		94.5(92.1-96.8)		91.2(87.1-95.3)	
Boys	97.1(94.8-99.3)	Sustained	93.5(90.4-96.5)	Improved	92.9(89.0-96.8)	Sustained
Girls	96.1(92.7-99.5)		95.4(92.1-98.7)		89.5(84.2-94.8)	
Women Nutrition and Immunization Status						
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0	Sustained	0	Improved	0	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	5.7(4.4-7.2)	Improved	0	Improved	0	Sustained
Education levels of Mothers						
None	77.8(69.5-86.0)		76.9(68.4-85.5)		76.1(64.5-87.7)	
Primary/Intermediary	16.9(9.8-23.9)		17.9(11.1-24.8)		12.7(6.0-19.4)	
Secondary	2.3(0.1-4.5)		2.3(0.2-4.4)		6.3(2.2-10.5)	
Tertiary/College	3.1(0.0-7.3)		2.8(0.0-6.2)		4.9(0.0-9.9)	
Proportion of Women who received Tetanus immunization						
No dose	8.4 (3.4-13.4)		20.5(11.8-29.2)	Improved	27.9(13.4-42.4)	Sustained
One dose	6.1 (2.0-10.3)		10.0(4.6-15.3)		8.7(4.1-13.2)	
Two doses	10.3 (7.8-12.9)		15.7(9.7-21.6)		49.0(36.4-61.7)	
Three doses	75.1 (67.1-83.1)		53.8(41.5-66.2)		14.4(8.5-20.4)	
Household with access to sanitation facilities	96.5(91.9-100.0)	Improved	97.4(94.3-100)	Improved	100	Sustained
Household with access to safe water	100	Sustained	100	Improved	100	Improved
Household's Main Food Source- Purchase	100	Sustained	100	Sustained	100.0	Sustained
Mean CSI	32.1	Deteriorated	35.6	Sustained	27.3	Sustained
OVERALL NUTRITION SITUATION	**Serious**		**Alert**		**Alert**	

Table 4: Summary of Key Nutrition Findings: Northwest Rural Livelihoods *Deyr 2015*				
	Northwest Agro-Pastoral LZ		**West Golis Pastoral LZ**	
	Clusters:28		**Clusters:28**	
	n= 439 (Boys=213; Girls=226)		**n=468 (Boys=226; Girls=242)**	
Indicator	**% (CI)**	Change from *Gu 2015*	**% (CI)**	Change from *Gu 2015*
Global Acute Malnutrition (WHZ<-2 or oedema)	6.4(3.8-10.4)	Sustained	13.7 (10.4-17.8)	Sustained
Boys	7.0(3.5-13.6)		17.7(12.4-24.5)	
Girls	5.8(2.9-11.1)		9.9(6.7-14.4)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	0.5(0.1- 1.9)	Sustained	1.7(0.8- 3.8)	Improved
Boys	0.9(0.2- 3.9)		2.7(1.1- 6.3)	
Girls	0.0 (0.0- 0.0)		0.8 (0.2- 3.3)	
Mean of Weight for Height Z Scores	-0.31±1.03		-0.75±1.10	
Oedema	0		0.0	
Proportion with MUAC<12.5 cm or oedema)	1.3 (0.5- 3.6)	Sustained	5.2 (3.0- 8.8)	Deteriorated
Boys	0.9 (0.2- 3.8)		5.6(2.7-11.0)	
Girls	1.7 (0.7- 4.4)		4.8(2.5- 9.1)	
Proportion with MUAC<11.5 cm or oedema	0	Sustained	0.4(0.1- 1.7)	Sustained
Boys			0.0	
Girls			0.8(0.2- 3.2)	
Stunting (HAZ<-2)	2.5(1.3- 4.7)	Sustained	5.5(3.3- 9.0)	Sustained
Boys	2.8 (1.1- 7.0)		7.0 (4.0-12.0)	
Girls	2.2(0.9- 5.2)		4.1 (2.2- 7.5)	
Severe Stunting (HAZ<-3)	0.2(0.0- 1.8)	Sustained	0.4(0.1- 1.8)	Sustained
Boys	0.5(0.1- 3.7)		0.4 (0.1- 3.3)	
Girls	0.0(0.0- 0.0)		0.4 (0.1- 3.2)	
Underweight (WAZ<-2)	4.0(2.0- 8.1)	Sustained	10.7(7.2-15.6)	Deteriorated
Boys	4.7(1.9-11.2)		13.9(8.7-21.4)	
Girls	3.5(1.6- 7.3)		7.7(4.8-12.2)	
Death rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.31(0.12-0.80)	Sustained	0.48(0.20-1.14)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.41(0.05-3.44)	Sustained	0.0	Sustained
Morbidity	13.5 (8.2-18.7)	Sustained	38.3 (31.0-45.6)	Sustained
Boys	13.9(7.3-20.5)		44.9(36.0-53.7)	
Girls	13.0(7.7-18.4)		32.1(23.1-41.1)	
Diarrhoea	6.1(3.5-8.6)	Sustained	24.4(17.9-31.0)	Sustained
Boys	6.5(2.3-10.6)		26.5(19.4-33.6)	
Girls	5.7(2.7-8.6)		22.5(14.2-30.8)	
Pneumonia	4.5(1.7-7.3)	Sustained	11.2(5.6-16.7)	Sustained
Boys	5.1(1.9-8.3)		14.5(6.8-22.3)	
Girls	3.9(0.6-1.6)		8.0(3.5-12.6)	
Fever	8.3(3.9-12.7)	Sustained	22.4(14.8-29.9)	Sustained
Boys	7.9(3.1-12.7)		27.8(17.5-38.0)	
Girls	8.7(4.1-13.3)		39.8(10.7-23.8)	
Measles	0.2(0.0-0.7)	Sustained	1.4(0.1-2.8)	Sustained
Boys	0.4(0.0-1.4)		1.7(0.0-3.8)	
Girls	0.0(0.0-0.0)		1.2(0.0-3.0)	
Vitamin A Supplementation	49.0(32.8-63.1)	Sustained	35.6(23.6-47.7)	Deteriorated
Boys	50.4(34.2-66.7)		29.5(16.5-42.5)	
Girls	45.4(30.5-60.3)		41.4(28.0-54.7)	

Measles Vaccination Boys Girls	45.6(30.5-60.7) 47.5(30.6-64.4) 43.7(29.5-57.8)	Sustained	35.4(23.3-47.5) 31.6(19.3-43.9) 39.0(25.3-52.7)	Deteriorated
Polio Immunization Boys Girls	97.4(95.4-99.5) 97.5(95.0-99.9) 97.4(95.0-99.7)	Sustained	91.3(86.7-95.9) 91.4(86.5-96.4) 91.2(86.0-96.3)	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	3.8(0.8-10.7)	Sustained	0	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	12.7 (6.2-22.1)	Sustained	3.0 (1.0-6.8)	Improved
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	27(19.7-35.1) 23.9(16.4-31.4) 29.1(20.4-37.9) 19.6(11.5-27.6)	Sustained	15.9(8.3-23.5) 21.9(12.1-31.7) 26.1(18.9-33.4) 36.0(25.8-46.3)	Sustained
Public Health Indicators	n= 272		n= 293	
Household with access to sanitation facilities	37.3(21.3-53.4)	Sustained	64.1(52.9-75.3)	Improved
Household with access to safe water	13.3(2.3-24.2)	Deteriorated	57.7 (39.4-76.0)	Sustained
Proportion who reported to have consumed <4 food groups	13.4(6.0-20.8)	Improved	0.7 (0.0-1.7)	Sustained
Household's Main Food Source-Purchase	78.2(64.8-91.7)	Sustained	95.9(92.6-99.1)	Sustained
Mean CSI	9.9		2.7	
OVERALL NUTRITION SITUATION	**Alert**		**Serious**	

Table 5: Summary of Key Nutrition Findings: Northern Inland Pastoral and Hawd Pastoral - *Deyr* 2015

	Northern Inland Pastoral	**Hawd Pastoral**
	Clusters:40 n= 809 (Boys=410; Girls=399)	**Clusters:29 n=457 (Boys=225; Girls=232)**
Indicator	**% (CI)**	**% (CI)**
Global Acute Malnutrition(WHZ<-2 or oedema) Boys Girls	8.0(5.9-10.9) 9.8(6.8-13.8) 6.3(4.1- 9.5)	9.6 (6.4-14.2) 8.4 (5.4-12.9) 10.8 (6.7-17.0)
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	0.7(0.3- 1.6) 0.7(0.2- 2.2) 0.8(0.2- 2.3)	2.6 (1.4- 4.8) 2.2(1.0- 5.1) 3.0 (1.2- 7.3)
Mean of Weight for Height Z Scores	-0.29±1.19	-0.53±1.02
Oedema	0	0.4
Proportion with MUAC<12.5 cm or oedema) Boys Girls	2.3(1.1- 4.8) 2.1(0.8- 5.9) 2.5(1.1- 5.3)	2.2 (1.1- 4.1) 1.3(0.4- 4.0) 3.0(1.3- 6.6)
Proportion with MUAC<11.5 cm or oedema Boys Girls	0.1 (0.0- 0.9) 0.2(0.0- 1.8) 0.0 (0.0- 0.0)	0.6(0.1- 2.8) 0.0 1.3 (0.3- 5.8)
Stunting (HAZ<-2) Boys Girls	2.9(1.8- 4.7) 4.3(2.8- 6.6) 1.5(0.6- 3.6)	0.4(0.1- 3.3) 0.0 (0.0-0.0) 0.9(0.1- 6.3)

Severe Stunting (HAZ<-3)	0.2(0.1- 1.0)	0.0(0.0- 0.0)
Boys	0.5(0.1- 1.9)	0.0(0.0- 0.0)
Girls	0.0(0.0- 0.0)	0.0 (0.0- 0.0)
Underweight (WAZ<-2)	3.9(2.7- 5.5)	2.4(1.3- 4.5)
Boys	4.3(2.5- 7.2)	3.1(1.3- 7.0)
Girls	3.4(2.0- 5.9)	1.7(0.6- 4.5)
Death rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.58(0.30-1.13)	0.54(0.12-2.35)
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.74(0.29-1.91)	0.51(0.06-4.34)
Morbidity	23.6 (15.8-31.4)	13.8 (8.0-19.5)
Boys	26.0(16.9-35.1)	13.4(5.6-21.2)
Girls	21.0(13.3-28.9)	14.1(6.7-21.5)
Diarrhoea	6.5(2.7-10.4)	7.1(4.3-9.8)
Boys	6.0(1.6-10.3)	5.2(1.3-9.1)
Girls	7.1(3.0-11.3)	9.0(4.4-13.6)
Pneumonia	3.0(1.2-4.8)	2.2(0.2-4.1)
Boys	2.6(0.7-4.5)	3.9(0.2-7.6)
Girls	3.4(0.9-5.9)	0.4(0.0-1.3)
Fever	17.2(11.8-22.5)	7.3(2.9-11.8)
Boys	21.0(13.8-28.2)	7.8(2.3-13.3)
Girls	13.2(8.8-17.7)	6.8(0.7-13.0)
Measles	0.7(0.0-1.5)	2.2(0.0-4.3)
Boys	0.7(0.0-1.5)	2.6(0.0-3.8)
Girls	0.7(0.0-1.6)	1.7(0.0-4.0)
Vitamin A Supplementation	84.3(77.0-91.6)	65.2(50.5-79.8)
Boys	84.3(76.1-92.4)	64.9(49.8-80.1)
Girls	84.3(77.2-91.4)	65.4(49.8-81.0)
Measles Vaccination	79.8(71.8-87.8)	75.1(67.5-82.6)
Boys	79.5(70.8-88.2)	74.9(65.0-84.8)
Girls	80.1(72.3-88.0)	75.2(68.0-82.5)
Polio Immunization	93.0(90.2-95.7)	94.4(88.4-97.4)
Boys	93.5(90.8-96.3)	94.4(90.7-98.2)
Girls	92.4(89.2-95.7)	92.9(88.4-97.4)
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.4(0.2-4.8)	0
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	5.3 (2.3-10.1)	3.4 (0.7-9.5)
Proportion of Women who received Tetanus immunization	16.2(13.0-20.1)	25.0(19.8-30.8)
No dose	14.4(11.4-18.1)	23.4(18.4-29.1)
One dose	39.2(34.7-43.9)	25.4(20.2-31.2)
Two doses	30.2(26.0-34.7)	26.2(20.9-32.1)
Three doses		
Public Health Indicators	n= 474	n= 265
Household with access to sanitation facilities	63.3(49.5-77.0)	52.1(36.8-67.5)
Household with access to safe water	21.3(8.1-34.9)	0
Proportion who reported to have consumed <4 food groups	12.1(1.3-22.9)	2.7(0.0-6.7)
Household's Main Food Source- Purchase	98.1(96.6-99.6)	94.6(90.3-98.9)
Mean CSI	7.6	13.6
OVERALL NUTRITION SITUATION	**Alert**	**Alert**

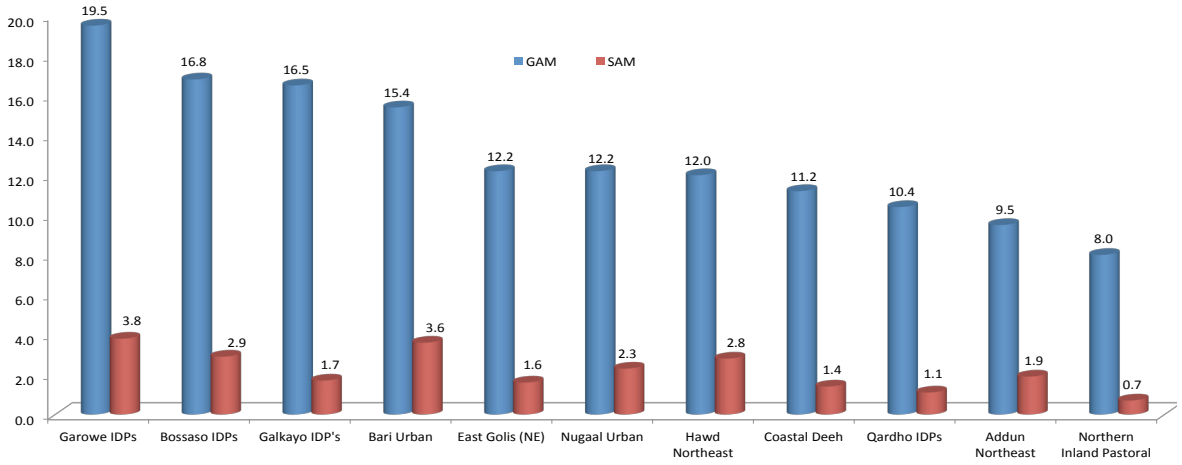
4.2 NORTHEAST REGIONS

FSNAU conducted 11 nutrition assessments (4 IDPs, 2 urban and 5 Rural livelihoods) in North East region of Somalia and assessed the nutritional status of 8 685 children aged 6-59 months old (4 476 boys and 4 209 girls indicating a sex ratio of 1 implying no selection bias) from 5 652 households. Comprehensive assessments (nutrition and food security) were conducted among all IDPs and in urban regions of Bari and Nugal using SMART methodology. The results of nutritional assessments conducted in North East Somalia are summarized below:

Acute Malnutrition Prevalence

Based on the 11 WHZ comprehensive assessments conducted in Northeast regions, median GAM of 12.2 percent and SAM rate of 2.1 percent were observed, which is slightly lower compared to the Median GAM (14.5%) observed in *Gu* 2015. (Annex 10).

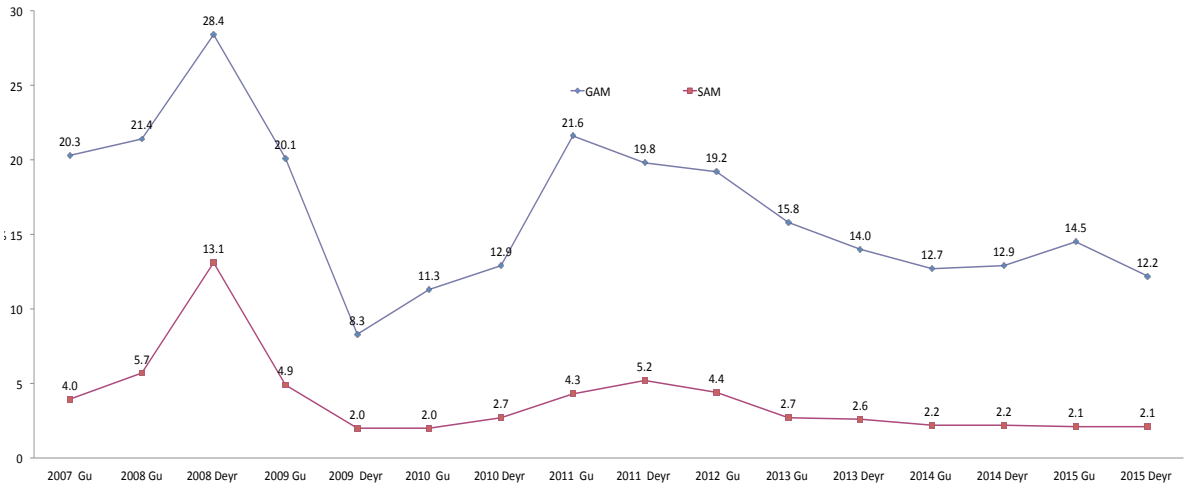
Figure 15: Prevalence of Acute Malnutrition in different livelihoods of Northeastern Somalia - Deyr 2015



Levels of acute malnutrition in assessed population groups show Serious level of malnutrition in five livelihoods (Hawd, Qardho IDP, Coastal Deeh, East Golis and Nugaal Urban) while Addun and Northern Inland Pastoral (NIP) show Alert levels. Sustained Critical levels of acute malnutrition were observed in Bari Urban, Garowe and Galkayo IDPs, Bossaso IDPs deteriorated from Seriousin *Gu* 2015 to Critical in *Deyr* 2015 (Figure 15).

Trends in prevalence of acute malnutrition (GAM & SAM) in the northeast region (Figure 16) show a decline over time and a sustained Serious nutrition situation since *Deyr* 2013.

Figure 16: Trends in Acute Malnutrition in different livelihoods of North Eastern Somalia



Key Highlights

- **Bosaso IDPs** recorded a GAM prevalence of 16.8 percent and SAM prevalence of 2.9 percent indicating a Critical nutrition situation and deterioration when compared with the Serious GAM prevalence of 12.5 percent recorded in *Gu* 2015 but a similar to the result of 17.2 percent GAM recorded in *Deyr* 2014.
- **Qardho IDPs** recorded a GAM prevalence of 10.4 percent and SAM prevalence of 1.1 percent indicating sustained Serious nutrition situation since *Gu* 2014 (12.2%). The highest GAM (14.0 percent) was recorded in *Gu*' 2015.
- **Garowe IDPs** has shown deterioration in nutrition situation even though sustained prevalence of Critical GAM (19.5 %) has been noted since *Gu* 2014. Deterioration in SAM prevalence is evident from Alert levels (1.9 %) seen in *Gu* 2015 to Serious levels (3.8%) in current assessment and compared to serious levels in *Deyr* 2014/15 (3.9%).
- **Galkayo IDPs** record sustained Critical GAM prevalence with decrease in GAM prevalence from 20.2 percent in *Gu* 2015 to 16.5 percent in *Deyr* 2015. This was accompanied by a decrease in SAM prevalence to Alert levels (1.7%) from Critical levels (4.7% in *Gu* 2015) compared to Serious prevalence of SAM (2.6 %) observed in *Deyr* 2014.
- **Addun** livelihood has shown an improvement from Serious GAM of 12.5 percent in *Gu* 2015 to Alert of 9.5 percent in *Deyr* 2015 with sustained Alert SAM of 1.9 percent in both Gu' 2015 and *Deyr* 2015.
- **Coastal Deeh** pastoral livelihood recorded a GAM prevalence of 11.2 percent and SAM prevalence of 1.4 percent indicating a Serious nutrition situation which reflects a stable nutrition situation when compared to GAM prevalence of 13.0 percent and SAM prevalence of 1.9 percent recorded in *Gu'* 2015 and the GAM rate of 11.7 percent in *Deyr* 2014/15.
- **East Golis** livelihood recorded a GAM prevalence of 12.2 percent and SAM prevalence of 1.6 percent which is Serious nutrition situation and indicating sustained level of malnutrition even though rate is lower when compared to GAM of 14.6 percent and SAM rate of 1.7 percent recorded in Gu' 2015.
- **Hawd** pastoral livelihood recorded a GAM rate of 12.0 percent and SAM of 2.8 percent which suggests a Serious nutrition situation and improvement when compared to the Critical GAM prevalence of 16.1 percent recorded in *Deyr* 2014 and 14.3 percent GAM recorded in Gu' 2015. However, this improvement is not statistically significant. High morbidity rate was noted in *Deyr* 2015 (40.0%) a situation that is likely to contribute to further deterioration in the projection period..
- **Bari Urban:** The nutrition assessment in Bari urban shows Critical GAM prevalence of 15.4 percent (15.4%) with Serious SAM prevalence (3.6%). This suggests a sustained nutrition situation when compared to GAM (18.4%) and SAM (3.7%) recorded in *Gu* 2015, while Serious levels of GAM (14.0%) and SAM (2.7%) recorded in *Deyr* 2014.
- **Nugaal Urban:** Nugaal urban reported an improvement from Critical GAM prevalence (15.7%) to GAM of 12.2 percent in *Deyr* 2015 and sustained Serious (2.3%) SAM prevalence in both seasons.
- **Northern Inland Pastoral (NIP):** Recorded Alert levels of GAM (8.0%) and Acceptable levels of SAM (0.7%). This is a predominantly pastoral community and therefore milk availability at the household level significantly contribute to the nutritional well-being of children. Milk production in the region has declined due to poor rainfall performance. However, the nutrition situation is likely to deteriorate during the dry Jilaal season when the impact of poor rainfall and drought deepen.

Stunting and underweight prevalence

Low prevalence levels of stunting (<20%) was seen in all assessed pastoral livelihood populations as well as Bari and Nugaal urban centers, Qardho and Bossaso IDPs. However Garowe and Galkayo IDPs show medium prevalence of stunting (20 – 29.9%).

Low prevalence of underweight level (<10%) was recorded in livelihoods of East Golis, Addun and Coastal Deeh while Hawd shows Medium prevalence of underweight (10 – 19.9%). It was observed that the prevalence of underweight was

higher among IDPs as compared to the other livelihoods. Low levels of underweight prevalence were noted among Qardho IDPs, medium in Bosaso IDPs while Galkacyo and Garowe IDPs show high prevalence of underweight (20 – 30%). Nugaal and Bari urban areas also recorded Low and medium levels of underweight prevalence (10 - 19.9%) respectively (Table 6).

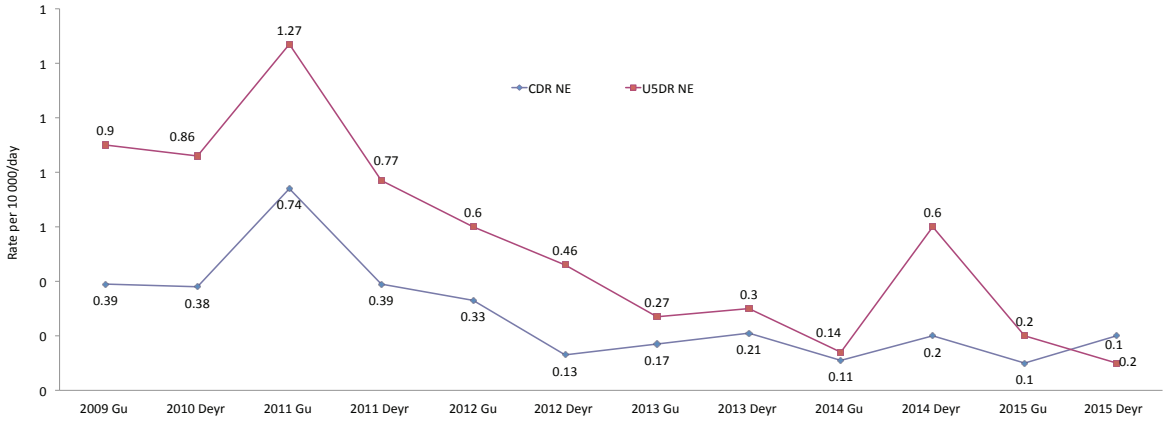
Table 6: Stunting and Underweight prevalence among different livelihoods in Northeast region

	Stunted	Underweight
East Golis (Northeast)	5.6	6.5
Hawd Northeast	6.6	11.8
Addun Northeast	6.6	9.3
Coastal Deeh	6.1	4.9
Bari Urban	5.6	10.9
Nugaal Urban	8.8	8.9
Bossaso IDPs	16.3	18.9
Qardho IDPs	10.6	9.5
Garowe IDPs	27.5	24.0
Galkayo IDP's	20.6	21.4

Mortality

The 90 day retrospective Crude and under five death rates in the assessed areas in Northeast regions are within the Acceptable levels of <0.5 and <1/10 000/day. This reflects a stable mortality trend for the assessed areas since *Deyr* 2014 (Figure 17).

Figure 17: Crude Death Rate trends in different regions of Northeast Somalia



Morbidity

High morbidity levels were noted among most of the IDPs settlements and rural livelihoods. The IDP settlements of Garowe, Qardho and Bossaso as well as Hawd, East Golis and Addun livelihoods show ≥30 percent morbidity level. Highest morbidity level was recorded among Garowe IDPs and Addun, where > 40 percent of the children were reported to be sick two weeks prior to the assessment. During this reporting period, there was no disease outbreaks have been reported in Northeast during the recent months (Annex 16).

Immunization coverage

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

Maternal malnutrition

Critical levels of maternal malnutrition (23.4 – 31.4%) were recorded among the pregnant and lactating women in Qardho IDPs and Hawd pastoral livelihood. Deterioration in maternal nutrition status from Critical to very Critical (≥31.5%) is noted in Hawd pastoral while sustained Critical situation in Hawd livelihood was observed. **Serious** levels of maternal malnutrition (16.8 – 23.3%) were not observed in current assessments but Alert levels of maternal malnutrition were reported in East Golis, Addun pastoral, Bossaso and Galkacyo IDPs.

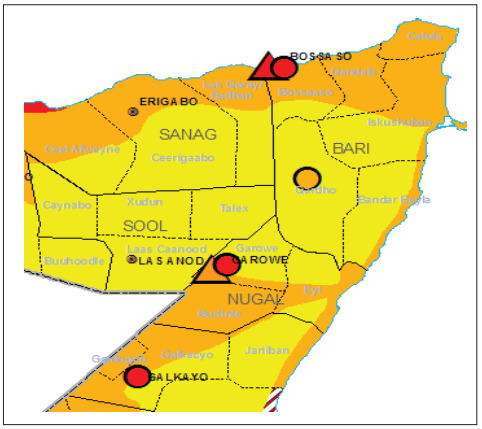
Dietary diversification

Household dietary diversity measured as proportion of households consuming more than four food groups is high. There is no significant change in household dietary diversity between *Deyr* and *Gu* seasons in 2015. Access to milk and milk consumption play an important role for the mitigation of nutritional status especially among pastoral livelihoods.

Current nutrition situation

Map 10 shows the current nutrition situation (Post *Deyr* 2015). The nutrition situation among the urban, IDPs and Rural livelihoods in Northeast regions range from Alert to Critical levels for the last twelve months (*Deyr* 2015 to *Deyr* 2014). Access to milk among the predominant pastoral communities and morbidity patterns appears to be the underlying factors influencing the nutrition situation. Most of the livelihoods and IDPs either sustained (Pastoral livelihoods of East Golis, Hawd, Addun and Coastal Deeh and IDPs of Qardho, Garowe and Galkayo) or improved (Addun Pastoral). Bossaso IDP is the only livelihood in Northeast region which deteriorated from Serious in *Gu* 2015 to Critical phase in *Deyr* 2015.

Map 9: Northeast Region Nutrition Situation (Jan 2016)



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

Current food security situation- post *Deyr* 2015

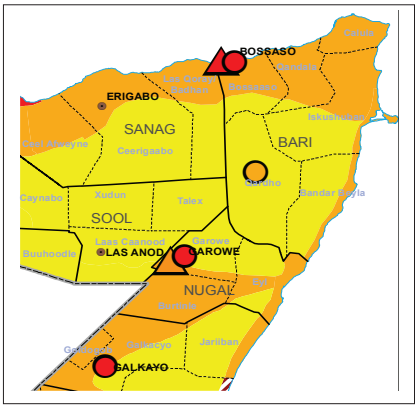
The FSNAU *Deyr* 2015 integrated food security analysis indicates stable situation in most pastoral livelihoods of the Northeast regions when compared to *Gu* 2015 with the exception of Northern Inland Pastoral livelihood, which has deteriorated. In December 2015, most livelihoods of the region were classified as Stressed (IPC Phase 2) except the Hawd and Addun, which were identified in Minimal (IPC Phase 1) acute food insecurity. This reflects a stable food security level since *Gu* 2015. The deterioration of food security situation in NIP region is attributed to poor rainfall performance which has affected their food and income sources from own production (livestock and milk).

Nutritional outlook (February to April 2016)

Most livelihoods in Northeast are expected to sustain into the current nutrition phase during the coming three months as neither improvement nor deterioration is projected. Exception is Addun and Nugaal which is projected to deteriorate to Serious and Critical respectively due the impact of current *Jilaal* season as well as the historical trends. The maps below show current and projected nutrition situation across livelihoods in Puntland. The current food security situation is Crisis (in IDPs), Stressed and minimal in the rest of livelihoods of Northeast region and similarly projected to remain stable up to March 2016.

Figure 18: Nutrition Situation and Outlook in Northeast regions

Current Nutrition Situation - Jan 2016



Projected Nutrition Situation - Feb-Apr 2016

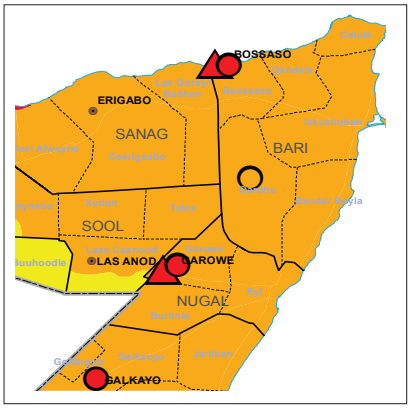


Table 7: Summary of Key Nutrition Findings among Northeast IDPs – *Deyr* 2015

	Bossaso IDPs		Galkacyo IDPs		Garowe IDPs	
	Clusters : 28 (N=727: Boys=387; Girls=340)		Clusters : 28 (N=940: Boys=457; Girls=483)		Clusters: 28 (N=841: Boys 436;Girls 405)	
Indicator	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	16.8 (14.3-19.7)		16.5 (13.5-20.0)		19.5 (16.5 – 22.9)	
Boys	19.9 (16.2-24.2)	Deteriorated	17.5 (13.8-22.0)	Improved	22.2 (18.5 – 26.6)	Deteriorated
Girls	13.2 (10.2-16.9)		15.5 (11.9-20.0)		16.5 (12.8 – 21.1)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.9 (1.9- 4.4)		1.7 (1.0- 2.9)		3.8 (2.6 – 5.6)	
Boys	3.9 (2.2- 6.8)	Deteriorated	2.2 (1.1- 4.5)	Improved	3.9 (2.3 – 6.6)	Deteriorated
Girls	1.8 (0.9- 3.5)		1.2 (0.6- 2.7)		3.7 (2.2 – 6.1)	
Mean of Weight for Height Z Scores	-1.00 ± 1.03	Sustained	-0.96 ± 1.02	Improved	-1.00±1.15	Deteriorated
Oedema	0	Sustained	0.1	Deteriorated	0	Sustained
Proportion with MUAC<12.5 cm or oedema)	10.1 (7.9-12.8)		8.1 (4.9-13.0)		10.7 (7.6 – 14.8)	
Boys	8.3 (5.5-12.4)	Deteriorated	7.1 (4.2-11.8)	Improved	8.8 (5.5 – 13.8)	Deteriorated
Girls	12.2 (9.8-15.0)		9.1 (5.3-15.1)		12.7 (9.1 – 17.4)	
Proportion with MUAC<11.5 cm or oedema	1.6 (0.9- 2.8)		0.7 (0.3- 1.6)		2.9 (1.8 – 4.6)	
Boys	1.8 (0.8- 4.0)	Deteriorated	1.1 (0.4- 2.9)	Improved	2.3 (1.2 – 4.4)	Deteriorated
Girls	1.5 (0.7- 3.0)		0.4 (0.1- 1.7)		3.6 (2.2 – 5.8)	
Stunting (HAZ<-2)	16.3 (12.6-20.8)		20.6 (14.0-29.2)		27.5 (22.6 – 32.9)	
Boys	19.1 (15.4-23.7)	Improved	22.8 (15.6-32.1)	Deteriorated	30.9 (24.8 – 37.8)	Deteriorated
Girls	13.0 (8.8-18.8)		18.5 (11.7-28.0)		23.9 (19.6 – 28.9)	
Severe Stunting (HAZ<-3)	3.6 (2.2- 5.6)		7.4 (4.6-11.9)		8.7 (6.3 – 11.9)	
Boys	3.8 (2.5- 5.8)	Improved	8.4 (5.1-13.6)	Deteriorated	11.2 (7.7 – 16.1)	Deteriorated
Girls	3.2 (1.5- 6.8)		6.5 (3.7-11.1)		6.1 (4.4 – 8.4)	
Underweight (WAZ<-2)	18.9 (16.3-21.9)		21.4 (17.4-26.0)		24.0 (18.7 – 30.3)	
Boys	24.1 (20.1-28.5)	Improved	22.5 (17.9-27.8)	Improved	27.6 (22.0 – 34.1)	Deteriorated
Girls	13.1 (9.9-17.1)		20.4 (15.4-26.5)		20.0 (14.1 – 28.0)	
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.26 (0.12-0.57)	Deteriorated	0.08 (0.03-0.27)	Deteriorated	0.24 (0.08 – 0.72)	Deteriorated
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.27 (0.07-1.10)	Deteriorated	0.00 (0.00-0.00)	Improved	0.49 (0.19 – 1.26)	Deteriorated
Morbidity	32.0 (23.9-40.1)		24.6 (19.6-29.6)		41.3 (30.1 – 52.5)	
Boys	33.4 (25.5-41.3)	Deteriorated	22.6 (16.9-28.3)	Improved	40.3 (27.6 – 53.0)	Improved
Girls	30.4 (20.9-40.0)		26.5 (21.1-32.0)		42.3 (31.5 – 53.1)	
Diarrhoea	10.5 (6.1-14.9)		7.5 (4.5-10.6)		6.2 (3.1 – 9.4)	
Boys	10.8 (5.4-16.2)	Deteriorated	5.8 (2.1-9.4)	Improved	5.9 (2.4 – 9.5)	Improved
Girls	10.2 (5.4-15.0)		9.2 (5.8-12.6)		6.5 (2.4 – 10.6)	
Pneumonia	12.1 (4.8-19.3)		6.8 (3.8-9.9)		11.6 (7.1 – 16.0)	
Boys	13.1 (3.6-5.8)	Deteriorated	6.7 (2.8-10.5)	Improved	10.7 (6.5 – 14.8)	Improved
Girls	10.8 (2.8-18.8)		7.0 (3.9-10.0)		12.4 (7.2 – 17.6)	
Fever	21.6 (14.4-28.7)		19.3 (14.9-23.7)		32.7 (22.9 – 42.6)	
Boys	22.9 (15.7-30.1)	Deteriorated	18.0 (12.9-23.0)	Improved	31.9 (20.8 – 43.1)	Improved
Girls	20.0 (12.2-27.8)		20.5 (15.5-25.6)		33.4 (24.0 – 42.9)	
Measles	0.9 (0.0-1.9)		2.1 (1.0-3.1)		1.6 (0.8 – 2.4)	
Boys	1.0 (0.0-2.2)	Improved	1.9 (0.5-3.4)	Improved	1.9 (0.6 – 3.1)	Improved
Girls	0.9 (0.0-1.8)		2.2 (0.8-3.7)		1.3 (0.3 – 2.3)	

Vitamin A Supplementation	82.2 (76.5-88.0)	Deteriorated	82.0 (71.9-92.0)	Deteriorated	89.0 (85.4 -92.6)	Improved
Boys	83.7 (77.2-90.1)		81.9 (70.9-92.8)		90.6 (86.7 – 94.6)	
Girls	80.6 (73.3-87.9)		82.0 (72.4-91.7)		87.5 (83.4 – 91.6)	
Measles Vaccination	78.9 (73.4-84.4)	Deteriorated	82.5 (74.1-90.8)	Improved	87.5 (84.2 – 90.8)	Deteriorated
Boys	80.2 (74.0-86.3)		82.7 (73.8-91.6)		88.7 (84.8 – 92.7)	
Girls	77.4 (70.3-84.4)		82.2 (73.7-90.8)		86.4 (82.6 – 90.1)	
Polio Immunization	95.0 (92.6-97.4)	Deteriorated	95.5 (92.4-98.6)	Deteriorated	96.5 (94.3 – 98.6)	Deteriorated
Boys	96.0 (93.1-98.8)		95.3 (92.0-98.6)		96.8 (94.4 – 99.3)	
Girls	93.9 (90.4-97.4)		95.7 (92.2-99.2)		96.1 (93.5 – 98.7)	
Women Nutrition and Immunization Status	N = 139		N =224		N = 240	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	2.2 (0.0-4.7)	Deteriorated	7.6 (3.3-11.6)	Deteriorated	0 (0.0-0.0)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	12.2 (6.2-18.3)	Deteriorated	15.6 (10.7-20.6)	Improved	7.9 (3.9 – 11.8)	Improved
Proportion of Women who received Tetanus immunization						
No dose	9.4 (5.8-13.1)	Deteriorated	18.1 (9.1-27.1)	Deteriorated	14.5 (10.1 – 18.9)	Deteriorated
One dose	4.2 (2.2-6.3)		8.4 (5.9-10.9)		13.8 (10.1 – 17.4)	
Two doses	14.1 (8.9-19.4)		34.7 (27.8-41.6)		35.5 (27.4 – 43.5)	
Three doses	72.2 (64.7-79.8)		38.8 (29.0-48.6)		36.0 (28.1 – 43.9)	
Public Health Indicators	N = 491		N = 595		N = 315	
Household with access to sanitation facilities	100	Improved	99.4 (98.1-100.6)	Improved	65.7 (50.2 – 81.3)	Deteriorated
Household with access to safe water	37.8 (21.9-53.7)	Deteriorated	98.8 (96.8-100.8)	Improved	100 (0.0 – 0.0)	Sustained
Proportion who reported to have consumed <4 food groups	99.6 (98.9-100.3)	Sustained	98.7 (96.2-101.3)	Deteriorated	0.0 (0.0 – 0.0)	Improved
Household's Main Food Source- Purchase	98.9 (97.2-100.6)	Improved	97.5 (95.2-99.7)	Deteriorated	99.8 (98.2-100.6)	Improved
Mean CSI	39.1 (35.7-42.5)	Deteriorated	31.3 (29.5-33.1)	Deteriorated	-	-
Overall Nutrition Situation	**Critical**		**Critical**		**Critical**	

Table 8: Summary of Key Nutrition Findings in Qardho IDPs – *Deyr* 2015

	Qardho IDPs	
	Clusters : Exhaustive (N=655 : Boys=324; Girls=331)	
Indicator	% (CI)	Change from *Gu 2015*
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	10.4	Improved
Boys	13.0	
Girls	7.9	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.1	Improved
Boys	1.9	
Girls	0.3	
Mean of Weight for Height Z Scores	-0.79±0.92	Improved
Oedema	0	Sustained
Proportion with MUAC<12.5 cm or oedema)	8.2	Deteriorated
Boys	8.2	
Girls	8.1	
Proportion with MUAC<11.5 cm or oedema	1.1	Deteriorated
Boys	0	
Girls	2.1	

Stunting (HAZ<-2) Boys Girls	10.6 15.7 5.5	Improved
Severe Stunting (HAZ<-3) Boys Girls	1.8 3.4 0.3	Improved
Underweight (WAZ<-2) Boys Girls	9.5 11.0 7.9	Improved
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.10	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.16	Improved
Morbidity Boys Girls	46.1 46.0 46.1	Deteriorated
Diarrhoea Boys Girls	11.3 9.6 10.4	Deteriorated
Pneumonia Boys Girls	23.6 25.9 21.3	Deteriorated
Fever Boys Girls	45.0 45.1 44.9	Deteriorated
Measles Boys Girls	2.9 4.3 1.5	Improved
Vitamin A Supplementation Boys Girls	25.4 25.9 24.9	Deteriorated
Measles Vaccination Boys Girls	42.7 41.8 43.7	Deteriorated
Polio Immunization Boys Girls	94.6 95.7 93.4	Improved
Women Nutrition and Immunization Status		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	11.2	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	25.2	Deteriorated
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 12.1 8.9 34.3 44.7	Deteriorated
Public Health Indicators (HH)		
Household with access to sanitation facilities	100	Improved
Household with access to safe water	78.1	Deteriorated
Proportion who reported to have consumed <4 food groups	0.5	Improved
Household's Main Food Source- Purchase	99.9	Deteriorated
Overall Nutrition Situation	**Serious**	

Table 9: Summary of Key Nutrition Findings in Northeast Rural – *Deyr* 2015

	Hawd Pastoral		Addun Pastoral		Coastal Deeh	
	Clusters : 28 (N=790: Boys=429; Girls=361)		Clusters : 28 (N=736: Boys=383; Girls=353)		Clusters : 30 (N=768: Boys=395; Girls=373)	
Indicator	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	12.0 (8.4-17.0)		9.5 (6.5-13.7)		11.2 (8.2-15.0)	
Boys	13.8 (9.1-20.2)	Improved	12.5 (8.3-18.6)	Improved	13.9 (10.0-19.1)	Improved
Girls	10.0 (6.4-15.2)		6.2 (3.8-10.1)		8.3 (5.6-12.2)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.8 (1.8- 4.4)		1.9 (1.1- 3.2)		1.4 (0.8- 2.5)	
Boys	3.0 (1.7- 5.4)	Sustained	2.9 (1.5- 5.5)	Sustained	1.8 (0.9- 3.5)	Improved
Girls	2.5 (1.2- 5.1)		0.8 (0.3- 2.7)		1.1 (0.4- 2.8)	
Mean of Weight for Height Z Scores	-0.76 ± 1.08	Sustained	-0.57 ± 1.04	Improved	-0.64 ± 1.14	Improved
Oedema	0	Sustained	0.0	Sustained	0.0	Sustained
Proportion with MUAC<12.5 cm or oedema)	8.2 (5.8-11.5)		3.5 (1.9- 6.3)		1.0 (0.4- 2.5)	
Boys	8.8 (5.5-13.7)	Deteriorated	2.6 (1.2- 5.4)	Improved	1.0 (0.3- 3.4)	Improved
Girls	7.4 (4.7-11.4)		4.5 (2.1- 9.2)		1.0 (0.3- 3.5)	
Proportion with MUAC<11.5 cm or oedema	2.0 (1.0- 3.8)		0.1 (0.0- 1.1)		0.0 (0.0- 0.0)	
Boys	2.5 (1.2- 5.5)	Deteriorated	0.0 (0.0- 0.0)	Improved	0.0 (0.0- 0.0)	Improved
Girls	1.4 (0.4- 5.1)		0.3 (0.0- 2.3)		0.0 (0.0- 0.0)	
Stunting (HAZ<-2)	6.6 (4.4- 9.8)		6.6 (4.1-10.5)		6.1 (4.2- 8.6)	
Boys	9.1 (6.2-13.2)	Improved	9.1 (5.5-14.7)	Improved	8.1 (5.8-11.1)	Improved
Girls	3.6 (1.6- 7.7)		3.9 (2.0- 7.8)		4.0 (2.2- 7.1)	
Severe Stunting (HAZ<-3)	1.1 (0.5- 2.7)		0.8 (0.3- 2.0)		0.1 (0.0- 1.0)	
Boys	1.4 (0.6- 3.4)	Deteriorated	1.0 (0.4- 2.6)	Improved	0.0 (0.0- 0.0)	Improved
Girls	0.8 (0.2- 3.7)		0.6 (0.1- 2.3)		0.3 (0.0- 2.0)	
Underweight (WAZ<-2)	11.8 (8.3-16.6)		9.3 (6.2-13.8)		4.9 (3.3- 7.0)	
Boys	14.6 (9.9-21.0)	Improved	13.0 (8.6-19.0)	Improved	6.8 (4.5- 9.9)	Improved
Girls	8.6 (0.5- 4.0)		5.3 (2.8- 9.9)		2.9 (1.3- 6.1)	
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.26 (0.13-0.50)	Improved	0.04 (0.01-0.30)	Improved	0.12 (0.04-0.38)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.13 (0.02-0.98)	Improved	0.00 (0.00-0.00)	Improved	0.13 (0.02-1.04)	Improved
Morbidity	40.0 (30.5-49.2)		42.2 (34.3-50.0)		24.7 (17.1-32.2)	
Boys	38.7 (27.6-49.7)	Deteriorated	40.1 (32.1-48.2)	Deteriorated	26.4 (18.5-34.3)	Improved
Girls	41.5 (33.0-50.0)		44.4 (34.9-53.9)		22.6 (14.4-30.8)	
Diarrhoea	13.8 (8.9-18.7)		11.4 (7.2-15.6)		5.5 (3.6-7.5)	
Boys	14.4 (8.5-20.2)	Deteriorated	10.3 (5.7-14.9)	Deteriorated	6.3 (4.0-8.6)	Improved
Girls	13.2 (7.9-18.5)		12.6 (7.3-17.9)		4.6 (1.9-7.3)	
Pneumonia	12.8 (7.8-17.8)		9.9 (4.7-15.1)		5.7 (3.2-8.1)	
Boys	11.8 (6.9-16.7)	Deteriorated	8.7 (4.3-13.2)	Improved	6.3 (3.3-9.3)	Improved
Girls	14.0 (8.319.8)		11.2 (4.5-17.9)		4.9 (2.3-7.5)	
Fever	32.2 (24.3-40.0)		36.5 (29.6-43.5)		20.6 (13.9-27.4)	
Boys	30.1 (21.0-39.2)	Deteriorated	34.2 (26.6-41.8)	Deteriorated	21.3 (14.4-28.1)	Improved
Girls	34.6 (27.3-41.9)		39.1 (30.9-47.3)		19.9 (12.2-27.5)	
Measles	0.6 (0.0-1.3)		1.1 (0.2-1.9)		2.5 (1.4-3.7)	
Boys	0.5 (0.0-1.1)	Deteriorated	1.0 (0.1-2.0)	Improved	2.3 (0.9-3.7)	Improved
Girls	0.8 (0.0-2.0)		1.1 (0.0-2.2)		2.7 (1.0-4.4)	

Vitamin A Supplementation	81.5 (73.1-90.0)		80.5 (73.9-87.0)		69.8 (60.9-78.7)	
Boys	81.9 (72.5-91.4)	Improved	83.5 (77.5-89.6)	Improved	71.0 (61.7-80.3)	Improved
Girls	81.0 (73.0-89.1)		77.1 (69.3-84.9)		68.4 (59.1-77.7)	
Measles Vaccination	83.8 (77.7-89.9)		78.7 (72.5-84.9)		81.1 (74.8-87.4)	
Boys	83.1 (76.2-90.0)	Improved	81.4 (75.5-87.4)	Improved	82.9 (76.7-89.1)	Improved
Girls	84.6 (78.5-90.7)		75.7 (68.4-83.0)		79.0 (71.6-86.4)	
Polio Immunization	95.9 (93.2-98.5)		94.6 (91.8-97.5)		88.9 (83.1-94.8)	
Boys	95.6 (92.2-98.5)	Improved	95.1 (92.3-97.9)	Improved	90.2 (84.5-95.8)	Improved
Girls	96.2 (93.8-98.5)		94.1 (90.9-97.4)		87.5 (80.8-94.1)	
Women Nutrition and Immunization Status	N =179		N =166		N =136	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	24.0 (11.7-36.4)	Deteriorated	6.6 (1.0-12.3)	Deteriorated	0.0 (0.0-0.0)	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	45.3 (28.2-62.3)	Deteriorated	12.7 (5.8-19.5)	Deteriorated	4.4 (0.0-9.7)	Improved
Proportion of Women who received Tetanus immunization						
No dose	12.4 (8.0-16.8)		17.4 (10.8-23.9)		17.8 (8.2-27.5)	
One dose	22.7 (15.0-30.0)	Deteriorated	15.9 (7.4-24.5)	Sustained	19.6 (13.8-25.4)	Deteriorated
Two doses	23.6 (15.0-32.2)		33.3 (25.0-41.7)		29.5 (21.4-37.6)	
Three doses	41.2 (32.2-50.2)		33.3 (23.8-42.8)		33.0 (23.0-43.1)	
Public Health Indicators	N =484		N =423		N =465	
Household with access to sanitation facilities	71.3 (57.7-84.8)	Improved	63.7 (50.5-76.9)	Improved	52.2 (39.2-65.3)	Deteriorated
Household with access to safe water	42.6 (25.3-59.9)	Sustained	32.8 (14.7-50.9)	Deteriorated	64.7 (47.5-81.9)	Improved
Proportion who reported to have consumed <4 food groups	1.0 (0.0-2.1)	Improved	0.9 (0.0-2.1)	Sustained	99.8 (99.4-100.2)	Deteriorated
Household's Main Food Source- Purchase	96.9 (94.1-99.7)	Deteriorated	96.5 (93.7-99.2)	Deteriorated	98.9 (97.7-100.2)	Improved
Mean CSI	10.9 (9.7-12.1)	Deteriorated	10.8 (9.9-11.7)	Deteriorated	12.7 (11.9-13.6)	Deteriorated
Overall Nutrition Situation	**Serious**		**Alert**		**Serious**	

Table 10: Summary of Key Nutrition Findings in East Golis Pastoral – *Deyr* 2015

	East Golis Pastoral	
	Clusters : 40 (N=987: Boys=515; Girls=472)	
Indicator	% (CI)	Change from *Gu 2015*
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	12.2 (10.0-14.7)	
Boys	14.0 (11.0-17.6)	Improved
Girls	10.2 (7.9-13.0)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.6 (0.9- 2.9)	
Boys	1.6 (0.7- 3.3)	Improved
Girls	1.7 (0.9- 3.3)	
Mean of Weight for Height Z Scores	-0.70 ± 1.13	Sustained
Oedema	0	Sustained
Proportion with MUAC<12.5 cm or oedema)	4.6 (2.8- 7.4)	
Boys	3.4 (1.7- 6.9)	Deteriorated
Girls	5.9 (3.6- 9.4)	

Proportion with MUAC<11.5 cm or oedema Boys Girls	0.7 (0.3- 1.8) 1.1 (0.5- 2.9) 0.2 (0.0- 1.6)	Improved
Stunting (HAZ<-2) Boys Girls	5.6 (3.9- 7.8) 7.6 (5.0-11.2) 3.4 (2.0- 5.6)	Deteriorated
Severe Stunting (HAZ<-3) Boys Girls	0.7 (0.4- 1.4) 1.0 (0.4- 2.2) 0.4 (0.1- 1.7)	Deteriorated
Underweight (WAZ<-2) Boys Girls	6.5 (4.6- 9.2) 7.7 (0.3- 2.8) 5.2 (3.3- 8.3)	Improved
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.38 (0.20-0.74)	Deteriorated
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.09 (0.01-0.70)	Deteriorated
Morbidity Boys Girls	38.4 (29.8-47.0) 37.5 (28.0-47.1) 39.3 (30.5-48.1)	Deteriorated
Diarrhoea Boys Girls	10.7 (7.0-14.4) 10.2 (6.0-14.3) 11.3 (6.6-16.0)	Deteriorated
Pneumonia Boys Girls	7.2 (4.7-9.7) 7.3 (4.0-10.5) 7.1 (4.5-9.8)	Improved
Fever Boys Girls	28.4 (23.0-33.9) 28.4 (21.6-35.1) 28.5 (22.9-34.1)	Deteriorated
Measles Boys Girls	2.9 (1.1-4.7) 2.1 (0.1-4.3) 3.8 (1.7-5.9)	Deteriorated
Vitamin A Supplementation Boys Girls	73.9 (64.2-83.7) 73.0 (63.1-82.8) 75.0 (64.5-85.5)	Improved
Measles Vaccination Boys Girls	73.1 (64.3-82.0) 72.0 (62.8-81.1) 74.4 (65.0-83.9)	Improved
Polio Immunization Boys Girls	86.7 (81.0-92.4) 87.4 (82.4-92.4) 85.9 (78.8-93.0)	Improved
Women Nutrition and Immunization Status	N =243	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	6.2 (1.5-10.8)	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	16.0 (10.0-22.1)	Deteriorated
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 29.9 (21.1-38.6) 20.4 (15.3-25.5) 28.0 (22.0-34.0) 21.7 (14.1-29.4)	Improved
Public Health Indicators (HH)		
Household with access to sanitation facilities	48.8 (34.8-62.7)	Deteriorated
Household with access to safe water	31.2 (16.6-45.9)	Deteriorated
Proportion who reported to have consumed <4 food groups	11.3 (2.7-19.8)	Deteriorated
Household's Main Food Source- Purchase	98.4 (96.5-100.2)	Deteriorated
Mean CSI	8.8 (8.0-9.7)	Deteriorated
Overall Nutrition Situation	**Serious**	

Table 11: Summary of Key Nutrition Findings in Northeast Urban – *Deyr* 2015

	Bari Urban		Nugaal Urban	
	Clusters : 30 (N=636: Boys=326; Girls=310)		Clusters : 30 (N=854: Boys=464; Girls=390)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	15.4 (12.9-18.3)		12.2 (10.1-14.6)	
Boys	18.1 (14.9-21.8)	Improved	12.1 (9.4-15.3)	Improved
Girls	12.6 (9.2-16.9)		12.3 (9.1-16.4)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.6 (2.3- 5.8)		2.3 (1.4- 3.9)	
Boys	4.0 (2.2- 7.1)	Improved	2.2 (1.1- 4.1)	Sustained
Girls	3.2 (1.7- 6.2)		2.6 (1.3- 5.0)	
Mean of Weight for Height Z Scores	-0.88 ± 1.07	Improved	-0.84 ± 1.05	Improved
Oedema	0.6	Deteriorated	0.1	Sustained
Proportion with MUAC<12.5 cm or oedema)	5.2 (3.0- 8.9)		2.3 (1.2- 4.2)	
Boys	5.1 (2.4-10.3)	Deteriorated	2.3 (1.2- 4.5)	Improved
Girls	5.3 (3.1- 8.8)		2.3 (1.1- 4.5)	
Proportion with MUAC<11.5 cm or oedema	1.4 (0.6- 3.2)		0.5 (0.1- 1.5)	
Boys	1.2 (0.5- 3.1)	Deteriorated	0.4 (0.1- 1.7)	Improved
Girls	1.6 (0.6- 4.2)		0.5 (0.1- 2.1)	
Stunting (HAZ<-2)	5.6 (3.5- 8.8)		8.8 (6.4-11.9)	
Boys	6.1 (3.9- 9.4)	Improved	9.6 (6.7-13.8)	Deteriorated
Girls	5.1 (2.5-10.0)		7.8 (5.1-11.7)	
Severe Stunting (HAZ<-3)	1.1 (0.5- 2.5)		1.3 (0.7- 2.5)	
Boys	1.2 (0.4- 4.0)	Sustained	2.0 (1.1- 3.5)	Deteriorated
Girls	1.0 (0.3- 3.1)		0.5 (0.1- 2.2)	
Underweight (WAZ<-2)	10.9 (8.1-14.4)		8.9 (6.5-12.1)	
Boys	14.0 (9.9-19.4)	Improved	10.4 (7.4-14.3)	Improved
Girls	7.6 (5.1-11.2)		7.1 (4.4-11.2)	
Morbidity	26.4 (17.8-35.0)		3.0 (1.4-4.6)	
Boys	27.6 (17.6-37.6)	Deteriorated	3.8 (1.8-5.8)	Improved
Girls	25.2 (16.7-33.6)		2.0 (0.3-3.7)	
Diarrhoea	11.1 (7.2-14.9)		1.5 (0.2-2.8)	
Boys	10.4 (5.9-14.8)	Deteriorated	1.9 (0.4-3.4)	Improved
Girls	11.8 (7.0-16.6)		1.0 (0.0-2.4)	
Pneumonia	15.6 (8.0-23.2)		0.1 (0.0-0.3)	
Boys	17.2 (7.2-27.2)	Deteriorated	0.2 (0.0-0.6)	Improved
Girls	14.0 (8.1-19.8)		0.0 (0.0-0.0)	
Fever	0.6 (0.0-1.4)		1.4 (0.4-2.4)	
Boys	0.9 (0.0-2.2)	Sustained	1.7 (0.5-2.9)	Improved
Girls	0.3 (0.0-1.0)		1.0 (0.0-2.2)	
Measles	0.3 (0.0-0.7)		0.0 (0.0-0.0)	
Boys	0.3 (0.0-0.9)	Deteriorated	0.0 (0.0-0.0)	Sustained
Girls	0.3 (0.0-1.0)		0.0 (0.0-0.0)	
Public Health Indicators	N =594		N =592	
Proportion who reported to have consumed <4 food groups	0.5 (0.0-1.1)	Improved	0.3 (0.0-0.8)	Improved
Household's Main Food Source- Purchase	95.6 (92.2-98.9)	Improved	99.7 (99.2-100.1)	Improved
Mean CSI	37.7 (34.2-41.2)	Improved	6.6 (6.0-7.2)	Improved
Overall Nutrition Situation	**Critical**		**Serious**	

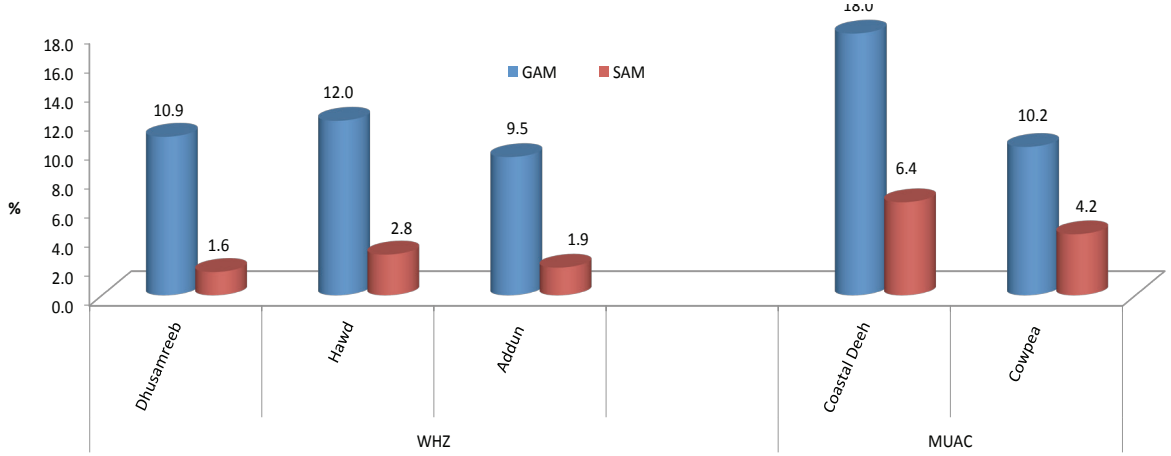
4.3: CENTRAL REGION

Five nutrition assessments (1 IDP and 4 rural livelihoods) were conducted in the Central Region of Somalia during the *Deyr* 2015 assessment period. Nutrition status of 3 593 children aged 6-59 months (1 841 boys and 1 752 girls) from 2 128 households was assessed. Integrated assessment of nutrition and food security were conducted in one IDP (Dhusamareb) and two rural livelihoods (Hawd and Addun) while in the other two livelihoods (Coastal Deeh and Cowpea Belt) representative MUAC assessments were conducted to assess current nutrition situation. The results of *Deyr* 2015 nutrition assessments and key highlights are discussed below.

Acute Malnutrition prevalence

The nutrition situation in Central regions shows deterioration in nutrition situation was observed among livelihood of Coastal Deeh (from Critical to Very Critical). Nutrition situation is sustained as Serious among Hawd livelihoods and Dhusamareb IDP**.** And an improvement has been noted in Cowpea belt livelihood from Critical to Serious and Addun from Serious to Alert.

Figure 19: Prevalence of Acute Malnutrition in Central regions - Deyr 2015



There were no significant gender differences noted among boys and girls with a sex ratio of 1. Similarly the difference in prevalence of acute malnutrition between the younger children (6-23 months) and older children (24-59 months) were not statistically significant.

Key highlights:

Hawd: *Deyr* 2015/16 assessment results show Serious levels of GAM (12.0%) prevalence and SAM (2.8%) among Hawd Central livelihood which is a sustained situation when compared to Serious GAM in *Gu*'2015 (14.3%) while an improvement compared to *Deyr* 2014 (16.1%).

Addun: Addun livelihood recorded Alert prevalence of GAM prevalence of 9.5 percent and SAM prevalence of 1.9 percent which shows improvement from Serious (12.5% GAM) nutrition situation seen during *Gu* 2015, or sustained Alert in *Deyr* 2014/15 (9.7%).

Dhusamareb IDP: Dhusamareb IDPs show Serious levels of GAM (10.9%) and SAM (1.6%) which are sustained Serious since *Deyr* 2014/15 (14.4% GAM). Current prevalence of GAM is an improvement when compared to the Serious GAM of 14.4 percent observed in *Deyr* 2014.

Cowpea Belt: The current nutrition situation in Cowpea is observed to be Serious (GAM MUAC of 10.2% and SAM MUAC of 4.2%). This is an improvement when compared to the Critical level of MUAC (10.9%) recorded in *Gu* 2015.

Coastal Deeh: Deteriorated from Critical to Very Critical prevalence of acute malnutrition is noted among Coastal Deeh (18.0% GAM MUAC and 6.4% SAM MUAC) when compared with the *Gu* 2015 (12.1% GAM-*MUAC)* and *Deyr* 2014 (12.6% GAM-MUAC). However current high MUAC prevalence suggests deterioration in nutrition situation attributed to low immunization coverage and lack of access to humanitarian interventions.

Stunting and underweight prevalence

Sustained low level of stunting prevalence (<20%) was seen during *Deyr* 2015 among different livelihoods of Central regions (Hawd, Addun and Dhusamareb IDPs). Among Dhusamareb IDPs a statistically significant($p<0.05$) deterioration compared to *Gu* 2015 has been observed.

Table 12: Stunting and underweight prevalence for Central Region

	STUNTING			UNDERWEIGHT		
	Deyr 2015	Gu 2015	*Deyr* 2014	*Deyr* 2015	Gu 2015	*Deyr* 2014
Dhusamareb IDP	14.1	6.8	31.1	11.7	8.9	26.2
Hawd Central	6.6	8.1	7.7	11.8	12.5	12.0
Addun Central	6.6	7.6	8.4	9.3	12.7	9.5

Sustained Medium prevalence of underweight (10-19.9%) was also noted among Dhusamareb IDPs and Hawd pastoral while an improvement in Addun from Medium to Low.

Mortality

All Central livelihoods report Acceptable levels of crude and under five death rates <0.5-and <1/10 000/day during the last 90 days from the period of assessment. This indicated a stable public health and civil security in Central regions.

Morbidity

Highest morbidity levels were recorded among Hawd (40.0%), Addun livelihood (42.2%) and Dhusamareb IDPs (28.5%), while morbidity levels among other livelihoods Cowpea and Coastal Deeh was <20 percent.

Immunization coverage

High coverage (> 80%) with Vitamin A supplementation was observed in Hawd and Addun pastoral, while Dhusamareb reported the least with 17.5 percent. Measles vaccination was (< 80%) among all the livelihoods assessed in central regions of Somalia.

Maternal malnutrition

Very Critical levels of maternal malnutrition levels was recorded Coastal Deeh (>31.5%), while Dhusamareb IDPs show Critical level of maternal malnutrition (23.4 – 31.4%). Addun is the only livelihood with Alert prevalence of maternal malnutrition level (12.7%).

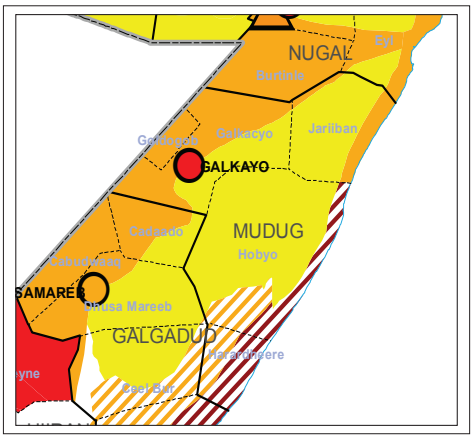
Dietary diversification

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

Current Nutrition Situation:

Very Critical nutrition situation among Coastal Deeh and Serious among Dhusamareb, Hawd and Cowpea Belt was reported in *Deyr* 2015. During last 6 months (*Deyr* 2015 to *Gu* 2015) nutrition situation among Hawd and Dhusamareb IDPs has sustained Serious while Addun has improved from Serious to Alert and cowpea belt from Critical to Serious (Map 11).

Map 10: Central Regions Current Nutrition Situation, (January 2016)



Current Hot Spots

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

Current Food Security Situation- Post *Deyr* 2015/16

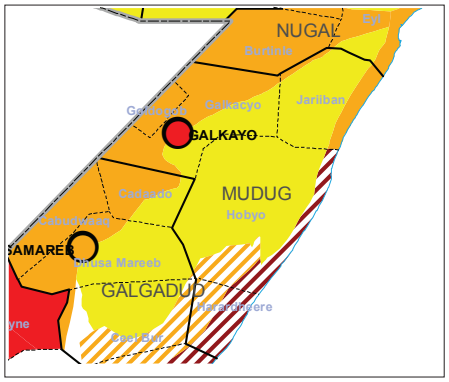
The current *Deyr* 2015) food security situation has improved in central regions, when compared with post *Gu* 2015. The current food security situation indicates Stressed (IPC phase 2) among livelihoods of Coastal Deeh and Cowpea Belt, while Hawd and Addun pastoral livelihoods are classified as Minimal (IPC phase 1).

Nutrition Outlook (February to April 2016)

Nutrition situation among most Central livelihoods is expected to be sustained in same phase (as current) with exception of Addun as deterioration is expected within the next three months to Serious.

Figure 20: Nutrition Situation and Outlook in Central regions

Current Nutrition Situation - Jan 2016



Projected Nutrition Situation - Feb-Apr 2016

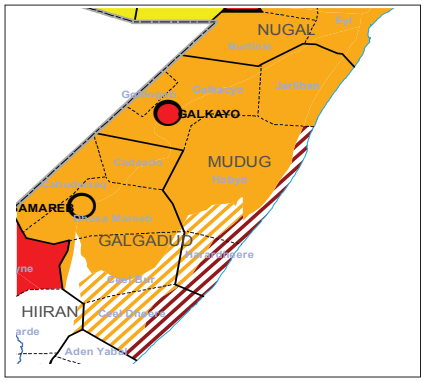


Table 13: Summary of Key Nutrition Findings in Central livelihoods and IDPs - *Deyr* 2015

	Hawd Pastoral		Addun Pastoral		Dhusamareb IDP	
	Clusters : 28 (N=790: Boys=429; Girls=361)		Clusters : 28 (N=736: Boys=383; Girls=353)		Clusters : Exhaustive (N=384: Boys=189; Girls=195)	
Indicator	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	12.0 (8.4-17.0)	Improved	9.5 (6.5-13.7)	Improved	10.9	Deteriorated
Boys	13.8 (9.1-20.2)		12.5 (8.3-18.6)		12.2	
Girls	10.0 (6.4-15.2)		6.2 (3.8-10.1)		9.7	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.8 (1.8- 4.4)	Sustained	1.9 (1.1- 3.2)	Sustained	1.6	Improved
Boys	3.0 (1.7- 5.4)		2.9 (1.5- 5.5)		1.1	
Girls	2.5 (1.2- 5.1)		0.8 (0.3- 2.7)		2.1	
Mean of Weight for Height Z Scores	-0.76 ± 1.08	Sustained	-0.57 ± 1.04	Improved	-0.49 ± 1.04	Improved
Oedema	0	Sustained	0.0	Sustained	0.0	Improved
Proportion with MUAC<12.5 cm or oedema)	8.2 (5.8-11.5)	Deteriorated	3.5 (1.9- 6.3)	Improved	11.7	Deteriorated
Boys	8.8 (5.5-13.7)		2.6 (1.2- 5.4)		8.9	
Girls	7.4 (4.7-11.4)		4.5 (2.1- 9.2)		14.4	
Proportion with MUAC<11.5 cm or oedema	2.0 (1.0- 3.8)	Deteriorated	0.1 (0.0- 1.1)	Improved	3.6	Deteriorated
Boys	2.5 (1.2- 5.5)		0.0 (0.0- 0.0)		2.1	
Girls	1.4 (0.4- 5.1)		0.3 (0.0- 2.3)		5.0	
Stunting (HAZ<-2)	6.6 (4.4- 9.8)	Improved	6.6 (4.1-10.5)	Improved	14.1	Deteriorated
Boys	9.1 (6.2-13.2)		9.1 (5.5-14.7)		13.0	
Girls	3.6 (1.6- 7.7)		3.9 (2.0- 7.8)		15.2	

Severe Stunting (HAZ<-3) Boys Girls	1.1 (0.5- 2.7) 1.4 (0.6- 3.4) 0.8 (0.2- 3.7)	Deteriorated	0.8 (0.3- 2.0) 1.0 (0.4- 2.6) 0.6 (0.1- 2.3)	Improved	3.8 4.7 3.0	Deteriorated
Underweight (WAZ<-2) Boys Girls	11.8 (8.3-16.6) 14.6 (9.9-21.0) 8.6 (0.5- 4.0)	Improved	9.3 (6.2-13.8) 13.0 (8.6-19.0) 5.3 (2.8- 9.9)	Improved	11.7 10.9 12.5	Deteriorated
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.26 (0.13-0.50)	Improved	0.04 (0.01-0.30)	Improved	0.08	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.13 (0.02-0.98)	Improved	0.00 (0.00-0.00)	Improved	0.27	Improved
Morbidity Boys Girls	40.0 (30.5-49.2) 38.7 (27.6-49.7) 41.5 (33.0-50.0)	Deteriorated	42.2 (34.3-50.0) 40.1 (32.1-48.2) 44.4 (34.9-53.9)	Deteriorated	28.5 31.8 25.4	Improved
Diarrhoea Boys Girls	13.8 (8.9-18.7) 14.4 (8.5-20.2) 13.2 (7.9-18.5)	Deteriorated	11.4 (7.2-15.6) 10.3 (5.7-14.9) 12.6 (7.3-17.9)	Deteriorated	4.1 4.1 4.0	Improved
Pneumonia Boys Girls	12.8 (7.8-17.8) 11.8 (6.9-16.7) 14.0 (8.319.8)	Deteriorated	9.9 (4.7-15.1) 8.7 (4.3-13.2) 11.2 (4.5-17.9)	Improved	10.9 11.4 10.4	Improved
Fever Boys Girls	32.2 (24.3-40.0) 30.1 (21.0-39.2) 34.6 (27.3-41.9)	Deteriorated	36.5 (29.6-43.5) 34.2 (26.6-41.8) 39.1 (30.9-47.3)	Deteriorated	25.8 28.1 23.5	Improved
Measles Boys Girls	0.6 (0.0-1.3) 0.5 (0.0-1.1) 0.8 (0.0-2.0)	Deteriorated	1.1 (0.2-1.9) 1.0 (0.1-2.0) 1.1 (0.0-2.2)	Improved	0.5 1.0 0.0	Improved
Vitamin A Supplementation Boys Girls	81.5 (73.1-90.0) 81.9 (72.5-91.4) 81.0 (73.0-89.1)	Improved	80.5 (73.9-87.0) 83.5 (77.5-89.6) 77.1 (69.3-84.9)	Improved	17.5 22.8 12.4	Deteriorated
Measles Vaccination Boys Girls	83.8 (77.7-89.9) 83.1 (76.2-90.0) 84.6 (78.5-90.7)	Improved	78.7 (72.5-84.9) 81.4 (75.5-87.4) 75.7 (68.4-83.0)	Improved	36.5 37.3 35.8	Improved
Polio Immunization Boys Girls	95.9 (93.2-98.5) 95.6 (92.2-98.5) 96.2 (93.8-98.5)	Improved	94.6 (91.8-97.5) 95.1 (92.3-97.9) 94.1 (90.9-97.4)	Improved	95.9 95.9 96.0	Improved
Women Nutrition and Immunization Status	N =179		N =166		N =76	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	24.0 (11.7-36.4)	Deteriorated	6.6 (1.0-12.3)	Deteriorated	10.5	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	45.3 (28.2-62.3)	Deteriorated	12.7 (5.8-19.5)	Deteriorated	28.9	Improved
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 12.4 (8.0-16.8) 22.7 (15.0-30.0) 23.6 (15.0-32.2) 41.2 (32.2-50.2)	Deteriorated	 17.4 (10.8-23.9) 15.9 (7.4-24.5) 33.3 (25.0-41.7) 33.3 (23.8-42.8)	Sustained	 34.6 10.4 19.2 35.7	Sustained
Public Health Indicators	N =484		N =423		N= 225	
Household with access to sanitation facilities	71.3 (57.7-84.8)	Improved	63.7 (50.5-76.9)	Improved	91.2	Deteriorated
Household with access to safe water	42.6 (25.3-59.9)	Sustained	32.8 (14.7-50.9)	Deteriorated	100	Improved
Proportion who reported to have consumed <4 food groups	1.0 (0.0-2.1)	Improved	0.9 (0.0-2.1)	Sustained	99.1	Improved
Household's Main Food Source- Purchase	96.9 (94.1-99.7)	Deteriorated	96.5 (93.7-99.2)	Deteriorated	90.3	Improved
Mean CSI	10.9 (9.7-12.1)	Deteriorated	10.8 (9.9-11.7)	Deteriorated	32.5	Deteriorated
Overall Nutrition Situation	**Serious**		**Alert**		**Serious**	

Table 14: Summary of Key Nutrition Findings in Central Rural livelihoods – *Deyr* 2015

Indicator	Coastal Deeh of central-(MUAC)		Cowpea-Belt of central-(MUAC)	
	Clusters : 26 (N=846: Boys=422; Girls=424)		Clusters : 26 (N=837: Boys=418; Girls=419)	
	n% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status				
Mean of Weight for Height Z Scores	141.4±23.4		142.6±15.0	
Oedema	0.8		0.4	
Proportion with MUAC<12.5 cm or oedema) Boys Girls	18.0 (14.2-22.4) 20.1 (15.3-26.0) 15.8 (11.6-21.2)	Deteriorated	10.2 (7.7-13.2) 8.4 (5.8-11.9) 11.9 (8.9-15.9)	Deteriorated
Proportion with MUAC<11.5 cm or oedema Boys Girls	6.4 (5.1- 8.0) 7.1 (5.0- 9.9) 5.7 (3.7- 8.6)	Deteriorated	4.2 (4.4- 8.1) 3.3 (1.9- 5.) 5.0 (3.2- 7.8)	Deteriorated
Death Rate				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.42 (0.24-0.74)	Improved	0.23 (0.09-0.54)	Deteriorated
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.66 (0.31-1.43)	Improved	0.48 (0.18-1.26)	Deteriorated
Contextual Factors				
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	13.6 (11.2-16.0)	Improved	16.8 (10.9-22.8)	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0) (n=322)	25.3 (21.3-29.3)	Improved	30.2 (22.6-37.7)	Deteriorated
Morbidity Boys Girls	9.8 (6.0-1.6) 9.0 (4.9-13.1) 10.6 (5.7-15.5)	Sustained	13.6 (7.8-19.4) 14.1 (7.4-20.8) 13.1 (7.6-18.7)	Improved
Diarrhoea Boys Girls	6.9 (3.1-10.7) 6.4 (2.2-10.7) 7.3 (2.9-11.7)	Deteriorated	8.4 (3.8-13.1) 8.4 (3.0-13.7) 8.4 (4.0-12.9)	Deteriorated
Pneumonia Boys Girls	3.7 (2.1-5.2) 3.5 (1.4-5.7) 3.8 (1.7-5.9)	Improved	5.7 (2.8-8.7) 5.3 (2.3-8.2) 6.2 (2.8-9.7)	Deteriorated
Fever Boys Girls	5.4 (3.7-7.1) 5.2 (3.0-7.4) 5.7 (2.9-8.4)	Deteriorated	7.8 (4.7-10.8) 8.4 (4.8-12.0) 7.2 (3.7-10.6)	Improved
Measles Boys Girls	0.8 (0.2-1.5) 0.7 (0.0-1.5) 0.9 (0.0-1.9)	Sustained	0.1 (0.0-0.4) 0.0 (0.0-0.0) 0.2 (0.0-0.7)	Improved
Vitamin A Supplementation Boys Girls	34.2 (21.4-47.1) 33.8 (20.3-47.3) 34.7 (21.8-47.5)	Improved	18.3 (8.1-28.4) 19.1 (8.6-29.6) 17.4 (7.0-27.8)	Improved
Measles Vaccination Boys Girls	28.4 (16.1-40.6) 28.2 (15.6-40.8) 28.5 (16.2-40.9)	Deteriorated	12.1 (3.8-20.3) 12.4 (4.1-20.8) 11.7 (2.8-20.6)	Improved
Polio Immunization Boys Girls	34.7 (21.7-47.8) 34.8 (21.0-48.5) 34.7 (21.7-47.7)	Deteriorated	17.8 (7.7-27.9) 18.2 (8.0-28.4) 17.4 (6.9-27.9)	Improved
Overall Nutrition Situation	**Very Critical**		**Serious**	

4.4 SOUTH REGIONS

Nutrition status of children (6-59 month) from 11 rural livelihoods, two urban and five IDPs were assessed during the *Deyr* 2015 surveys. Owing to constraints in access, the nutrition situation in the rural livelihoods of South Gedo and Juba were assessed through MUAC surveys.

4.4.1 GEDO REGION

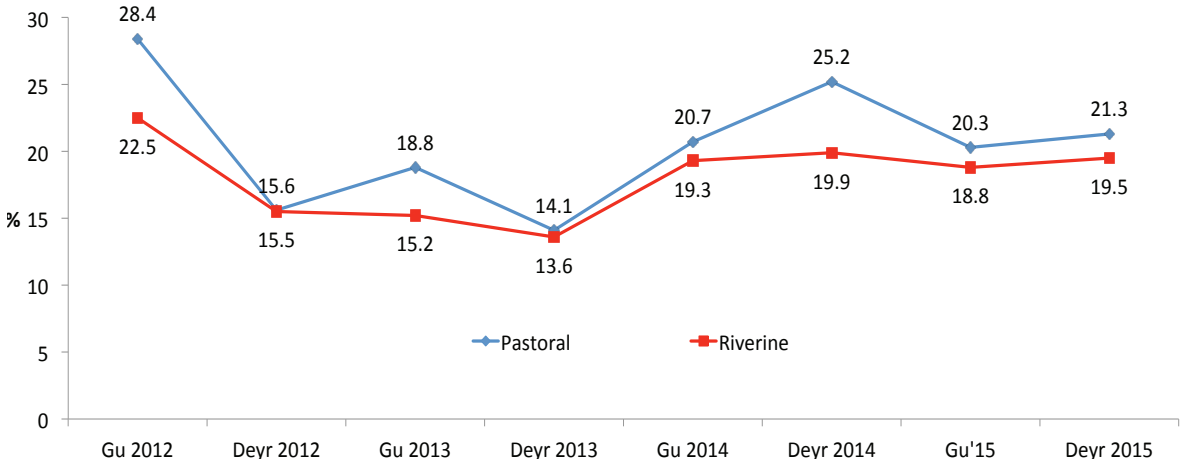
FSNAU conducted six nutritional assessments in Gedo region (3 comprehensive SMART surveys- 1 in Dolow IDPs and 2 in North Gedo rural livelihoods and 3 rapid MUAC surveys). During the survey the nutrition status of 5 730 children aged 6-59 months from 3 083 households were assessed. The results of post *Deyr* 2015 assessments are summarized below:

Acute Malnutrition prevalence

Deyr 2015 assessment results show sustained prevalence of Critical levels of GAM among North Gedo pastoral (21.3%) and North Gedo riverine livelihoods (19.5%) since *Deyr* 2014. The current SAM prevalence (4.1%) show sustained Critical SAM compared to *Gu* 2015, but a deterioration compared to Serious prevalence (3.7%) reported in *Deyr* 2014 among North Gedo pastoral population.

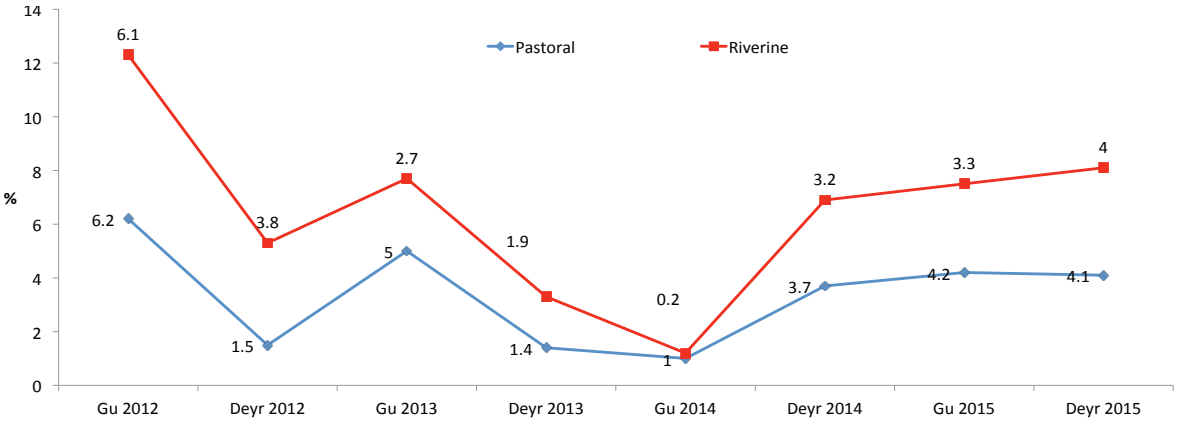
The SAM prevalence among North Gedo riverine also showed a deterioration (3.3 % in *Gu* 2015 to 4.0 % in *Deyr* 2015). The major factors that could have contributed to the deteriorating nutrition status include limited access to health facilities, clean water, sanitation services, high morbidity, low immunization coverage and poor child care. Close monitoring of the nutrition situation of this population groups remains crucial, rehabilitation of malnourished children in addition to supporting sustainable livelihoods and improving access to health facilities, especially in the rural areas.

Figure 21: GAM trends among Pastoral and Riverine livelihoods in North Gedo region



GAM trends in North Gedo pastoral and riverrine livelihoods exhibit no improvement since region since *Deyr* 2013.

Figure 22: SAM trends among Pastoral and Riverine livelihoods in North Gedo region



Dolow IDP settlements recorded sustained Critical prevalence of GAM (25.0%) [Figure 3] as well as SAM (6.0%).The GAM prevalence observed in *Deyr* 2015 is 3.4 percent higher when compared to *Deyr* 2014 and only 1.4 percent lower in *Gu* 2015, suggesting protracted nature of the severe acute malnutrition (Figure 23). The morbidity rates reported in the area are high (24.3 %), further exacerbating the poor nutrition situation in the IDPs. Low immunization coverage and limited health facilities, poor Health seeking behaviour, poor food consumption (46 % HHs), as well as very high vulnerability to food insecurity (>75% expenditures on food are the underlying factors also affecting the nutritional status of the population.

Figure 23: Trends in GAM and SAM prevalence among Dolow IDPs

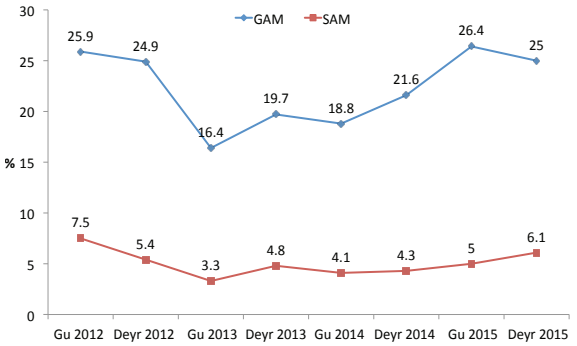
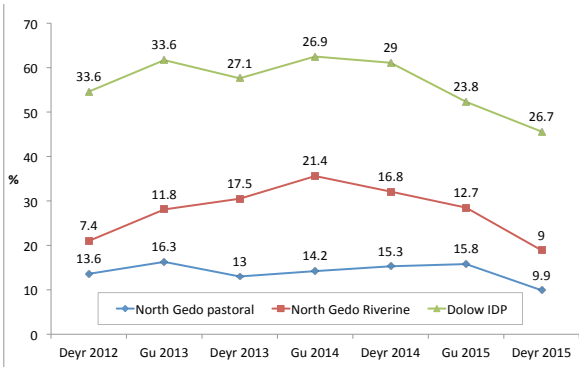


Figure 24: Trends in stunting among different livelihoods of N Gedo region



Stunting prevalence

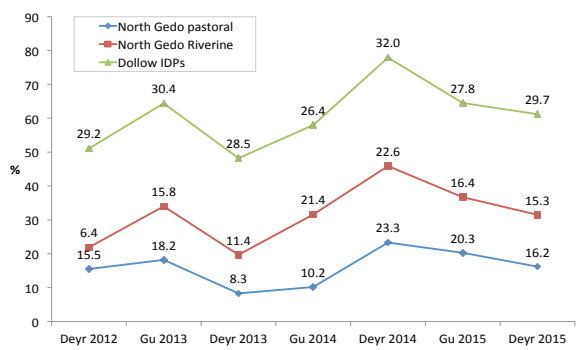
Deyr 2015 results show sustained Low levels of stunting prevalence among Gedo pastoral (9.9%) and Riverine (9.0%) since *Deyr* 2014 (Figure 24). Dolow IDPs show Medium levels of stunting (26.7%) in *Deyr* 15 which is sustained since *Deyr* 2013 (27.1%) but is an improvement from High levels of stunting recorded in *Gu* 2013 (37.1%) or Deyr 2012/13 (33.6 %).

Underweight prevalence

Medium prevalence underweight was observed among North Gedo pastoral (16.2 %) which reflects an improvement from High prevalence observed in *Deyr* 2014. Medium prevalence of underweight was observed among North Gedo Riverine (15.3 %) which reflects an improvement from High and Medium prevalence of underweight recorded in *Deyr* 2014/15 and *Gu* 2014 respectively (Annex 14).

High Prevalence was seen among Dolow IDPs (29.7 %) which sustained since Post *Gu*2015 and an improvement compared to the Very High prevalence recorded since *Deyr* 2014 (Figure 25).

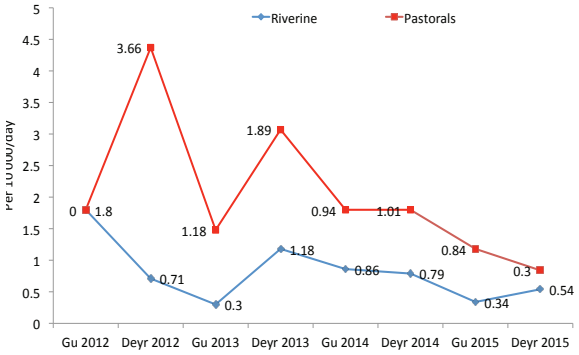
Figure 25: Trends in Underweight prevalence



Mortality

In *Deyr* 2015 the mortality levels among North Gedo riverine and pastoral population were within the Acceptable range (<0.5 CDR and <1/10 000/day U5DR). significant improvement from Serious U5DR (1.01) in *Deyr* 2014 to Alert levels of 0.84 recorded in *Gu* 2014 among North Gedo pastoral to current Acceptable threshold showed the general public health environment over this period.

Figure 26: Trends of Under Five Mortality in North Gedo



D*eyr* 2015results show Crude and under five death rates in Dolow IDPs were within the Acceptable range of <0.5 and <1/10 000/day respectively. (Annex 16). However, an improvement from Serious levels observed during *Gu* 2015 when CDR of 0.90/10 000/day and U5DR of 1.20/10 000/day were recorded.

Morbidity

In *Deyr* 2015 levels of morbidity recorded among children<5 yrs in North Gedo pastoral (17.4%), Riverine livelihood 14.1%) and Dolow IDPs (24.3 %), is lower compared to *Deyr* 2014 and appears to be the key aggravating factors for high prevalence of acute malnutrition observed in these livelihoods.

Immunization coverage

Levels of measles vaccination coverage (< 81-90%) are recorded in both livelihoods of North Gedo Pastoral and Riverine Populations which is good coverage but still below the SPHERE recommended coverage of 95 percent. Vitamin A supplementation coverage is around 70-84 percent while coverage of polio immunization > 90 percent. Dolow IDPs recorded low levels of vitamin A supplementation (64.7%),and measles vaccination (65.9%) though coverage of Polio immunization was high (95.6%).

Maternal malnutrition

Critical levels of maternal malnutrition (>23%) were recorded among the pregnant and lactating women in Gedo Pastoral and Riverine livelihoods, indicating an improvement from Serious levels seen in *Gu* 2015. Dolow IDPs recorded Serious levels (18.1%).

The MUAC assessment from *Deyr* 2015 conducted in South Gedo shows sustained Critical nutrition situation among the pastoral (11.6%), and serious among Riverine (10.5%) and Agro-pastoral (10.6 %) [Table 2]. Measles outbreak was reported in parts of South Gedo, particularly in Bardera districts, and high morbidity >18 - 20 percent were recorded among the Pastoral, riverine and Agro pastoral livelihoods. This may have contributed to the poor nutrition situation seen among S Gedo livelihoods. The morbidity rates are mainly linked to limited availability of health services and access to health facilities in the region and poor access to WASH.

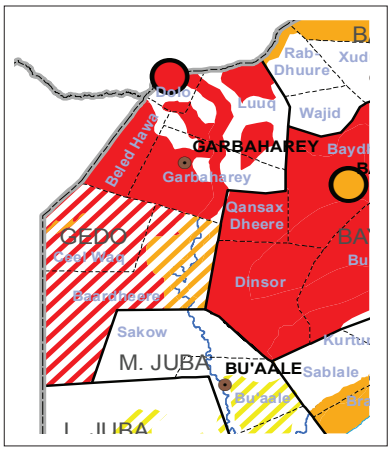
However, persistent insecurity and armed conflicts may affect food security situation in the southern parts of the region, particularly in Garbaharey and Bardheere districts, resulting in human displacements internally as well as towards neighbouring countries. The recent ongoing conflicts which started in January 2015 will likely continue and may reduce poor households' access to markets and water points as well as trade movements as the level of military operations increases.

Current Nutrition Situation

Map 12 shows the current nutrition situation (*Deyr* 2015). Sustained levels of Critical GAM prevalence was noted among North livelihoods as well as among pastoral livelihoods in the South Gedo region. An improvement was noted among Agro-pastoral & riverine livelihoods in the South Gedo from sustained critical nutrition situation to Serious level recorded in the *Deyr* 2015 assessments. Nevertheless, Dolow IDPs indicate sustained Critical GAM-(25.0 %) and Very Critical SAM (6.1%).

All livelihoods of Gedo region with the exception of South Gedo Riverine and Agro-pastoral (South with GAM-MUAC > 10.6 percent & North with GAM > 15%) and Dolow IDPs are current hot spots for any humanitarian assistance and intervention.

Map 11: Current Nutrition Situation January 2016 in Gedo region



Current food security situation

The food security situation in *Deyr* 2015 remains stable which is an improvement in all livelihoods of the Gedo region from stressed (IPC phase 2) identified in *Deyr* 2014. In January 2016, all livelihoods were classified as Minimal (IPC Phase1) acute food insecurity. The total population Stressed (IPC Phase 2) was estimated at 30 000 people, which is 62 percent lower than the population in last *Gu* 2015 ((79 000 people). In the most likely scenario, the area classification is expected to remain the same in all livelihood zones during February-June 2016. The estimates of the population Stressed (IPC Phase 2) is projected to increase (by 20%) to 36 000 people.

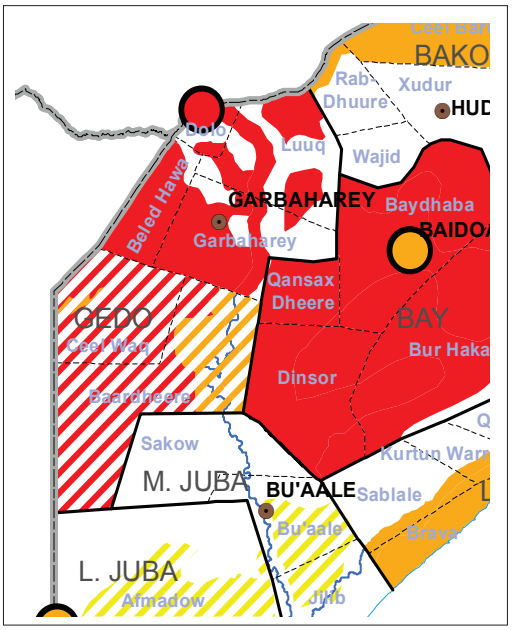
Nutritional outlook (February to April 2016)

- The critical levels of acute malnutrition seen in Gedo region is largely expected to be sustained as critical in the coming three months due to the prevailing high morbidity rates, low access to humanitarian interventions, decreased milk productivity and access in upcoming Jilaal season as a result of outmigration, declining poor households' access to markets and water points as well as trade movements due to tense insecurity and on-going military operations.
- High vulnerability to food insecurity among Dolow IDPs is likely to sustain

The figure below show current and projected nutrition situation across livelihoods in Gedo Region.

Figure 27: Nutrition Situation and Outlook in Gedo region

Current Nutrition Situation Gedo regions, (Jan 2016)



Projected Nutrition Situation, Gedo regions (Feb – April 2016)

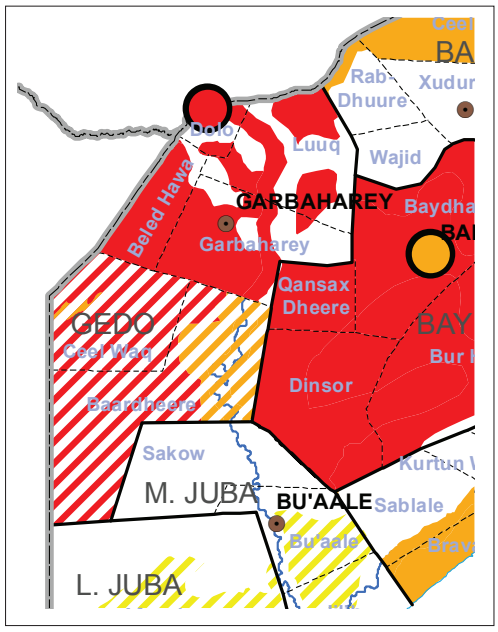


Table 15: Summary of Key Nutrition Findings North Gedo Regions *Deyr* 2015

	North Gedo Riverine		North Gedo Pastoral	
	Clusters:29 (n=1059;Boys=545;Girls=514)		Clusters : 28 N=952;Boys=498; Girls=454)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Global Acute Malnutrition (WHZ<-2 or oedema)	**19.5** (16.2-23.4)	Sustained	**21.3** (17.4-25.8)	Deteriorated
Boys	22.6 (18.6-27.1)		23.5 (18.2-29.8)	
Girls	16.3 (12.3-21.4)		18.9 (15.5-23.0)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	**4.0** (2.4- 6.6)	Improved	**4.1** (2.8- 5.9)	Sustained
Boys	5.1 (3.0- 8.8)		4.6 (3.2- 6.7)	
Girls	2.7 (1.3- 5.4)		3.5 (2.1- 5.8)	
Mean of Weight for Height Z Scores	-1.08±1.09		-1.21±1.06	
Oedema	0.0		0.0	
Proportion with MUAC<12.5 cm or oedema)	**4.6** (3.2- 6.7)	Improved	5.4 (3.9- 7.5)	Improved
Boys	4.3 (2.4- 7.7)		5.2 (3.3- 8.1)	
Girls	5.0 (3.2- 7.6)		5.7 (3.4- 9.3)	
Proportion with MUAC<11.5 cm or oedema	0.6 (0.3- 1.2)	Sustained	0.7 (0.3- 1.6)	Improved
Boys	0.0 (0.0- 0.0)		1.0 (0.4- 2.3)	
Girls	1.1 (0.6- 2.4)		0.4 (0.1- 1.8)	
Stunting (HAZ<-2)	9.0 (6.8-11.8)	Sustained	9.9 (7.4-13.1)	Sustained
Boys	11.6 (8.6-15.6)		12.6 (9.2-17.1)	
Girls	6.2 (4.2- 9.0)		6.9 (4.7-10.0)	
Severe Stunting (HAZ<-3)	1.2 (0.7- 2.3)	Sustained	1.4 (0.8- 2.5)	Sustained
Boys	1.7 (0.8- 3.6)		1.8 (0.9- 3.7)	
Girls	0.8 (0.3- 2.0)		0.9 (0.3- 2.4)	
Underweight (WAZ<-2)	15.3 (12.8-18.2)	Sustained	16.2 (13.1-19.8)	Sustained
Boys	18.7 (15.5-22.5)		19.9 (15.7-24.8)	
Girls	11.7 (9.2-14.8)		12.1 (9.2-15.7)	
Death rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.40 (0.25-0.63)	Sustained	0.16 (0.06-0.44)	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.54 (0.26-1.14)	Sustained	0.30 (0.06-1.37)	Improved
Morbidity	14.1 (7.7-20.4)	Sustained	17.4 (4.6-30.5)	Improved
Boys	12.9 (6.4-19.5)		16.5 (3.4-29.7)	
Girls	15.3 (8.4-22.1)		18.4 (5.3-31.5)	
Diarrhoea	3.9 (1.8-5.4)	Sustained	8.7 (0.2-17.6)	Improved
Boys	3.4 (1.1-5.7)		8.8 (0.0-18.5)	
Girls	4.0 (1.8-6.2)		8.6 (0.2-17.0)	
Pneumonia	5.4 (1.6-9.2)	Sustained	4.2 (0.5-8.0)	Improved
Boys	5.2 (0.9-9.5)		4.6 (0.0-9.3)	
Girls	5.5 (2.0-9.0)		3.9 (0.9-6.7)	

	North Gedo Riverine		North Gedo Pastoral	
	Clusters:29 (n=1059;Boys=545;Girls=514)		Clusters : 28 N=952;Boys=498; Girls=454)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Fever	7.8 (2.2-13.6)		14.1(0.7-27.4)	
Boys	6.7 (1.5-12.2)	Deteriorated	13.4 (0.01-26.8)	Improved
Girls	9.2 (2.7-15.7)		14.7 (1.1-28.5)	
Measles	0.0	Improved	0.0	Improved
Vitamin A Supplementation	74.5 (59.5-89.5)		84.3 (72.3-96.3)	
Boys	73.2 (57.1-89.2)	Sustained	85.4 (73.5-97.2)	Deteriorated
Girls	75.9 (61.5-90.4)		83.2 (70.3-96.0)	
Measles Vaccination	81.7 (71.4-92.0)		91.5 (85.5-97.5)	
Boys	80.5 (69.3-91.7)	Sustained	91.2 (84.6-97.9)	Deteriorated
Girls	83.0 (73.1-92.9)		91.8 (86.4-97.2)	
Polio Immunization	98.9 (98.3-99.6)		96.4 (92.5-100.3)	
Boys	98.6 (97.5-99.6)	Deteriorated	96.9 (93.4-100.3)	Improved
Girls	99.4 (98.8-100.1)		95.9 (91.5-100.3)	
Women Nutrition and Immunization Status	n=624			
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	4.2 (1.6-6.5)	Deteriorated	5.2 (2.1-8.3)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	27.1 (20.1-34.1)	Deteriorated	22.7 (14.1-31.4)	Sustained
Overall Nutrition Situation	**Critical**		**Critical**	

Table 16: Summary of Key Nutrition Findings in South Gedo Regions *Deyr* 2015

	South Gedo Pastoral		South Gedo Riverine		South Gedo Agro pastoral	
	Clusters: 26(n=793: Boys=406; Girls=387)		Clusters : 27 (n=1107: Boys=559;Girls=548)		Clusters: 28 (n=1121 :Boys= 557; Girls=564)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Child Nutrition Status						
Proportion with MUAC<12.5 cm or oedema)	**11.6** (10.2-13.2)		**10.5** (8.6-12.7)		**10.6** (8.2-13.6)	
Boys	10.6 (8.2-13.6)	Sustained	11.6 (9.0-14.9)	Improved	10.8 (7.5-15.2)	Improved
Girls	12.7 (10.2-15.6)		9.3 (7.1-12.1)		10.5 (8.0-13.5)	
Proportion with MUAC < 115 mm or edema	**1.0** (0.5- 1.9)		**0.4** (0.1- 1.0)		**0.4** (0.1- 1.2)	
Boys	1.0 (0.4- 2.6)	Improved	0.2 (0.0- 1.4)	Deteriorated	0.4 (0.1- 1.5)	Improved
Girls	1.0 (0.4- 2.7)		0.5 (0.2- 1.7)		0.4 (0.1- 1.4)	
Oedema	0.0		**0.0**		0.2	
Morbidity	**18.6** (12.2-25.1)		**20.3** (15.8-24.8)		**28.3** (23.3-33.2)	
Boys	18.9 (12.9-25.1)	Improved	19.7 (15.5-23.8)	Deteriorated	25.5 (19.4-31.6)	Deteriorated
Girls	18.3 (10.7-26.0)		20.9 (14.9-27.1)		31.0 (25.7-36.3)	
Diarrhoea	3.3 (1.5-5.0)		**8.3** (6.5-10.1)		18.5 (14.7-22.4)	
Boys	3.9 91.5-6.4)	Improved	7.6 (5.5-9.9)	Deteriorated	15.9 (10.9-21.0)	Deteriorated
Girls	2.6 (0.5-4.6)		8.9 (6.3-11.6)		21.1 (17.0-25.2)	

Pneumonia Boys Girls	2.9 (1.6-4.2) 3.2 (1.5-4.9) 2.6 (0.7-4.5)	Improved	7.2 (5.3-9.2) 6.8 (4.1-9.4) 7.7 (5.2-10.2)	Deteriorated	12.9 (8.8-17.1) 12.2 (7.4-17.0) 13.7 (9.2-18.1)	Deteriorated
Fever Boys Girls	**15.6 (**8.8-22.4) 15.3 (8.9-21.6) 16.0 (8.0-24.0)	sustained	**14.9** (10.5-19.3) 14.1 (10.0-18.2) 15.7 (9.9-21.4)	Deteriorated	15.3 (10.6-20.0) 14.2 (9.3-19.0) 16.5 (10.9-21.9)	Improved
Measles Boys Girls	**0.3** (0.0-0.6) 0.5 (0.0-1.2) 0.0	sustained	**1.7** (0.8-2.6) 2.1 (0.9-3.4) 1.3(0.2-2.3)	Sustained	0.9 (0.0-2.5) 0.5 (0.0-1.4) 1.2 (0.0-3.8)	Sustained
Overall Nutrition Situation	**Critical**		**Serious**		**Serious**	

Table 17: Summary of Key Nutrition Findings in Dolow IDPs *Deyr* 2015

	Dolow IDPs	
	(N=700; Boys=364; Girls=336)	
Indicator	% (CI)	Change from *Gu* 2015
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**25.0** (21.2-29.3) 25.3 (20.6-30.7 24.7 (20.1-30.0)	Sustained
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	6.1 (3.9- 9.5) 7.7 (4.6-12.7) 4.5 (2.5- 7.9	Sustained
Mean of Weight for Height Z Scores	-1.22±1.15	
Oedema	0.0	
Proportion with MUAC<12.5 cm Boys Girls	**9.8** (7.1-13.4) 7.5 (5.0-11.3) 12.2(8.7-16.8	Deteriorated
Proportion with MUAC<11.5 cm Boys Girls	**2.4** (1.3- 4.4) 1.3 (0.4- 4.8) 3.5 (2.0- 6.1)	Sustained
Stunting (HAZ<-2) Boys Girls	**26.7** (22.3-31.6) 32.2 (26.3-38.7) 20.9 (16.1-26.7	Sustained
Severe Stunting (HAZ<-3) Boys Girls	8.7 (6.4-11.6) 9.9 (6.6-14.4) 7.4 (5.0-10.8	Improved
Underweight (WAZ<-2) Boys Girls	**29.7** (25.6-34.2) 32.8 (26.8-39.4) 26.3 (22.2-30.9)	Sustained
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.27 (0.14-0.53))	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.40 (0.13-1.23)	Improved
Morbidity Boys Girls	24.3 (15.0-33) 27.2 (16.5-37.9) 21.2 (12.4-29.9)	Improved
Diarrhoea Boys Girls	7.8 (4.1-11.5) 8.3 (4.1-12.6) 7.3 (3.2-11.3)	Deteriorated

Pneumonia Boys Girls	6.4 (2.0-10.7) 7.3(1.7-12.8) 5.5 (0.6-16.4)	Sustained
Fever Boys Girls	14.5 (6.5-22) 17.2(7.8-26.6) 11.6 (4.8-18.50	Improved
Measles Boys Girls	0.3(0.0-0.8) 0.3 (0.0-0.8) 0.3(0.0-0.9)	Improved
Vitamin A Supplementation Boys Girls	64.7 (50.6-78.8) 65.9 (51.8-80.2) 65.3 (51.7-78.9)	Deteriorated
Measles Vaccination Boys Girls	61.4 (48.2-74.6) 61.2 (47.4-74.9) 61.6 (47.8-75.4)	Deteriorated
Polio Immunization Boys Girls	93.2 (89.4-96.9) 93.3 (89.9-96.5) 93.0(88.2-97.9)	Sustained
Women Nutrition and Immunization Status		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	3.4 (1.1-5.6)	Deteriorated
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	18.1 (12.0-24.2)	Deteriorated
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	24.7 (14.9-34.9) 31.8 (20.6-42.9) 13.6 (7.2-20.0) 29.9 (19.2-40.5)	Deteriorated
Public Health Indicators (HH)	274	
Household with access to sanitation facilities	86.1 (78.9-93.3)	Deteriorated
Household with access to safe water	87.9 (80.9-94.9)	Deteriorated
Proportion who reported to have consumed <4 food groups	14.9 (7.8-22.1)	Deteriorated
Household's Main Food Source- Purchase	96.0 (92.6-99.5)	Sustained
Mean CSI	41.1	Deteriorated
Overall Nutrition Situation	**Critical**	

4.4.2: MIDDLE AND LOWER JUBA REGIONS

Three comprehensive SMART plus one MUAC-based nutrition assessments were conducted in the Juba region for Deyr 2015. The three SMART nutrition assessments covered 1 189 households with 2 132 children aged 6-59 months (1 020 boys and 1 112 girls). The *Deyr* 2015 assessment findings are summarized below.

Acute Malnutrition prevalence

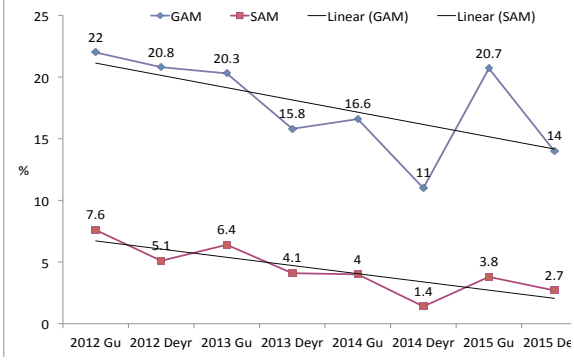
Dhobley IDPs

A comprehensive nutrition assessment conducted in Dhobley in November 2015 revealed a Serious nutrition situation of GAM 14 percent with SAM prevalence of 2.7 percent. This indicates that there is sustained nutrition situation when compared to GAM in *Deyr* 2014 (11%). However, the difference was not statistically significant (p >0.05). There is also a sustained Serious SAM (2.7%) noted in *Deyr* 2015, when compared to Serious levels of SAM (3.8%) recorded in Deyr 2014.

Kismayo IDPs

The nutrition assessment conducted in Kismayo IDPs in November 2015 recorded a Sustained Serious levels of GAM prevalence of 12.9 percent and SAM prevalence of 2.9 percent. This is a deterioration when compared with Alert situation (8.5% GAM) recorded in *Deyr* 2014. There is no statistically significant difference between *Deyr* 2015 (12.9% GAM) to *Gu* 2015 (12.5% GAM) or with *Deyr* 2014 (8.5% GAM) but a phase change.

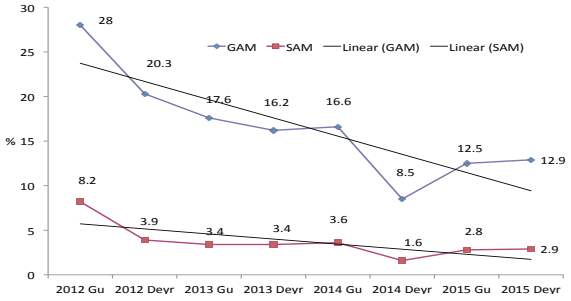
Figure 28: GAM and SAM trends among Dhobley IDPs



Kismayo Urban

In Post *Deyr* 2016, the nutrition assessment conducted in Kismayo urban was recorded both GAM and SAM prevalence of (8.8%) and (1.6%) respectively, indicating a sustained Alert nutrition situation since *Gu* 2015 (9.1%) or *Deyr* 2014 (8.9%). Also the SAM prevalence show Alert (1.6%) in *Deyr* 2015, which is sustained in *Gu* 2015 (2.1%) or *Deyr* 2014 (1.7%). Both GAM and SAM show a consistent sustained alert nutrition situation trend.

Figure 29: GAM and SAM trends among Kismayo IDPs



Juba Cattle Pastoral:

In Post Deyr 2015, the nutrition assessments findings together with health facility data indicate Serious levels of nutrition situation (MUAC <12.5cm of 5.5% and MUAC <11.5cm of 1.2%), with low morbidity rates (24%). There is an improvement in the nutrition situation, when compared to *Gu* 2015, with Serious levels of GAM and SAM prevalence of (7.9%) and (2.4%) respectively were also noted in Juba Cattle Pastoral.

Stunting prevalence

In the *Deyr* 2015, a sustained Low stunting prevalence observed in Dhobley IDPs (9.3%), since *Deyr* 2014 (9.4%). A consistent Low level of stunting is an indication of general improvement in the public health service in Dhobley IDPs community. However, Critical levels of stunting prevalence (43.8%) were recorded in Kismayo IDPs, which shows deterioration from Serious recorded in *Deyr* 2014 (38.9%). In Kismayo urban, Medium levels of stunting (27%) were recorded in *Deyr* 2015. It suggests a sustained stunting prevalence when compared to *Deyr* 2014 (26.1%) which showed Medium level of stunting.

Underweight prevalence

The nutrition assessment conducted in Dhobley IDPs shows low levels of underweight prevalence (9.9%), which is an improvement since *Gu* 2015 (14.2%) but slightly higher in *Deyr* 2014 (8.1%). In the current *Deyr* 2015, High levels of underweight (30.1%) was recorded in Kismayo IDPs, which shows a deterioration from Medium recorded in *Deyr* 2014 (23.2%). Similarly, in Kismayo urban a sustained High level of underweight (18.4%) prevalence was recorded when compared with *Deyr* 2014 (14.7%) [Annex 14].

Mortality

Serious CDR (0.52/10 000/day) and Alert U5DR (0.98/10 000/day) were recorded during the 90 days recall retrospective monthly study in *Deyr* 2015.

Acceptable levels of CDR (0.47/10 000/day) as well as U5DR (0. 69/10 000/day) were recorded in Kismayo IDPs. This is an improvement from Serious levels in CDR (0.84/10 000/day) in *Deyr* 2014 and also an impressive improvement in U5DR (2.08/10 000/day) recorded in *Deyr* 2014. Similarly, an Acceptable levels of CDR (0.31/10 000/day) and U5DR (0.27/10 000/day) were recorded in Kismayo urban. However, an improvement was noted in CDR and U5DR of (0.55/10 000/day) and (0.62/10 000/day) respectively of Serious and Alert in *Deyr* 2014.

Morbidity

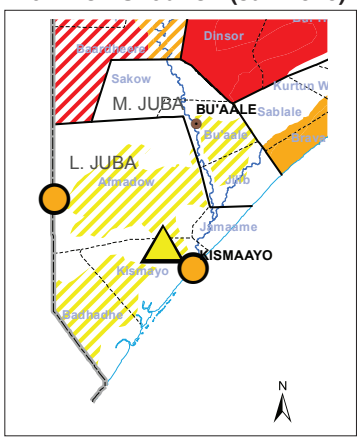
The overall morbidity in *Deyr* 2015 reported, two weeks prior to the assessment, shows Sustained High levels (39.2%) though this rate has reduced compared to *Deyr* 2014 (42.9%).

The overall morbidity reported for two weeks prior to the assessment in Kismayo IDP is sustained Low levels (27.6%) in *Deyr* 2015 when compared to *Gu* 2015 (33.1%). This can be attributed to health services access, high immunization, sufficient clean water and sanitation facilities. However, in Kismayo Urban livelihood, overall morbidity stood at 9.7% compared to *Deyr* 2014 (47.6%), which shows an improvement. This can be attributed to health services access, high immunization and adequate sanitation facilities.

Maternal malnutrition

In Dhobley IDPs, Serious levels of maternal malnutrition (14.2%) were recorded among the pregnant and lactating mothers, which is an improvement from Critical levels since *Gu* 2015 (26.9%), and Deyr 2014 (23.8%) [Annex 15].

Map 12: Juba region Current Nutrition Situation (Jan 2016)



Current nutrition situation

Map 12 demonstrates the current nutrition situation in *Deyr* 2015. Serious levels of acute malnutrition are noted among the Dhobley (14%) and Kismayo (12.9%) IDP's. While Kismayo urban and Jubba cattle pastoral livelihood reported Alert levels of acute malnutrition. These Low levels of Alert or Serious are mainly attributed to access to humanitarian assistance, health services access and low morbidity cases in the region.

Current food security situation

In the post *Deyr* 2015, the food security situation has improved in Juba regions compared to the post *Gu* 2015. In January 2016, the two main pastoral livelihoods of Juba regions (Southern Inland Pastoral and Juba Cattle Pastoral) and Southern agro pastoral of Juba (Marginal sorghum producers/ livestock dependent) have been classified as Minimal (IPC Phase 1). While other livelihoods, Sorghum High Potential Agro Pastoral of Middle Juba (Sakow/salagle), the Riverine Gravity Irrigation of Middle and Lower Juba and Southern Rain fed Agro pastoral of Lower Juba, were classified as Stressed (IPC Phase 2). The total rural population of acutely food insecure is estimated at 104 900 of which 4 900 are Crisis (IPC Phase 3) and 100 000 are Stressed. This figure indicates a decline of 30 percent compared to projected affected population in post *Gu* 2015 (150 000 people) in which 75% - 112 000 people were Stressed (IPC Phase 2) and 25% - 38 000 people were in Crisis (IPC Phase 3). The majority of affected people are concentrated in Southern rain fed agro pastoral (Jamame/

Lower Juba), gravity irrigation riverine and Sorghum high potential in Middle Juba). In the most likely scenario, the area classification for all livelihoods is projected to remain the same.

Nutritional outlook (February to April 2016)

The nutrition situation in Juba region is largely expected to remain stable in the coming three months. The maps below (Figure 30) show current and projected nutrition situation for Juba.

Figure 30: Nutrition Situation and Outlook in Juba region

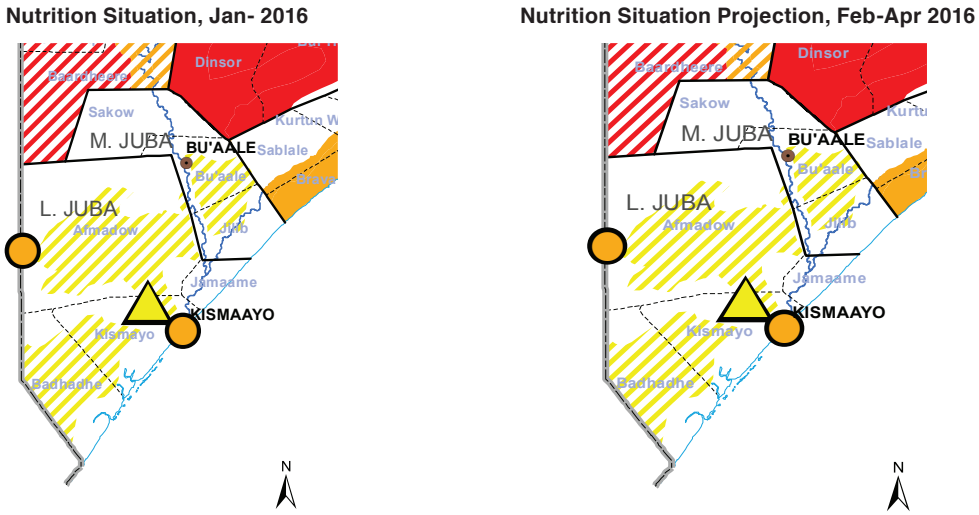


Table 18: Summary of Key Nutrition Findings Kismayo and Dhobley IDPs *Deyr* 2015

	Kismayo IDPs (N=: 967Boys=417; Girls=450)		Dhobley IDPs (N= 559Boys= 300; Girls=259)	
Indicator	Results	Change from *Gu* 2015	Results	Change from *Gu* 2015
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	12.9 (9.7-16.9) 14.4 (10.6-19.2) 11.6 (8.1-16.3)	Sustained	14.0 14.3 13.5	improved
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	2.9 (2.0- 4.2) 3.1% (1.9- 5.1) 2.7 (1.5- 4.6)	Sustained	2.7% 1.7% 3.9	Sustained
Mean of Weight for Height Z Scores	-0.69±1.11	Sustained	-0.70±1.14	Sustained
Oedema	0.7	improved	0.7%	sustained
Proportion with MUAC<12.5 cm or oedema) Boys Girls	11.9 (9.7-14.6) 11.4 (9.6-13.5) 12.4 (8.5-17.7)	Deteriorated	7.2 6.1 8.6	improved
Proportion with MUAC<11.5 cm or oedema Boys Girls	3.6 (2.4- 5.6) 3.1 (1.8- 5.4) 4.1 (2.1- 8.0	improved	2.8 2.5 3.0	Sustained
Stunting (HAZ<-2) Boys Girls	43.8 (39.8-48.0) 47.3 (41.1-53.5) 40.7 (36.4-45.2	improved	9.3 10.3 8.3	Sustained
Severe Stunting (HAZ<-3) Boys Girls	18.6 (15.3-22.5) 18.7 (14.9-23.0) 18.6 (14.4-23.6)	Improved	1.1 1.0 1.2	Sustained
Underweight (WAZ<-2) Boys Girls	30.1 (25.5-35.2) 31.5 (26.2-37.4) 28.9 (22.8-35.7	improved	9.9% 10.2 9.5	improved

Child Morbidity & Immunization				
Morbidity Boys Girls	27.6(20.6-34.6) 26.7 (19.6-33.8) 28.5 (20.7-36.2)	sustained	39.6 38.7 40.6	sustained
Diarrhoea Boys Girls	12.9 (7.9-17.9) 13.3 (7.6-18.9) 12.6 (7.3-17.8)	Sustained	7.6 7.9 7.1	Sustained
Pneumonia Boys Girls	8.4 (4.6-12.2) 7.4 (3.1-11.6) 9.3 (4.8-13.8)	Sustained	24.1 24.4 23.7	Sustained
Fever Boys Girls	16.8 (11.9-21.7) 17.1 (11.6-22.6) 16 (11.5-21.5)	Sustained	31.8 30.5 33.5	Sustained
Measles Boys Girls	1.3 (0.3-2.2) 1.2 (0.0-2.4) 1.3 (0.1-2.4)	Sustained	2.9 3.5 2.3	Sustained
Vitamin A Supplementation Boys Girls	62.9 (53.1-72.7) 59.7 (48.9-70.4) 65.8 (55.6-76.2)	Sustained	22.3 20.9 24.0	Sustained
Measles Vaccination Boys Girls	49.6 (38.3-60.9) 46.5 (34.8-58.2) 52.4 (40.1-64.7)	Sustained	25.1 23.8 26.7	Sustained
Polio Immunization Boys Girls	74.9 (65.4-84.4) 72.9(62.7-83.1) 76.7(66.9-86.5)	Sustained	68 66.7 69.5	Sustained
Death Rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.47 (0.26-0.84)	Sustained	0.52	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.69 (0.32-1.50	improved	0.98	Improved
Women Nutrition and Immunization Status				
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	4.6(0.85-8.5)	Improved	5.8	Improved
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	17.5(10.6-24.4-)	Improved	14.2	Improved
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 23.4 (17.0-29.8) 11.3 (7.6-15.0) 31.0 (24.7-37.2) 34.3 (26.8-41.9)	Sustained	 49.6 23 19.9 7.6	Sustained
Public Health Indicators (HH)	N =568	Sustained	N=361	Sustained
Household with access to sanitation facilities	93.4 (86.1-100.8)	Sustained	87	Sustained
Household with access to safe water	99.7 (99.1-100.3)	Sustained	100	Sustained
Proportion who reported to have consumed <4 food groups	98.2 (94.7-101.8)	Sustained	97	Sustained
Household's Main Food Source-Purchase	91.7 (83.7-99.7)	Sustained	67	Sustained
Mean CSI	54.0 (50.0-58.0)	Sustained	22	Sustained
Overall Nutrition Situation	**Serious**		**Serious**	

Table 19: Summary of Key Nutrition Findings: Kismayo Urban - *Deyr* 2015

	Kismayo Urban	
	Clusters :30 (N=706:Boys=303;Girls=403)	
Indicator	%(CI)	Change from *Gu* 2015
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	8.8 (6.1-12.4) 8.6 (5.1-14.2) 8.9 (6.1-12.9)	Sustained
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	1.6 (0.8- 2.9) 1.3 (0.4- 4.1) 1.7 (0.8- 4.0)	Sustained
Mean of Weight for Height Z Scores	-0.55±1.07	
Oedema	0.4	Sustained
Proportion with MUAC<12.5 cm Boys Girls	8.5 (6.3-11.3) 7.4 (4.8-11.4) 9.2 (6.3-13.3)	Sustained
Proportion with MUAC<11.5 cm Boys Girls	1.7 (0.9- 3.1) 1.6 (0.6- 4.4) 1.7 (0.8- 3.7)	Sustained
Stunting (HAZ<-2) Boys Girls	27.0 (22.5-32.1) 29.1 (23.6-35.4) 25.4 (19.8-32.0)	Sustained
Severe Stunting (HAZ<-3) Boys Girls	7.4 (5.7- 9.7) 9.6 (6.5-14.0) 5.8 (4.1- 8.2 9)	Sustained
Underweight (WAZ<-2) Boys Girls	18.4 (14.7-22.9) 18.8% (13.8-25.1) 18.2% (14.2-22.9)	Sustained
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.31 (0.12-0.80)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.27 (0.07-1.131)	
Morbidity Boys Girls	9.7 (6.2-13.2) 8.4 (4.2-12.5) 10.6 (6.414.9)	Sustained
Diarrhoea Boys Girls	3.4 (1.8-5.1) 3.2 (1.3-5.1) 3.6 (1.4-5.8)	Sustained
Pneumonia Boys Girls	3.3 (1.4-5.2) 2.9 (0.3-5.4) 3.6 (1.7-5.6)	Sustained
Fever/Malaria(Kismayo Urban) Boys Girls	2.6(1.2-4.0) 1.9 (0.2-3.6) 3.1 (1.3-5.0)	Sustained
Measles Boys Girls	0.2 (0.0- 0.9) 0.3 (0.0-0.9) 0.2 (0.0-0.7)	Sustained
Overall Nutrition Situation	**Alert**	

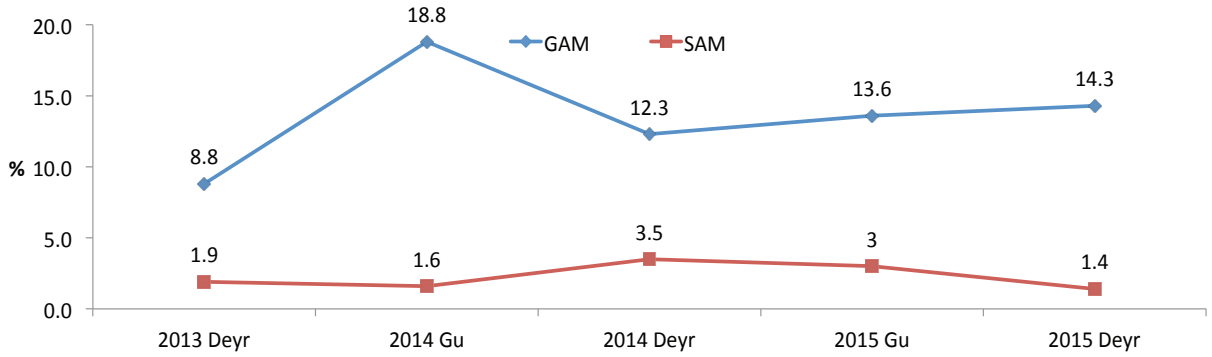
4.4.3: MIDDLE AND LOWER SHABELLE REGIONS

During the *Deyr* 2015 assessment, FSNAU conducted four assessments in the Shabelle and Banadir regions (Shabelle Riverine & Agro-pastoral, Mogadishu IDPs and urban Mogadishu). In these assessments a total of 140 clusters were covered in which nutrition status of 3 088 children (6-59 months) from 2 112 households were assessed. The results of nutrition assessment conducted in Shabelle and Banadir region are summarized below:

Acute Malnutrition prevalence

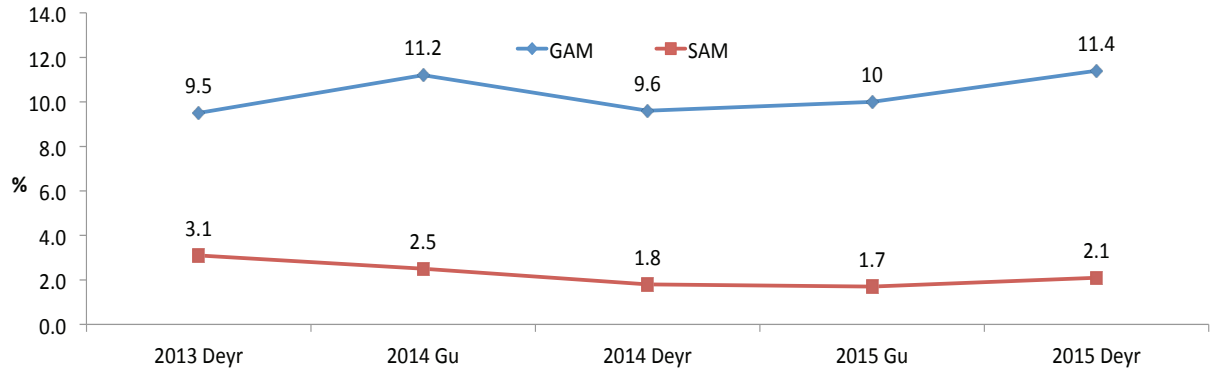
Shabelle Agro-pastoral livelihood recorded a GAM prevalence of 14.3 percent and SAM prevalence of 1.4 percent indicating sustained Serious nutrition situation when compared with serious GAM rates recorded since *Deyr* 2014. However SAM has shown sustained improvement since *Deyr* 2014 (Figure 31).

Figure 31: GAM and SAM trends in Shabelle Agropastoral



Shabelle Riverine livelihood shows a GAM prevalence of 11.4 percent and SAM prevalence of 2.1 percent indicating Serious nutrition situation reflecting sustained a stable situation when compared with GAM prevalence of 10.0 percent recorded in *Gu* 2015. However, this shows a slight deterioration in nutrition situation compared to the Alert GAM of 9.6 percent and SAM prevalence of 1.8 percent recorded in *Deyr* 2014 (Figure 32).

Figure 32: GAM and SAM trends in Shabelle Riverrine



Sustained to improved nutrition situation was attributed to the improvement of food security indicators such as increased availability of casual labour as a result of increased Deyr 2015/16 agricultural production. This led to an increased income for households and may have mitigated the situation.

The protracted nature of malnutrition prevalence observed in Shabelle region is attributed to limited humanitarian corridor to provide the needy population through interventions such as health services, water and Nutrition and low immunization services. Moreover, although there were no major disease outbreaks reported in the area, sporadic measles and increased cases of diarrhoea were reported in Shabele riverine areas.

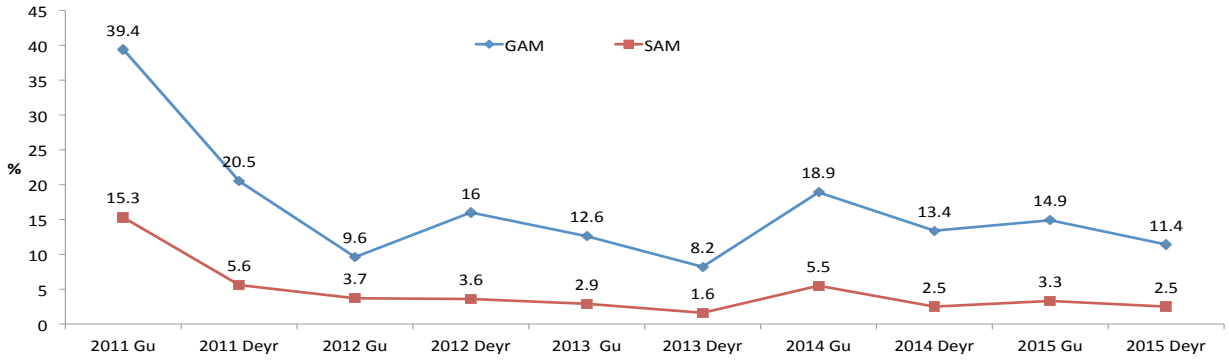
In the Mogadishu IDPs assessment, the GAM prevalence was 11.4 percent and the severe acute malnutrition SAM prevalence was 2.5 percent including three cases (0.4 %) of oedema. The results indicate nutrition situation is sustained as Serious. Critical GAM (18.9%) was observed during *Gu* 2014 assessment which showed a significant improvement in *Deyr* 2014 (Serious levels of GAM-13.4%) when humanitarian interventions were scaled up.

Information from implementing partners in Mogadishu partners indicate high and fluctuating trend in OTP and TSP admissions from Jan-Dec 2015. Settlers who are also evicted from these IDP's continue to pour in numbers and intermingle with the host community resulting for the fluctuating admission and defaulters of the treatment programs.

Acute malnutrition (both GAM and SAM) amongst Mogadishu IDPs has been generally stable at Serious leves since Deyr 2014. For Mogadishu Urban the improvement in nutrition situation is suggested by decrease in GAM from Serious (10.5%) *Gu* 2015 to Alert (8.3%) in *Deyr* 2015. SAM prevalence also decreased from 2.2 percent during Post *Gu* 2015 to 1.8 percent in *Deyr* 2015. The change of GAM was however not statistically significant.

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

Figure 33: GAM and SAM trends for Mogadishu IDps



Stunting and underweight prevalence

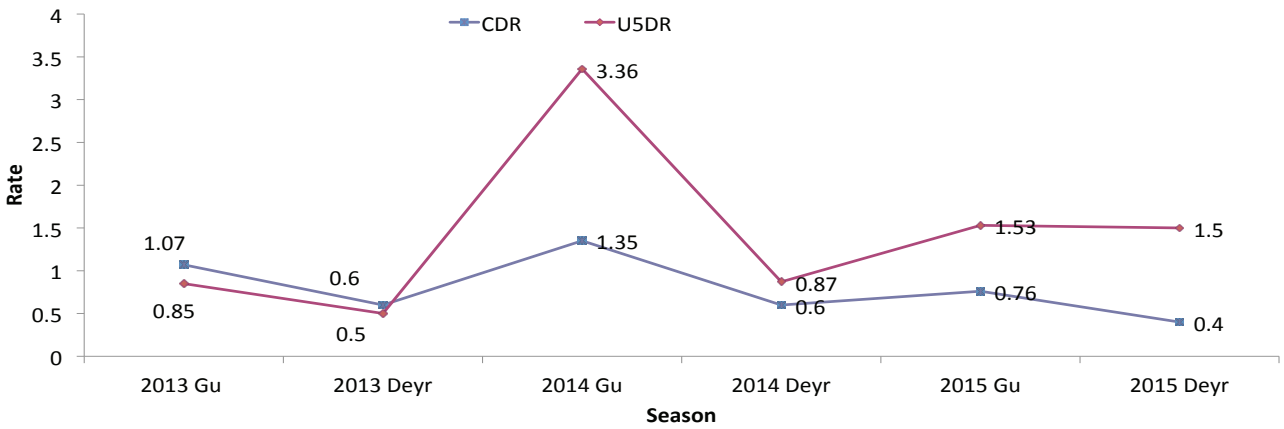
Deyr 2015 assessment shows Low prevalence of stunting and Medium levels of underweight prevalence among Agro-pastoral and Riverine areas of Shabelle. Among Shabelle Agro-Pastorals, stunting was 8.7 percent and underweight 11.3 percent while Shabelle Riverine show 9.5 percent prevalence of stunting and 12.6 percent prevalence of underweight.

Among the displaced group in Mogadishu, *Deyr* 2015 assessment recorded sustained Low prevalence for stunting (14.9%) and Medium prevalence of Underweight (15.6 %) was recorded. Mogadishu Urban shows low levels of stunting (12.5%) and underweight (9.1%) in *Deyr* 2015. Since *Deyr* 2013 sustained Low stunting levels have been noted while Underweight prevalence shows some deterioration from Low levels (9.8%) seen in *Deyr* 2014.

Mortality

The crude and under five death rates reported are: 0.40/10 000/day and 1.5/10 000/day respectively in the Mogadishu IDPs, indicating Acceptable Crude death rate and sustained Serious under five mortality according to WHO classification and an improvement from the previously reported crude mortality rates of 0.76/10 000/day and 1.53/10 000/day, respectively for *Gu* 2015. However, under-five death rate (U5DR) at sustained Serious level (1.50/10 000/day) in *Deyr* 2015 and (1.53/10 000/day) seen in *Gu* 2015 is of concern (Figure 34). High morbidity rate of 29.7 percent observed among Mogadishu IDPs can be attributed to current outbreaks of AWD and other seasonal infections. A main cause of under-five death reported was fever, diarrhea and respiratory infection.

Figure 34: Mortality trends among Mogadishu IDPs



Mogadishu Urban: Alert levels for both CDR at 0.28/10 000/day and U5DR at 0.23/10 000/day were observed during *Deyr* 2015 assessment which is similar to *Deyr* 2014, but an improvement compared to Serious CDR and Alert and U5DR recorded in *Gu* 2015.

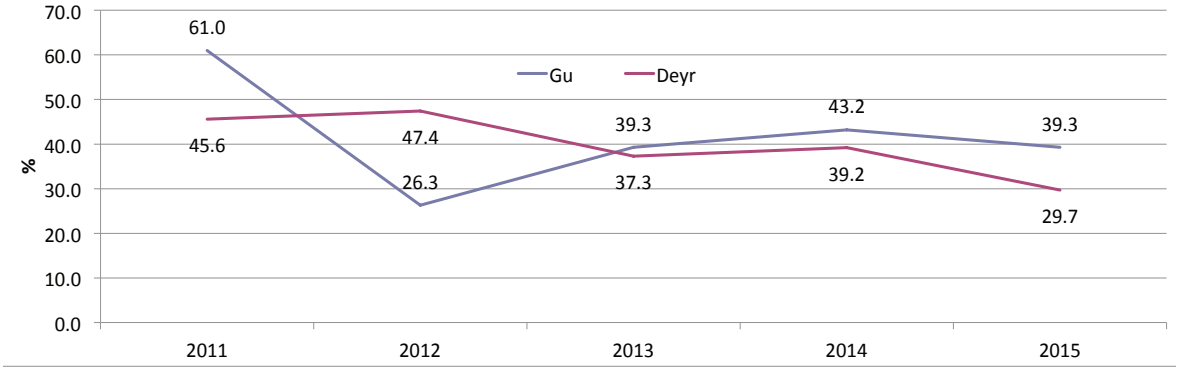
Shabelle agro-pastoral show Acceptable levels of both CDR (0.32/10 000 per day) and U5DR (0.64/10 000 per day) which is an improvement compared to Serious CDR (0.56/10 000/day and UDR 1.21/10 000/day) recorded in *Gu* 2015, and sustained CDR and UDR levels in *Deyr* 2014.

Shabelle Riverine also show Acceptable levels of mortality in *Deyr* 2015 CDR 0.28/10 000/day and U5DR 0.42/10 000/day) which is similar to CDR and U5DR recorded in *Gu* 2015, but a deterioration compared to (CDR 0.52/10 000/day and U5DR 1.00/10 000/day) recorded in *Deyr* 2014.

Morbidity

Sustained high morbidity levels persist in Mogadishu IDPs (29.7 %) and appears to be a key aggravating factor for sustained prevalence of acute malnutrition. Morbidity trends are higher during *Gu* compared to *Deyr* seasons, due to increasing AWD during the dry period when water levels decrease and availability of safe water is limited. Other factors that contribute to the increase in high morbidity in Mogadishu IDPs include the continuing population displacement, overcrowding, unsanitary living conditions and limited health services. In Mogadishu urban, morbidity levels were at 17.2 percent, which is similar to morbidity level recorded in *Deyr* 2014, but deterioration compared to 10.6 percent in *Gu* 2015.

Figure 35: Morbidity trends among Mogadishu IDPs



Shabelle Riverine show improvement in morbidity levels during post *Deyr* 2015 (26.3 %) compared to *Deyr* 2014 (34.6%) but a deterioration from *Gu* 2015 (20%). Shabelle agro-pastoral also reported high (24.6 %) morbidity in *Deyr* 2015, although a slight decrease in morbidity levels was recorded in *Deyr* 2014 (29.6 %).

High morbidity in both Shabelle is attributed to limited access to health facilities and low protective measures such as measles vaccination and Vitamin A supplementation. Disease outbreaks continued with suspected cases of measles incidence and acute water diarrhoea. In addition, limited interventions in the riverine and agro-pastoral livelihood zone may have contributed to the higher prevalence of acute malnutrition in Shabelle the region.

Immunization coverage

Reported coverage for vitamin A supplementation (44.1%) and Measles vaccination (39.5%) among the displaced in Mogadishu IDP suggests current coverage is far below the 95 percent coverage recommended by SPHERE.

Vitamin A supplementation and Measles vaccination coverage among Shabelle Agro pastorals and Riverine was very low (<40 percent) and remain unchanged since *Deyr* 2014.

Maternal malnutrition

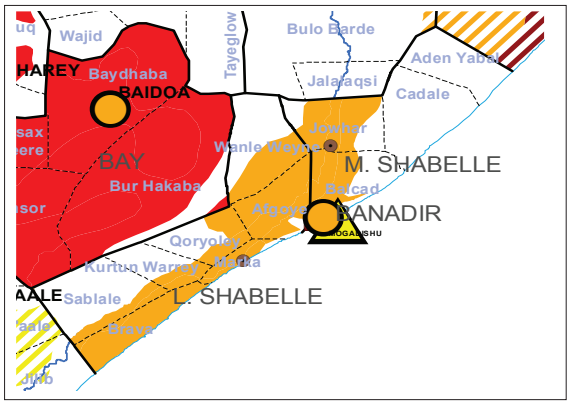
Low maternal malnutrition prevalence among pregnant and lactating women (MUAC <23.0 cm) in Shabelle Agro-Pastoral indicated Acceptable levels (5.1%) in *Deyr* 2015, an improvement from Alert level at (10.9%) in *Gu* 2015. Shabelle Riverine show sustained Alert levels in *Deyr* 2015 (13.2%) when compared with *Deyr* 2014 (10.5%) and *Gu* 2015 (13.7%).

A deterioration in maternal malnutrition (MUAC <23cm) was noted among the Mogadishu IDPs indicating *Alert* levels in *Deyr* 2015 (12.6%) compared to Acceptable recorded in *Gu* 2015 (8.9%).

Current nutrition situation

The current nutrition situation (*Deyr* 2015) among Mogadishu IDPs is sustained as Serious, while Mogadishu urban is an Alert the decrease in GAM from Serious (10.5%) *Gu* 2015 to Alert (8.3%) in *Deyr* 2015 assessment. Nutrition situation among Shebelle Agro-pastoral and Shebelle Riverine is also Serious. Shebelle riverine show slight deterioration from Alert in *Deyr* 2014 (9.7% GAM) to Serious in *Deyr* 2015 (11.4% GAM) but differences were not statistically significant. Overall nutrition situation has remained precarious in Shebelles with parts of Middle Shabelle being the most affected due to ongoing AWD and measles outbreaks. This necessitates continued close monitoring of the situation in addition to initializing interventions aimed at rehabilitating malnourished children and improving access to health facilities, especially in the areas outside of urban towns.

Map 13: Shabelle Regions Current Nutrition Situation - Jan 2016



Current food security situation

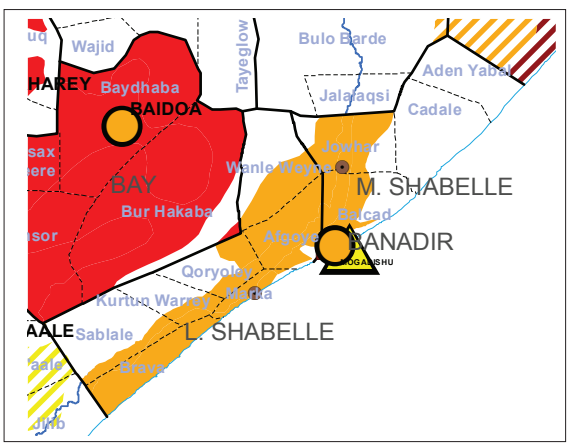
The FSNAU *Deyr* 2015 integrated food security analysis has classified the most rural livelihoods of Shabelle regions Minimal (IPC Phase 1), an improvement from *Deyr* 2014 season, where mojority of population in the region were indentified as Stressed (IPC phase 2) with some parts in Merka and Qorioley have also sustained Crisis since *Gu* 2014 In January 2016 snapshot analysis shows that Sorghum High Potential Agro-pastoral, Riverine Gravity Irrigation (Lower shabelle) and Southern Inland Pastoral (SIP) livelihoods were classified as Minimal (IPC Phase 1). However, Riverine gravity irrigation of Middle Shabelle, Southern Rain-fed, Shabelle Cowpea Belt and Coastal Deeh livelihoods were classified as Stressed (IPC Phase 2). In the most likely scenario, the area classification remains the same in all livelihoods for the February-June 2016 period.

Nutritional outlook (February to April 2016)

For the next 3 months (Feb-April 2016), the nutrition situation among Shabelle Agro-pastoral and Riverine is likely to remain Serious. Sporadic cases of suspected measles and increased cases of acute watery diarrhea in the riverine areas and parts of agro-pastoral, civil insecurity and limited access for humanitarian interventions could put further strain on nutrition unless contingency and intervention is put in place. Nutrition situation among Mogadishu Urban and IDPs will remain as Serious due to ongoing nutrition interventions.

Figure 36: Nutrition Situation and Outlook in Shabelle Regions

Current Nutrition Situation - Jan 2016



Projected Nutrition Situation - Feb-Apr 2016

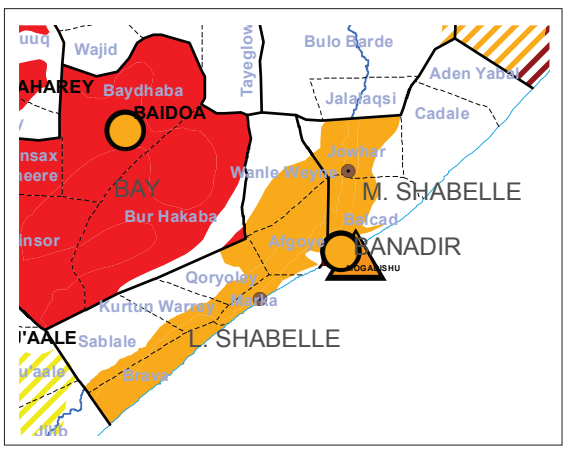


Table 20: Summary of Key Nutrition Findings Shabelle Region *Deyr* 2015

	Shabeele Agro-pastoral		Shabele Riverine	
	Clusters:30 (n=760; Boys=379 Girls=381)		Clusters : 30 N=718;Boys=365; Girls=353)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Global Acute Malnutrition (WHZ<-2 or oedema)	14.3 (10.8-18.7)		11.4 (8.6-15.1)	
Boys	17.9 (13.1-24.0)	Deteriorated	14.0 (10.4-18.5)	Sustained
Girls	10.8 (7.8-14.7)		8.8 (5.6-13.6)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.4 (0.7- 2.9)		2.1 (1.2- 3.6)	
Boys	2.4 (1.1- 5.1)	Improved	1.6 (0.7- 3.9)	Sustained
Girls	0.5 (0.1- 2.1)		2.5 (1.3- 5.1)	
Mean of Weight for Height Z Scores	-0.74±1.12		-0.63±1.13	
Oedema	0.0		0.0	
Proportion with MUAC<12.5 cm or oedema)	8.4 (6.1-11.5)		8.9 (6.7-11.9)	
Boys	8.4 (5.9-12.0)	Deteriorated	9.4 (6.6-13.2)	Deteriorated
Girls	8.4 (5.5-12.6)		8.5 (5.7-12.5)	
Proportion with MUAC<11.5 cm or oedema	0.9 (0.4- 2.1)		1.9 (1.0- 3.8)	
Boys	0.8 (0.3- 2.5)	Sustained	2.2 (1.0- 4.7)	Deteriorated
Girls	1.0 (0.3- 3.4)		1.7 (0.5- 5.2)	
Stunting (HAZ<-2)	8.7 (6.6-11.4)		9.5 (6.9-13.0)	
Boys	13.5(9.5-18.7)	Improved	14.6 (10.4-20.1)	Improved
Girls	3.9 (2.3- 6.7		4.2 (2.1- 8.4)	
Severe Stunting (HAZ<-3)	0.7 (0.3- 1.6)		2.2 (1.0- 4.8)	
Boys	1.1 (0.4- 2.8)	Improved	3.5 (1.5- 8.1)	Sustained
Girls	0.3 (0.0- 2.0)		0.8 (0.3- 2.4)	
Underweight (WAZ<-2)	11.3 (8.7-14.5)		12.6 (8.8-17.6)	
Boys	15.3 (11.4-20.3)	Sustained	15.4 (10.6-21.9)	Sustained
Girls	7.3 (5.0-10.7)		9.6 (5.7-15.6	
Death rates				
Crude deaths, per 10 000 per day (retrospective for 90 days)	0.32 (0.16-0.63)	Improved	0.28 (0.15-0.52)	Deteriorated
Under five deaths, per 10 000 per day (retrospective for 90 days)	0.64 (0.25-1.64)	Improved	0.42 (0.14-1.26	Deteriorated
Morbidity	24.6 (19.3-29.9)		26.3 (15.9-36.5)	
Boys	25.5 (18.5-32.60	Deteriorated	26.1(16.3-35.8)	Deteriorated
Girls	23.8 (18.3-29.3)		26.5 (14.9-38.0)	
Diarrhoea	11.3 (7.7-14.8)		7.3 (3.1-11.5)	
Boys	12.1 (7.1-17.1)	Sustained	6.5 (2.6-10.3)	Sustained
Girls	10.5 (7.1-13.9)		8.2(3.3-13.0)	
Pneumonia	7.6 (2.8-12.4)		11.1 (2.7-19.5)	
Boys	8.4 (3.5-13.4)	Deteriorated	11.8 (4.1-19.5)	Deteriorated
Girls	6.8 (1.7-11.9)		10.4 (1.1-19.7)	
Fever	9.3 (6.4-12.2)		10.0 (7.2-12.9)	
Boys	9.2 (6.0-12.4)	Deteriorated	9.9 (6.8-13.1)	Sustained
Girls	9.4 (5.6-13.3)		10.1(6.3-14.00	
Measles	1.6 (0.-3.0)		0.8 (0.0-2.2)	
Boys	1.8 (0.0-3.8)	Deteriorated	0.5(0.0-1.3)	Improved
Girls	1.3 (0.0-2.7)		1.1 (0.0-3.4)	
Vitamin A Supplementation	18.1 (5.2-30.9)		30.4 (14.3-46.5)	
Boys	19.7 (5.8-33.6)	Improved	27.9 (12.5-43.5)	Improved
Girls	16.5 (4.1-28.9)		32.9 (15.8-50.2)	
Measles Vaccination	38.6 (24.8-52.3)		29.0 (13.4-44.7)	
Boys	39.5 (25.3-53.7)	Improved	28.2 (19.9-43.9)	Improved
Girls	37.7 (23.9-51.4)		29.9 (13.4-46.3)	

	Shabeele Agro-pastoral		Shabele Riverine	
	Clusters:30 (n=760; Boys=379 Girls=381)		Clusters : 30 N=718;Boys=365; Girls=353)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Polio Immunization	35.2 (19.3-51.0)		66.7 (52.5-80.8)	
Boys	37.4 (21.1-53.6)	Deteriorated	63.4 (47.9-79.0)	Deteriorated
Girls	32.9 (17.2-48.8)		70.1 (55.8-84.9)	
Women Nutrition and Immunization Status				
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	1.9 (0.0-3.9)	Improved	0.8 (0.0-2.1)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	5.1 (2.4-7.9)	Improved	13.2 (8.5-17.9)	Sustained
Overall Nutrition Situation	**Serious**		**Serious**	

Table 21: Summary of Key Nutrition Findings Banadir Region *Deyr 2015*

***Deyr* 2014 summary results**	**Mogadishu IDPS**		**Mogadishu Urban**	
	40 Clusters n=825: Boys=407; Girls=418)		**40 Clusters n=785: Boys=418; Girls=367)**	
Indicator	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	11.4 (8.8-14.6)		8.3 (6.2-10.9)	
Boys	11.5 (8.1-16.2)	Deteriorated	11.5 (8.2-15.9)	Improved
Girls	11.2 (8.2-15.2)		4.6 (2.9- 7.3)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.5 (1.5- 4.2)		1.8 (1.0- 3.3)	
Boys	3.9 (2.1- 7.3)	Deteriorated	2.2 (1.1- 4.3)	Improved
Girls	1.2 (0.5- 2.8)		1.4 (0.6- 3.2)	
Mean of Weight for Height Z Scores	-0.72 ± 1.05		-0.47 ± 1.09	
Oedema	0.4	Sustained	0.1	Sustained
Proportion with MUAC<12.5 cm	7.6 (5.7-10.1)		4.1 (2.8- 5.9)	
Boys	6.5 (4.4- 9.5)	Improved	3.7 (2.2- 6.3)	Improved
Girls	8.6 (5.7-12.9)		4.5 (2.7- 7.5)	
Proportion with MUAC<11.5 cm	2.0 (1.4- 2.9)		0.5 (0.2- 1.3)	
Boys	1.9 (1.0- 3.7)	Improved	0.5 (0.1- 1.9)	Improved
Girls	2.1 (1.2- 3.7)		0.5 (0.1- 2.2)	
Stunting (HAZ<-2)	14.9 (11.3-19.5)		12.5 (9.3-16.7)	
Boys	19.3 (15.1-24.4)	Sustained	17.2 (12.6-23.0)	Sustained
Girls	10.7 (7.0-16.1)		7.3 (4.7-11.0)	
Severe Stunting (HAZ<-3)	3.2 (1.9- 5.3)		2.1 (1.3- 3.5)	
Boys	3.5 (2.0- 5.9)	Sustained	3.3 (1.8- 5.8)	Sustained
Girls	2.9 (1.3- 6.4)		0.8 (0.3- 2.5)	
Underweight (WAZ<-2)	15.6 (11.9-20.1)		9.1 (6.9-12.1)	
Boys	17.5 (12.9-23.3)	Improved	13.0 (9.5-17.5)	Improved
Girls	13.7 (9.6-19.3)		4.8 (2.9- 7.9)	
Death Rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.40 (0.20-0.80)	Improved	0.28 (0.15-0.53()	Improved
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.5 (0.49-2.60)	Sustained	0.23 (0.06-0.96)	Improved
Morbidity	29.7 (22.0-37.3)		14.9 (11.6-18.2)	
Boys	30.4 (20.5-40.2)	Improved	14.9 (10.7-19.2)	Deteriorated
Girls	29.0 (21.7-36.2)		14.8 (10.3-19.4)	

Diarrhoea	8.3 (5.5-11.1)		7.7 (5.6-9.8)	
Boys	7.7 (4.5-10.9)	Sustained	8.7 (5.7-11.6)	Deteriorated
Girls	8.9 (5.4-12.4)		6.6 (3.5-9.7)	
Pneumonia	11.8 (6.6-16.9)		5.9 (4.1-7.8)	
Boys	13.3 (6.3-20.2)	Sustained	5.4 (3.1-7.7)	Sustained
Girls	10.3 (5.8-14.8)		6.6 (4.1-9.2)	
Fever	21.5 (14.8-28.2)		1.2 (0.4-2.9)0	
Boys	21.4 (13.0-29.9)	Sustained	0.9 (0.1-1.8)	Sustained
Girls	21.5 (15.1-27.9)		1.6 (0.4-2.1)	
Measles	1.8 (0.7-2.8)			
Boys	1.4 (0.3-2.6)	Improved	0.0	Sustained
Girls	2.1 (0.7-3.5)			
Vitamin A Supplementation	44.1 (33.7-54.6)			
Boys	46.3 (36.2-56.3)	Sustained	N/A	
Girls	42.1 (29.9-54.2)			
Measles Vaccination	39.5 (29.7-49.3)			
Boys	42.9 (32.4-53.4)	Sustained	N/A	
Girls	36.2 (25.7-46.7)			
Polio Immunization	79.4 (72.4-86.3)			
Boys	81.2 (74.1-88.4)	Improved	N/A	
Girls	77.6 (69.7-85.5)			
Women Nutrition and Immunization Status	N =231		N/A	
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	3.9 (0.1-7.7)	Deteriorated	N/A	
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	12.6 (7.1-18.0)	Deteriorated	N/A	
Proportion of Women who received Tetanus immunization				
No dose	23.4 (17.0-29.8)		N/A	
One dose	11.3 (7.6-15.0)	Deteriorated		
Two doses	31.0 (24.7-37.2)			
Three doses	34.3 (26.8-41.9)			
Public Health Indicators	N =568		N/A	
Household with access to sanitation facilities	93.4 (86.1-100.8)	Improved	N/A	
Household with access to safe water	99.7 (99.1-100.3)	Improved		
Proportion who reported to have consumed <4 food groups	98.2 (94.7-101.8)	Sustained	100	Sustained
Household's Main Food Source- Purchase	91.7 (83.7-99.7)	Sustained	98.1 (96.0-100.2)	Sustained
Mean CSI	52.7.0 (50.0-59.3.0)	Deteriorated	11.3 (10.0-12.8)	Improved
Overall Nutrition Situation	**Serious**		**Alert**	

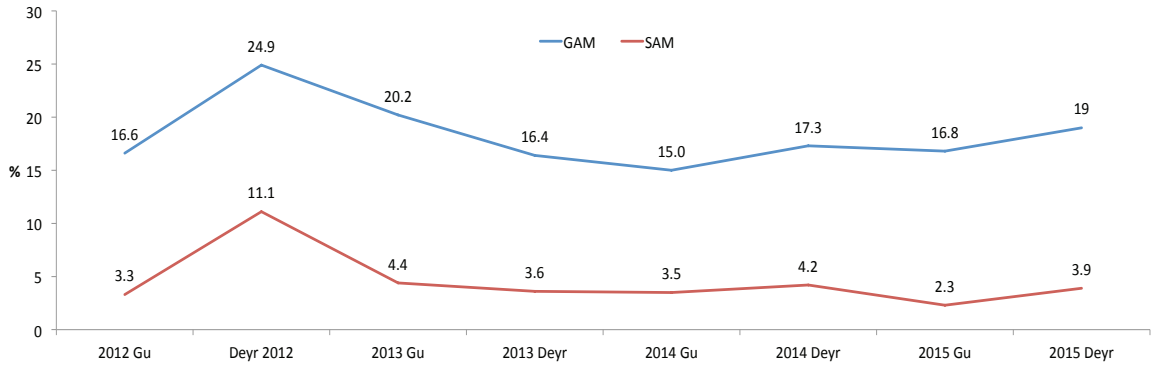
4.4.4: HIRAN REGION

FSNAU conducted two nutrition surveys (rural livelihoods) in Matabaan and accessible areas of Beletweyne District. The nutrition status of 1 707 children aged 6-59 month old (894 boys and 813 girls) from 1 191 households were assessed. The results of nutrition assessments in Hiran region are summarized below:

Acute Malnutrition prevalence

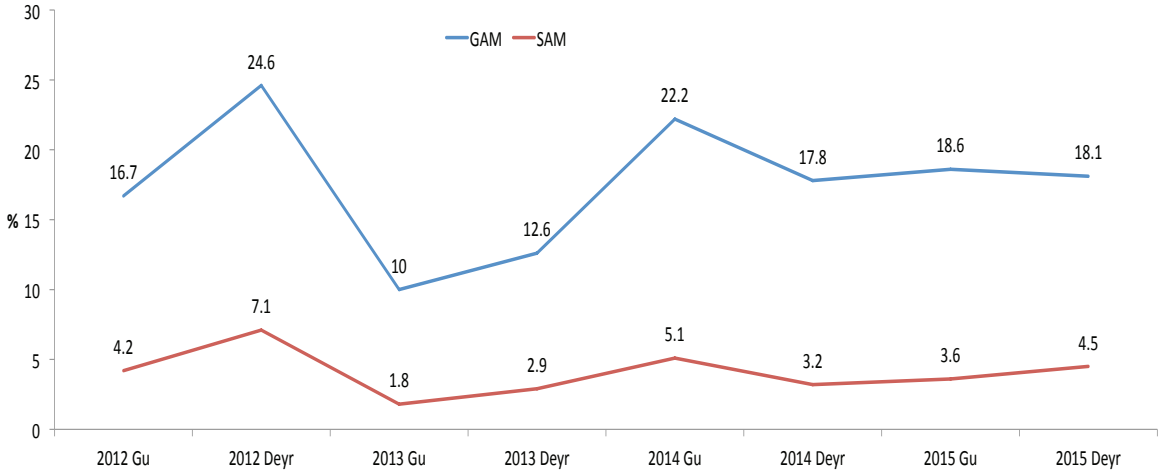
The results of *Deyr* 2015 analysis in Beletweyne district shows Critical GAM (19.0%) which is sustained as Critical since *Deyr* 2015 (17.3%). The SAM prevalence recorded Serious levels (3.9%) in *Deyr* 2015 when compared to *Deyr* 2014, which is a slight improvement from Critical levels (4.2%). For the past four years, from *Gu* 2012 to *Deyr* 2015, the prevalence of acute malnutrition in Beletweyne district has been sustained at Critical levels (Figure 37). The sustained Critical nutrition situation can be attributed to the ongoing civil unrest, repeated displacement resulting from conflicts, recurrent droughts, high morbidity, poor access to health services and the deterioration in the sanitary conditions.

Figure 37: Trends in Acute Malnutrition in Beletweyne



Deyr 2015 nutrition analysis in Mataban district shows Critical GAM prevalence (18.1%), which is sustained since *Gu* 2014 (17.8%). The SAM prevalence for Deyr 2015 indicates a Critical level (4.5%), which is a deterioration from Serious since *Deyr* 2014 (3.2%).

Figure 38: Trends in Acute Malnutrition in Mataban



Stunting prevalence

Beletweyne shows a decrease in Stunting rate fromHigh level (30.8%) observed in *Gu* 2015 to Moderate level (22.3%) in *Deyr* 2015. In Mataban, Low prevalence of stunting was observed (12.6%) which is sustained Low level for the last three years since *Deyr* 2014 (11.6%)

Underweight prevalence

High underweight prevalence (23.6%) was observed in Beletweyne and sustained since *Deyr* 2014 (26.4%). Mataban survey shows underweight prevalence of 16.6 percent which is sustained Moderate level since *Deyr* 2013 (16.8%).

Figure 39 shows Stunting and underweight trends in Beletweyne while Figure 40 shows the trends in Mataban.

Figure 39: Trends of Stunting and Underweight in Beledweyne

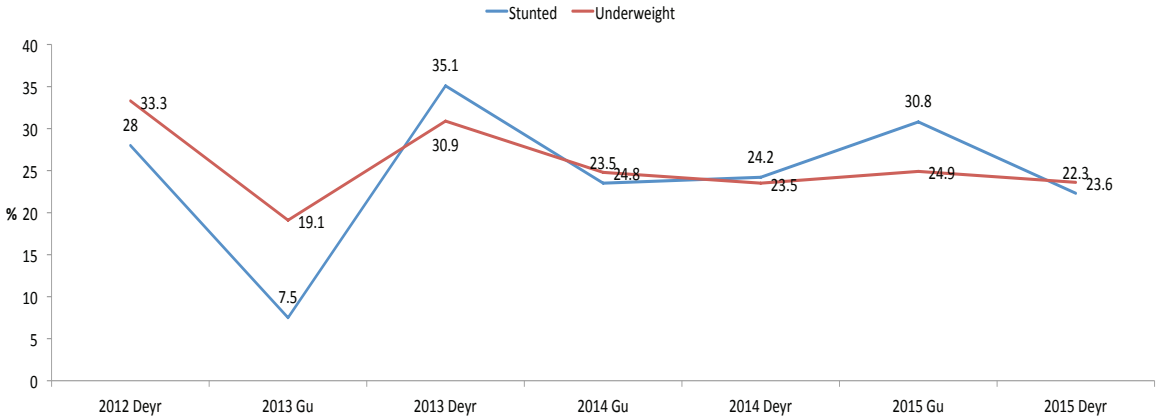
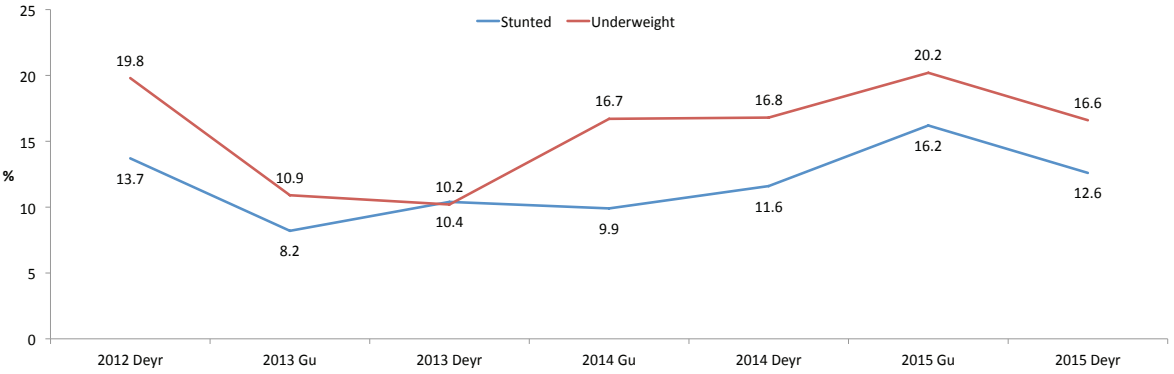


Figure 40: Trends of Stunting and Underweight in Mataban

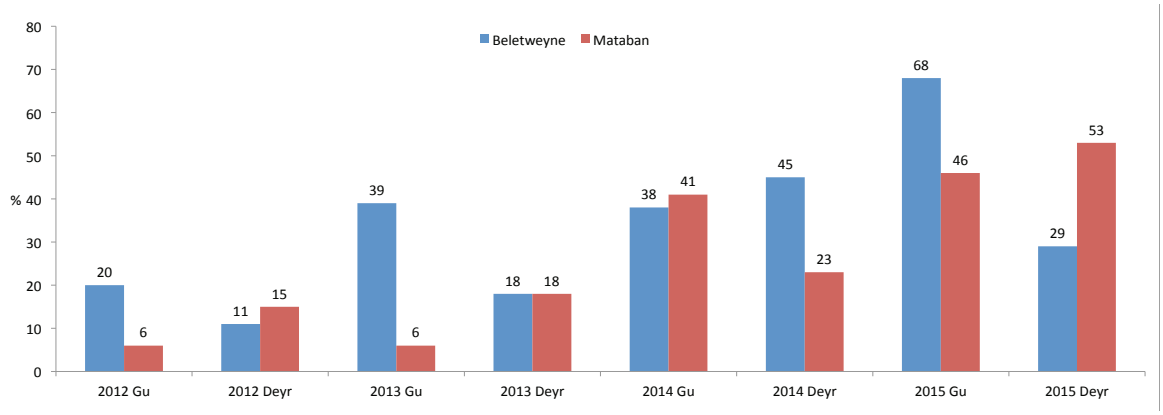


Immunization coverage

The health service provision in both Beletweyne and Mataban is either completely lacking or where it exists, is very limited with low coverage in essential preventive efforts including immunization. The table bellow shows the immunization coverage observed in the surveyed areas.

Survey area	Measles vaccination	Polio vaccination	Vitamin A supplement
Beledweyne	28.54%	30.84%	28.60%
Mataban	29.02%	62.92%	52.70%

Figure 41: Trends of Vitamin A supplementation in Beletweyne and Mataban

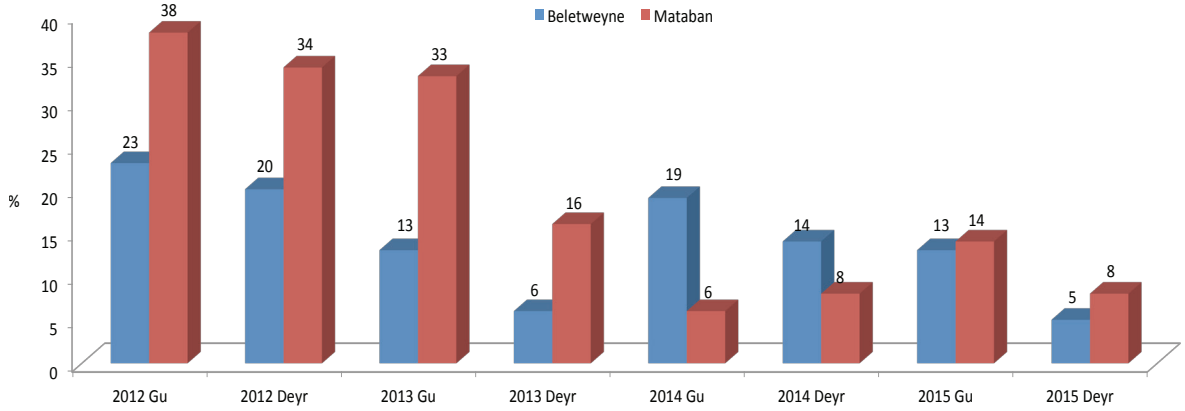


Vitamin A supplementation is well below the recommended SPHERE standard of percent.

Maternal malnutrition

Maternal malnutrition has improved from Alert level (13.4% in Beletweyne and 13.8% in Mataban) seen in last season *Gu* 2015 to Acceptable level (4.7% and (7.9%) observed in *Deyr* 2015.

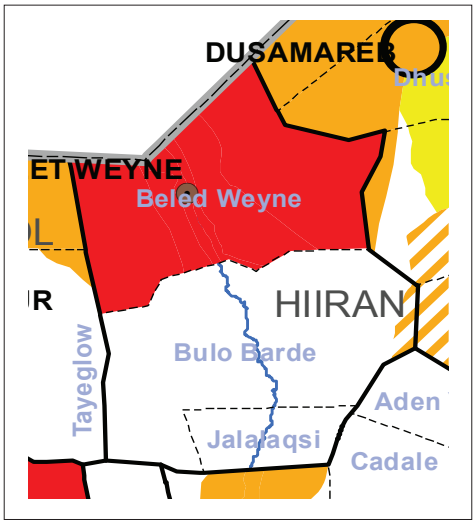
Figure 42: Trends in Maternal Malnutrition in Beletweyne in Mataban Districts



Current nutrition situation

The progression in the nutrition situation in Hiran region since *Deyr* 2014 is shown in Map 14. The nutrition situation in the surveyed areas of Beletweyne and Mataban has been sustained as Critical since the *Gu* 2014 season. The underlying causes of malnutrition seen in the region have been suggested as poor sanitation, low measles immunization. Vitamin A supplementation coverage in Beletweyne and Mataban were 28.5 and 52.7 percent respectively due to limited access to health services which have resulted into high morbidity rate recorded in the two districts for the last three years. Civil insecurity, trade movement restrictions, displacement due insecurity and floods in riverine areas of Beletweyne district resulting in poor harvest have also contributed to the current nutrition situation.

Map 14: Current Nutrition Situation - Jan 2016 in Hiran region



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

Current food security situation

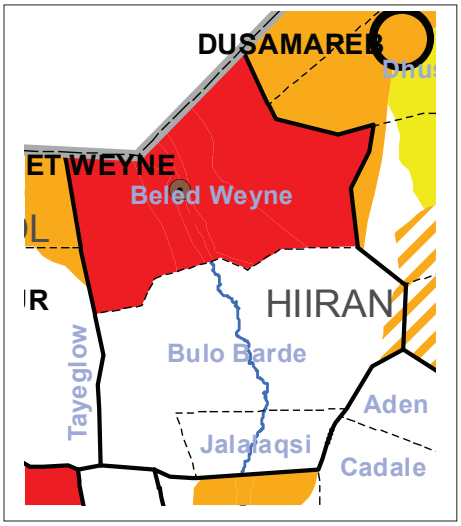
The food security situation has improved in all rural livelihoods of Hiran region in the post *Deyr* 2015/16 season compared to the post *Gu* 2015 season. In January 2016, acute food insecurity area classification of all rural livelihoods in Hiran region were categorized either as Stressed (IPC Phase 2) Agro-pastoral and Riverine or Minimal (IPC Phase 1) for pastoral livelihoods. The estimated 81 000 people identified as Stressed (IPC Phase 2) is 10 percent lower compared to the estimations in the post *Gu* 2015. In the most likely scenario, the area classification and population in Stressed (IPC 2) will remain the same in all rural livelihoods of the region.

Nutritional outlook (Feb to April 2016)

Considering the current nutrition assessment findings and food security and nutrition aggravating factors recorded and the nutrition outlook for the last 12 months, the situation is projected to remain critical for the coming quarter, January to March 2016

Figure 43: Nutrition Situation and Outlook in Hiran region

Current Nutrition Situation - Jan 2016



Projected Nutrition Situation - Feb-Apr 2016

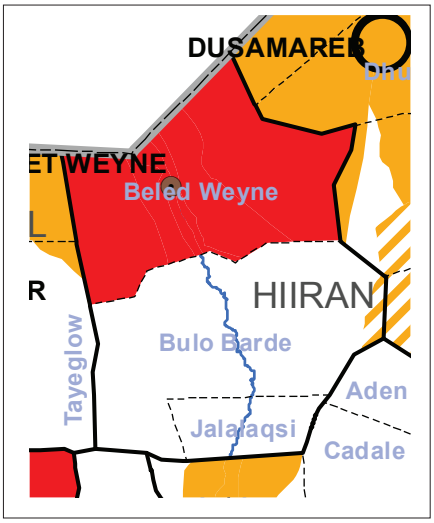


Table 22: Summary of Key Nutrition finding in Hiran Region - *Deyr* 2015

Indicators	Beletweyne		Mataban	
	Clusters :27 (N= 843; Boys=440; Girls=403)		Clusters :27 (N=864:Boys=454;Girls=410)	
Indicator	% (CI)	Change from *Gu* 2015	% (CI)	Change from *Gu* 2015
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	19.0 (15.4-23.2)		18.1 (15.1-21.4)	
Boys	18.4 (13.9-24.0)	Sustained	23.1 (19.2-27.6)	Sustained
Girls	19.6 (15.6-24.3)		12.4 (9.5-16.1)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	3.9 (2.4- 6.2)		4.5 (3.2- 6.2)	
Boys	4.3 (2.1- 8.9)	deteriorated	5.7 (3.8- 8.6)	deteriorated
Girls	3.5 (2.3- 5.1)		3.2 (2.1- 4.8)	
Mean of Weight for Height Z Scores	-1.05±1.06		-0.97±1.09	
Oedema	0.35 (-0.06 – 0.75)	Sustained	0.80 (0.16 – 1.43)	Sustained
CDR	0.30 (0.16 – 0.58)	Sustained	0.35 (0.22 – 0.57)	Sustained
U5DR	0.82 (0.68 – 4.8)	improved	0.70 (0.34 – 1.43)	deteriorated
Stunting	22.3 (17.7 - 27.7)		12.6 (10.1 - 15.7)	
Boys	26.5 (20.7 - 33.2)	improved	15.7 (12.3 - 19.9)	sustained
Girls	17.8 (13.0 - 23.8)		9.2 (5.9 - 14.1)	
Severe stunting	6.9 (4.8 - 9.8)		2.0 (1.2 - 3.3)	
Boys	9.1 (6.2 - 13.2)	deteriorated	2.2 (1.1 - 4.4)	improved
Girls	4.5 (2.6 - 7.7)		1.7 (0.8 - 3.7)	
Underweight	23.6 (18.9 - 29.0)		16.6 (13.6 - 20.0)	
Boys	23.5 (18.2 - 29.9)	Sustained	20.4 (17.3 - 23.9)	improved
Girls	23.6 (18.6 - 29.5)		12.3 (8.2 - 18.1)	
Severe underweight	6.7 (4.6 - 9.6)		2.6 (1.7 - 4.2)	
Boys	5.8 (3.5 - 9.5)	Sustained	3.5 (2.1 - 5.7)	improved
Girls	7.6 (4.8 - 11.9)		1.7 (0.8 - 3.6)	
MUAC<125mm	12.5 (9.0 - 17.1)		6.7 (4.6 - 9.7)	
Boys	11.2 (7.0 - 17.4)	deteriorated	6.5 (4.2 - 9.9)	
Girls	14.1 (9.8 - 19.8)		6.9 (4.5 - 10.5)	
MUAC<115mm	2.6 (1.5 - 4.6)		1.5 (0.8 - 2.7)	
Boys	3.1 (1.5 - 6.3)	deteriorated	1.1 (0.5 - 2.5)	sustained
Girls	2.2 (1.0 - 4.6)		1.9 (0.9 - 4.0)	
Morbidity	35.50 (24.51 - 46.47)		26.53 (15.60 – 37.45)	
Boys	32.97 (21.10 – 44.83)	sustained	29.00 (16.79 – 41.21)	sustained
Girls	38.29 (26.82 – 49.75)		23.81 (13.25 – 34.36)	

Diarrhoea Boys Girls	10.93 (4.39 – 17.47) 8.75 (3.29 – 14.20) 13.35 (4.50 – 22.20)	sustained	12.92 (7.01 – 18.83) 14.28 (7.92 – 20.64) 11.42 (4.98 – 17.86)	sustained
Pneumonia Boys Girls	4.71 (2.27 – 7.17) 4.6 (1.78 – 7.41) 4.85 (2.16 – 7.55)	sustained	6.01 (2.73 – 9.28) 7.14 (3.39 – 10.88) 4.76 (1.60 – 7.91)	sustained
Fever Boys Girls	29.34 (18.34 – 40.35) 27.35 (15.63 – 39.08) 31.55 (20.12 – 43.00)	sustained	17.68 (8.37 – 27.00) 18.18 (8.11 – 28.24) 17.14 (7.94 – 26.34)	sustained
Measles Boys Girls	0.23 (-0.11 – 0.60) 0.44 (-0.21 – 1.09) 0.00 (0.00 – 0.00)	sustained	0.34 (-0.17 – 0.85) 0.21 (-0.23 – 0.66) 0.47 (-0.19 – 1.14)	sustained
Polio Vaccine Boys Girls	30.84 (15.35 – 46.34) 30 20 (14.70 – 45.69) 31.55 (15.16 – 47.91)	sustained	62.92 (51.99 – 73.85) 64.28 (52.54 (76.03) 61.42 (50.76 – 72.09)	sustained
Vitamin A vaccine Boys Girls	28.58 (13.29 – 43.79) 28.22 (13.19 – 43.26) 28.88 (12.68 – 45.09)	sustained	52.72 (37.86 – 67.57) 52.81 (37.01 – 68.61) 52.61 (38.06 – 67.17)	sustained
Measles Vaccine Boys Girls	28.54 (12.64 – 44.44) 29.54 (12.64 – 46.43) 27.42 (11.76 – 43.09)	sustained	29.02 (17.71 – 40.33) 27.92 (15.76 – 40.07) 30.23 (1916 – 41.31)	sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	0.35 (-0.05 – 0.74)	sustained	1.02 (0.06 – 1.98)	sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	4.72 (2.52 – 6.92)	sustained	7.93 (5.77 – 10.09)	sustained
Overall Nutrition Situation	**Critical**		**Critical**	

4.4.5: BAY AND BAKOOL REGIONS

One IDP and two rural livelihoods from Bay and Bakool Regions were included for the *Deyr* 2015 Nutritional assessment. The nutrition status of 2 524, children aged 6-59 month old (1 280 boys and 1 244 girls) from 1 462 households were assessed. Due to insecurity the questionnaires used waere short focusing only on anthropometrical, mortality and morbidity data.

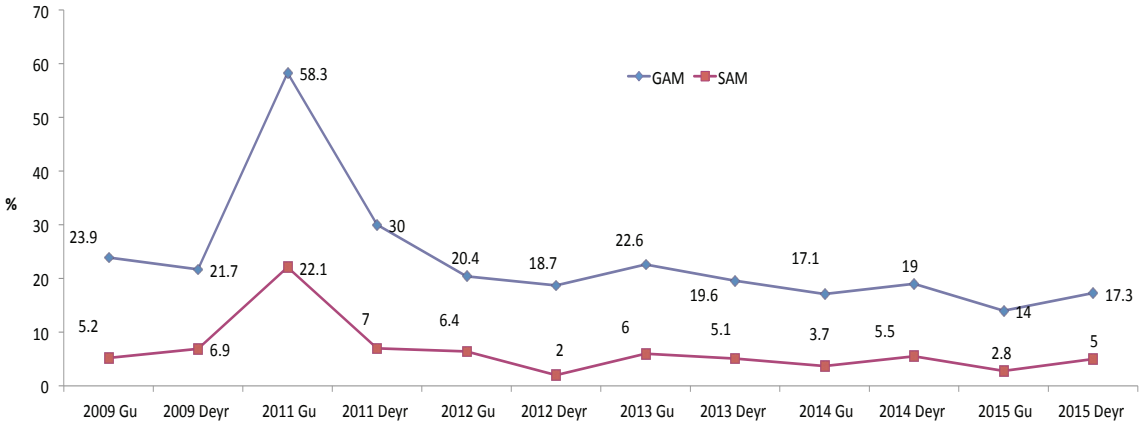
The *Deyr* 2015 assessment findings are summarized and discussed below.

Acute Malnutrition prevalence

In 2015 *Deyr* nutritional assessment in Bay Agro-pastoral shows a GAM and SAM prevalence of 17.3 percent and 5 percent respectively. The GAM prevalence shows that there is a sustained nutrition situation, when compared to last *Deyr* 2014 (19.0). The SAM prevalence also indicates that there is a sustained nutrition situation when compared to last *Deyr* 2014 (5.5%). Therefore, this indicates both *Deyr* season registering Critical levels of acute malnutrition.

The current acute malnutrition prevalence 17.3 percent, which indicates Critical level, has persisted during the six consecutive *Deyr* seasons (Figure 44). SAM prevalence had also similar seasonal pattern with Critical levels of acute malnutrition sustained since *Deyr* 2013. This suggests that the nutrition situations in Bay agro-pastoral livelihood remained sustained Critical levels of malnutrition. These sustained Critical levels of malnutrition are mainly attributed to poor access to safe water and sanitation, low immunization coverage such as Vitamin A (3.6%) and measles (2.4%), which contributed to high morbidity rate (20.4%), and as well as sub-optimal Infant Young Child Nutrition (IYCN).

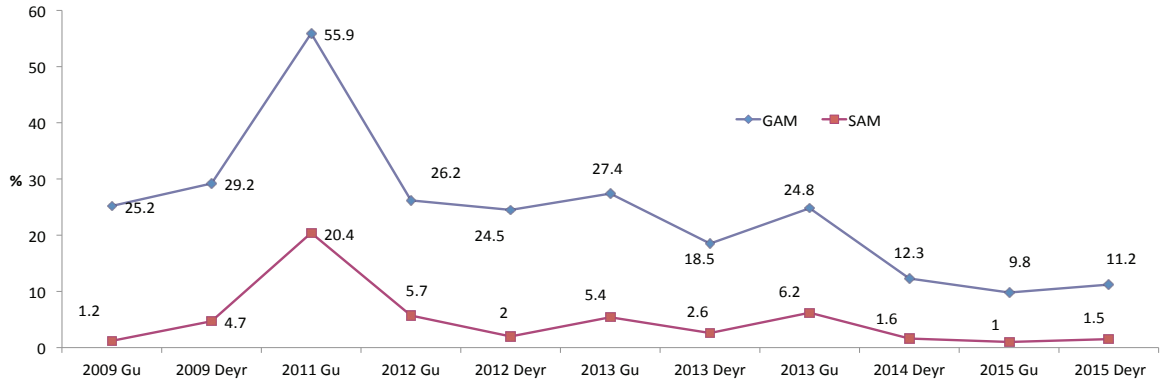
Figure 44: GAM and SAM Trends in Bay Agro-pastoral Livelihood



Bakool Pastoral

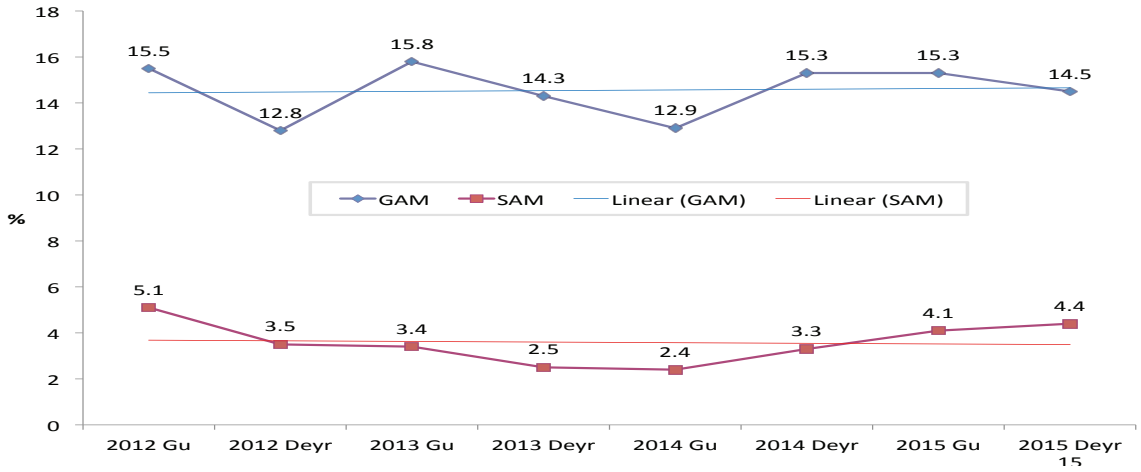
Nutritional assessment in Bakool pastoral livelihood shows GAM and SAM prevalence of 11.2 percent and 1.5 percent respectively, which indicates Serious and Alert levels of acute malnutrition, respectively. Compared to *Gu* 2015 there has been a slight deterioration in GAM (from 9.8 60 11.2%) and SAM (from 1.0% to 1.5%). This deterioration is not statistically significant (p>0.05), but only a phase change. There is a slight deterioration from Alert to Serious levels when compared to *Gu* 2015 (9.8%) and sustained Serious in *Deyr* 2014 (12.3%). This deterioration of the nutrition situation is mainly attributed low immunization status such as Vitamin A (46.5%) and measles (48.6%), seasonal morbidity (10.5%), and low access to milk due to normal seasonal outmigration. Bakool pastoral nutrition trend shows an improvement from Serious levels in *Deyr* 2014 (12.3%) to Alert levels in *Gu* 2015 (9.8%). Again, these changes are only phase change with no statistical significance (P>0.05).

Figure 45: Trends in Acute Malnutrition in Bakool Pastoral Livelihood



Findings from a nutrition survey conducted among Baidoa IDPs in November 2015, in which 743 children aged 6-59 months were assessed, indicates a Serious nutrition situation with GAM prevalence of 14.5 percent and SAM prevalence of 4.4 percent. This shows a slight improvement from Critical to Serious nutrition situation.

Figure 46: Trends in Acute Malnutrition among Baidoa IDPs



Stunting prevalence

Sustained Low stunting is noted among Bakool Pastorals (7.4%), Bay Agro-pastoral livelihood also demonstrates Low stunting prevalence (13.6%) which is an improvement from Medium levels in *Deyr* 2014 (25.2%). Baidoa IDPs had Medium prevalence of stunting (26.8%), which is an improvement compared to High levels seen in *Deyr* 2014 (31.1%)

Underweight prevalence

Sustained High levels of underweight prevalence were recorded among Bay Agro-pastoral (20.4%) and Baidoa IDPs (23.6%) compared to *Deyr* 2014 when stunting levels of 28.8 percent and 26.2 percent were reported the two livelihoods respectively. While in Bakool pastoral, it shows Alert levels of underweight prevalence (14.4%), it has deteriorated from Acceptable level in *Deyr* 2014 (7.7%).

Mortality

Acceptable CDR and U5DR were observed among Bay Agro-pastoral and Bakool Pastoral livelihoods. Both livelihoods sustained Acceptable levels recorded since *Deyr* 2014. In Baidoa IDPs, the 90 days recall retrospective crude and under five death rates reported Acceptable levels for both CDR (0.28/10 000/day)and U5DR (0.10/10 000/day) during *Deyr* 2015.

Morbidity

A decrease in morbidity was noted among Bakool pastorals (10.5%) in *Deyr* 2015, when compared to *Deyr* 2014 (31.7%). Also in Bay agro-pastoral shows sustained morbidity levels in *Deyr* 2015 (20.4%) compared to *Deyr* 2014 (19.3%). In Baidoa IDPs a decrease in morbidity was observed in *Deyr* 2015 (24.2%), when compared to *Deyr* 2014 (45.2%).

Immunization coverage

Sustained Low measles vaccination and Vitamin A supplementation was observed among Bay Agro-pastoral, Bakool pastoral livelihoods and Baidoa IDPs. Vitamin A supplementation coverage among Bay Agro-pastoral was 3.6 percent and 46.5 percent among Bakool pastoral livelihoods. While measles vaccination in Bay agro-pastoral was 2.4 percent and Baidoa IDPs was 41.6 percent.

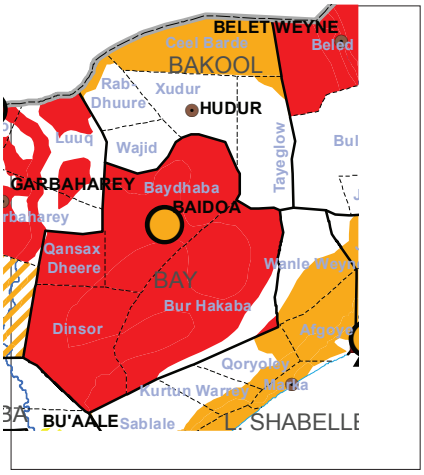
Maternal malnutrition

Very Critical (37.1%) levels of maternal malnutrition were observed among Bakool pastoral, which suggests deterioration from Acceptable (9.2%) in *Deyr* 2014. Bay Agro-pastoral demonstrates Critical levels of maternal malnutrition, which is deterioration from Alert levels reported in *Deyr* 2014 (16.7%). Alert (16.4%) levels of maternal malnutrition were observed among Baidoa IDPs which is an improvement from Serious (20.9%) level is noted in *Deyr* 2014.

Current nutrition situation

Map 15 shows the current nutrition situation (*Deyr* 2015). Serious levels of acute malnutrition are noted among Bakool pastoral (11.2%), Baidoa IDPs (14.5%). While Critical (26.6%) levels was observed in Bay Agro pastoral (17.3%), due to limited humanitarian assistance, low immunization status and high levels of morbidity.

Map 15: Current Nutrition Situation - Jan 2016in Bay Bakool Regions



Bay agro-pastoral in the Bay region with Critical levels of GAM (17.3%) and SAM (5.0%) are the hotspot that require urgent intervention. Furthermore, the current high prevalence of malnutrition observed in Bay agro-pastoral, and presence of high prevalence of underweight (20.4%) as well as the very Critical levels of maternal malnutrition recorded from livelihoods in the Region will be hotspot for any humanitarian assistance and priority. Therefore, the children of Baidoa IDPs, and Bay Agro-pastoral livelihood necessitates not only nutrition specific programs but also additional nutrition sensitive interventions which integrate food, health, hygiene, sanitation and care practices to prevent further deterioration of the nutrition situation.

Current food security situation- Post *Deyr* 2015

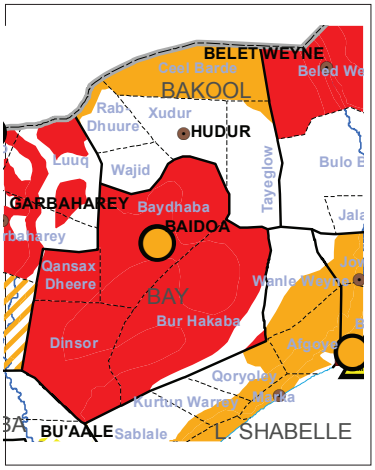
In December 2015, food security situation of all rural livelihoods in Bay and Bakool regions has improved in the Post *Deyr* 2015/16, compared to the preceding *Gu* 2015. The outcomes from the current snapshot acute food insecurity analysis (January 2016) of all livelihoods (agro pastoral and pastoral) in both regions were classified as Minimal (IPC Phase 1). However, a small number of populations is still remained in Stress (IPC Phase 2). The affected people in Stress (IPC Phase 2) is estimated at 37 000 people (Bay: 23 000 and Bakool 14 000), showing significant decline of 73 percent from last *Gu* 2015 projection estimates (137 000 people).

Nutritional outlook (February to April 2016)

The nutrition situation is projected to sustain as Critical in Bay Agro-pastoral due to civil insecurity, limited humanitarian interventions increased morbidity due to reduced access to safe water. Serious GAM prevalence in Baidoa IDPs is expected to be sustained over next three months due to limited access to humanitarian assistance. Bakool Pastoral is also expected to sustain as Serious.

Figure 47: Nutrition Situation and Outlook in Bay and Bakool regions

Current Nutrition Situation - Jan 2016



Projected Nutrition Situation - Feb-Apr 2016

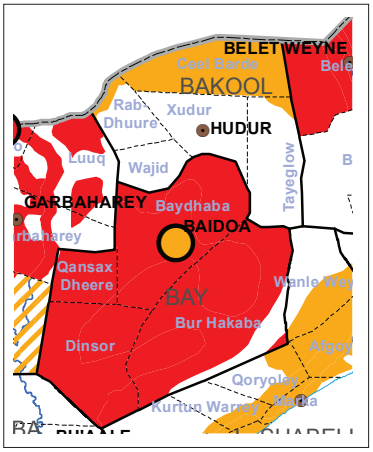


Table 23: Summary of Key Nutrition Findings in Bay and Bakool regions - *Deyr* 2015

	Bay Agro Pastoral		Bakool Pastoral	
	Clusters : 35 (N=1109;Boys=550;Girls=559)		**Clusters 35 (N=672:Boys=370;Girls=302)**	
Indicator	% (CI)	Change from *Gu 2015*	% (CI)	Change from *Gu 2015*
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	17.3 (15.2-19.7) 19.6 (16.5-23.2) 15.0 (12.3-18.2)	deteriorated	11.2 (9.0-13.8) 14.1 (10.9-18.0) 7.6 (5.1-11.2)	deteriorated
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	5.0 (3.9- 6.5) 6.4(4.6- 8.7) 3.8(2.5- 5.7 9)	deteriorated	1.5 (0.8- 2.7) 2.4 (1.3- 4.6) 0.3 (0.1- 1.9)	Sustained
Mean of Weight for Height Z Scores	-1.13±0.91		-1.03±0.91	
Oedema	0.4		0	
Proportion with MUAC<12.5 cm Boys Girls	13.2 (11.3-15.3)	Sustained	7.4 (5.7- 9.7) 6.8 (4.6- 9.8) 8.3 (5.7-11.9)	Improved
Proportion with MUAC<11.5 cm Boys Girls	2.5 (1.7- 3.6)	Sustained	0.7 (0.3- 1.7) 1.1 (0.4- 2.7) 0.3 (0.1- 1.9)	Sustained
Stunting (HAZ<-2) Boys Girls	13.6 (11.7-15.8)	Sustained	7.4 (5.7- 9.7) 9.7 (7.1-13.2) 4.6 (2.8- 7.6)	Sustained
Severe Stunting (HAZ<-3) Boys Girls	3.6 (2.6- 4.8)	Sustained	0.7 (0.3- 1.7) 0.5 (0.1- 1.9) 1.0 (0.3- 2.9)	Sustained
Underweight (WAZ<-2) Boys Girls	20.4 (18.1-22.8)	Sustained	14.3 (11.8-17.1) 18.1 (14.5-22.4) 9.6 (6.8-13.5)	deteriorated
Death Rates				
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.45 (0.21-0.98)	Sustained	0.14 (0.05-0.41)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.40 (0.09-1.80)	Sustained	0.16 (0.02- 1.24)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	5.3 (2.5-8.1)	Sustained	11.7 (6.8-16.6) 13.5(7.9-19.1) 9.2 (3.2-15.3)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	25.6 (17.5-33.7)	Sustained	37.1 (28.1- 46.0) 39.2 (28.1-50.2) 34.2 (24.4-44.1)	Sustained

Morbidity	20.4(6.2-34.7)		10.5 (6.5-14.5)	
Boys	22.9 (7.4-38.4)	Sustained	9.4 (5.3-13.5)	Sustained
Girls	18.0 (4.9-31.1)		11.9 (7.1-16.7)	
Diarrhoea	8.4 (2.3-14.5)		5.2 (2.6- 7.8)	
Boys	10.4 (3.1- 17.6)	Sustained	4.8 (2.0- 7.8)	Sustained
Girls	6.5 (1.4-11.6)		5.6 (2.6- 8.5)	
Pneumonia	2.9 (0-6.4)		4.5 (1.9- 7.0)	
Boys	3.1 (0.0-7.0)	Sustained	3.2 (1.3-5.2)	Sustained
Girls	2.6 (0.0- 5.9)		5.9 (2.0-9.8)	
Fever	13.2 (3.7- 22.7)		4.7 (2.8-6.6)	
Boys	0 (0.0-0.0)	Sustained	4.1 (1.4-6.7)	Sustained
Girls	8.3 (5.3-24.5)		5.6 (2.8-8.4)	
Measles	0.7(0.0- 1.4)		0	
Boys	14.1(4.2- 24.0)	Sustained	0	Sustained
Girls	12.3 (3.2- 21.4)		0	
Vitamin A Supplementation	3.6(1.1-6.1)		46.5 (35.1- 58.0)	
Boys	3.7(1.2-6.1)	Sustained	45.1 (33.1- 57.1)	Sustained
Girls	3.5 (0.8-6.2)		48.3 (36.0- 60.6)	
Measles Vaccination	2.47 (0.4-4.5)		48.6 (37.3-60.0)	
Boys	2.1 (0.1-4.1)	Sustained	46.7(35.1-58.3)	Sustained
Girls	2.8(0.3-5.3)		51.0 (38.7- 63.1)	
Polio Immunization	15.3(8.7-22.0)		52.3 (40.164.6)	
Boys	15.3(8.7-22.0)	Sustained	51.1 (39.0- 63.1)	Sustained
Girls	15.3(7.9-22.7)		53.9 (40.3-67.5)	
Overall Nutrition Situation	**Critical**		**Serious**	

Table 24: Summary of Key Nutrition Findings: Baidoa IDPs - *Deyr* 2015

	Baidoa IDPs	
	Clusters : 30 (N=743: Boys=360; Girls=383)	
Indicator	% (CI)	Change from *Gu 2015*
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	14.5 (11.3-18.6)	
Boys	17.8 (12.6-24.5)	Improved
Girls	11.5 (8.8-14.9)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	4.4 (2.7- 7.2)	
Boys	5.6 (3.3- 9.2)	Sustained
Girls	3.4 (1.8- 6.4)	
Mean of Weight for Height Z Scores	-0.70 ± 1.09	Sustained
Oedema	1.7	v
Proportion with MUAC<12.5 cm or oedema)	11.3 (8.5-14.5)	
Boys	10.9 (7.4-15.1)	Sustained
Girls	11.7 (8.8-15.0)	
Proportion with MUAC<11.5 cm or oedema	4.7 (3.2- 6.9)	
Boys	5.7 (3.4- 9.1)	Sustained
Girls	3.8 (2.4- 5.9)	
Stunting (HAZ<-2)	26.8 (23.1-31.0)	
Boys	34.4 (28.9-40.2)	Sustained
Girls	19.7 (16.1-23.9)	
Severe Stunting (HAZ<-3)	9.7 (8.0-11.8)	
Boys	11.3 (8.5-14.8)	Sustained
Girls	8.3 (6.2-10.9)	
Underweight (WAZ<-2)	23.6 (20.0-27.7)	
Boys	27.4 (21.5-34.2)	Sustained
Girls	20.2 (16.7-24.1)	
Death Rates		
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.28 (0.14-0.59)	Sustained
Under five deaths, per 10,000 per day (retrospective for 90 days)	0.10 (0.02-0.47)	Sustained

Morbidity Boys Girls	24.2 (15.8-32.5) 23.3 (14.0-32.3) 25.1 (16.3-34.0)	Sustained
Diarrhoea Boys Girls	9.6 (5.5-13.6) 10.2 (5.7-14.7) 9.0 (4.0-13.9)	Sustained
Pneumonia Boys Girls	5.3 (1.6-8.9) 5.0 (1.1-8.8) 5.6 (1.3-9.9)	Sustained
Fever Boys Girls	15.0 (8.7-21.4) 14.3 (7.2-21.5) 15.7 (9.3-22.2)	Sustained
Measles Boys Girls	5.2 (2.2-8.3) 5.5 (2.2-8.8) 5.0 (1.4-8.5)	Sustained
Vitamin A Supplementation Boys Girls	48.3 (39.3-57.3) 47.8 (38.6-57.1) 48.7 (38.6-58.9)	Sustained
Measles Vaccination Boys Girls	41.6 (30.7-52.5) 39.1 (28.2-49.9) 44.0 (32.0-55.9)	Sustained
Polio Immunization Boys Girls	76.1 (68.8-83.4) 76.8 (70.1-83.6) 75.4 (66.2-84.6)	Sustained
Women Nutrition and Immunization Status		
Proportion of acutely malnourished pregnant and lactating women (MUAC<21.0)	5.0 (1.7-8.3)	Sustained
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	16.4 (10.6-22.1)	Sustained
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 24.5 (17.5-31.5) 11.6 (7.9-15.3) 22.2 (17.5-27.0) 41.7 (33.2-50.1)	Sustained
Public Health Indicators (HH)		
Household with access to sanitation facilities	97.7 (94.9-100.5)	Sustained
Household with access to safe water	68.9 (55.3-82.5)	Sustained
Proportion who reported to have consumed <4 food groups	94.7 (8.1-99.7)	Sustained
Household's Main Food Source- Purchase	87	Sustained
Mean CSI	35	Sustained
Overall Nutrition Situation	**Serious**	

5. GENDER

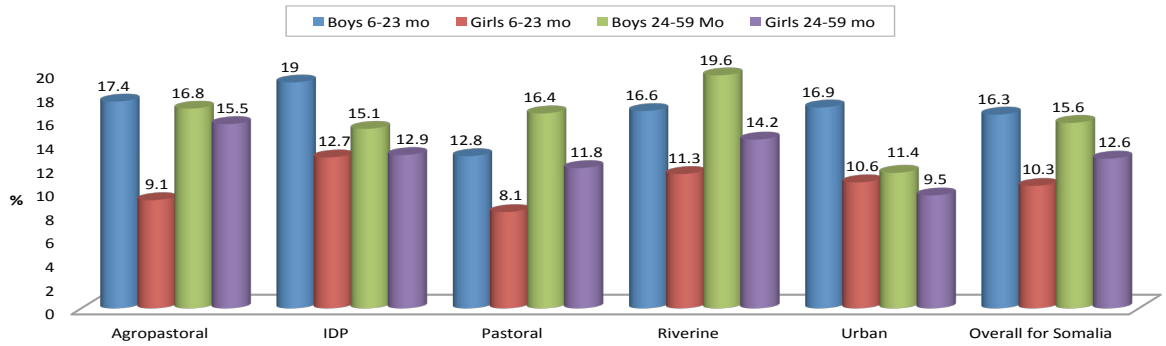
Gender differences in prevalence of Malnutrition in children < 5 yrs in Somalia

FSNAU continues to collect and analyse sex disaggregated data and provide regular update on nutrition status of under-five children in Somalia. The under five children are grouped into two major agre categories; 6 to 23 months and 24 to 59 months. The core indicators for nutrition that were examined against the underlying gender differences include Global Acute Malnutrition (GAM), Severe Acute Malnutrition (SAM), stunting and underweight. Summary of gender disaggregated information on nutrition situation are highlighted and discussed below.

Global Acute Malnutrition (GAM)

Higher prevalence of GAM was observed among boys compared to girls across all population groups. The difference was statistically significant in all areas surveyed. The likelihood of boys to continue showing high GAM compared to girls is still high at 1.34, this is per the risk reduction ratio percentage. The trend (post *Gu* 2015 and Post *Deyr* 2014) present similar results, something to show a continued higher GAM prevalence among boys compared to girls.

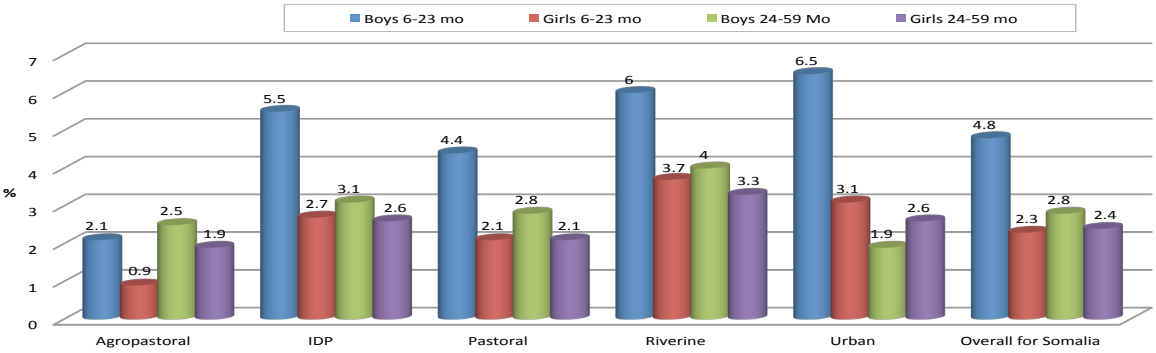
Figure 48: Gender differences in GAM prevalence in different regions - *Deyr* 2015



Severe Acute Malnutrition (SAM)

Boys compared to girls exhibited higher SAM prevalence in all surveyed population groups except among older children in urban livelihood. Overall results depicted higher SAM prevalence in boys across all under five children. The result was statistically significant among young children (6-23 months) for agropastoral, IDP, riverine and overall of the surveyed areas. The likelihood of boys continuing to exhibit higher SAM is significantly high at 1.46; this is per the risk reduction ratio percentage.

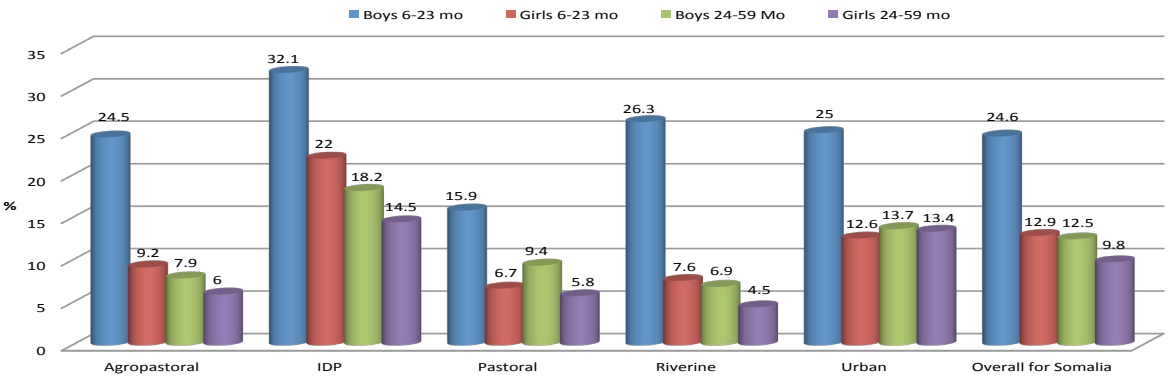
Figure 49: Gender differences in SAM Prevalence in different regions - *Deyr* 2015



Stunting prevalence

Higher level of stunting growth was observed in boys (young and older) compared to girls across all population groups. Overall results exhibited same trend. The result was statistically significant for all under five children at IDPs and pastoral, and among young children (6-23 months) at agro pastoral, riverine and urban.

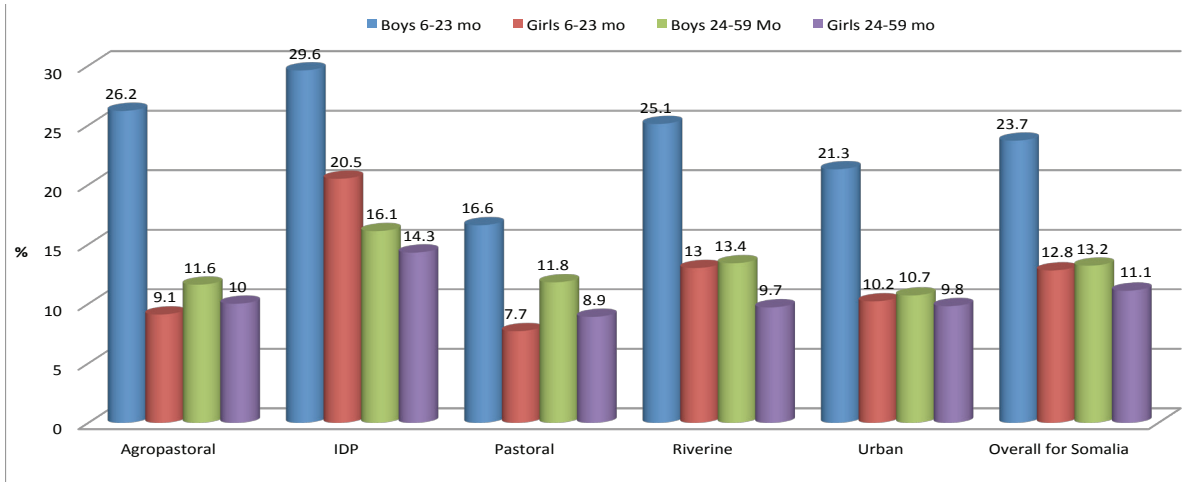
Figure 50: Gender differences in prevalence of stunting in different regions - *Deyr* 2015



Underweight prevalence

Among all under five children surveyed, underweight was observed more in boys compared to girls across all population groups. The difference was statistically significant in young children for agropastoral, riverine, IDP and urban, and across all agr groups for pastoral livelihood.

Figure 51: Gender differences in prevalence of underweight in different regions - *Deyr* 2015



Conclusion

Based on the above livelihood results, we conclude that boys compared to girls continue to register higher prevalence of malnutrition in Somalia. These findings and subsequent conclusions cut across all under five children. This persistent trend, that has been observed in four consecutive seasons (*Gu* 2014, *Deyr* 2014, *Gu* 2015, *Deyr* 2015), is likely to appear paradoxical owing to the robust patriarchal system that has prevailed in Somalia. More in depth research is needed to reconfirm these nutritional differences. In the interim, to mitigate the trend, behavior nutrition communication particularly targeting fathers is needed to narrow the gender nutritional differences.

6. APPENDICES

6.1. Overall Timeline for the *Deyr* 2015 Nutrition Survey

Dates	Activities
Oct 1- 16, 2015	Finalization of *Deyr* Field Instruments & Sampling for IDPs /urban assessments
Oct 20-24	Survey team training for integrated food security and nutrition assessment of IDPs and Urban populations
Oct 26-Nov 7	IDPs and Urban integrated assessment across Somalia – fieldwork/data collection
Nov 8-15	Data entry, cleaning & analysis for IDP/Urban (Mogadishu, Kismayo, Sool and Bari); preparation for rural nutrition assessment.
Nov 16-19 Nov 20 Nov 20-27	Regional draft for Nutrition Update preparation Vetting of IDP/Urban nutrition survey results Finalization of Nutrition Update
Nov 22 Nov 23-28 Nov 29-Dec 17 Dec 19- Jan 7	Travel to field for rural nutrition assessment (plus integrated urban assessment in Bari and Nugaal) Survey team training for rural/urban assessments Nutrition data collection fieldwork for rural Livelihoods + Urban Bari & Nugaal Nutrition survey data cleaning, entry and analysis for rural livelihoods + Urban Bari & Nugaal
9- 23 January 2016	FSNAU Nairobi Team and partners travel to Hargeisa for All Team analysis
Jan 9-23	All Team Analysis workshop
Jan 24-25 Jan 27 Jan 28	Preparation of presentations for vetting Vetting of nutrition results with technical partners/stakeholders in Nairobi Vetting of food security results with technical partners/stakeholders in Nairobi
Feb. 7th, 2016 Feb. 7th, 2016 Feb. 3rd , 2016	Briefing of Heads of Humanitarian Agencies (HOHA) in Nairobi Presentation of Post-Deyr 2015/16 results with Government (Mogadishu, Garowe and Hargeisa)-concurrently Presentation of Post-Deyr 2015/16 results to the humanitarian community and media in Nairobi FSNAU/FEWSNET technical release and press briefing on outcome of Post-Deyr 2015/16
Feb-8	FSNAU/FEWSNET technical release and press briefing on outcome of Post-Deyr 2015/16
Feb 17	Post Deyr Food Security and Nutrition Outlook report release
March-10	Analysis and write up for Technical Series reports

6. 2. Areas Accessed in the *Deyr* 2015 Survey

Details of Post Deyr 2015 Nutrition Assessment (n=39)			
Rural livelihood	**Urban livelihood**	**IDPs**	**Total**
SOUTH			
Bakool Pastoral	Mogadishu Town	Mogadishu IDPs	19 15-W/H 4-MUAC
Bay Agropastoral	Kismayo Town	Kismayo IDPs	
N Gedo Pastoral		Dhobley IDPs	
N Gedo Riverine		Baidoa IDPs	
Hiran pastoral-Mataban District		Dolow IDPs	
Beletweyne district			
Shabelle Agro pastoral			
Shabelle Riverine			
Juba Pastoral- Cattle			
S Gedo Pastoral-MUAC			
S Gedo Agropastoral-MUAC			
S Gedo Riverine-MUAC			
CENTRAL			
Coastal Deeh -MUAC		Dhusamareb IDPs	5 (2-MUAC)
Cow pea Belt-MUAC			
Hawd Pastoral			
Addun Pastoral			
NORTH EAST			
East Golis –cross cutting	Bari Region Urban	Bossaso IDPs	9
Coastal Deeh	Nugaal Urban	Qardho IDPs	
N. Inland Pastoral–cross cutting		Garowe IDPs	
		Galkayo IDPs	
NORTHWEST			
West Golis		Hargeysa IDPs	6
Northwest Agro-pastoral		Burao IDPs	
N. Inland Pastoral–cross cutting		Berbera IDPs	
22 (W/H=16, MUAC=6)	**4**	**13**	**39**

6. 3. Nutrition Indicators Used

Nutrition Classification	Phase 1-Minimal	Phase 2: Stressed	Phase 3-Crisis	Phase 4 - Emergency	Phase 5 -Famine
	Acceptable	Alert	Serious	Critical	Very Critical
Global Acute Malnutrition (GAM) *(R) =3 IPC 2*	<5%	5- <10 %	10 to<15% or >usual and increasing	15-30% Or >usual and increasing	>30%
Mean **Weight-for-Height** Z (WHZ) scores *(R=3)*	>-0.40	-0.40 to -0.69; Stable/Usual	-0.70 to -0.99; >usual/increasing	<-1.00; >usual/increasing	
Severe Acute Malnutrition (SAM) (WHZ and oedema) *(R=3)*	<1	1.1-2.4	2.5-4	4-5.6	>5.6
Crude death rate (CDR)/ 10,000/day *(R=3)*	<0.5	<0.5	0.5 to <1	1 to <2	>2
Under five death rate (U5DR)/10,000/ day *(R=3)*	≤1	≤1	1 to 1.9	2 to 3.9	>4
Mid Upper Arm Circumference (MUAC) Children: (% <12.5cm): *Ref: (R=3)— FSNAU*	<5 %	5--7.4 % with increase from seasonal trends	7.5- 10.6	10.7-16.7 % or significant increase from seasonal trends	>16.7%
MUAC<11.5cm *(R=3)-FSNAU*	< 1 %	1-1.6 %	1.7-2.4 %	2.5-4 %	>4%
Morbidity Patterns: Proportion of children reported ill in 2wks prior to survey *(R=3)* Health facility morbidity trends (R=1) / WHO surveillance (R=1) FSNAU	Very low proportion reportedly sick	Low & stable proportion of reportedly sick based on seasonal trends	Low proportion reportedly sick, from previous months but increasing in >2 months based on seasonal trends	High levels and stable numbers in >2 months based on seasonal trends	High with significant Increase in numbers of sick children, based on seasonal trends
Disease Outbreaks: (seasonally adjusted). Frequency of reported outbreaks of AWD & suspected malaria & measles, , whooping cough & severe ARI-FSNAU	Normal levels, & seasonal trends, Review data in relevant context	-AWD 1 case -Measles 1 case -Malaria–doubling of cases in 2 weeks in hyper endemic areas Suspected whooping cough/ARI -5 cases in the same community same week	Outbreak not contained and/or in non endemic area – limited access to treatment: CFR for AWD >2% rural CFR for AWD >1% urban AWD – duration exceed >6 wks		
Measles immunization/ **Vitamin A Supplementation** Coverage:1 dose in last 6 months	>95% >95%	80-94.9% 80-94.9%	<80% <80%		
HIS[1] Trends of Acutely Malnourished Children *HIS, (R=1)*	V. low (<5%) proportion in the preceding 3mths relative to ≥2yr seasonal trends	Low proportion (5 to <10%) and stable trend in the preceding 3mths relative to ≥2yr seasonal trends	Moderate (10 to <15%) and stable or low (5 to <10%) but increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15%) and stable proportion in the preceding 3mths relative to ≥2yr seasonal trends	High (≥ 15%) and increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends
Sentinel[2] Site Trends: levels of children identified as acutely malnourished(WHZ), *FSNAU' (R=2)*	Very low (<5%) and stable levels	Low levels (5 to <10%)and one round indicating increase, seasonally adjusted	Low (5 to < 10%) & increasing or moderate (10 to <15%) levels based on two rounds (seasonally adjusted)	High levels (≥ 15%) of malnourished children and stable (seasonally adjusted	High levels (≥ 15%) and increasing with increasing trend (seasonally adjusted)
Adult MUAC - Pregnant and Lactating (%<23.0cm- FSNAU	<10.4	10.6-16.7	16.8-23.3	23.4-31.4	≥ 31.5
HH Dietary Diversity (% consuming<4fdgps) FSNAU	<5%	5 – 9.9%	10-24.9%	25 – 49.9%	≥50%
Breastfeeding (BF) Practices *I. Exclusive BF for 6mths* *ii).Continued BF at 1 yr* *iii)Continued BF at 2yr*	≥90% ≥90% ≥90%	50-89% 50-89% 50-89%	12-49% 12-49% 12-49%	0-11% 0-11% 0-11%	
Complementary feeding in addition to breastfeeding i. -Introduction of complementary food at 6 months of age: % introduced ii. -Meeting minimum recommended feeding frequency iii. -Dietary Diversity score	≥95% ≥95% ≥95%	80-94% 80-94% 80-94%	60-79% 80-94% 80-94%	0-59% 0-59% 0-59%	
Access to Water	usually adequate (> 15 litres ppp day), stable-100%	borderline adequate (15 litres ppp day); unstable	7.5-15 litres ppp day, accessed via asset stripping	< 7.5 litres ppp day (human usage only)	< 4 litres ppp day (human usage only)
Affected pop with **access to health services** -formal/informal	Should not be necessary	Access to humanitarian interventions for most vulnerable	Reduced access to humanitarian support for most vulnerable	Limited access to humanitarian support for majority	Negligible or no access

Nutrition Indicators Used (Continued)

Selective **Feeding Programs** Available: Coverage of TFP /SFP & referral systems(Sphere 04); -Admissions trends *(R=1)*	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation- current IPC status	Generally Food Secure	Stressed	Crisis	Emergency	Famine Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	widespread, high intensity confl ict
Livelihood Assets	generally sustainable utilization	stressed and unsustainable utilization	accelerated and critical depletion or loss of access	near complete & irreversible depletion or loss of access	effectively complete loss; collapse
Coping		insurance strategies"	crisis strategies"; CSI > than reference; increasing	"distress strategies"; CSI signifi cantly > than reference	
3 MONTH NUTRITION SITUATION OUTLOOK	*Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months time* *No change: Stable; Uncertain: Potential to deteriorate Potential to improve:*				

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

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

(Footnotes)

1 Health Information System, data source – health facilities

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

6. 4. Sampling Details for Nutrition Surveys Conducted during Deyr 2015

Region	Population	Estimated U5 pop	GAM	Desired precision	Design effect	% of U5 Children	HH Size	% non responder	# HH to be included	# Cluster to be included	# Children to be included
1. West Golis & Guban	62940	12588	12.8	3.7	1.5	20%	6	3%	488	28	511
2. Northwest Agro pastoral	51791	10358	5.6	2.7	1.5	20%	6	3%	434	28	455
3. Hargeisa IDPs	65640	13128	11.1	3.5	1.5	20%	6	3%	482	30	505
4. Berbera IDPs	3410	682	9.9	3.5	1.5	20%	6	3%	436	30	457
5. Burao IDPs	8670	1734	9.7	3.5	1.5	20%	6	3%	428	30	449
6. Hawd Pastoral	57836	11567	8.9	3.2	1.5	20%	6	3%	474	28	497
7. NIP (Cross cutting-Northwest)	271033	54207	10.4	3.5	1.5	20%	6	3%	455	26	477
8. East Golis (Cross cutting-Northwest)	241,890	48378	11.2	3.5	1.5	20%	6	3%	486	17	509
TOTAL FOR Northwest	**763210**	**152642**							**3683**	**217**	**3860**
1. Bossaso IDP	99249	19850	13	3.5	1.5	20%	6	3%	553	28	579
2. Qardho IDP	Exhaustive										
3. Garowe IDP	10838	2168	16	3.5	1.5	20%	6	3%	657	27	688
4. Galkayo IDP	59778	11956	18	3.5	1.5	20%	6	3%	721	28	756
5. Coastal Deeh	27110	4522	18	3.5	1.5	20%	6	3%	721	26	756
6. Cow pea Belt	30,755	6151	15	3.5	1.5	20%	6	3%	623	26	653
7. Hawd Pastoral	137827	27565	14.5	3.5	1.5	20%	6	3%	606	40	635
8. Addun Pastoral	173934	34787	12	3.5	1.5	20%	6	3%	516	35	541
9. Coastal Deeh	84979	16996	12.5	3.5	1.5	20%	6	3%	535	30	560
10. Bari Urban	151033	30206	14	3.5	1.5	20%	6	3%	589	30	617
11. Nugaal Urban	54749	10950	14	3.5	1.5	20%	6	3%	589	30	617
12. NIP (Cross cutting-Northwest)				3.5	1.5	20%	6	3%		14	
13. East Golis NE	148785	29757	14.5	3.5	1.5	20%	6	3%	374	23	615
14. Dhusamareeb IDPs	Exhaustive										
TOTAL FOR Northeast & CENTRAL	**979037**	**194908**							**6484**	**337**	**7017**
1. Bakool Pastoral	38445	7689	9.8	3.5	1.5	20%	6	3%	453	35	564
2. Bay Agropastoral	545,910	109182	14	3.5	1.5	20%	6	3%	617	35	769
3. N Gedo Pastoral	47,922	9584		3.5	1.5	20%	6	3%	788	28	702
4. N Gedo Riverine	94,344	18869	18.8	3.5	1.5	20%	6	3%	731	29	782
5. S Gedo Pastoral-MUAC	11,540	2308	12	3.5	1.5	20%	6	2%	547	26	530
6. S Gedo Agropastoral-MUAC	31,018	6204	14.9	3.5	1.5	20%	6	2%	598	27	630
7. S Gedo Riverine-MUAC	91,200	18240	14.6	3.5	1.5	20%	6	2%	621	28	641
8. Mataban District	25,833	5166	18.6	3.5	1.5	20%	6	3%	775	27	829
9. Beletweyne district	94,912	18982	16.8	3.5	1.5	20%	6	3%	716	27	893
10. Shabelle Agro pastoral	125,262	25052		3.5	1.5	20%	6	3%	574	30	602
11. Shabelle Riverine	85,487	17097		3.5	1.5	20%	6	3%	584	30	615
12. Mogadishu IDPs	341,581	68316	14.9	3.5	1.5	20%	6	3%	826	40	663
13. Mogadishu Town	1,780,677	356135	10.5	3.5	2.0	20%	6	3%	735	40	642
14. Juba Cattle Pastoral	23,625	4725	7.5	3.5	2.0	20%	6	3%	355	28	443
15. Kismayo IDPs	17040	3408	12.9	3.5	1.5	20%	6	3%	549	30	812
16. Kismayo town	97500	19500	9.1	3.5	1.5	20%	6	3%	429	30	
17. Dhobley IDPs	Exhaustive			3.5	1.5	20%	6	3%			
18. Baidoa IDPs	15,024	90144	15.3	3.5	1.5	20%	6	3%	664	30	828
19. Dusamareb IDPs	Exhaustive			3.5	1.5	20%	6	3%			
20. Dolow IDPs	Exhaustive			3.5	1.5	20%	6	3%			
TOTAL FOR SOUTH	**3467320**	**780602.2**							**10562**	**520**	**10945**
GRAND TOTAL	**5,209,567**	**1,128,152**							**20,729**	**1,074**	**21,822**

6.5. Actual Sample Size Covered in *Deyr* 2015

Livelihood Zone/ Population assessed	# Clusters	# HH	# Children	# Boys	# Girls	# PLW
SOUTH						
Bay Agropastorals	35	633	1109	550	550	247
Bakool Pastoral	35	357	672	370	302	NA
Baidoa IDPs	30	448	743	360	383	318
Mogadishu IDPs	40	508	825	407	418	231
Mogadishu urban	40	482	785	418	367	N/A
Beletweyne District	27	627	843	440	403	377
Shabelle Riverine	30	457	718	365	353	235
Shabelle Agropastoral	30	449	760	379	381	253
Mataban District	27	561	684	454	410	359
N Gedo Pastoral	28	519	952	498	454	355
N Gedo Riverine	29	620	1059	545	514	440
Dolow IDPs	34	422	700	364	336	234
Dhobley IDPs	Exhaustive	363	559	300	259	253
Juba Cattle Pastoral	28	302	777	387	390	NA
Kismayo Town	30	394	706	303	403	N/A
South Gedo Pastoral	26	459	793	406	387	N/A
South Gedo Agropastoral	28	540	1121	557	564	N/A
South Gedo Riverine	27	526	1107	559	548	N/A
Kismayo IDPs	30	476	867	417	450	262
Total South	**554**	**9143**	**15780**	**8079**	**7872**	**3564**
CENTRAL						
Addun Central	28	423	736	383	353	166
Hawd Central	28	484	790	429	361	179
Dhusamreeb IDP's	Exhaustive	225	384	189	195	76
Total Central	**56**	**1132**	**1910**	**1001**	**909**	**421**
NORTH EAST						
E Golis (NE)	39	434	987	515	472	243
Nugal Urban	30	592	854	464	390	N/A
Bari Urban	30	594	636	326	310	N/A
Coastal Deeh NE	30	465	768	395	373	136
Bossaso IDPs	28	491	727	387	340	139
Qardho IDPs	Exhaustive	351	655	324	331	112
Garowe IDPs	28	526	841	436	405	240
Galkayo IDP's	28	595	940	457	483	224
Total NE	**213**	**4048**	**6408**	**3304**	**3104**	**1094**
NORTH WEST						
Northern Inland Pastoral	32	425	766	384	382	417
Northwest Agropastoral	28	253	439	213	226	225
West Golis	28	267	413	201	212	245
Northwest Hawd	28	234	394	194	200	218
Hargeisa IDPs	30	376	461	235	226	330
Burao IDPs	30	324	451	224	227	205
Berbera IDPs	30	336	423	208	215	258
Total Northwest	**206**	**2215**	**3347**	**1659**	**1688**	**1898**
Overall Total	**1029**	**16538**	**27445**	**14043**	**13573**	**6977**

6.6: List of institutions which participated in the Deyr 2015/16 Nutrition Vetting

Meeting in Mogadishu	Meeting in Nairobi
1. MOWR	1. Nutrition Cluster
2. MoH	2. ACF CANADA
3. UNOCHA	3. SNS Consortium
4. AL HAYAT FOUNDATION	4. CISP
5. SRCS	5. WFP
6. WORLD CONCERN	6. SCI
7. HEAL	7. CISP
8. MOA	8. IMC
9. WVI	9. UNICEF
10. CONCERN WORLDWIDE	10. FEWSNET
11. ZAMZAM FOUNDATION	
12. UNICEF	
13. NRC	
14. SOLANARDO	
15. OXFAM	
16. AL HUDA	
17. NGO CONSORTIUM	

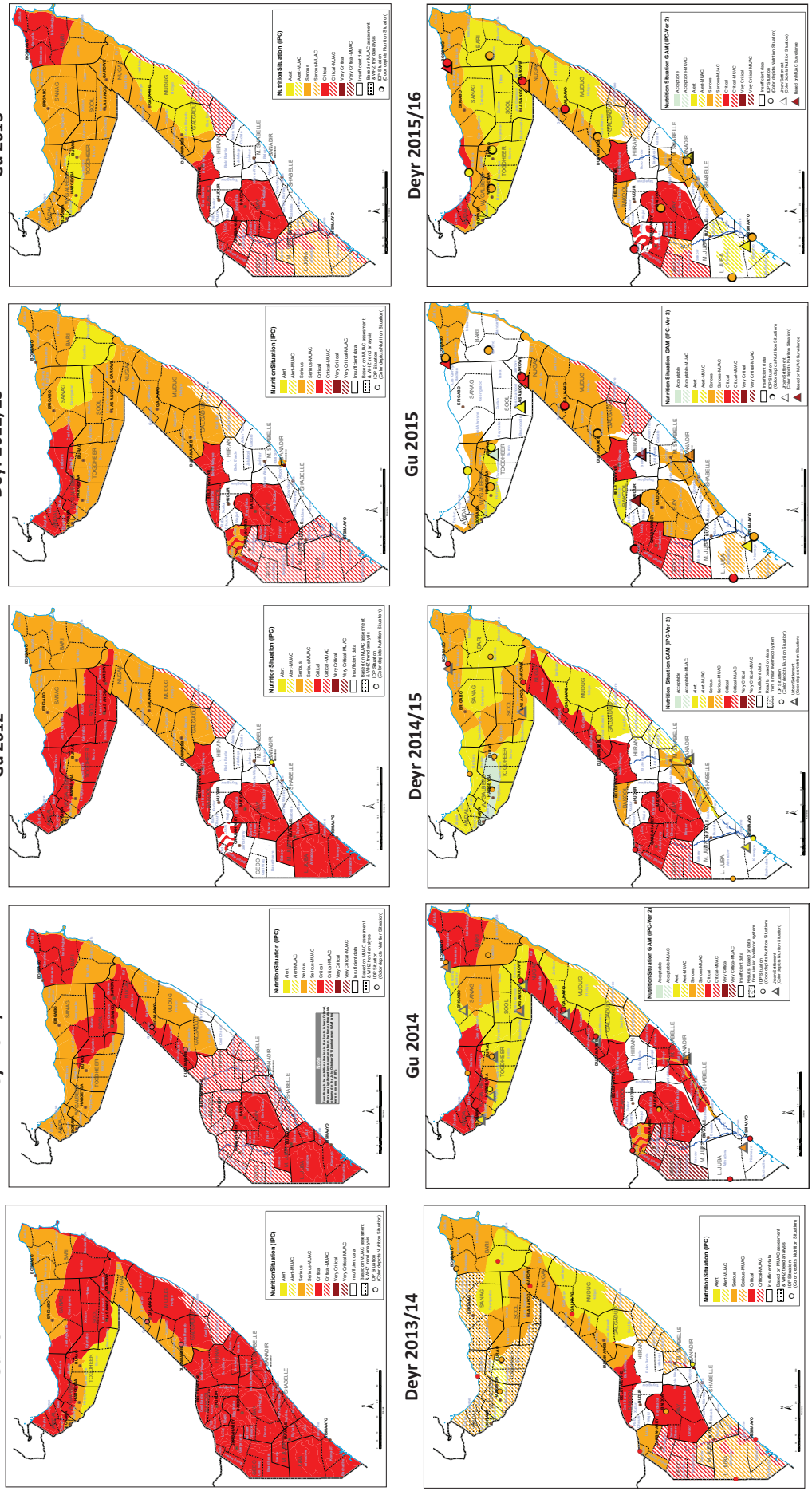
6. 7. Plasibility Check for Nutrition Surveys Conducted during *Deyr* 2015

	Missing/ Flagged data	Overall sex ratio	Age Ratio (6-29 vs 30-59)	Digit Preference score-weight	Digit Preference score-Height	Digit Preference score-MUAC	SD WHZ	Skewness WHZ	Kurtosis WHZ	Poisson Distribution	Overall Score
RATING											
Excellent	0-2.5(0)	>0.1(0)	>0.1(0)	0-7(0)	0-7(0)	0-7(0)	<1.1 (0)	<±0.2(0)	<±0.2(0)	>0.05(0)	0-9
Good	>2.5-5.0 (5)	>0.05(2)	>0.05(2)	8--12(2)	8--12(2)	8--12(2)	<1.15(2)	<±0.4(1)	<±0.4(1)	>0.01 (1)	10--14
Acceptable	>5.0-7.5(10)	>0.001 (4)	>0.001 (4)	13-20(4)	13-20(4)	13-20(4)	<1.20 (6)	<±0.6(3)	<±0.6(3)	>0.001(3)	15-24
Problematic	>7.5 (20)	<=0.001(10)	<=0.001(10)	> 20 (10)	> 20 (10)	> 20 (10)	>=1.20(20) &<= 0.8 (20)	>=±0.6 (5)	>=±0.6 (5)	<=0.001(5)	>25
	NORTH EAST										
East Golis (NE)	0 (1.4 %)	0 (p=0.155)	2 (p=0.098)	2 (8)	2 (8)	0 (4)	5 (1.13)	0 (0.08)	1 (-0.38)	0 (p=0.068)	**12**
Hawd NE	0 (0.8 %)	4 (p=0.016)	4 (p=0.010)	0 (5)	2 (9)	0 (6)	0 (1.08)	0 (0.01)	0 (-0.13)	3 (p=0.001)	**13**
Addun NE	0 (1.3 %)	0 (p=0.272)	0 (p=0.388)	0 (4)	0 (6)	0 (5)	0 (1.04)	1 (-0.23)	0 (-0.11)	3 (p=0.002)	**4**
Coastal Deeh	0 (2.0 %)	0 (p=0.475)	0 (p=0.763)	2 (12)	2 (12)	0 (6)	5 (1.14)	0 (0.11)	3 (-0.46)	5 (p=0.000)	**17**
Bari Urban	5 (3.1 %)	0 (p=0.585)	0 (p=0.364)	0 (6)	0 (7)	2 (8)	0 (1.07)	0 (0.00)	0 (-0.19)	0 (p=0.557)	**7**
Nugaal Urban	0 (2.3 %)	4 (p=0.012)	4 (p=0.009)	0 (5)	2 (9)	0 (4)	0 (1.05)	0 (0.08)	1 (0.22)	0 (p=0.685)	**11**
Bosasso IDPs	0 (2.2 %)	2 (p=0.052)	4 (p=0.001)	0 (3)	0 (6)	0 (4)	0 (1.03)	0 (-0.06)	1 (-0.21)	0 (p=0.058)	**7**
Garowe IDPs	0 (2.3 %)	0 (p=0.453)	4 (p=0.001)	0 (5)	0 (7)	0 (5)	5 (1.15)	1 (0.26)	1 (-0.25)	0 (p=0.364)	**11**
Galkayo IDPs	0 (2.0 %)	0 (p=0.498)	4 (p=0.022)	0 (3)	0 (5)	0 (5)	0 (1.02)	0 (0.17)	0 (0.02)	3 (p=0.005)	**7**
QardholDPs	0 (1.1 %)	0 (p=0.816)	4 (p=0.036)	0 (3)	0 (3)	0 (3)	0 (0.92)	0 (-0.11)	1 (0.20)	N/A	**5**
	NORTH WEST										
NIP	0 (2.2 %)	0 (p=0.942)	4 (p=0.002)	0 (6)	0 (6)	0 (4)	10 (1.19)	0 (-0.03)	3 (-0.55)	3 (p=0.004)	**20**
Northwest Agropastoral	0 (1.8 %)	0 (p=0.478)	0 (p=0.138)	2 (9)	2 (11)	2 (10)	0 (1.03)	0 (-0.16)	1 (-0.26)	0 (p=0.166)	**7**
Hawd Northwest	0 (1.7 %)	0 (p=0.889)	4 (p=0.030)	0 (6)	0 (7)	0 (5)	0 (1.02)	1 (-0.33)	1 (0.29)	1 (p=0.041)	**7**
West Golis	5 (3.1 %)	0 (p=0.495)	4 (p=0.005)	0 (7)	0 (7)	0 (7)	5 (1.10)	0 (0.14)	1 (-0.26)	0 (p=0.142)	**15**
Hargeisa IDPs	0 (2.1 %)	0 (p=0.747)	10 (p=0.000)	0 (4)	2 (8)	0 (6)	5 (1.10)	0 (-0.02)	1 (-0.22)	0 (p=0.075)	**18**
Burao IDPs	0 (0.7 %)	0 (p=0.925)	4 (p=0.022)	0 (5)	2 (8)	0 (7)	10 (1.19)	0 (-0.12)	0 (-0.20)	3 (p=0.001)	**19**
Berbera IDPs	0 (1.9 %)	0 (p=0.885)	0 (p=0.633)	0 (4)	2 (8)	0 (7)	0 (1.02)	1 (-0.26)	1 (-0.21)	1 (p=0.024)	**5**
	CENTRAL										
Hawd Central	0 (0.8 %)	4 (p=0.016)	4 (p=0.010)	0 (5)	2 (9)	0 (6)	0 (1.08)	0 (0.01)	0 (-0.13)	3 (p=0.001)	13
Addun Central	0 (1.3 %)	0 (p=0.272)	0 (p=0.388)	0 (4)	0 (6)	0 (5)	0 (1.04)	1 (-0.23)	0 (-0.11)	3 (p=0.002)	4
Dhusamareb IDPs	0 (2.3 %)	0 (p=0.687)	0 (p=0.265)	2 (8)	0 (7)	4 (13)	0 (1.04)	1 (-0.32)	0 (0.11)	N/A	**7**
	SOUTH										
Bay Agropastoral	0 (1.9 %)	0 (p=0.976)	10 (p=0.000)	0 (5)	2 (12)	0 (7)	0 (0.91)	5 (-0.78)	5 (0.80)	0 (p=0.277)	**22**
Bakool Pastoral	0 (0.0 %)	4 (p=0.009)	4 (p=0.003)	0 (4)	0 (7)	0 (6)	0 (0.91)	1 (0.24)	1 (0.36)	5 (p=0.000)	**15**
N Gedo pastoral	0 (0.9 %)	0 (p=0.147)	0 (p=0.925)	0 (4)	2 (8)	0 (7)	0 (1.06)	0 (0.10)	1 (-0.23)	5 (p=0.000)	**8**
N Gedo Riverine	0 (1.9 %)	0 (p=0.345)	4 (p=0.036)	0 (4)	2 (9)	0 (6)	0 (1.09)	0 (0.07)	0 (-0.13)	3 (p=0.003)	**9**
Beletweyne District	5 (2.9 %)	0 (p=0.127)	4 (p=0.036)	0 (3)	2 (10)	0 (6)	0 (1.06)	0 (-0.07)	0 (-0.09)	5 (p=0.000)	**16**
Mataban District	0 (2.1 %)	0 (p=0.157)	4 (p=0.003)	0 (5)	2 (10)	2 (9)	0 (1.09)	0 (-0.04)	0 (-0.06)	1 (p=0.015)	**9**
Shabelle Riverine	0 (1.2 %)	0 (p=0.528)	0 (p=0.158)	0 (3)	0 (3)	0 (4)	5 (1.13)	0 (-0.09)	3 (-0.41)	5 (p=0.000)	**13**
Shabelle Agropastoral	0 (0.3 %)	0 (p=0.942)	2 (p=0.070)	0 (3)	0 (3)	0 (2)	5 (1.12)	0 (0.04)	1 (-0.24)	5 (p=0.000)	**13**
Mogadishu urban	0 (2.2 %)	2 (p=0.072)	4 (p=0.001)	0 (2)	0 (5)	0 (3)	0 (1.09)	0 (-0.03)	0 (0.06)	0 (p=0.183)	**6**
Kismayo Urban	0 (2.1 %)	10 (p=0.000)	4 (p=0.013)	0 (7)	2 (11)	0 (6)	0 (1.07)	0 (0.03)	0 (-0.02)	1 (p=0.014)	**17**
Mogadishu IDPs	0 (2.1 %)	0 (p=0.654)	10 (p=0.000)	0 (4)	0 (4)	0 (5)	0 (1.05)	0 (-0.15)	0 (-0.18)	0 (p=0.110)	**10**
Baidoa IDPs	0 (1.9 %)	0 (p=0.388)	10 (p=0.000)	0 (4)	2 (10)	2 (10)	0 (1.09)	1 (-0.20)	0 (-0.18)	5 (p=0.000)	**20**
Dolow IDPs	0 (2.1 %)	0 (p=0.313)	0 (p=0.794)	0 (3)	2 (9)	0 (6)	5 (1.15)	0 (0.06)	1 (-0.26)	1 (p=0.016)	**9**
Kismayu IDPs	0 (1.5 %)	0 (p=0.178)	4 (p=0.001)	0 (5)	2 (8)	0 (0)	5 (1.11)	0 (0.06)	1 (-0.22)	5 (p=0.000)	**17**
Dobley IDPs	5 (3.8 %)	4 (p=0.042)	0 (p=0.246)	2(9)	2 (10)	2(9)	2 (1.14)	0 (0.02)	1 (-0.35)	N/A	**18**

6. 8. Overall Nutrition Situation Deyr 2015

Livelihood Zone/ Population assessed	GAM	SAM	CDR	U5DR	Stunted	Underweight	Morbidity	VIT A	Measles	MUAC <12.5	MUAC <11.5	P&L MUAC <23.0
	SOUTH CENTRAL											
Bay Agropastoral	17.3	5.0	0.45	0.40	13.6	20.4	20.4	3.6	2.5	13.2	2.5	25.6
Bakool Pastoral	11.2	1.5	0.14	0.16	7.4	14.3	10.5	46.5	48.6	7.4	0.7	37.1
N Gedo pastoral	21.3	4.1	0.16	0.30	9.9	16.2	17.4	84.3	91.5	5.4	0.7	22.7
N Gedo Riverine	19.5	4.0	0.40	0.54	9.0	15.3	14.1	74.5	81.7	4.6	0.6	27.1
Beletweyne District	19.0	3.9	0.30	0.82	22.3	6.7	35.5	28.6	28.5	12.5	2.6	4.7
Mataban District	18.1	4.5	0.35	0.70	12.6	2.6	26.5	52.7	29.0	6.7	1.5	7.9
Shabelle Riverine	11.4	2.1	0.28	0.42	9.5	12.6	26.3	30.4	29.0	8.9	1.9	13.2
Shabelle Agropastoral	14.3	1.4	0.32	0.64	8.7	11.3	24.6	18.1	38.6	8.4	0.9	5.1
Baidoa IDPs	14.5	4.4	0.28	0.10	26.8	23.6	24.2	48.3	41.6	11.3	4.7	16.4
Mogadishu IDPs	11.4	2.5	0.40	1.50	14.9	15.6	29.7	44.1	39.5	7.6	2	12.6
Dolow IDPs	25.0	6.1	0.27	0.40	26.7	29.7	24.3	64.7	61.4	9.8	2.4	18.1
Dobley IDPs	14.0	2.7	0.52	0.98	9.3	9.9	39.6	22.3	25.1	7.2	2.8	14.2
Kismayo IDPs	12.9	2.9	0.47	0.69	43.8	30.1	27.6	62.9	49.6	11.9	3.6	17.5
Mogadishu urban	8.3	1.8	0.28	0.23	12.5	9.1	17.2	~	~	4.1	0.5	~
Dhusamreeb IDP's	10.9	1.6	0.08	0.27	14.1	11.7	28.5	17.5	36.5	11.7	3.6	28.9
Hawd Central	12.0	2.8	0.26	0.13	6.6	11.8	40.0	81.5	83.8	8.2	2.0	45.3
Addun Central	9.5	1.9	0.04	0.00	6.6	9.3	42.2	80.5	78.7	3.5	0.1	12.7
Kismayo Urban	8.8	1.6	0.50	0.99	27.0	18.4	9.7	~	~	8.5	1.7	~
Median	**13.5**	**2.8**	**0.3**	**0.4**	**12.6**	**13.5**	**25.5**	**47.4**	**40.6**	**8.3**	**2.0**	**17.0**
	NORTH EAST											
East Golis (NE)	12.2	1.6	0.38	0.09	5.6	6.5	38.4	73.9	73.1	4.6	0.7	16.0
Hawd NE	12.0	2.8	0.26	0.13	6.6	11.8	40.0	81.5	83.8	8.2	2.0	45.3
Addun NE	9.5	1.9	0.04	0.00	6.6	9.3	42.2	80.5	78.7	3.5	0.1	12.7
Coastal Deeh	11.2	1.4	0.12	0.13	6.1	4.9	24.7	69.8	81.1	1.0	0.0	4.4
Bari Urban	15.4	3.6	~	~	5.6	10.9	26.4	~	~	5.2	1.4	~
Nugaal Urban	12.2	2.3	~	~	8.8	8.9	3.0	~	~	2.3	0.5	~
Bossaso IDPs	16.8	2.9	0.26	0.27	16.3	18.9	32.0	82.2	78.9	10.1	1.6	12.2
Qardho IDPs	10.4	1.1	0.10	0.16	10.6	9.5	46.1	25.4	42.7	8.2	1.1	25.2
Garowe IDPs	19.5	3.8	0.24	0.49	27.5	24.0	41.3	89.0	87.5	10.7	2.9	7.9
Galkayo IDP's	16.5	1.7	0.08	0.00	20.6	21.4	24.6	82.0	82.5	8.1	0.7	15.6
Median	**12.2**	**2.1**	**0.2**	**0.1**	**7.7**	**10.2**	**35.2**	**81.0**	**80.0**	**6.7**	**0.9**	**14.2**
	NORTH WEST											
Northwest Agropastoral	6.4	0.5	0.31	0.41	2.5	4.0	13.4	49.5	44.8	1.3	0.0	6.6
N.Inland Pastoral	8.0	0.7	0.58	0.74	2.9	3.9	23.6	84.3	79.8	2.3	0.1	5.3
Hawd Northwest	9.6	2.6	0.54	0.51	0.4	2.4	13.8	65.2	75.1	2.2	0.6	3.4
West Golis	13.7	1.7	0.48	0.00	5.5	10.7	38.3	35.6	35.4	5.2	0.4	3.0
Guban Pastoral	22.3	5.9	0.63	1.32	6.5	15.6	21.5	42.6	47	8.5	1.4	14.0
Hargeisa IDPs	12.1	2.0	0.14	0.47	5.0	9.0	10.8	59.4	59.4	3.4	0.8	3.2
Burao IDPs	6.4	0.4	0.15	0.23	1.8	2.7	2.9	70.3	75.4	0.9	0.0	3.3
Berbera IDPs	9.9	1.4	0.40	0.46	2.3	7.5	6.5	28.6	36	1.9	0.0	0.9
Median	**9.8**	**1.6**	**0.4**	**0.5**	**2.7**	**5.8**	**13.6**	**54.5**	**53.2**	**2.3**	**0.3**	**3.4**
	MUAC											
	<12.5	**<11.5**										
Coastal deeh Central	18.0	6.4	0.42	0.66	~	~	9.8	34.2	28.4	18.0	6.4	~
Cowpea Belt	10.2	4.2	0.23	0.48	~	~	13.6	18.3	12.1	10.2	4.2	~
South Gedo Pastoral	11.6	1.0	~	~	~	~	18.6	~	~	11.6	1	~
South Gedo Agropastoral	10.6	0.4	~	~	~	~	28.3	~	~	10.6	0.4	~
South Gedo Riverine	10.5	0.4	~	~	~	~	20.3	~	~	10.5	0.4	~
Juba Cattle Pastoral	5.5	1.2	~	~	~	~	24.0	~	~	5.5	1.2	~
Median	**10.6**	**1.1**	**0.3**	**0.6**			**19.5**	**26.3**	**20.3**	**10.6**	**1.1**	
OVERALL MEDIAN	**12.2**	**2.2**	**0.28**	**0.41**	**8.9**	**11.1**	**24.5**	**56.1**	**49.1**	**7.9**	**1.1**	**13.0**

6. 9. Progression of Estimated Nutrition Situation



6.10. Trends in Under-Five GAM and SAM (%)

`	GAM			SAM		
	Deyr 15/2016	Gu 2015	Deyr 14/2015	Deyr 15/2016	Gu 2015	Deyr 14/2015
Bay Agropastorals	17.3	14.0	19.0	5.0	2.8	5.5
Bakool Pastoral	11.2	9.8	12.3	1.5	1.0	1.5
Baidoa IDPs	14.5	15.3	15.3	4.4	4.1	3.3
Mogadishu IDPs	11.4	14.9	13.4	2.5	3.3	2.5
Mogadishu urban	8.3	10.5	9.7	1.8	2.2	0.9
Beletweyne District	19.0	16.8	17.3	3.9	2.3	4.2
Shabelle Riverine	11.4	10.0	9.6	2.1	1.7	1.8
Shabelle Agropastoral	14.3	13.6	12.3	1.4	3.0	3.5
Bari urban	15.4	18.4	14.0	3.6	~	2.7
Nugaal Urban	12.2	15.7	~	2.3	2.3	~
Mataban District	18.1	18.6	17.8	4.5	3.6	3.2
N Gedo pastoral	21.3	20.3	25.2	4.1	4.2	3.7
N Gedo Riverine	19.5	18.8	19.9	4.0	3.3	3.2
Dolow IDPs	25.0	26.4	21.6	6.1	5.0	4.3
Dobley IDPs	14.0	20.7	11.0	2.7	3.8	1.4
Kismayo Town	8.8	9.1	8.9	1.6	2.1	1.7
Kismayo IDPs	12.9	12.5	8.5	2.9	2.8	1.6
Addun Central	9.5	12.5	9.7	2.8	1.9	1.2
Hawd Central	12.0	14.3	16.1	1.9	2.8	2.7
Dhusamreeb IDP's	10.9	10.5	14.4	1.6	2.6	4.2
E Golis (NE)	12.2	14.6	10.4	1.6	1.7	1.5
Coastal Deeh	11.2	13.0	11.7	1.4	1.9	1.4
Bossaso IDPs	16.8	12.5	17.2	2.9	1.5	3.1
Qardho IDP	10.4	14.0	11.1	1.1	2.2	1.8
Garowe IDPs	19.5	15.7	19.6	3.8	1.9	3.9
Galkayo IDP's	16.5	20.2	15.1	1.7	4.7	2.6
Northwest Agropastoral	6.4	5.6	4.8	0.5	0.2	0.2
West Golis	13.7	12.8	8.0	1.7	2.5	0.8
N. Inland Pastoral	8.0	~	~	0.7	~	~
Guban Pastoral	22.3	~	~	5.9	~	~
EGolis (Northwest)	12.2	~	11.2	1.6	~	1.6
Hawd Northwest	9.6	~	6.0	2.0	~	1.2
Hargeisa IDPs	12.1	10.5	11.1	2.0	2.1	1.6
Burao IDPs	6.4	7.1	9.7	0.4	0.5	0.6
Berbera IDPs	9.9	7.3	9.9	1.4	1.1	1.9
MUAC						
	< 12.5			< 11.5		
coastal Deeh central	18.0	12.1	12.6	6.4	4.8	4.1
Cowpea belt	10.2	10.9	7.2	4.2	2.5	1.8
Juba Cattle Pastoral	5.5	7.9	~	1.2	2.4	~
South Gedo Pastoral	11.6	13.5	12.9	1.0	2.6	1.5
South Gedo Agropastoral	10.6	11.4	14.4	0.4	1.1	1.0
South Gedo Riverine	10.5	10.9	14.6	0.4	1.4	1.3

6. 11. Trends in Under-Five MUAC (%)

	MUAC <12.5 (GAM-MUAC)				MUAC <11.5 (SAM-MUAC)			
	DEYR 2015/16	GU 2015	DEYR 2014/15	GU 2014	DEYR 2015/16	GU 2015	DEYR 2014/15	GU 2014
Livelihoods Assessed	**SOUTH CENTRAL**							
Bay Agropastoral	13.2	11.3	13.4	15.4	2.5	3.2	3.2	3.0
Bakool Pastoral	7.4	8.3	7.4	9.9	0.7	0.7	1.0	2.3
N Gedo Pastoral	5.4	7.5	6.5	21.1	0.7	0.6	0.8	3.6
N Gedo Riverine	4.6	4.3	5.9	9.7	0.6	0.3	0.8	2.3
N Gedo Agro-pastoral	~	~	5.7	20.3	~	~	0.3	2.3
Beletweyne District	12.5	9.0	9.9	9.4	2.6	2.0	1.7	1.4
Mataban District	6.7	6.4	7	7.7	1.5	1.4	1.1	1.8
Shabelle Riverine	8.9	3.4	9.3	7	1.9	0.2	3.6	1.3
Shabelle Agropastoral	8.4	7.2	11.5	7.7	0.9	3.0	3.1	1.6
Baidoa IDP	11.3	14.6	9.8	16.9	4.7	3.4	2.3	3.5
Mogadishu IDP	7.6	9.9	12.8	14	2.0	3.0	3.1	3.3
Dolow IDP	9.8	8.9	7.1	10.9	2.4	2.4	1.2	2.1
Dhobley IDP	7.2	9.8	4.1	11.3	2.8	3.6	0.7	3.3
Kismayo IDP	11.9	10.9	10.6	20.1	3.6	2.7	3.1	5.1
Mogadishu urban	4.1	6.2	4.5	9.5	0.5	2.0	1.1	2.1
Dhusamareb IDP	11.7	8.3	7.2	6.3	3.6	3.2	0.7	2.7
Hawd Central	8.2	6.5	10.1	12.8	2.0	1.2	2.0	2.5
Addun Central	3.5	6.9	4.1	4.1	0.1	0.3	0.3	0.5
Kismayo Town	8.5	9.2	8.8	8.9	1.7	1.7	1.8	1.5
S. Gedo Pastoral-MUAC	11.6	13.5	12.9	16.9	1.0	2.6	1.5	1.9
S. Gedo Agropastoral-MUAC	10.6	11.4	14.4	15.6	0.4	1.1	1.0	2.2
S. Gedo Riverine-MUAC	10.5	10.9	14.6	17.7	0.4	1.4	1.3	3.4
Coastal deeh -MUAC	18.0	12.1	12.6	9.7	6.4	4.8	4.1	2.5
Cowpea Belt-MUAC	10.2	10.9	7.2	10	4.2	2.5	1.8	4.9
Juba Cattle Pastoral	5.5	7.9	~	~	1.2	2.4	~	~
MEDIAN	**8.5**	**8.9**	**8.8**	**10.0**	1.7	**2.0**	**1.3**	**2.3**
	NORTH EAST							
EGolis (NE)	4.6	2.4	5.4	5.4	0.7	0.9	0.9	0.8
Sool plateau	~	~	1.4	1.5	~	~	0.4	0.3
Coastal Deeh	1.0	2.2	1.5	3.2	0	0.1	0.1	0.6
Bari Urban	5.2	4.3	5.4	4.9	1.4	0.9	1.7	1.2
Nugaal Urban	2.3	4.6	~	~	0.5	1.0	~	~
Bossaso IDP	10.1	6.5	11.2	6.6	1.6	0.5	2.4	1.0
Qardho IDP	8.2	5.8	8.5	5.7	1.1	1.0	1.8	0.7
Garowe IDP	10.7	9.6	5.9	8.3	2.9	1.8	1.6	1.5
Galkayo IDP	8.1	8.6	8.7	2.1	0.7	1.5	1.3	0.2
MEDIAN	**6.7**	**5.2**	**5.7**	**5.2**	**0.9**	**1.0**	**1.5**	**0.8**
	NORTH WEST							
Northwest Agropastoral	1.3	1.9	1.3	2.0	0.0	0.6	0.2	0.2
West Golis Pastoral	5.2	3.3	3.4	3.5	0.4	0.6	1.0	0.7
N. Inland Pastoral	2.3	~	~	~	0.1	~	~	~
Nugal Valley	~	~	1.6	2.0	~	~	0.3	0.5
EGolis (Northwest)	4.6	~	5.8	3.7	0.7	~	1.0	0.6
Hawd Northwest	2.2	~	1.0	0.7	0.6	~	2	0.2
Sool Urban	~	2.0	1.5	2.9	~	0.6	0.8	0.2
Togdheer Urban	~	2.0	~	~	~	0.6	~	~
Hargeisa IDP	3.4	6.9	2.2	4.8	0.8	1.5	0.3	1.0
Burao IDP	0.9	1.9	3.8	1.6	0.0	0.7	1.1	0.3
Berbera IDP	1.9	1.3	2.3	1.4	0.0	0.4	0.6	0.3
MEDIAN	**2.3**	**2.0**	**2.2**	**2.0**	**0.3**	**0.6**	**0.8**	**0.3**
OVERALL MEDIAN	**7.4**	**7.05**	**6.8**	**7.7**	**0.9**	**1.3**	**1.1**	**1.5**

6.12. Trends In CDR and U5DR (Rate/10 00/day)

Livelihood Zone/ Population assessed	CDR				U5DR			
	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014
	SOUTH CENTRAL				SOUTH CENTRAL			
Bay Agropastoral	0.45	0.04	0.26	0.50	0.40	0.32	0.27	1.00
Bakool Pastoral	0.14	0.19	0.21	0.40	0.16	0.15	0.52	0.80
N Gedo pastoral	0.16	0.31	0.51	0.50	0.30	0.85	1.01	0.90
N Gedo Riverine	0.40	0.21	0.41	0.70	0.54	0.34	0.82	0.90
N Gedo Agro-pastoral	~	~	0.48	0.80	~	~	0.53	1.20
Beletweyne District	0.30	0.40	0.29	0.30	0.82	1.24	0.41	0.10
Mataban District	0.35	0.27	0.47	0.70	0.70	0.28	~	0.20
Shabelle Riverine	0.28	0.17	0.52	0.50	0.42	0.24	1.00	1.10
Shabelle Agropastoral	0.32	0.56	0.35	0.70	0.64	1.21	0.52	0.80
Baidoa IDP	0.28	0.27	0.74	0.70	0.10	1.37	1.21	0.80
Mogadishu IDP	0.40	0.63	0.60	1.40	1.50	1.36	0.87	3.40
Dolow IDP	0.27	0.90	0.46	0.70	0.40	1.20	0.89	1.24
Dhobley IDP	0.52	1.47	1.25	0.46	0.98	1.27	1.55	0.95
Kismayo IDP	0.47	0.34	0.84	1.28	0.69	0.96	2.08	1.42
Mogadishu urban	0.28	0.54	0.48	~	0.23	0.64	0.75	~
Dhusamareb IDP	0.08	0.64	0.07	0.15	0.27	0.50	~	0.32
Hawd Central	0.26	0.35	0.33	~	0.13	0.25	0.89	~
Addun Central	0.04	0.13	0.13	~	0.00	0.45	0.15	~
Kismayo Town	0.50	0.35	0.55	~	0.99	0.99	0.62	~
MEDIAN	**0.29**	**0.35**	**0.47**	**0.70**	**0.41**	**0.75**	**0.82**	**0.90**
	NORTHEAST				NORTHEAST			
EGolis (NE)	0.38	0.00	0.11	0.24	0.09	0.00	~	0.14
Sool plateau	~	~	0.10	0.06	~	~	~	~
Coastal Deeh	0.12	0.15	0.21	~	0.13	0.30	0.75	~
Bari Urban	~	~	0.41	~	~	~	0.65	~
Bossaso IDP	0.26	0.25	0.36	0.32	0.27	0.22	0.61	0.40
Qardho IDP	0.10	0.34	0.36	0.28	0.16	0.83	1.09	0.69
Garowe IDP	0.24	0.14	0.20	0.10	0.49	0.24	0.59	0.12
Galkayo IDP	0.08	0.03	0.05	0.09	0.00	0.10	~	0.36
MEDIAN	**0.18**	**0.15**	**0.21**	**0.17**	**0.15**	**0.23**	**0.65**	**0.36**
	NORTHWEST				NORTHWEST			
Northwest Agropastoral	0.31	0.46	0.17	0.14	0.41	0.69	~	0.42
N.Inland Pastoral	0.58	~	~	~	0.74	~	~	~
West Golis	0.48	0.32	0.19	0.14	0.00	0.19	~	~
Nugal Valley	~	~	0.00	0.15	~	~	~	~
Hawd Northwest	0.54	~	0.08	0.14	0.51	~	~	~
Guban Pastoral	0.63	~	~	~	1.32	~	~	~
Sool Region Urban	~	~	0.10	~	~	~	~	~
Hargeisa IDP	0.14	0.37	0.11	0.14	0.47	0.84	0.18	0.68
Burao IDP	0.15	0.49	0.04	0.12	0.23	0.00	0.34	0.32
Berbera IDP	0.40	0.14	0.14	0.18	0.46	0.00	~	0.32
MEDIAN	**0.44**	**0.37**	**0.11**	**0.14**	**0.47**	**0.19**	**0.26**	**0.37**
	MUAC				MUAC			
Coastal deeh Central	0.42	0.97	~	~	0.66	2.24	~	~
Cowpea Belt	0.23	0.07	~	~	0.48	0.29	~	~
MEDIAN	**0.33**	**0.52**	~	~	**0.57**	**1.27**	~	~
OVERALL MEDIAN	**0.29**	**0.32**	**0.29**	**0.31**	**0.42**	**0.45**	**0.70**	**0.75**

6.12. Trends In CDR and U5DR (Rate/10 00/day)

	Livelihood Zone/ Population assessed	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2013/14	Gu 2013	Deyr 2012/13
SOUTH CENTRAL	Bay Agropastoral	13.6	17.0	25.2	38.1	8.3	46.9	48.7
	Bakool Pastoral	7.4	2.8	2.7	3	35.2	8.9	11.3
	N Gedo pastoral	9.9	15.8	15.3	4.2	13	16.3	13.6
	N Gedo Riverine	9.0	12.7	16.8	21.4	17.5	11.8	7.4
	N Gedo Agro-pastoral	~	~	11.2	19.8	15.5	18.1	19.6
	Beletweyne District	22.3	30.8	24.2	23.5	35.1	7.5	28
	Mataban District	12.6	16.2	11.6	9.9	10.4	8.2	13.7
	Shabelle Riverine	9.5	16.0	10.4	19.5	~	~	~
	Shabelle Agropastoral	8.7	12.0	9.7	10.3	~	~	~
	Baidoa IDP	26.8	29.7	31.1	41.5	33	36	43.5
	Mogadishu IDP	14.9	15.7	12.1	16	20	22.1	47.4
	Dolow IDP	26.7	23.8	29	26.9	27.1	33.6	33.6
	Dhobley IDP	9.3	12.1	9.4	10.3	14.9	14.2	13.9
	Kismayo IDP	43.8	33.5	38.9	39.8	30.7	40.1	41.5
	Mogadishu urban	12.5	14.3	7.9	8.3	~	10.6	5.2
	Dhusamareb IDP	14.1	6.8	7.7	12.2	8.4	11.6	15.7
	Hawd Central	6.6	8.1	11.1	11.6	10.5	9.5	13.7
	Addun Central	6.6	7.6	8.4	7.2	12.1	9.3	6.1
	Kismayo Town	27.0	9.1	26.1	19.9	~	39.2	~
	MEDIAN	**12.6**	**15.0**	**11.6**	**16**	**15.5**	**14.2**	**14.8**
NORTHEAST	EGolis (NE)	5.6	5.3	6.4	9.1	9.3	9.7	8.4
	Sool plateau	~	~	6	3.6	2	5	6.7
	Coastal Deeh	6.1	6.4	6.5	6.5	12.9	14.7	13.9
	Bari Urban	5.6	7.0	15.9	7.5	~	6.6	14.3
	Nugaal Urban	8.8	6.5	~	~	~	~	~
	Bossaso IDP	16.3	25.9	32.7	22.8	29.5	30	21.1
	Qardho IDP	10.6	13.4	16.7	16.5	30.9	22.9	19
	Garowe IDP	27.5	22.8	18.4	22.3	21.4	14.1	31.1
	Galkayo IDP	20.6	15.6	15.4	15.3	19.6	27.7	20.5
	MEDIAN	**9.7**	**10.2**	**15.7**	**12.2**	**19.6**	**14.4**	**16.7**
NORTHWEST	Northwest Agropastoral	2.5	7.1	2.4	2.8	~	1.8	5.3
	West Golis	5.5	5.3	12.2	7.1	~	6.4	9.7
	Nugal Valley	~	~	3.7	3.1	1.6	2	3.1
	EGolis (Northwest)	5.6	~	2.6	1.6	~	5.2	0.3
	Hawd Northwest	0.4	~	0.8	2.1	~	2.5	4.7
	Sool Urban	~	0.8	0.4	2.1	~	1.2	~
	Togdheer Urban	~	1.5	~	~	~	~	~
	Hargeisa IDP	5.0	5.2	3.3	4.1	7.1	8.2	8.8
	Burao IDP	1.8	0.2	9.7	2.1	2.8	2.6	3.1
	Berbera IDP	2.3	4.1	1.5	2.2	6.1	2.4	9.4
	MEDIAN	**2.5**	**4.1**	**2.6**	**2.2**	**4.5**	**2.5**	**5**
	OVERALL MEDIAN	**9.3**	**12.0**	**10.8**	**10.1**	**14.0**	**10.2**	**13.7**

6.14. Trends in Under-Five Underweight (%)

	Livelihood Zone/ Population assessed	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2013/14	Gu 2013	Deyr 2012/13
South Central	Bay Agropastoral	20.4	20.4	28.8	32.4	31.4	44.9	39.3
	Bakool Pastoral	14.3	7.1	7.7	14.7	15.1	13.6	15.3
	N Gedo pastoral	16.2	20.3	23.3	10.2	8.3	18.2	15.5
	N Gedo Riverine	15.3	16.4	22.6	21.4	11.4	15.8	6.4
	N Gedo Agro-pastoral	~	~	19.4	13.5	10.4	16.4	15.8
	Beletweyne District	6.7	24.9	26.4	24.8	30.9	19.1	33.3
	Mataban District	2.6	20.2	16.8	16.7	10.2	10.9	19.8
	Shabelle Riverine	12.6	12.0	10.1	15.6	~	~	~
	Shabelle Agropastoral	11.3	13.4	11.1	19.9	~	~	~
	Baidoa IDP	23.6	27.3	26.2	31.6	25.3	24.3	30.7
	Mogadishu IDP	15.6	18.9	14.3	23	16.6	19	30
	Dolow IDP	29.7	27.8	32.0	26.4	28.5	30.4	29.2
	Dhobley IDP	9.9	14.2	8.1	12.3	14.5	15.9	16.2
	Kismayo IDP	30.1	24.8	23.2	32.8	30.1	41.7	46.4
	Mogadishu urban	9.1	16.2	9.8	8.9	~	10.1	10
	Dhusamareb IDP	11.7	8.9	12.0	17.9	12	17.4	20.4
	Hawd Central	11.8	12.5	14.7	16.6	10.7	12.1	13.5
	Addun Central	9.3	12.7	9.5	8.9	9.9	9.1	10.4
	Kismayo Town	18.4	16.9	14.7	17.2	~	40.4	~
	MEDIAN	**13.5**	**16.7**	**14.7**	**17.2**	**14.5**	**17.4**	**18**
North East	EGolis (NE)	6.5	7.6	8.3	13.2	9.2	15.1	12.3
	Sool plateau	~	~	6.0	6.3	2.9	6.2	6.4
	Coastal Deeh	4.9	9.3	8.9	8.5	10.4	18.7	10.8
	Bari Urban	10.9	15.6	16.9	13.5	~	15.1	~
	Nugaal Urban	8.9	11.0	~	~	~	~	~
	Bossaso IDP	18.9	23.5	29.8	22.6	26.2	29.9	35.9
	Qardho IDP	9.5	17.4	15.9	18.7	27	21.8	31.4
	Garowe IDP	24.0	18.8	23.1	25.1	23.1	19.7	25.9
	Galkayo IDP	21.4	21.6	19.0	17.8	20.6	28.1	22.5
	MEDIAN	**10.2**	**16.5**	**16.4**	**15.65**	**20.6**	**19.2**	**22.5**
North West	Northwest Agropastoral	4.0	5.8	2.6	5.8	~	4.9	8.2
	West Golis	10.7	8.4	8.6	9.4	~	15.6	13.5
	Nugal Valley	~	~	4.6	3.9	2.6	~	7.5
	Guban Pastoral	15.6	~	~	~	~	~	~
	EGolis (Northwest)	6.5	~	7.0	4.3	~	6.7	3.6
	Hawd Northwest	2.4	~	2.2	1.2	~	5.7	11.3
	Sool Urban	~	2.6	5.5	5	~	3	~
	Togdheer Urban	~	0.9	~	~	~	~	~
	Hargeisa IDP	9.0	0.9	6.7	7.4	8.6	12.3	8.6
	Burao IDP	2.7	2.2	3.0	2.7	3.7	5.4	8.1
	Berbera IDP	7.5	5.6	4.1	5.6	12	6.1	17.2
	MEDIAN	**7.0**	**2.6**	**4.6**	**5**	**6.15**	**5.9**	**8.4**
	OVERALL MEDIAN	**11.1**	**14.2**	**11.6**	**14.1**	**12.0**	**15.8**	**15.5**

6.15 Trends in Maternal Malnutrition (%)

	MATERNAL MUAC<23					
	Livelihood Zone	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2013/14
SOUTH CENTRAL	Bay Agropastoral	25.6	13.7	16.7	22.9	17.1
	Bakool Pastoral	37.1	17.9	9.2	24.9	10.4
	N Gedo pastoral	22.7	7.6	22.4	30	15.1
	N Gedo Riverine	27.1	10.5	22.3	51.8	22.7
	N Gedo Agro-pastoral	~	~	25.4	38.6	21.1
	Beletweyne District	4.7	~	14.6	18.7	5.8
	Mataban District	7.9	~	8.2	6.2	15.7
	Shabelle Riverine	13.2	13.7	10.5	26.6	~
	Shabelle Agropastoral	5.1	10.9	7.6	16.1	~
	Baidoa IDP	16.4	18.1	20.9	23.4	7.7
	Mogadishu IDP	12.6	8.9	11.3	20	1.0
	Dolow IDP	18.1	15	22.9	18.6	25.3
	Dhobley IDP	14.2	26.9	23.8	21.3	24.1
	Kismayo IDP	17.5	15.8	16.4	22.8	23.6
	Dhusamareb IDP	28.9	37.7	35.8	54.8	38.2
	Hawd Central	45.3	23.4	34.4	32.0	26.8
	Addun Central	12.7	8.0	26.6	25.3	10.3
	MEDIAN	**17.0**	**14.4**	**20.9**	**23.4**	**17.1**
NORTH EAST	EGolis (NE)	16.0	6.1	12.5	28.4	31.5
	Sool plateau	~	~	7.6	10.5	11.2
	Coastal Deeh	4.4	6.3	20	11.8	7.1
	Bossaso IDP	12.2	8.6	11.2	16.7	19.9
	Qardho IDP	25.2	24.9	15.8	27.1	31.7
	Garowe IDP	7.9	14.3	21.6	15.5	10.9
	Galkayo IDP	15.6	17.6	16.6	20.6	24.9
	MEDIAN	**13.9**	**11.5**	**15.8**	**16.7**	**19.9**
NORTH WEST	Northwest Agropastoral	6.6	4.8	6.7	2.4	~
	N.Inland Pastoral	5.3	~	~	~	~
	West Golis	3.0	7.4	12	15.6	~
	Nugal Valley	~	~	8.6	12.2	13.8
	EGolis (Northwest)	16.0	~	3.8	9.09	~
	Hawd Northwest	3.4	~	1.5	1.0	~
	Hargeisa IDP	3.2	3.2	3.1	4.0	8.0
	Burao IDP	3.3	3.3	~	6.0	5.7
	Berbera IDP	0.9	0.9	8.1	0.9	1.1
	MEDIAN	**3.35**	**3.3**	**6.7**	**5.0**	**6.9**
	OVERALL MEDIAN	**13.0**	**10.9**	**14.6**	**19.4**	**15.4**

6.16. Trends In Under-Five Morbidity (%)

	MORBIDITY TRENDS (%)					
	Livelihood zone	**Deyr 2015/16**	**Gu 2015**	**Deyr 2014/15**	**Gu 2014**	**Deyr 2013/14**
SOUTH CENTRAL	Bay Agropastoral	20.4	29.1	19.3	25.9	25.6
	Bakool Pastoral	10.5	25.9	31.7	25.0	30.4
	N Gedo pastoral	17.4	18.5	27.1	39.8	21.8
	N Gedo Riverine	14.1	19.4	20.9	32.1	28.3
	N Gedo Agro-pastoral	~	~	21.6	40.1	34.0
	Beletweyne District	35.5	25.9	38.9	50.9	58.8
	Mataban District	26.5	34.2	50.3	57.4	54.6
	Shabelle Riverine	26.3	20.0	34.6	31.5	~
	Shabelle Agropastoral	24.6	23.4	29.6	37.0	~
	Baidoa IDP	24.2	46.8	45.2	32.3	44.4
	Mogadishu IDP	29.7	39.3	39.2	43.2	37.3
	Dolow IDP	24.3	29.0	36.9	43.3	55.2
	Dhobley IDP	39.6	42.9	34.1	24.4	23.2
	Kismayo IDP	27.6	33.1	62.3	41.4	36.4
	Dhusamareb IDP	28.5	45.6	28.6	30.1	46.5
	Hawd Central	40.0	10.8	42.9	33.5	16.9
	Addun Central	42.2	34.1	38.3	31.0	35.9
	Mogadishu urban	17.2	10.6	15.3	18.0	~
	Kismayo Town	9.7	~	47.6	33.3	~
	MEDIAN	**25.5**	**29.0**	**34.6**	**33.3**	**35.9**
NORTH EAST	EGolis (NE)	38.4	32.7	34.8	19.0	35.7
	Sool plateau	~	~	20.3	19.6	31.0
	Coastal Deeh	24.7	37.4	27.4	19.4	40.7
	Bari Urban	26.4	9.2	~	18.2	~
	Nugaal Urban	3.0	14.9	~	~	~
	Bossaso IDP	32.0	18.2	30.9	22.8	40.6
	Qardho IDP	46.1	41.6	37.8	52.4	46.4
	Garowe IDP	41.3	46.8	45.2	32.8	40.5
	Galkayo IDP	24.6	35.9	23.2	29.8	33.4
	MEDIAN	**29.2**	**34.3**	**30.9**	**21.2**	**40.5**
NORTH WEST	Northwest Agropastoral	13.4	11.1	11.5	6.4	24.4
	N.Inland Pastoral	23.6	~	~	~	~
	West Golis	38.3	16.0	14.5	20.7	34.4
	Guban Pastoral	21.5	~	~	~	~
	Nugal Valley	~	~	21.7	18.3	39.0
	EGolis (Northwest)	38.4	~	17.3	13.6	29.5
	Hawd Northwest	13.8	~	19.1	26.8	29.6
	Sool Region Urban	~	~	~	11.8	~
	Hargeisa IDP	10.8	12.8	9.7	12.0	19.9
	Burao IDP	2.9	15.1	17.8	15.6	13.6
	Berbera IDP	6.5	6.4	5.0	5.8	9.80
	MEDIAN	**13.8**	**12.8**	**15.9**	**13.6**	**26.95**
MUAC	Coastal deeh Central	9.8	9.8	15.8	14.7	~
	Cowpea Belt	13.6	14.9	13.9	15.9	~
	South Gedo Pastoral	18.6	20.1	36.4	~	~
	South Gedo Agropastoral	28.3	17.5	32.9	~	~
	South Gedo Riverine	20.3	7.8	30.4	~	~
	Juba Cattle Pastoral	24.0	~	~	~	~
	MEDIAN	**19.5**	**14.9**	**30.4**	**15.3**	**~**
	Overall Median	**24.3**	**20.1**	**29.6**	**26.4**	**34.2**

6.17. Coverage with Vitamin A Supplementation for Children Under-Five (%)

	COVERAGE WITH VITAMIN A SUPPLEMENTATION (%)					
	LIVELIHOOD ZONE	**Deyr 2015/16**	**Gu 2015**	**Deyr 2014/15**	**Gu 2014**	**Deyr 2013/14**
SOUTH CENTRAL	Bay Agropastorals	3.6	7.4	3.9	8.6	13.9
	Bakool Pastorals	46.5	26.1	67.1	35.7	59.5
	North Gedo Pastoral	84.3	80.2	72.4	52.1	84.6
	North Gedo Riverine	74.5	70.7	69.3	61.0	81.5
	North Gedo Agro-pastoral	~	~	85.4	35.8	83.8
	Beletweyne District	28.6	68.2	44.7	38.2	18.0
	Mataban District	52.7	45.5	22.8	41.6	17.6
	Shabelle Riverine	30.4	3.2	8.4	3.4	~
	Shabelle Agropastoral	18.1	5.8	2.5	12.0	~
	Baidoa IDPs	48.3	78.1	57.5	51.9	36.9
	Mogadishu IDPs	44.1	51.3	52.3	61.2	41.8
	Dolow IDPs	64.7	75.2	66.5	56.4	~
	Dhobley IDPs	22.3	38.1	41.7	~	~
	Kismayo IDPs	62.9	72.4	61.1	61.8	~
	Dhusamreeb IDP's	17.5	21.9	33.3	38.2	29.2
	Addun Central	81.5	75.7	63.0	64.7	73.0
	Hawd Central	80.5	73.2	41.8	65.7	64.6
	MEDIAN	**47.4**	**59.75**	**52.3**	**46.75**	**50.65**
NORTH EAST	E Golis (NE)	73.9	66.5	85.7	75.3	63.8
	Coastal Deeh	69.8	57.9	86.9	90.2	79.4
	Hawd NE	81.5	75.7	63.0	64.7	73.0
	Addun NE	80.5	73.2	41.8	65.7	64.6
	Bossaso IDPs	82.2	91.5	93.3	86.0	79.1
	Qardho IDPs	25.4	72.8	78.7	56.2	85.9
	Garowe IDPs	89.0	93.0	87.7	92.7	62.9
	Galkayo IDP's	82.0	85.5	72.0	83.4	91.6
	MEDIAN	**81**	**74.45**	**82.2**	**79.35**	**76.05**
NORTH WEST	Northwest Agropastoral	49.5	48.0	51	77.3	~
	West Golis	35.6	42.4	65.2	65.3	~
	Hawd Northwest	65.2	~	61.9	65.7	~
	Guban Pastoral	42.6	~	~	~	~
	EGolis (Northwest)	~	~	57.0	80.8	~
	Sool plateau	~	~	89.5	84.6	76.5
	Nugal Valley	~	~	81.5	85.0	85.0
	Hargeisa IDPs	59.4	61.9	77.3	66.6	58.3
	Burao IDPs	70.3	90.6	96.6	92.4	86.6
	Berbera IDPs	28.6	60.0	49.5	71.8	63.8
	MEDIAN	**49.5**	**60.0**	**65.2**	**77.3**	**76.5**
SOUTH CENTRAL - MUAC	Coastal deeh Central (MUAC)	34.2	7.1	55.3	39.2	~
	Cowpea Belt (MUAC)	18.3	27.6	47.1	40.7	~
	MEDIAN	**26.3**	**17.4**	**51.2**	**40.0**	**~**
	OVERALL MEDIAN	**52.7**	**66.5**	**62.5**	**64.7**	**64.6**

6.18. Trends in Measles Coverage for Children Under-Five (%)

	COVERAGE WITH MEASLES SUPPLEMENTATION (%)					
	LIVELIHOOD ZONE	**Deyr 2015/16**	**Gu 2015**	**Deyr 2014/15**	**Gu 2014**	**Deyr 2013/14**
SOUTH CENTRAL	Bay Agropastorals	2.5	2.9	0.7	5.7	7.2
	Bakool Pastorals	48.6	13.1	59.5	26.5	23.5
	North Gedo pastoral	91.5	28.6	~	51.9	81.2
	North Gedo Riverine	81.7	46.2	~	60.6	78.8
	North Gedo Agro-pastoral	~	~	43.4	42	81.2
	Beletweyne District	28.5	9.9	6.5	10.9	27.9
	Mataban District	29	16.6	16.3	34.7	16.3
	Shabelle Riverine	29	0.7	10.7	1.1	~
	Shabelle Agropastoral	38.6	10.1	3.9	2.6	~
	Baidoa IDPs	41.6	70.1	44.8	40.4	41.5
	Mogadishu IDPs	39.5	43.9	47.4	70.8	48.5
	Dolow IDPs	61.4	64.2	61.8	71.7	~
	Dhobley IDPs	25.1	39.4	76.9	~	~
	Kismayo IDPs	49.6	51.1	66.1	51.7	~
	Dhusamareeb IDP's	36.5	29.5	33.8	37.8	33.3
	Addun Central	83.8	58.6	57.3	64	70.8
	Hawd Central	78.7	71.9	53.5	62	66.3
	MEDIAN	**40.6**	**34.5**	**44.8**	**41.2**	**45.0**
NORTH EAST	E Golis (NE)	73.1	67.0	85.1	74.9	53
	Coastal Deeh	81.1	58.9	85	89	71.6
	Hawd NE	83.8	58.6	57.3	64	70.8
	Addun NE	78.7	71.9	53.5	62	66.3
	Bossaso IDPs	78.9	85.5	88.7	79.2	79.9
	Qardho IDPs	42.7	65.2	76.6	58.9	85.9
	Garowe IDPs	87.5	91.5	93.8	89.6	57.8
	Galkayo IDP's	82.5	81.0	87.1	89.9	89.7
	MEDIAN	**80.0**	**69.5**	**85.1**	**77.1**	**71.2**
NORTH WEST	Northwest Agropastoral	44.8	45.6	44.0	72.8	~
	WGolis/Guban	35.4	37.4	56.9	56.2	~
	Hawd Northwest	75.1	~	62.4	62	~
	Guban Pastoral	47.0	~	~	~	~
	EGolis (Northwest)	~	~	56.4	79.8	~
	Sool plateau	~	~	89.8	82.8	71.1
	Nugal Valley	~	~	79.2	83	75.5
	Hargeisa IDPs	59.4	66.8	67.2	64.8	52.6
	Burao IDPs	75.4	88.9	94.5	91.2	75.4
	Berbera IDPs	36	56.3	49.7	68.6	54.4
	MEDIAN	**47**	**56.3**	**62.4**	**72.8**	**71.1**
SOUTH CENTRAL - MUAC	Coastal deeh Central (MUAC)	28.4	1.6	36.4	12.9	~
	Cowpea Belt (MUAC)	12.1	3.7	4.2	18.1	~
	MEDIAN	**20.3**	**2.7**	**20.3**	**15.5**	**~**
	OVERALL MEDIAN	**48.6**	**51.1**	**57.1**	**62**	**66.3**

6.19. Trends in the Number of Acutely Malnourished Children Under-Five (Prevalence)

Regions	GAM Caseloads				SAM Caseloads			
	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014	Deyr 2015/16	Gu 2015	Deyr 2014/15	Gu 2014
Lower Shabelle	28 400	25 950	24 900	34 150	3 950	5 300	6 600	9 800
Banadir	22 550	26 850	34 750	39 850	4 100	5 650	4 150	7 650
Bay	26 050	21 100	30 150	27 100	7 500	4 250	8 700	5 900
Galgadud	9 700	12 050	13 200	14 150	2 150	2 150	1 850	3 650
Mudug	14 500	16 750	16 600	17 850	2 450	2 500	2 350	4 600
M Shabelle	12 000	10 950	15 350	21 100	1 700	2 200	4 150	6 000
W Galbeed	23 000	22 000	26 550	34 000	4 100	3 400	2 450	5 900
L Juba (Hoose)	18 700	18 000	18 400	15 700	3 800	3 480	2 550	1 500
Gedo	17 600	16 850	24 900	19 650	3 550	3 300	3 900	1 100
Hiran	17 500	16 600	18 100	17 200	3 950	2 800	4 150	4 000
Bakool	9 800	8 150	15 200	13 250	2 200	1 300	3 350	2 900
Bari	15 000	19 600	15 050	18 750	1 900	2 300	2 050	3 650
Toghdeer	11 100	13 800	15 300	19 550	2 200	3 350	1 350	3 400
M Juba -(Dheexe)	13 700	13 150	11 400	9 700	2 750	2 550	1 600	950
Awdal	24 000	17 050	11 650	14 850	5 100	3 350	1 000	2 550
Sanaag	10 950	13 500	10 250	13 150	1 350	1 650	900	2 250
Sool	5 700	6 600	5 650	7 300	1 100	850	500	1 250
Nugal	7 950	9 950	4 850	6 050	1 250	1 450	650	1 150
North West IDPs	2 100	1 750	2 200	2 050	350	250	350	250
North East IDPs	3 600	3 500	3 550	3 300	500	650	600	650
South Central IDPs	10 800	13 600	~	~	2 350	3 050	~	~
Total	**304 700**	**307 750**	**318 000**	**348 700**	**58 300**	**55 780**	**53 200**	**69 100**

6.20 Trends in Food Security (IPC Phases)

	Change in Food Security Phase				
Regions	**Deyr 2015/16**	**Gu 2015**	**Deyr 2014/15**	**Gu 2014**	**Deyr 2013/14**
	SOUTH				
Bay Agro-pastoral	Minimal	Minimal	Stressed	Stressed/crisis	Stressed
Bakool Pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
Baidoa IDPs	Crisis	Crisis	Crisis	Crisis	Stressed
Dhobley IDPs	Crisis	Crisis	Crisis	Emergency	Emergency
Kismayo IDPs	Crisis	Crisis	Crisis	Emergency	Emergency
Kismayo Town	Stressed	Stressed	Stressed	Emergency	~
Beletweyne	Stressed	Stressed	Stressed	Stressed	Stressed
Mataban	Stressed	Stressed	Stressed	Stressed	Stressed
N Gedo Pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
North Gedo Riverine	Minimal	Stressed	Stressed	Stressed	Stressed
North Gedo Agro Pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
Dolow IDPs	Emergency	Emergency	Emergency	Crisis	Stressed
South Gedo Pastoral-MUAC	Minimal	Stressed	Stressed	Stressed	Stressed
South Gedo Agro-Pastoral-MUAC	Minimal	Stressed	Stressed	Stressed	Stressed
South Gedo Riverine-MUAC	Minimal	Stressed	Stressed	Stressed	Stressed
Shabelle Agro pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
Shabelle Riverine	Stressed	Stressed	Stressed	Stressed	Stressed
Mogadishu IDPs	Crisis	Crisis	Crisis	Crisis	Crisis
Mogadishu Urban	Stressed	Stressed	Stressed	Stressed	Stressed
	CENTRAL				
Dhusamareeb IDPs	Crisis	Crisis	Crisis	Crisis	Emergency
Hawd Pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
Addun Pastoral	Minimal	Stressed	Stressed	Stressed	Stressed
Cowpea Belt-MUAC	Stressed	Stressed	Stressed	Stressed	Stressed
Coastal Deeh-MUAC	Stressed	Stressed	Stressed	Stressed	Stressed
	NORTHEAST				
Bossaso IDPs	Crisis	Crisis	Crisis	Crisis	Crisis
Galkayo IDPs	Crisis	Crisis	Crisis	Crisis	Crisis
Qardho IDPs	Crisis	Crisis	Crisis	Crisis	Stressed
Garowe IDPs	Crisis	Crisis	Crisis	Crisis	Stressed
East Golis Pastoral	Stressed	Stressed	Crisis	Stressed	Stressed
Sool Plateau Pastoral	~	Minimal	Stressed/crisis	Stressed	Stressed
Coastal Deeh	Stressed	Stressed	Crisis	Crisis	Stressed
Bari Urban	Stressed	Stressed	Stressed	Stressed	~
	NORTH WEST				
Northwest Agro-Pastoral	Crisis	Stressed	Stressed	Stressed	Stressed
Northern Inland Pastoral	Stressed	~	~	~	~
West Golis/Guban	Minimal	Minimal	Stressed	Stressed	Stressed
Sool Plateau	~	Minimal	Stressed	Stressed	Stressed
HAWD Livelihood	Minimal	Minimal	Stressed	Stressed	Stressed
Eastgolis/GebbiValley	Stressed	Stressed	Stressed	Stressed	Stressed
Nugal Valley	~	Stressed	Stressed	Stressed	Stressed
Hargeisa IDP	Crisis	Crisis	Stressed	Crisis	Crisis
Berbera IDP	Crisis	Crisis	Stressed	Crisis	Crisis
Burao IDP	Crisis	Crisis	Stressed	Crisis	Crisis

6.21. Nutrition Indicators by Gender and Age - *Deyr* 2015/16

		REGION									
Indicator	**Age(Months)**	**CENTRAL**		**NE**		**NORTHWEST**		**SOUTH**		**Overall for Somalia**	
		Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
GAM	6-23 months	14.5	8.8	19.2	11.8	10.3	5.6	18.1	12.2	16.3	10.3
	24-59 Months	15.3	12.0	15.2	11.4	13.8	11.0	16.3	13.6	15.6	12.6
	Overall	15.0	10.9	16.5	12.1	12.5	8.9	17.0	13.1	15.8	11.9
SAM	6-23 months	5.1	2.4	6.4	2.6	2.3	1.4	5.1	2.6	4.8	2.3
	24-59 Months	2.3	2.0	2.7	2.3	2.7	1.9	3.1	2.7	2.8	2.4
	Overall	3.2	2.2	3.9	2.5	2.6	1.7	3.8	2.7	3.5	2.4
GAM-MUAC	6-23 months	14.4	17.0	17.4	15.9	6.1	7.5	18.3	21.9	15.4	17.7
	24-59 Months	1.9	2.7	1.3	2.5	1.5	1.7	3.2	3.3	2.4	2.8
	Overall	6.1	7.7	6.5	8.2	3.2	4.0	8.7	10.1	7.0	8.3
SAM-MUAC	6-23 months	3.5	2.9	4.3	4.8	0.9	1.0	3.5	5.4	3.1	4.1
	24-59 Months	0.1	0.4	0.1	0.1	0.3	0.4	0.6	0.4	0.4	0.4
	Overall	1.2	1.3	1.4	1.7	0.5	0.6	1.6	2.2	1.3	1.7
UNDERWEIGHT	6-23 months	18.8	11.8	25.9	13.2	10.8	4.7	28.7	15.9	23.7	12.8
	24-59 Months	12.3	9.8	12.3	8.9	6.5	4.5	16.0	14.3	13.2	11.1
	Overall	14.4	10.5	16.7	10.5	8.1	4.6	20.6	14.9	16.9	11.8
STUNTING	6-23 months	17.9	12.2	26.6	13.9	8.2	3.9	31.4	16.2	24.6	12.9
	24-59 Months	11.7	8.2	11.6	9.7	4.1	2.3	15.8	12.8	12.5	9.8
	Overall	13.8	9.6	16.5	11.2	5.6	2.9	21.5	14.0	16.8	11.0
MORBIDITY	6-23 months	36.0	36.2	34.2	37.7	23.8	23.1	34.8	35.7	32.7	33.3
	24-59 Months	31.7	30.0	31.1	32.9	19.9	17.7	34.8	33.5	30.9	29.9
	Overall	31.1	32.2	32.1	32.8	21.4	19.8	34.8	34.3	31.5	30.9
	* Chi- square test(with 95% confidence interval) showed statistical significant difference (P<0.05)										

6.22. Glossary of Terms

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

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

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

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

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

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

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

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

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

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

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

Household A group of persons who live together and eat from the same pot (i.e. the HEA definition)
Kwashiorkor Sign of severe malnutrition characterized by bilateral oedema.

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

Morbidity A condition related to a disease or illness.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Information Management Process

Gathering & processing

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

Validation of Analysis

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

Products and Dissemination

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

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