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Nutrition Situation Post *Gu* '10

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Mahad Sanid



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LIST OF ACRONYMS

ACT	Artemisinin-based Combination Therapy
ACF	Action Contre La Faim
AWD	Acute Watery Diarrhea
ARI	Acute Respiratory Tract Infections
AFLC	Acute Food and Livelihood Crisis
BFI	Borderline Food Insecure
CDC	Center for Disease Control
CDR	Crude Death Rate
CHD	Child Health Days
CI	Confidence Interval
COSV	Co-operatione Di Svillupo International
FAO	Food and Agricultural Organization of the United Nations
FSNAU	Food Security and Nutrition Analysis Unit
FEWSNET	Famine Early Warning System Network
GAM	Global Acute Malnutrition
GAMMUAC	Proportion of children with MUAC<12.5cm
GFATM	Global Fund for Aids, TB and Malaria
HAZ	Height for Age Z Scores
HE	Humanitarian Emergency
HIS	Health Information System
IMC	International Medical Corps
IDP	Internally Displaced persons
INGO	International Nongovernmental Organization
KEMRI	Kenya Medical Research Institute
LZ	Livelihood Zone
MAP	Malaria Atlas Project
MCH	Maternal and Child Health Center
MOH	Ministry of Health
MOHL	Ministry of Health and Labour
MT	Metric Tonne
MUAC	Mid Upper Arm Circumference
NCHS	National Center for Health Statistics
NGO	Non governmental organisation
OTP	Out Patient Therapeutic Programme
OPD	Out Patient Department
PfPR	Plasmodium falciparum Parasite Rate
PWA	Post War Average
R	Reliability Score
RDT	Rapid Diagnostic Test
RR	Relative Risk/Risk Ratio
SAM	Severe Acute Malnutrition
SAMMUAC	Proportion of children with MUAC<11.5cm
SC	Stabilization Center
SRCS	Somalia Red Crescent Societies
SD	Standard Deviation
SFP	Selective/Supplementary Feeding Program
TFC	Therapeutic Feeding Center
TOT	Terms of Trade
U5DR	Under Five Death Rate
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
WAZ	Weight-for-Age Z Scores
WHO	World Health Organization of the United Nations
WFP	World Food Program of the United Nations
WHZ	Weight for Height Z Scores
WVI	World Vision

Forward

The FSNAU Post Gu '10 Technical Series report (September 2010) is the fourth edition of the bi-annual nutrition situation technical series launched by the Food Security and Nutrition Analysis Unit (FSNAU) in February 2009. The publication complements the FSNAU biannual seasonal technical series reports and provides specific focus on nutrition information for the last 6 months.

The FSNAU Post Gu '10 Technical Series report will be released in the coming week and provides a detailed analysis by region and by sector, of the integrated food security situation.

1. EXECUTIVE SUMMARY

The nutrition situation shows a varied picture throughout the country, with improvements in northern areas yet a sustained crisis in South Central areas. (Map 1).

From April to July 2010, FSNAU and partners conducted a total of 25 representative nutrition surveys (Table 1). Of these, 8 reported rates of global acute malnutrition (GAM) <10%, 7 reported rates in the 10-15% range, 7 reported rates in the 15-20% range, with the remaining 3 reporting rates >20% (Figure 1). The median national rate of global acute malnutrition (GAM) is **15.2%**, and 2.4% for severe acute malnutrition (SAM) (Figure 2). This translates to an estimated **230,000 acutely malnourished children, of whom 35,000 are severely malnourished, representing 1 in 7 and 1 in 42, of all children under 5 years in Somalia**. These national rates have indicated a slight reduction from the *Deyr* '09/10 six months ago, when 16% GAM and 4.2% SAM were reported, attributed mostly to improvements in the northern regions, Shabelle and Juba Regions.



A child with wounds from cuts and burns, a culture believed to treat abdominal illnesses. FSNAU-Huddur, July 2010.

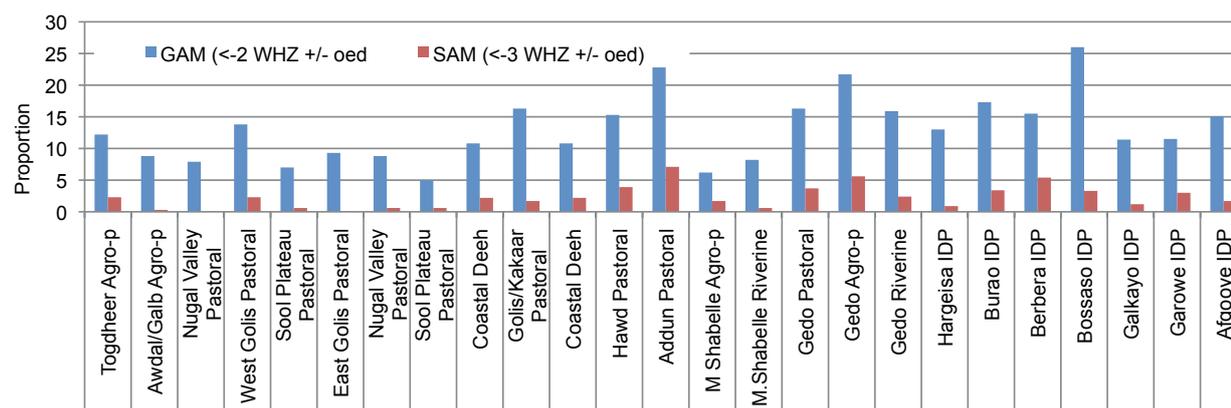
For South and Central regions, the area's most affected by insecurity and limited humanitarian space; median rates are at **16.6% GAM and 4.5% SAM**, translating into a caseload estimate of **90% of all the severely malnourished children in Somalia**. These rates indicate a slight improvement in the GAM from 6 months ago, when median rates were at 19% GAM, with no change in the rate of SAM.

Milk access remains a driving factor in the nutrition situation among northern pastoralists subject to livestock migration dynamics, which is illustrated in the seasonality in the rates of acute malnutrition amongst this group. However in South Central areas, there are many more factors directly affecting elevated rates of acute malnutrition, including food insecurity caused by natural disasters such as drought and flooding and also economic factors such as increasing food prices, morbidity levels including outbreaks and sub optimal infant and young child feeding practices. For IDPs seasonality also plays an issues in terms of access to labour opportunities e.g. port activities and disease..

Civil insecurity in Mogadishu, Hiran and parts of Central regions of Somalia leading to on-going population displacements, the *Gu*'10 rainfall failure in Hiran, coastal parts of Central regions the aftermaths of the cyclone in the northeast regions also contribute to the current analysis. Access to health services is of great concern with many carers, opting instead for damaging and sometimes dangerous alternatives to conventional health care through traditional means (See photo). Therefore, a concerted effort to address all these factors, in addition to enhancing household food security and livelihoods, remains crucial for sustainable improvements in the nutrition situation to be realized.

South & Central regions: The nutrition situation shows a varied picture in different parts of South and Central regions. There has been significant improvement in parts of Shabelle attributed mainly to a bumper crop harvest,

Figure 1: Global Acute and Severe Acute Malnutrition *Deyr* '09/10 (Oct - Dec) WHOGS <-2WHZ & <-3WHZ and /or oedema



which provided labor opportunities for poor households and increased access to milk following in-migration of livestock. Similarly in Juba and Gedo pastoralists, the nutrition situation has improved with increased access to milk and livestock products following favorable *Gu*'10 rains and pastures, and improved livestock body conditions and kidding rates. Though acute watery diarrhea was again reported this season in Shabelle and Juba regions which maintained nutrition rates at *Serious* levels.

The sustained nutrition crisis in the other livelihoods of South and Central Somalia, currently classified in *Critical* or *Very Critical* nutrition phases continues to highlight the impact of years of civil war on the population's ability to deal with shocks. The widespread lack of access to appropriate health service, safe water and improved sanitation further increase the risk of disease, and many common childhood illness can be fatal. In spite of this year being a bumper harvest in Bay Region for example, it has yet to translate into improved nutrition status as children are fed predominantly on cereal and oil based diet, missing the essential micronutrients and proteins essential for health, growth and development. As mentioned earlier, the highest levels of acute malnutrition are reported in South Central at 16.4% GAM and 4.5% SAM compared to the national rate of 15.2% GAM and 2.4% SAM. Further, the very high **stunting of 22 % in the South and Central regions, unchanged from 6 months yet compared to the 8% and 12% reported in the northwest and northeast respectively**, continues to illustrate the chronic nature of this crisis (Figure 3). Currently with the reducing humanitarian space, access to nutritional rehabilitation services is also a limiting factor to recovery and the nutrition situation here remains in crisis with a poor outlook for the coming months.

Northern regions

In the northwest regions, there is a mixed picture with notable recovery to *Alert* from the previous *Serious* situation in the East Golis Guban and Nugal Valley, and to *Serious* from *Critical* in the Toghdeer agro-pastoralists, mainly as a result of in migration of livestock and subsequent increased access to milk. Humanitarian support has also improved since July 2009. The Hawd pastoralists in the northwest are in a sustained *Serious* nutrition phase, attributed mainly to limited access to milk availability as a result of low calving in camels, sheep and goats. Given the population density, even without *Critical* or *Very Critical* rates of acute malnutrition, 21% of all acutely malnourished Somali children reside in the northwest, therefore integrated efforts to meet their needs are key.

In the northeast regions, analysis of the nutrition situation is also providing a mixed picture since January 2010. Improvements to *Alert* rates of acute malnutrition are now being reported in Nugal Valley, from *Serious* in the January 2010, with a sustained *Alert* phase in Sool Plateau. In the East Golis, Guban and Karkaar, the situation has deteriorated to *Critical* from *Serious* in January 2010. Sustained *Critical* rates in the Hawd and deterioration from *Critical* to *Very Critical* in the Addun highlight a concerning nutrition situation in the northeast and elevated needs. It is estimated that 3% (excluding the IDPs in the region, also at 3%) of all acutely malnourished children in Somalia reside in the northeast regions.

Table 1. Timeline of activities for *Gu* 2010 Nutrition Situation Analysis

I.	NUTRITION SURVEYS GU 2010 Livelihood Zone/Population Assessed	PERIOD
1	Toghdeer Agro-pastoral	April'10
2	West Golis Pastoral	July'10
3	Northwest Agro-pastoral	July'10
4	Sool Plateau (Northwest)	July'10
5	Hawd Pastoral (Northwest)	July'10
6	East Golis Pastoral (Northwest)	July'10
7	Nugal Valley Pastoral (Northwest)	July'10
8	Sool Plateau (Northeast)	July'10
9	Coastal Deeh (Northeast)	July'10
10	Golis/Kakaar Pastoral (Northeast)	July'10
11	Nugal Valley Pastoral (Northeast)	July'10
12	Hawd Pastoral (Central)	May'10
13	Addun Pastoral (Central)	May'10
14	Middle Shabelle Agro-pastoral	July'10
15	Middle Shabelle Riverine	July'10
16	Gedo Pastoral	June'10
17	Gedo Agro-pastoral	June'10
18	Gedo Riverine	June'10
19	Hargeisa IDP	July'10
20	Burao IDP	July'10
21	Berbera IDP	July'10
22	Bossaso IDP	July'10
23	Galcayo IDP	July'10
24	Garowe IDP	July'10
25	Afgooye IDP	June'10
II.	HEALTH FACILITY REVISITS/HIS DATA	Jan'09-July'10
III.	RAPID URBAN NUTRITION ASSESSMENTS	May - July'10
IV.	FSNAU & PARTNERS NUTRITION ANALYSIS	August 1-6th, 2010
V.	FSNAU INTERNAL NUTRITION SITUATION REVIEW	August 4th, 2010
VI.	NUTRITION SITUATION VETTING MEETING WITH PARTNERS	August 16th, 2010
VII.	FSNAU PRESS RELEASE	August 23rd, 2010
VIII.	FSNAU FOOD SECURITY AND NUTRITION BRIEF RELEASE	September 3rd, 2010
IX.	FSNAU POST GU'10 NUTRITION TECHNICAL SERIES REPORT RELEASE	September 17th, 2010

IDPS

IDPs continue to be a nutritionally vulnerable group, even in areas of relative peace and improved access in the northern regions. The **median GAM rate at 15.3% and SAM rate of 3.2%** are slightly higher than the national rates of 15.2% and SAM rate of 2.4%. However the median rates of global acute malnutrition in the IDPs have shown some improvement from the 16.7% GAM and 5.0% SAM reported during the *Deyr* '09/10. This is mostly due to improvement in the nutrition situation to **Serious** in Galkahyo IDPs with a **GAM rate >11.3%** and a **SAM rate > 1.2%**, from the *Deyr* '09/10 which showed unacceptably high GAM rate at 23.7% and SAM rate at 6.3%. Similarly, in Garowe IDPs, the situation is **Serious** with GAM rates of 11.5%. The stunting level at **19.4%**, show a slight improvement compared to the *Deyr*'09/10 median rate of 24.8%, and is similar to the national rate of 18.4%. Nevertheless these levels indicate that **1 in 5 IDP children will not be able to reach their full developmental potential**. The window of opportunity for reversal of stunting is up to 2 years, so efforts focused on integrated health and nutrition programmes are key for these children. Of note also is the situation in the Afgooye IDPs which has remained stable with GAM rate of 15.1% and SAM rate of 1.7% in relation to the situation in January 2010 with GAM and SAM of 15.9% and 5.5% respectively, despite the shrinking humanitarian space.

The high levels of nutritional vulnerability is likely to persist in most parts of South Central regions, based on the highlighted aggravating factors, coupled with the prevailing insecurity which limit humanitarian access, and projected below average rains in the coming season, which could limit access to milk and impact on agricultural production. Improved humanitarian access that will ensure a combination of emergency nutrition interventions, adequate integrated humanitarian response and capacity strengthening of current and new nutrition stakeholders remains key in addressing these issues (Figure 2 and Figure 3).

Map 1: Nutrition Situation Estimates, July 2010

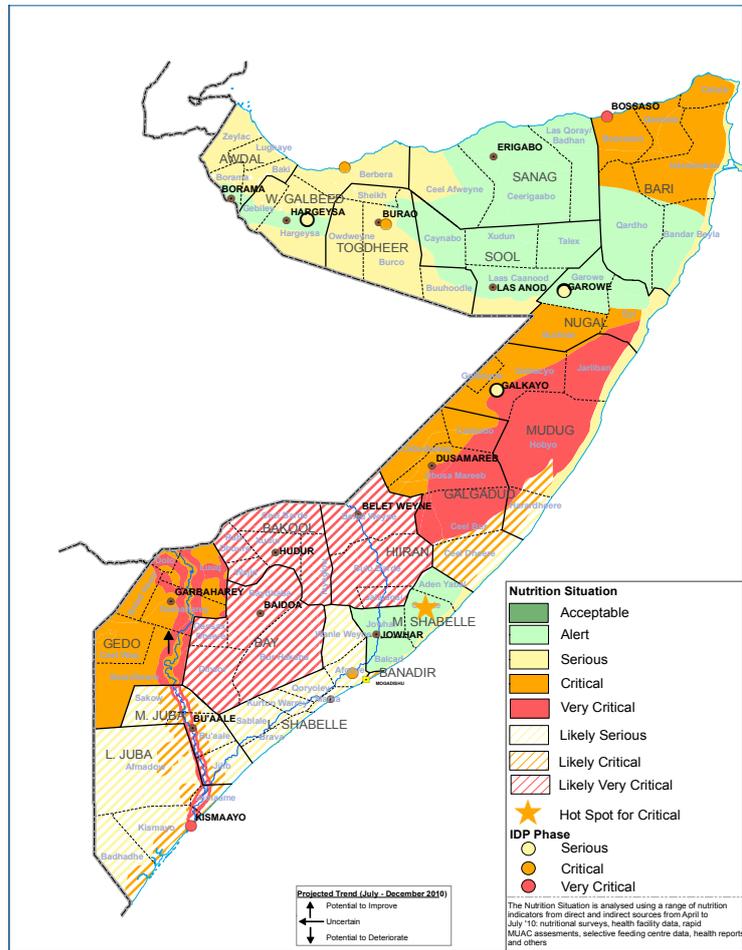


Figure 2: Estimated Median Rates of Global and Severe Acute Malnutrition WHO GS, Gu 2010

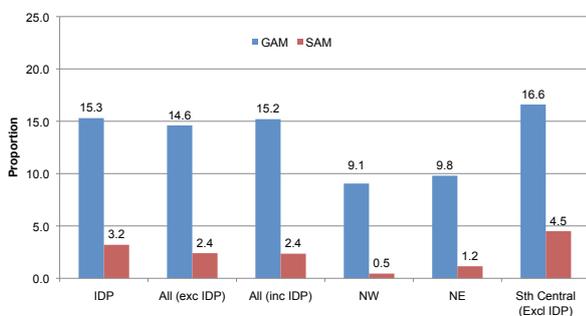
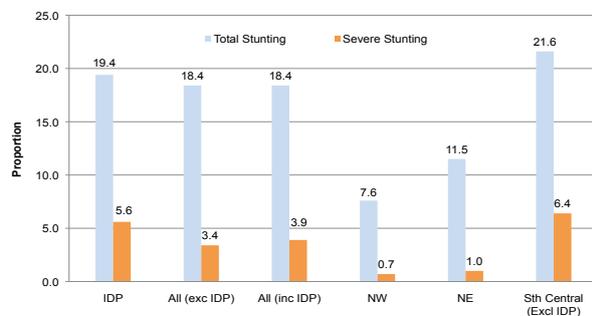


Figure 3: Estimated Median Rates of Total and Severe Stunting WHO GS, Gu 2010



Food Security Overview

The findings of the FSNAU, FEWSNET and partners' post *Gu* 2010 seasonal assessment confirm that the number of people in need of humanitarian assistance in Somalia dropped by 25 percent in the first half of 2010. However, about 27% of the total population **or an estimated 2 million people still remain in need of emergency humanitarian assistance and/or livelihood support until the end of 2010**. The assessment results indicate that improved crop and livestock production, due to favourable seasonal rainfall performance, is the primary reason for the improved food security situation in the country. However, sustained conflict in southern and central parts of Somalia and IDPs' reduced access to aid agencies' assistance - due to insecurity - overshadow these positive developments.

Although Somalia's nutrition situation has slightly improved in the North, 90% of the estimated 35,000 severely malnourished children in the country remain in the conflict-stricken South and Central zones. With **one in six children acutely malnourished** and one in twenty-two severely malnourished in South-Central the nutrition situation remains as one of the worst in the world. With shrinking humanitarian aid and reduced access to basic services, such as health care and clean water, children's capacity to meet their development potential is severely constrained.

Sustained Humanitarian Emergency in Central and Hiran

The epicentre of the humanitarian crisis continues to be in central regions (Mudug and Galgadud) and Hiran due to several seasons of drought and on-going conflicts that have left more than half of the population in crisis. While parts of the pastoral livelihoods of these regions show positive indicators thanks to the average *Gu* rainfall, the agro-pastoral and riverine areas have suffered from crop failures due to poor seasonal rainfall performance and floods. In addition, large numbers of destitute pastoralists gather in main villages and towns in search of support and/or labour. In order for these populations to recover a combination of expanded lifesaving and livelihood support is required. In addition, some of the highest rates of acute malnutrition reported this season are also found in Central and Hiran.

Receded drought and improvements in parts of the north

The food security situation has improved in most pastoral and agro-pastoral livelihoods of the North, leading to a reduction of numbers of population in crisis from 14% in post *Deyr* 2009/10 to 10% in post *Gu* 2010. Good seasonal rainfall performance that improved livestock conditions and eliminated acute water shortages is mainly responsible for this positive development. However, Sool Plateau Pastoral of Sanaag region, which had suffered from four seasons of drought, still remains in **HE** due to significantly reduced livestock assets. On the positive side, Togdheer Agro-pastoral, previously identified in **HE**, has fully recovered from the crisis due to a significant improvement in cereal and cash-crop production.

Internally Displaced Population in Crisis

IDPs who have been forced from their homes due to conflict in recent years continue to be the largest single population group in crisis. The UN estimates provide that 1.41 million people are currently displaced within the country, with 92% of the displacement cases mainly triggered by conflicts. Due to the on-going conflict nearly 300,000 people have become internally displaced since January 2010. Most of the IDPs are concentrated in southern and central Somalia. IDPs' nutritional status is also of great concern, with high rates of chronic malnutrition reported - 1 in 5 children is malnourished - compared to the host population. This compares to 1 in 10 in the host population in northern regions. Comparable rates are reported between IDP and host population in South Central.

Urban Food Security Crisis

The number of urban population in crisis has significantly decreased in the Post *Gu* due to reduced inflation, increased wages and overall improved food production in the country. However, significant numbers of urban poor still remain in crisis, particularly in South and Central, due to conflict escalation, high numbers of IDPs competing for resources, reduced labour opportunities and soaring cost of living. Out of the total urban population in crisis, an estimated 230,000 people are in **AFLC** and about 80,000 are in **HE**. The urban areas of South and Central have respectively the highest magnitude and intensity of population in crisis.

Bumper Harvest in the South

Current *Gu* cereal production has been exceptionally good across most agricultural livelihoods of the country due to above average and well-distributed *Gu* rains and increased cultivation. The bumper harvest and significantly improved livestock production have led to improvements in most livelihoods of southern regions including Bay, Bakool, Gedo and Lower and Middle Shabelle, as well as in agro-pastoral areas of Juba regions. However, excessive rains led to floods with devastating impact on the Juba Riverine livelihood where many farmers suffered from considerable damage to the standing crops from early *Gu* planting. This resulted in 55,000 people from Juba Riverine falling into crisis, out of which over 70% are currently in **HE**. However, the total number of rural population in crisis has dropped in the South, from 555,000 in *Deyr* 2009/10 to 395,000 in Post *Gu* 2010.

Map 2: Somalia Integrated Food Security Phase Classification, July - December, 2010

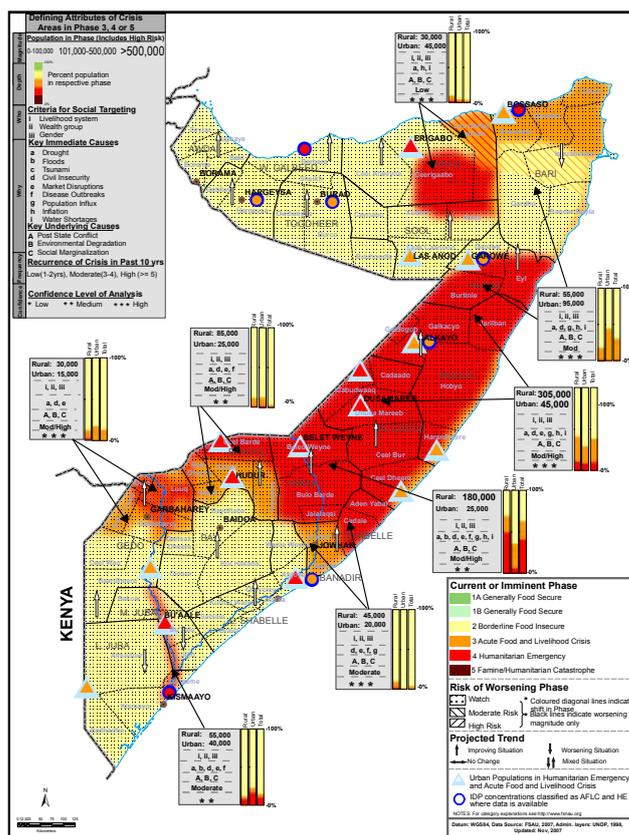


Table 2: Somalia Integrated Food Security Phase Classification, Population Numbers, July - December, 2010

Region	UNDP 2005 Total Population ¹	UNDP 2005 Urban Population ¹	UNDP 2005 Rural Population ¹	Urban in Acute Food and Livelihood Crisis (AFLC) ²	Rural in Acute Food and Livelihood Crisis (AFLC) ²	Urban in Humanitarian Emergency (HE) ²	Rural Humanitarian Emergency (HE) ²	Total in AFLC and HE as % of Total population
North								
Awdal	305,455	110,942	194,513	0	0	0	0	0
Woqooyi Galbeed	700,345	490,432	209,913	0	0	0	0	0
Togdheer	402,295	123,402	278,893	0	0	0	0	0
Sanaag	270,367	56,079	214,288	20,000	15,000	15,000	15,000	24
Sool	150,277	39,134	111,143	10,000	0	0	0	7
Bari ³	367,638	179,633	202,737	80,000	35,000	0	0	31
Nugaal	145,341	54,749	75,860	15,000	10,000	0	10,000	24
Sub-total	2,341,718	1,054,371	1,287,347	125,000	60,000	15,000	25,000	10
Central								
Mudug	350,099	94,405	255,694	20,000	95,000	0	40,000	44
Galgaduud	330,057	58,977	271,080	10,000	120,000	15,000	50,000	59
Sub-total	680,156	153,382	526,774	30,000	215,000	15,000	90,000	51
South								
Hiraan	329,811	69,113	260,698	20,000	50,000	5,000	130,000	62
Shabelle Dhexe (Middle)	514,901	95,831	419,070	0	40,000	0	5,000	9
Shabelle Hoose (Lower)	850,651	172,714	677,937	10,000	0	10,000	0	2
Bakool	310,627	61,438	249,189	20,000	80,000	5,000	5,000	35
Bay	620,562	126,813	493,749	0	0	0	0	0
Gedo	328,378	81,302	247,076	15,000	25,000	0	5,000	14
Juba Dhexe (Middle)	238,877	54,739	184,138	5,000	10,000	20,000	25,000	25
Juba Hoose (Lower)	385,790	124,682	261,108	5,000	5,000	10,000	15,000	9
Sub-total	3,579,597	786,632	2,792,965	75,000	215,000	50,000	180,000	15
Banadir	901,183	901,183	-	-	-	-	-	0
Grand Total	7,502,654	2,895,568	4,607,086	230,000	485,000	80,000	300,000	15

Assessed and Contingency Population in AFLC and HE	Number affected	% of Total population	Distribution of populations in crisis
Assessed Urban population in AFLC and HE	310,000	4 ⁷	16%
Assessed Rural population in AFLC and HE	785,000	10 ⁷	39%
Estimated number of IDPs (UNHCR)	1,410,000 ⁴	19 ⁷	-
Adjusted IDP to avoid double counting in Rural IPC	850,000 ⁵	11 ⁷	43%
Estimated Rural, Urban and IDP population in crisis	2,000,000 ⁶	27	100.0%

Notes:

- Source: Population Estimates by Region/District, UNDP Somalia, August 1, 2005. FSNAU does not round these population estimates as they are the official estimates provided by UNDP
- Estimated numbers are rounded to the nearest five thousand, based on resident population not considering current or anticipated migration, and are inclusive of population in High Risk of AFLC or HE for purposes of planning
- Dan Gorayo is included within Bari Region following precedent set in population data prior to UNDP/WHO 2005
- Source UN-OCHA/UNHCR: New IDP updated July, 2010 rounded to the nearest 5,000. Total IDP estimates are based on Population Movement Tracking data which is not designed to collect long-term cumulative IDP data
- Analysis show that 60% of IDP originates from Mogadishu. To avoid double counting, only IDPs originating from Mogadishu are considered in the overall population in crisis. This is because FSNAU does not conduct assessments in Mogadishu and those IDPs from other regions are already considered in the overall IPC analysis. FSNAU does not conduct IDP specific assessments to classify them either in HE or AFLC
- Actual figure is 1,945,000 rounded to 2,000,000
- Percent of total population of Somalia estimated at 7,502,654 (UNDP/WHO 2005)

2. CASELOADS OF ACUTELY MALNOURISHED CHILDREN IN SOMALIA BASED ON THE NUTRITION SITUATION IN SOMALIA

Since 2008, FSNAU, in collaboration with nutrition cluster partners began to illustrate cartographically, the distribution of estimates of acutely malnourished children in Somalia. The objective is to highlight to response agencies and donors the needs in different parts of the country, and move away just from the situation analysis. The impact of population density in determining response needs is thereby manifested. In Map 3, illustrations for (i) the nutrition situation and (ii) the caseloads for acute malnutrition based on the most recent nutrition assessments data are provided.

Nutrition Situation: The reliability score for the data used in the situation analysis (R) is reflected as 1 or 2. For population groups where representative nutrition survey data for the whole population forms the main reference, reliability of data is high and is ranked as 1 (R=1). However for areas in South Central regions where representative surveys during the Gu '10 were hindered by access, and rapid MUAC assessments conducted instead, reliability of data used is lower (R=2) and slash marks used on the map. Whereas representative nutrition surveys were conducted in the north, the sampling frames were confined to areas that had been purposively selected for livelihood based food security assessments. For this reason therefore, the reliability score for the livelihood based nutrition surveys is 2 (R=2). The integrated analysis and overall phase classification of the assessed population is based on the Nutrition Situation Classification Framework (Table 3).

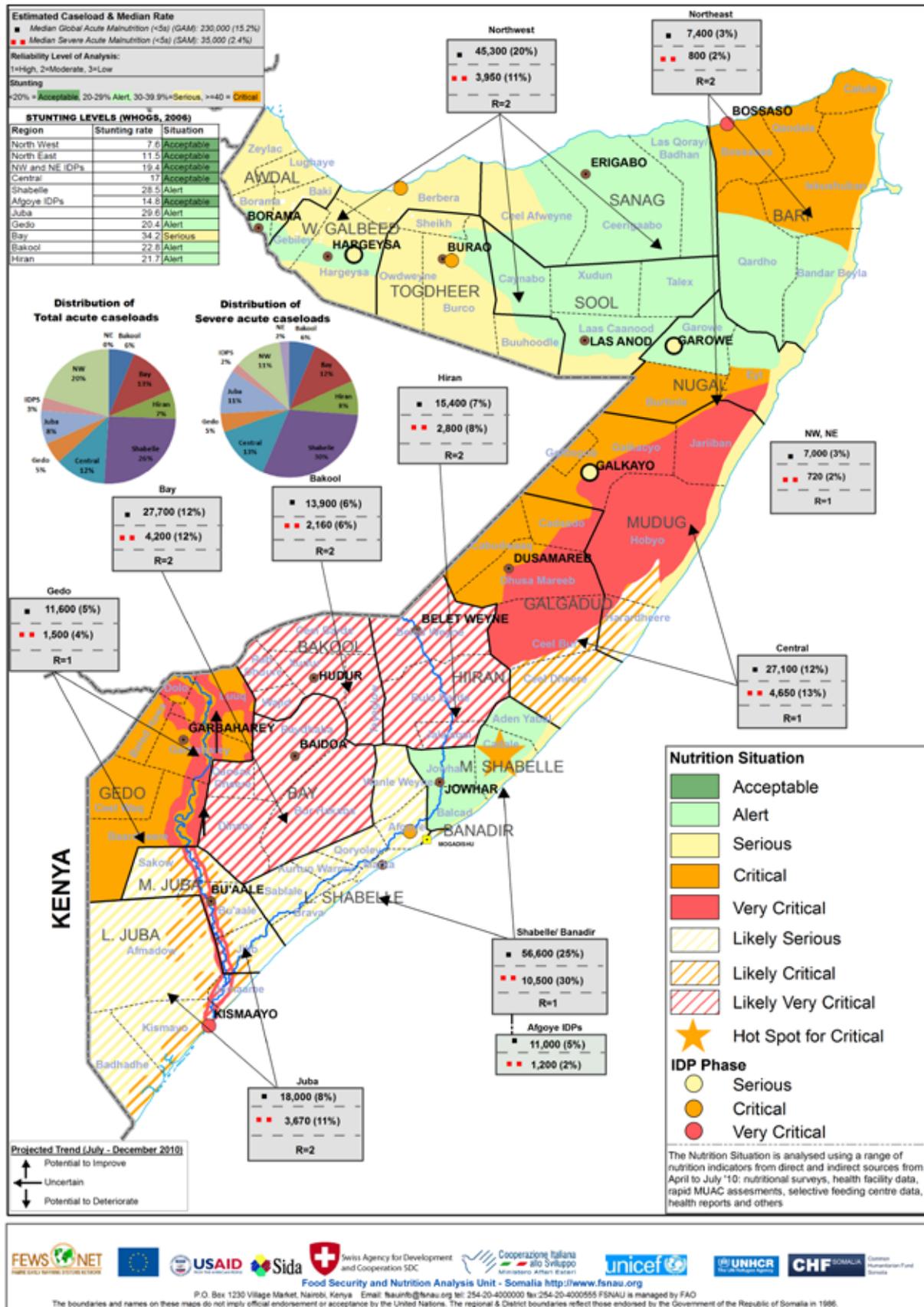
Caseloads: FSNAU normally provides estimated caseloads of acute malnutrition based on Weight-for-height Z scores (WHZ) findings. As mentioned above, it was not feasible to conduct representative nutrition surveys throughout Somalia due to poor access, limiting the amount of data for this analysis. Where up to date survey data is not available (Juba, Hiran, Bay and Bakool regions), extrapolations have been made using prevalence rates from similar livelihood zones. This has meant that the current map developed by FSNAU has estimated the caseload of malnourished children of 100% of the children aged below 5 years in Somalia. Population figures from the UNDP 2005 settlement survey are used as the standard reference for Somalia.

Map 3, therefore illustrates the distribution of the estimated caseloads for the acutely malnourished children, and the regional importance relative to population density. To explain, the Gu'10 nutrition cycle estimated approximately **230,000** children aged below 5 years as acutely malnourished of which **35,000** are severely malnourished in the total population. These figures are derived using the national median rate of 15.2% for global acute malnutrition and 2.4% as the median severe acute malnutrition, from the 25 representative surveys conducted in April – July 2010, with extrapolations of findings to livelihoods where representative surveys could not be done. Stunting levels are also provided.

The distributions of the 230,000 (100%) acutely malnourished children, of whom 35,000 (100%) are in severe state, are illustrated in text boxes. **For example 25% of the 230,000 acutely malnourished children reside in the Shabelle regions**, followed by the Northwest (20%), Bay (13%) and Central (12%). **Apart from Bay and Central (Addun pastoralists), neither of these areas report a *Very Critical* nutrition situation (>20% GAM) yet due to the population density, the absolute numbers of acutely malnourished children are very significant. For the severely malnourished children, the regions hosting the majority are again the Shabelle at 30%, followed by Bay at 12%, Central (12%) and Juba (11%) regions.** This therefore highlights that the focus should not just be on areas of *Critical* and *Very Critical* nutrition situation but also on the distribution of these cases. *Serious - Alert* stunting levels evident in Bay (34.2%), Juba (29.6%), Shabelle (28.5%) and Bakool (22.8%), illustrate the impact of a chronic nutrition crisis in the population groups in the South. In the north however, stunting levels are within WHO acceptable thresholds.

The indicators used are based on the WHO Growth Standards 2006, <-2 WHZ and/or oedema for GAM and <-3 and/or oedema for SAM. FSNAU also computes the caseload by region and district using the WHO GS WHZ, and MUAC (<12.5cm, <11.5cm and <11cm). For more information please contact info@fsnau.org.

Map 3: Estimated Caseloads of Acute Malnutrition July 2010



caseloads map

3. NUTRITION ANALYSIS IN SOMALIA

In an effort to illustrate the nutrition situation in a manner helpful for response agencies and donors, FSNAU has developed over the years, a format for analyzing the nutrition situation which results in a cartographical output. This came out of an identified need for a type of tool to describe the nutrition situation creating a contextual analysis, rather than focus on prevalence estimates and thresholds which is traditionally the case in nutrition analysis. The development of this analysis framework, although led by FSNAU's Nutrition team, has also involved a consultative process with many nutrition partners in the region including, WHO, UNICEF, WFP, ACF, CONCERN, SCUUK, IMC, WV and more recently, Medair, DIAL and the Nutrition Cluster Support team as well. A revision of the framework was made in July 2010 to accommodate recent research developments, and the switch from NCHS 1997 to WHO/GS.

This framework forms the basis for the nutrition situation classification and the *Estimated Nutrition Situation* map and is based on international thresholds (WHO, Sphere and Fanta) where available, and contextually relevant analysis where not available. The July 2010 version (Table 3) of the analysis framework below has three sections:

- A. Core Outcome Indicators/Anthropometry Related Information and Mortality,
- B. Immediate Causes
- C. Driving/Underlying Factors

Where representative nutrition surveys have been conducted, the global acute malnutrition is the core outcome reference indicator as it denotes the numbers of children directly affected. Nevertheless, a minimum of 2 anthropometric indicators are required to make an analysis and classification of the situation into either of the five different phases (*Acceptable, Alert, serious, Critical and Very Critical*). Information from the season in progress only is used and when sufficient data is not available, this is illustrated though slash marks on the map. However historical data is used for overall contextual and seasonal trends analysis. To provide a 3 month outlook, the immediate and driving factors are analyzed, and the convergence of the evidence of the projected scenario classified as *Stable, Uncertain, Potential to Deteriorate or Potential to Improve*. This information is presented in the *Estimated Nutrition Situation Map* with arrows defined in a separate legend titled Projected Trend (July-December 2010 for the Gu'10).

Twice per year, in line with the seasonal assessments, post *Gu* (April – July) and post *Deyr* (October-December), the nutrition team develops an updated nutrition situation analysis at livelihood level by region and by IDP settlement. The overall analysis is consolidated into the *Estimated Nutrition Situation Map*. The July 2010 analysis framework below remains a working document and will be updated and refined as new information and guidance becomes available.

Table 3: Nutrition Situation Classification Framework Draft 7, July 2010

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Global Acute Malnutrition¹ (WHO Reference) Reliability (R) =1	<5%	5 to <10%; Usual range and stable	10 to<15% or where there is significant increase from baseline/ seasonal trends in last ≥2 yrs	15 to<20% or where there is significant increase from baseline/ seasonal trends in last ≥2 yrs	≥20% or where there is significant increase from baseline/ seasonal trends in last ≥2 yrs
Mean Weight-for-Height Z (WHZ) scores (R=1)	>-0.40	-0.40 to -0.69; Stable/Usual	-0.70 to -0.99; >usual/increasing	<-1.00; >usual/increasing	
SAM² (WHZ and oedema ³) (WHO to advice on thresholds) R=1)	<3.0%	3.0 – 4.4%	4.5 – 5.4%	5.5 – 6.9% (or where there is a significant increase from baseline/seasonal trends in ≥2yrs	≥7.0% (Or where there is a very significant increase from baseline/ seasonal trends in ≥2 yrs
Crude death rate⁴ /10,000/day (R=1)	<0.5	0.5 to <1	1 to <2 Include information on the main causes	2 to ≤5 Include information on the main causes	>5 or doubling of rate in preceding phase. Include main causes
Under five years death rates /10,000/day (R=1)	<1	1-1.99	2-3.9 Include main causes	4 to 9.9 or doubling from previous phase. Include main cause	≥10 or doubling of rate in the preceding phase. Include main causes
MUAC⁵ Children: (% <12.5cm): Ref: FSNAU Estimates ⁶ (R=2)	<5%	<5% with increase from seasonal trends	5.0 - 9.9%	10.0-14.9%, or where there is significant increase from seasonal trends	>15%, Or where there is significant increase from seasonal trends
MUAC<11.5cm⁷ (R=2)			≤1.0%	>1.0%	
Adult MUAC⁸ - Pregnant and Lactating (%<23.0cm,Sphere04)	<9.5%	9.5 – 14.9%	15 – 21.9%	22.0 -27.9%	≥28%
Adult MUAC - Non-pregnant & non-lactating <18.5cm,Sphere04	<0.3%	0.3 – 0.49%	0.5 – 0.69%	0.7 – 1.99%	≥2.0%
Non Pregnant Maternal⁹ Undernutrition BMI<18.5	<10%	10.0 to 19.9%	20.0 to 39.9%	>40%	
Non Pregnant Maternal¹⁰ Overnutrition BMI>24.9	TBC	TBC	TBC	TBC	
HIS¹¹ Trends of Acutely Malnourished Children (Ref: HIS), (R=3)	V. low proportion in the preceding 3mths relative to ≥2yr seasonal trends	Low proportion and stable trend in the preceding 3mths relative to ≥2yr seasonal trends	Low but increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends	High and stable proportion in the preceding 3mths relative to ≥2yr seasonal trends	High and increasing proportion in the preceding 3mths relative to ≥2yr seasonal trends
Sentinel¹² Site Trends: levels of children identified as acutely malnourished(WHZ), FSNAU'06 SSS	Very low and stable levels	Low levels and one round indicating increase (seasonally adjusted)	Increasing levels based on two rounds (seasonally adjusted)	High levels of malnourished children and stable (seasonally adjusted)	Increasing levels with increasing trend
OVERAL NUTRITION SITUATION	Acceptable	Alert	Serious	Critical	Very Critical

A. CORE OUTCOME INDICATORS (Anthropometry & Mortality)

A. IMMEDIATE CAUSES

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Poor HH Dietary Diversity (% consuming <4fdgps) Mean HH dietary diversity Score	<5% TBC	5 – 9.9% TBC	10-24.9% TBC	25 – 49.9% TBC	≥50% TBC
Disease Outbreaks: (seasonally adjusted). Frequency of reported outbreaks of AWD & malaria & measles Review data in relevant context	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—using RDT	Outbreak not contained and/or in non endemic area – limited access to treatment: CFR for AWD >2% rural CFR for AWD >1% urban AWD – duration exceed >6 wks		
Morbidity Patterns: Proportion of children reported ill in 2wks prior to survey (R=2) Health facility morbidity trends (R=3) / WHO surveillance (R=1)	TBC Very low proportion	TBC Low & stable proportion of reportedly sick based on seasonal trends	TBC Low proportion but increasing in >2 mths based on seasonal trends	TBC High levels and stable numbers in >2 months based on seasonal trends	TBC High with significant increase in numbers of sick children, based on seasonal trends

A. DRIVING FACTORS

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Complementary feeding¹ in addition to breastfeeding i. Introduction of complementary food at 6 mths of age: %introduced ii. Meeting minimum recommended feeding frequency ² iii. Dietary diversity ³ score	≥95% ≥95% ≥95%	80-94% 80-94% 80-94%	60-79% 80-94% 80-94%	0-59% 0-59% 0-59%	0-59% 0-59% 0-59%
Breastfeeding (BF) Practices⁴ i. Exclusive BF for 6mths ii). Continued BF at 1 yr iii) Continued BF at 2yr reference	≥90% ≥90% ≥90%	50-89% 50-89% 50-89%	12-49% 12-49% 12-49%		0-11% 0-11% 0-11%
Measles immunization/Status Vitamin A Supplementation Coverage⁵: 1 dose in last 6 mths	>95% >95%	80-94.9% 80-94.9%		<80% <80%	
Population have access i). to a sufficient quantity of water for drinking, cooking, personal & domestic hygiene—min 15lts pp/ day ii). Sanitation facilities	100% 100%	TBC TBC	TBC TBC	TBC TBC	TBC TBC
Affected pop with access to formal/informal services: health services	Should not be necessary	Access to humanitarian interventions for most vulnerable	Reduced access to humanitarian support for most vulnerable	Limited access to humanitarian support for majority	Negligible or no access
Selective Feeding⁶ Programs Available: Coverage of TFP /SFP & referral systems(Sphere04); -Admissions trends (R=3)	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation- current IPC status	Generally Food Secure	Borderline Food Secure	Acute Food and Livelihood Crisis	Humanitarian Emergency	Famine/Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	Widespread, high intensity
3 MONTH NUTRITION SITUATION OUTLOOK	<i>Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months time</i> <i>No change: Stable; Uncertain: None Potential to deteriorate Potential to improve:</i>				

Analytical Process: Key Points

- To make a statement on the
 - Nutrition situation: A minimum of **two Core indicators** are recommended ensuring a reliable analysis
 - Projected trend: A minimum of **two risk factors (immediate or underlying)** are recommended ensuring a reliable analysis.
- The overall classification of the nutrition situation for a given area is done taking into account the global acute malnutrition rate, historical nutrition and contextual data. Triangulation of all indicators is also undertaken.
- It is not necessary for all the indicators to fall into one category in fact this will rarely happen, the idea is to look at the bigger picture in terms of where the indicators are currently, where they have come from and where they are likely to go to make the overall statement of the situation.
- Where possible nutrition information should be analyzed at livelihood level, & not at administrative, this is the case in Somalia.
- The references or cut offs used for GAM, SAM, CDR and Immunization coverage are consistent with the international ranges. However, for many of the other indicators, agreed international ranges/ thresholds for each categorisation are lacking. As such, the various ranges have been developed following analysis of available nutrition data from Somalia.
- Other contexts needed to refine certain indicators such as dietary diversity & MUAC - currently they are based on historical analysis from FSNAU
- Further inclusion of indicators relating to i). Displacement and ii). Population concentration for displacement is required.
- The age of the data needs to be considered and ideally should be from the current season. If the data is from an earlier season this needs to be considered in the overall analysis and may affect the results.
- This tool should only be used by nutrition experts who have the ability to critically evaluate and contextualize nutrition information

(Footnotes)

1 Data source, nutrition surveys and dietary studies

2 WHO 2008. Indicators for assessing infant and young child feeding practices. 2-3 feeds recommended for 6-8 months old, & 3-4 feeds for 9months old and above

3 WHO 2008. Indicators for assessing infant and young child feeding practices

4 FANTA 2003. Generating indicators of appropriate feeding of children 6 through 23 months from the KPC 2000+

WHO, 2003. Infant and Young child feeding. A tool for assessing national practices, policies and programmes

5 WHO references

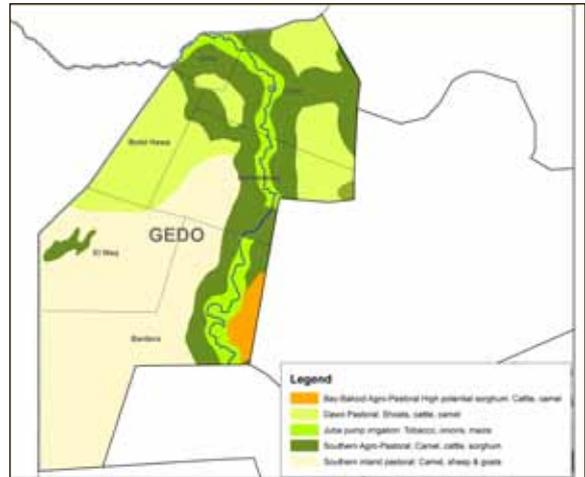
6 Data source, 12 Therapeutic Feeding Centers (TFC) and 14 Supplementary Feeding Centers (SFC)

4. REGIONAL NUTRITION ANALYSIS

4.1 GEDO REGION

Gedo Region in Southwest Somalia comprises of six districts; Luuq, Dolo, BeletHawa, Garbaharey, El Wak, and Bardera. The region has three main rural livelihood zones namely: pastoral, agro-pastoral and riverine (Juba riverine pump irrigation). The pastoral livelihood, further sub-divided into the Southern Inland and Dawa pastoralists, is the most predominant group, accounting for about 64% of the rural population in the region. The Dawa pastoral livelihood located in northern Gedo is the largest pastoral group in the region with mainly cattle, sheep and goats rearing. The Southern Inland pastoral population is located in southern Gedo and mainly keep camel alongside sheep. The agro-pastoral population is divided into Southern agro-pastoral and Gedo agro-pastoral high potential (Map 4).

Map 4: Gedo Region Livelihood Systems



Gedo is one of the regions in Somalia that has been adversely affected for a long time by the cumulative effects of extended conflict and recurrent natural disasters. This has resulted in the disruption of livelihood systems, including loss of livestock and crop failure and culminated in a persistent emergency situation for a majority of the population. According to the bi-annual FSNAU seasonal food security and nutrition analysis, northern Gedo has persistently faced a **Humanitarian Emergency (HE)** crisis since 2004. The situation in Northern Gedo has been attributed to two main factors, namely, climatic whereby rain failure/drought has contributed to crop failures and death of livestock, especially cattle which are less drought resistant in nature. The nutrition situation in the region has also remained poor, with most assessments conducted in the region since 1995 recording Global Acute Malnutrition (GAM) rates above the emergency threshold of 15%. Figure 4 indicates the trends of acute malnutrition (using WHO reference growth standards) in Gedo since 2002.

Historical Overview - Post Deyr '09/10

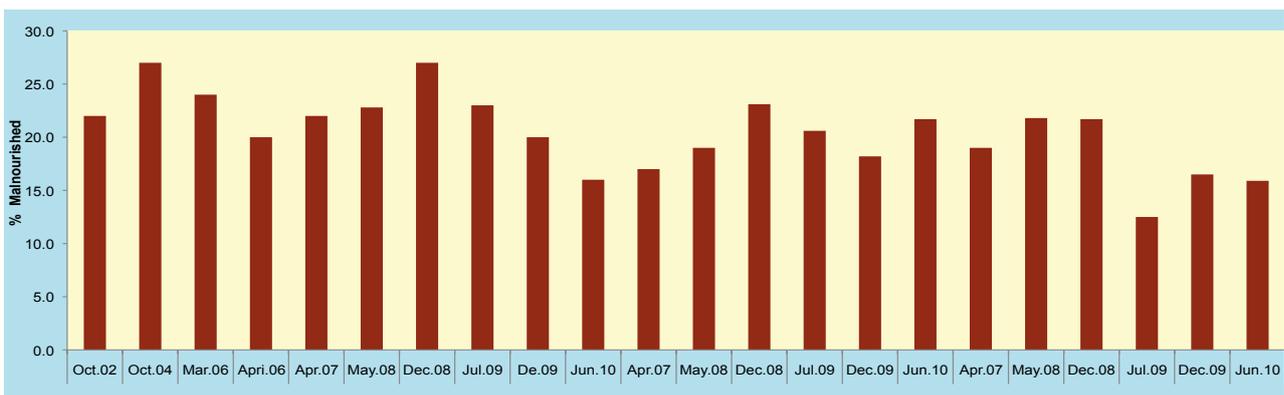
Food security

The FSNAU Post *Deyr* '09/10 integrated food security phase classification indicated that the rural population in Northern Gedo was persistently faced with a **Humanitarian Emergency (HE)** while southern Gedo had fluctuated between **Border-line Food Insecure (BFI)** and **Acute Food and Livelihood Crisis (AFLC)** phases. Approximately, 20,000 people were faced with **HE**, and 70,000 people were in **AFLC** phase in the entire region. This was an improvement from Post *Gu*'09 analysis when about 39,000 and 110,000 in the region were faced with **HE** and **AFLC** respectively. The improvement then was attributed to normal *Deyr*'09 rainfall performance in most parts of Gedo region with the exception of localized areas of Southern inland pastoral and Riverine livelihood zones of Garbaharey district. Positive *Deyr*'09 rainfall performance resulted in a significant improvement in crop production from 26% of Post War Average in the *Gu*'09 to 54% in the *Deyr*'09/10 season, while livestock body conditions and production was greatly enhanced.

Nutrition

The integrated analysis of data from nutrition assessments conducted in Gedo region in December 2009, with health and feeding facilities information, indicated a *Very Critical* nutrition situation among the pastoral population and *Critical* situation among the agro-pastoral and riverine populations. The vulnerability to high acute malnutrition levels in the region

Figure 4. Trends in levels of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Gedo Region , 2002-2010



was largely attributed to chronically high morbidity, poor access to diversified diets and basic services and suboptimal infant and young child feeding and care practices.

Current Situation

Food Security

The FSNAU Post *Gu'10* analysis indicates that the poor agro-pastoral population in northern Gedo remain in **HE** while other livelihoods in the region are either in **BFI** or **AFLC**. A significant reduction in the number of people in crisis is recorded with about 5,000 and 40,000 people currently faced with **Humanitarian Emergency** and **Acute Food and Livelihood Crisis** respectively in the region. The Post *Gu'10* analysis shows improved food security situation with good crop and animal production recorded, which followed a good rainfall performance in Gedo region, though with the exception of localized areas of Garbaharey and Belethawa districts. Crop production has significantly improved from 54% of PWA in *Deyr'09/10* to 117% in the current season, while cereal prices are on the decline. Similarly, milk availability and access has improved as livestock are benefiting from enhanced water availability and pasture conditions in the region which has resulted in improvement of livestock body conditions and production, as well as minimised abnormal out-migration of livestock to other regions. Abnormal livestock out-migration and the resultant splitting of households, deprive family members who are left behind, of access to milk. Generally, cereal and milk availability and access has significantly increased as has the income from sale of crop, livestock and other livestock related products. These factors have contributed to the overall improvement in food security situation.



Water source in Bardera Town

Nutrition

The integrated analysis of data from nutrition assessments conducted in Gedo in June 2010, health and feeding facilities' data show a **Very Critical** nutrition situation among the agro-pastoral population and a **Critical** situation among the pastoral and riverine populations.

The nutrition assessment among the pastoral population estimates GAM rate as **>16.3 %** (Pr=0.90), and a SAM rate as **>3.7%** (Pr=0.90) indicating a **Critical** nutritional phase and an improvement from the *Deyr'09/10* assessment in December '09 when a GAM rate of **>20%** and SAM rate of **3.5%** (Pr =0.90) were reported. The assessment conducted among the agro-pastoral population estimates a GAM rate of **>21.7%** (Pr =0.90) and SAM rate of **>5.6%** (Pr =0.90) indicating a **Very Critical** nutrition situation, a slight deterioration from the **Critical** levels reported in the December '09 assessment among the same population where an estimated GAM rate of **>18.2%**(pr=0.90) and SAM rate of **>2.6%** (Pr =0.90) were recorded. A comparison between the current (July '10) GAM rates and those recorded in December '09 assessments conducted among the pastoral and agro-pastoral populations show an improvement (Pr=0.74) among the pastoral population and deterioration (Pr=0.76) among the agro-pastoral population, however, these changes were not statistically significant ($p>0.05$) using the CDC calculator. The slight deterioration among the agro-pastoral population is not a reflection of the current food security situation but could be attributed to the negative impact of the previous seasons of crop failures and poor crop production in *Deyr'09/10*. However, the current nutrition situation is highly likely to be reversed following the current bumper crop harvest and improved livestock body conditions and production in the livelihood that have enhanced food and income access.

An assessment among Riverine population estimates the GAM rate as **>15.9 %** (Pr=0.90), and a SAM rate as **>2.4%** (Pr=0.90) indicating a sustained **Critical** nutrition situation phase as recorded in the *Deyr'09/10* assessment, when a GAM rate of **>16.5%** (Pr=0.90) and a SAM rate of **>4.2%** (Pr=0.9) were reported. In all the three livelihoods, though there are differences in the proportion of boy and girls who are acutely malnourished (Table 4), there is no significant statistical difference in the distribution of acute malnutrition and morbidity cases between boys and girls implying that both sexes were equally affected.

The overall nutrition situation in Gedo region displays an improving trend; however, GAM rates remain above the emergency threshold of 15%. The sustained poor nutrition situation in the region is mainly linked to chronic underlying factors including poor diet quality, poor child care and feeding practices, and limited access to basic human services such as sanitation facilities and safe water, which predispose populations to high morbidity and subsequently high levels of acute malnutrition. However, the good *Gu'10* rainfall in the region is expected to bring some relief and act as a mitigating factor to the acute malnutrition in the region. To sustain the improving nutrition trend, multi-sectoral and coordinated cross border responses that address these underlying causes are required in the region. The over reliance of livelihood activities on erratic rainfall conditions need to be mitigated with approaches that sustain livelihood assets even in seasons with poor rainfall. The key reference nutrition evidence indicators of the analysis on the nutrition phase classification are provided in Table 4.

Table 4: Summary of Key Nutrition Findings in Gedo Region

Indicator	Pastoral (N=196)		Agro-pastoral (=198)		Riverine (N=186)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006)	>16.3 (Pr=0.90)		>21.7 (Pr=0.90)		>15.9 (Pr=0.90)	
Boys	20.4	Critical	29.3	Very Critical	15.6	Critical
Girls	19.4		24.5		27.3	
Mean WHZ (WHO, 2006)	-1.7±1.17	Critical	-1.22±1.15	Critical	-1.13±1.07	Critical
Severe Acute Malnutrition (WHO 2006)	>3.7(Pr=0.90)		>5.6 (Pr=0.90)		>2.4 (Pr=0.90)	
Boys	4.9	Alert	8.1	Critical	2.8	Acceptable
Girls	6.5		8.5		6.5	
Global Acute Malnutrition (NCHS)	>17(Pr=0.90)	Critical	>19.9 (Pr=0.90)	Critical	>16.4 (Pr=0.90)	Critical
Severe Acute Malnutrition (NCHS)	>2.7(Pr=0.90)	Alert	>2.5(Pr=0.90)	Alert	>0.4 (Pr=0.90)	Alert
Global Acute Malnutrition by MUAC (<12.5 cm or oedema)	10.2 (5.4-14.9)	Critical	19.2 (13.7 -24.7)	Very Critical	20.3 (13.4-27.3)	Very Critical
Boys	9.7		18.4		15.6	
Girls	10.7		19.8		27.3	
Number of children Stunted (HAZ<-2)	11.7 (6.3-17.1)		26.3 (20.1-33.6)		23.1 (16.9-30.8)	
Boys	14.5	Acceptable	32.6	Alert	28.4	Acceptable
Girls	8.6		20.8		15.6	
Number of children Underweight (WAZ<-2)	18.8 (11.8-25.8)		26.5 (21.2-32.7)		27.4 (20.6-35.5)	
Boys	19.4	Alert	33.0	Serious	23.9	Serious
Girls	18.2		21.0		32.5	
HIS Nutrition Trends(Jan-Jun'10)	High (>30%) levels and fluctuating trends	Very Critical	High levels (>15%) and fluctuating trends	Critical	High levels (>15%) and decreasing trend	Critical
Admission trends at TFPs/SFPs (Gedo – Jan-July'10)	High and fluctuating admissions trend	Critical	High and fluctuating admissions trend	Critical	Low and fluctuating admission trends	Critical
Proportion of acutely malnourished identified registered in feeding programmes	0	Very Critical	5.7	Very Critical	0	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	Outbreak – None		Outbreak -None		Outbreak -None	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Morbidity – 51.5 RDT – 1.6 Diarrhea -19.0 ARI-32.2	Very Critical	Morbidity– 25.3 RDT – 1.6 Diarrhea -9.0 ARI-11.1	Very Critical	Illness 32.8 RDT-1.6 Diarrhea-14.5 ARI-6.5	Very Critical
Immunization Status	Vitamin A –77.9 Measles – 75.0	Serious	Vitamin A – 74.2 Measles- 76.3	Serious	Vitamin A – 86.0 Measles- 87.1	Alert
Infant and Young child feeding						
Proportion still breastfeeding	N=66 46.9	Critical	N=110 38.2	Critical	N=80 56.3	Critical
Proportion meeting recommended feeding frequencies	27.9	Very Critical	40.0	Critical	46.2	Critical
Proportion who reported to have consumed <4 food groups	95.4	Very Critical	73.1	Very Critical	81.2	Very Critical
Women Nutrition & Immunization Status						
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	N=106 1.8 N=46	Acceptable	N=89 0.0 N=26	Acceptable	N=89 1.6 N=38	Acceptable
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	21.6 N=60	Very Critical	25.4 N=63	Very Critical	27.5 N=51	Very Critical
Proportion of Women who received Tetanus Immunization						
No dose	23.4	Serious	28.6		5.6	
One dose	19.3		21.9		11.2	Acceptable
Two doses	23.4		26.7	Serious	36.0	
Three doses	33.6		19.7		47.2	
Public Health Indicators						
Household with access to sanitation facilities	N=99 12.1	Very Critical	N=98 58.3	Critical	N=86 29.9	Very Critical
Proportion who own mosquito nets	43.0 N=1401	Very Critical	43.0 N=1401	Very Critical	43.0 N=1401	Very Critical
Proportion who use mosquito nets	34	Very Critical	34	Very Critical	34	Very Critical
Food Security						
Household's Main Food Source						
Own Production	16.2		86.7		31.0	
Purchase:	76.8	Acceptable	10.2	Acceptable	66.7	Acceptable
Battering	5.1		1.0		2.3	
Gift/Donations	1.0		0		-	
Borrowing	1.0		2.0		-	
Food security phase	BFI/AFLC	Critical	AFLC/HE	Very Critical	BFI/AFLC	Critical
Overall Situation Analysis	Critical		Very Critical		Critical	
Projected Trend in 3 months	Stable		Potential to Improve		Stable	

4.2 LOWER AND MIDDLE JUBA REGIONS

Middle and Lower Juba regions in south Somalia have a total of seven districts namely Sakow, Buale and Jilib in Middle Juba, and Jamame, Afmadow, Kismayo and Badhadhe in Lower Juba. The two regions have three main rural livelihood zones namely: the pastoral (the Southern Inland and Southeast Pastoralists), agro-pastoral (Lower Juba and Southern Agro-pastoral) and the riverine communities who are purely agriculturists. (Map 5).

The food security and nutrition situation in the Juba regions has varied over time and has been linked to rainfall performance and the resultant impacts on the different livelihood systems. Heavy rainfall in the Juba regions or in the Ethiopian highlands often results in floods that devastate crop cultivation, and sanitation in the riverine areas, however, the riverine communities' later benefit from the recession cropping from the *Desheks* and fishing opportunities from the flood waters. The agro-pastoral communities, who rely on rain-fed agriculture, are totally dependent on rainfall as are the pastoralists, whose livelihood is greatly influenced by pasture conditions and water availability. The nutrition situation in the Juba regions equally varies across livelihoods with the pastoral population remaining mostly in *Serious* levels since *Gu*'07 while the nutrition situation of the populations in the riverine and agro-pastoral livelihoods, has fluctuated between *Serious* and *Critical* phases. The only exception was in 2009 when a *Very Critical* nutrition situation was recorded among the pastoral population in both the *Gu* and *Deyr* and among the agro-pastoral in *Gu* season, and was largely attributed to an outbreak of acute watery diarrhoea. Figure 5 illustrates the trends of acute malnutrition in Juba regions since 2003.

Map 5: Juba Regions Livelihood Zones

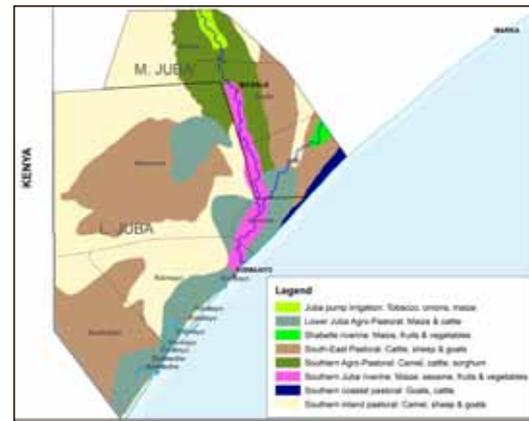
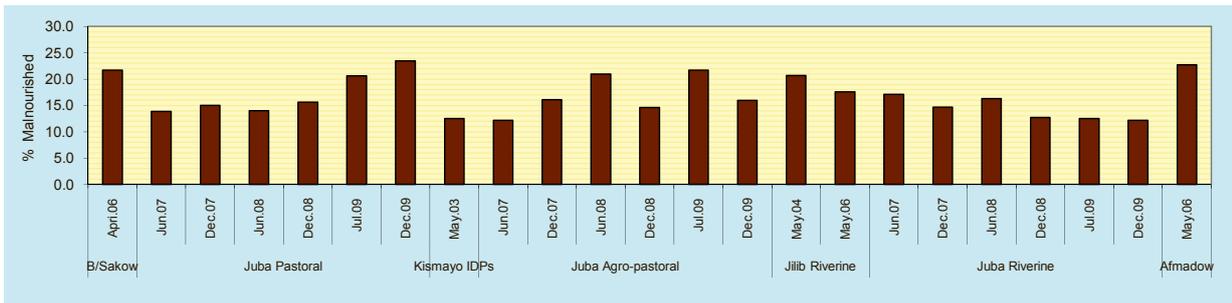


Figure 5: Trend in levels of Acute Malnutrition (WHZ <-2Z or oedema, WHO 2006) in Juba Regions 2003 - 2009



Historical Overview - Post Deyr '09/10

Food Security

In FSNAU Post *Deyr* '09/10 analysis, it was estimated that about 15,000 urban people in both regions were faced with **Acute Food and Livelihood Crisis (AFLC)**, a decrease from, 45,000 people in Post *Gu*'09. The Post *Deyr* '09/10 integrated food security analysis showed normal rainfall performance in Middle and Lower Juba regions, with the exception of the coastal areas of Jamame and Kismayo, which received poor rains. The good rainfall performance resulted in good crop production in both regions, estimated at 219% and 104% of PWA in Middle and Lower Juba regions respectively. In addition, the normal rainfall received in the regions contributed to good water availability and pasture condition, thereby improving livestock body conditions and milk production. Milk production was above average for the Southern Inland Pastoral population, who mainly keep camel besides sheep and goat. However, milk production was poor among the South East Pastoral who keep cattle, sheep and goats.

Nutrition

The integrated Post *Deyr* '09/10 nutrition situation analysis indicated a sustained *Very Critical* nutrition situation among the pastoral and *Serious* among the riverine populations. The agro-pastoral population indicated an improvement to a *Critical* nutrition situation from a *Very Critical* phase recorded in *Gu* '09. The sustained high acute malnutrition levels, particularly among the pastoral and agro-pastoral populations was largely attributed to morbidity related factors, especially the outbreak then of acute watery diarrhoea across all livelihoods in the two regions. The relative stability of the nutrition situation among the riverine communities in Juba regions was attributed to comparatively better access to health services from humanitarian organizations than their counterparts in the pastoral and agro-pastoral livelihood

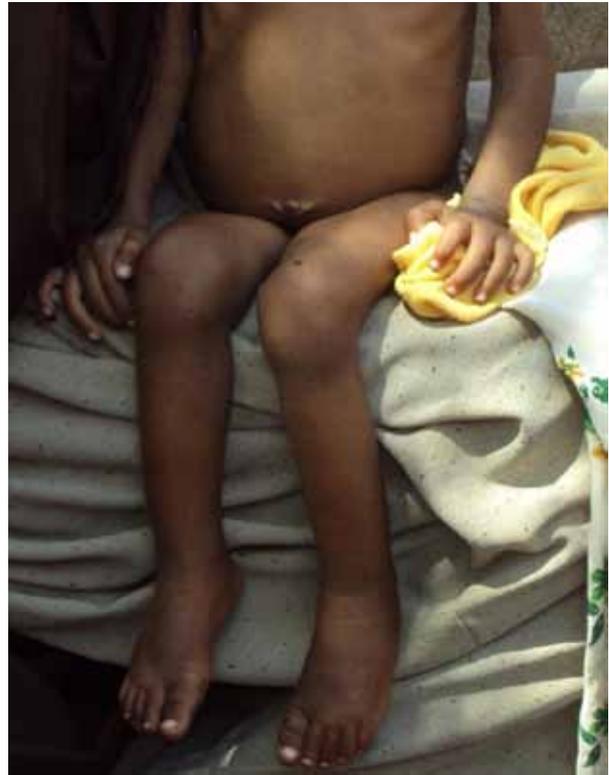
areas. Riverine populations also benefited from good milk availability and access from livestock in-migration from pastoral and agro-pastoral areas during dry seasons as well as from crops cultivated from the flooded areas.

Current Situation

Food Security

The FSNAU Post *Gu* '10 food security analysis illustrates a rise in the number of people facing a food security crisis with 70,000 people from both regions in **Humanitarian Emergency** while 25,000 are faced with **Acute Food and Livelihood Crisis (AFLC)**. This reflects a significant increase, from Post *Deyr* '09/10 where none of the populations were in HE and approximately 15,000 people were faced with **AFLC**. The Post *Gu* '10 integrated analysis shows average to above average rainfall performance in Middle and Lower Juba regions, with the exception of parts of Salagle, Sakow and Jira plain of Afmadow district, which received poor rainfall.

The good rainfall performance resulted in good crop production especially in Middle Juba region where production estimated at 133% of PWA is recorded while approximately 93% of PWA cereal harvest is recorded in Lower Juba region. However, heavy rainfall in the area and Ethiopian highlands resulted to flooding along the riverine livelihood zone causing severe damage to standing crops consequently exposing the riverine population to food insecurity and putting them in **HE**. The normal rainfall received in the regions has also contributed to improved water availability and pasture conditions, thereby improving livestock body condition and milk production. Milk production in the region is average while livestock prices are on the rise.



An acutely malnourished child from Juba Riverine, FSNAU, June 2010

Nutrition Situation

In the Juba regions, comprehensive nutrition assessments could not be conducted due to security constraints; subsequently rapid MUAC assessments were conducted at the livelihood level to give an indication of the likely nutrition situations in the respective livelihoods. The Post *Gu* '10 integrated analysis of the rapid MUAC assessments, health information and targeted feeding facilities data, indicates a sustained *likely Critical* nutrition situation among the agro-pastoral and a *likely Serious* situation among the pastoral populations reflecting an improvement from *Very Critical* levels in *Deyr* '09/10. Analysis of data from the riverine population shows a *likely Very Critical* nutrition situation which indicates a deterioration from *Serious* levels in *Deyr* '09/10.

The rapid MUAC assessments conducted in July 2010 recorded **9%** with $muac < 12.5$ cm and **2%** with $muac < 11.5$ cm among the pastoral population indicating a *likely Serious* nutrition situation (Table 5). The results also show an improvement from a *Very Critical* nutrition situation reported from the December '09 assessment when a GAM rate of 20.6% (16.1-26.1) and SAM rate of 6.8% (4.2-10.8) were recorded. However, given that the methodologies used in December 2009 and July 2010 are different, direct comparison of the results are not feasible and only referred to illustrate change from one nutrition phase to the other in the three livelihood.

In the agro-pastoral livelihood, a rapid MUAC assessment identified **10.6%** of children with acute malnutrition ($MUAC < 12.5$ cm or oedema) and **2.5%** with severe acute malnutrition ($MUAC < 11.5$ cm or oedema). These indicate a *likely Critical* nutrition situation, similar to the levels recorded in *Deyr* '09/10 when a small sample cluster survey estimated GAM and SAM rates as $> 16\%$ and $> 2.5\%$ ($Pr = 0.90$) respectively. A rapid MUAC assessment among the riverine population identified **18.5%** of the children as having acute malnutrition ($MUAC < 12.5$ cm or oedema) while **5.5%** ($MUAC < 11.5$ cm or oedema) of them were severely malnourished, all indicating a *likely Very Critical* nutrition situation. These results also show a considerable deterioration from *Serious* levels recorded in December 2009 assessment when the GAM rate was estimated as $> 12.2\%$ and the SAM rate as $> 4.6\%$ ($Pr = 0.90$).

The Kismayo IDPs who are socially and economically linked to the riverine community show a similar *likely Very critical* nutrition situation with a rapid MUAC assessment conducted in July'10 recording **15.5%** with MUAC<12.5cm or oedema, including **3.2%** (MUAC<11.5cm or oedema). This shows that the social-economic support between these populations is weakened, and for that reason neither of the populations can support the other leaving both groups highly vulnerable to acute malnutrition.

The high level of acute malnutrition, particularly in the riverine livelihood, is largely attributed to food security related factors following the floods along the riverine livelihood which severely destroyed standing crops and loss of farm labour, an important source of income for riverine community. In addition, the normal *Gu'*10 rainfall in the regions has prevented an otherwise livestock out-migration from the agro-pastoral and pastoral livelihood zones to riverine zones thereby reducing, milk availability and access among the riverine population. These factors have diminished food sources making riverine population more vulnerable to acute malnutrition. High morbidity, a risk factor to acute malnutrition, persists in the Juba regions with a total of 827 cases of AWD¹ reported in the two regions while the suspected cases of malaria and measles continue to be reported from the health facilities. In addition, the worsening civil insecurity situation continues to shrink humanitarian space for agencies offering food, nutrition and health services thereby aggravating the nutrition situation. Chronic poor child care and feeding practices, limited access to safe water and sanitation facilities as well as health services are other important risk factors to the acute malnutrition in all livelihoods zones in Juba regions.

On a positive note, the good performance of the *Gu'*10 in the two regions has greatly improved crop and livestock production, boosting access to food (milk, cereal) and household income from the sale of crop, livestock and livestock products. These have largely benefited pastoral and agro-pastoral communities and explain the improvement of the nutrition situations among the pastoral population. In addition riverine populations are likely to come out of crisis in October when the off season, recession flooding crop will be harvested, providing both access to produce and labour opportunities for these highly vulnerable households.

Interventions to rehabilitate acutely malnourished children and boost food access especially among the riverine population are required immediately. Measures to improve and sustain food access, nutrition and health service delivery, access to safe water and sanitation facilities as well as addressing poor child care practices are recommended in the two regions as a long term solution. Table 5 highlights the key findings of the nutrition situation analysis.

Table 5. Summary of Key Nutrition Findings in Middle and Lower Juba Regions

Indicator	Pastoral (N=1125)		Agro-pastoral (=1167)		Riverine (N=1312)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
Acute malnutrition by MUAC (<12.5 cm or oedema in rapid assessment)	9.0	Serious	10.6	Very Critical	18.5	Very Critical
Acute malnutrition by MUAC (<11.5 cm or oedema in rapid assessment)	2.0	Serious	2.5	Serious	5.5	Very Critical
HIS Nutrition Trends(Jan-June'10)	Low (<10%) levels and decreasing trends	Critical	High levels and stable	Critical	High and fluctuating trends	Very Critical
Admission trends at TFPs/SFPs (Jan-June'10)	Low and stable number of admissions	Critical	High and stable number of admissions	Critical	High numbers with increasing trends of admission	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	Persistent AWD with 827 cases reported in June'10 in M/L Juba	Very Critical	Persistent AWD with 827 cases reported in June'10 in M/L Juba	Very Critical	Persistent AWD with 827 cases reported in June'10 in M/L Juba	Very Critical
Dietary Intake						
	Increased milk consumption		Increased milk consumption		Poor Food Intake	Poor Food Intake
Food security phase	BFI	Serious	BFI	Serious	HE	Very Critical
Overall Situation Analysis	Likely Serious		Likely Critical		Likely Very Critical	
Projected Trend in 3 months	Stable		Stable		Improve	

4.3 BAY AND BAKOOL REGIONS

Bay and Bakool regions are located in the southwest of Somalia. Both regions have two predominant livelihood systems; the agro-pastoral, found both in Bay and the southern parts of Bakool, and the pastoral found in Elberde district (referred herein as Bakool Pastoralists) (Map 6). Bakool region comprises of five districts namely Huddur (the regional capital), Wajid, Tieglow, Rabdure and Elberde. Bay region comprises of four districts, namely Baidoa, (the regional capital), Qansahdhere, Dinsor and Burhakaba. The two regions have a high agricultural potential, with Bay region serving as the sorghum basket of Somalia.

Bakool Region

Historical Overview - Post Deyr'09/10

Food Security

According to the Post Deyr'09/10 integrated food security phase classification, the food security and livelihood situation in rural areas of Bakool region indicated a slight improvement during the Deyr '09/10 season. However, 39% of the population of Bakool region was still in crisis, with 120,000 people identified either in **Humanitarian Emergency (HE)** (25,000 people) or in **Acute Food and Livelihood Crisis (AFLC)** (95,000) with an early warning level of watch. This was a 25% reduction from the number of population in crisis in Gu '09, with a particularly large decline in the pastoral areas (25%).

Nutrition

In the Deyr '09/10, small sample size nutrition assessments were conducted in Bakool agro-pastoral and pastoral livelihood zones. Among the Bakool agro-pastoral and pastoral populations, the integrated nutrition situation analysis using data from assessments, together with information from health and selective feeding facilities indicated *Serious* and *Very Critical* nutrition situation phases respectively. The December '09 Bakool agro-pastoral nutrition assessment reported a global acute malnutrition (GAM) (WHZ < - 2 or oedema) rate of > 13.5% (Pr=0.90) and a severe acute malnutrition (SAM) (WHZ <-2 or oedema) rate of > 4% (Pr=0.90), using the CDC probability calculator. The mitigating factors were the positive impacts of humanitarian services that included targeted supplementary feeding programs, general food distribution and relatively better access to health services.

In the Bakool pastoral livelihood zone, analysis of data from nutrition assessments, health facilities and feeding centre information, indicated a sustained *Very Critical* nutrition phase. The December '09 small sample size nutrition assessment conducted among the Bakool pastoral population, reported a very high GAM rate of >29.2% (Pr=0.90) and a SAM rate of >4.7% (Pr=0.90). The underlying causes of the sustained high levels of acute malnutrition in the pastoral community include food insecurity and high morbidity, coupled with limited access to health services, safe water and sanitation, and poor childcare and feeding practices. The aggravating factors included reduced milk access due to the poor rainfall experienced in the area, which affected the livestock body conditions and production and resulted in abnormal out-migration of livestock. See Figure 6 for an illustration of the trends in levels of acute malnutrition in Bakool region from 2002 to 2009.

Map 6: Bay and Bakool Regions Livelihood Zones

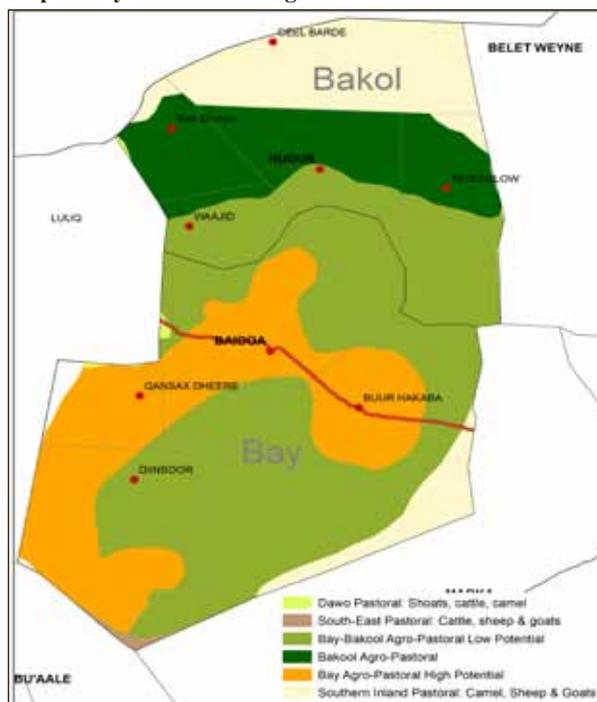
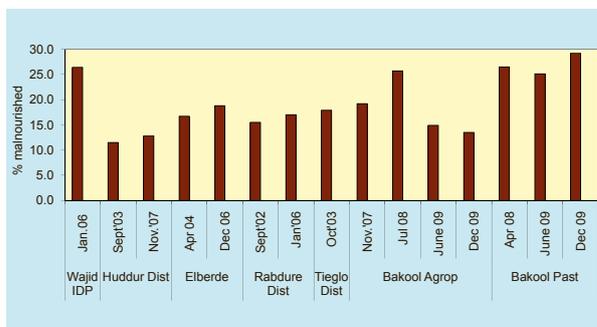


Figure 6: Trend in levels of Acute Malnutrition (WHZ< -2 or oedema, WHO 2006) in Bakool region 2002- 2010)



Current situation

Food security

Overall, the food security and livelihood situation in the rural areas of Bakool regions has indicated further improvement this *Gu*'10 season, following above average rains leading to an improvement of both livestock and crop production. This has resulted in 16% reduction of people in crisis since *Deyr* '09/10. Currently, the total number of rural people in crisis in Bakool region is estimated at 82,000 with 4,000 in **Humanitarian Emergency (HE)** and 78,000 in **Acute Food and Livelihood Crisis (AFLC)**. Of this number, 75,000 agro-pastoralists are in **AFLC**, while in pastoral livelihood 10,000 people are estimated to be in crisis (5,000 **HE** and 5,000 **AFLC**). Thus, the Southern Inland pastoralists, though slightly improved, still remain in **HE**.

Nutrition

Bakool Pastoral Livelihood Zone

Given the increased insecurity and lack of ability for the FSNAU staff to travel, it was not possible to conduct a representative nutrition assessment in Bakool, however rapid MUAC assessments were conducted in 11 villages in July '10. The assessments reported **22.7%** of the assessed children with MUAC measurements of < 12.5cm or oedema and **4.9%** with MUAC of < 11.5 or oedema, indicating a **Very Critical** nutrition situation. These results, together with information from health and selective feeding facilities data, therefore indicates a sustained **Very Critical** nutrition situation. The underlying causes of acute malnutrition in the pastoral areas include limited economic opportunities in the area and reduced humanitarian assistance, the increasing number of IDP's, and civil insecurity causing high food prices. The health information system also shows a high proportion of and stable trend of acutely malnourished children (Figure 7). Table 6 provides a summary of the key findings from the assessment.

Bakool Agro-pastoral Livelihood Zone

The Post *Gu* '10 integrated nutrition situation analysis in the Bakool agro-pastoral livelihood zone indicates a **Very Critical** nutrition situation and a deterioration from the *Serious* (with a risk to deteriorate) phase reported in the Post *Deyr* '09/10. This classification was based on data collected from rapid assessments and information from health and selective feeding facilities. The rapid MUAC assessment conducted in July 2010, reported **15.1%** of the children with MUAC < 12.5 or oedema, and **4.2%** with MUAC measurements < 11.5 or oedema. The proportions of acutely malnourished children in health clinics (MCH) also indicate an increasing trend as is illustrated Figure 8. This deterioration from 6 months ago, may be linked to the reduced access to humanitarian services in the region.

Bay Region

Historical Overview - Post *Deyr* '09/10

Food Security

Bay region showed continued improvement in most livelihoods since *Deyr* '07/08, such that only 5,000 rural people, who were in HE in *Gu* '09, had been classified to be in **AFLC** while the 5,000 people in **AFLC** during *Gu* '09, were identified as **BFI** during the *Deyr* '09/10. The overall classification for Bay Region during the Post *Deyr* '09/10 was **Borderline Food Insecure**. (Details in the FSNAU Technical Series Report No. 31, March 2010).

Figure 7: HIS Malnutrition Trends in Bakool pastoral MCHs, 2009-2010

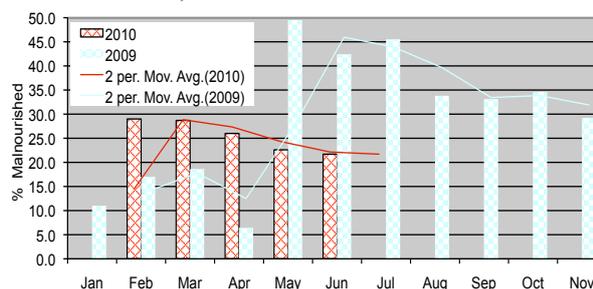


Figure 8: HIS Malnutrition trends in Bakool Agropastoral MCHs - Gu '10 Data Source: GTZ and World Vision

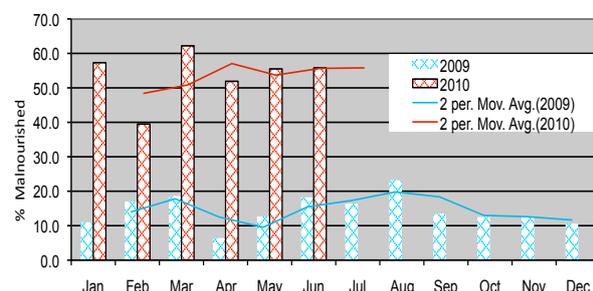
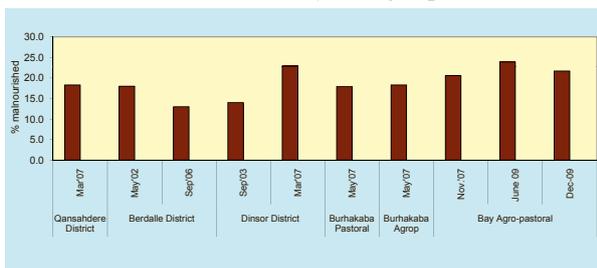


Figure 9: Trend in levels of acute malnutrition (WHZ < -2 or oedema, WHO 2006) in Bay region 2002- 2010



Nutrition

The integrated analysis of information collected in December '09, indicated a *Very Critical* nutrition situation among the Bay agro-pastoral population. The nutrition assessment reported a GAM rate of 21.7% (15.6 – 27.9) and a SAM rate 6.9% (3.4 - 10.4), including one (0.5%) oedema case, this indicated a sustained *Very Critical* nutrition phase from the Post *Gu* '09. Health information had shown high and decreasing proportions of acutely malnourished children, with high and decreasing SFP admission numbers recorded in Bay agro-pastoral livelihood. Overall, poor dietary quality (cereal and oil based diets) chronic poor child care and feeding practices, limited access to safe water health and sanitation facilities were the key aggravating factors to the acute malnutrition in Bay regions. See Figure 9 for an illustration of the trends in levels of acute malnutrition in Bay region from 2002 to 2009.

Current situation

Food security

Overall, the food security situation in rural areas of Bakool and Bay regions further improved in this *Gu* 2010 season, following the above average long rains that favorably affected both livestock and crop productions. This development triggered a 26% reduction in the number of people in crisis since *Deyr* 2009/10. Currently, the total number of rural people in crisis in Bakool region is estimated at 85,000 with 5,000 in **HE** and 80,000 in **AFLC**. By livelihood zones, 75,000 agro-pastoral people are in **AFLC**, while in the pastoral livelihood 10,000 people are estimated to be in crisis (5,000 **HE** and 5,000 **AFLC**). Additionally, 25,000 of urban poor population in Bakool region are in crisis, with 20,000 people in **AFLC** and 5,000 people in **HE**. In contrast, the food security situation in Bay region has significantly improved in all livelihoods and currently the entire region is identified in **BFI**. An early warning level of *Watch* is projected up to December 2010 for both regions.

Nutrition

Bay Agro-pastoral Livelihood Zone

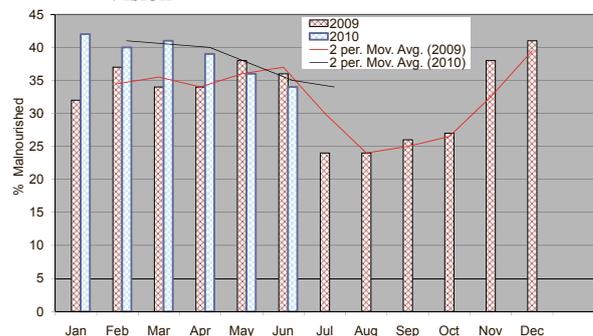
In Bay agro-pastoral livelihood, the integrated analysis of information from a rapid MUAC assessment conducted in Bay region in July '10, together with health information and feeding facilities' data, indicates a sustained *Very Critical* nutrition situation among the agro-pastoral population in Bay region. The results report MUAC < 12.5 cm or oedema rate of 15.7% and MUAC < 11.5 cm or oedema rate of 3.5%, this indicates a sustained *Very Critical* nutrition phase from the Post *Deyr* '09/10 season. The previous nutrition assessment conducted in December '09 reported GAM and SAM rates of 21.7% (15.6 – 27.9) and 6.9% (3.4 – 10.4) respectively. The proportions of acutely malnourished children screened at health clinics (MCH) indicate an increasing and decreasing trend (Figure 10).

The continuing precarious nutrition situation is mainly attributed to the chronic burden of morbidity levels aggravated by reduced humanitarian interventions namely food aid, water, health, nutrition and outreach services and SFP centers. The inadequate access to safe water and sanitation services and the persistently poor infant and young child care and feeding practices have also continued to impact negatively on the nutrition situation of the population. Coverage of measles immunization and vitamin A supplementation status remains below the Sphere recommendations. Although the food security situation in Bay region has improved in terms of crop production and food availability and acces-



A girl takes care of a sibling, FSNAU Huddur, June 2010

Figure 10: HIS Malnutrition trends in Bay agro-pastoral MCHs, 2009-2010 Data Source: GTZ and World Vision



sibility with the relatively good cereal availability, still of concern is the poor dietary diversity. This is further exacerbated by very poor access to basic health care services and the high disease. It is notable that one of the highest rates of stunting (38%) is reported in Bay region, again reflecting the burden of micronutrient deficiencies and frequent illness on child nutrition. Integrated interventions to address these underlying factors at scale are the only solution for this chronic crisis. The key nutrition findings that form the basis of the analysis on the classification outcome are provided in Table 6 below.



Women constructing a house, FSNAU Huddur, June 2010

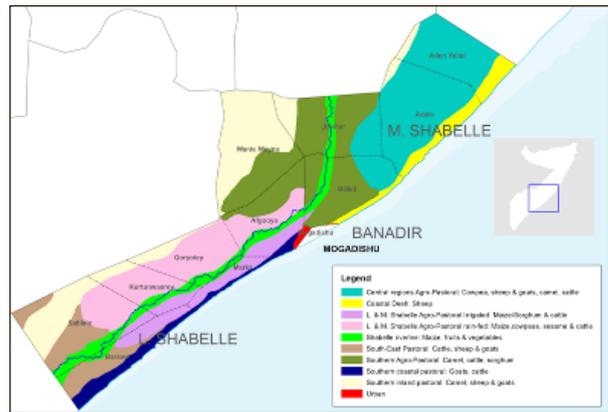
Table 6: Summary of Key Nutrition Findings in Bay and Bakool Regions

Indicator	Bakool Pastoral (N=1100)		Bakool Agropastoral (N=1100)		Bay Agropastoral (N=1430)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
Acute malnutrition by MUAC (<12.5 cm or oedema)	22.7	Very Critical	15.1	Very Critical	15.7	Very Critical
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	4.9		4.2		3.5	
Oedema	0	Acceptable	0	Acceptable	0 levels	Acceptable
HIS Nutrition Trends Jan-Jul '10	High levels (>20%) and stable	Critical	High levels (>20%) and increasing	Critical	High levels (>20) but stable trends	Critical
Admission trends at TFPs/SFPs	High number with increasing trend of admission	Very Critical	High and increasing numbers in the 3 districts (upto 1800) in Apr-Jun '10	Very Critical	High and increasing numbers in the 3 districts (up to 1800) in Jan-Jun '10	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) <i>Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey</i>	Outbreak — No out-break disease within seasonal norms	Acceptable	Outbreak – whooping cough in the Tieglow, Huddur and Rabdhure districts in Apr-Jun '10	Critical	Outbreak – No out-break disease within seasonal norms	Acceptable
Food security phase	HE		HE		BFI	
Overall Situation Analysis	Likely Very Critical		Likely Very Critical		Likely Very Critical	

4.4 MIDDLE AND LOWER SHABELLE REGIONS

Middle and Lower Shabelle Regions comprise of riverine, agro-pastoral and urban livelihoods (Map 7), with a large number of IDPs settling in the Afgoye-Merka corridor as a result of continued insecurity in Mogadishu. The riverine zone is located within 10 km of the Shabelle River where maize, sesame and a variety of vegetables and fruits are cultivated, with limited livestock holdings as a result of tsetse fly infestation. Further on is the agro-pastoral zone, which extends 20-40 km from the Shabelle River with maize, cowpeas, sesame and fruit cultivation and some livestock holdings as their main means of livelihood. The agricultural potential, as well as the labour and income opportunities in the area, make it a haven for seasonal and vulnerable populations in normal and shock years. This has resulted in the area having a high population density, which is further aggravated by high in-flow of IDPs from Mogadishu. UNHCR estimates indicate that 366,000 IDPs (Jan 2010) were living along the Afgoye corridor as a result of the continuing violence in Mogadishu.

Map 7: Shabelle Livelihood Zones



Historical Overview - Post *Deyr* '09/10

Food Security

According to the FSNAU Post *Deyr* '09/10 analysis, the food security situation showed a general improvement and was in a gradual recovery path. In Middle Shabelle, the total population in crisis had reduced to 168,000 from 217,000 in *Gu* '09, with a majority of those who were in **HE** moving to **AFLC**. Only 35,000 remained in **HE** while 133,000 persons were in **AFLC**. In the agro-pastoral livelihood, 50-75% of the poor remained in **HE** while 25-50% of the poor and 75% of the middle class wealth group were in **AFLC**. In the Southern Inland pastoral, an estimated 50% of the poor were in **AFLC**. A further 50% of the poor in riverine were also in **AFLC**. In Lower Shabelle, there were no populations in **HE** and the total population in crisis reduced to 15,000 persons in poor wealth group in **AFLC** (compared to 48,000 in *Gu* '09). This population included 25% of the poor agro-pastoral in Walanweyne, 25% of the poor riverine in Sablale and 50% of the poor riverine in Merka, Qoryoley and Kurtnunwarey.

The gradual recovery in the food security situation in Middle and Lower Shabelle was attributed to the historical context of the regions coming from a background of long-term impacts of five to six consecutive seasons of below average crop production due to poor rainfall; limited irrigation and lack of inputs; deteriorated rangeland conditions causing abnormal livestock out-migration; poor livestock body conditions; low milk production; and high livestock off-take. The situation was exacerbated by highly volatile civil insecurity with clan conflict over limited resources, as well as political conflict between opposing groups struggling for power. The *Deyr* '09/10 rains were normal in Lower Shabelle and below normal in Middle Shabelle, except in Adale district (the cowpea belt). Lower and Middle Shabelle regions produced 22,550 MT and 10,330 MT of cereals, accounting for the second (18%) and third (8%) of the national production respectively, after Bay region. The *Deyr* '09/10 regional cereal production was 144% and 99% of the 5-year average in Middle and Lower Shabelle regions respectively but only 80% and 62% of PWA in the respective regions. Labour opportunities were limited to agricultural activities in riverine areas, but there was a significant improvement in livestock assets.

Nutrition

The Post *Deyr* '09/10 integrated nutrition analysis indicated that the nutrition situation had significantly improved in the Shabelle agro-pastoral population from the previous *Critical* situation reported in the *Gu* '09, where the GAM rate reported above the emergency threshold of 15% (Figure 11) to **Serious**. The improvement was attributed to the easing food security crisis resulting from increased access to and consumption of milk and crops (maize, rice, sesame and cow peas) following normal rainfall in the cow pea belt agro-pastoral areas. The riverine population remained in a sustained **Serious** nutrition phase for the fifth consecutive season. The IDPs (Afgoye corridor), however showed a significant deterioration in their nutrition situation from the previously sustained **Serious** situation to a **Critical** phase. Except for Merka town, no disease outbreaks were reported in Middle and Lower Shabelle, unlike the previous *Gu* '09 season when AWD, especially in Wanlaweyne and Merka, alongside outbreaks of measles and cholera in Afgoye and Merka had aggravated the nutrition situation. The IDPs previously witnessed a stable or improving trend in nutrition situation, then attributed to the interventions in the areas, but reductions in the scale and quality of interventions, interruptions to humanitarian access, continued influx of new IDPs with poor shelter and limited access to food and non food items had probably led to this deterioration.

Current Situation

Food Security

The food security and livelihood situations in the Shabelle regions have continued to improve in the last 2-3 seasons. However, still a significant number of people in Middle Shabelle remain in crisis. The total population in crisis has reduced by 73% to 45,000 from 168,000 in *Deyr* '09/10. Out of the total 45,000 people in crisis, 2,000 people are identified in **HE** and 43,000 are in **AFLC** with an early warning *Watch*. This is a significant reduction from the 35,000 who were in **HE** and the 133,000 that were in **AFLC** in the last season. The most affected livelihoods in Middle Shabelle include Central Agro-pastoral (cow pea belt) with 2,000 people in **HE** and 5,000 in **AFLC**, followed by Southern Agro-pastoral with 28,000 people in **AFLC**. The improvement in Middle Shabelle is attributable to good crop production, improved livestock conditions and purchasing power resulting from good *Gu* '10 rainfall. The average *Gu* 2010 rains had favourable impact on pasture and water, prompting the return of out-migrated livestock (during *Deyr* 2009/10) back to the region, resulting in improved milk availability. Cereal production in this *Gu* '10 season was above average (300% of *Gu* '09, 138% of PWA and 177% of the *Gu* 5-year average). The region also harvested over 5,830MT of cash crops (rice, cowpea, sesame) increasing their source of income. The purchasing power of households improved as shown by better terms of trade between daily labour wage and maize, but ToT between local goats against maize has shown a decline due to high cereal prices.

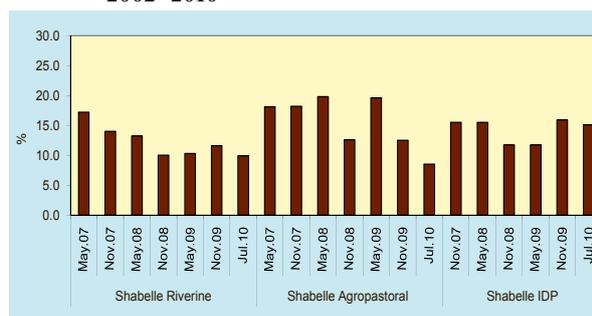
In Lower Shabelle, the food security situation has improved and the population (5,000 people who were in **AFLC** in *Deyr* 2009/10) has completely recovered from **AFLC** to **BFI** in this *Gu* '10 season with an early warning level of *Watch*. The region recorded good cereal production, as well as improved livestock conditions and increased milk production. The region, which is the main maize producer in Somalia, had a 2nd highest *Gu* cereal production over the last 5 *Gu* seasons (107% of PWA, 155% of 5-year *Gu* average and 92% of *Gu* '09) due to favorable rains, improved irrigation accessibility and increased cultivated area. Also, carry over stocks are reported from last *Deyr* '09/10 season, which will be sufficient for most wealth groups until next harvest. In addition, the region had a good cash crop production (1,100MT of sesame and 1,250MT of cowpea). The ToT trend is also likely to improve, due to reduced cereal prices in the key agricultural areas of the region, as a result of good harvest and improved supply in both agro-pastoral and riverine areas. For the Afgoye IDP the food security situation also improved due to the increased availability of casual labour as a result of the increased agricultural productions. This led to an increased income at the household. This has mitigated the situation. However the IDPs remains highly vulnerable and if the labour opportunities reduce this will negatively affect the household food security and subsequently may cause deterioration in the nutrition status.

Nutrition

In Middle Shabelle, the nutrition situation has significantly improved both in the agro-pastoral and riverine populations from the previous *Serious* situation reported in the *Deyr* '09/10, where GAM rates were above the *Serious* threshold of 10% (Figure 11) to *Alert* (GAM rates 5.0 - <10%). The improvement in Middle Shabelle is attributed to a steady recovery from the previous two years of food security crisis, following increased access to and consumption of milk and crops (maize rice, sesame and cow peas) from two consecutive good seasons in the agro-pastoral and riverine areas. The agro-pastoral and riverine population had improved dietary diversity and access to fish, fruits and vegetables were reported especially among the riverine livelihood households. The nutrition situation in Adale district has however, remained at *Critical* levels with associated poor food security indicators. The agro-pastoral areas (cow pea belt) of Adale and the neighbouring Adan Yabal districts, have faced 5-6 consecutive seasonal failures with poor access to milk, crops and income. These are the only areas in Middle Shabelle currently classified to be in **Humanitarian Crisis**.

The results of a nutrition survey conducted in July 2010 reported a GAM rate of > 6.2% (Pr=0.90) among the Middle Shabelle agro-pastoral population with a SAM rate of >1.7% (Pr=0.90) including one oedema case (0.5%) which indicates a significant improvement to *Alert* phase from the *Serious* nutrition situation in the previous assessments in December 2009, when GAM and SAM rates of 12.5% (9.8-15.2) and 3.5% (2.2-4.9) were recorded respectively with three (0.5%) oedema cases. The improvement in GAM rate was significant at 90% probability using the CDC calculator. There was no disease outbreak reported in the agro-pastoral population this time round and food security indicators showed substantial improvement, including increased milk access and consumption, which could explain the situation reverting to general nutrition situation known for the region before the 2007 civil conflict and consequent humanitarian crisis.

Figure 11: Trend in levels of acute malnutrition (WHZ < -2 or oedema, WHO 2006) in Shabelle Region 2002- 2010



In the Adale district assessment, the GAM (WHZ<-2 or oedema) rate was **16.8%** (12.9-20.7) and the severe acute malnutrition (SAM) rate (WHZ<-3 or oedema) was **2.4%** (95%CI: 0.9-3.9) including 8 cases (**1.3%**; 0.1-2.4) of oedema. The results of the nutrition assessment in Adale district indicate a **Critical** state of malnutrition in the population, similar to the findings from the previous year's assessment conducted in May 2009, when a GAM rate of 16.5% (CI 13.5-20.0), but a higher severe acute malnutrition (SAM) rate (WHZ<-3 or oedema) of 5.1% (3.5-7.4) were reported. The Crude and under five Death Rates of **0.74** (0.39-1.40) and **1.13** (0.56-2.30) respectively were recorded, both indicating an **Alert** situation and no change from the respective Crude and Under five Death rates of 0.48 (0.30-0.78) and 1.09 (0.57-2.05) recorded in a similar season (*Gu '09*) in May 2009.

The key nutrition findings in these areas which form the basis of the analysis on the classification outcome are provided in Tables 7a and 7b.

Table 7a: Summary of Key Nutrition Findings in Middle Shabelle Region

Indicator	Adale District (N=632)		Agropastoral (=212)		Riverine (N=222)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	16.8 (12.9-20.7)		>6.2%(Pr=0.9)		>8.2% (Pr=0.90)	
Boys	19.9	Critical	>5.9	Alert	>9.0	Alert
Girls	13.7		>3.5		>3.6	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.4 (0.9-3.9)		>1.7% (Pr.0.90)		>0.6% (Pr=0.90)	
Boys	2.5	Acceptable	>2.8	Acceptable	>1.0	Acceptable
Girls	2.2		0.0		0.0	
Oedema	1.3(0.1-2.4)	Critical	0.5(0.0-1.4)	Serious	0.5%	Serious
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	12.0(9.0-15.1)		9.0(5.7-13.9)		>7.5	
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	1.4(0.3-2.6)		0.9(0.2-3.9)		>0.3	
Acute malnutrition by MUAC (<12.5 cm or oedema)	6.3(3.7-8.9)		7.1(3.0-11.2)		8.6(4.5-12.6)	
Boys	7.3	Serious	6.7	Serious	5.4	Serious
Girls	5.4		4.4		12.9	
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	1.6(0.4-2.8)	Critical	0.5(0.0-1.4)	Serious	0.0	Acceptable
Stunting (HAZ<-2)	11.4(7.5-15.3)		18.9 (12.1-25.6)		17.6 (11.7-25.5)	
Boys	16.4	Alert	21.9	Alert	20.2	Alert
Girls	6.3		15.2		17.0	
Underweight (WAZ<-2)	10.0(7.6-14.0)		9.4(5.6-13.3)		11.3(7.1-17.6)	
Boys	15.8	Alert	13.5	Alert	14.1	Alert
Girls	5.7		4.5		7.5	
HIS Nutrition Trends(Aug-Nov'08)	-	-	Low (<10) and stable trends(Jan-Jun '10)	Alert	High(>20%)and stable trends(Jan-Jun '10)	Critical
Admission trends at TFPs/SFPs (Jan-Jun '10)	-	-	-	-	-	-
Proportion of malnourished identified registered in a feeding programme	10.4	-	11.8	-	18.2	-
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	No outbreak		No outbreak		Outbreak –AWD	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Morbidity – 34.8	Serious	Morbidity – 33.7	Serious	Morbidity – 43.7%	Serious
Immunization Status	Vitamin A -50.5 Measles -44.8	Serious	Vitamin A -40.7 Measles -44.3	Serious	Vitamin A 51.8 Measles -57.2	Serious
Infant and Young Child feeding (6-24 months)						
Proportion still breastfeeding	N=262 72.1	Alert	N=83 51.8	Alert	N=82 63.4	Alert
Proportion meeting recommended feeding frequencies	53.8	Critical	39.8	Critical	32.9	Critical
Proportion who reported to have consumed <4 food groups	64.5	Very Critical	63.9	Very Critical	29.3	Serious
Women Nutrition & Immunization Status						
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	N=376 0.0	Acceptable	N=121 0.0	Acceptable	N=119 0.0	Acceptable
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	N=121 8.2	Alert	N=80 9.8	Alert	N=85 0.0	Acceptable
Proportion of Women who received Tetanus Immunization	N=255		N=41		N=34	
No dose	52.9	Serious	43.0		41.2	Serious
One dose	26.1		10.7		7.6	
Two doses	15.2		27.3	Serious	25.2	
Three doses	5.9		19.0		26.1	
Mortality						
Crude Mortality Rate per 10,000 per day (retrospective for 90 days)	N=594 0.74(0.39-1.40)	Alert	-	-	-	-
Under five mortality rate per 10,000 per day (retrospective for 90 days)	1.13 (0.56-2.30)	Alert	-	-	-	-
Public Health Indicators						
Households with access to safe water	95.0	Alert	32.8		25	
Household with access to sanitation facilities	74.1		69.0		70.0	
Main household food source:						
Own production	23.5	Critical	50.9	Serious	70.8	Alert
Purchase	76.3		48.3.		29.2	
Food security phase	AFLC		BFI		BFI	
Overall Situation Analysis	Critical		Alert		Alert	

Table 7b: Summary of Key Nutrition Findings in Lower Shabelle Region

Indicator	Afgoye IDPs(N=639)		Agropastoral (=2200)		Riverine (N=2200)		
	Results %	Outcome	Results %	Outcome	Results %	Outcome	
Child Nutrition Status							
Global Acute Malnutrition (WHZ<-2 or oedema)	15.1 (11.4-19.8)	Critical	-	-	-	-	
Boys	18.8						
Girls	11.0						
Severe Acute Malnutrition (WHZ<-3 or oedema)	1.7 (1.0-3.0)	Acceptable	-	-	-	-	
Boys	1.8						
Girls	1.7						
Oedema	0.0	Acceptable	0.1 (0.08-1.02)	Alert	0.05 (0.04-0.06)	Alert	
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	11.8 (7.7-15.9)	-	-	-	-	-	
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	0.5 (0.0-1.0)	-	-	-	-	-	
MUAC (<12.5 cm or oedema)	7.2(5.0-9.4)	Serious	8.7(8.3-9.1)	Serious	9.4 (9.2-9.6)	Serious	
Boys	7.1						
Girls	7.4						
MUAC (<11.5 cm or oedema)	0.5 (0.0-1.0)	Serious	1.8 (1.7-1.9)	Critical	1.9(1.8-2.0)	Critical	
Stunting (HAZ<-2)	14.8 (10.4-20.7)	Serious	-	-	-	-	
Boys	18.8						
Girls	10.4						
Underweight (WAZ<-2)	8.8 (6.0 – 11.7)	Serious	-	-	-	-	
Boys	11.6						
Girls	5.7						
HIS Nutrition Trends(Aug-Nov'08)	-	-	Low (<10%)and declining trends(Jan-Jun '10)	Serious	High (>20%)and stable trends(Jan-Jun'10)	Critical	
Proportion of malnourished registered in SFs	2.1	-	-	-	-	-	
Child Morbidity & Immunization							
Disease trends (seasonally adjusted)	No outbreak	Alert	Outbreak – localized AWD	Serious	Outbreak – AWD Measles and whooping cough	Serious	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Morbidity– 34.6			Morbidity –		Morbidity –	
Immunization Status	Vitamin A -59.2 Measles – 61.7			-	-	-	-
Infant and Young Child feeding (6-24 months)							
Proportion still breastfeeding	70.7	Serious					
Proportion meeting recommended feeding frequencies	36.6	Serious					
Proportion who reported to have consumed <4 food groups	15.5	Alert					
Women Nutrition & Immunization Status							
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	3.4	Alert					
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	7.3	Serious					
Proportion of Women who received Tetanus Immunization							
No dose	34.0						
One dose	15.1						
Two doses	32.5						
Three doses	18.4						
Mortality							
Crude Mortality Rate per 10,000 per day (retrospective for 90 days)	0.99(0.71-1.37)	Alert	-	-	-	-	
Under five mortality rate per 10,000 per day (retrospective for 90 days)	1.40 (0.78-2.51)	Alert	-	-	-	-	
Public Health Indicators							
	N=383						
Households with access to safe water	82.0	-	-	-	-	-	
Household with access to sanitation facilities	99.5	-	-	-	-	-	
Households with poor dietary diversity (< 4 food groups)	10.4	-	-	-	-	-	
Main household food source:							
Own production	2.1	Critical					
Purchase	83.8						
Food security phase	AFLC	-	BFI	-	BFI	-	
Overall Situation Analysis		Critical		Serious		Serious	

THE COMPLEX DYNAMICS OF AFGOYE IDPS

Afgoye is a district in the Lower Shabelle Region of Southeast Somalia, on the western boundary of Mogadishu. The district came to the limelight in February 2007 when intense fighting in Mogadishu sparked the movement of internally displaced persons (IDPs) into the area. At the end of April 2007, intense fighting between pro Transitional Federal Government (TFG) forces and anti-government elements triggered the movement of about 84,000 IDPs (UNHCR estimates) into various parts of Lower Shabelle Region. These included an estimated 40,000 IDPs who set up temporary settlements along the 30km Mogadishu/Afgoye road. In September 2007, inhabitants of Mogadishu started fleeing the intensified violence in the city and settled along the road, towards the village of Afgoye. The location has since been referred to as the "Afgoye corridor" (Map 8).



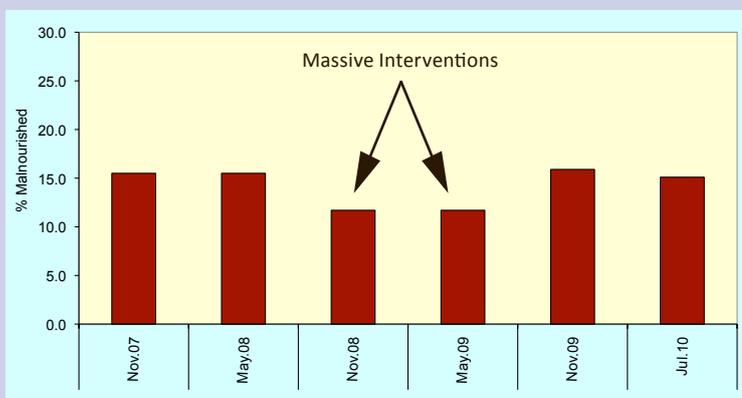
Map 8: Afgoye Corridor

It is estimated that about 80% of the new IDPs at the time did not have access to potable water. The few available rental houses were also unaffordable compelling the IDPs either to put up temporary settlements in open space, or to rent tree shades for shelter. Intense fighting broke out in Mogadishu once again during the last week of October 2007 displacing an additional 264,000 people by the end of December 2007. It is estimated that a total of 600,000 people fled Mogadishu in 2007 (UNHCR estimates).

By January 2010, the number of displaced persons found in more than 100 IDP settlements between Mogadishu and Afgoye on the 15-km stretch of road had increased to 366,000. The IDP influx continues to date and new settlements are reportedly being erected almost on weekly basis. Majority of the IDPs are women and children as many men either remain behind in Mogadishu to protect assets and property, or move further to the bordering countries as refugees.

The Food Security & Nutrition Analysis Unit (FSNAU) and partners conducted the first nutrition survey among this displaced group in November 2007 (*Deyr '07*) and have since undertaken repeat surveys twice a year. The November 2007 and May 2008 survey findings indicated global acute malnutrition (GAM) rates in the *critical* (15.0-19.9%) range attributed to poor access to health care, water and sanitation, with only 35.1% and 57.7% accessing safe drinking water or sanitation facility at the time. From November 2008 (*Deyr '08/09*) to May 2009 (*Gu '09*), a period characterised by significant humanitarian interventions by different agencies¹

Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema, 2006) in Shabelle IDPs, 2007-2010



focusing on the provisions of water, sanitation, food, nutrition and health promotion, the nutrition situation improved to *Serious* with GAM levels within the 10.0-14.9% range. Access to clean drinking water and sanitation facilities

¹ WFP, UNICEF, NRC, Muslim Aid, OXFAM GB/Hijra, CED, SAACID, FERO and Jumbo Muslim Aid

have since improved significantly, with about 83.2% and nearly all (99.7%) of assessed households accessing clean water and latrines respectively. Due to improved access to safe water and sanitation, the risk of AWD for the Afgoye IDPs has been reduced.

Since the *Deyr* 09/10 however, the nutrition situation has deteriorated back to *Critical levels* as shown in the figure. The latest survey conducted by FSNAU in June 2010 among the IDPs in Afgoye corridor reported GAM and SAM rates of **15.1%** (11.4-19.8) and **1.7%** (1.0-3.0) respectively indicating a **sustained Critical** level from the November 2009 (*Deyr* '09/10) when GAM rate of **15.9%** (11.7-20.2) and SAM rate of **5.5%** (2.7-8.2) were reported. Reductions in the scale and quality of interventions, interruptions to humanitarian access, continued influx of new IDPs in the last two seasons (*Deyr* '09/10 and *Gu* '10) and poor access to shelter, food and non food items are aggravating factors in the current critical nutrition situation.



Lack of shelter for the IDP families in Afgoye

In spite of the reduction in access to humanitarian support, however, the nutrition situation did not change significantly over the last six months. The mitigating factors that are likely to have prevented further deterioration were predominantly the large amount of agricultural labour opportunities in the neighbouring productive areas. Given the rainfall was above average the IDPs benefited from reasonable wage rates and sufficient work. Other IDP continue to establish small business such as kiosks and portering as well and restaurants and hotels. Given Afgoye is now in its 4th year it has been more settled with opportunities to establish business and the economic ties to Mogadishu are strengthening. Further local NGOs and Diaspora continue to provide humanitarian support and zakat for the very vulnerable families.

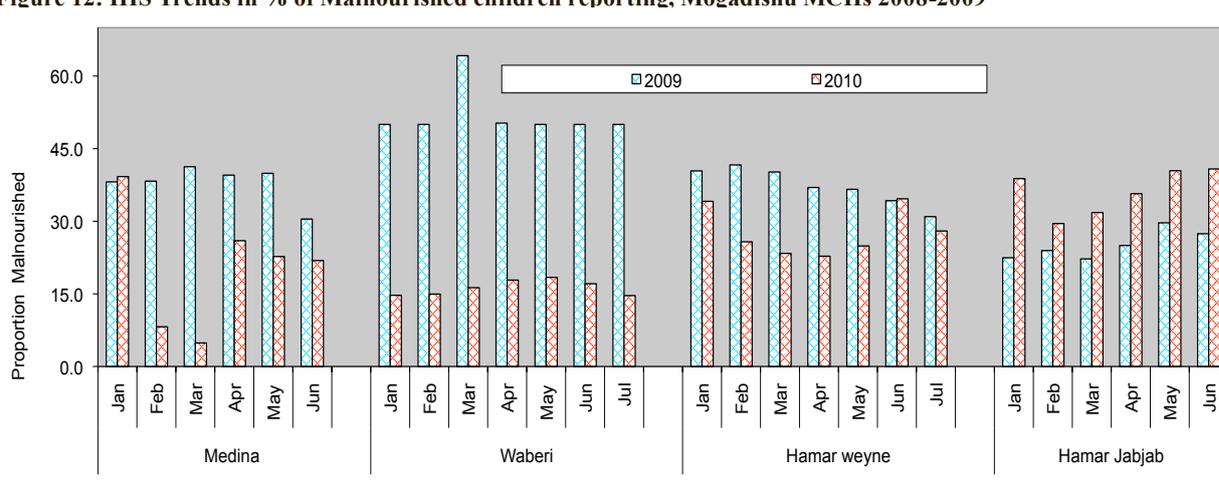
A more recent concern, according to the *Somalia Humanitarian Overview August 2010* bulletin, is that “*thousands of people have been evicted by local landowners from at least 18 IDP settlements along the Afgoye Corridor – mainly located in Ceelasha and Carbiska areas. Field reports indicate that landlords are currently selling their plots to businessmen forcing IDPs to relocate kilometers away from the main road. This displacement is a serious issue as it affects their access to services, in particular to drinking water and primary health care.*” According to the report, many of the IDPs have moved further away from the main road to set-up new temporary settlements while others have reportedly been forced to return to Bay, Bakool and Lower Shabelle regions. The reason for the evictions remain unknown, however, reports suggest that in some cases, new landowners have demanded high rental fees which the evicted IDPs are unable to pay. This highlights the low resilience of this population to shocks.

Since 2007, the nutrition situation among the IDPs in Lower Shabelle has oscillated from *Serious* to *Critical* phases. The key driving factors are: access to labour opportunities for income, access to humanitarian services or social support, and the prevailing food security of the host community. In the Afgoye corridor, the projected nutrition trend in the coming three months is uncertain. The continued conflict and civil insecurity that significantly impacts on humanitarian access and the uncertainty regarding the *Deyr* '09/10 crop performance, in the light of a forecast of below average *Deyr* '09/10 rains, are likely to aggravate the nutrition situation. Nevertheless, local labour opportunities and continued social support from the local community are safety nets likely to mitigate the nutrition crisis.

Mogadishu

In Banadir region, the nutrition situation is *likely Critical*. A rapid MUAC assessment conducted in six district sites of Mogadishu reported 11.7% of children with MUAC <12.5 cm or oedema and 0.3% with MUAC <11.5 cm or oedema. HIS data from four health facilities in Medina, Waberi, Hamarweyne and Hamar jabjab indicated high but fluctuating numbers (>20%) of malnourished children for the previous six months period under review (Source: HIS data Jan-Jun '10); while low levels (<5%) and stable trends were recorded in Zam Zam over the same period (Figure 11). Mogadishu has been classified as *likely* to be in *Very Critical* nutrition situation and with the continuing presence of aggravating factors like poor shelter, water and sanitation, access to health services and civil insecurity and displacements into the surrounding poor urban settlements, the situation has not shown any significant improvement and remains volatile. Increased efforts in humanitarian intervention including presence of more agencies, scale up of activities like wet-feeding, supplementary food distribution, food rations for the elderly, and therapeutic feeding have been witnessed in sections of Mogadishu and may have mitigated the situation from deteriorating.

Figure 12: HIS Trends in % of Malnourished children reporting, Mogadishu MCHs 2008-2009



In both the livelihood based assessments in Middle Shabelle, a higher proportion of boys than girls were acutely malnourished in agro-pastoral (>5.9% to >3.5%) and riverine (>9.0% to >3.6%) populations, although the finding was not statistically different. Similarly, a higher but insignificant proportion of boys were stunted than girls. A large majority of the households are headed by males (87.9% and 90.8% respectively), who also generate the main household resources like livestock, assets, income, and food (85.3% and 86.7% respectively) and make key decisions on how these main household resources should be utilized (79.3% and 75.8% respectively) among the assessed agro-pastoral and riverine households.

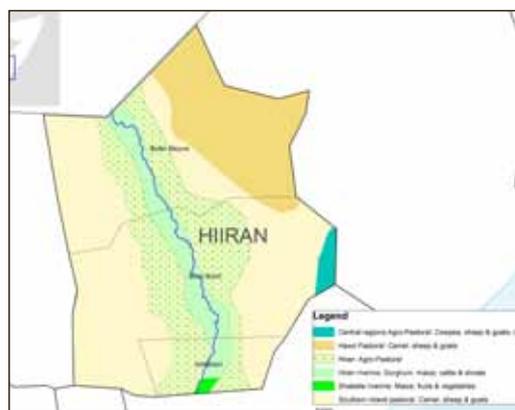


A woman draws drinking water from a pool, FSNAU Middle Shabelle, June 2010

4.5 HIRAN REGION – PASTORAL, AGROPASTORAL & RIVERINE LIVELIHOODS

Hiran region comprises of three main livelihood groups: the Southern Inland Pastoral covering Mataban and Mahas districts; and the Agro-pastoral and Riverine livelihood systems, both of which cut across Beletweyne, Buloburti and Jalalaqsi districts (Map 9). Like many other regions in Somalia, Hiran region has not escaped the effects of high intensity civil conflict, which has affected people's means of livelihood. Intermittent localised civil conflict, as well as the targeting of aid workers in the region, has continued to hinder humanitarian access. As a gateway connecting the North with South Somalia, Hiran continues to experience a volatile civil insecurity and being a region bordering Ethiopia, the effects of cross border tensions still abound.

Map 9: Hiran Region Livelihood Zones



Historical Overview - Post Deyr '09/10

Food security

According to the FSNAU Post Deyr '09/10 analysis, the food security situation remained at sustained crisis levels since Gu '09 due to a combination of factors including cumulative impacts of seven consecutive seasons of below normal crop production, recurrent conflict, and fluctuating and low economic activity. Continued poor rainfall in Deyr '09/10, led to another season of crop failure (crop production was at 31% of 1999-2008 PWA) and limited livestock production and saleable animals, alongside high livestock off-take. Furthermore, poor pasture resulted in a delay in return of the livestock that migrated to Lower Shabelle region resulting in poor access to milk in Hiran region, further compromising the nutrition situation especially of women and children. Although population numbers reduced slightly from 165,000 in the Gu '09 to 164,000 in the Deyr '09/10 in HE and from 80,000 to 73,000 in AFLC, the total population in crisis remained more or less stable with 237,000 people (about 72% region's rural and urban population) still in crisis then. During Deyr '09/10, 100% of the poor, 50-75% of the middle-income group's agro-pastoral population remained in HE and 25-50% of the middle income were in AFLC. The riverine also had 100% of both the poor and middle-income groups in HE. Among the pastoral, 100% of poor and middle income group and 50% of the better off in Hawd as well as 75% of the poor in Southern inland pastoral were in HE.

Nutrition

The Post Deyr '09/10 integrated nutrition analysis of the data from nutrition assessments, trends of admissions from the health facilities and selective feeding programme data indicated a sustained **Very Critical** nutrition situation in the agro-pastoral livelihood since Gu '09, a deterioration in the pastoral to **Very Critical** phase from the **Critical** situation it was in Gu '09 and a sustained **Critical** nutrition situation in the riverine livelihood in Hiran region, attributed to the unstable food security and high morbidity rates which continued to be experienced in the region.



Women draw water for household use, FSNAU June 2010

Current Situation – Post Gu '10

Food Security

The overall food security situation in Hiran region has remained at crisis levels since Gu '09. Although there is a slight improvement particularly in pastoral livelihoods, which had average rainfall performance, the region is still sustained in HE phase with an estimated 179,000 people, or 54% of the total rural regional population (62% of the total Hiran region population in crisis when including urban populations), being in crisis indicating a 24% reduction in numbers of those in crisis in Deyr '09/10 when 237000 were in crisis. The majority of the total population in crisis (129,000) are in HE, while 50,000 are in AFLC. This is a 21% and 31% reduction from 164,000 and 73,000 respectively of those who were in HE and AFLC in Deyr '09/10. The agro-pastoral livelihood zone is worst affected with 85,000 people in HE and 38,000 in AFLC. In the pastoral livelihood, the population in crisis has significantly reduced from Deyr '09/10 and now is estimated at 23,000 people, the majority (48%) of whom are in HE. An estimated 30,000 people in riverine livelihood remain in HE with no change from Deyr '09/10.

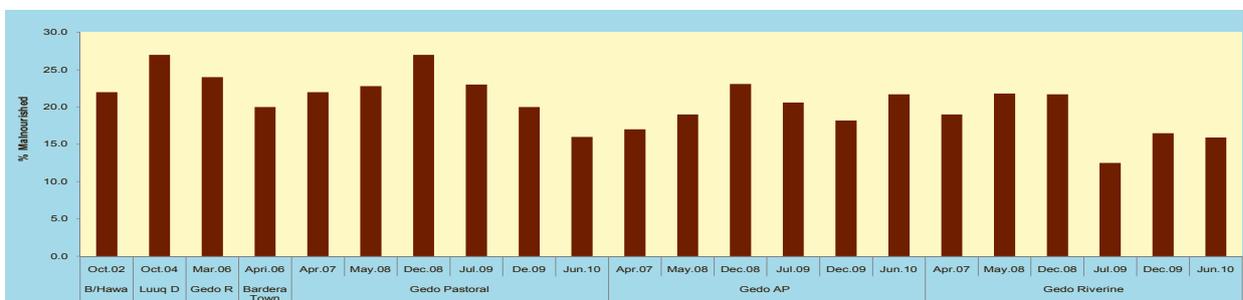
The sustained crisis in Hiran region particularly for the agro-pastoral and riverine livelihoods are attributed to combination of factors, including another poor season of Gu, '2010, recurrent conflict, low economic activity and river

flooding that destroyed about 4800 Ha of standing crops and caused temporary civil displacements. Food access is severely stressed due to the cumulative impacts of seven consecutive seasons of below normal rains resulting in a very poor cereal production (19% of PWA). Income opportunities are also limited due to the lack of agricultural labor activities and reduced number of marketable livestock. There is however, a slight improvement in pastoral livelihoods that had increased pasture and water availability resulting in improvement of livestock conditions. Food access is further constrained by a high cereal price due to the poor local production and reduced cereal supply from neighbouring region as well as cross border trade with Ethiopia as a result of insecurity.

Nutrition

Due to security constraints FSNAU staff were unable to travel and conduct the preferred nutrition surveys, however rapid MUAC assessments conducted in at least 10 villages each among the pastoral, agro-pastoral and riverine populations respectively reported >15% of children with (MUAC<12.5 cm or oedema) indicating **Very Critical** nutrition situation in the region. In the pastoral population, **15.4%** of children reported MUAC levels <12.5cm and **3.7%** with MUAC levels <11.5cm and / or oedema, and together with high (>10%) and stable HIS trends, and high and increasing number of admissions in Mahas (N>400), the situation remains **likely Very Critical** with no change from Deyr '09/10 situation. The last nutrition survey conducted in November 2009 among the Hiran pastoral population had indicated a **Very Critical** situation, reporting a GAM rate of 21.2% (16.5-25.8) and a SAM rate of 5.3% (3.1-7.6) with 1 (0.1 %) oedema case (Figure 13).

Figure 13. Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema) in Hiran region (2000-2009)



Among the assessed agro-pastoral population, **16.7%** of children had a MUAC <12.5cm and **3.2%**, with MUAC levels <11.5cm and / or oedema. Together with high (>10%) and stable HIS trends data, and high and increasing number (N=1800) of SFP admissions in the three agro-pastoral districts of Beletweyne, Buloburti and Jalalaqsi, the nutrition situation has been classified as **likely Very Critical** among the agro-pastoral livelihood population, indicating a sustained phase from the Deyr '09/10 when a survey recorded a GAM rate of 23.4 % (19.0-27.8) and a SAM rate of 7.4% (3.9-10.9).

In the rapid MUAC assessment conducted among the riverine population in Hiran **18.5%** of children had a MUAC <12.5cm and **4.6%** with MUAC levels <11.5cm and / or oedema. Together with HIS trends (Figure 14) and SFP data the nutrition situation of the riverine population in Hiran indicates a **likely Very Critical** situation and a deterioration from the **Critical** situation in Deyr '09/10 when GAM rate of >18.8% (Pr=0.90%) and SAM rate of > 2.6 % (P=0.90) were recorded (Figure 14).

The key nutrition findings that form the basis of the analysis on the classification outcome are provided in Table 8.

Figure 14. HIS Malnutrition trends in Hiran Riverine MCHs 2009-2010 Data Source: SRCS, IMC2009)

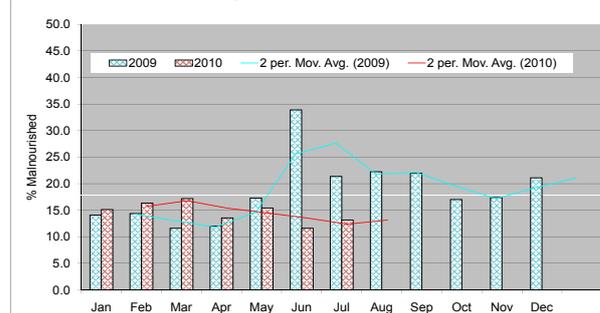


Table 8. Summary of Key Nutrition Findings in Hiran Region

Indicator	Pastoral (N=1100)		Agropastoral (=1100)		Riverine (N=1760)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
MUAC (<12.5 cm or oedema)	15.4	Very Critical	16.7	Very Critical	18.5	V. Critical
MUAC (<11.5 cm or oedema)	3.7	Very Critical	3.2	Very Critical	4.6	Very Critical
Oedema	0.0	Acceptable	0.1 (0.0 – 0.2)	Alert	0.4 (0.3 – 0.5)	Alert
HIS Nutrition Trends Jan-Jul '10	High levels (>10%) and stable	Critical	High levels (>10%) and stable	Critical	High levels but declining trends	Critical
Admission trends at TFPs/SFPs	High number with increasing trend of admission	Very Critical	High and increasing numbers in the 3 districts (upto 1800) i Apr-Jun '10	Very Critical	High and increasing numbers in the 3 districts (up to 1800) Jan-Jun '10	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) <i>Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey</i>	Outbreak – whooping cough in the Mahas (30 cases with 4 deaths) and Mataban (40 cases) in Apr-Jun '10.	Very Critical	Outbreak – 604 cases of whooping cough in the 3 districts in Apr-Jun '10	Very Critical	Outbreak – 604 cases of whooping cough in the 3 districts in Apr-Jun '10	Very Critical
Food security phase	HE		HE		HE	
Overall Situation Analysis	Very Critical		Very Critical		Very Critical	

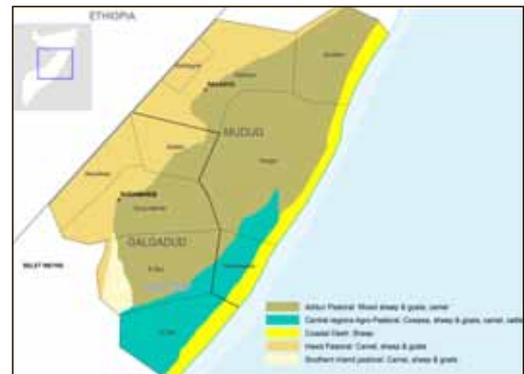
The poor nutrition situation in Hiran is attributed to the persistent food insecurity, poor access to milk (for instance in Jalalaqsi animals have migrated to Shabelle), and impacts of flood and civil conflict asset destruction and displacements, in addition to high morbidity rates in the region. There were measles and whooping cough outbreaks reported in all the districts with four related deaths.

4.6 CENTRAL SOMALIA – GALGADUD AND MUDUG REGIONS

Central Somalia comprises of two regions Galgadud and south Mudug. There are four main livelihood zones, namely the purely pastoral Addun and Hawd; the pastoral and fishing Coastal Deeh and the agro-pastoral Cowpea Belt.

The Hawd and Addun pastoral livelihoods span across Galgadud, Mudug and southern Nugal regions, while the Coastal Deeh extends from the coast of Galgadud up to Allula, cutting across the Central and Northeast regions (see map 10). This section will discuss the nutrition situation of the Hawd and Addun Pastoral livelihood zones, as well as the agropastoral Cowpea belt. The Coastal Deeh Pastoralists are discussed under the Northeast section.

Map 10: Central regions Livelihood Zones



Historical Overview - Post Deyr '09/10

The food security situation in the drought affected Central regions of Somalia remained precarious. In the rural population, the number of people in **Humanitarian Emergency (HE)** had decreased from 384,000 in the *Gu*'09 to 218,000 in the *Deyr* '09/10 while the total number of people in **Acute Food and Livelihood Crisis (AFLC)** had increased from 76,000 in the *Gu*'09 to 106,000 in the *Deyr*'09/10. This increased the total rural population in crisis to 324,000 in the *Deyr*'09/10. Furthermore there was an early warning of *Watch*¹. The reduction of the population in **HE** was due to some positive food security indicators witnessed in the cow pea belt, which received normal rains and produced a good harvest of cash crops mainly cow peas.

The Post *Deyr* '09/10 integrated nutrition analysis conducted by FSNAU and partners indicated a sustained **Critical** nutrition situation in the Hawd and Addun pastoral livelihood zones with a risk to deteriorate to Very Critical, a **Serious** nutrition situation among the Cow pea agro-pastoralists and an **Alert** nutrition phase among the Coastal Deeh pastoralists.

Current Situation- Post Gu '10

Food Security

According to the Post *Gu*'10 integrated food security analysis, the Central regions continue to remain in **Humanitarian Emergency (HE)**, despite some improvements in the Hawd and Addun pastoral livelihood zones following the good rainfall performance in the livelihoods. The food security situation of the Coastal Deeh livelihood zone has been improving since *Deyr* '09/10 due to increased small ruminant herd sizes and has been currently upgraded to **AFLC** with an early warning classification of *Watch*. In contrast, the food security situation has slightly deteriorated in the Cow pea Belt livelihood zone due to crop failure. In general, the number of rural people in crisis has significantly decreased in the region (by 25%) from 324,000 in *Deyr* '09/10 to 244,000 in *Gu* '10. Currently 178,000 people in the rural areas are in **AFLC**, while 66,000 are in **HE**. The number of urban people in crisis has also decreased - from 56,000 in *Deyr* '09/10 to 43,000 in *Gu* '10. The IDP populations in crisis remain at the same level as in the *Deyr* '09/10 (218,600 people). Due to continuing conflict among different factions, the region received an early warning level of *Watch*.

The food security situation in the Hawd and Addun pastoral livelihoods of Central regions started to improve due to good rainfall performance, which resulted in improved pasture and water conditions and normal livestock migration. The food security situation of the agro-pastoral livelihood of the Cow pea Belt has deteriorated due to crop failure as a result of below normal rains experienced in the area, leading to constrained income in the poor households from the reduced crop sales. The food security situation in the Coastal Deeh livelihood zone has significantly improved since *Deyr* '09/10 despite below normal *Gu* rains, which prompted abnormal pastoral out-migration to the adjacent livelihood of Addun, where pasture and water conditions are good, due to normal rainfall received in this livelihood. This has resulted in improved livestock body conditions and medium to high conception rates for all livestock species (camel, cattle, sheep and goat) in the Coastal Deeh livelihood zone. However, the herd sizes of livestock still remain below baseline levels (sheep/ goat – 77 % of baseline). The poor food security situation is also exacerbated by increasing displacement and a reduction in access to humanitarian aid to the worsening civil insecurity situation.

Nutrition

The current Post *Gu*'10 integrated nutrition analysis conducted by FSNAU and partners indicates a very concerning nutrition situation in the Addun pastoral livelihoods in the Central and Northeast regions. The nutrition situation of the Addun pastoral population in Central and Northeast regions indicates a deterioration from the **Critical** situation in the *Deyr* '09/10 to a **Very Critical** situation, while the Hawd livelihood zone remains in a sustained **Critical** phase. The nutrition situation

¹ A watch status indicates an occurrence of, or predicted *Hazard* event stressing livelihoods; with low or uncertain *Vulnerability*. Close monitoring and analysis is required.

of the Coastal Deeh livelihood zone compared to the previous season, the Post *Deyr*'09/10, deteriorated from *Alert* to *Serious*. The Cow pea Belt agro-pastoral livelihood zone nutrition situation also deteriorated from *Serious* to *Critical*.

Hawd and Addun Pastoralists of Central and Northeast regions

The result of a nutrition assessment conducted among the Hawd population in May '10 reported a GAM of **15.3%** (12.02-18.6) with a SAM rate of **3.9 %** (1.6-6.1), including two (**0.3%**) oedema cases. This indicates a sustained *Critical* nutrition situation among the population. Using the CDC² calculator, there is a significant improvement in the GAM rate (Pr=93.6) compared to the November 2009 assessments when a GAM rate of 19.1% (15.3-23.0) was reported, however, the change is insignificant (Pr=61.6) for the SAM rate compared to the rate of 4.3% (2.7 – 5.9) eight months earlier (Figure 15). The improving trend in the nutrition situation of the Hawd population is partly linked to the increased access to the sale of milk and other animal products following improved pasture and water availability associated with the favorable *Gu* '10 rains in the area, in addition to the humanitarian interventions in form of targeted food aid and supplementary feeding. However, the retrospective crude (CDR) and under-five death (U5DR) rates of **1.07** (0.64 – 1.79) and **1.78** (0.74-4.21) reported among the Hawd pastoral livelihood population, show a slight deterioration from the CDR and U5DR rates of 0.90 (0.60-1.36) and 2.0 (0.94-4.24) reported in November '09. The retrospective crude and under-five death rates are *Serious* and *Alert* according to the WHO threshold levels of 1/10,000/day and 2/10,000/day respectively, this is consistent with previous levels. However, diarrhoea, accident/killing or unknown causes were the main reason for the reported deaths in the Hawd livelihood zone.

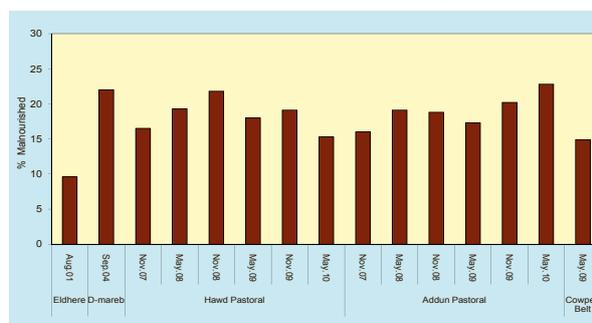
The Addun livelihood zone reported a GAM rate of **22.8 %** (19.2-27.0) and a SAM rate of **7.1 %** (4.7-10.5), which indicates a *Very Critical* nutrition situation, and a deterioration from the *Critical* phase in the *Deyr*'09/10. Statistical analysis using the CDC probability calculator indicates an insignificant deterioration (Pr=62.7) in the GAM rate compared to the November '09 assessments that reported a GAM rate of 20.2% (15.6 – 24.7). However there is a significant deterioration (Pr=93.2) in the SAM rate compared to the 4.6% (2.8 – 6.3) rate reported in November '09. The Crude and U5 mortality rates of **0.36** (0.14-0.95) and **1.61** (0.58-4.45) were below *Alert* thresholds according to WHO classification, although the rates were elevated compared to previous surveys and are therefore of concern. Diarrhoeal diseases, birth related complications and accident /killing were the main causes of deaths, according to the respondents recall. An integrated analysis of the nutrition situation was conducted in July/August '10; the detailed results are shown in Table 9.

High morbidity rates, especially diarrhoea are a predisposing factor to acute malnutrition in both the livelihoods, with the children from the Hawd (RR=1.85; CI: 1.15-2.98) and Addun (RR=1.38; CI: 1.04-1.83) livelihoods who were reported to have had diarrhoea two weeks prior to the assessment being 1.9 and 1.4 times respectively, more likely to be acutely malnourished than their counterparts who had not suffered from diarrhoea. However, rapid diagnostic tests (RDT) for malaria conducted simultaneously with the nutrition assessment at regional level confirmed a few positive cases of malaria, 2.4% (N=1215) and 2.7% (N=1215) in Galgadud and Mudug regions respectively. In both the livelihood based assessments in Central and Northeast, a slightly higher proportion of boys than girls were acutely malnourished in Addun pastoral (23.5 % to 22.0%) and Hawd (15.1% to 15.5%) populations, even though the difference was not statistically different.

In general, a significant difference was noted in the nutrition situation between the Hawd and Addun livelihoods from the nutrition assessments. Acute malnutrition is significantly worse in the Addun than in the Hawd livelihood zone for both GAM (Pr=99.8) and SAM (Pr=92.6), with the population of the Addun livelihood zone illustrating an elevated GAM and SAM rate falling within the *Very Critical* nutrition phase classification.

Overall, the nutrition situation of the Hawd pastoral population seems to be improving, compared to the Post *Deyr* '09/10, while the nutrition situation among the Addun pastoral population is depicting a deteriorating situation. There was no significant difference in the distribution of acute malnutrition among boys and girls; they were equally affected by acute malnutrition. The improvement of the Hawd livelihood zone can be attributed to returning out-migrated livestock during past recurrent droughts. As a result, income from sellable animals and the availability and consumption of animal products especially milk in the area has increased. On the other hand, Addun livelihood shows *Very Critical* levels of acute malnutrition. This is mainly attributed to the lack of good rains in this livelihood resulting in limited recovery in the herd sizes, in addition access to humanitarian assistance is limited and due to insecurity, large numbers of IDPS remain here. Further the high

Figure 15: Trends in levels of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Central Regions 2001-2010



² A one-tailed 75% and two-tailed 87.5% probability is considered operationally different between two surveys

cereal prices, are also aggravating factors. However, other potential issues influencing the nutrition situation in both livelihoods include chronic factors such as poor child care and feeding practices, and limited access to basic human services such as sanitation facilities and safe water which predispose populations to high morbidity and subsequently high levels of acute malnutrition. Multi-sectoral responses that address these underlying causes are required to ensure sustained life saving and stabilization interventions such as targeted food aid, supplementary feeding and nutrition rehabilitation services for the acutely malnourished vulnerable groups. Health, water, sanitation as well as livelihoods support interventions are also recommended to assist the vulnerable populations. The key nutrition evidence indicators of the analysis on the nutrition phase classification are provided in Table 9.

Table 9. Summary of Key Nutrition Findings in Central Regions

Indicator	Hawd Pastoral (N=647)		Addun Pastoral (=667)	
	Results %	Outcome	Results %	Outcome
<i>Child Nutrition Status</i>				
Global Acute Malnutrition; (WHO 2006)	15.3 (12.02-18.6)		22.8 (19.2-27.0)	
Boys	15.1	Critical	23.5	Very Critical
Girls	15.5		22.0	
Severe Acute Malnutrition (WHO 2006)	3.9 (1.6-6.1)		7.1 (4.7-10.5)	
Boys	3.1	Alert	8.7	Very Critical
Girls	4.7		5.3	
Oedema	0.3 (0.1-0.9)	Alert	0.0	Acceptable
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	7.7 (5.3-10.2)	Alert	13.8(10.8-16.7)	
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	0.2 (0.0- 0.5)	Acceptable	1.2 (0.02-2.3)	Serious
Global Acute Malnutrition by MUAC (<12.5 cm or oedema)	6.0 (3.4-8.6)		5.2(2.7-7.8)	
Boys	6.2	Serious	4.3	Serious
Girls	5.9		6.2	
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	1.1 (0.2-1.9)	Critical	0.9 (0.1-1.7)	Serious
Number of children Stunted (HAZ<-2)	21.5 (16.1-26.8)		17.3 (13.8-21.4)	
Boys	23.4	Serious	22.3	Serious
Girls	19.6		11.8	
Number of children Underweight (WAZ<-2)	20.7 (16.1 – 25.4)		25.2	
Boys	20.3	Serious	27.2	Serious
Girls	21.1		23.0	
HIS Nutrition Trends Jan-Jul '10	Low proportion but increasing trends	Serious	Low proportion but increasing trends	Serious
Admission trends at TFPs/SFPs	N/A		N/A	
Proportion of acutely malnourished registered in SFs	6.1	Very Critical	5.4	Very Critical
<i>Child Morbidity & Immunization</i>				
Immunization Status	Morbidity– 58.4 (51.0-65.8)	Critical	Morbidity– 45.4 (37.8-53.1)	Critical
	Vitamin A -48.6	Critical	Vitamin A -45.6	Critical
	Measles – 51.3	Critical	Measles – 51.4	Critical
<i>Infant and Young Child feeding (6-24 months)</i>				
Proportion still breastfeeding	N=204		N=221	
	28.4	Serious	37.3	Serious
Proportion introduced to complementary food at age of six months	11.0		12.5	
Proportion meeting recommended minimum feeding frequency	39.7	Critical	46.3	Critical
<i>Mortality</i>				
Crude Mortality Rate per 10,000 per day (retrospective for 90 days)	1.07(0.64-1.79)	Serious	0.52(0.30-0.83)	Alert
Under five mortality rate per 10,000 per day (retrospective for 90 days)	1.78(0.74-4.21)	Alert	1.74(0.88-3.41)	Alert
<i>Women Nutrition & Immunization Status</i>				
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	N=362		N=416	
	0.3	Acceptable	0.6	Acceptable
Proportion of acutely malnourished pregnant women (MUAC<23.0).	11.7 (N=60)	Alert	29.1 (N=79)	V. Critical
Proportion of Women who reported to have received Tetanus Immunization				
None	45.9	Critical	46.7	Critical
One	21.5		18.6	
Two	18.5		18.3	
Three or more	14.1		16.4	
<i>Public Health Indicators</i>				
Households with access to safe water	31.7	Critical	36.9	Critical
Household with access to sanitation facilities	50.0	Critical	39.9	Critical
Proportion who own mosquito nets	54.5		43.2	
<i>Food Security</i>				
Households with poor dietary diversity (< 4 food groups)	0.8	Acceptable	4.8	Acceptable
Household's Main Food Source				
Purchase:	84.0		72.7	
Food aid	6.4		2.3	
Borrowing	6.1		17.4	
Food security phase	HE/AFLC	Critical	HE/AFLC	Critical
Overall Situation Analysis		Critical		Very Critical

The Cow pea Belt Agro-pastoral Livelihood Zone

The nutrition situation of the population in the Cowpea Belt livelihood zone of Central region is classified as *likely Critical*, indicating a deterioration from *Serious* in the Post Deyr '09/10. The mid upper arm circumference measurements (MUAC) collected from 550 children from 6 sites indicated a proportion of **11.3%** with a MUAC of <12.5 cm or oedema and 2.3% of the assessed children with measurements of <11.5cm. Health facility data (from Jawle, Dabagalo, Masgaway, Elbur and Galad MCHs) indicated a high proportion (>20 %) and a decreasing trend of acutely malnourished children (Figure 16). No disease outbreaks are reported in the area. The food security of the agro-pastoral livelihood in the cow pea belt has deteriorated due to crop failure, as a result of below normal rains in the current season, leading to reduced income among the poor households from crop sales, in addition to limited household access to food and milk. Additionally, the population remains vulnerable to chronic issues such as poor child care and feeding practices, low immunization status, poor sanitation and limited health facilities in the area. The livelihood zone will need close monitoring of the both the food security and nutrition situation.

Coastal Deeh Livelihood Zone

The Coastal Deeh, covering parts of Mudug, and Galgaduud received below normal *Gu* '10 rains, which prompted pastoral migration to adjacent livelihood of Addun. Although no assessment was currently conducted in the livelihood, triangulation from various sources of data indicates a sustained *Serious* nutrition situation, indicating a deterioration from the *Alert* phase reported in the Post Deyr '09/10. Information from health facilities (Eldhere, Harardhere and Wahweyn MCHs) in the area indicates high (>15%) numbers and a decreasing trend of acutely malnourished children (Figure 17). Household income and consumption of milk is poor, as animals have out migrated to the Addun areas, due to poor rains in the area. No disease outbreaks are reported. The livelihood cuts across to Northeast regions and has similar livelihood characteristics; therefore the results from the area could be extrapolated to give an indication of the nutrition situation in the Coastal Deeh of the Northeast region. The results of the small cluster survey conducted in July '10 using CDC calculator at 90% probability level, indicate a global acute malnutrition (GAM) rate of >**10.8%** (Pr=0.90) and a SAM rate of >**2.2%**(Pr=0.90). When compared to the December 2009 small cluster survey findings which reported a global acute malnutrition (GAM) rate of >6.9 % with a SAM rate of >0.4 %, there is significant deterioration in both the GAM and SAM rates at (Pr=85.5) and (Pr=97.3) respectively, indicating a *Serious* nutrition situation. The chronic issues affecting the nutrition situation of the area include inadequate health services, poor sanitation, poor child care and feeding practices and low immunization. Continued interventions need to be sustained to prevent any further deterioration.

Table 10: Cow Pea Belt Livelihood Zone

Summary of Nutrition Findings Cowpeabelt		
Indicators	Result N=550	Outcome
Global Acute malnutrition MUAC<12.5 cm or oedema	11.3%	Critical
Severe Acute malnutrition MUAC<11.5 cm or oedema	2.3%	Critical
HIS Nutrition Trend Jan-Jul '10	Data indicates high numbers and decreasing trend of acutely malnourished children	Critical
Dietary Diversity	Poor; limited milk availability, reduced frequency of meals and food access	Serious
Disease Outbreaks	No disease outbreaks reported	Serious
Access to safe water & Sanitation	Poor water and sanitation facilities	Alert
Access to Health Services	Limited health facilities in the area	Serious
Selective Feeding Programmes	Limited in the area	Serious
Overall Situation Analysis:		Critical

Figure 16: HIS Malnutrition Trends in Cowpea Belt L/Z, 2009-2010 Data Source: SCRS, CISP

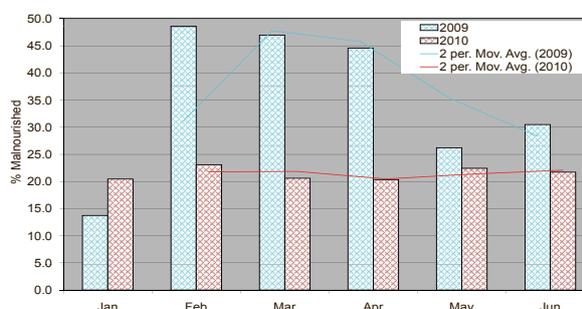
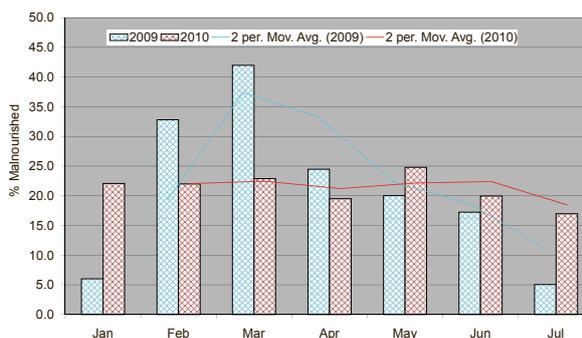


Figure 17: HIS Malnutrition Trends in Coastal Deeh L/Z, 2009-2010 Data Source: SCRS, CISP, UNICEF/MOH



4.7 NORTHEAST REGIONS

The Northeast regions are predominately pastoral with eight livelihood zones namely; the Hawd, Addun, Coastal Deeh, East Golis, Gagaab, Kakaar, Nugal Valley and Sool-Saanag Plateau (Map 11). The Hawd and Addun cut across the Northeast and Central regions.

Historical Overview - Deyr '09/10

Food security

The FSNAU Deyr '09/10 integrated food security analysis classified the Hawd and Addun pastoral livelihoods in southern Nugal and north Mudug regions in a sustained **Humanitarian Emergency (HE)**. However, there was a significant improvement in Hawd of Eyl and Garowe districts with 25% of the poor and 25% of the middle wealth group who were in **HE** during Gu '09 shifting to **Acute Food and Livelihood Crisis (AFLC)**, and 50% of the middle in **AFLC** shifting to **Borderline Food Insecure (BFI)**. The total population in crisis in Bari, Nugal and northern Mudug regions was 254,000, of which 155,000 were urban poor. Of the total population in crisis, 178,000 or 69% were in **AFLC** and 76,000 or 31% were in **HE**. IDP populations in the region that were in need of humanitarian assistance remained the same as in the Gu '09.

The food security situation remained unchanged for the Hawd and Addun pastoral livelihood zones, due to decreased cereal prices, increased livestock prices but limited marketable animals, low calving/kidding and very poor milk production. The Deyr '09/10 was the fifth successive season of poor rainfall (Deyr '07/08, Gu '08, Deyr '08/09, Gu '09 and Deyr '09/10), which had affected pasture and water conditions in the Hawd and Addun, as well as parts of Coastal Deeh pastoral in north Mudug and Nugal regions. Nugal valley and Sool Plateau livelihood zones of Nugal and Bari regions received near normal to normal rainfall; however, huge livestock in migration resulted in early pasture and water depletion. Poor rangeland and water conditions in North Bari, North Mudug and South Nugal forced livestock to out-migrate to over-populated areas of Sool plateau of Bari, Nugal valley and Hawd of Sool and Nugal regions, and that led to weak and emaciated livestock, low calving rates for camels, low milk production and high livestock off-take with herd size of all livestock species well below the baseline levels.

Nutrition

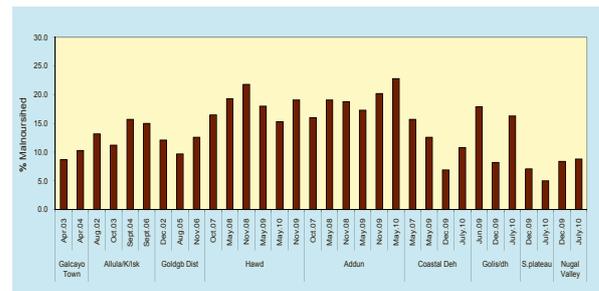
The nutrition situation of both the rural & urban population in the Northeast has been consistently below the emergency threshold of 15 % until 2006, based on findings from 32 nutrition assessments conducted by FSNAU & partners from 2002 -2010 (Figure 18). Following deterioration of the food security situation in the Hawd, Addun and the Coastal Deeh livelihood zones in 2007, the nutrition situation also deteriorated and the levels of acute malnutrition exceeded the emergency threshold. The situation of IDPs in Bossaso and Galkayo has been different from that of the host communities, with the rates of acute malnutrition consistently exceeding the emergency threshold, due to their higher nutritional vulnerability.

The FSNAU Post Deyr '09/10 integrated nutrition situation analysis indicated a persistent **Critical** nutrition situation among the Hawd and Addun pastoral livelihood zones of Mudug and Nugal regions, and a **Serious** nutrition situation among the Golis/Gagaab which had shown an improvement from **Critical** in the Gu '09. The nutrition situation in the Sool Plateau of Bari region and Nugal Valley livelihood zones had shown an improvement from the **Critical** classification phase in the Post Gu '09 to **Alert** and **Serious** phases in the Post Deyr '09/10 respectively. The Coastal Deeh livelihood zone of Nugal, Bari and Mudug regions had also shown improvement from **Serious** in the Gu '09 to **Alert** in the Post Deyr '09/10. The improvement in the nutrition situation in these livelihood zones is mainly attributed to favourable food security indicators, particularly increased milk consumption.

Map 11: Northeast Livelihood Zones



Figure 18: Trends in levels of acute malnutrition (WHZ < -2 or oedema, WHO 2006) in Northeast region 2002- 2010



Current Situation

Food Security

The FSNAU Post *Gu* '10 integrated food security analysis has classified the East Golis, Coastal Deeh and Karkaar Valley livelihood zones of Bari region in **Acute Food and livelihood Crisis (AFLC)**, indicating a deterioration from **BFI** in *Deyr* '09/10, following two successive seasons of poor rainfall. The Hawd and Addun pastoral livelihoods in Nugal and northern Mudug regions remain in **Humanitarian Emergency (HE)** since *Deyr* '09/10. The remaining livelihoods of Bari region remain in **BFI**. The total population in crisis in the Northeast (Bari, Nugal and northern Mudug regions) is currently estimated at 206,000, of which 8,000 are pastoral destitutes and 93,000 are urban. Of the total population in crisis, 176,000 (85%) are in **AFLC** and 30,000 are in **HE**.

Water trucking, common in the previous seasons in the drought-stricken areas has stopped and water costs (by 41% from Dec. '09 - 2,392 SoSh/20ltr Jerry can) has reduced following good *Gu* '10 rains in most regions of Northeast. The Addun Pastoral livelihood of northern Mudug still remains in **HE** due to significant asset loss during the past five successive droughts (*Deyr* '07/08, *Gu* '08, *Deyr* '08/09, *Gu* '09 and *Deyr* '09/10); limited own production for consumption and sales; declined livestock prices and high cereal prices due to high transport costs in view of poor road infrastructure. Deterioration in East Golis, Coastal *Deeh* and Karkaar Valley livelihood zones of Bari region is attributable to poor frankincense production following two poor rainy seasons, effects of cyclone in May 2010, which destroyed date palms, road infrastructure and houses, as well as reduced labour opportunities from fishing activities, due to presence of sea pirates and high sea tides. Conversely, the food security of Hawd pastoral has significantly improved due to the return of migrated livestock during past recurrent droughts, as result, income from sellable animals as well as the availability and consumption of animal products especially milk in the area has increased.

Nutrition

The current Post *Gu* '10 nutrition situation continues to show a deterioration in the nutrition situation in most of the livelihood zones in the Northeast compared to the *Deyr* '09/10 season. The Addun pastoral livelihood zones of Mudug and Nugal regions indicate deterioration from the *Critical* in the *Deyr* '09/10 to **Very Critical** in the Post *Gu* '10, while the Hawd pastoral livelihood zones remain in a sustained **Critical** nutrition (refer to Central Regions for details). The nutrition situation has deteriorated in the Golis/Karkaar pastoral population from the previous *Serious* situation reported in the Post *Deyr* '09/10 to a **Critical** situation in the *Gu* '10, while the Coastal Deeh livelihood zone of Nugal, Bari and Mudug regions also deteriorated from *Alert* in the Post *Deyr* '09/10 to **Serious** in the Post *Gu* '10. The Nugal Valley livelihood zones indicate an improvement from *Serious* in the Post *Deyr* '09/10 to **Alert** in the *Gu* '10, while the Sool Plateau population of Bari region remained sustained **Alert** nutrition phase. These deteriorations are predominantly linked to the normal seasonal hunger gap when out migrated livestock restrict access to milk at the household level and opportunities for alternative livelihoods such as fishing, are diminished also due to seasonal tides.

The nutrition situation of the IDPs from Bossaso is classified as **Very Critical**, a deterioration from *Critical* in the *Deyr* '09/10, while the Galkayo and Garowe IDP showed a slight improvement from *Very Critical* in the Post *Deyr* '09/10 to **Critical** in the Post *Gu* '10. The results are consistent with historical data on nutrition surveys conducted among the IDP population in the Northwest region, which highlight the chronic nutritional vulnerabilities (Figure 20)

Golis/Gagaab/ Livelihood Zones

The Post *Deyr* '09/10 integrated nutrition situation analysis classified the nutrition situation in the Golis/Kaakar of Bari region as **Serious**. Poor household access to milk and meat resulted from poor rains for two consecutive seasons, including *Deyr* '09/10, high morbidity and poor water and sanitation were the main driving factors. The current Post *Gu* '10 integrated nutrition situation analysis classifies the nutrition situation in the area as **Critical**, indicating a deterioration from the previous season (Table 11). High morbidity coupled with reduced household income and milk access are main factors attributed to the worsening nutrition situation in the area. Following two poor rainy seasons, a deterioration in East Golis, and Karkaar valley livelihood zones of Bari region is attributable to poor frankincense production, effects of cyclone in May 2010 which destroyed date palms, road infrastructure and houses, as well as re-

Figure 19: HIS Malnutrition Trends in Golis/ Karkaar LHZ

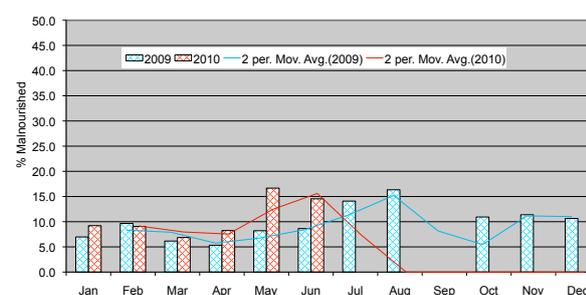
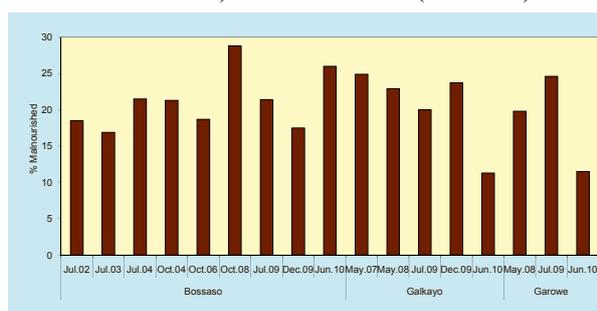


Figure 20: Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema) in Northeast IDPs (2002-2010)



duced labour opportunities from fishing activities, due to presence of sea pirates and high sea tides. A rapid weight for height assessment conducted in July 2010 based on the CDC calculator indicate a high probability that a global acute malnutrition (GAM) >16.3 % (Pr =0.90) and a SAM level >1.7% (Pr =0.90). When compared to the Dec 2010 rapid weight for height assessment findings, which reported global acute malnutrition (GAM) of 10.3% (7.1-14.8) with a SAM rate of 0.9 0.2-3.8), there is significant deterioration in the both GAM and SAM rates at 96.6 % ($p=0.009$); and 91.8 % probability respectively. A higher proportion of assessed boys (>22.7%) were acutely malnourished compared to the girls (>11.2%), this difference was however not statistically significant. Results of the MUAC measurements indicates 5.1% with MUAC measurements of <12.5cm or oedema (Table 11). Data from the health facilities namely Ufeyn, Waaciye and Iskushuban indicates low, but an increasing trend of acutely malnourished children (Figure 19). The overall morbidity rates of children reported to be ill two weeks prior to rapid assessment was high at 38.3%. The immunization and vitamin A supplementation was still low. However, poor water sanitation and limited health facilities still remain as chronic underlying factors affecting the nutritional status of community. The livelihood zone will need close monitoring of both the food security and nutrition situation. In addition to initializing interventions, addressing the current natural shock such as; the impact of the cyclone in addition to rehabilitating acutely malnourished children and improving access to health facilities.



A rapid diagnostic test for Malaria, FSNAU, June 2010

Nugal Valley livelihood zone

An integrated analysis of nutrition, health and food security indicators (see table 11), indicate that the current nutrition situation in the Nugal valley livelihood zone is **Alert**, an improvement from the *Deyr '09/'10*. The improvement is mainly attributed to high livestock in-migration in the *Jilaal* season as a result of good rains received during the *Deyr '09/'10*. This has contributed to water and pasture availability, improved livestock body conditions, resulting in increased meat and milk consumption and household income. A rapid weight for height assessment conducted in July 2010 based on the CDC calculator, indicate a high probability that a global acute malnutrition (GAM) > 8.8% (Pr =0.90) and a SAM level >0.6% (Pr =0.90). When compared to the Dec 2010 rapid weight for height assessment findings, which reported a GAM of >8.4 % with a SAM rate of >0.1%, there is no significant change in the GAM, however, a slight deterioration in the SAM rates was noted at 87 % probability. This indicates an **Alert** nutrition situation. A higher proportion of assessed boys (>11.6%) were acutely malnourished compared to the girls (>5.0%). This difference was also statistically significant (RR=1.97; CI; 1.03-3.8). The results of the MUAC measurements indicates 2.0% of the assessed children with MUAC measurements of <12.5cm or oedema (Table 11). Data from the health facilities namely Sinujiif, Gambool and Waaberi, indicates low numbers and increasing trend of acutely malnourished children. No disease outbreaks have been reported in the area, though the overall morbidity reported was high at 21.5%. The immunization and vitamin A status for the last six months showed low at 55.5% and 59.5% respectively. Although there is a continued improvement in the nutrition situation in the area, the livelihood zone will need close monitoring of both the food security and nutrition situation.

Coastal Deeh- Livelihood Zone

The Coastal Deeh livelihood zone of Nugal, Bari and Mudug regions shows a deterioration from the **Alert** post *Deyr '09/'10* nutrition situation classification to the current **Serious**. The result of the rapid weight for height assessment conducted in July 2010 using the CDC calculator at 90% probability level, shows a high probability of GAM >10.8% and SAM level of >2.2%. When compared to the December 2010 rapid weight for height assessment findings which reported GAM of >6.9 % with a SAM rate of >0.4 %, there is significant deterioration in the both GAM and SAM rates at 85.5 % ($p=0.23$) and 97.3% probability respectively. A slightly higher proportion of assessed boys (>10.4%) were acutely malnourished compared to the girls (>8.3%). This difference was however not statistically significant. Information from the health facilities in the area indicates a low of (<5%) and stable trend of acutely malnourished children in Eyl MCH. Most of the coastal areas experienced below normal rainfall and this has led to abnormal out migration of animals and poor animal body conditions, resulting in reduced household income and meat and milk consumption. Furthermore, there are low labour opportunities from fishing activities due to presence of sea pirates, high sea tides, and high morbidity particularly diarrhoea, remain key factors affecting the nutrition situation in the area (Table 11).

Table 11: Summary of Key Nutrition Findings in Golis, Nugal Valley and Coastal Deeh

Indicator	Golis/Gagaab (N=214)		Nugal valley (N=200)		Coastal deeh (N= 199)	
	Results %	Outcome	Results %	Outcome	Results %	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	>16.3(Pr=0.90)	Critical	>8.8(Pr=0.9)	Alert	>10.8 Pr=0.90)	Serious
Boy	>22.7		>11.6		>10.4	
Girls	>11.2		>5.0		>8.3	
Severe Acute Malnutrition (WHZ<-3 or oedema)	>1.7(Pr=0.90)	Acceptable	>0.6 Pr=0.90)	Acceptable	>2.2(Pr=0.90)	Alert
Boys	>4.7		>0.2		>1.3	
Girls	>0.4		>0.6		>2.0	
Mean WHZ	-1.12±1.15	Critical	-0.52±1.19	Critical	-0.97±1.14	Critical
Oedema	0	Acceptable	0	Acceptable	0	Acceptable
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	>15.7(Pr=0.90)	Critical	9.5(Pr=0.90)	Alert	>10.6(Pr=0.90)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	>0.1(Pr=0.90)	Acceptable	>0.1(Pr=0.90)	Alert	>0.3(Pr=0.90)	Alert
Acute malnutrition by MUAC (<12.5 cm or oedema in rapid assessments)	5.1(2.0-8.3)	Serious	2.0 (0.8-5.2)	Acceptable	5.5(2.9-10.3)	Serious
Boys	6.6		2.1		2.0	
Girls	3.7		1.9		9.2	
Severe Acute Malnutrition by MUAC or Oedema	0.5 (0.0-1.4)		1.0(0.0-2.4)		2.5(0.4-4.6)	
Stunting (HAZ<-2)	16.4(11.3-23.1)	Alert	9.0	Acceptable	16.6(11.4-23.1)	Alert
Boys	20.8		8.5		20.8	
Girls	12.0		9.4		12.2	
Underweight (WAZ<-2)	23.4 (17.4-30.6)	Serious	8.5(4.6-15.2)	Acceptable-	7.7(4.7-12.2)	Acceptable
Boys	28.3		9.6		17.8	
Girls	18.5		7.5		15.3	
HIS Nutrition Trends(Aug-Nov'08)	Low and increasing trend	Serious	Low decreasing trends	Alert	Low and stable	Acceptable
Selective feeding Programmes	None	Critical	None	Critical	None	Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	Morbidity- 38.3	Critical	Morbidity -21.5	Critical	Morbidity 23.7	Serious
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey						
Immunization Status	Vit A:- 86.9 Measles- 72.9;	Alert	Vit A:- 59.5 Measles-55.5	Critical	Vit A:- 94.5 Measles- 86.4	Alert
Food security phase	AFLC-watch	Serious	BFI	Alert	AFLC-Watch	Alert
Overall Situation Analysis		Critical		Alert		Serious
Projected Trend in 3 Months		Stable		Stable		Stable

Sool Plateau Livelihood Zone

The Post *Deyr* '09 integrated nutrition situation analysis classified the nutrition situation of the Sool Plateau of Bari and Nugal regions as **Alert** from **Serious** in the *Gu* '09. The **Alert** nutrition was attributed to the normal rain performance, livestock in-migration and increased access to milk, water and income. The current season of Post *Gu* '10 integrated nutrition analysis has classified the situation in the livelihood zone as Sustained **Alert**. The nutrition improvement is likely attributed to increased milk access and humanitarian interventions in the region. Findings from a rapid weight for height assessment conducted in July 2010, based on the CDC calculator indicate a high probability that a GAM level of >5.0 % with a SAM rate of >0.6%, showing no significant difference in the both GAM and SAM rates. Although a higher proportion of assessed girls (>7.1%) were acutely malnourished compared to the boys (>2.4%) (Table 12). This difference was however not statistically significant. Analysis of MUAC measurements from 200 children (conducted in July 2010) from this livelihood zone indicates 2.0% of the children with MUAC<12.5cm and/or oedema. Data from health information systems (HIS) in the area indicates low numbers and a stable trend of acutely malnourished children screened at health facilities. The improvement of the nutrition situation in the livelihood is mainly attributed to improved household food security situation following normal to good rains received in the area, compared to the Post *Deyr* '09/10 season. Consequently, water availability, pasture and livestock body conditions were favourable, with more livestock in-migration resulting in increased meat and milk consumption and access to income. Although improvements in the nutritional situation in the area have been observed, the vulnerability of the region to natural shocks, e.g. drought, necessitates continued close monitoring of the situation.

Table 12: Summary of Key Nutrition Findings in Sool Plateau in Northeast regions

Indicator	Sool Plateau (N=200)	
	Results %	Outcome
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema)	>5.0 (Pr= 0.90)	Alert
Boys	>2.4	
Girls	>7.1	
Mean WHZ (WHO, 2006)	-0.48±1.05	Critical
Severe Acute Malnutrition (WHZ<-3 or oedema)	0.6 (Pr= 0.90)	Acceptable
Boys	>0.0	
Girls	>1.4	
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	>3.7(Pr=0.90)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	>0.3(Pr=0.91)	Alert
Acute malnutrition by MUAC (<12.5 cm or oedema in nutrition surveys)	2.0 (0.8- 5.2)	Acceptable
Boys	0.0	
Girls	4.4	
Severe Acute Malnutrition by MUAC or Oedema	0	Acceptable
Stunting (HAZ<-2)	11.5(8.1-16.2)	Alert
Boys	15.6(10.0-23.6)	
Girls	6.6(3.-13.4)	
Underweight (WAZ<-2)	8.0 (4.9-12.9)	Alert
Boys	6.4(3.1-12.8)	
Girls	9.9(5.7-16.7)	
HIS Nutrition Trends(Aug-Nov'08)	Low proportions and stable	Alert
Selective feeding Programmes	None	Critical
Child Morbidity & Immunization		
Disease trends (seasonally adjusted)	Morbidity- 19.5	Serious
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey		
Immunization Status	Vit A -78.5 Measles- 69.5	Critical
Food security phase	BFI	Alert
Overall Situation Analysis		Alert
Projected Trend in 3 Months		Stable

IDPs of the Northeast: Galkayo, Garowe and Bossaso

The Nutrition situation of Bossaso has deteriorated from *Critical* to *Very Critical*, while an improvement in the nutrition situation was observed among the Galkayo and Garowe IDPs from *Very Critical* to *Serious* according to the post Gu'10 integrated nutrition analysis.

In June 2010, small cluster surveys were conducted among the Galkayo, Garowe and Bossaso IDPs (Table 13) and a total of 198 and 209 children from 33 clusters in the each of the IDPs were assessed respectively. Results indicated a GAM , (WHZ<-2 or oedema) of > **11.3%**(Pr =0.90%),while the SAM, (WHZ <-3 or oedema) rate is >**1.2%**(Pr =90%), among the Galkayo IDPs. This indicates a *Serious* nutrition situation and a significant improvement from the GAM rate of >23.7% (Pr=0.90) and SAM rate of >6.3% (Pr =90) recorded in December 2009, (p>0.05). A slightly higher proportion of girls assessed, (>11.0%), were acutely malnourished compared to the boys (>9.9 %) this difference was however not statistically significant. In Garowe, a GAM of (<-2zscore or oedema) of > **11.5%** was reported (Pr. =0.90%), while the SAM (WHZ <-3 or oedema) rate was > **3%** (Pr=0.90%). This indicates a *Serious* nutrition situation, an improvement from the results of an exhaustive nutrition assessment conducted in July 2009, where a GAM rate of 24.5% and a SAM rate of 6.5% was reported. A higher proportion of assessed boys (>11.9%) were acutely malnourished compared to the girls (>9.5%). This difference was however not statistically significant.



Pregnant malnourished mother with her child at Bossaso IDP camp

The improvement in both Galkayo and Garowe is attributed to the positive impact of the *Gu'10* rainfall, that has increased milk and meat access for the population, and declining food prices noted in the towns. Ongoing interventions, including active case finding and referral of acutely malnourished children, have also assisted in abating the situation.

A GAM level of >**26%** (Pr =0.90%) and SAM of >**3.3 %**(Pr =0.90%) was reported among the Bossaso IDPs. This indicates a *Very Critical* nutrition situation, and a significant deterioration(p=0.026) from the previous GAM rate of >17.5% (but a decline in the proportion of severely acutely malnourished (WHZ <-3 or oedema) children from

the rate of > 5.5 % (p=0.378). Boys (>28.4%) and Girls (>24.7%) were equally affected by acute malnutrition. The deterioration in the Bossaso IDPs could be attributed to reduced humanitarian support in the months preceding the survey and limited access to income sources arising from low labour opportunities. Labour opportunities in Bossaso town have declined due to seasonal out-migration of wealthy people who offer casual labour and reduced port activities due to the monsoon season. High morbidity among the assessed population is also an aggravating factor. (See Table 13 for all survey results). The proportion of children aged 6-59 months who had suffered from one or more communicable diseases during the two weeks prior to the assessment were 46.9%, 72.2% and 35.4% among the assessed Galkayo, Garowe and Bossaso IDP populations respectively.

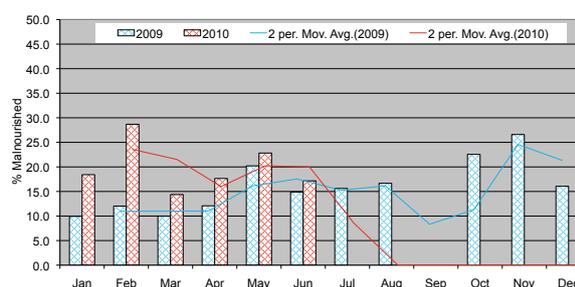
Data from health facilities in Bossaso indicated a high >15 % and stable trend of acutely malnourished children. Morbidity data collected indicates that the proportion of children that had suffered from one or more illness in the two weeks prior to the assessment was high at 46.9%, 72.2% and 35.4% among the assessed Galkayo, Bossaso and Garowe IDP populations respectively. All IDPs surveys report a very high proportion of stunting (20 to <40%) which provides evidence of the sustained poor nutrition among this population. These findings indicate considerably high morbidity rates, which have a direct effect on the nutrition situation of the children. However, for three IDP populations, vaccination status by recall is relatively high yet slightly below the Sphere (2004) threshold, with the exception of polio immunization in Bossaso and Galkayo IDP populations and Vitamin A supplementation in Galkayo and Garowe IDP populations which was above 95%. The high coverage these health programmes is mainly due to the impact of the child health days (CHDs) carried out by UNICEF and partners in the beginning of June 2010. A relatively high proportion of the assessed households among the IDP settlements had access to sanitation facilities, with 71.3%, 86% and 88.6% of the assessed households in the Galkayo, Bossaso and Garowe IDP settlements respectively reporting access to appropriate sanitation facilities. This pattern is emulated with other indicators, such as access to clean water (94.7%; 62.6% and 46.5% respectively), indicating that a large proportion of the IDP households are predisposed to disease, especially diarrhoea.

The concerning IDP nutrition situation is generally due to a combination of factors, including a high disease burden, and reduced access to food, arising from low labour/income particularly in Bossaso, reduced access to a diversified diet due to the increasing food prices and sub-optimal child care and feeding practices. Whilst the IDPs show relatively good indicators of access to basic services, they remain in a vulnerable situation and are in need of continued support, especially in view of the continuing insecurity in southern Somalia with may lead to an increased influx. Child feeding practices also remain poor among the three IDP populations and concerted efforts to improve the situation are imperative. The results are consistent with historical data on nutrition surveys conducted amongst the IDP population in the northeast region, which highlights their chronic nutritional vulnerabilities (see figure 21). The key nutrition indicators of these IDP populations that form the basis of the analysis are provided in Table 13.



Poor child care practices in Garowe IDPs

Figure 21: HIS Malnutrition Trends in Tuurjaale IDP MCH, 2009-2010



Poor Sheter and hygiene in Garowe IDPs

Table 13: Summary of Key Nutrition Findings in Galkayo, Bossaso and Garowe IDPs

Indicator	Galkayo		Bossaso		Garowe	
	Results N=198	Outcome	Results N=209	Outcome	Results N= 198	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	>11.3 (Pr=0.90)	Serious	>26% (Pr=0.90)	Very Critical	>11.5 (Pr=0.90)	Serious
Boys	>9.9		>28.4		>11.9	
Girls	>11.0		>24.7		>9.5	
Mean WHZ (WHO, 2006)	0.61±1.41		-1.35±1.09		-0.96±1.05	
Severe Acute Malnutrition (WHZ<-3 or oedema)	>1.2 (Pr=0.90)	Acceptable	>3.3(Pr=0.90)	Alert	>3.0(Pr=0.90)	S Alert
Boys	>2.1		>5.4		>2.1	
Girls			>3.4		>3.4	
Oedema	0.0	Acceptable	0.0	Acceptable	0.0	Acceptable
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	>8.6(Pr=0.90)	Serious	>22.0(Pr=0.90)	Very Critical	>13.0(Pr=0.90)	S Serious
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	1.5 (0.5- 4.7)	Acceptable	>0.6 (Pr=0.90)	Acceptable	>1.4(Pr=0.90)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema in nutrition surveys)	7.1 (3.3 -10.8)		23.0(16.3-29.7)		11.1 (5.5-16.7)	
Boys	6.3	Serious	19.8	Very Critical	9.2	Critical
Girls	8.1		25.7		14.6	
Severe Acute Malnutrition by MUAC or Oedema	0.5		8.1		2.0	
Number of children Stunted (HAZ<-2)	21.7 (15.1-30.2)		26.9 (20.0-35.2)		37.6(30.9-44.9)	
Boys	25.0	Serious	30.2	Serious	42.9	Serious
Girls	17.4		27.4		33.0	
Number of children Underweight (WAZ<-2)	19.7(14.2-26.7)		35.4(27.8-43.8)		28.8 (21.9-36.8)	
Boys	20.5	Serious	38.5	Serious	33.7	Serious
Girls	18.6		33.6		25.2	
HIS Nutrition Trends(Jan-June'10)	High levels and stable	Critical	High levels with increasing trends	Very Critical	High and stable trends	Critical
Admission trends at TFPs/SFPs (– Jan-Jun'09)	High number with increasing trend of admission	Critical	High numbers with increasing trend of admission	Very Critical	High numbers with increasing trends of admission	Very Critical
Proportion of malnourished registered in SFs	0		3.7		0	
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)						
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	46.9	Critical	72.2 Vit A	Very Critical	35.4	Critical
Immunization Status	Vit. A;95.5 Measles 91.9	Acceptable Alert	V:W:A 92.8 Measles -89.5	Alert Alert	Vit.A-95.9 Measles -94.4	Acceptable Alert
Infant and Young Child feeding (6-24 months)						
Proportion still breastfeeding	50.9	Serious	46.0	Serious	38.3	Serious
Proportion introduced to complementary food at age of six months	3.5		3.2		0	
Proportion meeting recommended minimum feeding frequency	26.0	Critical	57.5	Critical	29.8	Critical
Women Nutrition & Immunization Status						
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	0.0	Acceptable	1.4	Alert	0.0	Acceptable
Proportion of acutely malnourished pregnant women (MUAC<23.0).	16.1	Serious	21.2	Serious	22.4	Critical
Proportion of Women who received Tetanus Immunization						
No dose	58.5	Very Critical	9.3	Very Critical	80	Very Critical
One dose	22.3		7.5		10.3	
Two doses	14.8		31.8		37.9	
Three doses	3.2		51.4		43.7	
Public Health Indicators						
Households with access to safe water	94.7	Alert	62.6	Serious	46.5	Critical
Household with access to sanitation facilities	71.3		Serious	Serious	88.6	Serious
Access to mosquito nets	41.5		6.5		44.9	
Food Security						
Households with poor dietary diversity (< 4 food groups)	1.1	Acceptable	17.8	Serious	2.1	Serious
Household's Main Food Source						
Purchase:	90.5		90.9		92.1	
Borrowing	8.4		2.7		7.9	
Food aid	0.0		0.9		0.0	
Food security phase	HE		HE		HE	
Overall Situation Analysis		Critical		Very Critical		Critical

CHANGING TRENDS IN MALARIA RISK IN SOMALIA (2005- 2009)

Main Sources of Information:-

Estimating the P. falciparum morbidity and mortality burden 2005-2009 in Somalia, Snow et al, 2009

Somali National Malaria Strategy 2005-2010, Capobianco 2005

Background information

The prevalence and incidence of malaria infections is a public health concern and its distribution in time and space are critical to the financial planning, setting the control agenda and monitoring of preventive activities. Between the 1940's and 1990's, only a few studies on malaria infection and vector composition were done in Somalia (Glasgow & MacInnes, 1943; Wilson, 1949; Choumara, 1961). In the absence of reliable health information, disease burdens are estimated from modeled interpolations of selected reviews of epidemiological data. The most severely affected are the young children, pregnant women and nomadic populations of the Somali community (Murray & Lopez, 1996; 1997; Mathers et al., 2005; Jamison et al., 2006). Somalia is considered a moderately endemic country for malaria with different levels of endemicity for different zones (Burns et al 2002). Based on specific epidemiological features such as intensity, stability, seasonality, and epidemics, Somalia is classified into three malariogenic strata based on prevalence (PR) of *Plasmodium falciparum* (Pf):

- 1) Unstable or hypo-endemic in the North (<5% Pf PR)
- 2) Hypo to meso-endemic in the Central and the South (5-9% Pf PR)
- 3) Meso to hyper-endemic in the riverine areas of the Juba and Shabelle rivers (10-39% Pf PR), See Map 12.

The Somali National Malaria Strategy 2005-2010 was launched in 2005 with the goal to "reduce the malaria burden in Somalia by 50%" by 2010 (Capobianco, 2005). The malaria programme also aims to make effective malaria treatment utilizing Artemisinin-based Combination Therapy (ACT) through government and NGO supported health facilities.

In 2007, the FSNAU Nutrition surveillance project at the request of UNICEF, Kenya Medical Research Institute (KEMRI), Malaria Public Health and Epidemiology Group and Malaria Atlas Project (MAP) from Kenya, developed a strategy to conduct rapid diagnostic malarial tests (RDTs) for *Plasmodium falciparum* concurrently with the FSNAU led nutrition assessments¹. Between 2007 and 2010, 84 RDT assessments on malarial prevalence (*P. falciparum*) were conducted in Somalia. The assessments were stratified by livelihood zone covering pastoralists, agro-pastoralists and riverine, and protracted IDP populations. These assessments incorporated investigations of bed net ownership and usage among individuals of all age groups. Analysis of findings indicated varied levels of malarial prevalence in different livelihood zones (Noor et al., 2008 Figure 22).

In 2007, the reported malaria deaths and cases were 33 and 36,773 respectively. While In 2008, the total reported cases and estimated number of cases were 24136 and 0.6 million respectively (WHO Malaria report, 2008). In central and southern Somalia, malaria was estimated to account for approximately eight per cent of all illnesses among children aged under five. The burden was highest along the rivers and settlements with artificial water reservoirs where there is all-year-round transmission (WHO Malaria report, 2008).

A publication on the Use of Mosquito Nets and the Prevalence of *Plasmodium falciparum* infection in Rural South Central Somalia (Noor et al., 2008) reported that the overall Plasmodium falciparum infection prevalence (PfPR) was (15.7%) with the highest prevalence recorded among the *pastoralist communities* (24.1%) and the lowest prevalence among riverine communities (7.2%). The infection prevalence was significantly lower among adults (9.8%) compared to children under five years of age (19.6%), and children 5–14 years (20.5%) and among net users compared to non-net users (6.9% versus 17.0%). The net usage significantly reduced the chances of

¹ UNICEF using contributions from the Global Fund for Malaria, provided testing equipment and treatment and Merlin provided technical support

Map 12: Somalia Malariogenic Strata (Source: WHO)

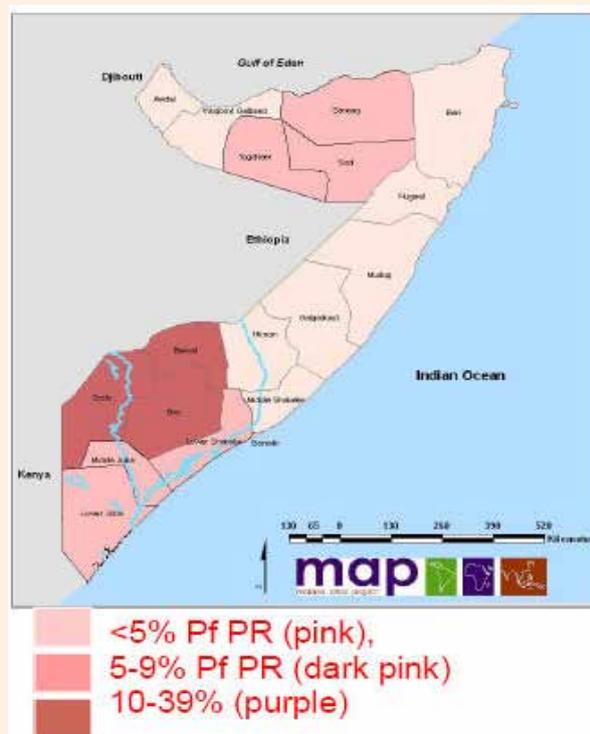
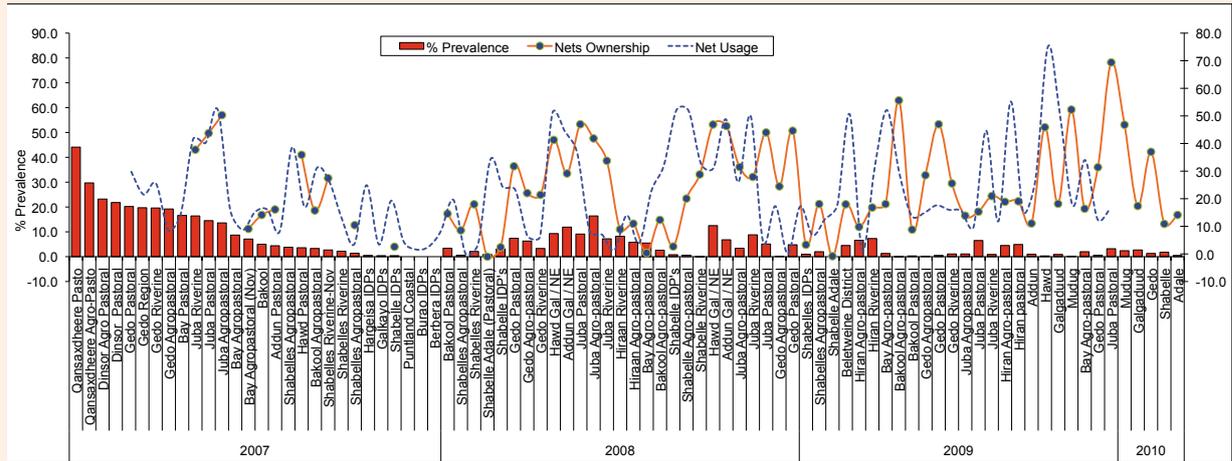


Figure 22: Malaria Prevalence and Nets Usage vs Ownership



Plasmodium falciparum infection by about 60% among pastoralists and to 48% among riverine communities. A research paper by Snow and colleagues (2010) on Estimating the *Plasmodium falciparum* morbidity and mortality burden 2005 and 2009 in Somalia, reported that there had been a significant change in malaria risk in Somalia between 2005 and 2009, demonstrating a temporal change in infection prevalence, most notably in the South Central Zone of Somalia. The change of the reduction of malaria infection in Somalia is attributed to increased ITN coverage (7% in 2005 to 22% in 2009) and ACT usage at the public facilities - Out Patient Department (OPD), and Mother and Child Health Clinics (MCH). This improvement follows a sustained effort of humanitarian interventions as part of the Global Fund for Aid TB and Malaria (GFATM) and the support of UNICEF with Local NGO's and Internal NGO's that distributed ITN nets and ACT and created community awareness about malaria prevention and control programs (Noor et al., 2008).

It is likely there had been a decline in disease incidence across the time period from the modeled predictions of PfPR risk in 2009 compared to 2005 using similar models. It is estimated that the epidemiological numbers of clinical attacks in 2005 was approximately 1,731,860 and it had been reduced because of a changing transmission pattern to 744,590 in 2009, a 57% reduction. Similarly it is estimated that there were 22,560 deaths directly due to *P. falciparum* infection in 2005 and this dropped to 7,460 in 2009; a 67% reduction (Snow et al., 2010). In conclusion, there has been a change in the populations at risk of malaria infections and levels of endemicity between 2005 and 2009 and although the mapping exercise shows there are large areas of Somalia with zero prevalence of RDT positivity, this does not necessarily imply zero transmission (Snow et al., 2010). In the high seasonal transmission if the control measures are impeded, using ITN nets and ACT usage in the health facilities and health programs, the likelihood of relapse of malaria outbreak in Somalia with consequently even much higher prevalence rates.

4.8 NORTHWEST REGIONS

The Northwest regions comprise mainly of pastoral livelihood zones namely: West Golis, Guban, East Golis of Sanaag region, the Hawd, Sool Plateau and the Nugal Valley. In addition, there are two agro-pastoral livelihood zones consisting of the Northwest agro-pastoral of Awdal and Galbeed region and Togdheer agro-pastoral of Togdheer and Sahil region. The livelihood zones cut across the administrative regions of Awdal, Galbeed, Togdheer, Sool and Sanaag (Map 13).

Historical Overview Post Deyr '09/10

Food Security

The FSNAU Post Deyr '09/10 integrated food security analysis classified the West Golis/Guban livelihood zone as **Acute Food and Livelihood Crisis (AFLC)**, indicating no change in their phase classification from the preceding season, however, the food security indicators showed improvement. The Northwest agro-pastoral and the East Golis (of Sanaag region), Hawd and Nugal valley livelihood zones were also classified as being in **AFLC**, with the populations of Nugal Valley livelihood zone indicating a moderate risk of deterioration. The Togdheer agro-pastoral and the Sool Plateau pastoral livelihood zones were identified as being in a **Humanitarian Emergency (HE)**.

Map 13: Northwest Livelihood Zones

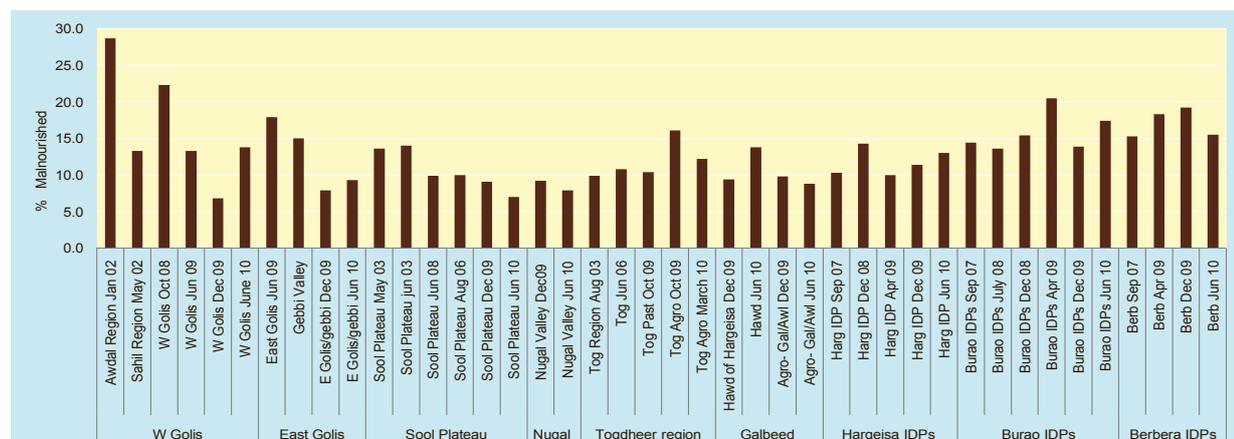


The estimated rural population in **AFLC** was 245,000 people, an increase from 240,000 people in the *Gu '09*. The total rural population in **HE** was 45,000. The population of the urban poor in **AFLC** increased to 200,000 from 150,000, while the number in **HE** also increased to 35,000 from 30,000 in *Gu '09*.

Nutrition

The Post Deyr '09/10 integrated nutrition situation analysis indicated improvement in most of the livelihood zones compared to the Post *Gu '09*. The West Golis and Guban livelihood zones indicated an improvement from *Serious* to *Alert*, while the East Golis of Sanaag/Gebbi valley livelihood zones showed slight improvement from *Critical* to *Serious*. The nutrition situation for the Sool Plateau livelihood zone improved from *Serious* to *Alert*. The populations of the Hawd of Sool livelihood zone also illustrated improvement from *Serious* to *Alert*, and the agro-pastoral populations of Awdal and Galbeed improved from a *Critical* nutrition situation to *Alert*. The Hawd of Hargeisa remained in a sustained *Serious* nutrition situation, while the nutrition situation of the agro-pastoral population of Togdheer remained *Critical*. The Hawd of Hargeisa, Sool Plateau, East Golis and upper Nugal Valley livelihoods indicated a risk to deteriorate, if the food security indicators in these areas did not improve in the Post *Gu '10* season. The nutrition situation of the IDPs from Burao was classified as *Serious*, a slight improvement from the previous season when the situation was *Critical*, while the nutrition situation of the Berbera IDP population remained in a sustained *Critical* situation. The nutrition situation of the Hargeisa IDPs remained unchanged at *Serious*. See Figure 23 for Historical Trends.

Figure 23: Trends in levels of Acute Malnutrition (WHZ <-2 or oedema, WHO 2006 in Northwest Regions 2002-2009



Current Situation Post Gu '10

Food Security

The FSNAU Post *Gu '10* integrated food security analysis has classified the West Golis/Guban as **Borderline Food Insecure (BFI)**, indicating an improvement in the food security situation of the livelihood. The Northwest agro-pastoral and the East Golis (of Sanaag region), Hawd and Nugal valley livelihood zones are classified as **BFI** an improvement from the previous season phase of **AFLC**. The Togdheer agro-pastoral population previously classified as being in

Humanitarian Emergency in the previous season, shows a marked improvement in their food security situation and has been classified as **Borderline Food Insecure** after a favourable *Gu* '10 season. On the other hand, the Sool Plateau pastoral livelihood zone, despite showing an improvement in the food security indicators this season, in comparison to the *Deyr* '09/10, remains in **Humanitarian Emergency (HE)** as a proportion of the population still remains very vulnerable due to the effects of the previous drought seasons. The estimated rural population in **AFLC** is now 60,000 people, a decrease from 240,000 people in *Deyr* '09/10. The total population in **HE** is 25,000. The population of the urban poor in **AFLC** decreased from 200,000 to 125,000, while the number in the urban areas in **HE**, also decreased to 15,000 from 35,000 in *Deyr* '09/10.

Nutrition

The current Post *Gu* '10 nutrition situation depicts an improved nutrition situation in most of the livelihood zones compared to the *Deyr* '09/10 season. The nutrition situation remains stable at **Alert** for the Sool Plateau, and the Awdal and Galbeed agro-pastoral livelihood zones, also unchanged is the Hawd livelihood zone that remains **Serious**. Illustrating an improvement are the populations of the Nugal Valley and East Golis/ Gebbi livelihood zones, from **Serious** to **Alert** and the Togdheer agro-pastoralists from **Critical** in the previous season to **Serious**. A slight deterioration is noted in the West Golis/ Guban livelihood zone, the situation is classified as **Serious** compared to the **Alert** phase reported in *Deyr* '09/10. The deterioration is mainly attributed to normal seasonal migration patterns, hence reducing milk availability in the area. However, it is anticipated that in the coming season once milk availability resumes, the situation will improve. The nutrition situation of the IDPs from Burao is classified as **Critical**, a deterioration from **Serious** in the Post *Deyr* '09/10, while the nutrition situation of the Berbera IDP population still remains as **Critical**. The nutrition situation of the Hargeisa IDPs also remains unchanged at **Serious**. Malnutrition (GAM and SAM rates) and morbidity variables were disaggregated by gender and analyzed, the analysis indicated that there is no statistically significant difference between the two groups, indicating that boys and girls are equally affected by malnutrition and morbidity. However it has been noted in most livelihood zones that a higher proportion of boys are acutely malnourished in comparison to girls (see summary of key nutrition findings tables by livelihood zones). Chronic underlying issues in the region such as inadequate safe drinking water, health and sanitation facilities, poor child feeding and care practices, in addition to high morbidity rates and a precarious food security situation especially among the IDPs, remain major risk factors for the population.

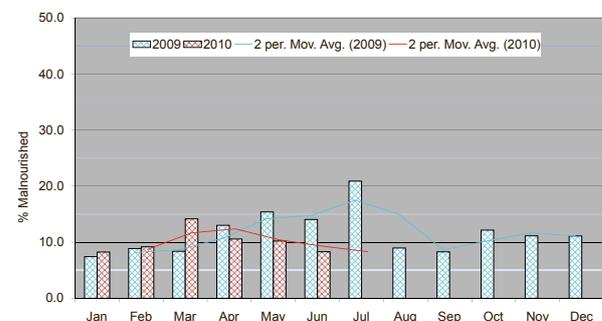
A total of 6 small cluster surveys (33x6) were conducted in the Northwest region in the pastoral livelihood zones of West Golis Guban, East Golis/Gebbi, Sool Plateau, Nugal Valley, Hawd and the agro-pastoral livelihood zone of Awdal and Galbeed. The results from these assessments were analyzed using the CDC Probability calculator to determine GAM and SAM rates in the respective livelihoods. Comprehensive nutrition assessments were conducted in the Togdheer agro-pastoral livelihood zone and the IDPs of Hargeisa, Burao and Berbera, as the previous season had indicated a worrying nutrition situation in these areas. Due to the highlighted vulnerability of the populations in this livelihood zones, there was a need to monitor the situation more closely in the livelihood, therefore full comprehensive surveys were conducted. The detailed results of these assessments are discussed in the sections below and the results of the key indicators are summarized in the key evidence tables.

Pastoral Livelihood Zones

Sool Plateau Livelihood Zone of NW

An integrated analysis of nutrition, health and food security indicators (see table 14) indicate that the current nutrition situation in the Sool Plateau livelihood zone is **Alert**. The Post *Deyr* '09/10 integrated nutrition analysis classified the nutrition situation of the Sool Plateau of Sool and Sanaag region as **Alert** with a risk of deterioration. The results indicate a global acute malnutrition rate (GAM <-2 Z score or oedema) of **>7.0%** (Pr=0.90), and a severe acute malnutrition rate (SAM <-3 or oedema) of **>0.6%** (Pr=0.90). Analysis of MUAC measurements indicates the proportion of children with MUAC of <12.5cm or oedema as 2.5% (0-5.9) and <11.5 or oedema was 0.5%. Data from health information systems (HIS) in the area indicates a low proportion (<10%) and decreasing trend of acutely malnourished children screened at health facilities (see figure 24). An improved nutrition situation in the livelihood was noted, following the good performance of the *Gu* '10 rains in the Sool Plateau that replenished water catchments, and improved pasture conditions, translating to better access to livestock products and income for the households, leading to improved dietary diversity and milk availability and access. Though no disease outbreaks were reported in the livelihood zone, cases of diarrhoea and ARI were observed.

Figure 24: HIS Malnutrition Trends in Sool Plateau LZ, 2009-2010, Data Source: MOHL/UNICEF



Interventions that aim at improving access to health facilities, rehabilitating malnourished children and supporting livelihoods and protecting vulnerable groups remain relevant. Continued monitoring of the chronic factors affecting good nutrition in the area, including food security indicators, inadequate safe water and sanitation, the lack of access to health facilities for a majority of the population in the region and sub optimal child care and feeding practices remains crucial.

East Golis/Gebbi Valley Livelihood Zone of NW

The East Golis and Gebbi Valley Livelihood zones are classified as ***Alert*** according to the Post *Gu* '10 integrated analysis nutrition situation. This is an improvement in comparison to the Post *Deyr* '09/10 nutrition situation that classified the situation in the area as ***Serious***. A GAM (<-2 Z score or oedema) of >**9.3%** (Pr=0.90), and a SAM (<-3 or oedema) rate of >**0.1%** (Pr=0.90) was recorded. Results of the MUAC measurements report a low proportion of 2.5% children with MUAC measurements of <12.5cm or oedema and 1.5% with measurements of <11.5cm or oedema (Table 14). Data from health facilities in the livelihood zone report low and a stable trend of acutely malnourished children. There were no disease outbreaks in the livelihood. However, the overall morbidity rate of children reported to be ill two weeks prior to the assessment was high at 19.1%. Poor sanitation, lack of adequate clean water and limited health facilities still remain chronic underlying factors affecting the nutritional status of the population. Limited physical access due to the mountainous terrain of this livelihood continues to pose a serious challenge to the access of formal services in the area. Previously, the livelihood zone received below normal rainfall for five consecutive seasons, including *Deyr* '09/10, this led to an abnormal out migration of animals and poor animal body conditions resulting in reduced household income and meat and milk consumption. The gum (frankincense) production was poor, thus affecting the supplementary income from those sales. However the *Gu* '10 rains that have been experienced in the area have slightly improved the food security indicators, resulting in less stress and an improvement in the nutrition situation of the population in the area. Nevertheless the population remains vulnerable to natural shocks and therefore, close monitoring of the nutrition situation remains crucial. The chronic issues affecting the nutrition status of the population such as inadequate health and sanitation facilities, poor child feeding and care practices and lack of adequate safe drinking water, remain a challenge and require immediate attention, including the expansion of interventions aimed at rehabilitating malnourished children.



Woman fetching water in Talex, Sool Region, FSNAU, July 2010

West Golis/Guban Livelihood Zone of NW

The current Post *Gu* '10 nutrition situation of the West Golis/Guban livelihood zone is classified as ***Serious***. In the Post *Deyr* '09/10 integrated nutrition situation analysis; the nutrition situation of the West Golis/Guban livelihood zone was classified as ***Alert***. The livelihood has historically been classified as having an ***Alert*** nutrition situation apart from the *Gu* '08 to *Gu* '09 period, when the region experienced four seasons of consecutive rainfall failure. The results indicate a global acute malnutrition rate (GAM <-2 Z score or oedema) of >**13.8%** (Pr=0.90), and a severe acute malnutrition rate (SAM <-3 or oedema) of >**2.3%** (Pr=0.90). The results of the MUAC measurements indicate a low proportion (3.5%) of children with MUAC measurements of <12.5cm or oedema and 0.4% with <11.5cm or oedema (Table 14). The data from health information systems (HIS) in the area indicates a low number (<10%) and stable trend of acutely malnourished children screened at health facilities. According to qualitative data collected during the Post *Gu* '10 rapid nutrition assessments, milk availability was poor, however, it is anticipated to improve in the coming season (*Deyr*) as kidding and calving occur. This livelihood has historically demonstrated an association between its nutrition situation and livestock migration patterns, as the livelihood mainly rely on the *Hays* rains that come in January. The progressive recovery of the West Golis/Guban livelihood zone nutrition situation is a clear illustration of the importance of milk and livestock products in the nutrition status of a pastoralist population, and it further demonstrates the ability of pastoralist populations to recover from shocks, if appropriate interventions such as provision of clean water, adequate health and sanitation facilities and protection of livelihoods are well established hence improving the relevant food security indicators.

Table 14: Summary of Key Nutrition Findings in Sool Plateau, East Golis/Gebbi Valley and West Golis/Guban Livelihood Zones

Indicator	Sool plateau N=199		East Golis/Gebbi Valley N=198		West Golis/Guban N=228	
	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	>7.0 (Pr=0.90)		>9.3(Pr=0.90)		>13.8 (Pr=0.90)	
Boys	> 8.1	Alert	> 10.2	Alert	> 18.5 (Pr=0.90)	Serious
Girls	>3.8		>6.1		>7.5 (Pr=0.90)	
Severe Acute Malnutrition (WHZ<-3 or oedema)	>0.6 (Pr=0.90)		>0.1 (Pr=0.90)		>2.3 (Pr=0.90)	
Boys	> 0.1	Acceptable	> 0	Acceptable	> 4.5	Alert
Girls	>0.1		>0.2		>0.1	
Mean of Weight for Height Z Scores	-0.50 (± 1.19)	Alert	-0.84 (±1.01)	Serious	-1.07 (± 0.93)	Critical
Oedema	0	Acceptable	0	Acceptable	0	Acceptable
Global Acute Malnutrition (NCHS)	>4.5 (Pr=0.90)	Alert	>8.5(Pr=0.90)	Alert	>10.9 (Pr=0.90)	Serious
Severe Acute Malnutrition (NCHS)	>0.1 (Pr=0.90)	Acceptable	0	Acceptable	>0.7 (Pr=0.90)	Alert
Acute Malnutrition (NCHS)						
Acute malnutrition by MUAC (<12.5 cm or oedema)	2.5 (0-5.9)		2.5(0.3-4.6)		3.5(0.46-6.7)	
Boys	3.3 (0.7-13.7)	Acceptable	0	Acceptable	4.7 (0.9-8.2)	Acceptable
Girls	1.9 (0.4-7.7)		5.2(2.2-11.6)		2.5 0.5-6.8)	
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	0.5	Acceptable	1.5	Critical	0.4	Acceptable
Stunting (HAZ<-2)	4.5 (1.4-7.6)		8.5 3.2-13.9)		1.3 (0.4-4.0)	
Boys	7.6 (3.3-16.5)	Alert	12.0 (5.6-23.9)	Alert	2.8 (0.9-8.3)	Alert
Girls	1.9 (0.4-7.7)		3.2 (1.0-9.8)		1.6 (0.4-6.5)	
Underweight (WAZ<-2)	4.1 (1.8-9.1)		10.6 (4.9-16.2)		18.4 (13.7-24.3)	
Boys	5.6 (2.0-15.1)	Alert	15.0 (8.0-26.3)	Alert	18.9 12.7-27.1)	Alert
Girls	2.8 (0.9-8.7)		5.2 (2.2-11.8)		9.0 (4.2-18.4)	
HIS Nutrition Trends(Jun-Dec '09)	Low (<10%) numbers and decreasing trend of malnourished children in MCHs	Serious	Low (<10%) numbers and stable trend of malnourished children in MCHs	Alert	Low (<10%) numbers and stable trend of malnourished children in MCHs	Alert
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	Morbidity- 29.3		Morbidity- 19.1		Morbidity- 3.9	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Diarrhoea – 7.07	Critical	Diarrhoea – 7.07	Serious	Diarrhoea – 2.6	Alert
	ARI- 20.07		ARI- 11.1		ARI- 1.3	
Food security phase	HE	Very Critical	BFI	Serious	BFI	Serious
Overall Situation Analysis	Alert		Serious		Serious	

Therefore in the current *Gu* season, normal livestock migration is occurring and kidding and calving is expected in the next few months. This will make milk more readily available in the livelihood. The current lean season has therefore resulted in a slight deterioration of the pastoralist population's nutrition situation. Feeding and health interventions in the area continue by MOHL, in partnership with UNICEF, World Vision and SRCS who continue to facilitate the rehabilitation of acutely malnourished children and have contributed to the reduced morbidity, as demonstrated by the low morbidity rates recorded. Although the change in the nutrition situation has been attributed to a normal lean season, close monitoring of the nutrition situation is required especially due to the vulnerability of the population to natural shocks such as drought.

The Hawd Livelihood Zone

The Post *Gu* '10 integrated analysis of the nutrition situation, classifies the current situation of the population in the Hawd pastoral livelihood zone as **Serious**, a sustained phase compared to the Post *Deyr* '09/10 situation in the Hawd of Hargeisa and Togdheer. The nutrition situation in the Hawd of Sool region is **Alert**. The livelihood reported a GAM (<-2 Z score or oedema) rate of **>13.8%** (Pr=0.90), and a SAM (<-3 or oedema) rate of **>0.1%** (Pr=0.90). Results of the MUAC measurements indicates a low proportion of 4.0% children with MUAC measurements of <12.5cm or oedema and 1.5% with <11.5 cm or oedema. The seasonal related unavailability of milk is directly affecting this pastoral population nutritional status (table 15). Data from health facilities in the area have indicated a low (<10%) and stable trend of acutely malnourished children reported in the health facilities. No disease outbreaks were reported in the area; however an increased number of diarrhoeal cases were reported during the onset of the rains, mainly due to the consumption of unsafe water. The immunization and vitamin A supplementation were below the recommended standards, and availability and accessibility of health services in the area remain a challenge. The area's nutrition situation requires keen surveillance and it would be highly recommended that efforts to rehabilitate acutely malnourished children continues in addition to health, water and sanitation programmes aimed at reducing

Table 15: Summary of Key Nutrition Findings Hawd and Nugal Livelihood Zone

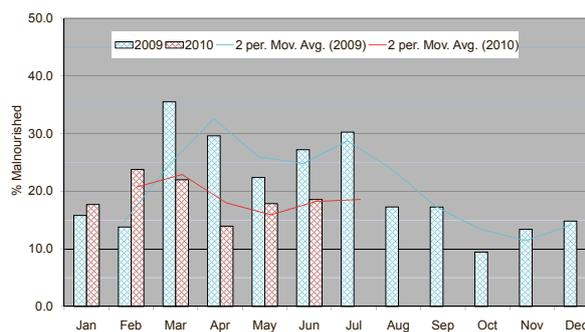
morbidity and ensuring that the population is able to access clean and safe water for consumption.

Indicator	Hawd Livelihood Zone (N= 198)		Nugal Valley Livelihood Zone (N=198)	
	Results	Outcome	Results	Outcome
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	>13.8(Pr=0.90)		>7.9(Pr=0.90)	
Boys	> 17.2	Serious	> 9.9	Alert
Girls	>7.1		>4.2	
Severe Acute Malnutrition (WHZ<-3 or oedema)	>0.1 (Pr=0.90)		>0.1 (Pr=0.90)	
Boys	> 0	Acceptable	> 0 (Pr=0.90)	Acceptable
Girls	>0.1		0	
Mean of Weight for Height Z Scores	1.11 (±0.93)	Serious	0.83 (±0.99)	Serious
Oedema	0	Acceptable	0	Acceptable
Global Acute Malnutrition (NCHS)	>11.9 (Pr=0.90)	Alert	>8.6(Pr=0.90)	Alert
Severe Acute Malnutrition (NCHS)	>0.1 (Pr=0.90)	Acceptable	>0.1(Pr=0.90)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema)	4.04 (1.5-6.6)		2.0 (0-4.5)	
Boys	5.5	Acceptable	1.0	Acceptable
Girls	2.2		3.2	
Acute malnutrition by MUAC (<11.5 cm or oedema)	1.5	Critical	1.0	Serious
Stunting (HAZ<-2)	7.6		9.1 (4.4-13.8)	
Boys	9.2	Alert	9.6	Alert
Girls	5.6		7.6	
Underweight (WAZ<-2)	12.1 (7.9-16.4)		8.1 (3.1-13.0)	
Boys	14.8	Serious	10.4	Alert
Girls	9.0		5.4	
HIS Nutrition Trends(Jun-Dec '09)	Low (<10%) numbers and stable trend of malnourished children in MCHs	Alert	High (15-20%) and fluctuating trend of malnourished children in MCHs	Very Critical
Child Morbidity & Immunization				
Disease trends (seasonally adjusted)	Morbidity- 36.8		Morbidity- 38.9	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Diarrhoea – 18.7 ARI- 17.7	Critical	Diarrhoea – 13.1 ARI- 22.2	Very Critical
Food security phase	BFI	Serious	BFI	Serious
Overall Situation Analysis		Serious		Alert

Nugal Valley Livelihood Zone

The Post *Gu* '10 integrated nutrition situation classifies the nutrition situation in the Nugal valley livelihood as **Alert**. There was an observed improvement in the household food security of the population, consequently contributing to the improved nutrition situation in the area. This was mainly attributed to the favourable rainfall performance experienced in the livelihood zone that improved animal body conditions and replenished water catchments, therefore increasing household income. Results from an assessment done in the livelihood indicated a global acute malnutrition rate (GAM <-2 Z score or oedema) of **>7.9%** (Pr=0.90), and a severe acute malnutrition rate (SAM <-3 or oedema) of **>0.1%** (Pr=0.90). Results of the MUAC measurements indicate a proportion of 2.0% children with MUAC measurements of <12.5cm or oedema and 1.0% with MUAC of <11.5cm or oedema (Figure 25). Data from the health facilities namely, Elafweyn, Garadag and Huddun indicates a high (15-20%) and a fluctuating trend of acutely malnourished children (Figure 25). However, no disease outbreaks were reported in the area. The nutrition situation in the upper parts of Nugal Valley livelihood zone appeared worse than the rest of the livelihood zone during the Post Deyr '09/10, due to the poor food security indicators in the area. However, the Post *Gu* '10 integrated analysis has shown an improvement in the area. Although improvements have been noted in the nutrition situation of the population in the livelihood, chronic factors affecting the nutrition situation in the area still require addressing. Lack of adequate safe water for human consumption, has led to increased rates of diarrhoea especially in Garadag area leading to increased malnutrition rates in health facilities. Inadequate sanitation and health facilities in the area, sub optimal child feeding and care practices also remain major challenges to the population. Therefore, the area needs to be closely monitored and appropriate interventions aiming at improving the nutritional status of acutely malnourished children remain vital,

Figure 25: Trends in proportion of acutely malnutrition attending the MCH in Nugal Valley Jan. 08 - Dec. '09



despite the improvements noted this season.

Agro-pastoral Livelihood Zones

The Togdheer Agro-pastoral Livelihood Zone

The nutrition situation of the agro-pastoral populations of the Togdheer region has improved from **Critical**, in the Post *Deyr* '09/10 to **Serious** according to the Post *Gu* '10 integrated nutrition situation analysis. High morbidity rates and a precarious food security situation were the main factors that attributed to the poor nutrition situation affecting the agropastoral livelihood in the area during the Post *Deyr* '09/10. The agro-pastoralists of Togdheer regions are more of livestock holders than crop cultivators in comparison to the agro-pastoralists of Awdal and Galbeed region, and were therefore more vulnerable to the drought in the region that affected the pastoral populations in the area during the previous seasons. In March '10, FSNAU and partners conducted a comprehensive nutrition survey in the Togdheer agro-pastoral livelihood zone. The results indicated a global acute malnutrition rate (GAM <-2 z scores or oedema) of **12.2%** (9.3-15.8), and severe acute malnutrition rate of **2.3%** (1.6-3.5). The proportion of children assessed that had fallen ill 2 weeks prior to the survey was high at 35.5%. Household dietary diversity improved from the previous season, with 4.7% of the population consuming (<4) food groups a day, compared to 14.7% in the previous season.

Child feeding practices still remain sub optimal, with only 51.0% of children aged 6-24 months still breastfeeding at the time of the survey and only 27.9% were meeting the recommended feeding frequency (see table 16 for results). The proportion of the households that had consumed milk in the 24 hours preceding the assessment improved from 66.4% in the previous season, to 94.2%. Data from the health facilities in the area also indicated an improvement, recording a low (<10%) and stable number of acutely malnourished children. However, the measles immunization and vitamin A supplementation status was below the recommended standards (52.4% and 52.1% respectively). Availability of water, sanitation and health facilities in the area remain limited, with only 11.8% of the population having access to safe water and only 34.3% accessing sanitation facilities. The area received favourable rains, resulting in a bumper harvest in the livelihood zone, improving the food security situation in the area, leading also to the currently improved nutrition situation.

Awdal and Galbeed Agro-pastoral livelihood zones

In the agro-pastoral livelihood zones of Awdal and Galbeed the nutritional situation remains **Alert**, according to the Post *Gu* '10 integrated nutrition situation analysis. The livelihood was also able to benefit from the favourable *Gu* rains that were experienced throughout the region, ensuring a good harvest for farmers in the region. The results of the assessment in the area indicate a global acute malnutrition rate (GAM <-2 Z score or oedema) of **>8.8%** (Pr=0.90), and a severe acute malnutrition rate (SAM <-3 or oedema) of **>0.3%** (Pr=0.90). Results of the MUAC measurements indicates a low (5.8%) proportion of children with MUAC measurements of <12.5cm or oedema and 0.4% <11.5 cm or oedema (see table 16). Data from the health facilities namely, Gebiley, Dila, Togwajale and Baki indicate low numbers (<10%) and a decreasing trend of acutely malnourished children. No disease outbreaks were reported in the area, although the overall morbidity reported from the small cluster assessment was high at 52.4%. Qualitative data collected during the small cluster survey reported that there was adequate milk consumption in the livelihood, in addition to improved cereal consumption and income from crop production at household level. Unsafe drinking water, inadequate health and sanitation facilities and poor child care and feeding practices still remain crucial issues that require immediate interventions.



A boy drinking contaminated water, Khatumo, Odweine, Togdheer region, FSNAU, July '10



Malnourished Child MUAC, Measurements, Burao IDPs

Table 16: Summary of Key Nutrition Findings for Togdheer Agro-pastoral and Awdal and Galbeed Agropastoral livelihood Zones

Indicator	Togdheer N= 716		Awdal and Galbeed Agro-pastoral N=199	
	Results	Outcome	Results	Outcome
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema)	12.2(9.3-15.8)		>8.8(Pr=0.90)	
Boys	14.2	Serious	>8.1	Alert
Girls	10.9		>7.6	
Severe Acute Malnutrition (WHZ<-3 or oedema)	2.3 (1.6-3.5)		>0.3 (Pr=0.90)	
Boys	2.5	Alert	> 0.5	Acceptable
Girls	2.3		0	
Oedema	0	Acceptable	0	Acceptable
Mean Weight for height Z scores	-0.71 (± 1.11)	Serious	-0.67 (±1.13)	Alert
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	12.5(9.5-16.2)	Serious	>9.1Pr=0.90)	Alert
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	0.9(0.3-2.4)	Acceptable	>0.1Pr=0.90)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema in nutrition surveys)	4.8(2.7-6.9)		5.8 (2.1-9.4)	
Boys	4.4	Alert	9.8	Serious
Girls	6.5		9.0	
Stunting (HAZ<-2)	7.9 (5.3-10.5)		4.0 (1.1-6.9)	
Boys	10.8	Alert	5.4	Alert
Girls	5.1		2.6	
Underweight (WAZ<-2)	11.8 (9.0-14.5)		10.7 (6.3-15.0)	
Boys	13.6	Alert	13.5	Alert
Girls	9.9		7.9	
HIS Nutrition Trends(Jan-Jun '09)	Low numbers (<10%) and stable	Alert	Low (<10%) numbers and stable trend of malnourished children	Alert
Child Morbidity & Immunization				
Disease trends (seasonally adjusted)	Outbreak -None		Morbidity- 52.4	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Morbidity- 35.5	Critical	Diarrhoea - 7.1	Critical
	Diarrhoea -19.0		ARI- 44.0	
	ARI -16.2			
Immunization Status	Vitamin A - 52.1	Critical		
	Measles- 52.4			
Infant and Young Child Feeding (6-24 months)				
Proportion still Breastfeeding	51.0	Critical		
Proportion of Children meeting required minimum feeding frequency	27.9	Critical		
Mortality				
Crude Death Rate per 10,000 per day (retrospective for 90 days)	0.97 (0.58-1.61)	Alert		
Under five Death rate per 10,000 per day (retrospective for 90 days)	2.22	Serious		
Women Nutrition & Immunization Status				
Proportion of acutely malnourished non pregnant women (MUAC<18.5 cm)	0.6	Alert		
Proportion of acutely malnourished pregnant women (MUAC<23.0).	10.2	Serious		
Proportion of Women who received Tetanus Immunization				
None	46.8			
One dose	22.1	Critical		
Two dose	15.3			
Three dose	15.8			
Public Health Indicators				
Households with access to safe water	11.8	Very Critical		
Household with access to sanitation facilities	34.3	Very Critical		
Food Security				
Households with poor dietary diversity (< 4 food groups)	4.7	Serious		
Food security phase	Borderline Food Insecure	Serious	BFI	Serious
Overall Situation Analysis		Serious		Alert

IDPs of the North West: Hargeisa, Burao and Berbera

The nutrition situation of Burao IDPs has deteriorated from, *Serious* to *Critical*, while a sustained nutrition situation is observed among the Hargeisa IDPs at *Serious* and the Berbera IDPs at *Critical* according to the Post *Gu '10* integrated nutrition situation analysis. Small sample cluster surveys conducted among the Hargeisa, Burao and Berbera IDPs assessed a total of 228, 209 and 212 children respectively from 33 clusters in the each of the settlements. Results analyzed using the CDC probability calculator, indicated a global acute malnutrition rate (GAM <-2 Z score or oedema) of >13.0% (Pr=0.90), and a severe acute malnutrition rate (SAM <-3 or oedema) of >0.9% (Pr=0.90), among the Hargeisa IDPs. While in Burao a GAM (<-2 Z score or oedema) rate of >17.3% (Pr=0.90), and a SAM (<-3 or oedema) rate of >3.4% (Pr=0.90) is reported. A GAM (<-2 Z score or oedema) rate of >15.5% (Pr=0.90), and a SAM (<-3 or oedema) rate of >5.4% (Pr =0.90) is reported among the Berbera IDPs (see table17 for all survey results). Data from the health facilities in Hargeisa, Burao and Berbera all indicated high (>15-20%) and stable trends of acutely malnourished children. Morbid-

ity data collected indicated that the proportion of children that had suffered from one or more illnesses in the two weeks prior to the assessment was high (Hargeisa- 32.9%, Burao- 35.4% and 28.8% in Berbera). The main factors contributing to the worrying nutrition situation among the IDP population include the high morbidity rates, poor child feeding and care practices and poor food access due to high food costs, coupled with chronic underlying risk factors such as poor access to safe water and sanitation facilities. An increase in the number of IDPs in the settlements has also been observed, with the new arrivals mainly coming from South and Central Somalia, where they have escaped the civil conflict. It is therefore imperative to continue, expand and initiate (in affected areas that have not began) appropriate interventions to immediately rehabilitate acutely malnourished children. These interventions should also be backed by long term interventions such as improved child care and feeding practices, improved dietary diversity and enhanced access to safe water and sanitation and health facilities.

Table 17: Summary of Key Nutrition Findings for the Hargeisa, Burao and Berbera IDPs

Indicator	Hargeisa IDPs N=198		Burao IDPs N=198		Berbera IDPs N= 198	
	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema)	>13.0 (Pr=0.90)		>17.3 (Pr=0.90)		>15.5 (Pr=0.90)	
Boys	16.5	Serious	26.2	Critical	18.8	Critical
Girls	15.1		14.2		19.8	Critical
Severe Acute Malnutrition (WHZ<-3 or oedema)	>0.9 (Pr=0.90)		>3.4 (Pr=0.90)		>5.4 (Pr=0.90)	
Boys	>0.9	Acceptable	>7.6	Alert	>8.9	Critical
Girls	>2.5		>2.1		>6.3	
Mean Weight for height Z score	-0.48	Alert	-1.04	Critical	-1.16	Critical
Oedema	0.9 (0-2.7)	Alert	0.5 (0.0-1.5)	Alert	0.5 (0.0-1.4)	Alert
Acute malnutrition by MUAC (<12.5 cm or oedema)	6.1 (2.7-9.6)		8.6(4.6-12.6)		11.8(7.0-16.6)	
Boys	4.6	Serious	9.3	Serious	8.9	Critical
Girls	7.6		7.6		14.4	
Acute malnutrition by MUAC (<11.5 cm or oedema)	1.8	Critical	2.3	Critical	3.8	Critical
Stunting (HAZ<-2)	17.1(11.4-22.8)		3.3 (0.6-6.0)		10.8(5.6-16.1)	
Boys	19.3	Serious	5.0	Alert	16.8	Serious
Girls	15.1		1.0		5.4	
Underweight (WAZ<-2)	19.3 (13.1-25.5)		16.7 10.6-22.8)		18.4 (11.1-25.7)	
Boys	20.2	Serious	22.8	Serious	23.8	Serious
Girls	18.5		8.7		13.5	
HIS Nutrition Trends(Jan-Jun '10)	High levels (15-20%) and stable trend of acutely malnourished children	Very Critical	High levels (15-20%) and stable trend of acutely malnourished children	Very Critical	High levels (15-20%) and stable trend of acutely malnourished children	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted)	Outbreak – None		Outbreak -None		Outbreak -None	
Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey	Morbidity – 32.9 Diarrhoea- 13.2 ARI-17.1 Fever- 20.6	Critical	Morbidity– 35.4 Diarrhoea –16.2 ARI -12.9 Fever – 20.0	Critical	Morbidity– 28.8 Diarrhoea –13.2 ARI -11.3 Fever – 18.9	Critical
Immunization Status	Vitamin A – 80.7 Measles – 75.0	Serious	Vitamin A – 89.4 Measles- 83.5	Serious	Vitamin A – 82.5 Measles- 80.2	Serious
Infant and Young Child Feeding (6-24 months)						
Proportion still Breastfeeding	49.4	Critical	49.3	Critical	62.2	Critical
Proportion of Children meeting required minimum feeding frequency	54.1	Critical	45.5	Serious	61.0	Critical
Women Nutrition & Immunization Status						
Proportion of malnourished non pregnant women (MUAC≤18.5 cm)	1.8	Acceptable	11.0	Alert	0.0	Acceptable
Proportion of malnourished pregnant women (MUAC<23.0).	18.5 (N=12)	Serious	17.0(N=8)	Serious	6.3(N=5)	Alert
Proportion of Women who received Tetanus Immunization						
None	23.1		23.4		21.2	
One dose	17.4	Critical	16.5	Critical	18.6	Critical
Two dose	25.6		33.9		16.9	
Three dose	33.9		26.0		43.2	
Public Health Indicators						
Proportion of malnourished children registered in SFs	3.6	Very Critical	9.1	Very Critical	15.6 (2.8-28.3)	Very Critical
Households with access to safe water	86.3	Serious	100	Acceptable	100	Acceptable
Household with access to sanitation facilities	80.3	Serious	45.0	Critical	89.9	Serious
Food Security						
Food security phase	BFI	Serious	BFI	Serious	BFI	Serious
Overall Situation Analysis	Serious		Critical		Critical	

5. URBAN NUTRITION ANALYSIS

In May-June 2010, rapid nutrition assessments were conducted in 23 urban centers in Somalia. The assessments measured the Mid Upper Arm Circumference (MUAC) of children aged 6-59 months, the household dietary diversity in the preceding 24 hrs to the study, and the coping strategies in the assessed households. A total of 5,060 children were assessed from 600 poor households. The data collected was analyzed and reviewed in comparison to data collected in June 2009. A concerning situation was observed in the Somali urban poor settlements, with results ranging from *Alert* to *Very Critical*; however it is important to interpret the results with caution, as they are not representative, and are merely meant to highlight vulnerability.



Bossaso urban centre: FSNAU June 2010

In urban areas of Hiran, Bay and Bakool where the nutrition situation is classified as *Very Critical*, the findings are consistent with those of adjacent rural livelihood zones. The urban and rural livelihoods food security situation in these regions is also classified as in **Humanitarian Emergency (HE)**, implying limited access to food, except for Bay region. In Juba and Shabelle where the nutrition situation in all the assessed urban centers is *Critical* to *Very Critical*, apart from Doblely with a *Serious* situation, the assessed sections of the urban centers food security situation is classified either in the **Acute Food and Livelihood Crisis (ALFC)** or **Humanitarian Emergency (HE)**. The urban food insecurity coupled with incidences of acute watery diarrhea and the limited humanitarian space due to civil insecurity, are the main factors possibly leading to a worrisome nutrition situation among the urban population. The urban centers in the Central regions are faced with *Alert* (Abudwaq only) to *Serious* nutrition situations, with the exception of Eldhere which is in a *Very Critical* phase. The urban nutrition and food security situation therefore appears to be better compared to the adjacent rural livelihoods reported to be in *Critical* or *Very Critical* phases possibly due to better access to humanitarian and social support. In the north, the nutrition situation shows a mixed picture ranging from *Alert* in Garowe to *Very Critical* in Hargeisa and Burao (Table 18 shows a summary of these findings).



Milk being transported to an urban centre, Middle Shabelle, FSNAU June, 2010

Purchase continues to remain as the main food source for majority of the households in most of the towns assessed as is expected in urban livelihoods, although in Lasanood, half of the households assessed reported gifts from relatives as their main source of food. In Sakow and Dinsor, half of the households assessed indicated their main food source being own production, as expected baseline means of agro-pastoral livelihoods. A concerning proportion (more than half) of the households in Erigavo (55%) and a third of the proportion of households in Burao (22.5%) and Elbarde (25%) reportedly consumed a poorly diversified diet (<4 food groups). The rest of the towns indicated very low proportions (0-5%) of households consuming poorly diversified diets, this is an improvement compared to last year whereby higher proportions of households in the towns were consuming poorly diversified diets.

The change in proportion of households reportedly employing either of the following coping strategies: *Skipping entire days without a meal, OR restricting consumption by adults in order for small children to eat, OR borrowing food or relying on help from friends or relative* (considered in this analysis as severe) in June 2009 and June 2010 were analyzed. Improvements in the proportion of households employing severe coping strategies are observed in Garowe, Erigavo, Abudwaq, Doblely, Afmadow, Sakow, Dinsor and Baidoa. The improvements are possibly linked to the improving food security situation being witnessed in the neighboring rural areas. Deteriorations have however, been noted in Lasanod, Dhusamareb, Bardera, Belethawa, Buale, Elbarde and Huddur. The situation remained stable in Eldhere and Haradhere towns.

Table 18: Summary of Key Findings, Rapid Urban Nutrition Assessments, May-July'10

Region	Urban Center	No. Assessed	Proportion of children with MUAC<12.5 cm	Proportion of HH reportedly consuming < 4 food groups in preceding 24 hours	Main source of food	Coping Strategies: Proportion of households either			Overall Nutrition Situation JUNE-JULY 2010	Deyr 09/10 Nutrition Phase (Ref: Nutrition Situation Post Gu'09 Tec Series Report)
						1. Skipping entire days without a meal, OR restricting consumption by adults in order for small children to eat. OR	2. Borrowing food or relying on help from friends or relatives	June 2010		
N. East	Galkayo	220 children 40 households	5%	0%	Purchase (100%)	80%	71%	71%	Serious	Serious
	Garowe	220 children 40 households	4%	5%	Purchase (95%)	35%	2.0%	2.0%	Alert	Serious
	Bossaso	220 children 20 households	10%	25%	Gathering wild (25%)	50%	67%	67%	Critical	Serious
	Burao	220 children 40 households	25%	22.5%	Purchase (85%)	70%	56%	56%	Very Critical	Critical
N. West	Hargeisa	220 children 40 households	23%	5.0%	Purchase (97.5%)	40%-	46%	46%	Very Critical	Serious
	Togwajale	220 children 40 households	6.0%	2.5%	Purchase (92.5%)	38%	49%	49%	Serious	N/A
	Erigavo	220 children 40 households	3%	55%	Purchase (95%)	93%	88%	88%	Critical	Serious
	Borama	220 children 20 households	11%	7.5%	Purchase (85%)	68%	29%	29%	Critical	Serious
Central	Lasanod	220 children 40 households	18.6%	0%	Gifts from relatives (50%)	20%	76%	76%	Very Critical	Serious
	Abdudwaq	220 children 20 households	2.3%	5%	Purchase (70%)	90%	30%	30%	Alert	N/A
	Eldhere	110 children 20 households	22.7%	10%	Purchase (50%) Borrowed (50%)	90%	90%	90%	Very Critical	Very Critical
	Dhusamareb	220 children 40 households	7.3%	0%	Purchase (45%)	53%	45%	45%	Serious	Very Critical
Hiran	Haradhere	110 children 10 households	4.5%	0%	Purchase (90%)	50%	50%	50%	Serious	N/A
	Beleiywene	110 children	22.7%	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	Critical
	Buloortii	110 children	22.3%	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	N/A
	Jalalaqsi	110 children	18.2%	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	N/A
Shabelle	Jowhar	330 children	26.1	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	Serious
	Afgoye	220 children	13.6%	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	Very Critical
Gedo	Marka	220 children	26.1%	N/A	N/A	N/A	N/A	N/A	Likely Very Critical	N/A
	Bardera	110 children 20 households	10.9%	0%	Purchase (80%)	30%	75%	75%	Critical	Critical
	Belethawa	110 children 20 households	19.1%	0%	Purchase (70%)	30%	90%	90%	Very Critical	Critical
	Dobley	110 children 20 households	8.2%	5%	Purchase (100%)	70%	5%	5%	Serious	N/A
Juba	Afmadow	110 children 20 households	11.8%	0%	Purchase (100%)	25%	5%	5%	Critical	Critical
	Buale	110 children 20 households	13.6%	0%	Own production (65%)	20%	55%	55%	Critical	Critical
	Sakow	110 children 20 households	11.8%	0%	Purchase (50%) Own production (50%)	15%	10%	10%	Critical	N/A
	Dinsor	220 children 20 households	18.1%	0%	Purchase (50%) Own production (50%)	25%	10%	10%	Very Critical	Likely Very Critical
Bakool	Qansadhere	220 children	17.2%	N/A	N/A	N/A	N/A	N/A	Very Critical	N/A
	Baidoa	220 children 20 households	17.7%	N/A	Purchase (50%)	12.5%	0.0%	0.0%	Very Critical	N/A
Huddur	Elberde	220 children 20 households	21.3%	25%	Purchase (95%)	60%	80%	80%	Very Critical	Likely Very Critical
	Huddur	220 children 20 households	16.2%	5%	Purchase (85%)	15%	50%	50%	Very Critical	Likely Serious

6. GUIDANCE FOR USE OF THE PLAUSIBILITY CHECKS

Digit preference DP for weight and height: Indicates how accurately children were weighed and when done correctly there shouldn't be any digit preference. This normally occurs when enumerators round to the nearest cm/kg or half cm/kg. The signs; +, ++, +++ indicate if there was any DP for a number and if it was, mild, moderate or severe, respectively.

Digit Preference scores for weight and height are graded as; (0-5 good, 5-10 acceptable, 10-20 poor and > 20 unacceptable)

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

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

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

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

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

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

Table 19 provides a summary of findings on plausibility checks for nutrition assessments conducted in the *Gu'* 2010

Table 19: Plausibility Checks

Location		Criteria	Missing/Flagged data	Overall sex ratio	Overall age distribution	Dig Preference score-weight	Dig Preference score-Height	SD WHZ	Skewness WHZ	Kurtosis WHZ	Poisson Distribution
Central and parts of Northeast regions											
Addun LZ	May-10	Category	Acceptable	Good	Good	Good	Acceptable	Poor	Good	Good	Good
		Score	5	0	0	0	2	6	0	0	0
Hawd LZ	May-10	Category	Good	Good	Poor	Good	Acceptable	Good	Good	Good	Good
		Score	0	0	4	0	2	0	0	0	0
Galkayo IDPs	Jun-10	Category	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good	Good
		Score	0	0	4	2	2	0	0	0	0
Garowe IDPs	Jun-10	Category	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good	Good
		Score	0	0	4	2	2	0	0	0	0
Bossaso IDPs	Jun-10	Category	Good	Good	Good	Acceptable	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	2	2	2	0	0	0
Nugal Valley	Jun-10	Category	Good	Good	Good	Acceptable	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	2	2	2	0	0	0
Sool Plateau	Jun-10	Category	Good	Good	Good	Acceptable	Poor	Good	Good	Good	Good
		Score	0	0	0	2	4	0	0	0	0
Karkaar valley	Jun-10	Category	Good	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	4	2	2	0	0	0
Coastal Deeh	Jun-10	Category	Good	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	4	2	2	0	0	0
Northwest regions											
Berbera IDPs	Jun-10	Category	Good	Good	Acceptable	Acceptable	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	2	2	2	2	0	0	0
Hargeisa IDPs	Jun-10	Category	Good	Good	Good	Good	Acceptable	Unacceptable	Good	Good	Good
		Score	0	0	0	0	2	20	0	0	0
Buraq IDPs	Jun-10	Category	Acceptable	Acceptable	Good	Acceptable	Good	Good	Good	Good	Good
		Score	5	2	0	2	0	0	0	0	0
Sool Plateau-NW	Jun-10	Category	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good	Good
		Score	0	0	4	2	2	0	0	0	0
East Golis/Gebbi valley	Jun-10	Category	Good	Good	Good	Acceptable	Acceptable	Good	Good	Good	Good
		Score	0	0	0	2	2	0	0	0	0
Togdheer Agro-pastoral	Jun-10	Category	Good	Good	Good	Acceptable	Poor	Good	Good	Good	Acceptable
		Score	0	0	0	2	4	0	0	0	1
Hawd Livelihood Zone	Jun-10	Category	Good	Good	Poor	Good	Acceptable	Good	Good	Good	Good
		Score	0	0	4	0	2	0	0	0	0
West Golis/Guban	Jun-10	Category	Good	Good	Good	Acceptable	Poor	Acceptable	Good	Good	Good
		Score	0	0	0	2	4	2	0	0	0
Nugal Valley- NW	Jun-10	Category	Good	Good	Good	Acceptable	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	2	2	2	0	0	0
Gedo Region											
Gedo pastoral livelihood zone	Jun-10	Category	Good	Good	Poor	Acceptable	Acceptable	Good	Good	Good	Good
		Score	0	0	4	2	2	0	0	0	0
Gedo Agro-pastoral Livelihood Zone	Jun-10	Category	Good	Good	Good	Acceptable	Poor	Acceptable	Good	Good	Good
		Score	0	0	0	2	4	2	0	0	0
Gedo Riverine Livelihood Zone	Jun-10	Category	Good	Poor	Good	Acceptable	Poor	Good	Good	Good	Good
		Score	0	4	0	2	4	0	0	0	0
Shabelle Region											
Afgoye IDPs	Jun-10	Category	Good	Good	Poor	Good	Good	Unacceptable	Good	Good	Unacceptable
		Score	0	0	4	0	0	20	0	0	20
Shabelle AP	Jun-10	Category	Good	Acceptable	Poor	Good	Good	Acceptable	Good	Good	Good
		Score	0	2	4	0	0	2	0	0	0
Adale District	Jun-10	Category	Good	Good	Unacceptable	Good	Good	Acceptable	Good	Good	Good
		Score	0	0	10	0	0	2	0	0	0
Shabelle Riverine	Jun-10	Category	Good	Poor	Good	Acceptable	Acceptable	Poor	Good	Good	Good
		Score	0	4	0	2	2	6	0	0	0

7. SUMMARY OF NUTRITION SURVEY FINDINGS, APR. - JUL. '10

Table 20: Summary of Nutrition Survey Findings, April - July '10

Affected Region/ Livelihood	Participating Agencies	Date of Nutrition Survey	Sample Size	GAM based on WHO 2006 <-2 Z scores or oedema (%)	SAM based on WHO 2006 <-3 Z scores/ Oedema (%)	GAM based on NCHS <-2 Z scores or oedema (%)	SAM based on NCHS <-3 Z scores/ Oedema (%)	CDR/ 10,000/ day	U5DR / 10,000/ day
Northwest									
1. Guban/West Golis (Small sample cluster survey)	FSNAU, UNICEF, MOHL	June '10	228	>13.8 (Pr.=0.90)	> 2.3 (Pr.=0.90)	N/A	N/A	N/A	N/A
2. East Golis/Gebi Karkar (Small sample cluster survey)		June '10	198	>9.3 (Pr.=0.90)	>0.1 (Pr.=0.90)	N/A	N/A	N/A	N/A
3. Burao IDP (Small sample cluster survey)		May '10	209	>17.3 (Pr.=0.90)	>3.4 (Pr.=0.90)	22 (16.0-27.9)	3.8 (0.6-6.9)	N/A	N/A
4. Nugal Valley (Small sample cluster survey)		June '10	198	>7.9 (Pr.=0.90)	>0.1 (Pr.=0.90)			N/A	N/A
5. Hargeisa IDP (Small Sample cluster survey)		May '10	228	>13.0 (Pr.=0.90)	>0.9 (Pr.=0.90)	14.9 (9.7-20.2)	1.8 (0.0-3.9)	N/A	N/A
6. Sool Plateau (Small sample cluster survey)		June '10	199	>7.0 (Pr.=0.90)	>0.6 (Pr.=0.90)			N/A	N/A
7. Berbera IDP (Small sample cluster survey)		May '10	212	>15.5 (Pr.=0.90)	>5.4 (Pr.=0.90)	17.9 (11.5-24.3)	5.2 (1.7-8.7)	N/A	N/A
8. Hawd Livelihood zone (Small sample cluster survey)		June '10	198	>13.8 (Pr.=0.90)	>1.0 (Pr.=0.90)			N/A	N/A
9. Togdheer Agro-pastoral (Large sample cluster survey)		June '10	716	12.2 (9.3-15.8)	2.3 (1.6-3.5)	12.5 (9.5-16.2)	0.9 (0.3-2.4)	0.97 (0.58-1.61)	2.2 (1.0-5.0)
10. North West Agro-pastoral (Small sample cluster survey)		June '10	199	>8.8 (Pr.=0.90)	>0.3 (Pr.=0.90)	N/A	N/A	N/A	N/A
Northeast									
11. Nugal Valley (Small sample cluster survey)		June '10	200	>8.4 (Pr.=0.90)	>2.0 (Pr.=0.90)	>6.7 (Pr.=0.90)	>0.1 (Pr.=0.90)	N/A	N/A
12. Sool Plateau (Small sample cluster survey)		June '10	200	>5.0 (Pr.=0.90)	>0.6 (Pr.=0.90)	>3.7 Pr.= 0.90)	>0.3 (Pr.= 0.90)	N/A	N/A
13. Garowe (Small sample cluster survey)		May '10	198	>11.5 (Pr.=0.90)	>3.0 (Pr.=0.90)	>13.0 (Pr.=0.90)	>1.4 (Pr.=0.90)	N/A	N/A
14. Bossaso IDPs (Small sample cluster survey)		May '10	209	>26 (Pr.=0.90)	>3.3 (Pr.=0.90)	>22 (Pr.=0.90)	>0.6 (Pr.=0.90)	N/A	N/A
15. Galkayo IDP (Small sample cluster survey)		May '10	198	>11.3 (Pr.=0.90)	>1.2 (Pr.=0.90)	11.6 (7.3-18.0)	1.5 (0.5-4.7)	N/A	N/A
16. Golis/Kakaar Pastoral (Small sample cluster survey)		May '10	214	>16.3 (Pr.=0.90)	>1.7 (Pr.=0.90)	N/A	N/A	N/A	N/A
17. Coastal Deeh (Small sample cluster survey)		May '10	199	>10.8 (Pr.=0.90)	>2.2 (Pr.=0.90)	N/A	N/A	N/A	N/A
Central Regions									
18. Hawd Pastoral (Large sample cluster survey)	FSNAU, UNICEF, SRCS MOH	May '10	647	15.3 (12.0-18.6)	3.9 (1.6-6.1)	7.7 (5.3-10.2)	0.2 (0.0-0.5)	1.07 (0.64-1.79)	1.78 (0.74-4.21)
19. Addun Pastoral (Large sample cluster survey)		May '10	667	22.8 (19.2-27.0)	7.1 (4.7-10.5)	13.8 (10.8-16.7)	1.2 (0.0-2.3)	0.52 (0.30-0.83)	1.74 (0.88-3.41)
Shabelle Regions									

Summary of Nutrition Survey Findings, Apr. - Jul. '10 continued

20. Shabelle IDP (Afgoye) (Large sample cluster survey)	FSNAU, UNICEF, COSV, MERCY USA, INTERSOS, SRCS, ZAMZAM, MUSLIM AID UK	June' 10	639	15.1 (11.4-19.8)	1.7 (1.0- 3.0)	N/A	N/A	0.99 (0.71-1.37)	1.40 (0.78-2.51)
21. Adale district		June' 10	632	16.8 (12.9-20.7)	2.4 (0.9-3.9)	12.0 (9.0-15.1)	1.4 (0.3-2.6)	0.74 0.39-1.40	1.13 0.56-2.30
22. Middle Shabelle-Agro-pastoral (Small sample cluster survey)		June' 10	212	>6.2 (Pr.=0.90)	> 1.7 (Pr=0.9);	N/A	N/A	N/A	N/A
23. Middle Shabelle-Riverine (Small sample cluster survey)		June' 10	222	>8.2 (Pr.=0.90)	> 0.6 (Pr=0.9);	N/A	N/A	N/A	N/A
Gedo Region									
24. Gedo Pastoral	FSNAU/ UNICEF, Trocaire, SRCS,	June' 10	196	>16.3 (Pr.=0.90)	>3.7 (Pr.=0.90)	>17 (Pr.=0.90)	>2.7 (Pr.=0.90)	N/A	N/A
25. Gedo Riverine (Small sample cluster survey)	African Muslim Aid (AMA), Himilo	June' 10	196	>15.9 (Pr.=0.90)	>2.4 (Pr.=0.90)	>16.4 (Pr.=0.90)	>0.4 (Pr.=0.90)	N/A	N/A
26. Gedo Agro-pastoral (Small sample cluster survey)	Relief and Development Association HIRDA	June' 10	198	>21.7 (Pr.=0.90)	>5.6 (Pr.=0.90)	>19.9 (Pr.=0.90)	>2.5 (Pr.=0.91)	N/A	N/A

Table 21: Summary of Rapid Muac Assessments Results, June-July 2010

SUMMARY RAPID MUAC ASSESSMENTS RESULTS, JUNE-JULY 2010					
Affected Region/ Livelihood	Participating Agencies	Date of Rapid MUAC Assessment	No. Assessed	MUAC <-12.5 or oedema (%)	MUAC <11.5 or Oedema (%)
Hiran Regions					
1. Hiran Pastoral	FSNAU, SRCS	June' 10	1100	15.4	3.7
2.. Hiran Agro-pastoral		June' 10	1100	16.7	3.2
3. Hiran Riverine		June' 10	1760	18.5	4.6
Lower Shabelle Regions					
4. Shabelle Agro-pastoral	FSNAU, UNICEF, COSV, MERCY USA, IINTERSOS, SRCS, ZAMZAM, MUSLIM AID	June' 10	2200	8.7	1.8
5. Shabelle Riverine		June' 10	2200	9.4	1.9
Juba Regions					
6. Juba Riverine	FSNAU, SRCS	June' 10	1312	18.5	5.5
7. Juba Agro-pastoral		June' 10	1167	10.6	2.5
8. Juba Pastoral		June' 10	1125	9.0	2.0
Bay & Bakool Regions					
9. Bay Agro-pastoral	FSNAU, SRCS	June' 10	1226	15.7	3.5
10. Bakool Agro-Pastoral		June' 10	1100	15.1	4.2
11. Bakool Pastoral		June' 10	1100	22.7	4.9

SOMALI WOMEN ARE HIGHLY VULNERABLE TO MALNUTRITION - URGENT ACTION IS NEEDED!

Optimal maternal nutrition is crucial for the overall health and reproductive performance of women, and directly effects the health, survival and development of their children. However, Somali women like many other women from sub-Saharan Africa, remain highly vulnerable to malnutrition relative to men due to social, economic, cultural factors, as well as the physiological requirements of childbirth and lactation¹. A survey conducted in primary schools in Somalia² in 2003-2004 revealed that girls accounted for only 37% of the enrolment, meaning the majority of women miss the economic opportunity that goes with formal education. With such limitations, women are at increased risk of food insecurity because they lack capital to produce or purchase food for household use. Physiologically, women have increased demand for most nutrients:

- During pregnancy for example, a woman needs an additional 300 kilocalories per day after the first trimester and 500 kilocalories more during lactation. A pregnant woman needs up to four times more iron, 1.5 times more folate and 20 percent more calcium than a non-pregnant woman.
- During lactation, a woman needs 40 percent more vitamin A and C, at least 15 percent more vitamin B12 and extra levels of micronutrients³.
-

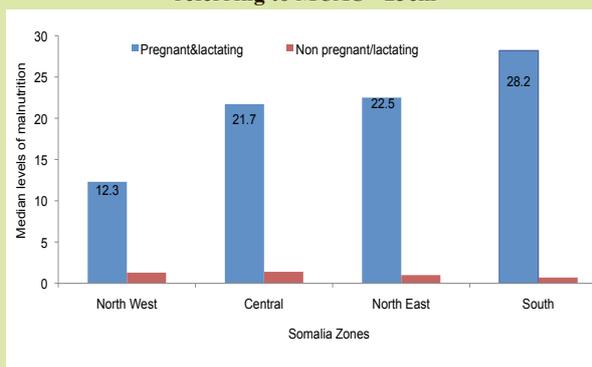
Failure to meet these nutritional needs is manifested in high levels of malnutrition recorded among women of reproductive age in developing countries and low birth weight babies.

In Somalia, the vulnerability of pregnant, lactating and non-pregnant women is evidenced with high levels of acute malnutrition and micronutrient deficiencies. An analysis of the nutrition data collected in Somalia from 2004-2009 among women of reproductive age (15-49 years) show a median acute malnutrition rate of **24%** among pregnant and lactating women (MUAC<23.0cm) and **1%** among non-pregnant/lactating women (MUAC<18.5 cm). The distribution of median rates of acute malnutrition varies across regions with respective pregnant/lactating and non-pregnant/lactating median rate of 12% and 1% in Northwest, 23% and 1% in North East, 22% and 1% in Central, and 28% and 1% in South regions. (see figure above). The Somalia national micronutrient study spearheaded by FSNAU in 2009 ,revealed that **26%** of the women of reproductive age are underweight (BMI<18.5), 49% (40.8-57.4) have anaemia while 42% (36.5-46.7) and 54.4% (48.3-60.4) have iron and vitamin A deficiencies respectively. Moreover, the just concluded FSNAU Post Gu'10 analysis, estimates **15%** (55,700) of pregnant and lactating women in Somalia as acutely malnourished. This information illustrates that Somali women of reproductive age, especially pregnant and lactating mothers are faced with **Very Critical** levels of malnutrition manifested in both macro and micronutrient deficiencies at the magnitude of great public health concern. Malnutrition in this important population group has enormous and sometimes irreversible consequences to both present and future generations in Somalia.



A woman breastfeeding in Huddur, Bakool Region, May 2010

Median rate of acute malnutrition among women aged 15-49 years in Somalia for Assessment conducted in 2004-2009 referring to MUAC <23cm



1 IFPRI, 2001. Empowering women to achieve food security

2 UNICEF The survey of Primary school in Somalia for 2003-2004

3 FAO, 2000. The state of food insecurity in the world 2000

Maternal malnutrition is known to increase risks of morbidity and mortality among women and unborn children. For example, women who suffer from chronic energy deficiency are at increased risk of maternal complications and death, have a higher prevalence of infections due to reduced immuno-competence, and are at increased risk of obstructed labor due to the disproportion between the size of the baby's head and the maternal pelvis⁴. Similarly, micronutrient deficiencies such as iron deficiency anaemia increase the risk of death from blood loss during delivery with obstetric hemorrhage accounting for about 25% of all maternal deaths. Severe anaemia, as is the case for Somalia, can lead to heart failure or circulatory shock at the time of labor and delivery; in addition anaemic women are more susceptible to puerperal infection. In addition to these adverse effects on women, malnutrition in pregnancy affects birth outcomes and is particularly associated with increased risk of foetal, neonatal, and infant death, intra-uterine growth restriction, low birth weight and prematurity. Mortality surveys conducted concurrently with nutrition assessments have reported birth-related complications to be main causes of maternal deaths (Source: FSNAU mortality data). Other effects on the babies include birth defects, cretinism, brain damage and increased risk of infection. This implies that maternal malnutrition affects the current generation of women and also future generations as the children born by these malnourished women will more likely fail to reach their full mental and physical potential setting an inter-generational cycle of malnutrition.

In view of this evidence that reveals the enormity of maternal malnutrition and the resultant consequences, there is an urgent need to prioritize interventions that seek to rehabilitate macro and micro-deficiencies among women in Somalia, while at the same time addressing the long term issues that predispose women to malnutrition. Measures that promote women economically to either produce their own food or purchase sufficient and quality food, enhance food fortification or supplementation with appropriate micronutrients, boost access to health services as well as nutrition education to enlighten women on the importance of consumption of quantity and quality food, are required.

4 J.O. Moraa & P.S Nestel, 2000. Improving prenatal nutrition in developing countries: Strategies, prospects and challenges

Case Study: An Illustration of Malnutrition Cycle

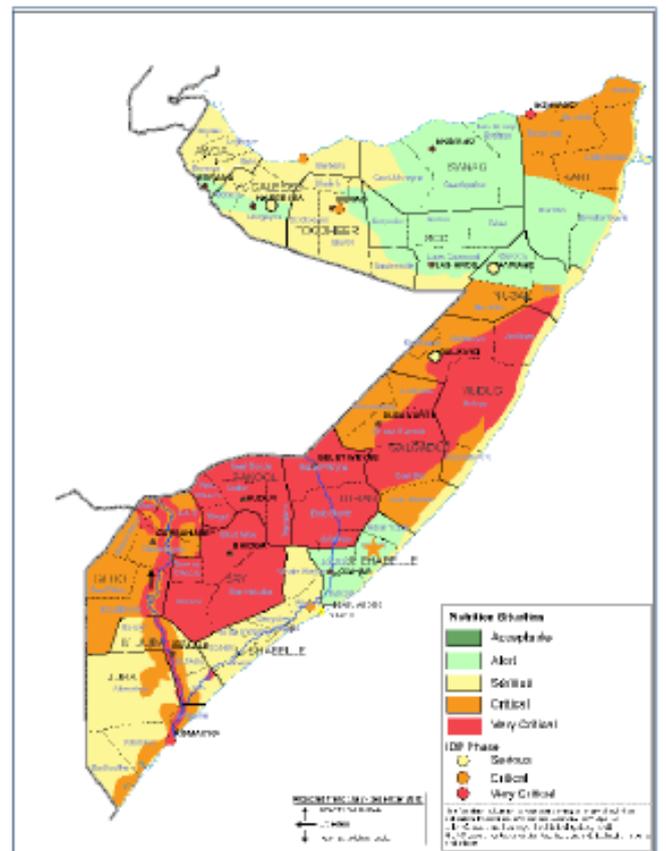
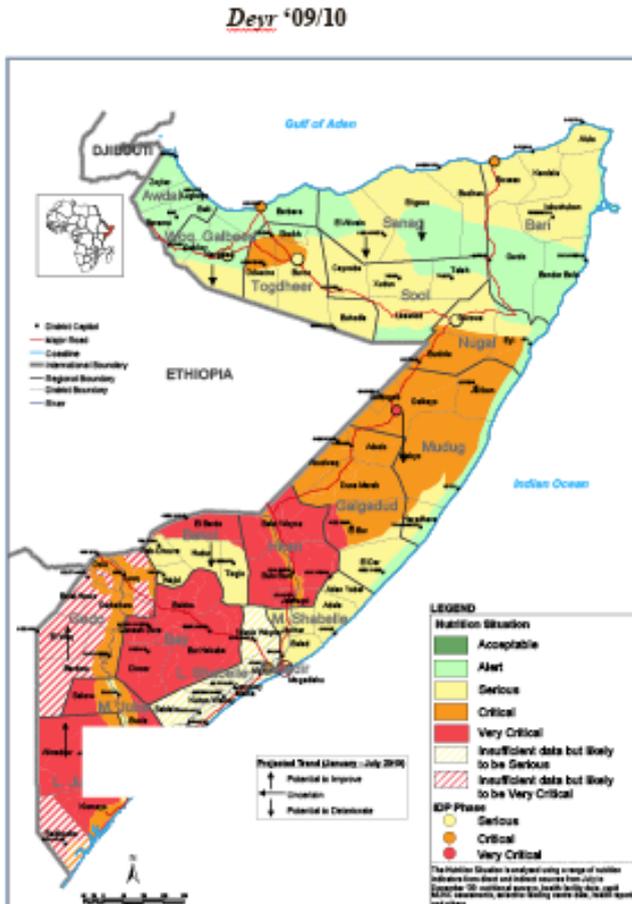
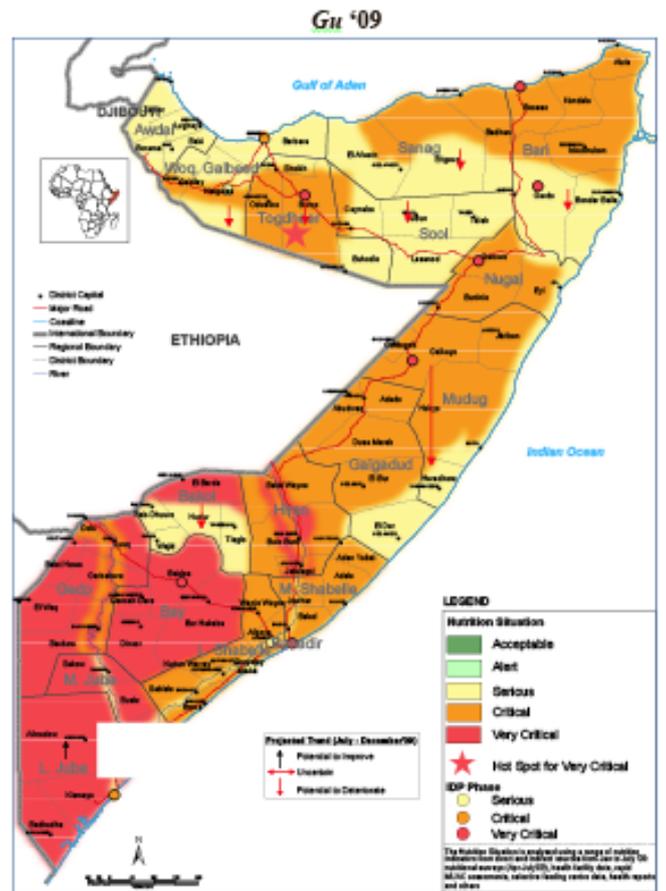
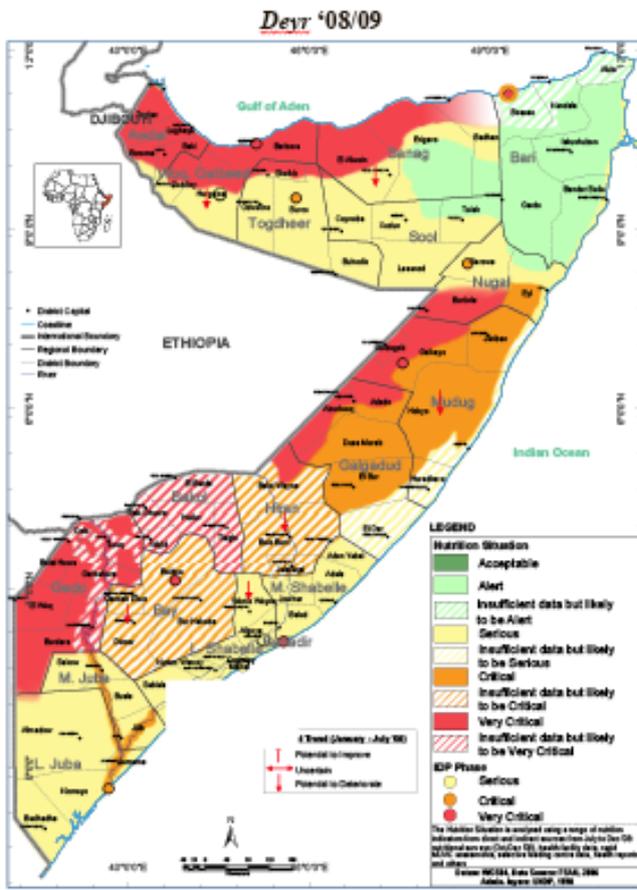
(Narrated to FSNAU Mohamed M. Hassan in April 2009 and September 2010)

Hawa (18) was born in Qarxis village, Puntland in 1992. Her father, a mason, had limited job opportunities and struggled to raise his family. Both of Hawa's parents attained primary level of education, unfortunately Hawa received neither formal nor informal education. According to the mother, Hawa was always very small, thin and with a poor appetite during her childhood years and was never vaccinated. Hawa got married in 2008 at the age of 16, conceived immediately and suffered from two bouts of acute respiratory illness during the pregnancy. She delivered a low birth weight baby girl, Amina, weighing 2.2kg on March 8th, 2000. Hawa's husband does not have a reliable source of income and mostly relies on relatives and friends for assistance to support his family.



During an interview with FSNAU's Mohamed Mohamud Hassan in April 2009, Amina had lost weight and weighed 1.8kg. This was mainly attributed to poor infant feeding and care practices, having not been introduced to breast milk within the first hour of birth as recommended, but rather 4 days later, thereby missing out on colostrums and related immune and health benefits. Amina was instead introduced to sugared water and powdered milk (administered through bottle feeding), immediately after birth. Hawa tried to breastfeed for a few days, but stopped within a month of delivery, believing she did not have sufficient milk to breastfeed. Considering the poor quality of water used in preparation of the bottle feed together with the poor living conditions, Amina succumbed to diarrhoea and malnutrition within a month of birth. During the April 2009 visit, the FSNAU staff, Mohamed counselled Hawa on appropriate breastfeeding practices including exclusive breastfeeding for Amina until she attained at least six months of age before introducing other feeds. "As you continue to put the baby to the breast, your body will be able to produce more milk", added Mohamed. He also counselled her against bottle-feeding and related challenges, then gave Hawa and Amina a referral slip to the Bossaso nutrition program for nutritional therapy and vaccinations. A follow up by FSNAU/Mohamed in September 2010 in which only the grandmother could be accessed, indicates that the family did not visit Bossaso nutrition program as advised due to transportation problem, but nevertheless applied some of the advice given in addition to reciting from the Holy Quran. Amina, now aged 1.5 years is reported to have improved but has migrated with her parents to Dhanane along the coast of Eyl.

Hawa and Amina's case illustrate the synergistic interplay between poverty, illiteracy, food insecurity, lack of knowledge and access to appropriate health and nutrition services, and inappropriate practices in the malnutrition cycle in Somalia. Until these fundamental issues are addressed, this cycle will not be broken.



8.2 Nutrition Assessment Tools Post Gu

FSNAU Post Gu Assessment 2010: Rapid Nutrition Assessment Questionnaire

Section 1 - Tally Sheet for MUAC Screening Children 6 – 59 months. – Please just use one sheet per village and one tick per child. For ease of completion please group the children into ten so the first ten measured the results should be in the first box the second 10 in the second row etc (see Section 3 for an sample)

Screening Data / Rapid Assessment Tool - Children under 5 years

Name Village: _____ Date: _____ Name of Screener: _____

Children under 5 years (MUAC only to be measured on children 6 months and above or 65-110cm)

Child Group	<11.5cm	11.5-12.4cm	12.5-13.4cm	>/=13.5	Oedema (65-110)	Clinical signs of malnutrition <65cm (oedema or marasmus)
Child 1 - 10						
Child 11 – 20						
Child 21 – 30						
Child 31 – 40						
Child 41 – 50						
Child 51 – 60						
Child 61 – 70						
Child 71 – 80						
Child 81 – 90						
Child 91 – 100						
Child 100-110						
TOTAL						

Section 2 - Report Summary Table

These questions should be asked in the focus groups discussion. Please join the food security team once you have completed the anthropometric component rather than setting up a separate group but make sure there are women present and actively contributing and displaced if appropriate

Interviewer Name	
------------------	--

Date of Assessment	Region	District	Village

Recent Displacement If Y what numbers and whether this is in or out displacement from this location	Y / N
What was the main cause for the displacement?	
When did the majority arrive?	

Information available of the current nutritional status (<i>previous surveys, feeding centre statistics, health centre data etc</i>)	
--	--

SOCIAL CARE ENVIRONMENT

Shelter conditions for the majority (please circle) 1) Good 2) Basic but reasonable 3) Very Poor	If displacement any immediate concerns on child care practices? Please below
---	---

HEALTH SITUATION

Any recent incidence of Acute Watery Diarrhoea in this location?	Y / N
If yes, Please describe how the incidence of Acute Watery Diarrhoea has affected nutrition status of children in the last month, circle minimum moderate or severe.	Minimum / Moderate / Severe Comment

Top 3 illnesses for <5yrs	Recent Outbreaks?	Are there any Health Services Available	Are the Health services functioning (do they have staff drugs etc)	Can communities access the health services
1)	Y / N	Y / N		Y / N
2)	If Y what?	If N how close is nearest (km)	Y / N	If N why not?
3)				

WATER

List the main sources of drinking water	Describe the quality of this water (pls ask to see the water then circle then option most appropriate)	Do families have sufficient quantities for drinking during the day? (circle)	What water storage containers are being used by the majority - please list
1)	Reasonable		
2)	Unclean	Y / N	
3)	Not sure	If N why not?	

SANITATION

List the main sanitation facilities used now by the community	List any concerns the community may have about the sanitation, such as the impact of the recent floods

Nutrition Programmes List the closest nutrition programmes available for referral if malnourished cases are identified and the agency that operates and where possible recent trends in admissions if a nutrition worker from a feeding centre is available to speak with.	SFC (Location, Agency, Nos of admissions)	TFC / CTC (Location, Agency, Nos of admissions)

Section 3: Summary of Nutrition Status: - Children 6 months to 5years

MUAC (cm)	Nutritional status	N= (%)
>13.4cm		
12.5cm to 13.4cm	At risk of Malnutrition	
11.5cm to 12.4cm	Moderate Malnutrition	
< 11.5 cm	Severe Malnutrition	
Oedema	Severe Malnutrition	

CONCLUSIONS - To be completed by Nutrition Analyst once all the data has been collected from the village, add additional paper if necessary

Main Problems Identified: (summarise the key findings)	
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Conclusion: Think about all the information collected and decide whether the nutrition situation is: i). very critical, ii). Critical, iii). Serious iv). Alert. how many people are affected, is the situation likely to deteriorate.	
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Sample - Screening Data / Rapid Assessment Tool - Children 6 months to 5 years

Name Village: El Eak **Date:** 15th June 2010 **Name of Screener:** Mohamed Ibrahim

Children under 5years (MUAC only to be measured on children 6 months and above or 65-110cm standing)

Child Group	<11.5cm	11.5-12.4cm	12.5-13.4cm	>/=13.5	Oedema	Clinical signs of malnutrition <1yr
Child 1 - 10	1	1	1	1 1 1 1 1 1 1		
Child 11 – 20			1 1 1 1 1	1 1 1 1	1	
Child 21 – 30				1 1 1 1 1 1 1 1 1 1		
Child 31 – 40			1 1	1 1 1 1 1 1 1 1		
Child 41 – 50		1	1	1 1 1 1 1 1 1 1		
Child 51 – 60		1 1 1	1 1	1 1 1 1 1		
Child 61 – 70	1 1	1 1 1	1	1 1 1 1		
Child 71 – 80				1 1 1 1 1 1 1 1 1 1		
Child 81 – 90			1 1 1	1 1 1 1 1 1 1		
Child 91 – 100			1	1 1 1 1 1 1 1 1 1 1		
Child 100-110	11	11	11	11	11	
TOTAL	5	10	18	72	5	0

Summary of Nutrition Status: - Children 6-59 months

MUAC (cm)	Nutritional status	N= 110 (100 %)
≥13.5cm		72 (65.5%)
12.5cm to 13.4cm	At risk of Malnutrition	18 (16.4%)
11.5cm to 12.4cm	Moderate Malnutrition	10 (9%)
< 11.5 cm	Severe Malnutrition	5 (4.5%)
Oedema	Severe Malnutrition	5 (4.5%)

NUTRITION ASSESSMENT HOUSEHOLD QUESTIONNAIRE, 2010

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

Q1-7 Characteristics of Household

- Q1.** Household size¹? _____ **Q2.** Number of children less than 5 years (0-59 months)? _____
- Q3a.** Sex of household head? 1=Male 2=Female **Q3b.** Who generates the main household resources (*livestock, assets, income, and food*)? 1=Male 2=Female
- Q3c.** Who makes key decisions on how the main household resources (*livestock, assets, income, and food*) should be utilized? 1=Male 2=Female
- Q4a.** How long has this household lived in this locality? 1= Resident 2= IDP<6 Months 3=IDP >6 months 4=Returnee (within the last 6 months) 5=Refugee 6=Migrant
- b. If IDP > 6months is it: 1= before 2007 2= during or after 2007
- c. Are you hosting any recently (in the last 6 months) internally displaced persons? 0= No 1= Yes
- d. If yes, Number of persons _____
- Q5.** How many mosquito nets does the household have? 0=none 1=one 2=two 3=three 4= 4 or more
- Q6.** What was the source of the net? 1= NGO 2=Health Centre 3= Purchase
- Q7a.** What is the household's main source of income? 1= Animal & animal product sales 2= Crop sales/farming 3= Trade 4= Casual labor 5= Salaried/wage employment 6= Remittances/gifts/zakat 7=Self-Employment (Bush products/handicraft) 8= Others, specify _____
- Q7b.** Total Livestock holding: No of camels: _____ Number of cattle: _____ Number of sheep: _____ Number of goats _____
- Q7c.** Local unit for Land holding (circle the appropriate one): 1=Ta'ab 2=Darab 3= Jibaa 4= Qodi
- Q7d.** Total land holding based on local unit (indicate actual number): _____
- Q8-15 Feeding and immunization status of children aged 6 – 59 months in the household.**

First Name	Age (months) (if child is more than 24 months old, skip to Q12)	Q8 Are you breastfeeding ¹ the child? (if no, skip to Q10) 0= No 1=Yes	Q9 If 6-24 months) How long after birth did you put the baby to the breast 0=Never 1=within 1 hr 2= within 24 hrs 3= after 1 day	Q10 (If 6-24 months) If you stopped breastfeeding before the child was 12 months, why did you stop? 0= Never breastfed 1= Pregnancy 2=Illness 3=Child refused 4= Other	Q11 (If 6-24 months) At what age was child given water/ foods other than breast milk? 1= <1 weeks 2=1wk – 3 months 3=4-6 months 4=6 months or more.	Q12a How many times do you feed the child in a day (besides breast milk)? 1= 1 time 2=2 times 3= 3 times 4=-4 times 5= 5 or more times	Q12b How many times did you feed the child with milk in the last 24 hours (besides breast milk)? 0=None 1= 1 time 2=2 times 3=-3 times 4= 4 times 5= 5 times or more	Q12c Was the child bottle-fed in the last 24 hours? 0=No 1=Yes	Q13 Has child been provided with Vitamin A in the last 6 months? (show sample) 0= No 1=Yes	Q14 Has child been Vaccinated against measles? 0= No 1=Yes	Q15 No of doses of polio vaccine given to the child orally? 0=none 1=one 2=two 3=three or more
1											
2											
3											
4											

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

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

First Name	Q16a Age (month)	Q16b Sex 1=Male 2=Female	Q17 Oedema 0= No 1=yes	Q18 Height (cm) To the nearest tenth of a cm	Q19 Weight (kg) To the nearest tenth of a kg	Q20 MUAC (cm) To the nearest tenth of a cm (≥6 mo)	Q21 Diarrhea ² in last two weeks 0= No 1=yes	Q22 Serious ARI (oof wareen/ wareento) ³ in the last two weeks 0= No 1=yes	Q23 Fever ⁴ in the last two weeks 0= No 1=yes	Q24 Suspected Measles ⁵ in last one month 0= No 1=yes	Q25 Did the child sleep under a mosquito net last night? 0= No 1=yes	Q26 Where did you seek healthcare assistance when child was sick? (If yes in Q21 – 24) 0=No assistance sought 1=Own medication 2=Traditional healer 3=Sheikh/Prayers 4=Private clinic/ Pharmacy 5= Public health facility	Q27 Is the child currently registered in any feeding centres? 0= none 1= SFP 2= TFC/SC 3= OTP 4= Other
1													
2													
3													
4													

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

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

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

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

Q29 Food Consumption & Dietary Diversity

Twenty four-hour recall for food consumption in the households: The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.

Did any member of your household consume food from any these food groups in the last 24 hours (from this time yesterday to now)? Include any snacks consumed?	Any household member ⁶ 0=No 1= Yes	If 6-24 months		
		Did the child (Name) consume food from any these food groups in the last 24 hours? ⁷ 0=No 1= Yes		
		Child 1	Child 2	Child 3
1. Cereals and cereal products (e.g. maize, spaghetti, rice, caanjera, bread, biscuits)?				
2. Milk and milk products (e.g. goat/camel/ fermented milk, milk powder)?				
3. Sweets- Sugar and honey (sweetened foods, drinks, chocolates, sweets, candies, etc)?				
4. Oils/fats (e.g. fat or oil, butter, ghee, margarine added to food or used for cooking)?				
5. Meat & Offal (e.g. beef, sheep/goat/camel or game meat, poultry& products)?				
6. Eggs (e.g. boiled, toasted or fried eggs)?				
7. Fish and sea foods (e.g. fried/boiled/roasted fish, lobsters or shellfish)?				
8. Legumes, nuts and seeds (e.g. beans, lentils, green grams, cowpeas; peanut)?				
9. White Roots and Tubers (e.g. white potatoes, yams, cassava and their products)?				
10. Yellow or orange fleshed tubers and vegetables/Vitamin A-rich (e.g. squash/juices pumpkins, carrots, sweet potatoes that are orange or yellow inside)?				
11. Dark green leafy vegetables (including Vitamin A-rich sweet pepper, local and wild leafy vegetables)?				
12. Vitamin A rich Fruits (e.g. ripe mangoes, pawpaw, etc which are yellow or orange fleshed)?				
13. Other vegetables (other local and wild vegetables that are not dark green or leafy e.g cabbage, lettuce, green pepper)				
14. Other Fruits (other local and wild fruits that are not yellow or orange fleshed e.g bananas)?				
15. Miscellaneous (Spices and Caffeine, tea or coffee)?				
Q 30. Total number of food groups consumed in each case?				

Q31 a. In the last three months, what is the main source of staple food in the household?
1= Own production 2= Purchasing 3=Gifts/Donations 4= Food aid 5= Bartering 6= Borrowing 7= Gathering

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

Q32 How many meals² has the household had in the last 24 hours (from this time yesterday to now)?
0= none 1= One 2=Two 3= Three 4=Four +

Coping Strategies

Q 33. In the past 30 days, if there have been times when people did not have enough food or money to buy food, which of the following coping strategies did they use? (*Select based on relevant livelihood system*)

Pastoralist Livelihood:

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

Agropastoralists Livelihood:

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

Riverine Livelihood

In the past 30 days, if there have been times when you did not have enough food or money to buy food, how often has your household had to:	0=Never (zero times/week) 1=Hardly at all (<1 times/ week) 2=Once in a while (1-2 times/ week) 3= Pretty often? (3-6 times/week) 4=All the time (Every day)
a. Shift to less preferred foods (e.g. white maize to yellow maize)?	
b. Reduce the portion size/quantity consumed at meal times (<i>Beekhaamis</i>)?	
c. Consume poor quality foods (unsafe or spoilt)?	
d. Reduce number of meals per day by one (e.g. from three to two)?	
e. Consume wild foods and fish from the river?	
f. Consume immature crops (fruits or cereals)?	
g. Reduce number of meals per day by two (e.g. from three to one)?	
h. Feed particular members (elderly, children) at the expense of other household members?	
i. Consume seeds meant for future planting?	
j. Borrow food for consumption (to be repaid in future – in kind)?	
k. Eat prohibited/ unacceptable foods (animal skins, grass, roots, clotted blood, tree leaves, etc)?	

² A meal refers to food served and eaten at one time (excluding snacks) and includes one of the three commonly known: - breakfast, lunch and supper/dinner

WASH

Q34-40 Access to water (quality and quantity)

Q34a What is the household's main source of drinking water?
Protected sources: 1 = Household connection tank 2 = Standpipe (Kiosk/Public tap/Taps connected to a storage tank)
 3 = Protected Shallow well (covered with hand pump/motorized pump) 4 = Tanker 5 = Spring
 6 = Bottled water 7 = Rooftop rainwater
Unprotected sources 8 = Berkads 9 = River/stream 10 = Dam/Pond (Bailey) 11 = Open Shallow well 12 = other (specify) ...

Q35a If the household has no access to protected water sources (if the answer to Q34a is 8, 9, 10, 11 or 12), what is the main reason?
 0 = Not Available 1 = Distance too far 2 = Security Concerns 3 = Cannot afford 4 = Queuing time is too long
 5 = Other reasons (specify)

Q35b If you get your water from a protected water source (if the answer to Q34a is 1, 2, 3, 4, 5, 6 or 7), is the water available?
 1 = Always/Mostly available 2 = Seasonally available

Q35c If the water system is mechanized (if the answer to Q34a is 1, 2, 3 or 4), how frequently did it breakdown last month?
 1 = Did not breakdown 2 = Once 3 = 2 to 3 times 4 = More than 3 times

Q36a Is the water for drinking treated and/or chlorinated³ at the Household level? 0 = No 1 = Yes

Q36b If Yes, what is the method of treatment (*select more than 1 option if applicable*)?
 1 = Boiling 2 = Chlorination 3 = Straining/filtering 4 = Decanting/letting it stand and settle 5 = Leaving the water out in the sun
 6 = Other (specify)

Q37c If Aquatabs are used, are Aquatabs used for household treatment on a daily basis? 0 = No 1 = Yes

Q37d If Aquatabs are used, how much do they cost the family per month? Currency (circle as appropriate): Somali Shillings
 Somaliland Shillings

Q38 What is the average time taken per TRIP to and from the main water source (*including waiting and collecting time*)?
 1 = Less than 30 minutes 2 = 30 to 60 minutes 3 = More than 1 hour

Q39 How many water collecting and storage containers of 10 or 20 liters are there in the household?
 1 = 1 to 2 containers 2 = 3 to 4 containers 3 = 5 to 6 containers
 4 = more than 6

Q40 Does the family pay for drinking water? 0 = No 1 = Yes

Q41-43 Sanitation and Hygiene (access and quality)

Q41a What type of toilet is used by most members of the household?
 0 = No toilet is available (an open pit/open ground is used) 1 = Household latrine 2 = Communal/Public latrine 3 = Flush toilet

Q41b If the answer to Q41a is 0, what is the main reason?
 1 = Pastoral/ frequent movements 2 = Lack resources to construct 3 = Lack of space to construct 4 = Don't see the need 9 = Don't know

Q41c If the answer to Q41a is 1, 2 or 3, how many households share/use the same toilet?
 1 = One 2 = 2 to 3 3 = 4 to 9 4 = 10 or more 9 = Don't know

Q42 When you wash your hands, what substance do you use for hand washing?
 0 = None (only with water) 1 = Soap/Shampoo 2 = Sand 3 = Ash 4 = Plant extracts

Q43 Have you been exposed to information on correct personal hygiene and sanitation practices in the last 3 months? (*select more than 1 option if applicable*)
 0 = No 1 = Yes via mass media 2 = Yes via printed media 3 = Yes via interpersonal communication 4 = Yes via group meetings

Supervisor Checked _____

(Footnotes)

- 1 Child having received breast milk either directly from the mothers or wet nurse breast within the last 12 hours
- 2 Diarrhoea is defined for a child having three or more loose or watery stools per day
- 3 ARI asked as oof wareen or wareento. The three signs asked for are chest in-drawing, cough, rapid breathing/nasal flaring and fever
- 4 Fever – The three signs to be looked for are periodic chills/shivering, fever, sweating and convulsions
- 5 Measles (Jadeeco): a child with more than three of these signs– fever and, skin rash, runny nose or red eyes, and/or mouth infection, or chest infection
- 6 8 FAO Household Dietary Diversity Tool
- 7 FANTA 2002 Summary Indicators for Infant and Child Feeding Practices

³ Chlorinated water should have a characteristic taste and smell

URBAN ASSESSMENT HOUSEHOLD QUESTIONNAIRE, 2010

HHNO: _____

Household Size _____ Date _____ Enumerator: _____ Name of Town _____
 Section: _____

Q 1 Food Consumption & Dietary Diversity

Twenty four-hour recall for food consumption in the households: The interviewers should establish whether the previous day and night was usual or normal for the households. If unusual- feasts, funerals or most members absent, then another day should be selected.

Food group consumed: What foods groups did members of the household consume from yesterday morning and including the night)? Include any snacks consumed.	Did a member of your household consume food from any these food groups from yesterday morning and including the night? 1=Yes 2= No	*Codes:	
		1= Own production	5=Bartered
2=Purchases	6=Borrowed		
3=Gifts from friends/ relatives	7=Gathering/ wild		
4=Food aid	8= N/A		
Type of food	What is the main source of the dominant food item consumed? (Use codes above)?		
A1. Cereals and cereal products (e.g. maize, spaghetti, rice, caaniera, bread)?			
A2. Milk and milk products (e.g. goat/camel/fermented milk, milk powder)?			
A3. Sugar and honey?			
A4. Oils/fats (e.g. cooking fat or oil, butter, ghee, margarine)?			
A5. Meat, poultry, offal (e.g. goat/camel meat, beef, chicken or their products)?			
A6. Pulses/legumes, nuts (e.g. beans, lentils, green grams, cowpeas; peanut)?			
A7. Roots and tubers (e.g. potatoes, arrowroot)?			
A8. Vegetables (e.g. green or leafy vegetables, tomatoes, carrots, onions)?			
A9. Fruits (e.g. water melons, mangoes, grapes, bananas, lemon)?			
A10. Eggs?			
A11. Fish and sea foods (e.g. fried/boiled/roasted fish, lobsters)?			
A12. Miscellaneous (e.g. spices, chocolates, sweets, beverages, etc)?			
Q2. In general what is the main source of staple food in the household? (*Use codes in 29 above) _____			
Q3 Total number of food groups consumed in the household: _____			

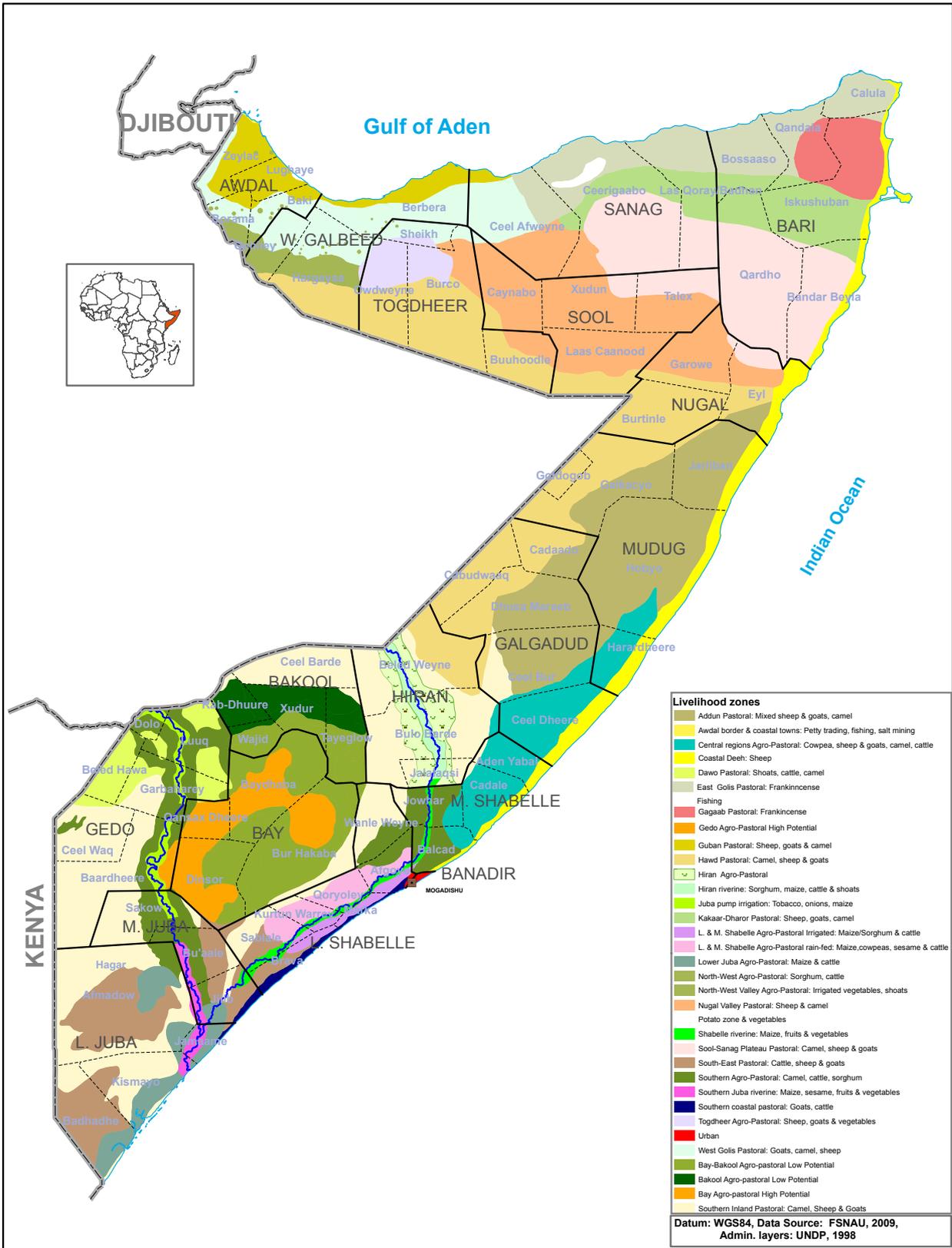
Q4 How many meals¹ did the adults (18+ years) in this household eat from yesterday morning and including the night (in the last 24 hours)? 1= One 2=Two 3= Three

Q5 How many meals did the children (<5 years) in this household eat from yesterday morning and including the night (24 hours)? 1= One 2=Two 3=Three 4=N/A

Q6. Coping and coping strategies		1 = Yes		2 = No (skip)	
During the PAST YEAR, have there been times when you did not have enough money to buy food or cover other essential expenditures (health, cooking fuel, school etc.)?		During the PAST Year (Dec. 2008)		Now (In Dec. 2009)	
If yes, how did your household manage to put food on the table last year? And how has your household managed to put food on the table this year?		1 = Yes	2 = No (skip to 2008)	1 = Yes	2 = No
B1	Rely on less preferred and less expensive food	1 = Yes	2 = No	1 = Yes	2 = No
B2	Borrow food, or rely on help from friends or relatives	1 = Yes	2 = No	1 = Yes	2 = No
B3	Purchase food on credit, incur debts	1 = Yes	2 = No	1 = Yes	2 = No
B4	Limit portion size at meals	1 = Yes	2 = No	1 = Yes	2 = No
B5	Restrict consumption by adults in order for small children to eat	1 = Yes	2 = No	1 = Yes	2 = No
B6	Reduce number of meals eaten in a day	1 = Yes	2 = No	1 = Yes	2 = No
B7	Skip entire days without eating	1 = Yes	2 = No	1 = Yes	2 = No
B8	Purchase food on credit	1 = Yes	2 = No	1 = Yes	2 = No
B9	Consume seed stocks held for the next season	1 = Yes	2 = No	1 = Yes	2 = No
B10	Decrease expenditures for fertilizer, pesticide, fodder, animal feed, vet. Care....	1 = Yes	2 = No	1 = Yes	2 = No
B11	Sell domestic assets (radio, furniture, fridge, TV, carpet...)	1 = Yes	2 = No	1 = Yes	2 = No
B12	Sell productive assets (farm implements, sewing machine, motorbike, land...)	1 = Yes	2 = No	1 = Yes	2 = No
B13	Sell more animals than usual	1 = Yes	2 = No	1 = Yes	2 = No
B14	Decrease expenditures for health care	1 = Yes	2 = No	1 = Yes	2 = No
B15	Take children out of school	1 = Yes	2 = No	1 = Yes	2 = No
B16	Seek alternative or additional jobs	1 = Yes	2 = No	1 = Yes	2 = No
B17	Increase the number of members out-migrating for work and/or food	1 = Yes	2 = No	1 = Yes	2 = No
B18	Increase in the amount of remittances received	1 = Yes	2 = No	1 = Yes	2 = No

¹ A meal refers to food served and eaten at one time (excluding snacks) and includes one of the three commonly known: - breakfast, lunch and supper/dinner

8.3: Somalia Livelihood Zones



appendix

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 The boundaries and names on these maps do not imply official endorsement or acceptance by the United Nations. The regional & District boundaries reflect those endorsed by the Government of the Republic of Somalia in 1986.