Nutrition Analysis
Post *Deyr* 2010/11

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FSNAU

Food Security and Nutrition Analysis Unit - Somalia

Information for Better Livelihood

Funding Agencies

Acknowledgement

FSNAU would like to thank all partner agencies for their participation and support in the *Deyr'*10/11 seasonal nutrition assessments and analysis.

From October until December 2010, a total of 25 nutrition surveys were conducted, about 100 health facilities visited, 11 rapid assessments conducted with 13,000 children measured in rural livelihoods; 8,700 children in 37 urban settlements, and 1,200 children measured in an IDP settlement. Without the support and expertise of 10 local NGOs, 14 International NGOs, 3 Local Authorities and 2 UN agencies, this would not have been possible. Special thanks to UNICEF, World Food Program, Save the Children – UK, World Vision and International Medical Corps for financial and/or technical support.
A sincere note of appreciation also goes to the FSNAU nutrition team based in Somalia who work under such difficult conditions yet continue to produce such high quality professional work.

Participating Partners

United Nations Children's Fund (UNICEF), World Food Programme (WFP), Ministry of Health (MOH), Ministry of Health (MOH Somaliland), Ministry of Health (Puntland), University of Hargeisa, Trocaire, Mercy USA, Muslim Aid – UK, Action Contre la Faim, GTZ, COOPI, DMO, Relief International, Intersos, Save the Children – UK, Co-operative Di Svillupo International (COSV), International Medical Corps, Medair, MSF-Spain, Somalia Red Crescent Society (SRCS), AFREC, Zam Zam Foundation, HIRDA, SDRA, TRG, ASAL, Hawa Abdi Hospital, New Ways, African Muslim Aid (AMA).

Mahad Sanid

TABLE OF CONTENTS

LIST OF TABLES

LIST OF MAPS

LIST OF FIGURES

SPECIAL ARTICLES

LIST OF ACRONYMS USED

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
GAM MUAC	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
IDP	Internally Displaced persons
INGO	International Nongovernmental Organization
LZ	Livelihood Zone
MCH	Maternal and Child Health Center
MOH	Ministry of Health
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
PWA	Post War Average
R	Reliability Score
RR	Relative Risk/Risk Ratio
SAM	Severe Acute Malnutrition
SAM MUAC	Proportion of children with MUAC<11.5cm
SC	Stabilization Center
SC-UK	Save the Children - UK
SRCS	Somalia Red Crescent Societies
SD	Standard Deviation
SFP	Selective/Supplementary Feeding Program
TFC	Therapeutic Feeding Center
TOT	Terms of Trade
U5DR	Under Five Death Rate
UNHCR	United Nations High Commission for Refugees
UNICEF	United Nations Children's Fund
WAZ	Weight-for-Age Z Scores
WHO	World Health Organization of the United Nations
WFP	World Food Program of the United Nations
WHZ	Weight for Height Z Scores
WVI	World Vision International

Forward

The FSNAU Post *Deyr* '10/11 Technical Series report (February 2011) is the fifth 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 bi-annual seasonal technical series reports and provides specific focus on nutrition information for the last 6 months.

The FSNAU Post *Deyr* '10/11 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

Nutrition Situation Overview

The FSNAU Post *Deyr* 2010/11 nutrition situation analysis depicts a deterioration in the nutrition situation across most population groups in Somalia from six months ago (Map 1 and 2). From October to December 2010, FSNAU and partners conducted a total of 25 representative nutrition surveys across Somali rural livelihoods and internally displaced population groups. Of these, 8 focused on updating the situation at livelihood or regional level in south central from six months ago, 9 focused on northwest and northeast rural livelihoods and one region, and 8 focused on IDP populations (Figure 1). Analysis of the findings indicates **a national level of acute malnutrition of 16 percent, with 4 percent severe malnutrition, which means: 1 in 7 children acutely malnourished and 1 in 25 severely malnourished.** This translates to approximately **241,000 acutely malnourished children, of whom, 57,000 are severely malnourished**. The total caseloads reflect a 7 percent increase from six months ago when 230,000 were estimated to be acutely malnourished (*Gu* 2010). With regard to severe acute malnutrition, there is a 31 percent increase from 35,000 in the *Gu* 2010.

However of great concern are the Southern regions, which are most affected by food insecurity and limited humanitarian interventions, where a **regional median rate of 25 percent for global acute malnutrition (GAM) and 6 percent for severe acute (SAM) malnutrition is reported** (Figure 2), translating to **1 in 4** children being acutely malnourished and **1 in 17 severely malnourished** . **The South hosts 75 percent, or 181,000,** of **all** the **acutely malnourished children and 80 percent, or 46,000,** of all severely malnourished children. Six months earlier, regional levels for the South were at 16 percent, indicating a significant deterioration. Additionally, approximately 16 percent, or 60,000 of the pregnant and lactating women are currently at risk of acute malnutrition (MUAC < 23cm). The situation in the South highlights the nutritional vulnerability of the population that fall into crisis, even after one poor rainy season. Based on the December 2010 survey findings for example, the population groups in Juba and Gedo regions have deteriorated into ***Very Critical*** phases since the *Gu* (April-June) 2010, with global and severe acute malnutrition rates ranging from 25.3% and 6.5% in Juba agro-pastoralists, to 30.7% and 7.7% SAM in Juba pastoralists respectively. Stunting levels also remain high (Figure 3).

Poor infant feeding practice, Galkayo IDP camp, FSNAU Dec. 2010

Reduced access to milk, increasing cereal prices and reduced income levels are the key food security driving factors affecting the nutrition situation across the country. In the south, especially in the agropastoral and riverine communities, a high disease burden exacerbated by limited access to safe water and health care, with the increased stress of mothers to search for food and water also exacerbate the situation. Ongoing civil insecurity in all of the south also continues to hinder humanitarian access by international agencies, to meet the needs of the affected population.

Figure 1: Global Acute and Severe Acute Malnutrition, WHO GS < -2 WHZ & < -3 WHZ and /or Oedema *Deyr* (Oct-Dec) 2010

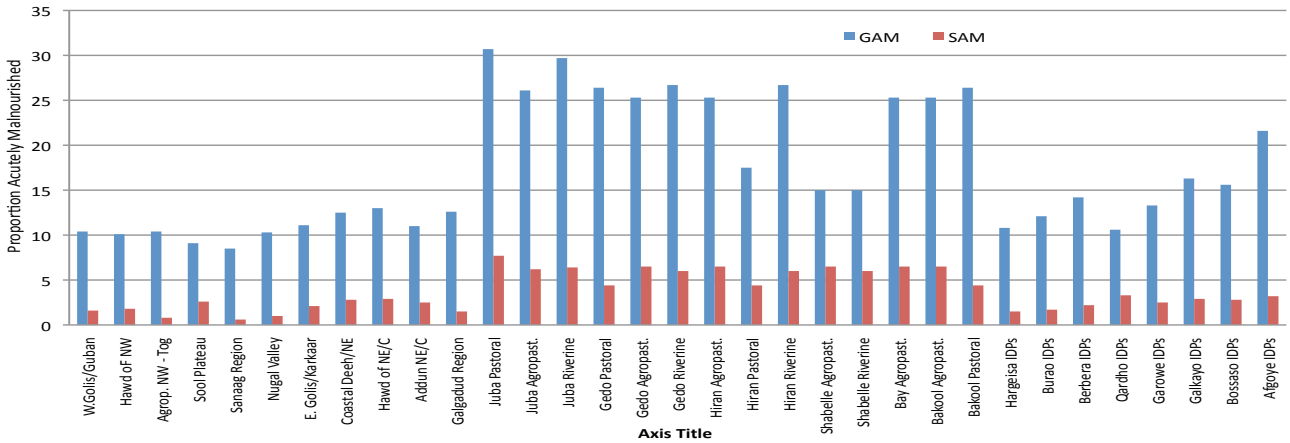


Table 1: Timeline of Activities for *Deyr* 2010/11 Nutrition Situation Analysis

I.	NUTRITION SURVEYS *DEYR* 2010/11 *Livelihood Zone/Population Assessed*	PERIOD
1	Sanaag Region	October 2010
2	Agro-pastoral (Togdheer & Northwest)	November 2010
3	West Golis /GubanPastoral	November 2010
4	Sool Plateau (Northwest and Northeast)	November 2010
5	Hawd Pastoral (Northwest)	November 2010
6	East Golis/Kakaar Pastoral (Northwest and Northeast)	November 2010
7	Nugal Valley Pastoral (Northwest and Northeast)	November 2010
8	Coastal Deeh (Northeast)	November 2010
9	Hawd Pastoral (Central and Northeast)	November 2010
10	Addun Pastoral (Central and Northeast)	November 2010
11	Galgaduud Region	November 2010
12	Gedo Pastoral	December 2010
13	Gedo Agro-pastoral	December 2010
14	Gedo Riverine	December 2010
15	Juba Pastoral	December 2010
16	Juba Agro-pastoral	December 2010
17	Juba Riverine	December 2010
18	Hargeisa IDPs	December 2010
19	Burao IDPs	December 2010
20	Berbera IDPs	December 2010
21	Bossaso IDPs	December 2010
22	Galcayo IDPs	December 2010
23	Garowe IDPs	December 2010
24	Qardho IDPs	December 2010
25	Afgoye IDPs	December 2010
II.	HEALTH FACILITY REVISITS/HIS DATA	Jan. 2009-Dec. 2010
III.	RAPID URBAN NUTRITION ASSESSMENTS	July – Dec. 2010
IV.	FSNAU & PARTNERS NUTRITION ANALYSIS	January 9-20th, 2011
V.	FSNAU INTERNAL NUTRITION SITUATION REVIEW	January 12th, 2011
VI.	NUTRITION SITUATION VETTING MEETING WITH PARTNERS	January 24th, 2011
VII.	FSNAU RELEASE OF RESULTS AND PRESS RELEASE	January 28th, 2011
VIII.	FSNAU FOOD SECURITY AND NUTRITION BRIEF RELEASE	February 15th, 2011
IX.	FSNAU POST DEYR 2010/11 NUTRITION TECHNICAL SERIES REPORT RELEASE	February 25th, 2011

Southern Regions : The nutrition situation has deteriorated in Juba and Gedo regions to ***Very Critical***, and is likely ***Critical*** in Shabelle regions and the cowpea belt and coastal deeh of central regions. A similar situation is *likely* ***Very Critical,*** sustained in Bay, Bakool and Hiran Regions. These worrying findings are attributed both to poor household food access following the *Deyr* 10/11 rain failure, and outbreaks of disease including: acute watery diarrhea (Shabelle, Juba and Bay), whooping cough and measles (in Bay). Unfortunately, the scaling down of humanitarian interventions as a result of civil insecurity, limits access to health care, food and nutrition assistance.

Central Regions: There are improvements in the nutrition situation to ***Serious***, from *Critical* and *Very Critical* levels six months ago. The November 2010 nutrition survey findings for the Hawd and Addun livelihood zones indicate global acute malnutrition rates of **13.0 (10.4-16.2)** and **11.0 (7.7-15.5)**, and severe acute malnutrition rates of **2.9 (1.8-4.7)** and **2.5 (1.3-5.1)** respectively. This is mainly attributed to access to milk and livestock products following the *Gu* 2010 rains that were favourable, together with access to health and nutrition services through humanitarian assistance. Nevertheless the failure of *Deyr* 2010 rains in these areas is likely to negate the nutrition gains made.

Northern regions: There is notable recovery in the nutrition situation in the East Golis regions of Bari, which are seasonally related. This is mainly attributed to increased access to fish and income once the high sea tide season subsided from October 2010. Apart from Sool Plateau livelihood zone where the nutrition situation is ***Alert***, and currently the best nutrition outcome in the country, the situation is ***Serious*** across the livelihoods in the north, attributed mainly to reduced access to milk products. In Sool plateau, the ***Alert*** situation is sustained, likely due to access to humanitarian interventions, and social support. Nevertheless the food security situation remains worrying in this livelihood zone.

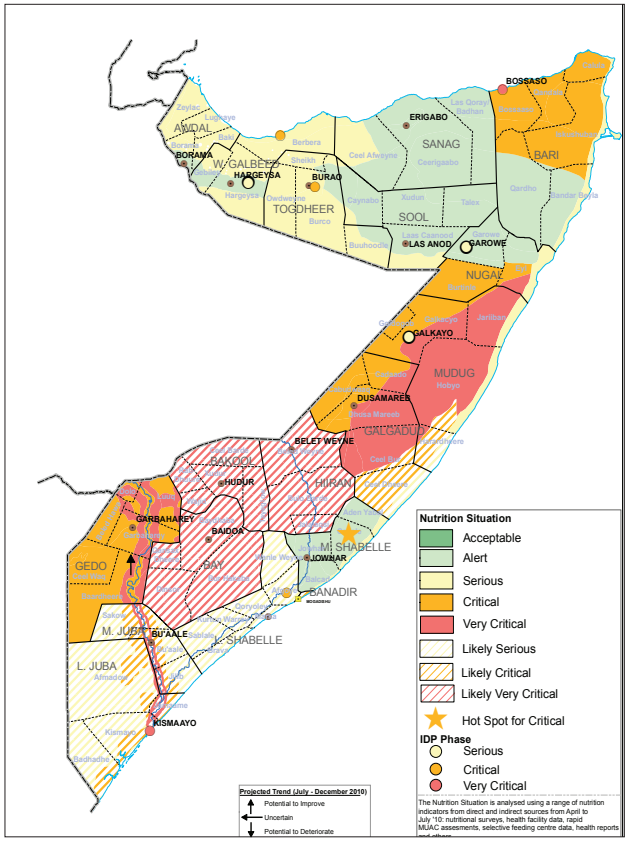
IDPs

There are improvements in the nutrition situation in Bossaso IDPs to ***Critical***, Burao and Berbera IDPs to ***Serious*** and sustained ***Serious*** situation in Hargeisa and Garowe IDPs. In Bossaso IDPs, there is a statistically significant change in the global and severe acute malnutrition rates from 26.0% and 3.3% (pr=0.90) in the Gu 2010, to **15.6 (12.7-19.1) and 2.8 (1.6-4.8)** currently. The improvements are mainly attributed to access to humanitarian support and seasonally increased income from casual labour from port activities. In Galkayo and Afgoye IDPs however, the situation has deteriorated. The December 2010 nutrition survey findings indicated global and severe acute malnutrition rates of **16.3% (13.2-20.0)** and 2.9 (1.8-4.5) in Galkayo IDPs, from >11.4(Pr=0.90) and >1.2(Pr=0.90) respectively, in the *Gu* 2010. In Afgoye IDPs, the December 2010 survey findings indicate GAM and SAM rates of **21.6 (18.2 -25.3)** and **3.2 (2.2 -4.6),** which is a significant deterioration from 15.1 (11.4 –19.8) and 1.7 (1.0 –3.0) in the *Gu* 2010. The deterioration is attributed to the increasing number of IDPs in the region, increasing food insecurity due to high cereal prices and limited income opportunities, with reported outbreaks of disease, amidst very limited humanitarian support.

Urban

The nutrition situation among the urban poor in Somalia is worrying as revealed in the post *Deyr 10/11* integrated analysis. Of great concern are the urban poor in the southern parts of Somalia with their nutrition situation classified as ***Critical*** to ***Very Critical***. Given the desperate situation mainly resulting from the effects of poor *Deyr* rains such as low cereal and livestock production, increased cost of local cereal and minimal access to sustainable livelihoods as well as the general civil insecurity, the urban poor are amongst the most vulnerable groups. In the assessed towns in central regions, there is a mixed picture of ***Alert*** and ***Serious*** nutrition situations. Strikingly, in the Central regions, the urban poor reported a better dietary diversity compared to their counterparts in the South and this could have largely accounted for the ongoing humanitarian interventions in food, nutrition, water and sanitation and increased access to milk products during the assessment. In the Northwest and Northeast, a diverse picture is reported, with a ***Critical*** nutrition situation in Laasanod, Togwajale and Burao, ***Very Critical*** in Hargeisa and ***Alert*** to ***Serious*** in the rest of the urban centres.

Map 1: Somalia Nutrition Situation, Jul 2010



Map 2: Somalia Nutrition Situation, Jan 2011

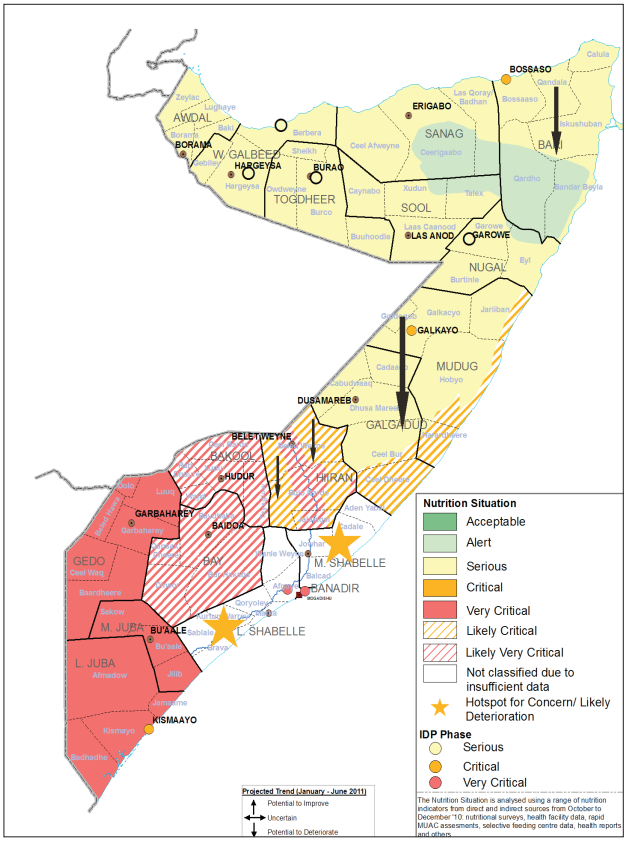


Figure 2: Median Rates, GAM and SAM (WHO GS) July -Dec. 2010 (*Deyr* '10/11)

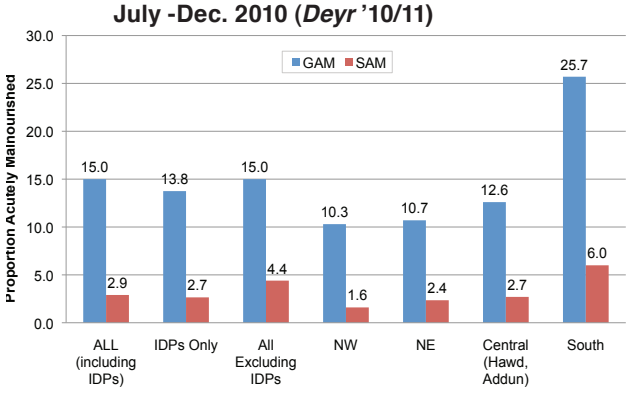
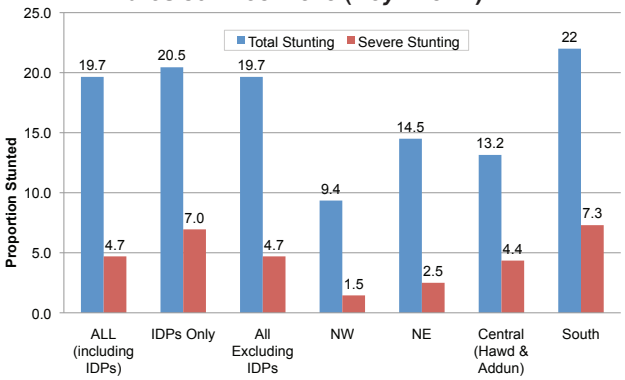


Figure 3: Median Rates, Stunting, WHO GS, Median Rates Jul-Dec. 2010 (*Deyr* '10/11)



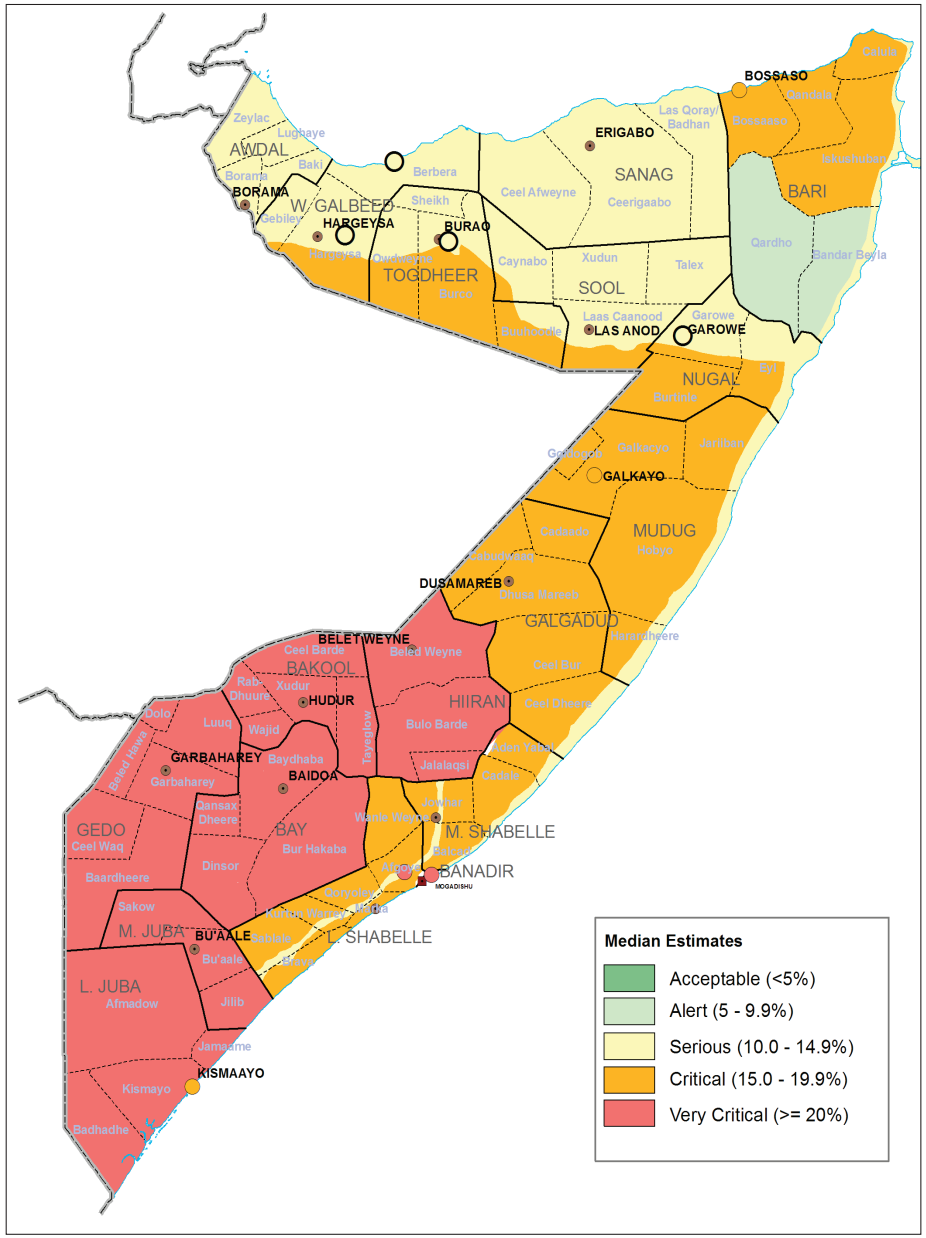
Considerations for the Nutrition Outlook for the next 6 months

The projected trend of the nutrition situation in the coming three months (*Jilaal* 2011 season) shows a likely deterioration from the ***Serious*** phase, across all the population groups in central regions, and sustained ***Very Critical*** phases in most of the south. This is due to the deteriorating household food security associated with the effects of the failed *Deyr* rains and the harsh *Jilaal* conditions being faced, in addition to continued displacements and limited humanitarian interventions. Disease outbreaks in Juba, Shabelle, Hiran and parts of Bay and Bakool regions due to water shortages are also likely which may also exacerbate the precarious situation. In the northern regions, the situation is also likely to deteriorate based on the reduced access and availability of milk due to the extended dry season.

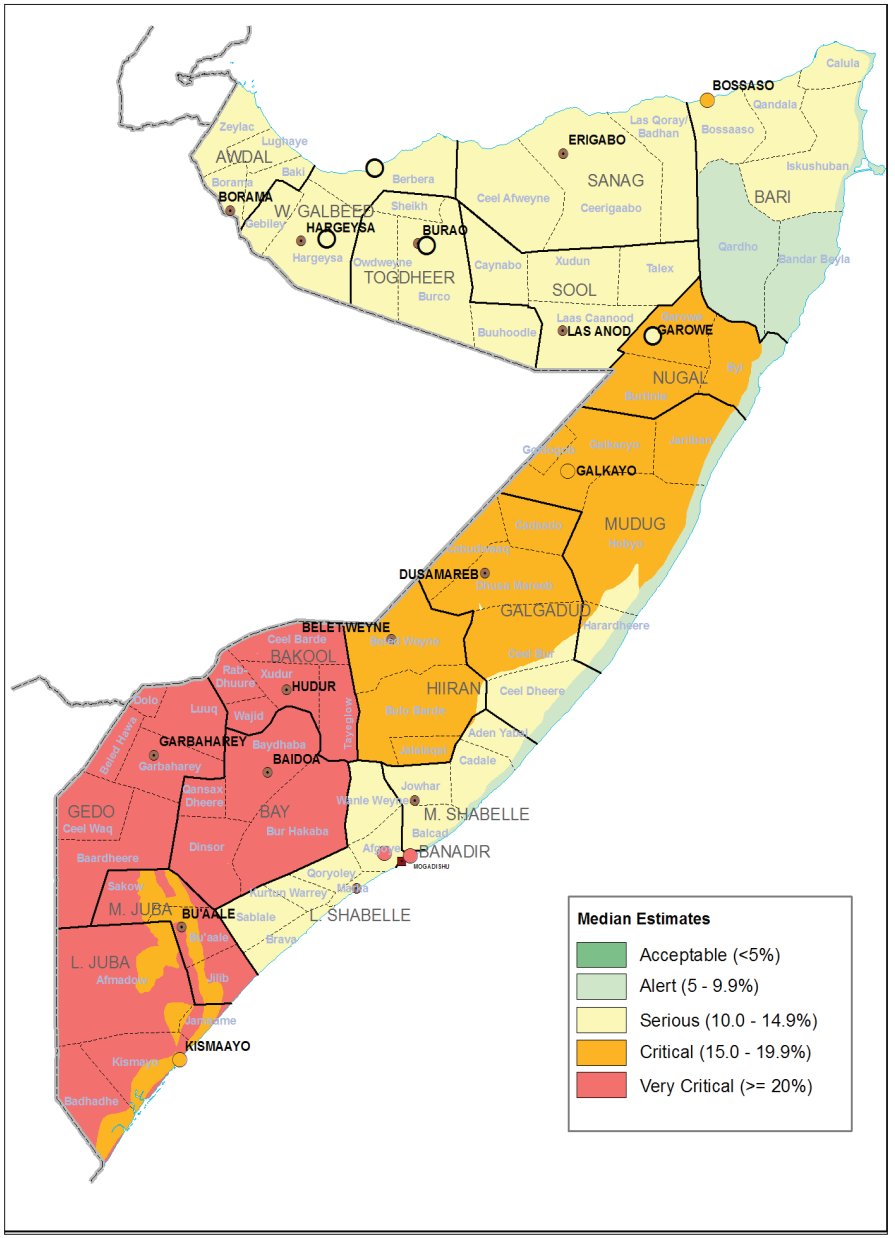
Therefore to adjust for the likely evolution and based on historical trends from previous years of similar conditions, FSNAU conducted a meta analysis of the last three years by season, *Gu* and *Deyr* as they present both good and bad years in most regions and therefore can provide an overview of the likely outcome. Maps 3 and 4 below illustrate that in the *Gu* season the situation is likely to deteriorate to *Critical* in Central regions and parts of the North Western and North Eastern regions and remain at *Very Critical and Critical* in the South. Whereas in the *Deyr* season the situation is likely to improve to *Serious* on North Western and North Eastern regions yet remain *Critical* in Central and *Very Critical* in the South. Therefore for programming purposes response agencies need to consider the likely evolution of the situation and not base priorities only on the current estimates map (Map 2).

FSNAU Technical Series Report No. VI 36
Issued February 25, 2011

Map 3: Likely Outcome *Gu* 2011 (Apri-Jul)



Map 4: Likely Outcome *Deyr* 2011/12 (Oct-Dec)



Food Security Situation Overview

The findings of the FSNAU, FEWSNET and partner post *Deyr* 2010/11 seasonal assessment indicate that the number of people in need of humanitarian assistance in Somalia has increased by 20 percent to 2.4 million. **This represents 32 percent of Somalia's 7.5 million people**. Failure of the *Deyr* seasonal rains linked to the prevailing La Niña event affecting Somalia, caused a severe water crisis in most parts of the country with the exception of north-western regions. The dry conditions have also resulted in substantial crop harvest failure in the South and Central crop-producing regions. The resulting dramatic increases in the prices of water and local cereals are the main drivers of the deteriorating food security situation in Somalia. The situation is exacerbated by the sustained conflict, which continues to be the primary reason of displacement affecting southern and central parts of the country. FSNAU identifies about 910,000 of Internally Displaced Populations (IDPs) as a single population in crisis; in addition, **940,000 people in Acute Food and Livelihood Crisis (AFLC) and 535,000 in Humanitarian Emergency (HE)** are concentrated in rural and urban areas**.**

In rural areas the ongoing widespread humanitarian crisis affects about one million drought-stricken people with rising numbers of destitute pastoralists currently estimated at 45,000 people (7 percent increase from *Gu* 2010). This increase is attributed to the worsening situation in Coastal *Deeh* and Central Agropastoral (Cowpea Belt) that have suffered from several consecutive seasons of drought. Additionally, 475,000 urban poor with severely stressed purchasing power due to soaring food prices are also in crisis.

Large-scale Crop Failure Affecting Farmers in the South

Population in agropastoral and riverine areas of southern Somalia, who predominantly rely on rainfall for subsistence farming, have suffered from a significant decline of the *Deyr* 2010 cereal crop production, which is only one-fifth of the normal short rain season production. As a result, in the South, the number of people in crisis increased by almost 70 percent in agropastoral and riverine areas and currently stands at 440,000 people. Considering that this is the 2nd cropping season of the year, while the preceding *Gu* season yielded an exceptionally good harvest, cereal stocks are still available in many areas. Therefore, the increase in the number of people in crisis was relatively modest compared to the crop losses experienced in this season. Agropastoral livelihoods in the South are more affected compared to riverine communities, as the former experienced a complete failure of crop harvest. Therefore, 76 percent of the affected farmers are from agropastoral livelihoods. However, Hiran riverine livelihood has the largest proportion of the population in crisis (89% of the livelihood's population) due to 8 consecutive seasons of significant crop losses.

Accelerated Urban Food Security Crisis

Significant increases in local cereal prices caused by cereal crop harvest failure and speculation by traders in the South, primarily affected the market dependant urban households and resulted in a considerable 52 percent increase of urban population in crisis since the post-*Gu* 2010. Currently, 475,000 of urban poor are estimated to be in crisis, of whom 38 percent are in ***Humanitarian Emergency***. Food access of the affected population is constrained by high food prices, increased competition from drought-affected rural population and IDPs for scarce job opportunities and social support as well as lack of humanitarian support. The rising cost of living has eroded the purchasing power of large numbers of urban poor and IDPs restricting their access to food, particularly in South, Central as well as in parts of the North. However, in Somaliland Shilling areas (SlSh) of the Northwest the situation has improved, partly due to the bumper *Gu/Karan* harvest in October 2010, which led to a considerable decline in locally-produced cereal prices.

The Drought Affects Pastoral Livelihoods

The pastoral areas in most of the country are severely affected by the water crisis caused by largely failed *Deyr* rains. The rural population in crisis in pastoral areas is currently estimated at 435,000. The pastoral livelihoods most threatened by the water crisis, given the high water and fodder requirement, are those with cattle and sheep, which have limited ability for migrating long distances. These pastoralists are predominantly found in Central (Coastal *Deeh*) and Juba regions. The worst situation is in the livelihood zones of Coastal *Deeh* (Central, Middle Shabelle and Nugaal regions), Cowpea Belt (Central and Middle Shabelle regions) as well as Southern Inland Pastoral of Hiran region, where livestock (cattle, sheep and goat) deaths due to the scarcity of water and pasture were reported.

Increasing Numbers of Internally Displaced People (IDPs)

Number of IDPs abandoning their homes and livelihoods to escape the rampant conflict in southern and central parts of Somalia increased to 1.46 million people (4%) in the second half of 2010. Nearly half of the IDPs are integrated in rural and urban communities and share the plights of drought-stricken population. The IDPs considered outside of the rural and urban numbers from FSNAU are currently estimated at 910,000 and represent 2nd largest single population group in crisis. These IDPs are equally affected by soaring food prices, limited humanitarian support, particularly those in South and Central with malnutrition rates above 20 percent.

Map 5: Somalia Integrated Food Security Phase Classification, Jan - Jun, 2011

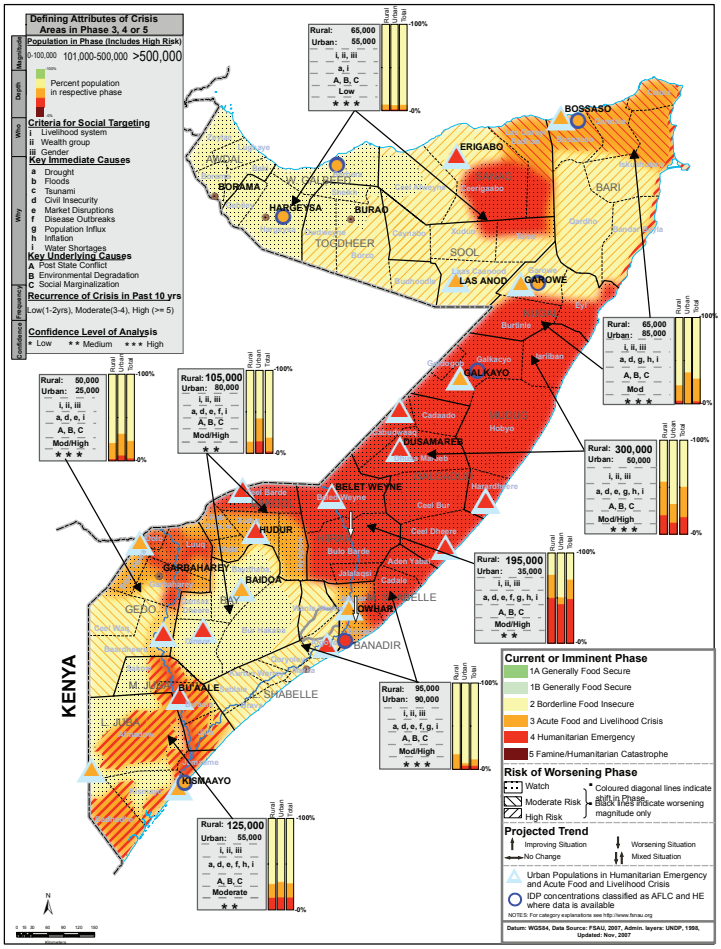


Table 2: Somalia Integrated Food Security Phase Classification, Population Numbers, Jan - Jun, 2011

Region	UNDP 2005 Total Population	UNDP 2005 Urban Population	UNDP 2005 Rural Population	Urban in Acute Food and Livelihood Crisis (AFLC)	Rural in Acute Food and Livelihood Crisis (AFLC)	Urban in Humanitarian Emergency (HE)	Rural Humanitarian Emergency (HE)	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	15,000	0	0	4
Sanaag	270,367	56,079	214,288	20,000	25,000	15,000	15,000	28
Sool	150,277	39,134	111,143	20,000	10,000	0	0	20
Bari	367,638	179,633	202,737	60,000	40,000	0	5,000	29
Nugaal	145,341	54,749	75,860	25,000	15,000	0	10,000	34
Sub-total	**2,341,718**	**1,054,371**	**1,287,347**	**125,000**	**105,000**	**15,000**	**30,000**	**12**
Central								
Mudug	350,099	80,997	131,455	30,000	90,000	0	50,000	49
Galgaduud	330,057	58,977	271,080	0	100,000	20,000	60,000	55
Sub-total	**680,156**	**139,974**	**402,535**	**30,000**	**190,000**	**20,000**	**110,000**	51
South								
Hiraan	329,811	69,113	260,698	5,000	65,000	30,000	130,000	70
Shabelle Dhexe (Middle)	514,901	95,831	419,070	20,000	70,000	0	15,000	20
Shabelle Hoose (Lower)	850,651	172,714	677,937	15,000	10,000	55,000	0	9
Bakool	310,627	61,438	249,189	5,000	90,000	25,000	5,000	40
Bay	620,562	126,813	493,749	45,000	10,000	5,000	0	10
Gedo	328,378	81,302	247,076	20,000	45,000	5,000	5,000	23
Juba Dhexe (Middle)	238,877	54,739	184,138	0	30,000	25,000	30,000	36
Juba Hoose (Lower)	385,790	124,682	261,108	30,000	35,000	0	30,000	25
Sub-total	**3,579,597**	**786,632**	**2,792,965**	**140,000**	**355,000**	**145,000**	**215,000**	**24**
Banadir	**901,183**	**901,183**	**-**	-	-	-	-	0
Grand Total	**7,502,654**	**2,882,160**	**4,482,847**	**295,000**	**650,000**	**180,000**	**355,000**	**20**

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	**475,000**	**6**	**20%**
Assessed **Rural** population in AFLC and HE	**1,005,000**	**13**	**42%**
Estimated number of IDPs (UNHCR)	**1,465,000**	**20**	**-**
Adjusted IDP to avoid double counting in Rural IPC	**910,000**	**12**	**38%**
Estimated Rural, Urban and IDP population in crisis	**2,390,000 – rounded to 2.4 million**	**32**	**100.0%**

Notes:
1 Source: Population Estimates by Region/District, UNDP Somalia, August 1, 2005. FSNAU does not round these population estimates as they are the official estimates provided by UNDP
2 Estimated numbers are rounded to the nearest five thousand, based on resident population not considering current or anticipated migration, and are inclusive of population in High Risk of AFLC or HE for purposes of planning
3 Dan Gorayo is included within Bari Region following precedent set in population data prior to UNDP/WHO 2005
4 Source UN-OCHA/UNHCR: New IDP updated September, 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 cummulative IDP data
5 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
6 Actual figure is 2,390,000 rounded to 2,400,000
7 Percent of total population of Somalia estimated at 7,502,654 (UNDP/WHO 2005)

2. CASELOADS OF ACUTELY MALNOURISHED CHILDREN IN SOMALIA

FSNAU, in collaboration with nutrition cluster partners have, since 2008, illustrated 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 countries, rather than just present the prevalence estimates. The impact of population density in determining response needs is thereby manifested. In Map 6, illustrations for the nutrition situation with the caseloads for acute malnutrition based on the most recent (*Deyr* 2010) nutrition assessments data are provided.

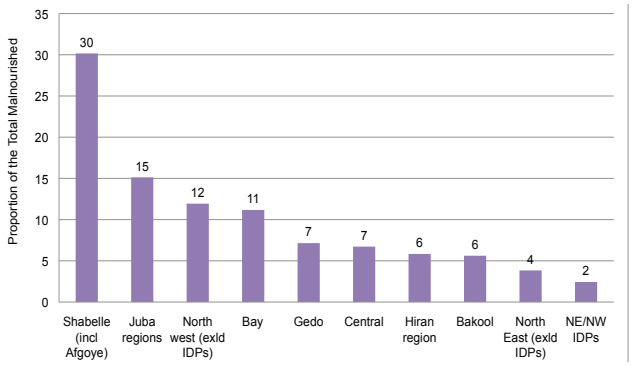
Post *Deyr* 2010/11, Estimated Nutrition Situation

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 the south, where representative surveys during the *Deyr* '10 were hindered by access, and rapid assessments based on the mid upper arm circumference (MUAC) conducted in accessible areas instead, reliability of data used is lower (R=2). The integrated analysis and overall phase classification of the assessed population is based on the Nutrition Situation Classification Framework. (Table 4).

Post *Deyr* 2010/11, Estimated Caseloads of Acute Malnutrition

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 (Shabelle, 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 on the basis of 100% of the population children aged below 5 years in Somalia. Population figures from the UNDP 2005 settlement survey are used as the standard reference for Somalia.

Figure 4: Proportion of Total Caseloads of Acutely Malnourished children (WHZ<-2 or oedema), by Region Jan, 2011



Analysis of the Post *Deyr* 2010/11 findings indicates **a national level of 16% of under fives to be acutely malnourished, with 4 percent severely.** This translates to approximately **241,000 acutely malnourished children, of whom, 57,000 are severely malnourished; which means: 1 in 7 children is acutely malnourished and 1 in 25 is severely malnourished.** The total caseloads reflect a 7 percent increase from six months ago when 230,000 were estimated to be acutely malnourished (*Gu* 2010). With regard to severe acute malnutrition, there is a 31 percent increase from 35,000 in the *Gu* 2010. At regional level, these figures are derived by extrapolating the prevalence rate of acute malnutrition to the total under five population. (Table 3). Hence, Shabelle regions (including Afgoye IDPs and Banadir) are host to 30% of all the acutely malnourished children in Somalia (Figure 4), while Juba and Bay regions host 15% and 11% respectively. Hence, Shabelle, Juba and Bay are host to 57% of all malnourished children in Somalia (Map 6). This illustrates the implication of population density on caseloads, as Shabelle, currently perceived to be a hot spot for ***Critical*** is host to more acutely malnourished children than regions such as Hiran and Gedo, which are in ***Very Critical*** phases.

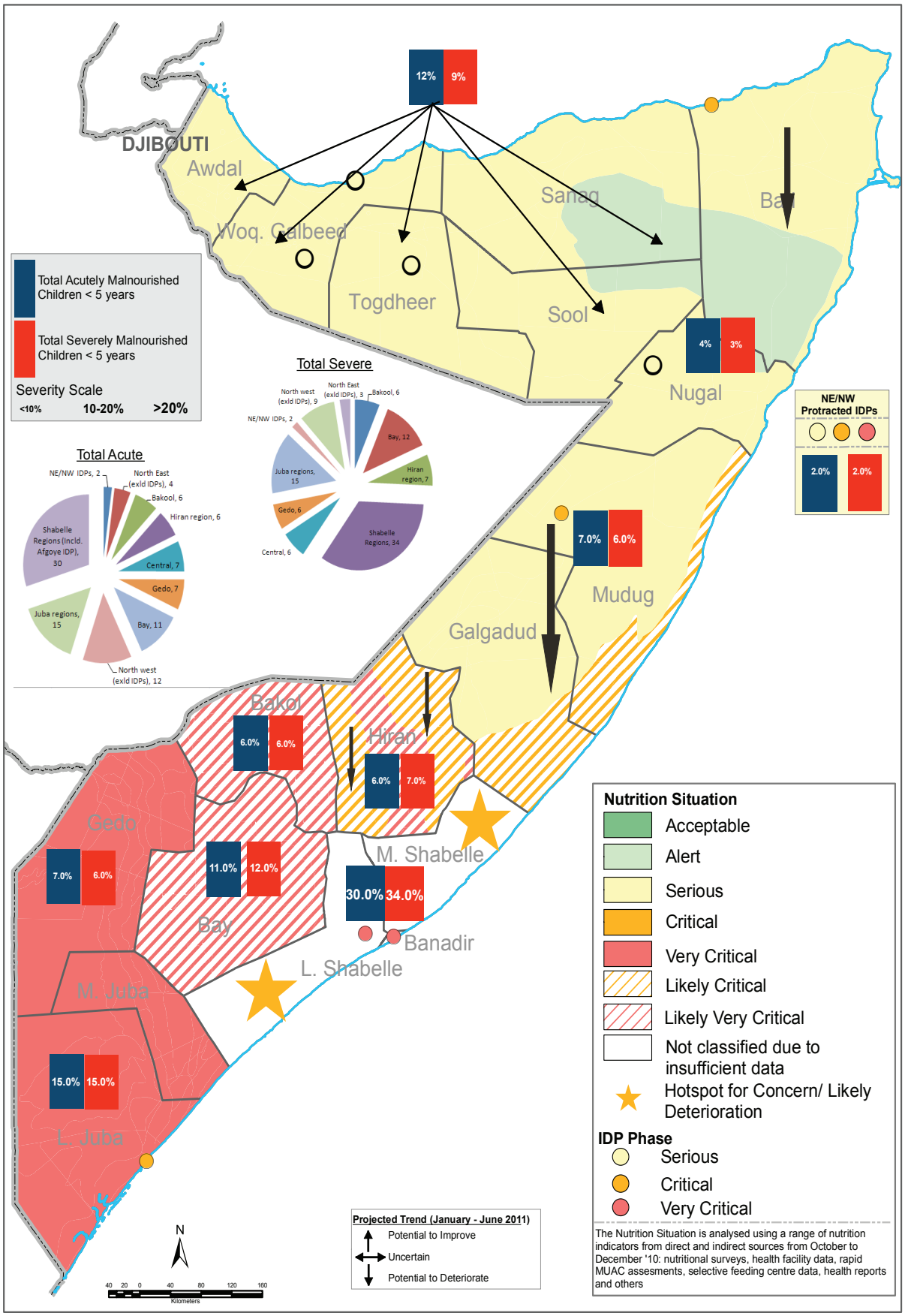
These estimates are based on the cross sectional nutrition situation analysis, and therefore reflect the estimates at the point in time. For planning/response purpose however, projections need to be made of the cumulative numbers of acutely malnourished children in a given time frame, either six months, or a year, applying an incidence rate.

Projected Caseloads of Acute Malnutrition, January – December 2011

In making projections of caseloads of acutely malnourished children for the period January – December 2011, three important aspects have been considered: i). Seasonal variations and its impact on nutrition status, ii). The nutrition dynamics in the south amidst the current socio-political environment. Iii). Incidence rate.

- Seasonal fluctuations, in terms of food and income access, and disease outbreaks, are major factors in projecting the nutrition situation in most population groups of Somalia. Thus rather than applying the nutrition findings of the current season only as a basis for year 2011 estimates, the average of the *Gu'*10 and *Deyr* 10 findings is considered more appropriate as this takes into account a good season and a not so good season so a more likely outcome of the situation in 2011. This is especially relevant for the north, and parts of central regions.

Map 6: Distribution of estimated Caseloads (%) of Acutely Malnourished Children in Somalia by Region, Jan 2011- Mar 2001



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- In addition to seasonal factors, the ongoing civil insecurity in the south compounds the precarious nutrition situation. Civil insecurity hinders local investments in the livelihood systems, limiting food security both in the medium and longer term. Ongoing significant displacements hampers people's ability to cope, especially in lean periods. With inadequate humanitarian support to mitigate the situation, the social support systems are overstretched, with implications that the post *Deyr* 2010 median rate of acute malnutrition in the under fives in the south, is ***Very Critical***, currently at 25%. Given this situation includes the impact of the ongoing crisis, however, these figures are considered relevant for Southern regions as estimates for the 2011 outlook without adjusting for the *Gu* 2010 figures.

- Findings from studies conducted in the Democratic Republic of Congo, and Senegal, (Garenne et al, 2008: *Incidence and duration of severe wasting in two African populations)*, demonstrated 1.6 as the appropriate incidence rate, for caseloads estimates of acute malnutrition for a period of one year, at the time. A study to establish a Somalia specific incidence rate is underway in 2011. The Somalia Nutrition Cluster has, in the meantime, adopted the incidence rate of 1.6, to project the cumulative caseloads of acute malnutrition in 2011. (see Table 3 below).

Estimated Proportions:

- For the north and central regions, the incidence rate of 1.6 has been applied to the average of the *Gu* 2010 and *Deyr* 2010 caseloads. Approximately 117,500 acutely malnourished children are therefore projected in these regions in 2011, with 17, 100 in severe state. For pregnant or lactating women, 40,000 are estimated in the north and central.

- Due to the complex dynamics, and unforeseeable improvements of the nutrition situation in the south, the current 25% (*Deyr* 2010) median rate of acute malnutrition in the region, with the incidence rate of 1.6 applied, has been extrapolated to the under 5 population, to project the caseloads for 2011. This translates to approximately 358, 500 caseloads of malnutrition in the south in 2011, of whom 86,000 are in severe state. For pregnant or lactating women, 46,000 are estimated in the south.

In 2011 therefore, the projected total caseloads of acute malnutrition in Somalia is 476,000 children aged below 5 years, of whom 103, 000 are severely malnourished; In addition, 86,000 pregnant or lactating women are at risk.

Table 3 provides a summary of the *Gu* 2010, *Deyr* 2010 caseloads, and the projections for the 2011 under five caseloads of acute malnutrition, by region, based on the justifications provided above.

Table 3: Caseloads of Acute Malnutrition in the under fives, *Gu* 2010, *Deyr* 2010/11 and Projections for 2011

Region	Total Population	Total <5 yrs	Children acutely malnourished (<-2 WHZ WHO or oedema), DEYR 10/11		Children acutely malnourished (<-2 WHZ WHO or oedema), GU 10/11		Average for Deyr10 & Gu'10 - (North and Central only)	25% Median Value (South Only)	2011 projections (at Incidence Rate of x1.6) for 12 months
	No.	No.	No.	Proportion	No.	Proportion	No.	No.	No.
Bakool	310627	62125	13545	6	13,900	6		15531	**24850**
Bay	620560	124112	26932	11	27700	12		31028	**49645**
Hiran	329811	65962	14066	6	15400	7		16491	**26385**
Shabelle (includes Banadir, & Afgoye IDPs)	2266735	453347	72701	30	56600	25		113337	**181339**
Gedo	328378	65676	17229	7	11600	5		16419	**26270**
Juba	624667	124933	36464	15	18000	8		31233	**49973**
Central	680156	136031	16201	7	27100	12	21650		**34641**
NE/NW IDPs	224100	44820	5866	2	7000	3	6433		**10293**
North west (exId IDPs)	1677747	335549	28775	12	45300	20	37038		**59260**
North East (exId IDPs)	439979	87996	9246	4	7400	3	8323		**13317**
Total	**7502760**	**1500552**	**241027**	**100**	**230,000**		**73444**	**224039**	**475973**

For infomation on Caseloads of Severe Acute Malnutrition in under Fives and pregnant/lactating women, refer to Annex 8.3 or contact info@fsnau.org.

Summary of Year 2011 Caseload Estimates

Region	Year 2011Estimates for **Total Malnourished Under Fives**	Year 2011 Estimates for **Severely Malnourished Under Fives**	Year 2011Estimates for **Pregnant/ Lactating women at risk (MUAC < 23cm**
North/Central (including Idps)	117, 500	17,000	40,000
South (Including Idps)	358,500	86,000	46,000
TOTAL	476,000	103,000	86,000

3. NUTRITION ANALYSIS IN SOMALIA

FSNAU has over the years, developed a format for analyzing the nutrition situation which results in a cartographical output (a nutrition situation map). 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, SCUK, 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 current research developments, and the switch from NCHS 1997 to WHOGS.

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

A. Core Outcome Indicators (mainly 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, denoting the prevalence of acute malnutrition. In addition , 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 statistically representative data is not available, this is illustrated through slash marks on the map. 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 (January – March 2011 for the post *Deyr*'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 4. The Nutrition Situation Classification Framework, Draft 7, Jul 2010

A. **CORE OUTCOME INDICATORS** (Anthropometry & Mortality)

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Global Acute Malnutrition[1] *(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	
SAM[2] (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 rate[4]**/** 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
MUAC[5] 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<11.5cm[7] *(R=2)*			≤1.0%	>1.0%	
Adult MUAC[8] **- 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 Maternal[9] Undernutrition **BMI<18.5**	<10%	10.0 to 19.9%	20.0 to 39.9%	>40%	
Non Pregnant Maternal[10] Overnutrition **BMI>24.9**	TBC	TBC	TBC	TBC	
HIS[11] **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
Sentinel[12] **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*

B. **IMMEDIATE CAUSES**

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Poor HH Dietary Diversity (% consuming<4fdgps) Mean HH dietary diversity Score [13]	<5% TBC	5 – 9.9% TBC	10-24.9% TBC	25 – 49.9% TBC	≥50% TBC
Disease Outbreaks[14]: (seasonally adjusted). Frequency of reported outbreaks of AWD &, malaria & measles	• 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 reportedly sick	TBC Low & stable proportion of reportedly sick based on seasonal trends	TBC Low proportion reportedly sick, from previous months but increasing in >2 mnths based on seasonal trends	TBC High levels and stable numbers in >2 months based on seasonal trends	TBC High with significant Increase in numbers of sick children, based on seasonal trends

C. DRIVING FACTORS

Reference Indicators	Acceptable	Alert	Serious	Critical	Very Critical
Complementary feeding[15] in addition to breastfeeding i. Introduction of complementary food at 6 mths of age: %introduced ii. Meeting minimum recommended feeding frequency[16] iii. Dietary diversity17 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) Practices[18] *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 Coverage**[19]9:1 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 Feeding [20] Programs Available: Coverage of TFP /SFP & referral systems(Sphere04); **-Admissions trends** *(R=3)*	Should not be necessary	Access for most vulnerable	None available		
Food Security Situation- current IPC status	Generally Food Secure	Borderline Food Secure	Acute Food and Livelihood Crisis	Humanitarian Emergency	Famine/Humanitarian Catastrophe
Civil Insecurity	Prevailing structural peace	Unstable disrupted tension	Limited spread, low intensity	Widespread, high intensity	Widespread, high intensity
3 MONTH NUTRITION SITUATION OUTLOOK	*Convergence of evidence on immediate Causes/Driving factors vis-à-vis Projected trend in 3 months time* *No change: Stable; Uncertain: Potential to deteriorate Potential to improve:*				

Analytical Process: Key Points

1) To make a statement on the
a. Nutrition situation: A minimum of **two Core indicators** are recommended ensuring a reliable analysis
b. Projected trend: A minimum of two **risk factors (immediate or underlying)** are recommended ensuring a reliable analysis.
2) The overall classification of the nutrition situation for a given area is done taking into account historical nutrition and contextual data. Triangulation of all indicators is also undertaken.
3) 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.
4) Where possible nutrition information should be analyzed at livelihood level, & not at administrative, this is the case in Somalia.
5) 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.
6) Other contexts needed to refine certain indicators such as dietary diversity & MUAC - currently they are based on historical analysis from FSNAU
7) Further inclusion of indicators relating to i). Displacement and ii). Population concentration for displacement is required.
8) 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.
9) This tool should only be used by nutrition experts who have the ability to critically evaluate and contextualize nutrition information

(Footnotes)

1 Global Acute Malnutrition (weight for height <-2 Z score/oedema), WHO, 1995
2 Severe Acute Malnutrition (weight for height <-3 Z score/oedema): Thresholds derived from quantile distribution of SAM from 148 PPS survey datasets at FSNAU
3 Bilateral oedema is riverine livelihood specific indicator rather than for the whole country
4 Refs: i). Sphere 2004; ii). Emergency Field Handbook (A guide for UNICEF staff, pg 139) July 2005
5 Mid Upper Arm Circumference, data source – rapid assessments, based on children 6-59 months
6 Follow up with S. Collins study/ Mike Golden/ Mark Myatt and on-going studies
7 Review of Nutrition and Mortality Indicators for the Integrated Food Security Phase Classification, Helen Young and Susanne Jaspars, Sept 2009
8 Thresholds for adult MUAC (pregnant/lactating and non-pregnant women) derived from quantile distribution of MUAC data from 63 PPS survey datasets at FSNAU
9 WHO Expert Committee, 1995
10 WHO Expert Committee, 1995
11 Health Information System, data source – health facilities
12 Data source, over 120 sentinel sites in different livelihoods in South Central Somalia
13 Data source, nutrition surveys, dietary studies and sentinel sites
14 Data source, nutrition surveys, Health Information System, Sentinel sites, feeding centers, rapid assessments
15 Data source, nutrition surveys and dietary studies
16 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
17 WHO 2008. Indicators for assessing infant and young child feeding practices
18 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
19 WHO references
20 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, Belet Hawa, 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, 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 rearing mainly cattle, sheep goats and camel. The Southern Inland pastoral population is located in southern Gedo and mainly keep camel alongside sheep and goats that are more resilient. The agro-pastoral population is divided into Southern agro-pastoral and Gedo agro-pastoral high potential (Map 7).

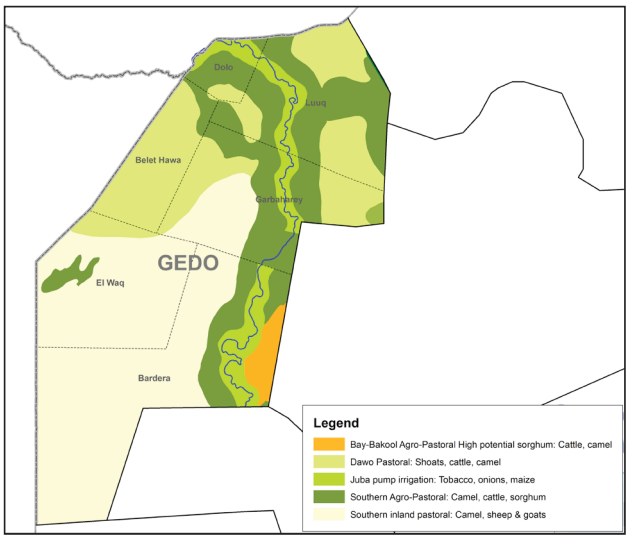
Gedo is one of the regions in Somalia that has been adversely affected for a long time by the cumulative effects of extended conflict and recurrent natural disasters. This has resulted in the disruption of livelihood systems, including loss of livestock and crop failure and culminated in a persistent 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 largely been attributed to climatic factors whereby poor rain performance/drought has contributed to crop failures and death of livestock, especially cattle and sheep 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 5 indicates the trends of acute malnutrition (using WHO reference growth standards) in Gedo since 2006.

Historical Overview - Post *Gu* '10

Food security

The FSNAU Post *Gu'*10 integrated food security phase classification indicated that the poor Southern agro-pastoral population in Northern Gedo was sustained in **Humanitarian Emergency (HE)** while other livelihoods in the region were classified either in **Borderline Food Insecure (BFI)** or **Acute Food and Livelihood Crisis (AFLC)** phases. Approximately, 2,000 people were faced with **HE,** and 44,000 people were classified in **AFLC** phase in the entire region. This was an improvement from the Post *Deyr* '09/10 analysis when about 20,000 and 70,000 in the region were faced with **HE** and **AFLC** respectively. The improvement then was attributed to the good *Gu '1*0 rainfall performance in most parts of Gedo region with the

Map 7: Gedo Region Livelihood Systems

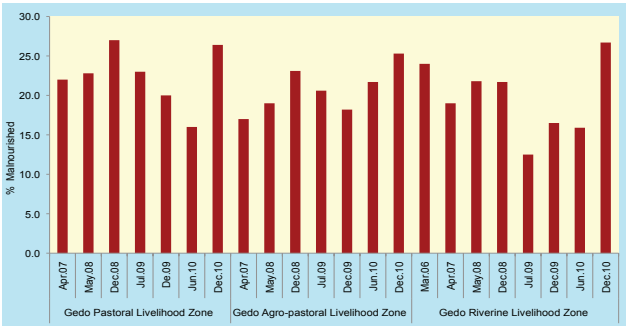


exception of localized areas of Belet Hawa and Garbaharey districts. The positive *Gu*'10 rainfall performance resulted in a significant improvement of food security in the region with crop production increasing from 54% of Post War Average in the *Deyr* '09/10 to 117% in the *Gu*'10 season, while livestock body conditions and production was greatly enhanced.

Nutrition

The integrated analysis of data from nutrition assessments conducted in Gedo region in July 2010, with health and feeding facilities information, indicated a *Very Critical* nutrition situation among the agro-pastoral population and a *Critical* situation among the pastoral and riverine populations. The vulnerability to high acute malnutrition levels in the region was largely attributed to chronically high morbidity, poor access to diversified diets and basic services such as health, safe water and sanitation facilities and sub-optimal infant and young child feeding and care practices.

Figure 5: Trend in Level of acute Malnutrition (WHZ<-2 or oedema, WHO 2006) in Gedo Region, 2006-2010



Current Situation

Food Security

The FSNAU Post *Deyr* '10/11 analysis indicates that the poor agro-pastoral population in Gedo region remain classified

A woman milking a weak cow: out-migration of livestock leaves women and children with reduced milk access

in **HE** while other population groups in the region are either classified in **AFLC** or **BFI.** The total population in crisis in Gedo region has significantly increased from about 14% in *Gu* '10 to 23% (75, 000) in the current season, of whom 10,000 are in **HE** and 65,000 are in **Acute Food and Livelihood Crisis**. Of the total in crisis, 5,000 people in **HE** and 20,000 in **AFLC** are from urban while the remaining are from rural livelihoods. The Post *Deyr'10/11* analysis shows a deterioration in the food security situation with poor crop and animal production recorded in Gedo region. This deterioration has come as result of the poor *Deyr* rainfall performance which has significantly affected the rainfall dependent pastoral and agro-pastoral livelihoods. The overall cereal production has significantly declined from 117% in *Gu '10* to only 22% of PWA currently, consequently, an increase in cereal prices has been observed in the region, impacting on cereal access. Similarly, milk availability and access has declined due to poor livestock body conditions. In addition, the poor water and pasture conditions have contributed to abnormal livestock out-migration from the region that results in splitting of households and the consequential reduction in milk access among the family members who are left behind.

Nutrition

The integrated analysis of data from nutrition assessments[1] conducted in Gedo in December 2010, and health and feeding facilities' data show a ***Very Critical*** nutrition situation among the three livelihood groups in the region. The nutrition assessment among the pastoral population indicates a GAM rate of **26.4%** (22.2-31.1) and SAM rate of **4.4%** (3.0-6.3) indicating a ***Very Critical*** nutrition situation and a deterioration from the *Critical* levels recorded in *Gu '10*. An assessment among the riverine population showed a GAM rate of **26.7%** (21.5-32.8) and SAM rate of **6%** (4.1-8.6), indicating a ***Very Critical*** nutrition situation and a deterioration from the *Critical* levels recorded in *Gu* '10. A comparison of the current GAM rates with the respective GAM rates of >16.3 % (Pr=0.90) and >15.9 % (Pr=0.90) recorded in July '10 assessments among the pastoral and riverine populations respectively, indicates a statistically significant deterioration (Pr>94%) using the CDC two survey calculator.

The assessment conducted among the agro-pastoral population show a GAM rate of **25.3%** (21.5-29.5) and a SAM rate of **6.5%** (4.6-9.2**)** indicating a sustained ***Very Critical*** nutrition situation since *Gu*'10, when a small sample nutrition assessment conducted in July'10 estimated a GAM rate of >21.7% (Pr =0.90) and SAM rate of >5.6% (Pr =0.90). Though the current GAM rate is higher than that recorded in the July'10 assessment, the difference is not statistically significant when analyzed using the CDC two survey calculator (Pr = 8.7%). In all the three livelihoods, higher proportions of boys than girls are acutely malnourished (Table 5), however, there is no significant statistical difference in the distribution of acute malnutrition between sexes implying that they were equally affected (p>0.05). On the contrary, higher proportions of girls than boys were reportedly ill two weeks prior to the assessment but the differences were not statistically significant (P>0.05).

The overall nutrition situation in Gedo region is ***Very Critical*** and shows a general deterioration in all the three livelihoods. The worrying nutrition situation in the region is mainly linked to chronic underlying factors including ; poor dietary quality, sub-optimal child care and feeding practices, and limited access to basic human services such as safe water, health and sanitation facilities, which predispose populations to high morbidity and subsequently high levels of acute malnutrition. The situation is further aggravated by the negative impact of the poor *Deyr '10* rainfall performance manifested by crop failure and poor livestock production which has significantly affected household access to cereals, milk and income. In view of the high malnutrition levels in the region and as well as in the adjacent areas in the neighbouring countries, urgent multi-sectoral and coordinated cross border responses to rehabilitate acutely malnourished children and address the underlying causes are required in the region. Long term interventions geared towards cushioning the population from the impact of erratic rainfall conditions that have largely been responsible for the disruption of livelihood systems and the resultant severe outcomes are essential. The key reference nutrition evidence indicators of the analysis on the nutrition phase classification are provided in Table 5.

1 The surveys were conducted jointly by FSNAU/UNICEF, Trocaire, African Muslim Aid (AMA), Himilo Relief and Development Association (HIRDA) and Somalia Red Crescent Society (SCRS)

Table 5: Summary of Key Nutrition Findings in Gedo Region

	Pastoral (N=730)		Agro-pastoral (=629)		Riverine (N=617)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**26.**4 (22.2-31.1) 30.2 22.6	Very Critical	**25.**3 (21.5-29.5) 28.0 22.3	Very Critical	**26.7** (21.5-32.8) 31.3 22.0	Very Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	**4.4** (3.0-6.3) 5.4 3.3	Serious	**6.5** (4.6-9.2) 6.7 6.3	Critical	**6.0** (4.1-8.6) 6.7 5.3	Critical
Mean WHZ (WHO, 2006)	-1.18±1.14	Critical	-1.14±1.35	Critical	-1.20±1.21	Critical
Global Acute Malnutrition (NCHS)	25.2(21.0-29.9)	Very Critical	24.2(20.1-28.9)	Very Critical	26.9(21.3-33.3)	Very Critical
Severe Acute Malnutrition (NCHS)	0.8(0.3-2.0)	Acceptable	2.9(1.5-5.5)	Acceptable	2.9(1.5-5.5)	Acceptable
Global Acute Malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	10.8 (7.3-15.8) 9.7 12.0	Critical	16.1 (11.9 -21.3) 14.3 18.0	Very Critical	18.2 (12.9 -23.5) 18.0 18.5	Very Critical
Severe Acute malnutrition by MUAC (<11.5 cm or oedema) Boys Girls	1.6(0.9-3.0) 1.3 1.9	Critical	1.6 (0.9-2.9) 1.2 2.0	Critical	3.2(1.7-5.9) 2.8 3.6	Very Critical
Stunting (HAZ<-2) Boys Girls	17.7(14.0-22.0) 21.3 13.9	Acceptable	32.8 (27.8-38.1) 37.1 28.0	Alert	20.7 (15.8-26.7) 19.8 21.7	Alert
Underweight (WAZ<-2) Boys Girls	24.8 (20.3-29.9) 30.2 19.2	Serious	33.1 (29.3-37.1) 35.9 30.0	Serious	37.4 (31.5-43.7) 39.9 34.8	Serious
HIS Nutrition Trends(July-Dec. 2010)	High (>30%) levels and increasing trends	Very Critical	High (>30%) levels and increasing trends	Very Critical	High (>30%) levels and increasing trends	Very Critical
Admission trends at TFPs/SFPs (Gedo – July-Dec. 2010)	High and increasing admissions trend	Critical	High and increasing admissions trend	Critical	High and increasing admissions trend	Critical
Proportion of acutely malnourished registered in SFs	2.6	Very Critical	4.4	Very Critical	16.5	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak – None Morbidity – 40.8 Diarrhea -10.7 Pneuonia-32.2 Fever-31.5	Very Critical	Outbreak -None Morbidity– 40.5 Diarrhea -15.3 Pneumonia-16.5 Fever-26.6	Very Critical	Outbreak -None Morbidity– 39.8 Diarrhea -11.7 Pneumonia-13.9 Fever-24.0	Very Critical
Immunization Status	Vitamin A –86.0 Measles – 88.4	Alert	Vitamin A – 86.2 Measles- 88.4	Alert	Vitamin A – 90.7 Measles- 91.8	Alert
Infant and Young child feeding	**N=239**		**N=211**		**N=225**	
Proportion still breastfeeding	45.6	Critical	53.6	Critical	49.3	Critical
Proportion meeting recommended feeding frequencies	23.4	Very Critical	21.3	Very Critical	27.6	Very Critical
Proportion who reported to have consumed <4 food groups	95.8	Very Critical	70.6	Very Critical	88.0	Very Critical
Death Rates						
Crude deaths, per 10,000 per day (retrospective for 90 days)	0.44(0.23-0.84)	Acceptable	0.34 (0.16-0.75)	Acceptable	0.22(0.11-0.460)	Acceptable
Under five death,s per 10,000 per day (retrospective for 90 days)	1.27(0.53-3.04)	Acceptable	0.88 (0.36-2.02)	Acceptable	1.69(0.78-3.61)	Acceptable
Women Nutrition & Immunization Status	N=283		N=124		N=326	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	3.5 N=115	Acceptable	0.8 N=205	Acceptable	1.3 N=147	Acceptable
Proportion of acutely malnourished pregnant/ lactating women (MUAC<23.0).	37.1 N=283	Very Critical	30.3 N=124	Very Critical	29.4 N=177	Very Critical
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	6.4 7.0 12. 74.4	Acceptable	10.0 9.1 46.1 34.8	Acceptable	4.6 6.7 36.9 51.8	Acceptable
Public Health Indicators	**N=390**		**N=341**		**N=348**	
Household with access to sanitation facilities	17.7	Very Critical	52.3	Critical	14.4	Very Critical
Household with access to safe water	10.3	Very Critical	6.7	Very Critical	0	Very Critical
Access to mosquito nets	36.2	Critical	19.1	Very Critical	27.5	Very Critical
Food Security	**N=390**		**N=341**		**N=348**	
Proportion who reported to have consumed <4 food groups	31.0	Very Critical	17.0	Serious	35.1	Very Critical
Household's Main Food Source Own Production Purchase:	6.6 92.1	Acceptable	52.9 46.5	Critical	23.7 76.0	Critical
Food security phase	BFI/AFLC	**Critical**	AFLC/HE	Very Critical	BFI/AFLC	**Critical**
Overall Situation Analysis	**Very Critical**		**Very Critical**		**Very Critical**	

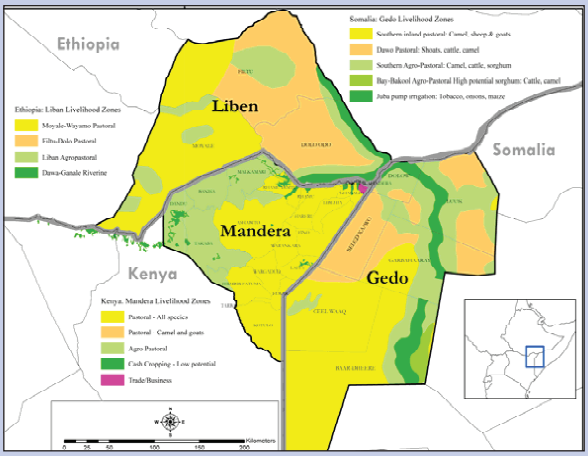
THE NEED FOR COORDINATED CROSS-BORDER APPROACHES IN ADDRESSING HIGH LEVELS OF MALNUTRITION

The predominantly pastoral population living in Kenya (Mandera), and Ethiopia (Liben) bordering the Gedo region of Somalia are very similar. The pastoral zones going by the name of Filtu-Dolo in Ethiopia, Mandera East in Kenya and Dawo in Somalia are all comparable Map 8). The population in these zones share common[1] livelihood assets (pastoral), food and income sources, climatic and ecological characteristics, trading routes, vulnerabilities and often face concurrent shocks and security incidences. Frequent food insecurity is triggered by shocks such as drought, cross-border trade restrictions, conflict and livestock/human disease outbreaks. In addition, the clan and marital relationships that span across the borders help to sustain these linkages and what does or doesn't happen on one side of the boarder affects the others directly or indirectly. For example, the conflict on the Somalia side has displaced people who are settled as refugees on the Kenyan and Ethiopian sides, while in many cases humanitarian assistance received on one side of the border attract the population from the other sides of the border.

A review of the recent food security and nutrition information shows that these areas to a large extent experience similar outcomes. The regions have experienced complete rainfall failure resulting in poor livestock body conditions, reduced production and abnormal out-migration of livestock to other regions in search of water and pasture. This has reduced milk access for household consumption and income from the sale of livestock and milk that is used to purchase other food types and non-food items. The prices of cereals and other food items continues to rise especially in the main border market in Mandera town. The overall food security situation in the three border regions, according to FSNAU and FEWSNET[2] forecasted up to until June 2011 is **Acute food and Livelihood Crisis** or **Highly food insecure**. The precarious food security situation in these areas is largely linked to the poor performance of the *Deyr* '10/11 seasonal rainfall and the subsequent impact on the livestock dependent livelihood system.

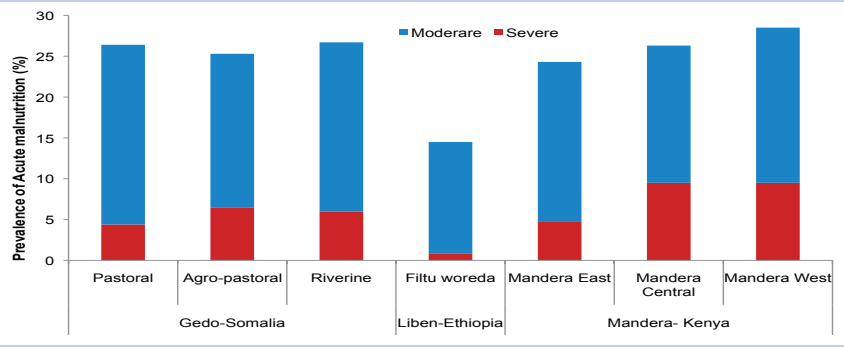
Map 8: Gedo Region and Neighbouring Areas

Source: USAID Cross-border Pilot Livelihoods Profiles, 2009



The livelihood-based nutrition assessment[3] conducted in December 2010 in Somalia, Gedo region recorded GAM rates of >25% in the three livelihood zones in the region. The pastoral population in particular, recorded a GAM rate of 26.4% and a SAM rate of 4.4%, indicating ***Very critical*** levels of acute malnutrition. In Kenya, the recent nutrition assessments[4] conducted in March 2010 in the three districts of Mandera recorded equally high levels of acute malnutrition with GAM rates of >20%. Specifically, the border district of Mandera East recorded respective GAM and SAM rates of 24.6% and 4.8%, indicating a ***Very Critical*** nutrition situation. In Ethiopia, the most recent assessment conducted in Filtu woreda in Liben zone in May '09 recorded a GAM rate of 14.5% and SAM rate of 0.8% indicating a ***Serious*** nutrition situation. However, given that a long time has elapsed since the time this particular nutrition assessment was conducted and many factors with a direct impact on the nutrition status of the population have changed, such as increased food insecurity, it is highly possible that the nutrition situation in the area has deteriorated. Figure 6 shows the results of the recently conducted nutrition assessments in the three regions. In the three border regions, the main underlying causes of malnutrition reported include high morbidity rates, high levels of food insecurity, poor household dietary diversity, sub-optimal child care and feeding practices, in addition to limited access to safe water and sanitation facilities.

Figure 6: Malnutrition levels in the Boarder Regions of Somalia, Kenya and Ethiopia



In light of the highlighted factors that show the similarity of the cross-border populations in terms of social relations, and high vulnerability to food insecurity and malnutrition, there is need for a coordinated cross border monitoring and response mechanisms. In the three countries' border regions, it would be imperative to instigate coordinated nutrition surveillance systems and enhanced information sharing processes in addition to short and long term interventions for a lasting solution to the persistent problems of food insecurity and high levels of acute malnutrition facing these similar populations.

(Endnotes)

1 Crosskey, A and Ismails, A.A., 2009. Cross boarder Livelihood Profiles

2 Kenya and Ethiopia Food Security Outlooks January through June 2011

3 Nutrition assessments conducted by FSNAU and partners

4 Assessments conducted by Save Children-UK in Mandera West and Central and by Islamic Relief in Mandera East

4.2 MIDDLE AND LOWER JUBA REGIONS

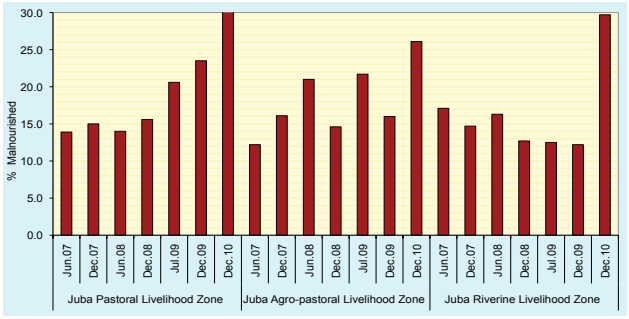
Middle and Lower Juba regions in southern Somalia have a total of seven districts namely Sakow, Buale and Jilib in Middle Juba, and Jamame, Afmadow, Kismayo and Badhadhe in Lower Juba. The two regions have three main rural livelihood zones namely: the pastoral (the Southern Inland and Southeast Pastoralists), agro-pastoral (Lower Juba and Southern Agro-pastoral) and the Riverine communities who are purely agriculturist. (Map 9).

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

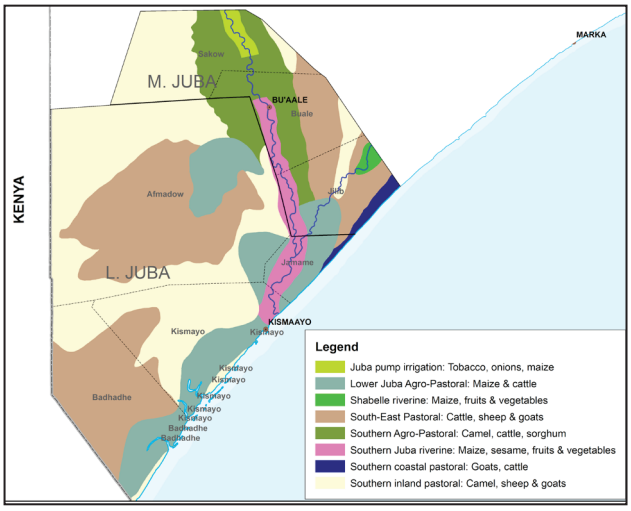
The nutrition situation in the Juba regions equally varies across livelihoods with the pastoral population showing more resilience and remaining mostly at *Serious* levels, while the nutrition situation of the populations in the riverine and agro-pastoral livelihoods, has fluctuated between *Serious* and *Critical* levels. The only exception was in 2009 when a *Very Critical* nutrition situation was recorded among the pastoral population both in the *Gu* and *Deyr* seasons, and among the agro-pastoral in the *Gu* season largely attributed to an outbreak of acute watery diarrhoea.

Figure 7 illustrates the trends of acute malnutrition in Juba regions since 2007.

Figure 7: Trend in levels of Acute Malnutrition (WHZ <-2Z scores or oedema, WHO 2006), Juba Regions 2007 - 2010



Map 9: Juba Regions Livelihood Zones



Historical Overview - Post *Gu* '10

Food Security

The FSNAU Post *Gu* '10 analysis estimated that about 95,000 people were faced with a food crisis in Juba regions, with 70,000 in **HE** and 25,000 in **Acute Food and Livelihood Crisis (AFLC)**. This reflected a significant increase of the population in crisis from an estimated 20,000 in Deyr '09/10 who were in **AFLC** and none in **HE**. The deterioration was largely attributed to the negative impact of severe floods that caused temporary displacement of populations and considerable damage of crops in the riverine areas. On the positive side, the plentiful *Gu* '10 rains resulted into good cereal harvests estimated at 118% of PWA as well as improved livestock body conditions and production. This enhanced milk and cereal access particularly among the pastoral and agro-pastoral populations.

Nutrition

The integrated Post *Gu* '10 nutrition situation analysis indicated a mixed trend from the *Deyr*'09/10 levels, with the pastoral population showing an improvement from *Very Critical* to *likely Serious* levels while the riverine population deteriorated from *Serious* to *likely Very Critical* situation. The agro-pastoral population indicated a sustained *likely Critical* phase. The improvement of the nutrition situation among the pastoral population was as a result of the improved access to milk from the livestock that benefited from good water and pasture availability. The good cereal harvest also had a positive impact on all livelihoods in the region with the agro-pastoral population benefiting directly both from the sale and consumption of crops, while other livelihoods gained from the reduction in cereal prices after the bumper harvests experienced in the area. The Kismayo IDPs who are socially and economically linked to the riverine community showed a similar *likely Very critical* nutrition situation. Morbidity and poor child feeding practices continued to aggravate the nutrition situation in the two Juba regions.

Current Situation-Post *Deyr* '10/11

Food Security

The FSNAU Post *Deyr* '10/11 food security analysis indicates a rise in the number of people in both rural and urban livelihoods facing a food security crisis from the estimated 95,000 in *Gu* '10 to about 180,000 people, currently of whom 85,000 are in **Humanitarian Emergency** and 95,000 are faced with an **Acute Food and Livelihood Crisis (AFLC)**. Of the total in crisis, the urban livelihood constitutes 25,000 in **HE** and 30,000 in **AFLC** while the rest are from the rural livelihoods. The rise in number of people faced with food insecurity is linked to poor *Deyr*'10/11 rainfall performance and the ensuing negative impact on the livelihood systems. The Post *Deyr* '10/11 integrated analysis shows a generally very poor rainfall performance in terms of coverage and intensity in the two Juba regions. This has adversely affected cereal production, currently estimated at only 5% and 10% of PWA in Middle and Lower Juba regions respectively. Similarly, livestock body conditions and production has significantly declined resulting in reduced access to milk and income from sales of milk and livestock. The rise in cereal prices and reduced income earning opportunities has also contributed to the food insecurity situation being experienced in these regions.

Nutrition Situation

The integrated analysis of data from nutrition assessments conducted in Juba regions in December 2010, in addition to health and feeding facilities' information shows a significant deterioration of the nutrition situation to ***Very Critical*** among the populations in the three livelihoods in Juba regions. The nutrition assessment among the pastoral population indicates a GAM rate of **30.7%** (26.1-35.7) and SAM rate of **7.8%** (5.8-10.5) indicating a ***Very Critical*** nutrition situation and a significant deterioration from the *likely Serious* levels recorded in *Gu* '10, when a rapid MUAC assessment identified 9% as acutely[1] malnourished including 2% severely[2] malnourished. In the agro-pastoral livelihood, the nutrition assessment reports a GAM rate of **26.1%** (21.9-30.9) and a SAM rate of **6.2%** (4.6-8.3) indicating a ***Very Critical*** nutrition situation. Due to the methodological differences of the two assessments the current results cannot be directly compared with July'10 rapid MUAC assessment when a total of 10.6% were acutely malnourished.

An assessment among the Riverine population reports a GAM rate of **29.7%** (24.5-35.4) and SAM rate of **6.4%** (4.6-8.8) indicating a sustained ***Very Critical*** nutrition situation since *Gu* '10, when a rapid MUAC assessment recorded 18.5% acute malnutrition.

1 Acute malnutrition defined as MUAC<12.5 cm or oedema
2 Severe acute malnutrition defined as MUAC<11.5cm or oedema

A rapid MUAC assessment among the Kismayo IDPs shows a slight improvement from *Very Critical* in July'10 to ***Critical*** levels, with current assessment recording a total of **12.5%** acute malnutrition including **0.5%** who are severely malnourished as compared to 15.5% in *Gu*'10. The improvement is linked to the impact of the targeted feeding programmes in Kismayo town. In the pastoral livelihood, a significantly ($p<0.05$) higher number of boys than girls are acutely malnourished. However, among the agro-pastoral and riverine populations, though a higher proportion of boys than girls are acutely malnourished, the difference is statistically insignificant implying that they were equally affected ($p>0.05$) (Table 6).More boys than girls from agro-pastoral and riverine populations were reportedly ill two weeks prior to the assessment while among the pastoral population more girls than boys were reportedly been ill but the differences in the three livelihoods were not statistically significant ($p>0.05$).

A Malnourished Child, Juba Riverine, FSNAU, Dec 2010.

The nutrition situation in the two Juba regions is ***Very Critical*** , and all the three livelihoods are equally affected by extremely high levels of acute malnutrition. The deterioration is linked to food security related factors on one hand, where the failure of the *Deyr '10* season of rainfall has led to poor crop and livestock production. These, together with high cereal prices, low terms of trade, and abnormal livestock out-migration has contributed to reduced food (milk and cereal) access at the household level. Moreover, high morbidity, a major risk factor to acute malnutrition, persists in the regions. The situation is worsened by the withdrawal of certain humanitarian organizations in the area providing health and nutrition services due to the prevailing civil insecurity in the area. The withdrawal of these essential services that played both preventive and rehabilitative roles in addressing acute malnutrition among the affected population partly explains the current deterioration trend observed in the regions.

In addition, chronic poor child care and feeding practices, inadequate safe water and sanitation facilities as well as limited access to health services, are other important risk factors influencing the acute malnutrition levels in all livelihoods zones in Juba. In the short term, urgent interventions to rehabilitate acutely malnourished children, and boost food access are required. Preventive 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 for a lasting solution. The civil security situation remains key to the delivery of humanitarian services by both local and international stakeholder and it should therefore be addressed. The following table highlights the key findings of the nutrition situation analysis.

Table 6: Summary of Key Nutrition Findings in Middle and Lower Juba Regions

	Pastoral (N=779)		Agro-pastoral (=850)		Riverine (N=785)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**30.7** (26.1-35.7) 37.9 23.5	Very Critical	**26.1** (21.9-30.9) 30.8 21.9	Very Critical	**29.7** (24.5-35.4) 35.7 24.0	Very Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	**7.8** (5.8-10.5) 7.0 3.6	Very Critical	**6.2** (4.6-8.3) 8.7 4.0	Critical	**6.4** (4.6-8.8) 7.1 5.7	Critical
Mean WHZ (WHO, 2006)	-1.32±1.15	Critical	-1.22±1.12	Critical	-1.22±1.11	Critical
Global Acute Malnutrition (NCHS)	29.4(24.7-34.6)	Very Critical	23.1(19.0-27.7)	Very Critical	23.7(19.6-28.4)	Critical
Severe Acute Malnutrition (NCHS)	3.0(1.9-4.6)	Alert	1.4(0.7-3.0)	Acceptable	3.2(2.3-4.4)	Alert
Global Acute Malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	12.2 (9.7-15.2) 8.7 9.6	Critical	12.8 (10.5-15.6) 13.9 11.8	Critical	21.3 (17.2 -26.0) 21.3 21.3	Very Critical
Severe Acute malnutrition by MUAC (<11.5 cm or oedema) Boys Girls	1.5(0.7-3.3) 2.0 1.0	Critical	0.5(0.1-1.5) 0.7 0.2	Serious	3.6 (2.6-4.9) 3.4 3.7	Very Critical
Stunting (HAZ<-2) Boys Girls	28.0(21.1-36.1) 30.7 25.3	Alert	41.2 (33.2-49.7) 47.0 35.9	Critical	45.9 (39.1-52.7) 52.8 39.4	Critical
Underweight (WAZ<-2) Boys Girls	33.8 (28.3-39.7) 38 29.5	Critical	40.3 (33.7-47.3) 44.6 36.5	Critical	46.0 (39.3-52.9) 52.2 40.2	Critical
HIS Nutrition Trends(July-Dec. 2010)	High (>20%) levels and fluctuating trends	Very Critical	High (>20%) levels and fluctuating trends	Very Critical	High (>20%) levels and fluctuating trends	Very Critical
Admission trends at TFPs/SFPs (Gedo – July-Dec. 2010)	High and increasing admissions trend	Very Critical	High and stable admissions trend	Critical	High and fluctuating admissions trend	Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak – None Morbidity – 21.8 Diarrhea -8.2 Pneuonia-7.2 Fever-6.3	Very Critical	Outbreak -None Morbidity– 22.6 Diarrhea -6.6 Pneumonia-4.5 Fever-11.3	Very Critical	Outbreak -None Morbidity– 39.4 Diarrhea -16.7 Pneumonia-11.1 Fever-11.6	Very Critical
Food security phase	BFI/AFLC	**Critical**	BFI/AFLC	**Critical**	HE	Very Critical
Overall Situation Analysis	**Very Critical**		**Very Critical**		**Very Critical**	

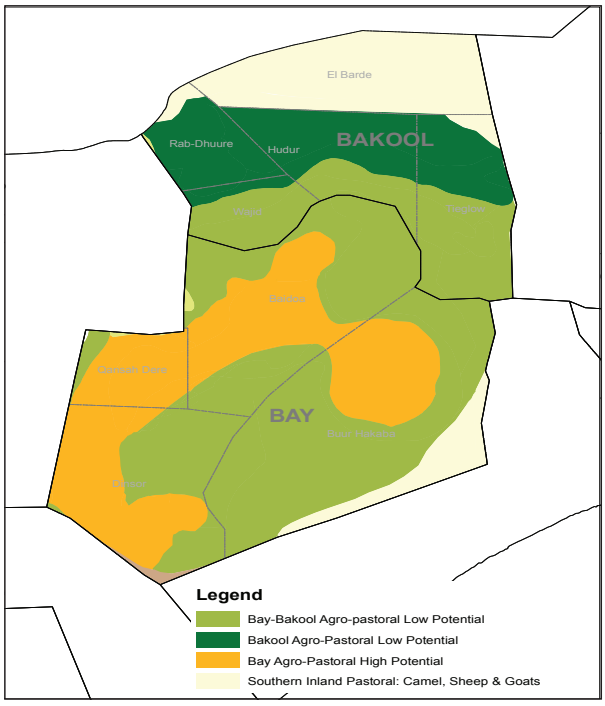
4.3 BAY AND BAKOOL REGIONS

Bay Region is predominantly agro-pastoral with two distinct agro-pastoral livelihoods (namely Bay Bakool Agro-pastoral High Potential and Bay-Bakool Agro-pastoral Low Potential). Bay region comprises of four districts, namely Baidoa, (the regional capital), Qansahdhere, Dinsor and Burhakaba. Bay and Bakool Agro-pastoral Low Potential population is dependent on employment, sale of livestock & livestock products and sale of crops for food and income. On the other hand, the Bay and Bakool Agro-pastoral High Potential population rely mainly on own crop production and purchase of food. The population also keeps cattle, sheep and goats that supplement both their food and income sources. (Map 10).

Bakool region comprises of five districts namely Huddur (the regional capital), Wajid, Tieglow, Rabdure and Elberde (referred herein as Bakool Pastoralists). Bakool region has two main livelihood groups, namely Pastoral and Agro-pastoral (the Bay-Bakool Agro-pastoral Low Potential and Bakool Agro-pastoral) Livelihoods. The Southern Inland Pastoral who keep camel, sheep, goat and cattle, primarily rely on the sale of livestock & livestock products for income. The primary food source of the households is food purchase. The Bay-Bakool Agro-pastoral populations main sources of income is the combination of agricultural labour, self-employment (firewood, charcoal and lime) and sale of livestock & livestock products. The main sources of food are own production (crop and livestock products) and purchase.

Bay and Bakool regions are characterized by the growing effects of natural disasters and repeated conflicts. The negative factors affecting the area are mainly crop failure, loss of livestock, resulting in a continual emergency situation for the most of the population. According to the FSNAU bi-annual food security and nutrition analysis, Bakool pastoral population has constantly faced a **Humanitarian Emergency** (**HE**) crisis since Post *Deyr* 07/08 season. The situation in Bay and Bakool has largely been attributed to unfavorable climatic factors, crop failures, poor dietary diversity, poor water, lack of sanitation facilities and reduced health and humanitarian services in the region. The nutrition situation in the region has also generally remained poor, the meta analysis of data from 2001-2008 in Bay and Bakool regions indicates that the median acute malnutrition rate are 18% and 15.9% respectively both above the emergency threshold of 15%.

Map 10: Bay and Bakool Regions Livelihood Zones



Bakool Region

Historical Overview - Post *Gu'*10

Food Security

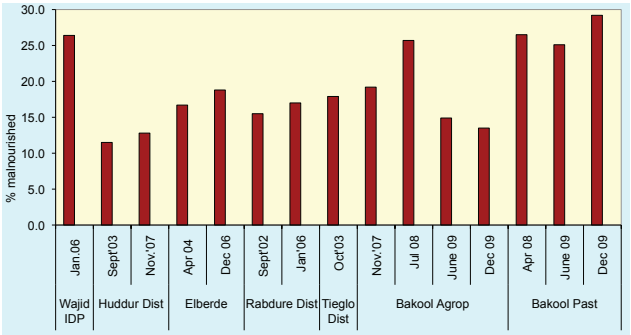
According to the Post *Gu*'10 integrated food security phase classification, the food security and livelihood situation in the rural areas of Bakool region indicated an improvement in *Gu* '10 season. However, a significant proportion of the population in Bakool region was still in crisis, with 85,000 people identified either in **Humanitarian Emergency** (**HE)** (5,000 people) or in **Acute Food and Livelihood Crisis (AFLC)** (80,000) and with an early warning of *watch*. As far as the livelihood distribution was concerned, 75,000 agro-pastoralists were in AFLC, while in the pastoral livelihood zone, 10,000 people were also in crisis (5000 HE and 5000 AFLC). In addition, 25,000 urban poor population in Bakool region were in crisis, with 20,000 in AFLC and 5,000 in HE. The food security situation in Bakool region improved in Gu '10 compared to *Deyr* '09/10, as a result of the above average rains that favorably affected livestock and crop productions.

Nutrition

The Post *Gu*'10 integrated nutrition situation analysis using data from rapid MUAC assessments, together with information from health and selective feeding facilities indicated a *sustained Very Critical* nutrition situation among the Bakool agro-pastoral and pastoral populations.

The proportions of acutely malnourished children in the health clinics (MCH) indicated an increasing and stable trend, the main underlying causes of the sustained high levels of acute malnutrition were linked to the reduced access to humanitarian, health and nutrition services and morbidity limited economic opportunities, safe water and sanitation facilities, the increasing number of IDP's, and the civil insecurity causing high food prices in the region. See Figure 8 for an illustration of the trends in levels of acute malnutrition in Bakool region from 2002 - 2009.

Figure 8: Trend in levels of acute malnutrition (WHZ< -2 or oedema, WHO 2006) Bakool region, 2002- 2009



Current situation, *Deyr*'10/11

Food security

The current *Deyr* '10/11 Integrated Phase Classification identifies the rural populations in Bakool region to be either in **AFLC** or **HE**. The total rural populations in crisis in the Bakool region are estimated at 95,000 (90,000 in **AFLC** and 5,000 in **HE**). Out of the total in **AFLC**, 80,000 are agro-pastoralists (45,000 in Bakool agro-pastoral LZ and 35,000 in Bay-Bakool agro-pastoral low potential LZ) while the remaining 15,000 are pastoralists (Southern Inland Pastoral). In addition, 30,000 of Bakool's urban populations are either in **AFLC** (5,000 people) or **HE** (25,000 people). The *Deyr* '10/11 season cereal production in Bakool region is only 10% of the PWA and 7% of the five-year average (2005-2009) which is the second lowest since 1995. The food security situation in all livelihoods of Bakool region has deteriorated since *Gu* '10 due to crop failure as well as poor pasture, browsing and water conditions attributed to the poor *Deyr* '10/11 rainfall performance.

Nutrition

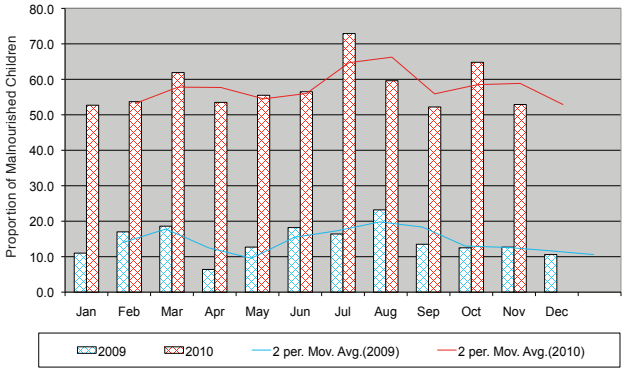
Bakool Pastoral Livelihood Zone

Due to the increased civil insecurity and lack of access to most of the area in the region, it was not possible to conduct a representative nutrition survey in any of Bakool's livelihood zones. The pull out of IMC from Elberde also means that there are no functional health facilities, nor data on feeding centre admissions. Nevertheless, rapid mid upper arm circumference (MUAC) assessments were conducted in 11 villages in December'10, in children aged 6-59 months. The assessments reported a proportion of **23.5%** of the assessed children as having MUAC measurements of < 12.5[1]cm or oedema, and **3.4%** with MUAC of < 11.5[2]cm, therefore, indicating a sustained *Likely* ***Very Critical*** nutrition situation among the Bakool pastoral population; and showing no change from the findings of the July'10 rapid MUAC assessments conducted in 11 pastoral villages of Bakool region that identified 22.7% of the assessed children with MUAC measurements of < 12.5cm or oedema and 4.9% with MUAC measurements of < 11.5 cm or oedema. (Table 7).

Bakool Agro-pastoral Livelihood Zone

A rapid MUAC assessment conducted in December 2010 in children aged 6-59 months, in 11 villages, reported **16.7%** of the assessed children with MUAC measurements of < 12.5cm or oedema and **3.6%** with MUAC measurements of < 11.5cm or oedema. The integrated nutrition situation analysis based on data collected from the rapid MUAC assessments, health facilities data and feeding centre information indicates a sustained *Likely* ***Very Critical*** nutrition situation among the Bakool agro-pastoral population and with no change from the July '10 rapid MUAC assessment findings, that reported 15.1% of the children with MUAC measurements of < 12.5cm or oedema, and 4.2% with MUAC measurements of < 11.5cm or oedema (Table 7). The proportions of acutely malnourished children in the health clinics (MCH) also indicate a high but stable trend of acutely malnourished children as illustrated in Figure 9.

Figure 9: : HIS Malnutrition trends in Bakool Agropastoral MCHs, 2009 – 2010, Data Source: IMC and GTZ



The sustained poor nutrition situation in both pastoral and agro-pastoral areas of Bakool may be linked to the reduced access to food arising from low crop production and rising cereal prices, in addition to poor dietary diversity and reduced health, nutrition and humanitarian services in the region.

1 Acute malnutrition defined as MUAC<12.5 cm or oedema
2 Acute malnutrition defined as MUAC<11.5 cm or oedema

Bay Region

Historical Overview - Post *Gu* '10

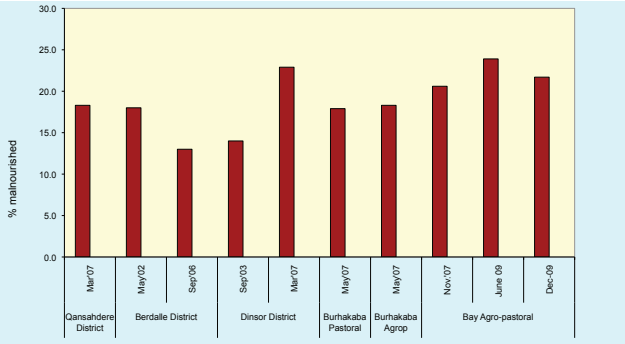
Food Security

According to FSNAU Post *Gu* '10 analysis, the food security situation in Bay region continued showing a significant improvement over the seasons. Bay region recorded cereal production of 205% and 294% of the post war average (PWA), and 5-year average respectively. In the Post *Gu* '10 analysis, the entire Bay region was classified as Borderline Food Insecure (**BFI**) with early warning level of *Watch*. The improvements in Bay region was attributable to a number of factors including good rainfalls, improved crop production and sales, as well as milk availability.

Nutrition

The Post *Gu* '10 integrated analysis of the nutrition situation together with the data from rapid MUAC assessment, and information from health and selective feeding facilities indicated a sustained *Very Critical* nutrition situation among the agro-pastoral population of Bay region. Rapid MUAC assessments conducted in July 2010 in 16 villages of the Bay agro-pastoral livelihood reported 15.7% of the assessed children with MUAC measurements of < 12.5 cm or oedema, and 3.5% with MUAC measurements of < 11.5 cm or oedema. The proportions of acutely malnourished children reported at the health facilities indicated high and stable trend. The underlying factors of acute malnutrition in the Bay agro-pastoral areas was linked to poor dietary quality (cereal and oil based diets) and chronic poor child care and feeding practices. However the limited access to safe water health and sanitation facilities were also key aggravating factors affecting the nutritional status of the population in Bay region. Figure 10 illustrates the trends in levels of acute malnutrition in Bay region from 2002 to 2009.

Figure 10: Trend in levels of acute malnutrition (WHZ< -2 or oedema , WHO 2006) Bay region, 2002- 2009



Current situation, *Deyr*'10/11

Food security

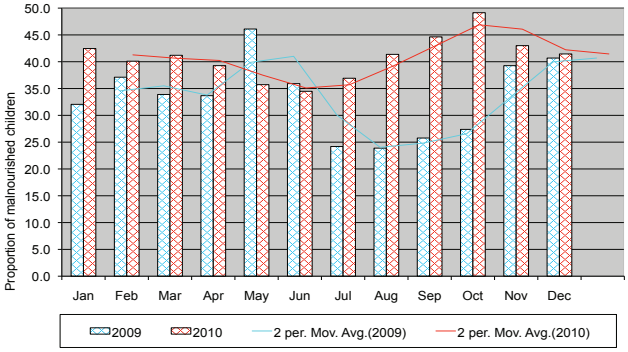
The post *Deyr* '10/11 Integrated Phase Classification classifies the rural populations in Bay region in crisis to be either in **AFLC** or **HE**. In Bay region, 54,000 people who were classified as being **Borderline Food Insecure** (**BFI**) in *Gu* '10 are now in crisis. Of these, 8,000 rural people are in **AFLC** (Bay-Bakool agro-pastoral low potential LZ) and 46,000 urban populations are either in **AFLC** (43,000) or **HE** (3,000). The rest of the population is classified as **Borderline Food Insecure** (**BFI**). The overall cereal production in Bay is 8% of the PWA and 7% of the five- year average illustrating crop failure due to the rain fed dependency of this area. The poor agro-pastoral households in the northern parts of Baidoa and Burhakaba districts (the agro-pastoral low potential LZ) who were classified as **Borderline Food Insecure (BFI)** in the *Gu* '10, have deteriorated to **Acute Food and Livelihood Crisis** (**AFLC**) due to the *Deyr* '10/11 season crop failure as well as the low recovery of their livestock herd size. The overall food security situation in the livelihoods of Bay region has deteriorated due to crop failure as well as lack of milk availability and poor water conditions attributed to the failed *Deyr* '10/11 rainfall performance in this region.

Nutrition

Bay Agro-pastoral Livelihood Zone

The integrated analysis of information from rapid MUAC assessments conducted in Bay region in Dec'10, together with the health information and feeding facilities' data, indicates a sustained *Likely* ***Very Critical*** nutrition situation among the agro-pastoral population in Bay region. A proportion of **18.4%** of the children assessed recorded MUAC measurements of < 12.5 cm or oedema and **4.4%** with **MUAC** measurement of < 11.5 cm or oedema.

Figure 11: HIS Malnutrition Trends in Bay Agropstoral MCHs 2009-2010, Data Source: SRCS, DMO, GTZ, WVI



This indicates no change from the likely *Very Critical* nutrition phase in the Post *Gu'*10 analysis**.** The previous rapid MUAC assessment conducted in July '10 reported a MUAC < 12.5 cm or oedema rate of 15.7% and MUAC < 11.5 cm or oedema rate of 3.5% which indicated a *Likely Very Critical* nutrition situation. The proportions of acutely malnourished children at the health facilities clinic (MCH) also indicate a high number and stable trend. (Figure 11).

The persistent precarious nutrition situation is mainly attributed to chronic high morbidity levels, further aggravated by reduced access to humanitarian assistance in terms of safe water, health, nutrition, and outreach services. The poor nutrition situation among the Bay agro-pastoral populations is also underpinned by persistent poor infant and young child feeding and care practices, and inadequate access to safe water and sanitation services. The vitamin A supplementation status and coverage of measles immunization remains below the Sphere recommendations in spite of the recently conducted child health days in the area.

Immediate interventions to rehabilitate acutely malnourished children and improve food access are required, as are the measures to address the poor child feeding and care practices and access to safe water and sanitation facilities.

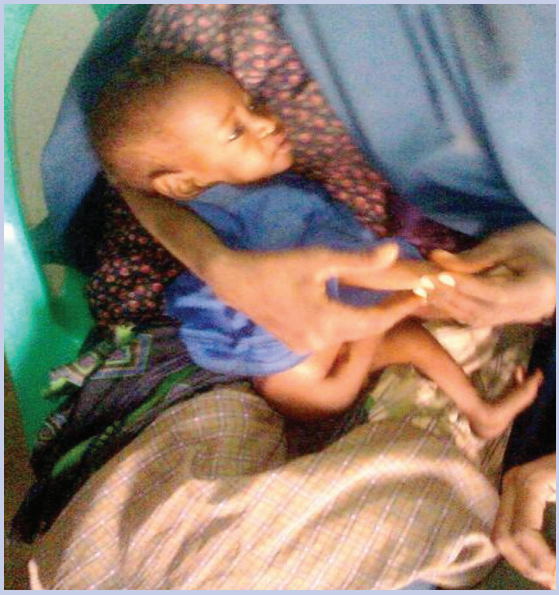
Table 7: Summary of Key Nutrition Findings in Bay and Bakool Regions

	Bakool Pastoral (N=1100)		Bakool Agropastoral (N=1100)		Bay Agropastoral (N=1769)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status	-	-	-	-	-	-
Acute malnutrition by MUAC (<12.5 cm or oedema)	**23.5**	Very Critical	**16.7**	Very Critical	**18.4**	Very Critical
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	**3.4**	Very Critical	**3.6**	Very Critical	**4.4**	Very Critical
Oedema	**0**	Acceptable	**0**	Acceptable	**0**	Acceptable
HIS Nutrition Trends	None	NA	High levels (>50%) and stable	Very Critical	High (>35) but stable trends	Very Critical
Admission trends at TFPs/OTP/ SFPs	None	NA	Low and stable numbers in the admission in Jun - Dec'10	Very Critical	High and increasing numbers in July-Dec '10	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak –– No out-break but normal morbidity seasonal patterns	Acceptable	Whooping cough and measles in Huddur Rabdure and Tieglow districts in Apr-Dec '10	Critical	Outbreak of whooping cough and Measles cases reported in Bay region	Critical
Food security phase	HE		HE		BFI	
Overall Situation Analysis	**Likely Very Critical**		**Likely Very Critical**		**Likely Very Critical**	

CASE STUDY: THE ROLE OF THE SOCIAL AND CARING ENVIRONMENT IN ACUTE MALNUTRITION

Halima, aged 22 years, was married at the age of 16 years to Warsame and delivered four children, currently aged six, four, and two years, and 9 months. She stopped breast feeding each of her first two children upon conceiving the next and therefore did not attain the recommended minimum of 2 years. When Halima was expecting her fourth born, who is currently aged nine months, she divorced her husband following a family dispute. Warsame continued offering little assistance to Halima to take care of the children but tragically he died few months after separation.

As a divorced mother of four, Halima had to find means of supporting her children and this prompted her to start a Khat selling business when her fourth born was under six months of age. Her business compelled her to wake up early in the morning and leave her children under the care of their grandmother, and to stay selling khat until late evening. This deprived her last born of essential breastfeeding, while the other children also missed her care during the day. When asked about the performance of her business, Halima says that on better days she could make an average of 40,000 Somali shillings, an equivalent of 1.2 US$. "This was hardly enough to meet my household basic needs but is better than nothing at all'' says Halima.



Halima and her malnourished last born child, FSNAU, Dec 2010.

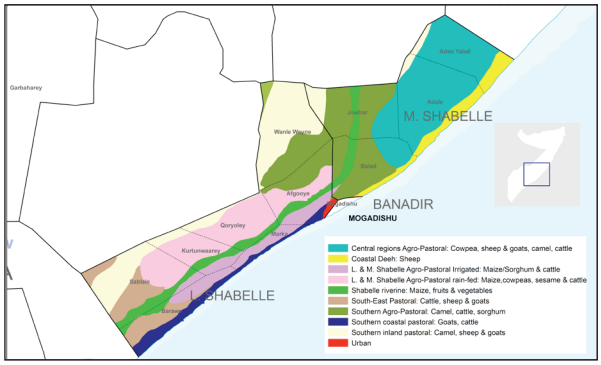
Her business continued for a while until the local authority banned both selling and chewing of khat; this forced her to close down leaving her with no means of earning income or providing food for her household. In her efforts to provide for her children she got entangled in a prospective marriage engagement for additional social support which fell through as the prospective husband insisted that her existing children remain with the grandmother. As a result, she survived on irregular casual labour such as washing of clothes and cleaning houses for the better off, and relying on well-wishers and relatives for the daily needs including food. At the time of the interview Halima indicated that her family survived on tea for breakfast and lunch, while *Ambulo,* the main meal prepared from sorghum and oil, is consumed with tea at supper time.

As may be expected for such a poor family with such insufficient income and thus food, three of the children were assessed as being acutely malnourished (MUAC<12.5 cm), two of them severely (MUAC<11.5 cm). The fourth child has a MUAC of 12.8 cm indicating a high risk of malnutrition. Halima, who is still breastfeeding her last born child, is also malnourished with a MUAC of 20.6 cm. The second born child was suffering from diarrhoea and pneumonia at the time of this interview. Despite all these, Halima remains positive with life and says with a laughter that one day things will be better, "Insha Allah''.

4.4 MIDDLE AND LOWER SHABELLE REGIONS

Middle and Lower Shabelle regions rural livelihoods comprise of riverine (or pure farmers) and agro-pastoralists (Map 11). The riverine population, located within 10 km of the Shabelle river cultivates maize, sesame and a variety of vegetables and fruits, with limited livestock holdings as a result of tsetse fly infestation. The agro-pastoral zone extends 20-40 km from the Shabelle River and practices 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 a high in-flow of IDPs from Mogadishu. UNHCR estimates 548,070 IDPs (Sep. 2010) in Middle and Lower Shabelle regions, 409,340 of whom were living along the Afgoye corridor as a result of the continuing civil insecurity in Mogadishu.

Map 11: Shabelle Livelihood Zones



Historical Overview - Post *Gu* '10

Food Security

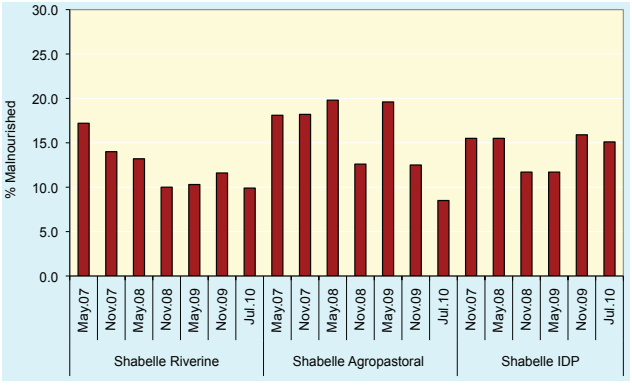
According to the FSNAU Post *Gu*'10 analysis, the food security situation continued showing a general improvement over three previous seasons. In Middle Shabelle region, significant numbers of people (47,000) remained in food security crisis (2000 in **HE** and 45,000 in **AFLC)** with an early warning of *Watch*. This was a substantial (76%) reduction in the total population in crisis from the preceding *Deyr* '09/10. Except for the Central Agro-pastoral livelihood of Adale and Adan Yabal districts, this improvement was attributable to an average *Gu* rainfall performance which had favourable impact on pasture, water, return of out migrated livestock and improved crop and milk production. The livelihoods most affected by the food security crisis in Middle Shabelle were the Agro-pastoralists (especially from cowpea belt) with 2,000 persons faced with **HE** and 7,000 people in **AFLC**. The *Gu* '10 cereal production in Middle Shabelle region, estimated at 21,100 MT was significantly above average (300% of *Gu* '09 and 138% PWA) in addition to a good cash crops'(rice, cow pea and sesame) production. The labour to maize terms of trade (TOT) had also improved resulting into increased purchasing power.

In the Lower Shabelle region, the food security situation had improved and 5,000 people who were in **AFLC** in *Deyr* '09/10 had completely recovered and were classified as **BFI** with an early warning level of *Watch***.** The improvements and recovery in Lower Shabelle region were attributable to a number of factors including good rainfall, improved irrigation system, improved crop and livestock production, improved wage rates and income from livestock and crop sales. In Lower Shabelle region, the country's main maize producer, cereal production (66,300MT) was the season's second highest in five years (92% of *Gu* '09 and 107% of PWA) due to the favourable rainfall performance in the area and improved access to rehabilitated irrigation canals and increased cultivated area. In addition to good cash crop production (11,00MT), the region also had carryover stocks from the *Deyr* '09/10. Although higher cereal prices in the local markets had caused a reduction in the ToT between labour wage and maize for the poor households, the good harvest was expected to improve supplies and subsequent decline in prices in the key agro-pastoral areas of the region.

Nutrition

The Post *Gu* '10 integrated nutrition analysis indicated that the nutrition situation had significantly improved in both the agro-pastoral and riverine populations of Middle Shabelle region from the previous *Serious* situation reported in the *Deyr* '09/10, where GAM rates reported were above 10% (Figure 12) to *Alert* (GAM rates 5.0 - <10%). The improvement in Middle Shabelle region was attributed to a steady recovery from the previous two years of food insecurity 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 reported improved dietary diversity and access to fish, fruits and vegetables were reported especially among the riverine livelihood households. However, the nutrition situation in Adale district remained sustained at *Critical l*evels with

Figure12: Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema), Shabelle Valley (2000-2010)



associated poor food security indicators. The agro-pastoral areas (cow pea belt) of Adale and the neighbouring Adan Yabal districts, had faced 5-6 consecutive seasonal failures with poor access to milk, crops and income and were the only areas in Middle Shabelle region classified to be in humanitarian crisis in *Deyr* '09/10.

Current Situation, *Deyr* '10/11

Food Security

The current *Deyr* '10/11 Integrated Phase Classification identifies the livelihoods in Middle Shabelle region to be in either **HE** or **AFLC**. The total population in crisis in the Middle Shabelle region has increased by nearly 60% to 75,000 of rural and urban from 47,000 in *Gu* '10. Out of the total people in crisis, 15,000 people are identified in **HE** (an increase from 2,000 people in *Gu* '10) and 90,000 are facing **AFLC** (from 45,000 in *Gu* '10). The most affected livelihoods in Middle Shabelle include the Central Agro-pastoral (Adale and Aden Yabal districts) areas that remain in **HE** (50% of poor in HE and 50% of poor in AFLC with an early *Watch*), the Southern agro-pastoral (Balad and Jowhar districts), the riverine and the coastal deeh, classified in **AFLC** with varying levels of early warning.

The sustained food security crisis in Middle Shabelle region is attributable to unfavorable terms of trade, and poor crop and livestock production, resulting from the poor performance of the *Deyr* '10/11 rainfall. The total cereal production of 5,250 MT is the lowest *Deyr* production in 17 years (51% of Deyr 09/10, 46% of PWA and 70% of 5 Year Average). Terms of trade (ToT) (maize/wage rate and local goat/maize) declined due to high cereal prices and decreased livestock prices resulting from poor livestock body conditions and low demand for livestock. Abnormal livestock migration among the agro-pastoral population towards the riverine areas has exerted pressure on the riverine community with an associated increase in the cost of fodder for the livestock and high milk prices. However, carryover stocks from the good *Gu* '10 production, increased income from casual labor, and fodder sales are key mitigating factors especially among the riverine population.

In Lower Shabelle region, the food security situation remains classified as **BFI** but the population in crisis has increased to 9,000 of rural population (from 0 in *Gu* '10), with early warning level of *high risk to* ***AFLC*** (25% poor) in the southern agro-pastoral (Walanweyn district) areas. Southeast agro-pastoral, southern inland pastoral and southern coastal pastoral are identified as **BFI** with moderate risk to AFLC. The riverine in Lower Shabelle region are also identified as **BFI** with *moderate risk to* **AFLC.** In the Gu '10 season, the population had completely recovered from **AFLC** to **BFI** with an early warning level of *Watch* for all the livelihoods**.** The region recorded poor *Deyr* '10/11 seasonal performance with very poor amounts, intensity, frequency and duration. Cereal production was consequently poor with only 7,660 MT, the lowest *Deyr* production since 1995 and only 23% of *Deyr* PWA (34% of *Deyr* 09/10, and 38% of 5YA). Nonetheless the region, which is usually the main maize producer of Somalia, still produced the largest (43%) proportion of the national cereal production, followed by Middle Shabelle region (29%). The ToT declined due to low demand for livestock (which have poor body conditions) and decreased livestock prices in the local markets, as well as rapid increase in cereal prices. Carryover stocks in the region from last *Gu '10* season, cash-for-work and casual labour opportunities and fodder sales in the riverine areas and income from high milk prices by the agro-pastoral population, and access to better irrigation infrastructure (gravity irrigation) have contributed to better resilience and mitigated the food security crisis in Lower Shabelle region than in Middle Shabelle region. However with continued displacements and market disruptions resulting from the conflict in Mogadishu, the purchase-dependent IDPs remain highly vulnerable to the shocks.

Nutrition

In Middle Shabelle region, there was no comprehensive nutrition survey conducted due to lack of access, therefore there is no conclusive phase classification for the region. However, data from health facility surveillance and qualitative information gathered depict signs of deterioration from the *Alert* (GAM rates 5.0 - <10%) in *Gu* '10 (Figure 11) to *likely* ***Critical*** (GAM rates>15%) phase.

HIS data for the period July-December 2010 indicates high (>20%) and increasing trends (higher than '09 trends) in the agro-pastoral catchment areas, and high (>15%) but stable trends (consistent with '09 trends) in the riverine areas of Middle and Lower Shabelle regions. A rapid MUAC assessment conducted in Middle Shabelle estimated the proportion of MUAC measurements of <12.5 cm/ oedema rates at > 10% in both agro-pastoral (15 sites; N=1650) and riverine (15 sites; N=1650) livelihood zones, though is of poor quality (R3) due to poor tallying.

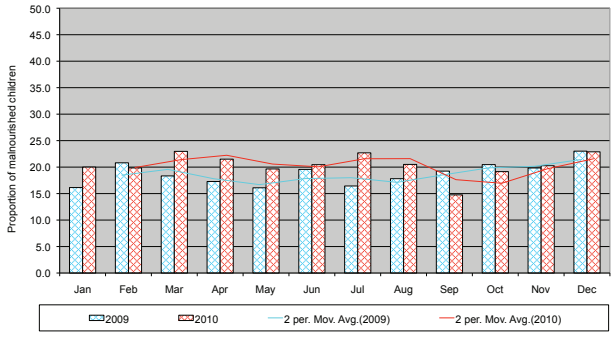
The previous nutrition surveys conducted in July 2010 had reported a GAM rate of > 6.2% (Pr=0.90) and SAM rate of >1.7% (Pr=0.90) among the Middle Shabelle agro-pastoral population, and among the riverine population GAM rate of > 8.2% (Pr=0.90) and SAM rate of >0.6% (Pr=0.90) were reported. These indicated an *Alert* nutrition situation in both livelihoods, except for Adale district where the GAM (WHZ<-2 or oedema) rate was 16.8% (12.9-20.7) and the SAM rate (WHZ<-3 or oedema) was 2.4% (0.9-3.9) indicating a *Critical* phase.

The likely deterioration in the nutrition situation of the agro-pastoral and riverine populations of Middle Shabelle, is attributed to outbreaks of disease (acute watery diarrhea - AWD, cholera, malaria and whooping cough), reduced access to food due to rapid increases in food prices especially of cereals and milk, in addition to the chronic problems of poor

child feeding and health care practices. Nevertheless, limited access to health facilities in some areas and some interventions (e.g. cash for work) may have mitigated further deterioration.

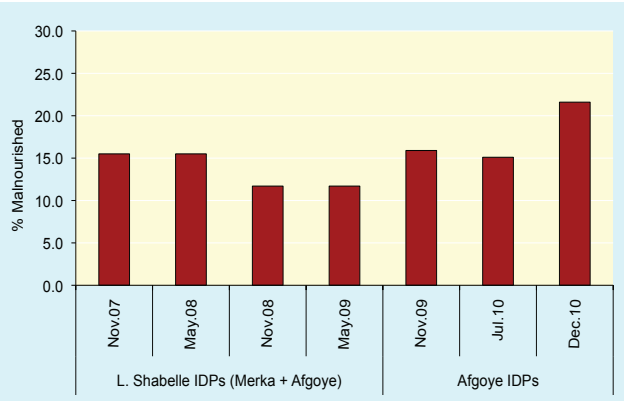
In Lower Shabelle region, the rapid MUAC assessments conducted in the agro-pastoral (10 sites; N=1100) and riverine (10 sites; N=1100) livelihood zones, both indicated MUAC<12.5 cm/ oedema rates **> 10**%, however there was also poor tallying, therefore the data also had a low reliability (R3). HIS data for the period July-December 2010 also indicated high (>20%) and increasing trends in the agro-pastoral catchment areas, and high (>15%) but stable trends in the riverine areas. There is no phase classification due to insufficient data. However, the surveillance data from health facilities and qualitative information depicts signs of deterioration from the *Serious* (GAM rates 10.0 - <15%) situation in *Gu* '10, to *likely* ***Critical*** (GAM rates>15%). Rapid MUAC assessments conducted in July 2010 had reported MUAC<12.5 cm/oedema rates of 8.7% and 9.4% among the agro-pastoral and riverine population respectively, indicating a *Serious* nutrition situation in both livelihoods. The likely deterioration in the nutrition situation in Lower Shabelle region, is most likely as a result of high morbidity burden with reported AWD, cholera, malaria and whooping cough outbreaks, poor dietary diversity due to reduced access to cereals and milk characterized by increased prices; poor access to health services and sanitation; and sub-optimal child feeding and care practices. However, access to some interventions (e.g. cash for work), social support and application of stress coping mechanisms mitigated further deterioration.

Figure 13: HIS Malnutrition Trends in Shabelle Riverine MCHs 2009-2010, Data Source: COSV/MSF-S



The nutrition situation among the Afgoye IDPs has deteriorated to ***Very Critical*** from *Critical* levels in *Gu* '10. A nutrition assessment conducted in the IDP settlements along the Afgoye corridor in December 2010 reported

Figure 13: Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema), Shabelle IDPs (2007-2010)



a GAM rate of **21.6%** (18.2 -25.3) and a SAM rate **3.2%** (2.2-4.6) indicating a ***Very Critical*** nutrition situation and a deterioration from the *Critical* rates reported in July 2010 when GAM and SAM rates were 15.1% (11.4-19.8) and 1.7% (1.0-3.0) respectively. The 90 days retrospective crude (CDR) and under five death rates (U5DR) of 0.62 (0.26-1.46) and 1.44 (1.03-2.00) respectively indicating an *Alert* situation and no change from the CDR and U5DR of 0.99 (0.71-1.37) and 1.40 (0.78-2.51). In the Afgoye IDPs assessment, a higher proportion of boys (23.4%) than girls (19.8%) were acutely malnourished, although the difference was not statistically significant (RR=1.19; 95% CI: 0.89-1.58). However, a significantly higher (p<0.005) proportion of boys were stunted than were girls. A large majority of the households were reportedly headed by males (84.8%), while 15.2% were female headed) in terms of who generates the main household resources like livestock, assets, income, and food and who makes key decisions on how these main household resources should be utilized among the assessed households. The reductions in the scale and quality of social support and humanitarian assistance for the last one year, interruptions of humanitarian access and shrinking labour opportunities in the neighbouring agricultural areas exacerbated the poor living conditions and health of the ever expanding number of IDPs whose main source of food is through purchase. No child health days (CHD) were conducted in the region due to civil insecurity in the area. Immediate and routine health, food and livelihood interventions are required to arrest any further deterioration and to address the rising rates of acute malnutrition.

The key nutrition findings in these areas which form the basis of the analysis on the classification outcome are provided in Tables 8, 9 and 10.

Table 8. Summary of Key Nutrition Findings in Middle Shabelle Region

	Agro-pastoral (N=1650; 15 sites)		Riverine (N=1650; 15 sites)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status				
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	> 10% (25.0%; R3)	*Critical*	> 10% (23.0%; R3)	*Critical*
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	> 3% (7.1%; R3)	*Very Critical*	> 3% (7.4%; R3)	*Very Critical*
Oedema	**0.2**	*Very Critical*	**0.5**	*Very Critical*
HIS Nutrition Trends (Jul-Dec'10)	High (>20%) & increasing trend (July-Dec10); higher than 09 trends	*Very Critical*	High (>15%) & stable trend July-Dec'10); consistent with 09 trends	*Critical*
Admission trends at TFPs/SFPs (Jul-Dec'10)	-	-	-	-
Proportion of malnourished identified registered in a feeding programme	**11.8**	-	**18.2**	-
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak –AWD, measles and whooping cough	*Serious*	Outbreak –AWD, measles and whooping cough	*Serious*
Food security phase	HE/AFLC		AFLC	
Overall Situation Analysis	***No phase but likely to be Critical***		***No phase but likely to be Critical***	

Table 9. Summary of Key Nutrition Findings in Lower Shabelle Region

	Agro-pastoral (N=1100)		Riverine (N=1100)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status				
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	> 10% (23.4%; R3)	*Critical*	> 10% (27.7%; R3)	*Critical*
Severe Acute Malnutrition by MUAC(<11.5 cm or oedema)	> 3% (7.4%; R3)	*Very Critical*	> 3% (8.7%; R3)	*Very Critical*
Oedema	**0.2**	*Very Critical*	**0.3**	*Very Critical*
HIS Nutrition Trends (Jul-Dec'10)	High (>20%) & increasing trend (July-Dec10); higher than 09 trends	*Very Critical*	High (>15%) & stable trend July-Dec'10); consistent with 09 trends	*Critical*
Admission trends at TFPs/SFPs (Jan-Jun'10)	-	-	-	-
Proportion of malnourished identified registered in a feeding programme	**11.8**	-	**18.2**	-
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak –AWD, measles and whooping cough	*Serious*	Outbreak –AWD, measles and whooping cough	*Serious*
Food security phase	BFI		BFI	
Overall Situation Analysis	***No confirmed phase but likely to be Critical***		***No confirmed phase but likely to be Critical***	

Banadir Region (Mogadishu)

According to the Post *Deyr '10/11* integrated nutrition situation analysis, Banadir region is *likely* ***Very Critical***. A rapid MUAC assessment conducted in December 2010 in six district sites of Mogadishu reported acute malnutrition (MUAC<12.5 cm or oedema) rate of >**15%** and Severe MUAC (<11.5 cm or oedema) rate of >**3%**. HIS data from four health facilities in Medina, Waberi, Hamarweyne and Hamar Jabjab indicated high and increasing numbers (>20%) of acutely malnourished children for the previous six months period under review (Source: HIS data Jul-Dec '10); while low levels (<5%) and stable trends were recorded in Zam Zam over the same period (Figure 15). Mogadishu has been classified as *likely* ***Very Critical,*** with the continuing aggravating factors such as poor shelter, water and sanitation, access to health services, civil insecurity and displacements into the surrounding poor urban settlements. The situation has not shown any significant change 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 14: HIS Malnutrition Trends in Mogadishu MCHs 2009-2010, Data Source: MSF-S

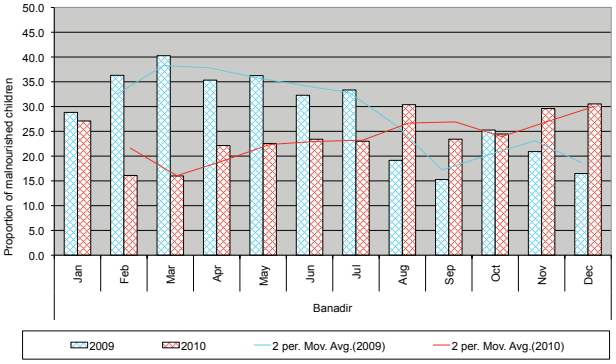


Table 10. Summary of Key Nutrition Findings in Afgoye IDPs and Banadir Region

	Afgoye IDPs (N=682)		Banadir Region (N=1320)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status				
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**21.6** (18.2 -25.3) **23.4** **19.8**	*Very Critical*	-	-
Mean Weight-for-Height Z Scores (WHZ)	-1.08 (±1.12)			
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**3.2** (2.2 -4.6) **4.2** **2.3**	*Alert*	-	-
Oedema	**0.1** (0.0-0.5)	*Acceptable*	**0.9** (0.0-1.9)	*Serious*
Global Acute Malnutrition (WHZ<-2 or oedema; NCHS)	**19.2** (15.5-23.5)	-	-	-
Severe Acute Malnutrition (WHZ<-3 or oedema; NCHS)	**0.4** (0.1-1.4)	-	-	-
MUAC (<12.5 cm or oedema) Boys Girls	**16.9** (12.4 -22.5) **17.4** **16.3**	*Very Critical*	> 15% (29.2%; R3)	*Very Critical*
MUAC (<11.5 cm or oedema)	**2.3** (1.1-4.7)	*Critical*	> 3% (12.0%; R3)	*Very Critical*
Stunting (HAZ<-2) Boys Girls	**11.4** (8.7 – 14.9) **18.0** **5.2**	*Acceptable*	-	-
Underweight (WAZ<-2) Boys Girls	**13.2** (9.0 – 19.0) **18.3** **8.3**	*Alert*	-	-
HIS Nutrition Trends (Jul-Dec'10)	-	-	High (>20%) and increasing trends (Jul-Dec'10)	*Very Critical*
Proportion of malnourished registered in SFs	**2.7**	-	-	-
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak of AWD and malaria Morbidity – 43.8%	*Serious*	Outbreak – AWD Measles and whooping cough Morbidity – 28.3%	*Serious*
Immunization Status	Measles: 75.5 Vitamin A: 73.3		Measles: 46.9 Vitamin A: 57.1	-
Infant and Young Child feeding (6-24 months)	N=262			
Proportion still breastfeeding	66.0	*Serious*		
Proportion meeting recommended feeding frequencies	42.8	*Serious*		
Proportion who reported to have consumed <4 food groups	86.2	*Alert*		
Women Nutrition & Immunization Status	N=389			
Proportion of acutely malnourished non pregnant women (MUAC≤18.5 cm)	0.7	*Alert*		
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	5.1	*Serious*		
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	 6.2 33.7 38.9 21.2			
Mortality				
Crude Death Rate per 10,000 per day (retrospective for 90 days)	**0.62** (0.26-1.46)	*Alert*	-	-
Under five Death rate per 10,000 per day (retrospective for 90 days)	**1.44** (1.03-2.00)	*Alert*	-	-
Public Health Indicators	**N=396**		-	-
Households with access to safe water	96.0		-	-
Household with access to sanitation facilities	98.7		-	-
Households with poor dietary diversity (< 4 food groups)	2.5	-	-	-
Main household food source: Own production Purchase	 2.8 94.9	*Critical*		
Food security phase	AFLC	-	HE	-
Overall Situation Analysis	***Very Critical***		*Likely* ***Very Critical***	

4.5 HIRAN REGION – PASTORAL, AGRO-PASTORAL & RIVERINE LIVELIHOODS

Hiran region comprises of three main livelihood groups: the Pastoral (Southern Inland and Hawd pastoral) covering Mataban and Mahas districts; and the Agro-pastoral and Riverine livelihood systems, both of which cut across Beletweyne, Buloburti and Jalalaqsi districts. (Map 12). Like many other regions in South Central 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.

Historical Overview - Post *Gu* '10

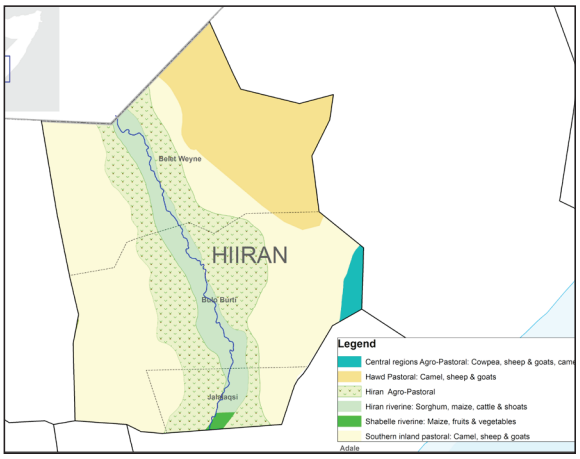
Food security

According to the FSNAU Post *Gu* '10 analysis, the food security situation remained at crisis levels since *Gu* '09 due to a combination of factors including the cumulative impacts of seven consecutive seasons of below normal crop production, recurrent conflict, and fluctuating and low economic activity. Although there was a slight improvement particularly in pastoral livelihoods, which received average rainfall performance, the region was still sustained in **HE** phase with an estimated 205,000 people, or 62% of the total (54% of the rural regional population), being in crisis which indicated a 24% reduction in numbers of those in crisis in *Deyr* '09/10 when 237,000 were in crisis. The majority of the total population in crisis was in **HE** (135,000), while 70,000 were in **AFLC**. This was 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 was the worst affected with 85,000 people in **HE** and 38,000 in **AFLC.** In the pastoral livelihood, the population in crisis significantly reduced from *Deyr* '09/10 to 25,000 people, the majority (60%) of whom were in **HE**. An estimated 30,000 people in the riverine livelihood remained in **HE** with no change from *Deyr* '09/10.

Nutrition

The Post *Gu*'10 integrated nutrition analysis of the data from rapid nutrition assessments, trends of HIS data indicated a sustained ***Very Critical*** nutrition situation in the agro-pastoral livelihood since *Gu* '09; a sustained *Very Critical* situation among the pastoral population since *Deyr* '09/10 and a deterioration to *Very Critical* from a *Critical* nutrition situation in *Deyr* '09/10 in the riverine livelihood zone of Hiran region, attributed to the unstable food security and high morbidity rates which continued to be experienced in the region.

Map 12: Hiran Region Livelihood Zones



Current Situation – Post *Deyr* '10/11

Food Security

The overall food security situation in Hiran region has remained at crisis levels since *Gu* '09. The total rural population in crisis has increased by about 9% from 177,000 in *Gu*'10 to 192,000 and 70% of the population are currently faced with crisis. Although the population in **HE** (129,000) has remained unchanged from the number estimated in the *Gu* 10'season, those in **AFLC** have increased by more than 30% from 48,000 to 63,000. The most affected by food security crisis are the agro-pastoral population, with **123, 000** in either **HE** (85,000) or **AFLC** (38,000), accounting for nearly two thirds (64%) of those in crisis. 100% of the poor and 50% of the middle class in the agro-pastoral livelihood zone are classified in **HE,** and a further 50% of the middle wealth group are in **AFLC**. In the riverine livelihood zone, 29,000 (15% of the total rural population in crisis) people are in crisis (25,000 in HE and 4,000 in AFLC) and in the pastoral livelihoods, 40,000 are in crisis (19,000 in **HE** and 21,000 in **AFLC**), accounting for 21% of those in crisis. 75% Poor in Southern Inland Pastoral and 50% Poor in Hawd are currently faced with **HE.**

The sustained crisis for all the livelihoods in Hiran region is attributed to a combination of factors, including another poor season of rainfall, recurrent conflict, asset losses leading to pastoral drop-outs, low economic activity and increasing food and fodder prices. Food access is severely stressed due to the cumulative impacts of nine consecutive seasons of below normal rains resulting in a very poor cereal production of 473 MT, which is only 24% of *Deyr* '09/10 and 8% of PWA and 14% of 5YA. Income opportunities are also limited due to the lack of agricultural labour activities and reduced number of saleable livestock. Food access is further constrained by high cereal prices due to the poor local production and reduced cereal supply from neighbouring regions as well as cross border trade with Ethiopia as a result of civil insecurity, and poor production in those areas.

Nutrition

The nutrition situation in the Hiran Livelihoods has been showing *Critical* to *Very Critical* levels over the last 2-3 years (Figure 16). Due to security constraints FSNAU staff were unable to travel and conduct the preferred nutrition surveys, however rapid MUAC assessments conducted in 10 villages each among the agro-pastoral and riverine populations respectively reported a high proportion >15% of children with (MUAC<12.5 cm or oedema), indicating a *likely* ***Very Critical*** nutrition situation in the region. In the pastoral population, **14.7%** of children reported MUAC levels <12.5cm and **2.5%** with MUAC levels <11.5cm and/or oedema, and together with low (<10%) and stable HIS trends (Figure 17), the situation is *likely* ***Critical***. The last rapid assessment conducted in July 2010 among the Hiran pastoral population had indicated a *likely* ***Very Critical*** situation, reporting the proportion of children with MUAC<12.5cm or oedema of 15.4% and with MUAC<11.5cm/oedema of 3.7%.

Among the assessed agro-pastoral population, **17.1%** of children had a MUAC <12.5cm and **2.9%**, with MUAC levels <11.5cm and/or oedema. Together with high (>10%) and stable HIS trends data, the nutrition situation has been classified as *likely* ***Very Critical***, indicating a sustained phase from the *Gu* '10 when a rapid MUAC assessment recorded 16.7% of children had a MUAC <12.5cm and 3.2% with MUAC levels <11.5cm and / or oedema.

In the rapid MUAC assessment conducted among the riverine population in Hiran, **17.7%** of children had a MUAC <12.5cm and **3.5%** with MUAC levels <11.5cm and or oedema. These results are similar to the rapid MUAC assessment findings of July 2010 that reported 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 18) and the OTP data the nutrition situation of the riverine population in Hiran indicates a *likely* ***Very Critical*** situation with no change from the situation in *Gu* '10.

The poor nutrition situation in Hiran is attributed to the persistent food insecurity, poor access to milk (for instance in Mahas and Mataban, animals have out- migrated to Hawd of Galgadud), and impacts of drought and civil insecurity, in addition to high morbidity rates in the region. Whooping cough and AWD outbreaks are reported in all the four districts (WHO

Figure 16. Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema) Hiran Region (2000-2009)

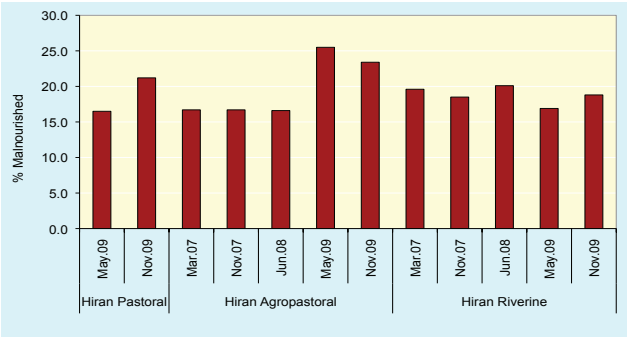


Figure 17: HIS Malnutrition trends in Hiran Pastoral MCHs 2009-2010 (Source: SRCS)

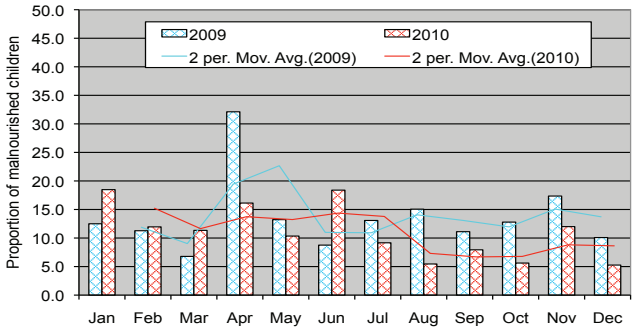
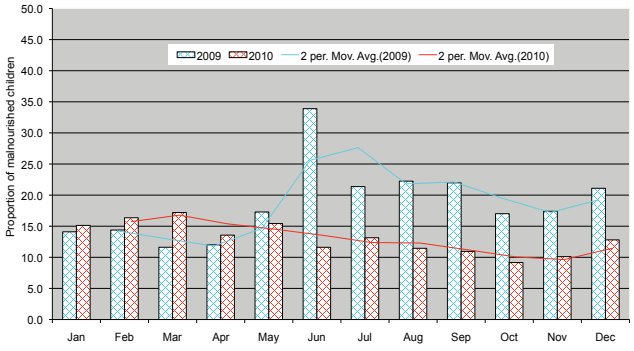


Figure 18: HIS Malnutrition trends in Hiran Riverine MCHs 2009-2010 Data Source: SRCS/IMC



Bulletin, November 2010). The key nutrition findings that form the basis of the analysis on the classification outcome are provided in Table 11.

Table 11. Summary of Key Nutrition Findings in Hiran Region

	Pastoral (N=1100)		Agro-pastoral (=1100)		Riverine (N=1100)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status						
MUAC (<12.5 cm or oedema)	**14.7**	*Critical*	17.1	*Very Critical*	**17.7**	*Very Critical*
MUAC (<11.5 cm or oedema)	**2.5**	*Very Critical*	**2.9**	*Very Critical*	**3.5**	*Very Critical*
Oedema	**0.0**	*Acceptable*	**0.1**	*Alert*	**0.0**	*Acceptable*
HIS Nutrition Trends	High levels (>10%) and stable	*Critical*	High levels (>10%) and stable	*Critical*	High (>10%) but declining trends	*Critical*
Admission trends at TFPs/SFPs	High number with increasing trend of admission	*Very Critical*	High number with increasing trend of admission	*Very Critical*	High number with increasing trend of admission	*Very Critical*
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak –AWD, measles and whooping cough	*Serious*	Outbreak –AWD, measles and whooping cough	*Serious*	Outbreak –AWD, measles and whooping cough	*Serious*
Food security phase	HE		HE		HE	
Overall Situation Analysis	*Likely Critical*		*Likely* ***Very Critical***		*Likely* ***Very Critical***	

CASE STUDY: THE HUMAN FACE OF THE DROUGHT IN HIRAN REGION

Hussein aged 50 years, a father of seven children, the eldest child being 14 years, and the youngest 14 months, resides in Subo village in Mahas district, he was a pastoralist, a way of living that he has practiced all his life to ensure he is able to provide for his family.

Pastoral drop-out in Hiran region

Hussein now counts himself as one of the many destitute in his home district, he vividly recalls the days when he owned about one hundred goats and over thirty cows before the area experienced drought due to eight consecutive seasons of rain failure. "*In the Deyr season there was inadequate rainfall in the area so there was no pasture and water for animals, so to save the only livestock I had left, although they were weak, I tried to move the few animals I had to an area near Jalalaqsi called Iji, which is 25 kilometers from Jalalaqsi town. I had heard the area had received small showers of rain. However as I moved along with the animals on the way there was insufficient pasture and water, and the animals started dying day by day until I had nothing*!'' says Hussein.

After this Hussein returned to Bulo–burti where his relatives reside, this was his only way to cope, he now relies on them for his daily needs. "*Without the social support from my relatives and family I would not be alive*" he says. Hussein talks sadly when he describes the well being of his children, he describes them as very malnourished and thin looking, due to the difficulties they have faced, especially the youngest one, he says they have not been able to eat a well balanced meal for a long while. In normal times, they consumed milk often and were able to sell the milk and livestock to buy other nutritious foods, but now his children rarely consume milk and rely mainly on meals consisting of maize and sorghum. "*My children also fall ill more often now than they used to, and when we take them to the clinic, there is never enough medicine to treat them properly. I am sure they become sick more often because they are not eating healthy meals, if I had livestock they would have milk more often*," he says. Hussein now spends his days going to town to try and find casual labour opportunities, either in farms or construction sites, which are not easy to find. "*Many people are not building houses or farming because of the poor rainfall in the area, however from time to time I get some work at the construction sites, I carry heavy stones, work which is hard, for a man of my age*," he says.

His wife is now also forced to supplement her husband's efforts in generating income, leaving her with less time to adequately care for her children. She collects firewood to sell and washes clothes for wealthier families in the town. When Hussein is asked what can be done to help people in the area such as himself, who have lost their livelihood completely, he replies saying that '*I am a destitute pastoralist struggling to earn a living now in unfamiliar ways, I believe if it rains and I get help to restock my animals, I can return to our original and known way of earning a living, this way we will not suffer and our children can become healthy and happy again*." Hussein's story is similar to many destitute pastoralists in Hiran region. Hiran region currently has the highest population in crisis in the whole country, with an estimated 70% of the population in crisis. The consecutive seasons of rain failure, intense civil insecurity and withdrawal of vital humanitarian services in the area are the main instigating factors.

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 fishing Coastal Deeh and the agro-pastoral Cowpea Belt.

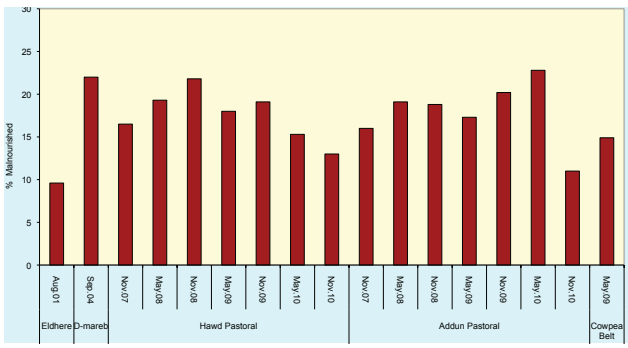
The Hawd and Addun pastoral livelihoods extend across Galgadud, Mudug and southern Nugal regions, while the Coastal Deeh extends from the coast of Shabelle through Galgadud up to Allula, cutting across the Central and Northeast regions (Map 13). This section will discuss the nutrition situation of the Hawd and Addun Pastoral livelihood zones of Northeast and Central, regions as well as the agro-pastoral Cowpea belt and Coastal Deeh.

Historical Overview - Post *Gu* '10

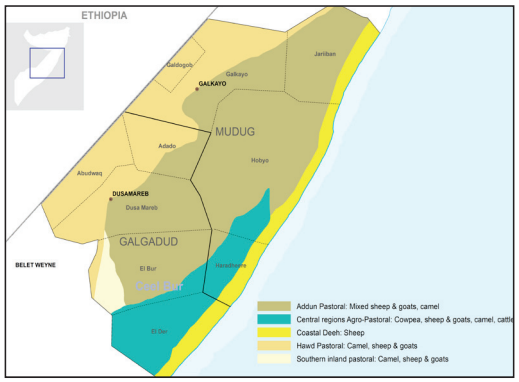
The food security situation in the rural populations of Central regions remained in **Humanitarian Emergency** (**HE**), despite some improvements in the Hawd and Addun pastoral livelihood zones following good *Gu '10* rainfall performance. The food security situation of the Coastal Deeh livelihood zone had improved the previous season following increased small ruminant herd sizes, and was upgraded to **AFLC** with an early warning classification of *Watch*. However, the food security situation had slightly deteriorated in the Cowpea Belt livelihood zone due to crop failure. In general, the number of rural people in crisis significantly decreased in the region (by 25%) from 324,000 in *Deyr* '09/10 to 244,000 in *Gu* '10. Therefore, 178,000 people in the rural areas were classified as faced with **AFLC**, while 66,000 were in **HE**. The number of urban people in crisis also decreased from 56,000 in *Deyr* '09/10 to 43,000 in *Gu* '10. The IDP populations in crisis remained at the same level as in the *Deyr* '09/10 (218,600 people). Due to conflicts among different factions, the region received an early warning level of *Watch*.

The Post *Gu* '10 integrated nutrition analysis conducted by FSNAU and partners indicated a very concerning nutrition situation in the Addun pastoral livelihoods in Central and Northeast regions (Figure 19). The nutrition situation of these

Figure 19: Trend in levels of acute malnutrition (WHZ<-2 or oedema, WHO 2006) Central Regions, 2001-2010



Map 13: Central regions Livelihood Zones



regions indicated a deterioration from the *Critical* situation reported in the *Deyr '09/10 to* a *Very Critical* situation, while the Hawd livelihood zone remained in a sustained *Critical* phase. The nutrition situation of the Coastal Deeh livelihood zone compared to the previous season, *Deyr* '09/10, deteriorated from *Alert to Serious.* The Cowpea Belt agro-pastoral livelihood zone nutrition situation also deteriorated from *Serious* to *Critical* over the same period.

Current Situation- *Post Deyr '10/11*

Food Security

Central regions of Somalia remain in Humanitarian Emergency(HE) for the seventh consecutive season. The situation has deteriorated further in Addun, Coastal Deeh and Cowpea Belt livelihoods of Central regions due to significant loss of livestock, increased cereal prices following poor rainfall performances, in addition to wide spread civil insecurity, limited humanitarian access and trade disruption. Currently, 253,000 people in rural and urban areas are in **AFLC**, while 131,000 are in **HE** of whom 25,000 are pastoral destitutes. The proportion of people in **HE** has slightly increased from *Gu* '10 (25% of the total population of Central) to *Deyr '10/11* (28%), which is indicative of increased severity of the crisis in central Somalia. The number of people in crisis has also increased by 16% in urban areas from 43,000 in *Gu* '10 to 50,000 in Deyr '10/11. Most pastoralists in central regions experience severe water shortages and poor pasture conditions, which has resulted in poor livestock body condition; low to none conception level and high livestock deaths especially in Coastal *Deeh* and Cowpea Belt livelihood zones. Goat prices increased (5%) in December,2010 compared to same time last year, which is mostly attributable to the low market supply. However, the ToT between local goat and rice has slightly declined by 5% due to an increase rice price (11%) in the same period. The ToT between labour and cereal has also declined both for rice as well as sorghum due to declining labour wage rates (7%) and increased cereal prices.

Nutrition

The nutrition situation of the Addun and Hawd pastoral population in Central and Northeast regions indicates an improvement from the *Very Critical and Critical* situation respectively in the *Gu '10 to a* ***Serious*** situation, while the agro—pastoral Cowpea Belt livelihood zone remains in a sustained likely ***Critical*** phase. The slight improvement was mainly attributed to to the impacts of the favourable *Gu* '10 rains in the livelihood and humanitarian interventions. The nutrition situation of the Coastal Deeh livelihood zone however, deteriorated from *Serious* in Post *Gu* '10 to likely ***Critical.***

Hawd and Addun Pastoralists of Central and Northeast regions

The integrated analysis of data from nutrition assessments conducted in Hawd & Addun Livelihood zones in central and northeast regions in November 2010, health and feeding facilities' information shows improvements from the *Very Critical and Critical* situation in the *Gu '10 to a* ***Serious*** situation.

The results of the nutrition assessments conducted in November, 2010 reported a GAM (WHZ scores <-2 or oedema) rate of **13.0%** (10.4-16.2) and a SAM (WHZ scores <-3 or oedema) rate of **2.9 %** (1.8-4.7) including two (0.3%) oedema cases in the Hawd livelihood zone. Boys (13.9%) and girls (12.0%) were equally affected (p>0.05). These results indicate a ***Serious*** nutrition situation according to WHO classification, and an improvement from the C*ritical* nutrition situation reported in the previous season. However, statistical analysis of the findings of two surveys, using the CDC probability calculator indicates that there is no significant difference in the GAM (Pr=0.72) and SAM (Pr=0.56) rates that are currently reported, compared to the June 2010 assessment findings where the GAM rate was 15.3% (12.02-18.6) and the SAM rate was 3.9% (1.6 – 6.10). The improved nutrition situation is attributed to increased access to milk and milk products following the increased pasture and water availability associated with the favorable *Gu* '10 rains; in addition to the humanitarian interventions in the area by many humanitarian actors, although this trend is likely to change with the negative impact of deteriorating food security indicators in Central Somalia. The retrospective crude (CDR) and under-five death (U5DR) rates of 0.30 (0.14-0.62) and 0.63 (0.21-1.92) respectively were reported in the Hawd pastoral livelihood zone, and attributed mainly to diarrhoea and measles. The retrospective crude and under-five death rates are both *Acceptable* according to the WHO threshold levels of 1/10,000/day and 2/10,000/day respectively. Data from health facilities in the livelihood zone reported low levels in the Northeast and high >10 % trend of acutely malnourished children among the Central regions. 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 very high.

In Addun livelihood zone a GAM rate of **11%** (7.7- 15.5) and a SAM rate of **2.5%** (1.3- 5.1) is reported, indicating a ***Serious*** nutrition situation and a significant improvement (Pr= 92.7%) from the *Very Critical* nutrition situation reported in June 2010 when a GAM rate of 22.8% (19.2 – 27.0) and a SAM rate of 7.1% (4.7 – 10.5) were reported respectively. A significantly higher proportion of boys (14.9%) than girls (6.8%) were acutely malnourished (p<0.05) and further studies may be required to understand this difference. The retrospective CDR and U5DR rates of 0.71 (0.41-1.20) and 1.91 (0.93-3.87) were reported in the Addun livelihood zone respectively. The deaths are mainly attributed to diarrhoea and measles, and are below the respective WHO's *Alert* threshold levels of 1/10,000/day and 2/10,000/day. Data from health facilities in the livelihood zone reported a low proportion and high and stable trend of acutely malnourished children among the northeast and central health facilities respectively. There were no disease outbreaks in the livelihood.

Overall, the nutrition situation of the Hawd and Addun livelihood pastoral population improved, compared to the previous season. The improvement in the nutrition situation is partly attributed to more favourable livestock prices, access to milk and increased income from sales of animal and animal products. This is as a result of replenished pasture and water availability associated with the favorable *Gu* '10 rains in the livelihood, and increasing value of livestock marketing due to high demand for the *Hajj*. Further, humanitarian interventions in the form of targeted interventions are ongoing in the Hawd and Addun livelihood areas and may have assisted to mitigate the poor nutrition situation. The support needs to be continued by the humanitarian organizations given the negative impact poor rainfall performance in the *Deyr '10/11*. The key nutrition evidence indicators of the analysis on the nutrition phase classification are provided in Table12.

Unprotected water in Dadaale village, Dhusmareeb, FSNAU, November 2010.

Table 12: Summary of Key Nutrition Findings in Hawd and Addun Livelihood zones of Central and Northeast Regions

	Hawd (N=593)		Adduun (N=591)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status				
Global Acute Malnutrition (WHO 2006)	**13.0** (10.4-16.2)		**11.0** (7.7-15.5)	
Boys	13.9	Serious	14.9	Serious
Girls	12.0		6.8	
Mean WHZ (WHO, 2006)	-0.76±1.15	Serious	-0.70±1.09	Serious
Severe Acute Malnutrition (WHO 2006)	**2.9** (1.8- 4.7)		**2.5** (1.3-5.1)	
Boys	3.2	Acceptable	3.9	Acceptable
Girls	2.5		1.1	
Global Acute Malnutrition (NCHS)	12.6 (10.2-15.6)	Serious	10.3 (7.3-14.5)	Serious
Severe Acute Malnutrition (NCHS)	1.3 (0.5- 3.4)	*Acceptable*	0.7 (0.2- 2.3)	Acceptable
Global Acute Malnutrition by MUAC (<12.5 cm or oedema)	3.7 (2.5- 5.4)		2.8 (0.2- 5.4)	
Boys	3.6	*Acceptable*	3.5	*Acceptable*
Girls	3.9		2.1	
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	1.7 (0.8- 3.3)	Critical	0.6(0.0- 1.3)	Serious
Stunting (HAZ<-2)	15.2 (11.5-19.8)		11.1 (7.5-14.7)	
Boys	18.4	*Acceptable*	11.2	*Acceptable*
Girls	11.7		11.0	
Underweight (WAZ<-2)	15.7 (12.9-19.0)		19.6 (14.4-24.8)	
Boys	18.1	*Alert*	23.2	*Alert*
Girls	13.1		15.6	
HIS Nutrition Trends(July-Dec'10)	High (>10%) levels and stable trends	Serious	High (>15%) levels and decreasing trends	Critical
Admission trends at TFPs/SFPs (Galgadud &Mudug–J uly-Dec'10)	High and stable admissions trend	Serious	High and stable admissions trend	Critical
Proportion of acutely malnourished registered in SFs	7.9	Very Critical	5.7	Very Critical
Child Morbidity & Immunization				
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak – None Morbidity – 34.6 Diarrhea -9.6 Pneuonia-13.8 Fever-26.3	Very Critical	Outbreak -None Morbidity–32.8 Diarrhea -8.9 Pneumonia-10.3 Fever-25.2	Very Critical
Immunization Status	Vitamin A –48.6 Measles – 58.3	Critical	Vitamin A – 74.7 Measles- 71.7	Critical
Infant and Young child feeding	**N=212**		**N=195**	
Proportion still breastfeeding	38.7	Critical	41.8	Critical
Proportion meeting recommended feeding frequencies	39.7	Very Critical	59.4	Very Critical
Proportion who reported to have consumed <4 food groups	48.7	Very Critical	5.3	*Acceptable*
Death Rates				
Crude deaths per 10,000 per day (retrospective for 90 days)	0.30 (0.14 – 0.62)	*Acceptable*	0.71 (0.41–1.20)	*Acceptable*
Under five deaths per 10,000 per day (retrospective for 90 days)	0.63 (0.21–1.92)	*Acceptable*	1.91 (0.93 – 3.87)	*Acceptable*
Women Nutrition & Immunization Status	N=336		N=356	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	0.0 N=179	*Acceptable*	2.6 N=195	*Acceptable*
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	N=157 13.4	*Alert*	N=161 19.3	Serious
Proportion of Women who received Tetanus Immunization				
No dose	33.3		34.1	
One dose	14.0	Serious	24.7	Serious
Two doses	38.1		26.7	
Three doses	14.6		14.4	
Public Health Indicators	**N=355**		**N=367**	
Household with access to sanitation facilities	61.7	Serious	54.3	Serious
Household with access to safe water	30.9	Very Critical	35.1	Very Critical
Food Security	**N=355**		**N=367**	
Proportion who reported to have consumed <4 food groups	0.8	*Acceptable*	5.5	*Acceptable*
Household's Main Food Source				
Own Production	0	*Acceptable*	0	*Acceptable*
Purchase:	97.9		70.6	
Food security phase	HE	**Critical**	HE	Very Critical
Overall Situation Analysis	Serious		Serious	

The Cowpea Belt Agro-pastoral Livelihood Zone

The nutrition situation of the population in the agro-pastoral Cowpea Belt livelihood zone of Central region remains as *likely* ***Critical,*** with risk of deterioration according to the *Post Deyr '10/11* integrated analysis. The MUAC measurements (MUAC) collected from 467 children from 7 sites indicated a proportion of **14.3%** with a MUAC measurements of <12.5 cm/oedema and **3.0%** of the assessed children with MUAC measurements of <11.5cm/oedema. Health facility data (from Jawle, Dabagalo, Masgaway, Elbur and Galad MCHs) indicated a high proportion (>20 %) and stable trend of acutely malnourished children (Figure 20). No disease outbreaks are reported in the area. The poor nutrition is due to the deteriorating food security indicators. The food security situation of the agro-pastoral livelihood in the cowpea belt has deteriorated due to complete crop failure, as a result of the failed rains in the current season, leading to reduced income from crop sales among the poor households, 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 indicators.

Coastal Deeh Livelihood Zone

The Coastal Deeh Livelihood zones of south Mudug, and Galgadud region are classified as *likely* ***Critical*** according to the Post *Deyr* '10/11 integrated analysis nutrition situation. This is a deterioration in comparison to the Post *Gu* '10 nutrition situation that classified the situation as *Serious.* The deterioration is mainly attributed to the *Deyr* rain failure in the livelihood zone affecting lack of income from livestock/ products and children's access to milk in the area. The mid upper arm circumference measurements (MUAC) collected from 467 children from 7 sites indicated a proportion of **12.3%** with a MUAC of <12.5 cm and **3.0%** of the assessed children with measurements of<11.5cm.

Information from health facilities (Eldhere, Harardhere and Wahweyn MCHs) in the area indicates high (>20%) numbers and an increasing trend of acutely malnourished children (Figure 21). No disease outbreaks are reported in the area. Household income and consumption of milk is low resulting from the low livestock production, due to poor rains in the area. The chronic issues affecting the nutrition situation of the area include inadequate health services, poor sanitation, suboptimal child care and feeding practices and low immunization. Continued interventions need to be sustained to prevent any further deterioration.

Figure 20: HIS Malnutrition Trends in Cowpebelt LZ, 2009-2010 Data Source: CISP

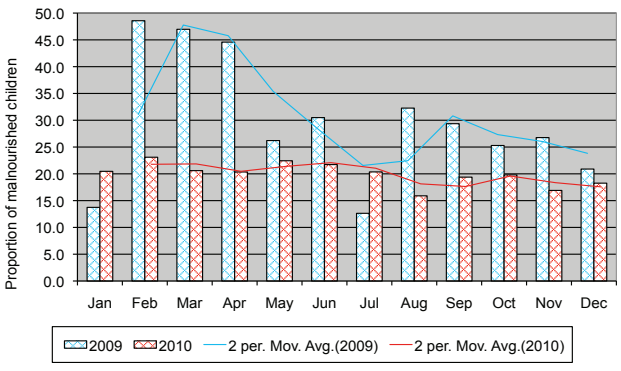


Figure 21: HIS Malnutrition Trends in Central CoastalDeeh LZ, 2009-2010 Data Source, SRCS

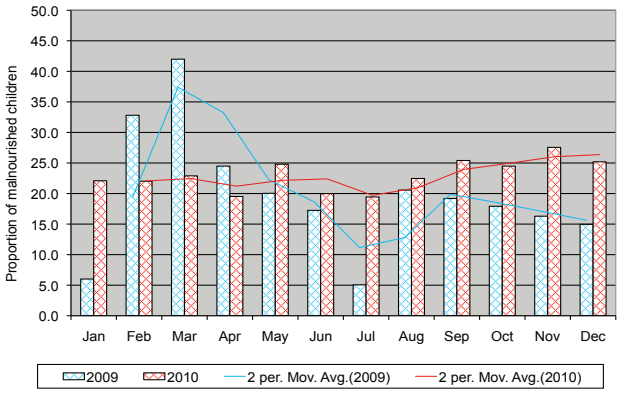


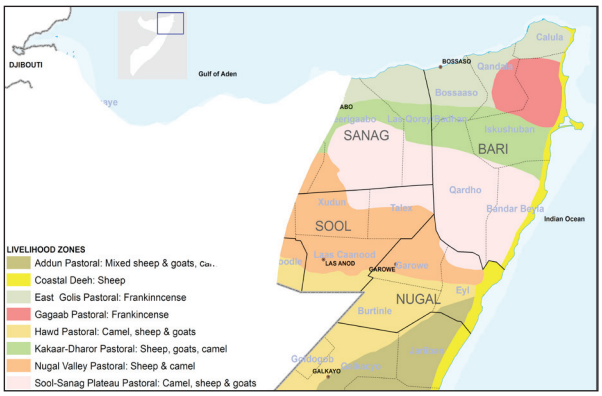
Table 13: Summary of Key Nutrition Findings in H Cowpea Belt Agro-pastoral and *Coastal Deeh* Livelihood zones of Central Region

	Cowpea Belt (N=550)		*Coastal Deeh* (N=648)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**
Global Acute Malnutrition by MUAC (<12.5 cm or oedema)	**14.3**	Critical	**12.3**	Critical
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	**3.0**	Very Critical	**3.0**	Very Critical
HIS Nutrition Trends(July-Dec2010	High (>15%) levels and stable trends	Critical	High (>20%) levels and stable trends	Very Critical
Selective Feeding Programmes	Limited	Critical	Limited	Critical
Dietary Diversity	Poor; limited milk	Critical	Poor :No milk available, reduced frequency of meals	Critical
Disease Outbreaks	None	*Acceptable*	None	*Acceptable*
Access to safe water & Sanitation facilities	Poor	-	Poor	-
Access to Health Services	Limited health facilities in the area	Serious	Limited health facilities in the area	Serious
Food security phase	HE		HE	
Overall Situation Analysis	***Likely Critical***		***Likely Critical***	

4.7 NORTHEAST REGIONS

The Northeast regions are predominately pastoral with seven livelihood zones namely; the Hawd, Addun, Coastal Deeh, East Golis, Kakaar/Dharoor Valley, Nugal Valley and Sool Plateau. The Hawd and Addun cut across the Northeast and Central regions. (Map 14) .

Map 14: Northeast Livelihood Zones



Historical Overview - Post *Gu*'10

Food security

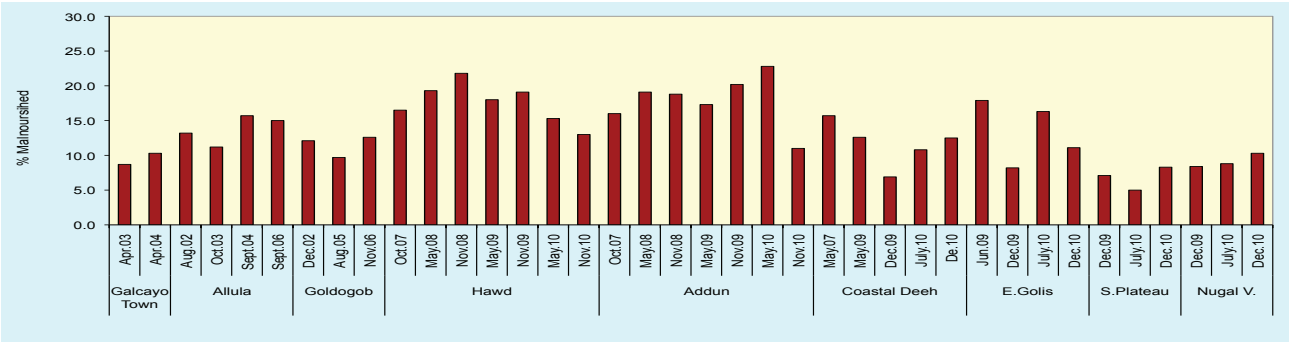
The FSNAU Post *Gu*'10 integrated food security phase classification indicated that the Hawd and Addun pastoral livelihoods in Nugal and northern Mudug regions were faced with a sustained **Humanitarian Emergency (HE)** since *Deyr* '09/10,while East-Golis,Coastal Deeh and Karkaar/Dharoor Valley livelihood zones of Bari region were faced with an **Acute Food and livelihood Crisis (AFLC)**, indicating a deterioration from **BFI** in *Deyr '09/10.* The remaining livelihoods of Bari region were classified to be in sustained **Borderline Food Insecure** (**BFI).** Approximately,176,000 (85%) people were faced with **AFLC,** and 30,000 people were in **HE** in the northeast regions. This was an improvement from the Post *Deyr*'09/10 analysis when about 76,000 and 178,000 in the northeast regions were faced with **HE** and **AFLC** respectively. The improvement in the *Gu'10* was attributed to the impact of favourable *Gu* '10 rainfall performance in most parts of Northeast regions.

The Addun Pastoral livelihood of northern Mudug was faced with a sustained **HE** due to significant asset loss during the previous five consecutive droughts (*Deyr* '07/08 to *Deyr* '09/10); limited production for own consumption and sales; declined livestock prices and high cereal prices arising from high transport costs in view of poor road infrastructure. Deterioration in East-Golis, Coastal *Deeh* and karkaar/ Dharoor Valley livelihood zones of Bari region was attributed to poor frankincense production following two poor rainy seasons; effects of a cyclone in May 2010, which destroyed date palms, road infrastructure and houses, as well as reduced labour opportunities from fishing activities, due to activities of sea piracy and high sea tides. Conversely, the food security of Hawd pastoral had significantly improved due to the return of migrated livestock during past recurrent droughts, as result, income from saleable animals as well as the availability and consumption of animal products especially milk in the area had increased.

Nutrition

The post *Gu* '10 nutrition analysis indicated a deterioration in most of the livelihood zones in the Northeast compared to the *Deyr '09/10* season (Figure 22). The Addun pastoral livelihood zones of Mudug and Nugal regions indicated a deterioration from *Critical* in the *Deyr'09/'10* to *Very Critical*, while in the *Gu'10* the Hawd pastoral livelihood zones sustained a *Critical* nutrition phase. The nutrition situation had deteriorated in the East Golis /Krakaar/Dharoor 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 zone indicated 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 in a 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 due to seasonal tides. The nutrition situation

Figure 22: Trends in levels of acute malnutrition (WHZ<-2 or oedema, WHO 2006) Northeast regions (2002-2010)



of the IDPs from Bossaso was 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 *Deyr'09/10* to *Critical* in the *Gu'10.*

Current Situation

Food Security

The FSNAU Post ***Deyr'10/11*** integrated food security analysis has classified the Nugal Valley,EastGolis/ Karkaar/Dharoor Valley and Sool Plateau livelihood zones of Bari and Nugal regions in sustained **AFLC**, with high risk to **HE**, indicating a deterioration from **AFLC** with moderate risk in *Gu*'10, following three successive seasons of poor rainfall. The Hawd and Addun pastoral livelihoods in Nugal and northern Mudug regions remain in **HE** since *Deyr* '09/10. There is a significant deterioration in the Coastal Deeh of Bari, Nugal and north Mudug regions where the population in crisis has increased by 233%, with a significant increase of both people in **HE** and **AFLC.** The total rural population in crisis in Bari, Nugal and northern Mudug regions is estimated at 220,000, of which 9,000 is rural destitute and 90,000 is urban. Of the total population in crisis, 190,000 (86%) are in **AFLC** and 30,000 (14%) are in **HE**.

Nutrition

The current *Post Deyr '10/11* nutrition situation depicts an improved nutrition situation in most of the livelihood zones compared to the *Gu* '10 season. The nutrition situation remained stable at ***Alert*** for the Sool Plateau; also unchanged was the Coastal Deeh livelihood zone that remained ***Serious***. The populations of the Hawd and Addun livelihood zones showed an improvement from *Critical* and *Very Critical* respectively to ***Serious*** for both the East Golis/Karkaar/ Dharoor pastoral population from *Critical* in the previous season to ***Serious***. A deterioration is noted in the Nugal valley livelihood zone where the situation is classified as ***Serious*** compared to the *Alert* phase reported in *Gu*'10. These deteriorations are predominantly linked to the abnormal migration resulting in family splitting and limited milk availability at the household level in the area. The nutrition situation of the IDPs from Bossaso is classified as ***Critical***, which illustrates an improvement from *Very Critical* in the *Post Gu'10*. The nutrition situation of the IDPs from Garowe still remained unchanged at ***Serious***, while the IDPs from Qardho, assessed for the first time, are classified as ***Serious***. The results are consistent with historical data on nutrition surveys conducted among the IDP population in the northeast region, which highlights the chronic nutritional vulnerabilities (Figure 22).

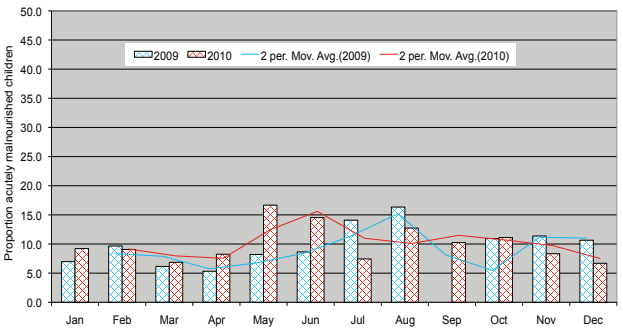
The detailed results of assessments in the Hawd and Addun, cutting across the Northeast and central regions are discussed in the section for Central Regions, while the remaining livelihoods are discussed in the sections below. The results of the key indicators are summarized in Tables 14-17.

East Golis/ Karkaar/Dharoor Livelihood Zones

The current Post ***Deyr '10/11*** integrated nutrition situation analysis classifies the nutrition situation in the area as ***Serious.*** East Golis/Karkaar/Dharoor livelihood zone of Bari region remains in **Acute Food and livelihood Crisis (AFLC)** with high risk to **HE**, indicating a deterioration from **AFLC**- with moderate risk in Gu*'10,* as the area experienced a third seasonal rain failure which significantly reduced frankincense production as well as completely missed fishing opportunities due increased sea piracy. Rain failure led to an abnormal out migration of animals and poor animal body conditions resulting in reduced household income, and meat and milk consumption, while sea piracy has reduced fish consumption and income from the sale of fish.

In December '10, FSNAU and partners conducted a comprehensive nutrition survey in the East Golis/Karkaar/ Dharoor livelihood zone. The results indicated a GAM rate of **11.1**% (8.0-15.1) and SAM rate of **2.1**% (1.2-3.9). When compared to the July 2010 rapid weight for height assessment findings, which reported global acute malnutrition (GAM) of >16.3 % (Pr=0.90) with a SAM rate of >1.7 % (Pr=0.90), there is a significant improvement in the GAM and not SAM rates (Pr=99.3%; *p=0.014).* Similar proportions of assessed boys (11.9 %) were acutely malnourished as were the girls (10.1%). The 90 days retrospective crude (CDR) and under five death rates (U5DR) of 0.13 (0.05-0.42) and 0.30 (0.51-2.99) respectively recorded in December'10 assessment indicate an ***Acceptable*** situation according to WHO classification. Data from the health facilities namely Ufeyn, Waaciye and Iskushuban indicated an improvement, recording a low (<10%) and stable trend of acutely malnourished children (Figure 23). 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, in addition to the expansion of interventions aimed at rehabilitating acutely malnourished children and improving access to health facilities.

Figure 23: HIS Malnutrition Trends in Golis/ Karkaar LHz, 2009-2010, Data Source: MOH ,SRCS

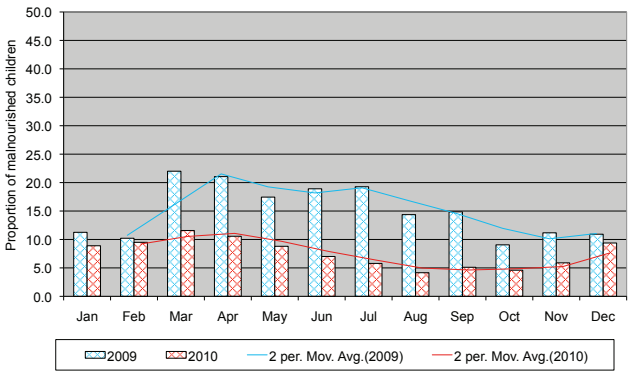


Nugal Valley Livelihood Zone

The current Post *Deyr*'10/11 integrated nutrition, analysis classifies the nutrition situation of the Nugal valley as ***Serious*** indicating a deterioration from *Alert* in the *Gu'*10 (Table 14). The deterioration is likely linked to reduced intake of milk and meat products following the *Deyr*'10/11 rain failure, poor income access, coupled with increased expenditure on water and cereal purchases. In November 2010, FSNAU and partners conducted a comprehensive nutrition survey in the Nugal Valley livelihood zone.

Results indicated a GAM rate of **10.3%** (7.0-14.8), and a SAM rate of **1.0%** (0.4-2.3). These results show a deterioration, though not statistically significant compared to the rates recorded in July 2010 when rapid weight for height assessment estimated the GAM rate as > 8.8% and SAM rate of >1.5 % (Pr=0.90). A similar proportion of assessed boys (10.7%) were acutely malnourished compared to the girls (9.8%). The 90 days retrospective crude (CDR) and under five death rates (U5DR) of 0.53 (0.32-0.92) and 0.61 (0.20-12.87), indicating an *Alert* and *Acceptable* situation respectively were recorded. Data from the health facilities namely Sinujiif, Gambool and Waaberi, indicates low numbers (<5%) and increasing trend of acutely malnourished children (Figure 24).

Figure 24: HIS Malnutrition Trends in Nugal Valley of Northeast, Data Source: MOH, SCRS



Although there were no disease outbreaks in the area, high morbidity rates, low immunization and vitamin A supplementation, poor water sanitation and limited health facilities still remain chronic underlying factors affecting the nutritional status of the community. Therefore, the population groups in this livelihood zone needs to be closely monitored and appropriate interventions aiming at improving the nutritional status of acutely malnourished children remain essential, especially in light of the worsening food security situation in the area.

A woman with Twins, FSNAU, Dec. 2010.

Coastal Deeh- Livelihood Zone

The nutrition situation of the Coastal Deeh populations of the Nugal, Bari and Mudug regions remains ***Serious*** according to *Post Deyr '10/11* integrated nutrition analysis. High morbidity rates and a precarious food security situation with significant livestock deaths, are the main factors attributed to the poor nutrition situation affecting the coastal livelihood. The FSNAU integrated food security analysis has classified the livelihood zone as either in **Humanitarian Emergency** (**HE**) or **Acute Food and livelihood Crisis (AFLC) .**

A nutrition survey conducted in December 2010, reported a GAM rate of **12.5 %**(10.5-14.9) and SAM rate of **2.8%** (1.7-4.6), indicating a ***Serious*** nutrition situation. These results are similar to the levels recorded in July 2010 when rapid weight for height assessment estimated a GAM rate as >10.8% and SAM rate of >2.2% (Pr=0.90).A higher proportion of assessed boys (15.2 %) were acutely malnourished compared to the girls (9.4%). This difference was however not statistically significant. A 90 days retrospective crude (CDR) and under five death rates (U5DR) of 0.38 (0.20-0.70) and 1.01 (0.51-2.0) respectively were recorded, indicating an *Acceptable* situation. Data from the health facilities in the area also indicated an improvement, recording a low (<5%) and stable number of acutely malnourished children. Availability of water, sanitation and health facilities in the area remain limited, with only 67.4% of the assessed households reportedly having access to safe water and only 61.5% accessing sanitation facilities. The rain failure of *Deyr '10/11* has led to a significant deterioration of livestock body condition resulting in reduced household income, and meat and milk consumption. Furthermore, there are low labour opportunities from fishing activities due to increased presence of sea pirates, and high morbidity particularly diarrhoea. These remain key factors affecting the nutrition situation in the area (Table 14).

Table 14: Summary of Key Nutrition Findings in Northeast Regions

	The Golis/Karakaar Livelihood Zone (N=659)		Coastal deeh Livelihood Zone (N=670)		Nugal Valley Livelihood Zone (N=516)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**11.1** (8.0-15.1) 11.9 10.1	Serious	**12.5** (10.5-14.9) 15.2 9.4	Serious	**10.3** (7.0-14.8) 10.7 9.8	Serious
Severe Acute Malnutrition (WHO 2006) Boys Girls	**2.1** (1.2-3.9) 2.3 2.0	Acceptable	**2.8** (1.7-4.6) 3.0 2.6	Acceptable	**1.0** (0.4-2.3) 0.7 1.2	Acceptable
Mean WHZ (WHO, 2006)	-0.53±1.18	Alert	-0.66±1.25	Alert	-0.63 (±1.14)	Alert
Global Acute Malnutrition (NCHS)	9.9 (7.3-13.2)	Alert	12.7 (10.6-15.2)	Serious	11.0 (7.6-15.6)	Serious
Severe Acute Malnutrition (NCHS)	1.1 (0.5-2.4)	Acceptable	1.5 (0.8- 2.9)	Acceptable	0.6 (0.2-1.8)	Acceptable
Global Acute Malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	5.8((3.8-8.6) 4.2 7.5	Serious	5.5 (4.0- 7.5) 6.1 4.9	Serious	4.2 (2.5-6.0) 3.7 (1.3-6.1) 4.9 (1.6-8.2)	Acceptable
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	0.3 (0.0-2.4)	Serious	1.9 (1.2- 3.1)	Critical	1.2 (0.3-2.0)	Serious
Stunting (HAZ<-2) Boys Girls	12.3 (8.9-16.7) 12.7 11.8	Acceptable	16.7 (13.3-20.8) 19.1 14.0	Acceptable	17.1 (11.4-22.8) 19.3 (10.2-28.4) 6.1 (2.4-9.9)	Serious
Underweight (WAZ<-2) Boys Girls	12.6 (9.6-16.5) 15.6 9.2	Alert	13.5 (10.4-17.4) 14.2 12.7	Alert	9.9 (6.7-13.1) 11.4 (6.5-16.3) 8.2 (4.1-12.3)	Alert
HIS Nutrition Trends(June – December 2010)	Low <10%) levels and stable trends	Serious	N/A	---	Low (<5%) and increasing trend of malnourished children in MCHs	Alert
Proportion of acutely malnourished registered in SFs	2.7	Very Critical	1.3	Critical	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*	Outbreak – None Morbidity –43.1 Diarrhoea -17.8 Pneuonia-21.4 Fever-26.9	Very Critical	Outbreak –None Morbidity–46.2 Diarrhoea- 15.8 Pneumonia-23.3 Fever-23.4	Very Critical	Outbreak -None Morbidity- 40.4 Diarrhoea – 13.2 Pneumonia- 15.1	Very Critical
Immunization Status	Vitamin A –80.9 Measles – 77.1	Alert	Vitamin A– 72.2 Measles- 79.3	Alert	Vitamin A – 52.5 Measles – 55.3	Critical
Infant and Young child feeding	**N=220**		**N=228**			
Proportion still breastfeeding	44.5	Critical	42.7	Critical	21.1	Critical
Proportion meeting recommended feeding frequencies	35.0	Critical	32.0	Very Critical	22.3	Critical
Proportion who reported to have consumed <4 food groups	2.0	Very Critical	24.8	Critical	17.1	Critical
Death Rates						
Crude death per 10,000 per day (retrospective for 90 days)	0.13 (0.05-0.42)	Acceptable	0.38 (0.20-.070)	Acceptable	0.53 (0.32-0.92)	Acceptable
Under five deaths per 10,000 per day (retrospective for 90 days)	0.30 (0.51-2.99)	Acceptable	1.01 (0.51-2.0)	Acceptable	0.61 (0.20-1.87)	Acceptable
Women Nutrition & Immunization Status	N=395		N=439			
Proportion of acutely malnourished non pregnant/ lactating women (MUAC≤18.5 cm)	0.5 N=215	Acceptable	0.4 N=194	Acceptable	2.0	Acceptable
Proportion of acutely malnourished pregnant/ lactating women (MUAC<23.0).	21.7 N=180	Serious	10.3 N=249	Alert	22.9	Serious
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	17.5 18.8 31.6 32.1	Alert	N=444 24.3 16.7 27.0 31.9	Critical	45.0 20.1 17.9 16.2	Serious
Public Health Indicators	**N=420**		**N=448**		**N=**	
Household with access to sanitation facilities	61.7	Critical	61.5	Very Critical	30.3	Critical
Household with access to safe water	49.8	Very Critical	67.4	Critical	19.9	Very Critical
Food Security	**N=420**		**N=448**		**N=**	
Proportion who reported to have consumed <4 food groups	6.7	Alert	2.5 (0.6-4.2)	Alert	17.3	Critical
Household's Main Food Source Own production Purchase: Borrowing	0.9 98.8 0.2	Acceptable	- 99.1 -	Acceptable	- 94.4	
Food security phase	AFLC		AFLC		BFI	
Overall Situation Analysis	Serious		Serious		Serious	

Sool Plateau Livelihood Zone of Northeast

The Nutrition situation of the Sool Plateau of Bari and Nugal regions remains ***Alert*** according to post *Deyr '10/11* integrated nutrition analysis. Results from the nutrition survey conducted in December 2010 indicated a GAM rate of **8.3%** (6.0-11.4), and a SAM rate of **1.6%** (0.8-3.1). These results are similar to the GAM rate of >5.0% and SAM rate of 0.6 % (Pr=0.90) reported in July 2010. (Table 15). More boys (11.0%) than girls (5.4%) were acutely malnourished but the difference was not significantly different. Data from health information systems (HIS) in the area indicates low numbers (<5%) and a stable trend of acutely malnourished

Figure 25: HIS Malnutrition Trends in Sool Plateau LHz, 2009-2010 Source: MOH,SRCS

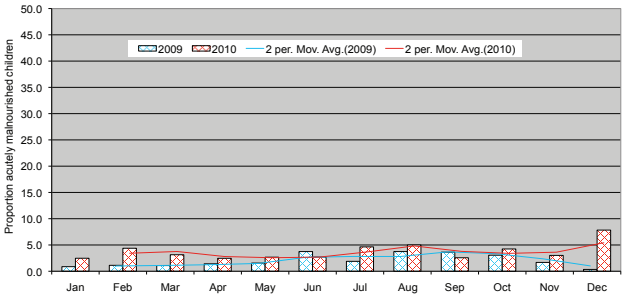


Table 15: Summary of Key Nutrition Findings in Golis, Nugal Valley and Coastal Deeh

	Sool plateau N=624	
Indicator	**Results**	**Outcome**
Child Nutrition Status		
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	**8.3** (6.0-11.4) 11.0 5.4	*Alert*
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	**1.6** (0.8-3.1) 1.8 1.3	*Acceptable*
Mean of Weight for Height Z Scores	-0.46	*Alert*
Oedema	0.6	*Acceptable*
Global Acute Malnutrition (NCHS)	7.9 (5.6-10.9)	*Alert*
Severe Acute Malnutrition (NCHS)	0.8 (0.3-2.2)	*Acceptable*
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	2.9 (1.7-5.0) 1.8 4.1	*Acceptable*
Severe Acute malnutrition by MUAC (<11.5 cm or oedema	1.3 (0.5-3.1)	Serious
Stunting (HAZ<-2) Boys Girls	10.6 (7.2-15.3) 12.6 8.4	Serious
Underweight (WAZ<-2) Boys Girls	10.3 (7.1-14.9) 11.7 8.8	Serious
HIS Nutrition Trends(June – December 2010)	Low <15% and a stable trend of acutely malnourished children in MCHs	Serious
Proportion of acutely malnourished children in SFs	6.3	
Child Morbidity & Immunization		
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 48.9 Diarrhoea – 19.4 Pneumonia- 18.0	**Very Critical**
Immunization Status	Vitamin A – 60.6 Measles – 68.9	**Critical**
Infant and Young Child Feeding		
Proportion still breastfeeding	44.2	Serious
Proportion meeting recommended feeding frequencies	47.6	**Critical**
Proportion who reported to have consumed <4 food groups	24.3	**Critical**
Death Rates		
Crude death per 10,000 per day (retrospective for 90 days)	0.45 (0.25-0.80)	*Acceptable*
Under five deaths per 10,000 per day retrospective for 90 days)	1.1 (0.49-2.47)	*Alert*
Women Nutrition and Immunization Status		
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	2.2	*Alert*
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	19.0	Serious
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	 23.2 20.4 28.2 28.2	Serious
Public Health Indicators		
Household with access to sanitation facilities	66.1	Serious
Household with access to safe water	22.4	**Very Critical**
Food Security		
Proportion who reported to have consumed <4 food groups	10.1	*Alert*
Household's Main Food Source Own production Purchase	 - 98.7	
Food security phase	HE	**Very Critical**
Overall Risk to Deterioration	Stable	*Alert*
Overall Situation Analysis	**Alert**	

children screened at health facilities (Figure 25). The sustained nutrition situation in the livelihood is mainly attributed to the limited milk availability in the area and the humanitarian interventions such as cash relief, food aid, health and nutrition. 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. Interventions that aim at improving access to health facilities, rehabilitating malnourished children and supporting livelihoods and protecting vulnerable groups remain pertinent.

IDPs of the Northeast: Galkayo, Garowe and Bossaso.

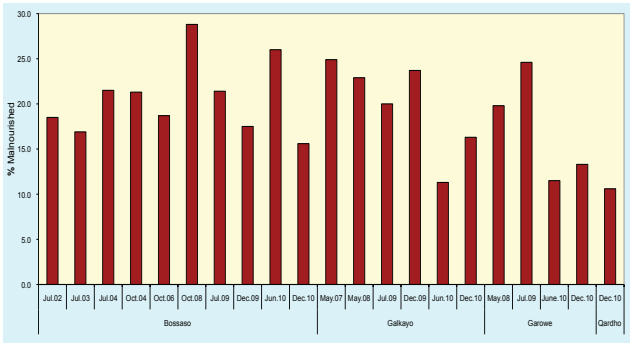
Despite positive changes in some of the IDPs settlements in the northeast regions, the nutrition situation in IDPs remain sub-optimal, while the population continues to be vulnerable to shocks.

The nutrition situation of IDPs from Bossasso is classified as ***Critical***, which illustrates an improvement from *Very Critical* in the Post *Gu'*10, while the nutrition situation of the IDPs from Garowe population remains ***Serious***. The IDP population in Qardho is classified as ***Serious*** according to the *Post Deyr'10/11* integrated nutrition analysis.

In November and December 2010, three comprehensive nutrition surveys were conducted among the Bossaso, Garowe and Galkayo IDPs, and a small sample cluster survey undertaken in Qardho IDP population. Results indicated a GAM rate of **15.6%** (12.7-19.1) and SAM rate of **2.8**% (1.6 - 4.8) among the Bossaso IDPs. More boys (17.5%) than girls (14%) were acutely malnourished but the difference was not statistically significant. This indicates a ***Critical*** nutrition situation, and a significant improvement ($p<0.05$) from the *Very Critical* situation recorded in the June 2010 assessment where a GAM rate of >26% (Pr.=0.90) and SAM rate of >3.3% (Pr.=0.90) were recorded. The improvement of the nutrition situation among the Bossaso IDPs could be attributed to improved food access as a result of increased income earning opportunities from casual labour at Bossaso port and the resumption of fishing activities in the area. These income earning opportunities were absent in the *Gu* '10 season due to the closure of the port and the seasonal out-migration of the better off (who normally offer casual work) due to strong tidal waves and high temperatures. However, the impact of casual labour may be short lived due to the reported competition for limited opportunities between the IDPs and the urban poor. Data from health facilities in Bossaso indicated a high (>20%) and stable trend of acutely malnourished children (Figure 27).

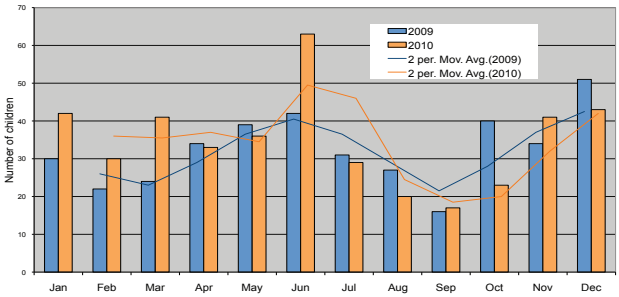
Among the Garowe IDP population, a GAM of rate of **13.3 %** (11.0-15.9) and a SAM rate of **2.5 %** (1.6-3.9) was recorded, indicating a ***Serious*** nutrition situation. These results are similar to the levels recorded in June 2010 when a small sample cluster survey (33x6) estimated a GAM rate of > 11.5% (Pr=0.90) and SAM rate of > 3% (Pr.=90%). A significantly higher proportion of boys, 16.6%, than girls, 10.3%, were acutely malnourished ($p<0.05$).The sustained nutrition situation among the Garowe IDPs could be linked to the ongoing interventions, including active case finding and referral of acutely malnourished children by the Save children (UK).

Figure 26: Trends in Levels of Acute Malnutrition (WHZ<-2 or oedema, WHO 2006) Northeast IDPs (2002-2010)



A child with kwashiokor in Qardho IDP, FSNAU, Dec '10

Figure 27: Bossaso Stablization Center Admissions 2009 – 2010 Data Source: MOH/UNICEF/Bossaso Hospital



Poor Shelter in Galkayo IDP,Nov '10

Five years old stunted child, Bossaso IDPs , Dec'10

A GAM rate of **16.3%** (13.2-20.0) and a SAM rate of **2.9%** (1.8-4.5) was reported among the Galkayo IDPs. This indicates a ***Critical*** nutrition situation and a deterioration from the *Serious* levels recorded in the small sample cluster survey (33x6) in June 2010 that estimated the GAM rate as > 11.3% and SAM rate as >1.2% (Pr.=90%). The proportion of boys (19.8%) who were acutely malnourished was higher than that of girls (12.3%), but the difference was not statistically significant (p>0.05). The deterioration of the nutrition situation among the Galkayo IDPs could be attributed to reduced food access, high morbidity and influx of new IDPs in the area.

Findings from the small sample cluster survey conducted in the Qardho IDPs in December 2010, indicate a GAM level of **>10.6%**(Pr=0.90) with a SAM rate of **>2.7%** (Pr=0.90) IDPs, depicting a ***Serious*** nutrition situation. (Table 17). A nearly equal proportion of assessed boys (>9.6%) were acutely malnourished compared to girls (>9.4%). The respective crude and under five death rates of 0.15 (0.05-0.42) and 1.24 (0.51-2.99) among the Bossaso IDPs; 1.00 (0.52-1.93) and 1.5(0.65-3.95) among Galkahyo IDPs; and 0.31(0.16-0.62) and 0.41 (0.13-1.33) among Garowe IDPs were all within the *Acceptable* levels apart from Galkahyo IDPs that were *Serious* according to WHO classification. The reported deaths were suspected to have mainly been caused by diarrhoea and febrile illness.

Data from health facilities in Bossaso indicated a high (>20%) and stable trend of acutely malnourished children. All IDPs surveyed report a very high proportion of stunting (30 to 42%) 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 status of the children. However, for all the four IDP populations, vaccination status by recall and Vitamin A supplementation are relatively high, yet slightly below the Sphere (2004) threshold, with the exception of measles immunization in Qardho IDP populations (Table 17). The high coverage of these health programmes is mainly due to the impact of the child health days (CHDs) carried out by UNICEF and partners in June/Nov 2010. A relatively low proportion of the households have access to sanitation facilities, a pattern emulated with other indicators, such as poor access to clean water, 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. Even though there is a significant improvement among the Bossaso IDPs, the levels of malnutrition among the four IDP populations remains above or near emergency thresholds of 15% and concerted efforts will be needed to rehabilitate acutely malnourished children and prevent further deterioration. Interventions to improve and stabilize food access and provision of health services, safe water and sanitation facilities are crucial in addressing the limited food and in tackling the high morbidity levels, thereby mitigating the high levels of acute malnutrition. The key nutrition indicators of these IDP populations that form the basis of the analysis are provided in Tables 16 and 17.

Table 16: Summary of Key Nutrition Findings in Northeast IDPs

	Bosasso (N=749)		Garowe (=761)		Galkahyo N=869)	
Indicator	**Results %**	**Outcome**	**Results %**	**Outcome**	**Results %**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHO 2006) Boys Girls	**15.6** (12.7-19.1) 17.5 14.0	Critical	**13.3** (11.0-15.9) 16.6 10.3	Serious	**16.3** (13.2-20.0) 19.8 12.3	Critical
Severe Acute Malnutrition (WHO 2006) Boys Girls	**2.8 (1.6-4.8)** 2.8 2.8	*Acceptable*	**2.5** (1.6-3.9) 3.3 1.8	*Acceptable*	**2.9** (1.8- 4.5) 4.1 1.5	*Acceptable*
Mean WHZ (WHO, 2006)	-0.9±1.04	Critical	-0.96±1.05	Critical	-0.81±1.21	Critical
Global Acute Malnutrition (NCHS)	12.6 (9.8-15.9)	Serious	12.0 (9.7-14.6)	Serious	13.5 (10.8-16.7	Serious
Severe Acute Malnutrition (NCHS)	0.4 (0.1-1.2)	*Acceptable*	1.2 (0.6-2.2)	*Acceptable*	0.1(0.0-0.4)	*Acceptable*
Global Acute Malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	15.1 (11.9-18.3) 11.8 18.0	Very Critical	9.6 (7.0-12.9) 8.0 11.0	Serious	5.1(3.5- 7.3) 4.7 5.4	Serious
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	4.3 (2.6-6.0)	Very Critical	0.4 (0.1-1.2)	Serious	0.0 (0.0- 0.0)	--
Stunting (HAZ<-2) Boys Girls	42.5 (36.6-48.3) 45.1 40.1	Critical	34.6 (31.2-38.1) 35.7 33.5	Serious	29.5 (25.0-34.4) 31.9 26.7	*Acceptable*
Underweight (WAZ<-2) Boys Girls	33.2 (28.2-38.8) 35.6 31.1	Critical	26.8 (22.9-31.1) 29.9 24.0	Serious	24.3 (20.5-28.5) 29.7 18.0	Serious
HIS Nutrition Trends(Jan-Jun'10)	High (>20%) levels and increasing trends	Critical	N/A	-	N/A	-
Admission trends at TFPs/SFPs (Gedo – Jan-July'10)	High and increasing admissions trend	Critical	N/A	Critical	N/A	
Proportion of acutely malnourished registered in SFs	5.9	Very Critical	0	Very Critical	3.7	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak – None Morbidity –62.5 Diarrhea -39.4 Pneuonia-14.7 Fever-45.9	Very Critical	Outbreak -None Morbidity–40.5 Diarrhea- 16.4 Pneumonia-13.1 Fever-68.5	Very Critical	Outbreak -None Morbidity–43.4 Diarrhea -15.4 Pneumonia-19.9 Fever-32.3	Very Critical
Immunization Status	Vitamin A –94.5 Measles – 91.2	*Alert*	Vitamin A– 84.2 Measles- 79.2	*Alert*	Vitamin A– 81.6 Measles- 83.5	*Alert*
Infant and Young child feeding	**N=301**		**N=288**		**N=288**	
Proportion still breastfeeding	58.5	Critical	46.2	Critical	45.1	Critical
Proportion meeting recommended feeding frequencies	30.9	Critical	9.2	Very Critical	8.7	Very Critical
Proportion who reported to have consumed <4 food groups	9.0	Very Critical	6.9	Very Critical	15.0	Very Critical
Death Rates						
Crude death, per 10,000 per day (retrospective for 90 days)	0.15 (0.05-0.42)	*Acceptable*	0.31 (0.16-0.62)	*Acceptable*	1.0 (0.52-1.93	Serious
Under five deaths, per 10,000 per day (retrospective for 90 days)	1.24 (0.51-2.99)	*Alert*	**0.41**(0.1-1.33)	*Acceptable*	1.5 (0.65-3.95)	*Alert*
Women Nutrition & Immunization Status	N=283		N=124		N=326	
Proportion of acutely malnourished non pregnant/lactating women (MUAC≤18.5 cm)	0.0 N=154	*Acceptable*	0.0 N=218	*Acceptable*	0.0 N=248	*Acceptable*
Proportion of acutely malnourished pregnant/lactating women (MUAC<23.0).	22.6 N=332	Very Critical	8.4 N=239	Very Critical	22.2 N=212	Very Critical
Proportion of Women who received Tetanus Immunization No dose One dose Two doses Three doses	 4.1 10.3 32.1 53.4	*Alert*	 28.0 12.1 30.8 29.2	Critical	 10.1 5.2 20.0 65.1	*Alert*
Public Health Indicators	**N=494**		**N=468**		**N=480**	
Household with access to sanitation facilities	60.7	Serious	35.8	Very Critical	38.1	Very Critical
Household with access to safe water	28.5	Very Critical	41.7	Critical	65.4	Serious
Food Security	**N=494**		**N=468**		**N=480**	
Proportion who reported to have consumed <4 food groups	8.5	*Alert*	8.0	*Alert*	12.1	Serious
Household's Main Food Source Purchase: Borowing Food Aid	 92.6 4.8 2.4	*Acceptable*	 91.0 7.8 -	*Acceptable*	 78.4 - 16.5	*Acceptable*
Food security phase	HE		HE		HE	
Overall Situation Analysis	**Critical**		Serious		**Critical**	

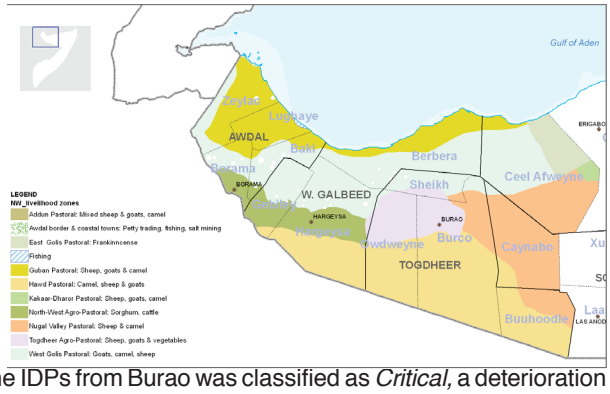
Table 16: Summary of Key Nutrition Findings in Qardho IDPs

	QARDHO IDPs (N=214)	
Indicator	**Results %**	**Outcome**
Child Nutrition Status		
Global Acute Malnutrition(WHO 2006) Boys Girls	**>10.6** (Pr=0.90) >9.6 (Pr=0.90) >9.4 (Pr=0.90	Serious
Severe Acute Malnutrition (WHO 2006) Boys Girls	**>2.7** (Pr=0.90) >2.4 (Pr=0.90) >1.5 (Pr=0.90)	*Acceptable*
Mean WHZ (WHO, 2006)	-0.65±1.19	*Alert*
Global Acute Malnutrition (NCHS)	**>9.4** (Pr=0.90)	*Alert*
Severe Acute Malnutrition (NCHS)	**>0.3** (Pr=0.90)	*Acceptable*
Global Acute Malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	14.0 (9.5-20.3) 12.1 16.3	Very Critical
Severe Acute malnutrition by MUAC (<11.5 cm or oedema)	0.9 (0.2- 3.8	Critical
Stunting (HAZ<-2) Boys Girls	33.8 (25.2-43.7) 37.4 (25.3-51.2) 29.6 (19.3-42.4	Critical
Underweight (WAZ<-2) Boys Girls	28.2 (20.5-37.4 33.9 (22.2-48.0) 21.4 (12.9-33)	Critical
HIS Nutrition Trends(Jan-Jun'10)	N/A	-
Admission trends at TFPs/SFPs (Qardho – July-Dec'10)	N/A	Critical
Child Morbidity & Immunization		
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Outbreak – None Morbidity –9.8 Diarrhea -9.8 Pneuonia-3.7	Serious
Immunization Status	Vitamin A –91.1 Measles – 63.5	*Alert*
Food security phase	HE	
Overall Situation Analysis	Serious	

4.8 NORTHWEST REGIONS

The Northwest regions comprise mainly of pastoral livelihood zones namely: West Golis, Guban, East Golis/ Gebbi Valley of Sanaag region, the Hawd, Sool Plateau and the Nugal Valley. In addition, there are two agro-pastoral livelihood zones namely the Northwest Agro-pastoral of Awdal and Galbeed region and Togdheer Agro-pastoral of Togdheer and Sahil region. The livelihood zones cut across the five administrative regions of Awdal, W. Galbeed, Togdheer, Sool and Sanaag. (Map 15).

Map 15: Northwest Livelihood Zones



Historical Overview Post Gu '10

Food Security

The FSNAU Post *Gu '10* integrated food security analysis classified the West Golis/Guban as **Borderline Food Insecure (BFI)**, indicating an improvement in the food security situation of the livelihood from the *Deyr* '09/10 season. The Northwest agro-pastoral and the East Golis (of Sanaag region), Hawd and Nugal valley livelihood zones were 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 *Deyr* '09/10, showed a marked improvement in the food security situation and was 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 in the *Gu '10*, in comparison to the *Deyr* '09/10, the livelihood zone remained in **Humanitarian Emergency (HE)** as a significant proportion of the population remained very vulnerable due to the effects of the previous drought seasons. The total estimated rural population in **AFLC** was 60,000 people, a decrease from 240,000 people in *Deyr '09/10*. The total population in **HE** was 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,** decreased to 15,000 from 35,000 in Deyr '09/10.

Nutrition

The Post *Gu '10* nutrition situation depicted an improved nutrition situation in most of the livelihood zones compared to the *Deyr* '09/10 season. The nutrition situation remained stable at *Alert* for the Sool Plateau, and the Awdal and Galbeed agro-pastoral livelihood zones; also unchanged was the Hawd livelihood zone that remained in the *Serious* phase. The populations of the Nugal Valley and East Golis/ Gebbi livelihood zones, showed an improvement from *Serious* to *Alert* and the Togdheer agro-pastoral population from *Critical* in the previous season to *Serious*. A slight deterioration was noted in the West Golis/ Guban livelihood zone, and the situation classified as *Serious* compared to the *Alert* phase reported in *Deyr* '09/10. The deterioration was mainly attributed to the seasonal out-migration patterns, reducing milk availability in the area. The nutrition situation of the IDPs from Burao was classified as *Critical,* a deterioration from *Serious* in the Post *Deyr* '09/10, while the nutrition situation of the Berbera and Hargeisa IDP populations still remained unchanged at *Critical* and *Serious* phases respectively.

Current Situation Post Deyr '10/11

Food Security

The FSNAU Post *Deyr '10/11* integrated food security analysis classified the West Golis/Guban and Agro-pastoral regions (Togdheer, Awdal and Galbeed) of the northwest as **Borderline Food Insecure (BFI)**, indicating a stable food security situation in the livelihoods compared to the *Gu* '10 season. (Figure 28). The Hawd, Nugal valley and Togdheer livelihood zones were also classified as **Borderline Food Insecure (BFI),** with a high risk to **AFLC,** while the East Golis (of Sanaag region) was classified as **AFLC ,** with a high risk to **HE,** indicating a slight deterioration of the food security situation in the livelihoods, mainly attributed to the poor rainfall performance and consequent water and pasture shortage. Sool Plateau pastoral livelihood zone, despite showing an improvement in the food security indicators following the favourable *Gu '10*, season and humanitarian interventions in the area remained in **Humanitarian Emergency (HE)** as a proportion of the poor population (16,000) remained very vulnerable. The estimated rural population in **AFLC** is 50,000 people, an increase from the *Gu* '10 estimate of 18,000 people. The total population in **HE** is 18,000. The population of the urban poor in **AFLC** is 37,000, while the number in **HE** is 13,000.

Nutrition

The Post *Deyr '10/11* nutrition situation analysis illustrates a mixed picture of slight deterioration in some parts, while other areas remained stable compared to the *Gu* '10 season, however the slight deterioration is mainly linked to poor rainfall performances that have led to water and pasture scarcity affecting livestock migration patterns in the area and normal seasonal variations which have a direct influence on milk access at the household level. The nutrition situation remained unchanged at ***Alert*** for the Sool Plateau the Hawd, West Golis and Togdheer agro-pastoral livelihood zones remained at ***Serious***. The populations of the Nugal Valley and East Golis/ Gebbi livelihood zones,

Figure 28: Trends in levels of Acute Malnutrition (WHZ <-2Z scores or oedema, WHO 2006 North West Regions 2002-2010

showed a slight deterioration from *Alert* to ***Serious*** and the Awdal and Galbeed agro-pastoral population from *Alert* in the previous season to ***Serious***. The slight deterioration was mainly attributed to abnormal seasonal migration patterns, hence reducing milk availability in the area. The nutrition situation of the IDPs from Burao and Berbera was classified as ***Serious,*** an improvement from *Critical* in the Post *Gu* '10, while the nutrition situation of the Hargeisa IDPs remained unchanged at ***Serious***. Analysis of malnutrition (GAM and SAM rates) and morbidity variables disaggregated by gender 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 as reported in the previous season, that a higher proportion of boys are acutely malnourished in comparison to girls, however the difference was not statistically significant (see summary of key nutrition findings tables by livelihood zones). The major risk factors for the populations 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, remain a challenge to the populations in the entire region especially among the IDP settlements.

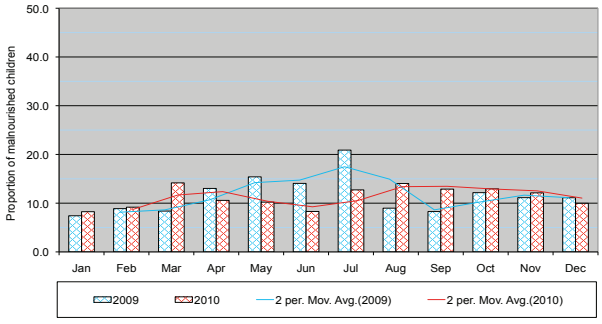
Pastoral Livelihood Zones

Sool Plateau Livelihood Zone

An integrated analysis of nutrition, health and food security indicators (Table 18) depict that the current nutrition situation in the Sool Plateau livelihood zone as ***Alert,*** with no change from the Post *Gu* '10 nutrition situation, where a GAM rate of >7.0% (Pr=0.90) and a SAM rate of >0.6 (Pr=0.90) was reported. Results from the nutrition survey conducted in December 2010, indicated a GAM (WHZ <-2 Z score or oedema) rate of **8.3%** (6.0-11.4), and a SAM (WHZ <-3 or oedema) rate of **1.6%** (0.8-3.1), the crude (CDR) and the under five death (U5DR) rates of 0.45 (0.25-0.80) and 1.1 (0.49-2.47) respectively. Analysis of MUAC measurements indicates the proportion of children with MUAC of <12.5cm or oedema as 2.9% (1.7-5.0) and MUAC<11.5 or oedema as 1.3% (0.5-3.1). Data from health information systems (HIS) in the area indicates a relatively low proportion (10-15%) and stable trend of acutely malnourished children screened at health facilities (Figure 29). Although the food security situation in the livelihood remains precarious as a result of the consecutive seasons of drought in the area, leading to decreased water and pasture in the livelihood zone and reducing milk availability and access, the nutrition situation has remained stable.

This may be mainly attributed to the humanitarian interventions in the area such as cash relief, food aid and child health days. The livelihood zone also has limited milk availability. Past and current analysis has often illustrated malnutrition rates that are between *Alert* and *Serious* levels, even when the food security indicators depict a humanitarian emergency. In the coming *Gu* 2011 season, FSNAU and partners will conduct an assessment in order to gain an in depth understanding of the relationship or link between the nutrition situation and food security of the population in this livelihood zone. Though no disease outbreaks were reported in the livelihood zone, increased cases of diarrhoea and pneumonia were observed. Interventions that aim at improving access to health facilities, rehabilitating acutely malnourished children, 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

Figure 29: HIS Malnutrition Trends in Sool Plateau LZ, 2009-2010, Data Source: MOH, SRCS



majority of the population in the region and sub optimal child care and feeding practices remains crucial.

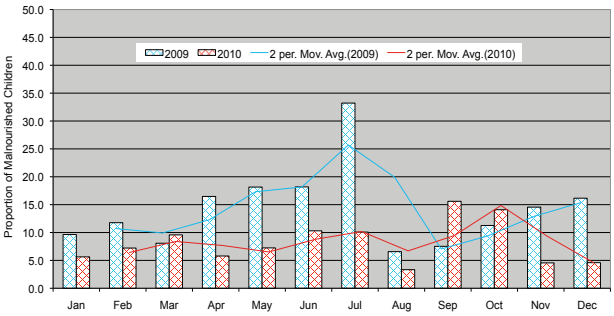
East Golis/Gebbi Valley Livelihood Zone of NW

The East Golis and Gebbi Valley Livelihood zones are classified as ***Serious*** according to the Post *Deyr* '10/11 integrated nutrition analysis. This is a slight deterioration in comparison to the Post *Gu* '10 nutrition situation that classified the situation in the area as *Alert.*

However, the deterioration is mainly attributable to the normal seasonal migration patterns in the livelihood zone affecting children's access to milk in the area. A nutrition survey conducted in the area reported a GAM rate of **11.1%** (8.0-15.1), and a SAM rate of **2.1%** (1.2-3.9) indicating a ***Serious*** nutrition situation, compared to the GAM rate of >9.3% (Pr=0.90) and SAM rate of >0.1% reported in the previous season. Results of the MUAC measurements report a low proportion (5.8%) of children with MUAC of <12.5cm or oedema and MUAC of <11.5cm or oedema 0.3%, (see Table 18 for summary of results). The CDR and U5DR is reported at 0.13 (0.05-0.42) and 0.30 (0.51-2.99) respectively. Data from health facilities in the livelihood zone reported a low and fluctuating trend of acutely malnourished children (Figure 30). There were no disease outbreaks in the livelihood. However, the overall morbidity rate of children reported to be ill in the two weeks prior to the assessment was very high at 43.1%.

Poor sanitation, lack of adequate clean water and limited health facilities 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. The livelihood zone received below normal rainfall in the *Deyr* '10/11, 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 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.

Figure 30: HIS Malnutrition Trends in East Golis/ Gebbi Valley LZ, 2009-2010 Data Source: MOH, SRCS



West Golis/Guban Livelihood Zone of NW

The current Post *Deyr* '10/11 nutrition situation of the West Golis/Guban livelihood zone is classified as ***Serious***, with no change from the previous season. The results of the nutrition survey conducted in the area indicate a GAM rate of **10.4%** (7.6-13.9), and a SAM rate of **1.6%** (0.9-2.9). The results of the MUAC measurements indicate a low proportion (4.1%) of children with MUAC of <12.5cm or oedema and 0.5% with MUAC<11.5cm or oedema (see table 18 for summary of results).The results indicate a sustained *Serious* nutrition situation when compared to the previous season GAM and SAM rates of >13.8% and >2.3% respectively. The current CDR and U5DR were 0.82 (0.56-1.18) and 0.90 (0.36-2.26) respectively, within or below the *alert* thresholds respectively. The data from health information systems (HIS) in the area indicates a low number (<5%) and stable trend of acutely malnourished children screened at health facilities. 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, therefore because of this seasonal trend in the area, the nutrition situation is likely to improve in the coming season. Appropriate interventions such as provision of clean water, adequate health and sanitation facilities and protection of livelihoods are important in safe guarding the food security and nutrition situation in the area. Feeding

Traditional Water storage container, West Golis, Pastoral Livelihood Zone

and health interventions in the area continue by MOHL, in partnership with UNICEF, World Vision and SRCS. 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.

Table 18: Summary of Key Nutrition Findings in Sool Plateau, East Golis/Gebbi Valley and West Golis/Guban Livelihood Zones

	Sool plateau N=624		East Golis/Gebbi Valley N= 659		West Golis/Guban N= 628	
Indicator	Results	Outcome	Results	Outcome	Results	Outcome
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	8.3 (6.0-11.4) 11.0 (7.3-16.4) 5.4 (3.5-8.3)	Alert	11.1 (8.0-15.1) 11.9 (8.2-16.9) 10.1 (6.4-15.6)	Serious	10.4 (7.6-13.9) 12.5 (9.0-17.2) 8.0 (4.7-13.3)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	1.6 (0.8-3.1) 1.8 (0.7-4.6) 1.3 (0.5-3.4)	Acceptable	2.1 (1.2-3.9) 2.3 (1.0-5.0) 2.0 (0.8-4.8)	Acceptable	1.6 (0.9-2.9) 1.8 (0.8-3.9) 1.3 (0.5-3.5)	Acceptable
Mean of Weight for Height Z Scores	-0.46	Alert	-0.53	Alert	-0.51	Serious
Oedema	0.6	Acceptable	0.3	Acceptable	0.3	Acceptable
Global Acute Malnutrition (NCHS)	7.9 (5.6-10.9)	Alert	9.9 (7.3-13.2)	Alert	9.4 (6.6-13.2)	Alert
Severe Acute Malnutrition (NCHS)	0.8 (0.3-2.2)	Acceptable	1.1 (0.5-2.4)	Acceptable	0.3 (0.1-1.3)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	2.9 (1.7-5.0) 1.8 (0.7-4.6) 4.1 (2.1-7.5)	Acceptable	5.8 (3.8-8.6) 4.2 (2.3-7.7) 7.5 (4.8-11.5)	Alert	4.1 (2.4-7.2) 3.4 (1.7-6.6) 5.0 (2.4-9.9)	Acceptable
Severe Acute malnutrition by MUAC (<11.5 cm or oedema	1.3 (0.5-3.1)	Serious	0.3 (0.0-2.4)	Alert	0.5 (0.2-1.5	Alert
Stunting (HAZ<-2) Boys Girls	10.6 (7.2-15.3) 12.6 (8.3-18.6) 8.4 (4.9-13.9)	Serious	12.3 (8.9-16.7) 12.7 (8.6-18.5) 11.8 (7.8-17.4)	Serious	6.8 (4.7-9.8) 10.1 (6.9-14.6) 3.3 (1.7-6.5)	Alert
Underweight (WAZ<-2) Boys Girls	10.3 (7.1-14.9) 11.7 (7.8-17.4) 8.8 (5.5-13.9)	Serious	12.6 (9.6-16.5) 15.6 (11.6-20.6) 9.2 (5.9-14.2)	Serious	7.7 (5.0-11.5) 8.9 (5.6-13.9) 6.3 (3.6-11.0)	Alert
HIS Nutrition Trends(June – December 2010)	Low 10-15% and a stable trend of acutely malnourished children in MCHs	Serious	Low (10-15%) numbers and e fluctuating trend of malnourished children in MCHs	Serious	Low (<5%) numbers and stable trend of malnourished children in MCHs	Alert
Proportion of acutely malnourished children in SFs	6.3	Very Critical	2.7	Very Critical	1.7	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 48.9 Diarrhoea – 19.4 Pneumonia- 18.0	Very Critical	Morbidity- 43.1 Diarrhoea – 17.8 Pneumonia- 21.4	Very Critical	Morbidity- 26.1 Diarrhoea – 12.4 Pneumonia- 8.8	Critical
Immunization Status	Vitamin A – 60.6 Measles – 68.9	Critical	Vitamin A – 80.9 Measles – 77.1	Critical	Vitamin A- 68.8 Measles – 67.5	Critical
Infant and Young Child Feeding	N=206		N=220		N=201	
Proportion still breastfeeding	44.2	Serious	44.5	Serious	20.5	Critical
Proportion meeting recommended feeding frequencies	47.6	Critical	35.0	Critical	47.6	Critical
Proportion who reported to have consumed <4 food groups	24.3	Critical	2.0		13.2	Critical
Death Rates						
Crude deaths, per 10,000 per day 9retrospective for 90 days)	0.45 (0.25-0.80)	Acceptable	0.13 (0.05-0.42)	Acceptable	0.82 (0.56-1.18)	Alert
Under five deaths, per 10,000 per day retrospective for 90 days)	1.1 (0.49-2.47)	Alert	0.30 (0.51-2.99)	Acceptable	0.90 (0.36-2.26)	Acceptable
Women Nutrition and Immunization Status						
Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm)	N=174 2.2	Alert	N=215 0.5	Acceptable	N=196 0.3	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	N=184 19.0	Serious	N=180 21.7	Serious	N=176 9.4	Alert
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	. 23.2 20.4 28.2 28.2	Serious	 17.5 18.8 31.6 32.1	Serious	 26.4 22.7 30.0 22.0	Serious
Public Health Indicators	N= 373		N= 420		N=403	
Household with access to sanitation facilities	66.1	Serious	61.7	Serious	23.8	Very Critical
Household with access to safe water	22.4	Very Critical	49.8	Critical	48.3	Very Critical
Food Security						
Proportion who reported to have consumed <4 food groups	10.1	Alert	6.7	Alert	17.5	Serious
Household's Main Food Source Own production Purchase	 - 98.7		 98.8		 - 98.7	
Food security phase	HE	Very Critical	AFLC	Critical	BFI	Serious
Overall Risk to Deterioration	Stable	Alert	Potential to Deteriorate	Serious	Stable	Serious
Overall Situation Analysis	Alert		Serious		Serious	

The Hawd Livelihood Zone

The Post *Deyr* '10/11 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 *Gu* '10 situation. The assessment of the population in the livelihood reported a GAM rate of **10.1%** (8.0-12.7), and a SAM rate of **1.8%** (1.0-3.5), similar results were reported in the previous season with GAM and SAM rates of >13.8% (Pr=0.90) and >0.1% respectively. Results of the MUAC measurements indicate a low proportion of 3.1% children with MUAC of <12.5cm or oedema and 0.3% with MUAC <11.5 cm or oedema. The CDR and U5DR rates were at acceptable levels of 0.30 (0.14-0.62)

PH water testing, Golis , pastoral Livelihood zone

Table 19: Summary of Key Nutrition Findings Hawd and Nugal Livelihood Zone

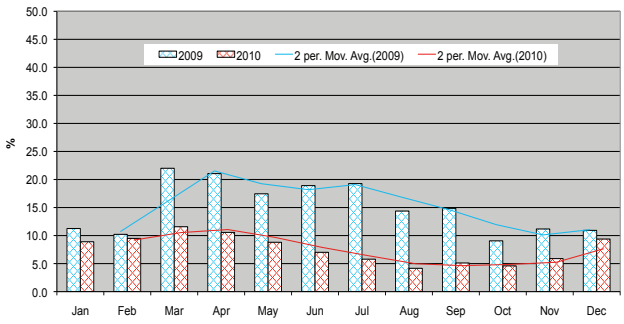
	The Hawd Livelihood Zone (N= 655)		Nugal Valley Livelihood Zone (N=516)		Agro-pastoral Zone (N=520)	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	10.1 (8.0-12.7) 11.2 (8.1-15.2) 9.0 (6.6-12.3)	Serious	10.3 (7.0-14.8) 10.7(7.1-15.6) 9.8 (5.6-16.6)	Serious	10.4 (7.6-14.1) 13.2 (9.8-17.6) 7.8 (4.7-12.6)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	1.8 (1.0-3.5) 2.5 (1.2-5.1) 1.2 (0.4-3.3)	Acceptable	1.0 (0.4-2.3) 0.7 (0.2-3.1) 1.2 (0.4-3.7)	Acceptable	0.8 (0.3-1.9) 1.6 (0.7-3.6) 0	Acceptable
Mean of Weight for Height Z Scores	-0.58 (±1.09)	Alert	-0.63 (±1.14)	Alert	-0.61 (±1.17)	Alert
Oedema	0.3	Alert	0	Acceptable	0	Alert
Global Acute Malnutrition (NCHS)	9.8 (7.5-12.6)	Alert	11.0 (7.6-15.6)	Serious	11.2 (8.1-15.2)	Serious
Severe Acute Malnutrition (NCHS)	1.1 (0.5-2.1)	Acceptable	0.6 (0.2-1.8)	Acceptable	0.2 (0-1.5)	Acceptable
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	3.1 (1.9-4.8) 2.2 (1.0-4.8) 3.9 (2.4-9.9)	Acceptable	4.2 (2.5-6.0) 3.7 (1.3-6.1) 4.9 (1.6-8.2)	Acceptable	1.5 (0.6-2.5) 2.8 (0.9-4.7) 0.3 (0-1.1)	Acceptable
Acute malnutrition by MUAC (<11.5 cm or oedema)	0.3 (0.1-1.3)	Alert	1.2 (0.3-2.0)	Serious	0.4 (0-0.9)	Alert
Stunting (HAZ<-2) Boys Girls	6.7 (4.6-9.8) 8.7 (5.7-13.0) 4.8 (2.5-9.0)	Alert	17.1 (11.4-22.8) 19.3 (10.2-28.4) 6.1 (2.4-9.9)	Serious	8.1 (4.8-13.2) 10.0 (6.0-16.1) 6.3 (2.9-13.0)	Alert
Underweight (WAZ<-2) Boys Girls	7.7 (5.7-10.2) 10.9 (8.0-14.7) 4.5 (2.7-7.4)	Alert	9.9 (6.7-13.1) 11.4 (6.5-16.3) 8.2 (4.1-12.3)	Alert	9.8 (6.9-13.8) 13.2 (8.9-19.2) 6.7 (3.7-11.7)	Alert
HIS Nutrition Trends (June – December 2010)	Low (<10%) numbers and stable trend of malnourished children in MCHs, with a slight increase in the month of November	Alert	Low (<5%) and increasing trend of malnourished children in MCHs	Alert	Low (<5%) and increasing trend of malnourished children in MCHs	Alert
Proportion of acutely malnourished children in SFs	3.1	Critical	5.1	Critical	1.9	Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 21.1 Diarrhoea – 6.6 Pneumonia- 7.0	Critical	Morbidity- 40.4 Diarrhoea – 13.2 Pneumonia- 15.1	Very Critical	Morbidity- 28.7 Diarrhoea – 8.8 Pneumonia- 7.6	Critical
Immunization Status	Vitamin A – 63.1 Measles – 62	Critical	Vitamin A – 52.5 Measles – 55.3	Critical	Vitamin A – 64.5 Measles – 66.5	Critical
Infant and Young Child Feeding	**N= 219**		**N=161**		**N=202**	
Proportion still breastfeeding	36.5	Critical	21.1	Critical	54.5	Serious
Proportion meeting recommended feeding frequencies	65.2	Serious	22.3	Critical	32.1	Critical
Proportion who reported to have consumed >4 food groups	50.7	Serious	17.1	Critical	7.0	Critical
Death Rates						
Crude deaths/10,000 /day 9retrospective for 90 days)	0.30 (0.14-0.62)	Acceptable	0.53 (0.32-0.92)	Acceptable	0.16 (0.05-0.55)	Acceptable
Under five deaths/10,000/day retrospective for 90 days)	0.63 (0.21-1.92)	Acceptable	0.61 (0.20-1.87)	Acceptable	0.41 (0.10-1.62)	Acceptable
Women Nutrition and Immunization Status	**N=401**		**N=302**		**N= 297**	
Proportion of acutely malnourished non pregnant/lactating women (MUAC <18.5 cm)	0.4	Acceptable	2.0	Acceptable	2.0	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	23.8	Serious	22.9	Serious	9.4	Alert
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	. 32.0 21.3 26.8 18.9	Serious	. 45.0 20.1 17.9 16.2	Serious	. 52.7 18.7 17.0 11.5	Serious
Public Health Indicators	**N=405**		N=312		N=430	
Household with access to sanitation facilities	45.9	Critical	30.3	Critical	24.8	Critical
Household with access to safe water	3.2	Very Critical	19.9	Very Critical	18.0	Very Critical
Food Security						
Proportion who reported to have consumed <4 food groups	4.9	Alert	17.3	Critical	18.5	Alert
Household's Main Food Source Own production Purchase	- 98.8		- 94.4		25.4 73.4	
Food security phase	BFI	Serious	BFI	Serious	BFI	Serious
Overall Risk to Deterioration	Potential risk to Deteriorate	Serious	Potential risk to Deteriorate	Serious	Stable	Serious
Overall Situation Analysis	Serious		Serious		Serious	

and 0.63 (0.21-1.92) respectively. The poor rainfall and water scarcity resulting in the unavailability of milk is directly affecting this pastoral population nutritional status (Table 19). Data from health facilities in the area have indicated a low (<10%) and stable trend, with a slight increase in the month of November, 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 especially in Karingor, Qariley and Fardhidin villages, mainly attributed to the consumption of unsafe water due to the water scarcity being experienced in the area. 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 continue, in addition to health, water and sanitation programmes aimed at reducing morbidity and ensuring that the population is able to access clean and safe water for consumption.

Nugal Valley Livelihood Zone

The Post *Deyr* '10/11 integrated nutrition situation classifies the nutrition situation in the Nugal valley livelihood as ***Serious***. The deterioration in the nutrition situation was mainly attributed to the poor performance of the *Deyr* rainfall in the area, leading to inadequate water and pasture for livestock and the subsequent abnormal migration of livestock, reducing milk availability and access at household level. Results from an assessment done in the livelihood indicated a GAM rate of **10.3%** (7.0-14.8), and a SAM rate of **1.0%** (0.4-2.3), indicating a slight deterioration from the GAM and SAM rates of >7.9% and >0.1% (Pr=0.90) reported in the previous season. The CDR and U5DR rates of 0.53 (0.32-0.92 and 0.61 (0.20-1.87) respectively are both at acceptable levels. Results of the MUAC measurements indicate a proportion of 4.2% children with MUAC of <12.5cm or oedema and 1.2% with MUAC of <11.5cm or oedema (Table 19). Data from the health facilities in the livelihood zone indicates a low (<5%) and increasing trend of acutely malnourished children (Figure 31). Although there were no disease outbreaks in the area, the proportion of children that had fallen ill in the two weeks prior to the assessment was very high (40.4%). Lack of adequate safe water for human

Figure 31: HIS Malnutrition Trends in Nugal Valley LZ Data Source: MOH, SCRS



Fresh camel milk, Boroma, Agro-pastoral livelihood zone

consumption, has led to increased rates of diarrhoea leading to increased malnutrition rates in health facilities. Inadequate sanitation and health facilities in the area, suboptimal 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, especially in light of the worrying food security situation in the area.

Agro-pastoral Livelihood Zones

Agro-pastoral of Togdheer, Awdal and Galbeed Regions Livelihood Zone

The nutrition situation of the agro-pastoral populations of the Togdheer region remains ***Serious*** according to the Post *Deyr* '10/11 integrated nutrition situation analysis, while the nutrition situation of the agro-pastoral populations of Awdal and Galbeed region illustrated a slight deterioration from *Alert* in the Post Gu '10 to the current ***Serious*** nutrition situation. A direct comparison between the *Gu'10* and current results is not feasible because previously separate assessments for the Togdheer agro-pastoralists and the agro-pastoralists from the Awdal and Galbeed region, however in this season, one nutrition survey was done for both livelihood zones. The results of the survey conducted in December 2010 indicate a GAM rate of **10.4**% (7.6-14.1), and SAM rate of **0.8**% (0.3-1.9). The CDR of 0.16 (0.05-0.55) and U5DR of 0.41 (0.10-1.62) are both at acceptable levels. High morbidity rates is the main factor attributing to the poor nutrition situation affecting the agro-pastoral livelihood in the area. The proportion of children assessed that had fallen ill 2 weeks prior to the survey was high at 28.7%. Data from the health facilities in the area indicate a low (<5%) and stable number of acutely malnourished children. Availability of water, sanitation and health facilities in the area remain limited. Child feeding practices still remain sub optimal, with only 54.5% of children aged 6-24 months still breastfeeding at the time of the survey and only 32.1% meeting the recommended feeding frequency (Table 19).

Unsafe drinking water, inadequate health and sanitation facilities and poor child care and feeding practices remain crucial issues that require immediate interventions.

IDPs of the North West: Hargeisa, Burao and Berbera

The nutrition situation of Burao and Berbera IDPs has improved from *Critical*, to ***Serious,*** while a sustained ***Serious*** nutrition situation is recorded among the Hargeisa IDPs, according to the Post *Deyr '10/11* integrated nutrition situation analysis. Results, indicate a GAM rate of **10.8%** (8.9-13.0), and a SAM rate of **1.5 %** (0.8-2.8), among the Hargeisa IDPs. In Burao a GAM rate of **12.1%** (8.8-15.4), and a SAM rate of **1.7%** (0.8-3.4) were reported, while a GAM rate of **14.2%** (10.9-18.3), and a SAM rate of **2.2%** (1.2-4.1) was reported among the Berbera IDPs, showing a statistically significant (p=0.02) difference from the last season which showed a GAM and SAM rate of >15.5% and >5.4% (Pr= 0.90) respectively (Table 20). Data from the health facilities in Hargeisa, Burao and Berbera towns all indicate low (<10%) and stable trends of acutely malnourished children. Morbidity data collected indicated that the proportion of children that reportedly suffered from one or more illnesses in the two weeks prior to the assessment was high (Hargeisa- 34.4%, Burao- 32.7% and 35.6% in Berbera). The improvement in the nutrition situation of the Burao and Berbera IDPs is mainly attributed to increased labour opportunities in the towns due to the large scale livestock export activities associated with the *Hajj*. However, the chronic risk factors IDPs still face such as poor access to safe water and sanitation facilities, high morbidity rates, unsatisfactory child feeding and care practices and inadequate food access due to high food costs have a negative impact on the health and nutrition situation of the population. An influx 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 and drought conditions. 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 20: Summary of Key Nutrition Findings for the Hargeisa, Burao and Berbera IDPs

	Hargeisa IDPs N=651		Burao IDPs N=652		Berbera IDPs N= 542	
Indicator	**Results**	**Outcome**	**Results**	**Outcome**	**Results**	**Outcome**
Child Nutrition Status						
Global Acute Malnutrition (WHZ<-2 or oedema) Boys Girls	10.8 (8.9-13.0) 12.0 (9.7-14.8) 9.3 (6.0-14.1)	Serious	12.1 (8.8-15.4) 14.1 (9.2-15.8) 9.8 (6.7-13.0)	Serious	14.2 (10.9-18.3) 16.3 (12.2-21.5) 12.3 (7.7-19.0)	Serious
Severe Acute Malnutrition (WHZ<-3 or oedema) Boys Girls	1.5 (0.8-2.8) 2.0 (1.0-3.9) 1.0 (0.2-4.4)	Acceptable	1.7 (0.8-3.4) 2.0 (0.5-3.6) 1.3 (0.1-2.6)	Acceptable	2.2 (1.2-4.1) 1.6 (0.6-3.9) 2.8 (1.3-5.8)	Acceptable
Mean Weight for height Z score	-0.57	Alert	-0.65	Alert	-0.80	Serious
Oedema	0.2 (0.0-0.5)	Alert	0.5 (0.0-1.2)	Alert	0	Alert
Acute malnutrition by MUAC (<12.5 cm or oedema) Boys Girls	4.6 (2.9-7.3) 4.6 (2.7-7.6) 4.6 (2.1-9.8)	Acceptable	4.4 (2.9-6.0) 3.7 (1.7-5.8) 5.2 (3.1-7.4)	Acceptable	9.2 (5.1-13.3) 8.0 (4.3-11.7) 10.4 (5.0-15.8)	Serious
Acute malnutrition by MUAC (<11.5 cm or oedema)	1.5 (0.7-3.6)	Serious	0.8	Alert	3.3	Critical
Global Acute Malnutrition (WHZ<-2 or oedema) NCHS	9.7	Alert	11.0	Serious	14.0 (10.6-18.3)	Serious
Severe Acute Malnutrition (WHZ <-2 or oedema) NCHS	0.8	Alert	0.6	Alert	1.1 (0.5-2.4)	Alert
Stunting (HAZ<-2) Boys Girls	10.4 (7.1-15.1) 13.8 (9.5-19.5) 6.6 (3.8-11.2)	Serious	4.6 (2.1-7.1) 6.3 (2.8-9.9) 2.6 (0.6-4.6)	Alert	6.1 (4.0-8.1) 8.6 (5.3-11.8) 3.9 (1.4-6.3)	Alert
Underweight (WAZ<-2) Boys Girls	9.4 (6.4-13.6) 12.4 (7.9-18.9) 6.0 (3.5-10.0)	Alert	9.2 (6.5-11.9) 12.4 (8.2-16.6) 5.6 (3.5-7.7)	Alert	12.7 (9.8-15.7) 17.1 (13.8-21.2) 8.8 (4.6-13.0)	Serious
HIS Nutrition Trends(Jan-Jun '10)	Low (<10%) and stable trend of acutely malnourished children	Serious	Low (<10%) and stable trend of acutely malnourished children	Serious	Low (<10%) and stable trend of acutely malnourished children	Serious
Proportion of acutely malnourished children in SFs	3.6	Very Critical	9.1	Very Critical	0.8	Very Critical
Child Morbidity & Immunization						
Disease trends (seasonally adjusted) *Morbidity refers to the proportion of children reported to be ill in the 2 weeks prior to the survey*	Morbidity- 34.4 Diarrhoea – 16.9 Pneumonia- 11.7	Critical	Morbidity- 32.7 Diarrhoea – 16.6 Pneumonia- 13.0	Critical	Morbidity- 35.6 Diarrhoea – 21.8 Pneumonia- 11.3	Critical
Immunization Status	Vitamin A – 76.3 Measles – 73.9	Critical	Vitamin A – 69.5 Measles – 69.6	Critical	Vitamin A – 75.8 Measles – 72.7	Critical
Infant and Young Child Feeding	**N= 236**		**N=235**		**N=275**	
Proportion still breastfeeding	40.3	Critical	39.6	Critical	38.2	Critical
Proportion meeting recommended feeding frequencies	35.2	Critical	48.1	Critical	28.8	Serious
Proportion who reported to have consumed >4 food groups	14	Very Critical	3.4	Critical	3.9	Critical
Death Rates						
Crude deaths per 10,000 per day 9retrospective for 90 days)	0.36 (0.21- 0.62)	Acceptable	0.47 (0.29-0.75)	Acceptable	0.12 (0.05-0.33)	Acceptable
Under five deaths per 10,000 per day retrospective for 90 days)	0.95 (0.44-2.04)	Acceptable	1.36 (0.68-2.69)	Acceptable	0.33 (0.08-1.35)	Acceptable
Women Nutrition and Immunization Status	**N=407**		**N=406**		**N=376**	
Proportion of acutely malnourished non pregnant/ lactating women (MUAC <18.5 cm)	0	Acceptable	0	Acceptable	0.5	Acceptable
Proportion of acutely malnourished pregnant and lactating women (MUAC<23.0)	15.4	Serious	20.6	Serious	16.1	Serious
Proportion of Women who received Tetanus immunization No dose One dose Two doses Three doses	. 16.7 15.5 28.0 39.8	Serious	 26.1 18.5 26.8 28.6	Serious	. 14.4 14.7 35.1 35.8	Serious
Public Health Indicators	N= 423		N=427		N=379	
Household with access to sanitation facilities	77.1	Critical	70.0	Critical	20.3	Critical
Household with access to safe water	93.9	Serious	88.5	Serious	96.9	Alert
Food Security						
Proportion who reported to have consumed <4 food groups	12.3	Alert	21.5	Serious	12.9	Alert
Household's Main Food Source Own production Purchase	 - 97.5		 - 96.2		 - 98.9	
Food security phase	BFI	Serious	BFI	Serious	BFI	Serious
Overall Risk to Deterioration	Unstable	Serious	Unstable	Seriou	Unstable	Serious
Overall Situation Analysis	Serious		Serious		Serious	

CASE STUDY: CONSISTENTLY LOW ACUTE MALNUTRITION RATES IN SOOL PLATEAU LIVELIHOOD ZONE DESPITE PROLONGED ALARMING FOOD SECURITY SITUATION

Over the years, it has been observed that the acute malnutrition rates of the pastoral population in the north correlate with milk availability and access at household level. In times of stress, such as in drought conditions, abnormal out-migration of livestock in search of pasture and water occur, leading to reduced milk access for household members left behind, with subsequent increases in malnutrition rates. Conversely, during rainy seasons when livestock return, and milk access improves, a decrease in acute malnutrition rates is observed. In all the pastoral livelihood zones in the north, there has been a direct correlation between milk access and acute malnutrition rates, except for Sool plateau of Sool and Sanaag regions.

The pastoral population of Sool Plateau livelihood zone of Sool and Sanaag region mainly rely on the sales of livestock and livestock products (milk, ghee and skins) for income. Sool plateau has experienced several seasons of drought and poor rainfall since 2000. The droughts have led to severe pasture depletion, water scarcity and high livestock deaths that have seriously affected the population's livelihood. Currently the food security situation of the livelihood zone is classified as **Humanitarian Emergency** (HE). The expected result in light of the precarious food security situation would be increased acute malnutrition levels among the population, as per the observed trend in other pastoral populations. However the contrary has been noted in the Sool plateau livelihood zone, with the population recording the lowest acute malnutrition rates in the whole country. The acute malnutrition rates of the population in the area have generally been at *Alert* levels, except for the *Gu* 2008 season, when there was a diarrhoea outbreak in the area leading to high morbidity, while in the *Gu* 2009 season, the *Serious* level recorded was mainly attributed to abnormal out migration of livestock in the area due to drought. Even during the worst drought recorded in the area in 2004, the nutrition situation did not reach the *Critical* phase (Table 21).

Table 21: Nutrition and Food Security Situation Sool Plateau Livelihood Zone (2006-2010)

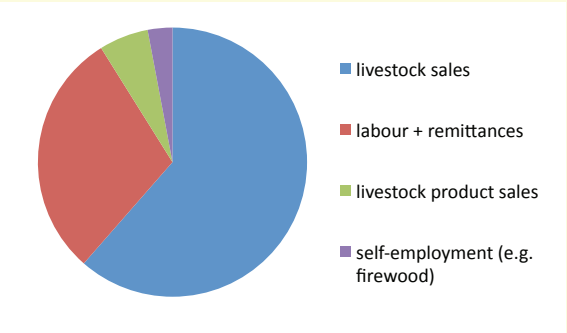
Year and Season	*Deyr '06/07*	*Gu 2007*	*Deyr '07/08*	*Gu 2008*	*Deyr '08/09*	*Gu 2009*	*Deyr '09/10*	*Gu 2010*	*Deyr '10/11*
Estimated Nutrition Situation	Alert	Alert	Alert	Critical	Alert	Serious	Alert	Alert	Alert
Food Security Phase Classification	BFI	BFI	BFI	AFLC	BFI	AFLC with high risk to HE	HE	HE	HE

The recent (November 2010) nutrition assessment conducted in Sool Plateau livelihood zone, recorded a GAM rate of 8.3%, indicating an ***Alert*** nutrition situation. In addition, it was observed that the majority, about 90% of the assessed households, consume a diversified diet comprising of 4 or more food groups, despite the poor food security situation in the area. Approximately 99% of the assessed households report purchase as the main source of food. With regard to income sources, 46% of the assessed households reported casual labor as main source, while 22% reported petty trade, and 20% reported sale of livestock/products. The area is currently receiving humanitarian interventions: cash transfer (linked to available casual labor) and water trucking by Horn Relief, distribution of relief food by WFP and ICRC, rehabilitation of wells and other water catchments by DRC, IMC and CARE, in addition there are health interventions (immunization, supplementation, child health days etc) carried out by WHO and UNICEF, in collaboration with the MOH. According to the World Health Organization (WHO), there are approximately 14 Maternal Child Health Centers (MCH) within the Sool LZ, though not all are functional. The morbidity rates reported in the area, are also relatively lower, compared to other livelihoods in the north. These interventions play a strong role in mitigating malnutrition levels in the livelihood.

The FSNAU baseline for 2010, reports that the social support systems in the Sool Plateau LZ are fairly well-developed. Connections to the Diaspora are especially strong in this area. These connections, together with a strong network of money transfer agencies, has led to a relatively high level of remittances. For example, data obtained through FSNAU's SLIMS in Dahar and Sarmaanyo villages shows that the number of the people receiving remittance increased by 36% and 14% in 2009. Access to loans and credit in the Sool Plateau livelihood therefore is good. It is common for the Poor to borrow food on credit, particularly during times of stress. During the period of the most severe reported drought in the area in 2004, nutrition assessments conducted reported a *Serious* nutrition situation, with an estimated GAM rate of 12.0%. Analysis suggests that strong social support within this community in addition to remittances from the Diaspora and humanitarian interventions especially during times of distress is the main reason that malnutrition rates never pass emergency thresholds, even when the food security indicators were alarming. Other than the remittances, it was also

noted that there was strong local support network in the community especially, for the poorer households in times of stress. The Poor wealth group in Sool livelihood zone have regular access to donations/gifts (*zakat*) from local relatives and neighbors, Figure 32, shows the households main sources of income, and as illustrated, livestock sales followed by labor and remittances are the main sources of income for poor households. It is important to note that the difference between Poor and Better-off herd sizes is significant. For instance, Better-off households possess nearly three times (approximately 264%) more sheep/goats than Poor households. Characteristically, wealthier households will offer *zakat* to poorer households, either in the form of cash or livestock, the amount levied is based on the level of asset holdings. In addition the wealthier households also lend livestock to the poorer families in times of stress. Lactating animals are loaned to households with little or no livestock in order for the household to benefit from the milk produced. Additionally, the wealthier households loan pack animals to assist the poorer households during migration. The animals are returned immediately after the seasonal migration, while animals lent for milk are returned when the lactation period ends, these animals cannot be sold by the borrower. Although the wealthier households provide support to the poorer households, during extreme seasons of drought, they are also affected, and the amount of social support they provide reduces. For example, during the 2004-05 drought, gifts of food, cash and livestock (for sale or restocking) was common. However, after the prolonged periods of drought in the area in recent times, the local social support decreased as the assets of wealthier households reduced.

Figure 32: Main Sources of Income among the Poor, FSNAU Baseline 2010



These dynamics on how households maintain a better nutritional outcome cope when faced with a precarious food security situations need to be understood further and documented. This information is vital to inform responses agencies for other similar areas. FSNAU intends to work with partners operational in the areas to conduct research on the nutrition situation and to better understand how families manage to put sufficient nutritious food on the table when faced with drought conditions.

5. URBAN SUMMARY FINDINGS

The post *Deyr* 2010 nutrition situation among the urban poor in Somalia is worrying. Of great concern are the urban poor in the southern parts of Somalia where the nutrition situation is classified as ***Critical*** to ***Very Critical***. Given the desperate situation mainly resulting from the effects of poor *Deyr* rains such as low cereal and livestock production, significant increased cost of local cereals minimal access to sustainable livelihoods as well as the general civil insecurity especially in the South, the urban poor are amongst the most vulnerable groups. In the four assessed urban centers in the Central regions, there is a mixed picture of ***Alert*** and ***Serious*** nutrition situation. In the Northwest and Northeast, a diverse picture was reported, with a ***Critical*** nutrition situation in Laasanod, Togwajale and Burao, ***Very Critical*** in Hargeisa and ***Alert*** to ***Serious*** in the rest of the towns.

In the majority of the assessed urban households in the North and Central regions, the majority of the households reportedly consumed at least four groups. This is largely attributed to ongoing humanitarian interventions in food, nutrition, water and sanitation and increased access to milk products following the positive effects of the good rains in the *Gu* 2010 (April – June). Nevertheless, the positive impacts might be short-lived especially in Central, as the negative effects of the rain failure of the *Deyr* 2010 (poor access to water, pasture and subsequently to milk) begin to take effect. In Burao and Eldhere however, household dietary diversity was critical with 45 and 35 percent respectively of assessed households consuming less than four food groups. In the South, among the Afgoye IDPs and certain assessed sections in Mogadishu, dietary diversity was notably suboptimal. This situation is mainly linked to low purchasing power of the urban poor as a result of thelimit3d income opportunities and increasing cereal prices.

As a proxy indicator of the food security situation, coping strategies specific to consumption and livelihoods were analyzed to determine the current situation in comparison to the previous twelve months. Although it was a mixed picture the situation was more inclined to show that urban poor were perennially vulnerable and that the adoption of these strategies could have been the norm and therefore may not necessarily suggest a deteriorating situation.

Table 22: Summary of Key Findings, Rapid Urban Nutrition Assessments, Dec-Jan'10/11

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: Consumption Proportion of households either *1. Skipping entire days without a meal, OR 2. restricting consumption by adults in order for small children to eat, OR 3. Borrowing food or relying on help from friends or relatives*		Coping Strategies: Livelihood Proportion of households either 1.Sell domestic assests 2.Sell productive assets		*Likely Overall Nutrition Situation DEC 2010/11*	Likely Deyr 09/10 Nutrition Phase (Ref:Nutrition Situation Post Gu'09 Tec Series Report)
						Dec 2009	Dec 2010	Dec 2009	Dec 2010		
N. East	Galcayo	220 children 40 households	3.6%	0% (acceptable)	Purchase (100%)	70%	70%	8%	8%	Alert	Serious
	Garowe	220 children 40 households	4.5%	0% (acceptable)	Purchase (100%)	67.5%	47.5%	3%	3%	Alert	Alert
	Bossaso	220 children 40 households		0% (acceptable)	Purchase (97.5%)	32.5%	35%	0%	0%	Serious	Critical
N. West	Burao	220 children 40 households	10%	45% (critical)	Purchase (100%)	57.5%	10%	40%	8%	Critical	Very Critical
	Hargeisa	220 children 40 households	17.7%	5% (Alert)	Purchase (90%)	62.5%	45%	38%	30%	Very Critical	Very Critical
	Togwajale	220 children 40 households	10.5%	2.5% (acceptable)	Purchase (100%)	20%	92.5%	0%	0%	Critical	Serious
	Erigavo	220 children 40 households	2.7%	7.5% (Alert)	Purchase (80%)	27.5%	82.5%	8%	23%	Alert	Critical
	Boroma	220 children 40 households	8.6%	5% (Alert)	Purchase (90%)	62.5%	45%	38%	30%	Serious	Critical
	Lasanod	220 children 40 households	10.5%	4.4% (alert)	Purchase (89%)	97.7%	4.6%	10%	0%	Critical	Very Critical
Central	Abudwaq	220 children 40 households	4.1%	0% (acceptable	Purchase (97.5%)	35%	12.5%	3%	0%	Alert	Alert
	Eldhere	110 children 20 households	8.8%	30% (critical)	Borrowed 50%)	100%	100%	90%	95%	Serious	Very Critical
	Dhusamareb	220 children 40 households	1.0%	2.5% (acceptable)	Purchase (67.5%)	37.5%	35%	5%	5%	Alert	Serious
	Haradhere	110 children 20 households	9.6%	0% (acceptable)	Purrchase (85%)	40%	100%	0%	30%	Serious	Serious
Hiran	Beletywene	220 children	23.2%							Very Critical	Very Critical
	Buloburti	220 children	23.6%		chagrin					Very Critical	Very Critical
	Jalalaqsi	220 children	19.5%							Very Critical	Very Critical
Mogadishu	Daynilley	220 children 20 household	38.0%	20% (serious)	Purchase (80%)	90%	100%	60%	25%	Very Critical	Very Critical
	Dharkenley	220 children 20 household	35%	15% (Serious)	Purchase (75%)	70%	25%	40%	30%	Very Critical	Very Critical
	Hamarjabjab	220 children 20 household	19%	35% (Critical)	Purchase (80%)	70%	70%	35%	30%	Very Critical	Very Critical
	Hamarweyne	220 children 20 household	34%	0% (acceptable)	Purchase (90%)	60%	85%	40%	45%	Very Critical	Very Critical
	Waberi	220 children 20 household	14%	0% (acceptable)	Purchase (85%)	40%	35%	15%	20%	Critical	Very Critical
	Madina	220 children 20 household	56%	14.3% (serious)	Purchase (71.4%)	38.1	80.9%	30%	50%	Very Critical	Very Critical
Shabelle	Jowhar	330 children 20 household	24.1%	0% (acceptable)	Purchase (80%)	45%	80%	15%	20%	Very Critical	Very Critical
	Afgoye	220 children 20	39%	25% Critical	Own production (45%)	5%	70%	0%	45%	Very Critical	Critical
	Qoryolley	110 children 20 household	40.9%	0% (acceptable)	Own production(63.6%)	90%	90 %	60%	60&	Very Critical	Very Critical
Gedo	Bardera	110 children 20 households	18.2%	Median rates-14%	N/A	N/A	N/A	N/A	N/A	Very Critical	Critical
	Belethawa	110 children 20 households	23.6%	14%	N/A	N/A	N/A	N/A	N/A	Very Critical	Very Critical
Juba	Dobley	110 children	11.9%	14%	N/A	N/A	N/A	N/A	N/A	Critical	Serious
	Afmadow	110 children	13.0%	14%	N/A	N/A	N/A	N/A	N/A	Critical	Critical
	Buale	110 children	9.3%	14%	N/A	N/A	N/A	N/A	N/A	Serious	Critical
	Sakoow	110 children 20 households	13.9%	14%	N/A	N/A	N/A	N/A	N/A	Critical	
Bay	Dinsor	331 children 20 households	18.4%	14%	N/A	N/A	N/A	N/A	N/A	Very Critical	Likely Very Critical
	Burhakaba	220 children	14.3%	14%	N/A	N/A	N/A	N/A	N/A	Critical	
	Baidoa	329 children 20 households	15.2%	14%	N/A	N/A	N/A	N/A	N/A	Very Critical	
Bakool	Elberde	440 children		14%	N/A	N/A	N/A	N/A	N/A	Very Critical	Likely Very Critical
	Xuddur	220 children	15.8%	14%	N/A	N/A	N/A	N/A	N/A	Very Critical	Likely Serious
	Wajid	220 children	18.5%	14%	N/A	N/A	N/A	N/A	N/A	Very Critical	

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 hight 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 peakedeness or flatness compared to a normal distribution. The normal distribution has zero kurtosis and surveys should lie between +1 and -1. Positive kurtosis indicates a peaked distribution while negative indicates a flat one.
Percent of flag: Flags are measurement that are highly unlikely to occur in nature and are therefore highlighted by the software. These incoherent measurements should be corrected or discarded prior to analysis, 0% flags is ideal but should be less that 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 23 provides a summary of findings on plausibility checks for nutrition assessments conducted in the *Gu'* 2010

Table 23: 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	Nov-10	Category	Good	Good	Good	Acceptable	Good	Good	Good	Good	Poor
		Score	0	0	0	2	0	0	0	0	3
Hawd LZ	Nov-10	Category	Good	Good	Poor	Good	Good	Good	Good	Good	Good
		Score	0	0	4	0	0	0	0	0	0
Galkayo IDPs	Nov-10	Category	Good	Poor	Good	Good	Acceptable	Acceptable	Good	Good	Good
		Score	0	4	0	0	2	2	0	0	0
Garowe IDPs	Nov-10	Category	Good	Good	Good	Good	Acceptable	Good	Good	Good	Good
		Score	0	0	0	0	2	0	0	0	0
Galgadud	Nov-10	Category	Good	Good	Poor	Good	Acceptable	Good	Good	Good	Good
		Score	0	0	4	0	2	0	0	0	0
Bossaso IDPs	Nov-10	Category	Good	Good	Unacceptable	Good	Acceptable	Good	Good	Good	Good
		Score	0	0	10	0	2	0	0	0	0
Coastal Deeh	Nov-10	Category	Good	Poor	Good	Good	Good	Acceptable	Good	Good	Good
		Score	0	4	0	0	0	2	0	0	0
East Golis	Nov-10	Category	Good	Acceptable	Acceptable	Good	Poor	Good	Good	Good	Good
		Score	0	2	2	0	4	0	0	0	0
Nugal	Nov-10	Category	Good	Good	Good	Good	Poor	Good	Good	Good	Poor
		Score	0	0	0	0	4	0	0	0	3
Northwest regions											
Berbera IDPs	Nov-10	Category	Good	Good	Poor	Good	Good	Acceptable	Good	Good	Good
		Score	0	0	4	0	0	2	0	0	0
Hargeisa IDPs	Nov-10	Category	Good	Acceptable	Acceptable	Good	Acceptable	Good	Good	Good	Good
		Score	0	2	2	0	2	0	0	0	0
Burao IDPs	Nov-10	Category	Good	Good	Good	Acceptable	Acceptable	Good	Good	Good	Unacceptable
		Score	0	0	0	2	2	0	0	0	5
West Golis Guban	Nov-10	Category	Good	Good	Unacceptable	Good	Acceptable	Acceptable	Good	Good	Acceptable
		Score	0	0	10	0	2	2	0	0	1
Northwest Agropastoral	Nov-10	Category	Good	Good	Unacceptable	Good	Poor	Good	Good	Good	Good
		Score	0	0	10	0	4	0	0	0	0
Sanaag	Nov-10	Category	Good	Good	Poor	Good	Poor	Poor	Good	Good	Acceptable
		Score	0	0	4	0	4	6	0	0	1
Sool Platuea	Dec-10	Category	Good	Good	Poor	Good	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	4	0	2	2	0	0	0
Gedo Region											
Gedo pastoral livelihood zone	Dec-10	Category	Good	Good	Good	Good	Acceptable	Acceptable	Good	Good	Acceptable
		Score	0	0	0	0	2	2	0	0	1
Gedo Agro-pastoral Livelihood Zone	Dec-10	Category	Acceptable	Good	Acceptable	Good	Acceptable	Acceptable	Good	Good	Good
		Score	5	0	2	0	2	2	0	0	0
Gedo Riverine Livelihood Zone	Dec-10	Category	Good	Good	Good	Good	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	0	0	2	2	0	0	0
Shabelle Region											
Afgoye IDPs	Dec-10	Category	Good	Good	Unacceptable	Good	Acceptable	Acceptable	Good	Good	Good
		Score	0	0	10	0	2	2	0	0	0
Juba Region											
Juba AP	Dec-10	Category	Good	Good	Unacceptable	Acceptable	Good	Acceptable	Good	Good	Good
		Score	0	0	10	2	0	2	0	0	0
Juba Pastoral	Dec-10	Category	Good	Good	Unacceptable	Acceptable	Good	Acceptable	Good	Good	Good
		Score	0	0	10	2	0	2	0	0	0
Juba Riverine	Dec-10	Category	Good	Good	Unacceptable	Acceptable	Good	Acceptable	Good	Good	Good
		Score	0	0	10	2	0	2	0	0	0

Table 24: Summary of Nutrition Assessments (Nov-Dec 2010)

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
North West and East									
1. Guban/West Golis (Large sample cluster survey)	FSNAU , UNICEF, MOHL	Nov '10	628	10.4 (7.6-13.9)	1.6 (0.9-2.9)	9.4 (6.6-13.2)	0.3 (0.1-1.3)	0.82 (0.56-1.18)	0.90 (0.36-2.26)
2.East Golis/Gebi Karkar (Large sample cluster survey)		Nov '10	659	11.1 (8.0-15.1)	2.1 (1.2-3.9)	9.9 (7.3-13.2)	1.1 (0.5-2.4)	0.13 (0.05-0.33)	0.30 0.07-1.20
3. Sool Plateau (Large sample cluster survey)		Nov '10	624	8.3 (6.0-11.4)	1.6 (0.8-3.1)	7.9 (5.6-10.9)	0.8 0.3-2.2)	0.45 (0.25-0.80)	1.11 (0.49-2.47)
4.Hawd Livelihood zone (Large sample cluster survey)		Nov '10	655	10.1 (8.0-12.7)	1.8 (1.0-3.5)	9.8 (7.5-12.6)	1.1 (0.5-2.1)	0.30 (0.14-0.62)	0.63 (0.21-1.92)
5.Togdheer Agro pastoral (Large sample cluster survey)		Nov '10	716	12.2 (9.3-15.8)	2.3 (1.6-3.5)	7.9 (5.6-10.9)	0.8 0.3-2.2)	0.97 (0.58-1.61)	2.2 (1.0-5.0)
6.North West Agro pastoral (Large sample cluster survey)		Nov '10	520	10.4 (7.6-14.1)	0.8 (0.3-1.9)	11.2 (8.1-15.2)	0.2 (0.0-1.5)	0.16 (0.05-0.55)	0.41 (0.10-1.62)
7.Nugal Valley (Large sample cluster survey)	FSNAU , UNICEF, MOHL	Nov '10	516	10.3 (7.0-14.8)	1.0 (0.4-2.3)	11.0 (7.6-15.6)	0.6 (0.2-1.8)	0.53 (0.32-0.90)	0.61 (0.20-1.87)
8.Coastal Deeh (Large sample cluster survey)		Nov '10	670	12.5 (10.5-14.9)	2.8 (1.7-4.6)	12.7 (10.6-15.2)	1.5 (0.8-2.9)	0.38 (0.20-0.70)	1.01 (0.51-2.00)
North E & W IDPs									
9. Garowe IDPs (Large sample cluster survey)		Nov'10	761	13.3 (11.0-15.9)	2.5 (1.6-3.9)	12.0 (9.7-14.6)	1.2 (0.6-2.2)	0.31 (0.16-0.62)	0.41 (0.13-1.33)
10. Bossaso IDPs (Large sample cluster survey)		Nov '10	749	15.6 (12.7-19.1)	2.8 (1.6-4.8)	12.6 (9.8-15.9)	1.2 (0.6-2.3)	0.15 (0.05-0.42)	1.24 (0.51-2.99)
11. Galkayo IDPs (Large sample cluster survey)		Nov'10	869	16.3 (13.2-20.0)	2.9 (1.8-4.5)	13.5 (10.8-16.7)	1.2 (0.6-2.3)	1.00 (0.52-1.93)	1.50 (0.65-3.95)
12.Burao IDPs (Large sample cluster survey)		Nov '10	652	12.1 (8.8-15.4)	1.7 (0.8-3.4)	11.0 (7.8-14.2)	0.6 (0.0-1.4)	0.47 (0.29-0.75)	1.36 (0.68-2.69)
13.Hargeisa IDPs (Large Sample cluster survey)		Nov '10	651	10.8 (8.9-13.0)	1.5 (0.5-2.8)	9.7 (7.8-12.0)	0.8 (0.3-1.8)	0.36 (0.21-0.62)	0.95 (0.44-2.04)
14. Berbera IDPs (Large sample cluster survey)		Nov '10	542	14.2 (10.9-18.3)	2.2 (1.2-4.1)	14.0 (10.6-18.3)	1.1 (0.5-2.4)	0.12 (0.05-0.33)	0.33 (0.08-1.35)
15. Qardho IDPs (Small sample IDPs)		Nov'10	214	>10.6 (Pr.=0.90)	>2.7 (Pr.=0.90)	>9.4 (Pr.=0.90)	>0.3 (Pr.=0.90)	N/A	N/A
Central Regions									
16. Hawd Pastoral (Large sample cluster survey)	FSNAU, UNICEF, SRCS MOH	Nov'10	593	13.0 (10.4-16.2)	2.9 (1.8-4.7)	12.6 (10.2-15.6)	1.3 (0.5-3.4)	0.30 (0.14-0.62)	0.63 (0.21-1.92)
17. Addun Pastoral (Large sample cluster survey)		Nov'10	667	11.0 (7.7-15.5)	2.5 (1.3-5.1)	10.3 (7.3-14.5)	0.7 (0.2-2.3)	0.71 (0.41-1.20)	1.91 (0.93-3.87)
18. Galgadud (Large sample cluster survey)		Nov'10	674	12.6 (10.0-15.9)	1.5 (0.8-2.9)	11.4 (8.5-15.3)	0.3 (0.1-1.3)	0.47 (0.24-0.89)	1.95 (1.04-3.64)
Shabelle Regions									
19.Shabelle IDP (Afgoye) (Large sample cluster survey)	FSNAU, UNICEF, COSV, MERCY USA, INTERSOS, SRCS, AMZAM, MUSLIM AID UK	Nov' 10	682	21.6 (18.2-25.3)	3.2 (2.2-4.6)	19.2 (15.5-23.5)	0.4 (0.1-1.4)	0.62 (0.26-1.46)	1.44 (1.03-2.00))
Juba Regions									
20. Juba Pastoral (Large sample cluster survey)	FSNAU, SRCS	Dec' 10	779	30.7 (26.1-35.7)	7.8 (5.8-10.5)	29.4 (24.7-34.6)	3.0 (1.9-4.6)	N/A	N/A
21.Juba Riverine (Large sample cluster survey)		Dec' 10	785	29.7 (24.5-35.4)	6.4 (4.6-8.8)	23.7 (19.6-28.4)	3.2 (2.3-4.4)	N/A	N/A
22.Juba Agropastoral (Large sample cluster survey)		Dec' 10	850	26.1 (21.9-30.9)	6.2 (4.6-8.3)	23.1 (19.0-27.7)	1.4 (0.7-3.0)	N/A	N/A
Gedo Region									
23. Gedo Pastoral (Large sample cluster survey)	FSNAU/ UNICEF, Trocaire, SRCS, African Muslim Aid (AMA), Himilo Relief and Development Association HIRDA	Dec' 10	730	26.4 (22.2-31.1)	4.4 (3.0-6.3)	25.2 (21.0-29.9)	0.8 (0.3-2.0)	0.44 (0.23-0.84)	1.27 (0.53-3.04)
24. Gedo Riverine (Large sample cluster survey)		Dec' 10	617	26.7 (21.5-32.8)	6.0 (4.1-8.6)	26.9 (21.3-33.3)	2.9 (1.5-5.5)	0.22 (0.11-0.46)	1.69 (0.78-3.61)
25.Gedo Agro pastoral (Large sample cluster survey)		Dec' 10	629	25.3 (21.5-29.5)	6.5 (4.6-9.2)	24.2 (20.1-28.9)	2.9 (1.5-5.5)	0.34 (0.16-0.75)	0.85 (0.36-2.02)

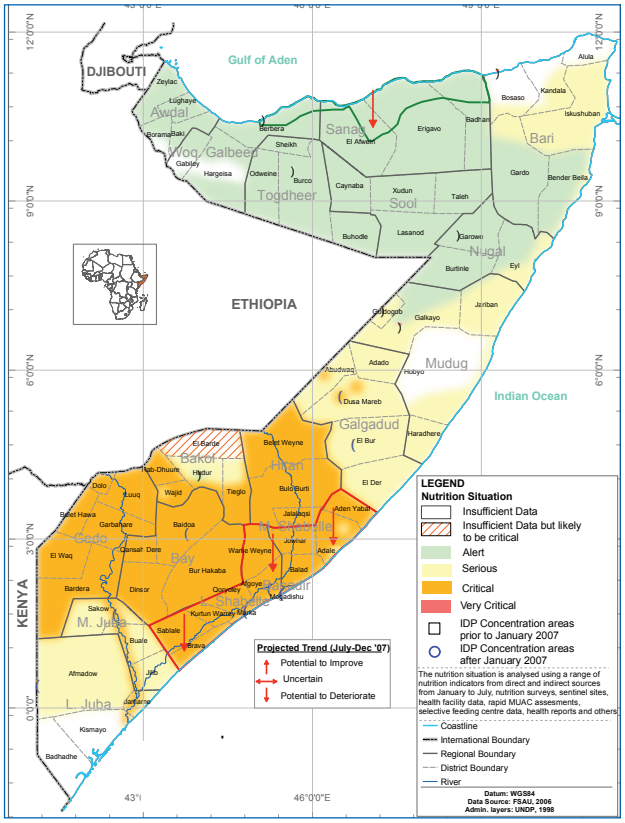
Table 25: Summary Rapid Muac Assessments Results, Nov-Dec 2010

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	Dec' 10	1100	14.7	2.5
2.. Hiran Agro-pastoral		Dec' 10	1100	17.1	2.9
3. Hiran Riverine		Dec' 10	1100	17.7	3.5
Lower Shabelle Regions					
4. Shabelle Agro pastoral	FSNAU, UNICEF, COSV, MERCY USA, IINTERSOS, SRCS, ZAMZAM, MUSLIM AID	Dec' 10	1650	25.0	7.1
5. Shabelle Riverine		Dec' 10	1650	23.0	7.4
6. Mogadishu		Dec' 10	1320	29.2	12.0
Juba Region	FSNAU, SRCS				
6. Kismayo IDP	FSNAU, SRCS	Dec' 10	1185	12.4	0.7
Bay & Bakool Regions					
9. Bay Agro-pastoral	FSNAU, SRCS	Dec' 10	1769	18.4	4.4
10.Bakool Agro-Pastoral		Dec' 10	1100	16.7	3.6
11.Bakool Pastoral		Dec' 10	1100	23.5	3.4
Central					
12. Cow pea belt central	FSNAU, UNICEF, SRCS MOH	Dec'10	467	14.3	3.0

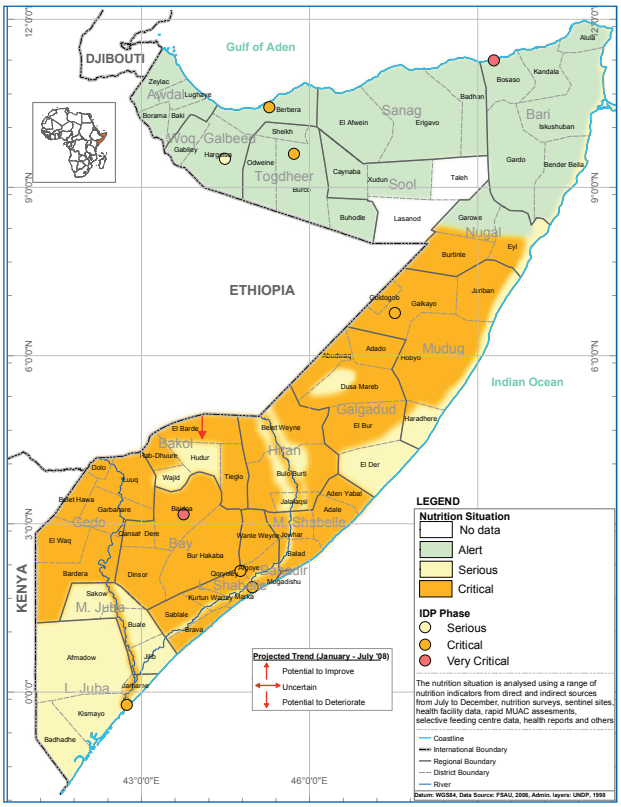
7. APPENDICES

7.1 Progression of Estimated Nutrition Situation *Gu*'07 - *Deyr* '10/11

***Gu* '07**



***Deyr* '07/08**



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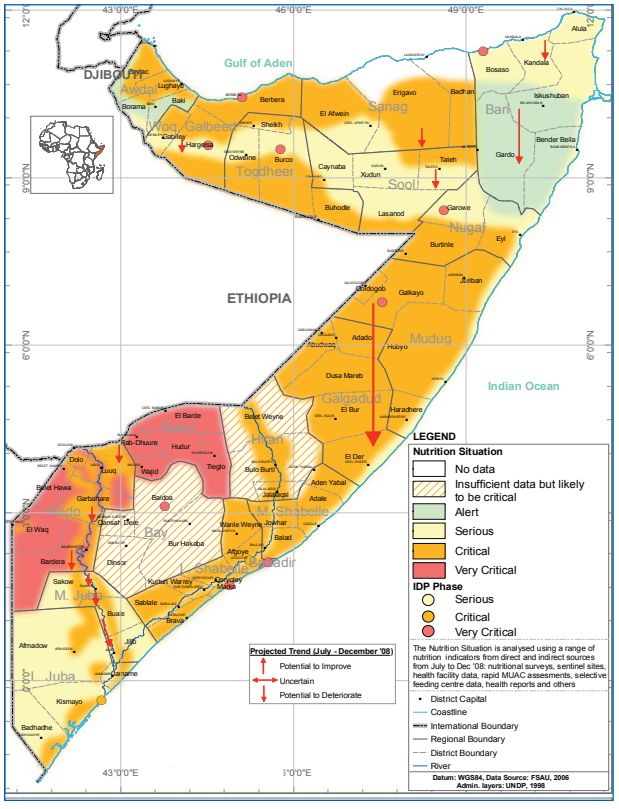
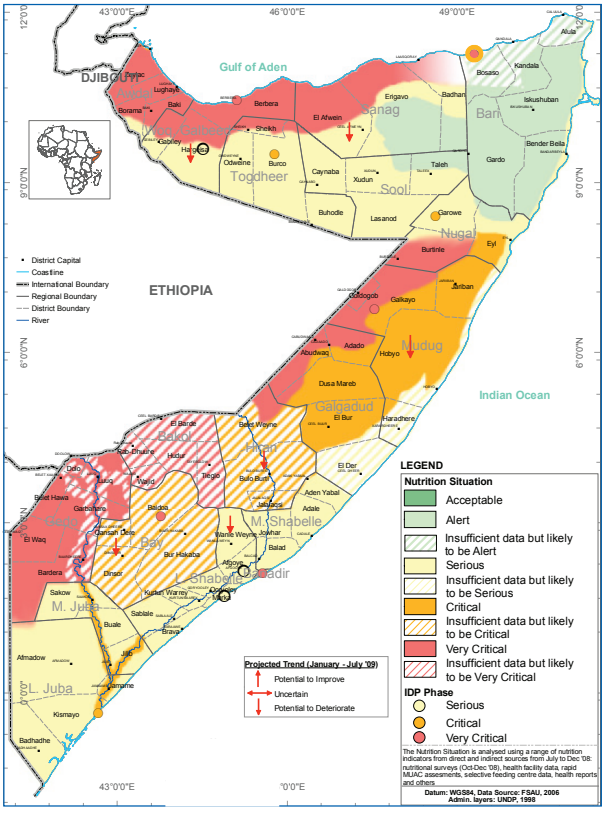


***Deyr* '08/09**



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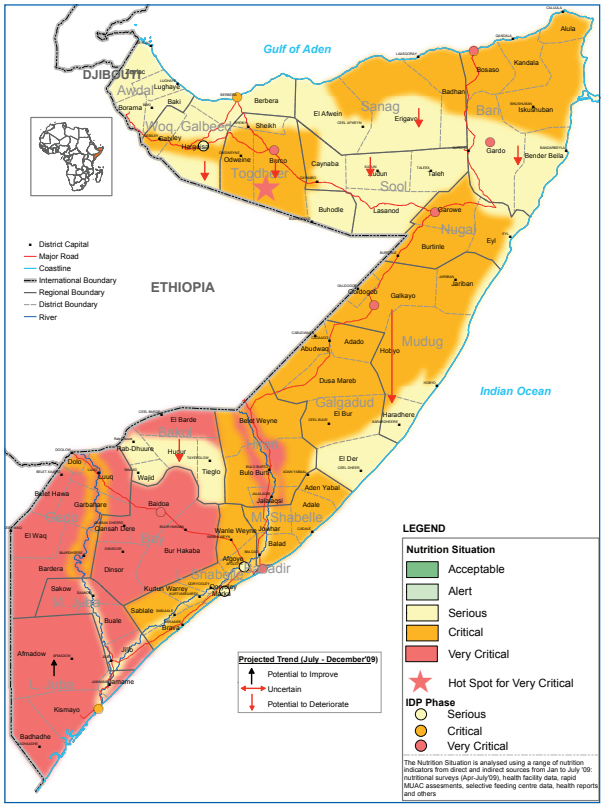
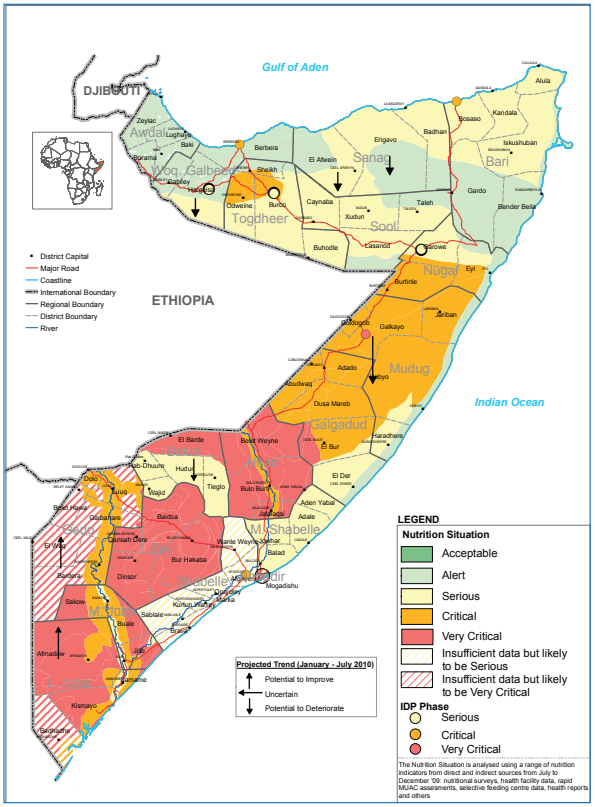
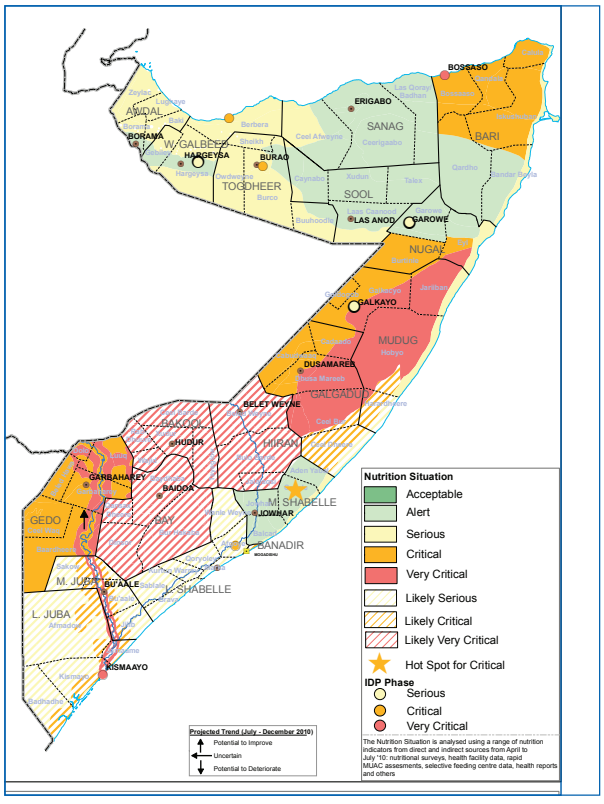


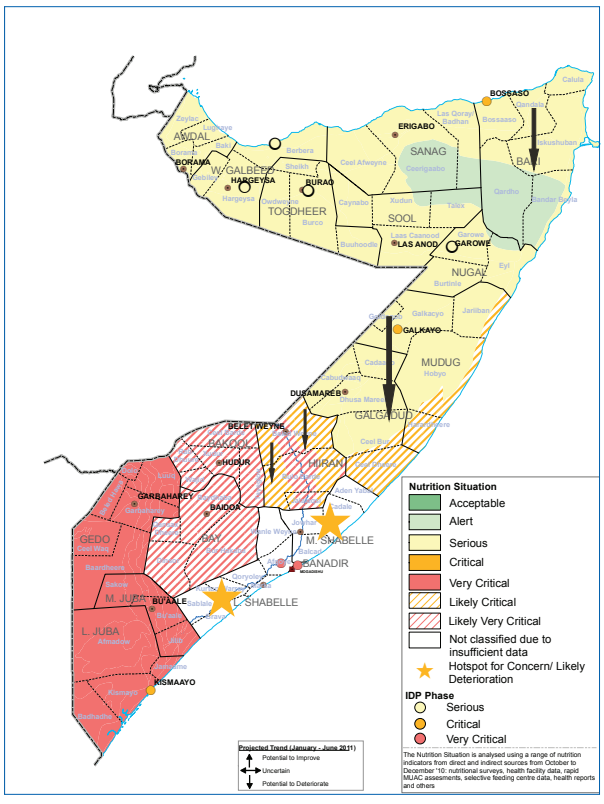
Deyr '09/10



Gu '10



Deyr '10/11



7.2 FSNAU Post *Deyr* Assessment 2010: Nutrition Assessment Household Questionnaire, *Deyr 2010*

NUTRITION ASSESSMENT HOUSEHOLD QUESTIONNAIRE, Nov-Dec 2010

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

Q1-7 Characteristics of Household

Q1. Household size[1] ?_____ **Q2.** Number of children less than 5 years (0-59 months)? _____

Q3. Household head? 1=Male 2=Female

Q4a .How long has this household lived in this locality? 1= Resident2= 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

Q7. What is the household's main source of income? 1= Animal & animal product sales 2= Crop sales/farming 3= Trade 4= Casual labor

5= Salaried/wage employment 6= Remittances 7=Self-Employment (Bush products/handicraft) 8=gifts/ *zakat*

9= Others, specify _____

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

First Name	Date of Birth -- /-- /--	Age (months) *(if child is more than 24 months old, **skip** to **Q12**)*	**Q8** Are you breast-feeding[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)*? *0=Zero times 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	**Q 13** 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

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 Pneumonia *(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

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

Breakfast	Snack	Lunch	Snack	Dinner	Snack

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

1 Number of persons who live together and eat from the same pot at the time of assessment
2 Include foods prepared inside the home but consumed outside the home

When the respondent[6] recall is complete, fill in the food groups based on the information recorded above. For any food groups not mentioned, ask the respondent if a food item from this group was consumed.	Any household member[7] *0=No 1= Yes*	**If 6-24 months** Did the child (Name) consume food from any these food groups in the last 24 hours?[8] *0=No 1= Yes*		
		Child 1	Child 2	Child 3
1. Cereals 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, carbonated drinks etc)?				
4. Oils/fats (e.g. fat or oil, butter, ghee, margarine added to food or used for cooking)?				
5. Flesh meat, intestines (e.g. beef, sheep/goat/camel or bush meat, poultry& products, tongue, etc)?				
6. Organ meat (e.g. liver, kidney, heart)?				
7. Fish and sea foods (e.g. fried/boiled/roasted fish, lobsters or shellfish)?				
8. Eggs (e.g. boiled, toasted or fried eggs)?				
9. Legumes, nuts and seeds (e.g. beans, lentils, green grams, cowpeas; peanut, dry peas)?				
10. White Roots and Tubers (e.g. white potatoes, yams, cassava and their products)?				
11. Yellow or orange fleshed tubers and vegetables/Vitamin A-rich (e.g. pumpkins, carrots, sweet potatoes that are orange inside)?				
12. Dark green leafy vegetables (local and wild leafy vegetables)?				
13. Vitamin A rich Fruits (e.g. ripe mangoes, melon, passion, pawpaw, wild fruits etc which are yellow or orange fleshed)?				
14. Other vegetables (local and wild vegetables that are not dark green or leafy e.g cabbage, lettuce, green, red or sweet pepper)				
15. Other Fruits (other local and wild fruits that are not yellow or orange fleshed e.g dates, bananas, oranges & fruit juices)?				
16. Spices, Condiments, Beverages (Caffeinated Beverage, tea, coffee)				
***Q 30A**. Total number of food groups consumed in each case?*				
***Q 30B.** Did you or anyone in your household eat anything (meal or snack) OUTSIDE of the home yesterday*				
***Q 30C. Individual Level:** Did (child's name) eat anything (meal or snack) OUTSIDE the home yesterday?*				

Q31 a. In the last three months, what is the main source of staple cereal in the household?
1= Own production 2= Purchasing 3=Community 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 meals[3] 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 *(Aamah)*?	
d. Reduce number of meals per day?	
e. Reduce the portion size/quantity consumed at meal times *(Beekhaamis)*?	
f. Rely on food donations (gifts) from the clan/community *(Kaalmo)*?	
g. Consume weak un-saleable animals *(caateysi)?*	
h. Send household members to eat (for food) elsewhere?	
i. Skip (go an) entire days without eating *(Qadoodi)*?	
j. Beg for food *(Tuugsi/dawarsi)*?	
k. Rely on hunting for food *(ugaarsi)?*	

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 *osolo to obo)*?	
c. Borrow food on credit from shop *(Deyn)*?	
d. Borrow food on credit from another household *(Aamah)*?	
e. Reduce home milk consumption and sell more of milk produced?	
f. Reduce the number of meals in a day by adults?	
g. Stop all home milk consumption and sell all milk produced?	

3 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

h. Rely on food donations (gifts) from the close relatives *(Qaraabo)*?	
i. Rely on food donations (gifts) from the clan/community *(Kaalmo)*?	
j. Skip (go an) entire days without eating *(Qadoodi)*?	
k. Community identified your household as in need of food and fives support? (Qaraan)	
l. Send household children to live or eat with relatives (elsewhere)?	

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 *(Beekhaamis)*?	
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?	
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)?	

WATER, SANITATION AND HYGIENE

Q34-40 Access to water (quality and quantity)

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

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), **How many days in the last year month were you NOT able to get water from the protected source 1= None 2 = 1-5 days 3 = >5 days**

Q35c What was reason for not getting water? 1 = couldn't afford 2 = source dried up 3 = machine broke down 4=others

Q36 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

Q37b Most days (on average) how much water do you collect for the household

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

Q38 Is the water for drinking treated and/or chlorinated[4] at the Household level? 0 = No 1 = Yes

Q39 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)

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 surrogate mother breast within the last 12 hours
2 Diarrhea 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 Respondent refers to the person responsible for food preparation on the recall day. For the child, refer to the mother or caregiver
7 8 FAO Household Dietary Diversity Tool
8 WHO, 2008. Indicators for assessing infant and young child feeding practices: Conclusion of a consensus meeting held 6-8 November 2007 in Washington D.C., USA ;FANTA 2002 Summary Indicators for Infant and Child Feeding Practices;

4 Chlorinated water should have a characteristic taste and smell

7.3 Mortality Questionnaire, Nov-Dec 2010

Household No: _____Date: _____ Team No: ____ Cluster No: ____ Enumerator's Name: _____

No.	**1**: First Name	**2**: Sex *(1=M; 2=F)*	**3**: Age (yrs)	**4**: Born since **__ / 8/ 2010**	**5**: Arrived since **__ / 8/ 2010**	**6**: Reason for leaving	**7**: Cause of death
a) How many members are present in this household now? List them.							
b) How many members have left this household (out migrants) since **August __, 2010**? List them							
c) Do you have any member of the household who has died since **August __, 2010**? List them							

Codes

Reason for migration

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

Cause of death

1= Diarrhoeal diseases
2= ARI
3= Measles
4= Malaria
5= STD/ HIV/AIDS
6= Anaemia
7= Pregnancy/Birth complications
8= Accident/ killed/ physical injuries
9= Hunger/starvation
10= Other, specify (e.g. still birth)

Summary*

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

** For Supervisor Only*

7.4 Rapid WH Assessment Form - Qardho IDPs - Juba surveys only

Sno	Sex: 1=Male 2=Female	Age (Months)	Oedema 1= Yes 2=No	Weight Kg (1dp)	Height cm (1 dp)	MUAC cm (1 dp)	Illness in past 14 days? No = 0 If Yes ,specify* *1=Diarrhoea* *2=ARI* *3=Malaria* *4= Measles*	Vaccination Status No = 0 If Yes, specify*: *1=Polio* *2=Vitamin A supp* *3=Measles*

Sno	Sex: 1=Male 2=Female	Age (Months)	Oedema 1= Yes 2=No	Weight Kg (1dp)	Height cm (1 dp)	MUAC cm (1 dp)	Illness in past 14 days? No = 0 If Yes ,specify* *1=Diarrhoea* *2=ARI* *3=Malaria* *4= Measles*	Vaccination Status No = 0 If Yes, specify*: *1=Polio* *2=Vitamin A supp* *3=Measles*
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								

7.5 Screening Data / Rapid Assessment Tool - Children 6-59 months

Name Village:_____ Date:_____ Livelihood: _____

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

Children under 5years (MUAC only to be measured on children 6 months and above or 65-110cm lying (65-86.9cm or standing for the 87 cm in height and above)

Child Group	<11.5cm	11.5-12.4cm	12.5-13.4cm	>/=13.5	Oedema (65-110cm)	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						

7.6 Urban Assessment Household Questionnaire, 2010

HHNO:

URBAN ASSESSMENT HOUSEHOLD QUESTIONNAIRE, 2010

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 in the past 24 hours (from this time yesterday to now)? Include any snacks consumed.	Did a member of your household consume food from any these food groups in the last 24 hours**?** *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, caanjera, 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. Total number of food groups consumed in the household: _____		
Q3 In the last 3 months, what is the main source of staple food in the household? *(*Use codes in 1 above)* _____		

Q4 How many meals[1] did the adults (18+ years) in this household eat in the last 24 hours (from this time yesterday to now)? 1= One 2=Two 3= Three

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

Q6. Coping and coping strategies

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.)? **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)*		
		During the PAST Year (June 2009)		Now (In June 2010)	
		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

1 *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*

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 Annex 1 - Tally Sheet for MUAC Screening Children 6 – 59 months. – Please just use one sheet per village and one tick/tally 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 Annex 3 for an sample*)

2 Screening Data / Rapid Assessment Tool - Children under 5 years

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

Children under 5years (MUAC only to be measured on children 6 months and above or 65-110cm lying (65-84.9cm or standing for the 85 cm in height and above)

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						

7.7 Caseloads of Acute Malnutrition (Severely Malnourished <5S, and Pregnant/Lactating Women)

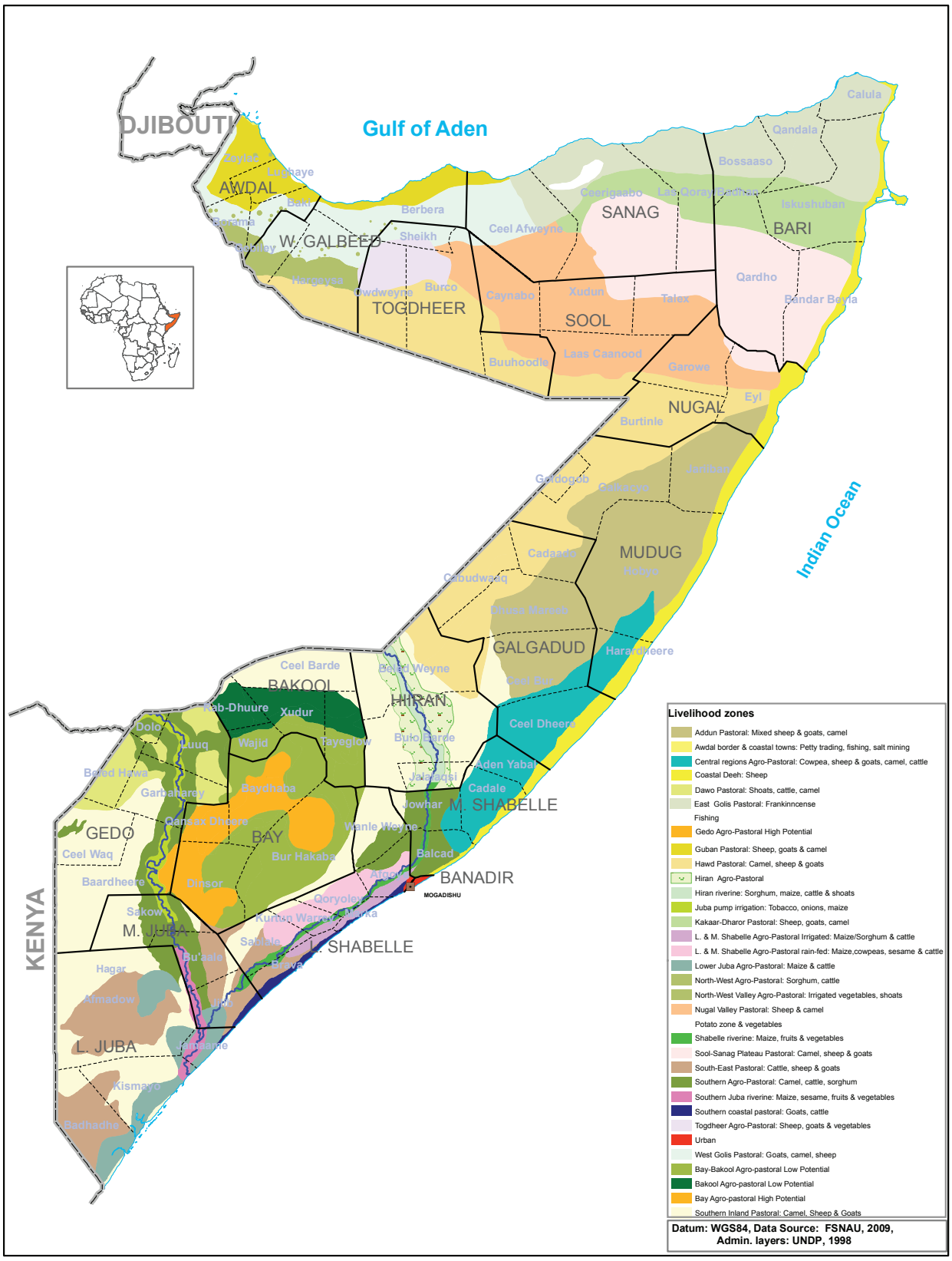
SEVERELY MALNOURISHED <5YRS

SEVERELY MALNOURISHED <5YRS	Total Pop	Total <5 yrs	Children severely malnourished (<-3 WHZ WHO or oedema), DEYR 10/11		Children severely malnourished (<-3 WHZ WHO or oedema) GU 2010		Total Malnourished (N & C based on average for Deyr '10	Total Malnourished (SOUTH) based on 6% Median for Deyr '10	Incidence Rate (x1.6) for 12 months (WHZ <-2)
			No.	Proportion	No.	Proportion			
Bakool	310627	62125	3567	6	2160	6		3728	5964
Bay	620560	124112	6950	12	4200	12		7447	11915
Hiran region	329811	65962	4206	7	2800	8		3958	6332
Shabelle (in	2266735	453347	19475	34	10500	30		27201	43521
Gedo	328378	65676	3437	6	1500	4		3941	6305
Juba regions	624667	124933	8394	15	3670	11		7496	11994
Central	680156	136031	3648	6	4650	13	4149		6639
NE/NW IDPs	224100	44820	931	2	720	2	825		1321
North west (	1677747	335549	5147	9	3950	11	4549		7278
North East (	439979	87996	1522	3	800	2	1161		1858
Total	**7502760**	**1500552**	**57277**	**100**	**3495**	**99**	**10684**	**53769**	**103126**
***Afgoye IDPs*	356,000	71200	*2278*		*1,200*				

PREGNANT AND LACTATING

	Total Pop	Total Pregnant & Lactating (P&L)	P&L (MUAC <23.0), Deyr 2010/11	Proportion	P&L (MUAC <23.0), Gu 2010	Proportion	Total Malnourished (N & C based on average for Deyr & Gu'10)	Total Malnourished (SOUTH) based on 12.8% Deyr 10/11 median	Incidence Rate (x1.6) for 12 months (WHZ <-2)
Bakool	310627	15531	1941	3	1941	3		1988	3181
Bay	620560	31028	403	1	403	1		3972	6355
Hiran region	329811	16491	3464	6	3464	6		2111	3377
Shabelle Reg	2266735	113337	14207	24	9697	17		14507	23211
Gedo	328378	16419	5496	9	3956	7		2102	3363
Juba regions	624667	31233	9244	15	11536	21		3998	6397
Central	680156	34008	3482	6	7205	13	5344		8550
IDPs	224100	11205	2041	3	1861	3	1951		3121
North west (	1677747	83887	15191	25	12415	22	13803		22085
North East (	439979	21999	4334	7	3256	6	3795		6072
Total	**7502760**	**375138**	**59803**	**100**			24892	**28677**	**85710**

7.8: Somalia Livelihood Zones



FEWS NET FAMINE EARLY WARNING SYSTEMS NETWORK · USAID FROM THE AMERICAN PEOPLE · Sida · Swiss Agency for Development and Cooperation SDC · Cooperazione Italiana allo Sviluppo Ministero Affari Esteri · unicef · UNHCR The UN Refugee Agency · CHF SOMALIA Common Humanitarian Fund Somalia

Food Security and Nutrition Analysis Unit - Somalia http://www.fsnau.org

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9. GLOSSARY OF TERMS

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

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

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

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

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

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

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

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

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

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

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

Kwashiorkor: Sign of severe malnutrition characterized by bilateral oedema.

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

Morbidity: A condition related to a disease or illness.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

The Information Management Process

Gathering & processing

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

Validation of Analysis

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

Products and Dissemination

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

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