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## Overview

- The current situation in Somalia, with the recent flooding in parts and the displacement as a result of the current conflict, is likely to have a negative impact on the nutritional status of the vulnerable groups. FSAU with partners have just completed three weeks of intensive field work throughout the country to assess the current nutrition, food security and livelihood situation using a variety of tools. The results will be presented on 31st January at a special Somali Support Secretariat Meeting in Kalsan Towers and published in the next nutrition bulletin.
- Findings from three nutrition assessments conducted in the past two months using the standard assessment methodology<sup>1</sup> indicate a stable nutritional status for two of the assessed areas with a more concerning situation in the third:
  - The Nugal Valley Assessment conducted in November 2006 indicates a <sup>2</sup>Global Acute Malnutrition (GAM) of 8.9% (CI: 7.2-11.0), and Severe Acute Malnutrition (SAM) of 1.4% (0.8-2.5) alert levels according to WHO references.
  - The Goldogob District Assessment conducted in November 2006 indicates a GAM of 11.1% (8.6-13.6) and SAM of 1.1%

(0.3-1.5), serious levels according to WHO references though stable when compared to previous assessments conducted in the area at the same time of year.

- The El Barde District Assessment conducted in December 2006 indicates a more worrying trend with a GAM of 17.7% (15.3-20.3) and SAM of 3.2% (2.2-4.6) being reported signifying a critical situation and a slight deterioration from previous assessments

- Analysis of sentinel site surveillance data indicates low levels of malnutrition in Lower Shabelle and South Mudug.

- There have been <sup>3</sup>reports of increasing cases of acute watery diarrhoea (AWD) in parts of the northwest and northeast in December 2006 resulting in a multi-agency, multi-sectoral approach to contain the situation. In addition there are continuing reports of pockets of localized AWD in Southern Somalia. Efforts are being made to investigate and confirm cases in these areas, although insecurity is preventing access in many parts.

- The Health Information System (HIS) is a software<sup>4</sup> package that was developed for Somalia in 2000 and allows for the consolidation of health facility data, facilitating detection of trends at facility, district and regional level. Following a recent upgrade of the package the latest version has many new features to improve analysis and monitoring in the key focus areas: Nutrition, Morbidity, Safe motherhood and Expanded Programme of Immunisation (EPI).

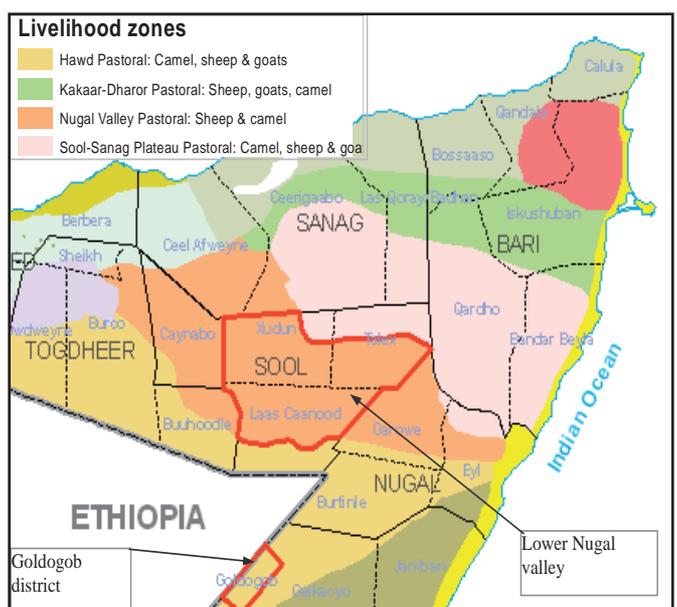
- FSAU has produced a Calendar for this year 2007 containing keys messages and themes relating to Somali nutrition, food security and livelihoods.

## Lower Nugal Valley Nutrition Assessment Findings

Lower Nugal Valley livelihood zone (*see map 1*) is located in parts of Ainabo, Taleh, Huddun and Lasanod districts of Sool region with an estimated population size of 180,000 (WHO, 2005). According to the FSAU Post Gu 2006 analysis the area is classified to be in the Acute Food and Livelihood Crisis phase indicating recovery from the previous Humanitarian Situation with many parts of the area continuing to show significant recovery in recent times.

From 22nd to 27th November 2006, FSAU in collaboration with UNICEF, Ministries of Health and Labour (MOHL) and Ministry of Health (MOH) undertook a nutrition and mortality assessment in the area aimed at determining the current nutrition situation and influencing factors. Using the standard assessment methodology, a total of 917 children aged 6 – 59 months and measuring 65 – 109.9 cm in height/length and 454 women aged were assessed. Mortality data was collected from 902 households.

Map 1: Nutrition Assessment Areas



<sup>1</sup>Two stage (30 by 30) cluster sampling, <sup>2</sup>Weight for Height (WHZ) < -2 Z scores or presence of bilateral oedema of the feet, <sup>3</sup>Local Health Authorities, November, December 2006, <sup>4</sup>An initiative of the UNFAO/FSAU, UNICEF, WHO, UNDP, WFP and the SHSC

The global acute malnutrition (weight for height <-2 Z score or oedema) was 8.9% (CI: 7.2 – 11.0) while the severe acute malnutrition (weight for height <-3 Z score or oedema) was 1.4% (CI: 0.4 – 2.4). The results indicate an alert nutrition situation (WHO). Although a direct comparison cannot be made as the population assessed included additional neighbouring areas, and the assessment was conducted at a different time of year results from an assessment conducted in July 05 reported 10.5% GAM (8.6-12.7) and 0.7% SAM (0.3-1.5) thus indicating no significant changes in the nutritional situation.

The retrospective crude and under five mortality rates are 0.59 (CI: 0.31 – 0.87) and 1.32 (CI: 0.47 – 2.18) deaths/10,000/day respectively, indicating an acceptable situation (WHO). Diarrhoea and birth related complications were the main illnesses reported associated with deaths among under fives while among persons aged five or more it was diarrhoea and suspected malaria. About 23% of the pregnant women were classified as acutely malnourished (MUAC <23 cm) while among the non pregnant, 0.3% were malnourished (MUAC <18.5 cm). None of the households reported cases of night blindness which is associated with Vitamin A deficiency. A summary of key findings is presented in Table 1.

Overall, about 26.2% of the children had reportedly suffered from one or more communicable childhood diseases during the two weeks prior to the assessment. Diarrhoea and ARI were the most prevalent diseases. Illness was significantly associated with malnutrition. Children who fell ill were 1.7 times more likely to be malnourished than those who did not fall sick. In particular, ARI (p=0.01) and suspected malaria/febrile illness (p=0.00) showed a significant association with malnutrition.

Indicator	No	%	95% CI
Global Acute Malnutrition (WHZ<-2 or oedema)	82	8.9	7.2 – 11.0
Severe Acute Malnutrition (WHZ<-3 or oedema)	13	1.4	0.8 – 2.5
Oedema	2	0.2	0.0 – 0.6
Children reported to have diarrhoea in 2 weeks prior to study	135	14.7	12.5 – 17.2
Children reported to have ARI within 2 weeks prior to study	115	12.5	10.5 – 14.9
Children with suspected malaria/febrile illness in 2 weeks prior to study	77	8.4	6.7 – 10.4
Suspected measles within one month prior to study (N=868)	5	0.5	0.2 – 1.3
Children (9-59 months) immunised against measles (N=868)	643	74.1	71.0 – 76.9
Children who have ever received polio vaccine (N=917)	798	87	84.6 – 89.1
Children supplemented with vitamin A in last 6 months	526	57.4	54.1 – 60.6
Households who consumed ≥4 food groups	407	88.9	85.5 – 91.5
Children 6-24 months who are breastfeeding (N=339)	123	36.3	31.2 – 41.7
Children introduced to other foods before 6 months (N=339)	192	56.6	48.8 – 64.1
Under five Mortality Rate (U5MR) as deaths/10,000/ day	1.32		0.47 – 2.18
Crude Mortality Rate (CMR) as deaths/10,000/ day	0.59		0.31 – 0.87

About 88% of the households had consumed four or more food groups in the twenty four hours prior to the assessment. Purchase was the main food source for the majority (77.9%) of the households yet the main source of income for about 40% of the households was irregular casual labour.

Casual labour was mainly within the construction sector and livestock-related activities. Water for household consumption was mainly obtained from unprotected sources (berkads). Notably though, about 65% of the households had inadequate water containers according to SPHERE recommendations<sup>5</sup>.

Suboptimal childcare practices were evident in the study area, negatively affecting children’s nutritional status. Among the children aged 6 – 24 months, only 36.3% were still breastfeeding at the time of assessment. The majority of the children had stopped breastfeeding before the age of one year. About 43% of the children were correctly introduced to complementary foods at the age of six months. Child feeding frequency was significantly associated with children’s nutritional status. Children who were fed less than five times a day were 0.4 times more likely to be malnourished than those who were not (p=0.04).

Vitamin A supplementation and measles vaccination coverage were also significantly associated with children’s nutritional status. Children who had received vitamin A supplementation six months prior to the assessment were less likely to be malnourished than those who had not received (p=0.03, RR=0.64). Similarly, children aged 9 – 59 months and not immunised against measles were more likely to be malnourished than their counterparts who were immunised (p=0.00, RR=0.56). However, the coverage of these health related interventions was below the minimum SPHERE recommendation of 95%. Humanitarian support includes health services by MOHL/MOH/UNICEF/WHO, food aid by WFP and local organizations/communities, CARE International supports an income generating project, NPA is involved in water related interventions and health issues while SVO undertakes water point’s rehabilitation. Immunisation services and good dietary diversity with the increased availability of milk following the rains are among factors mitigating malnutrition in Lower Nugal Valley.

Following data analysis and discussion of assessment findings with partners recommendations were made including 1) Enhanced delivery of basic health services including intensifying EPI services/linking vitamin A supplementation and polio vaccination programmes, 2) Intensify health and nutrition education focussing on care and micronutrient issues and 3) Rehabilitation of acutely malnourished children and women.

### Acute Watery Diarrhoea – An Overview

Acute watery diarrhoea (AWD) refers to diarrhoea that lasts less than 14 days (most episodes last less than seven days), and involves the passage of frequent loose or watery stools without visible blood. Vomiting and fever may be present. It causes dehydration, loss of nutrients and contributes to malnutrition and death. In developing countries, important causes of acute watery diarrhoea in young children are pathogens like Escherichia coli, Salmonella, Shigella and Vibrio cholerae 01 (WHO, 2006). Although AWD is endemic in Somalia there have been reports of increasing numbers of cases in parts of the country.

According to a recent interagency assessment in the northeast and in the northwest regions, in the last week of October 2006 and the first week of November 2006, the first case of acute

<sup>5</sup>SPHERE 2004 recommends a minimum of two 10-20 litre water containers for water collection alone and enough for storage

watery diarrhoea (AWD) was reported in the Eastern Sanag area of Sanag region spreading quickly to Sool, Bari, Nugal and Mudug regions. In the first four weeks, the combined cases in these regions rose from 108 to 232 for under five and from 34 to 149 for adults with 13 (7 under-fives and 6 adults) cases of related mortality confirmed in Badhan district. In Togdheer region, a total of 1,629 (1240 under five and 389 adults) cases of diarrhoea and 25 (22 under fives and 3 adults) cases of related mortality were reported by the third week of December, with Burao district being most affected<sup>6</sup>.

In all the regions, the cases were reported to be most severe among children under five years. By the end of December 2006, a joint team of health authorities, UN and other humanitarian agencies were working in the affected areas to stabilize the situation by treating the reported cases and providing water chlorination supplies to improve the quality of water. In addition cases of AWD had been reported earlier in the neighboring Somali Region in Ethiopia, which resulted in 219 deaths affecting 19 zones and 56 woredas linked to *Vibrio cholerae* 01 serotype inaba. In the case of the increased cases in the two regions of northeast and northwest the causative agent has not yet been established. Additional localised pockets of AWD are being reported in southern parts of Somalia and efforts are being made to confirm the causes and provide treatment although insecurity is severely hampering access in many parts. The diarrhoea is likely to be related to the recent floods and exposure to water borne diseases in addition to the normal seasonal trends. At present there are no current reports of the impact of these cases of AWD on nutritional status however where appropriate this will be reported on in future updates.

### Goldogob District Nutrition Assessment Findings

Goldogob district with an estimated population of 42,435 (WHO/NID 2006) is located in northern Mudug region and borders Ethiopia to the west (see map 1). The district lies in the Hawd Pastoral Livelihood Zone and is faced with an Acute Food Security and Livelihood Crisis (FSAU Post Gu'06' Analysis). A joint nutritional assessment was conducted in November 2006 (Deyr) by FSAU, UNICEF, MOH, SRCS and WVC to determine the nutritional status of children below the age of five years. A two stage cluster sampling methodology was used and children aged 6-59 months and measuring 65-109.9 cm of height assessed. Additionally, 907 households were assessed for retrospective mortality rate (90days).

The analysis of nutritional status indicated global acute malnutrition of 11.1% (95% CI: 8.6-13.6) and severe acute malnutrition of 1.1% (95% CI 0.3-1.5). Oedematous malnutrition was 0.2% (95% CI: 0.0-0.5). These rates are consistent with previous assessments conducted in the area for the same time of year (see figure 1 for more info on trends). However this is considered a serious nutrition situation according to WHO classification. The under five mortality rate was found to be 0.63/10,000/day and 0.29/10,000/day for crude mortality rate, and are within acceptable levels (WHO, SPHERE 2004). Additional findings are summarised in table 2.

Indicator	No	%	95% CI
Global Acute Malnutrition (WHZ<-2 or oedema)	101	11.1	8.6-13.6
Severe Acute Malnutrition (WHZ<-3 or oedema)	8	1.1	0.3 - 1.5
Oedema	2	0.2	0.0 - 0.5
Children reported to have diarrhoea in 2 weeks prior to study	228	25.1	20-30.3
Children reported to have ARI within 2 weeks prior to study	120	13.2	8.6-17.9
Children with suspected malaria/febrile illness in 2 weeks prior to study	173	19.1	12.8-25.4
Suspected measles within one month prior to study (N=858)	14	1.6	0.4-2.9
Children (9-59 months) immunised against measles (N=858)	210	24.5	13.5-35.4
Children who have ever received polio vaccine (N=917)	718	79.2	70.2-88.1
Children supplemented with vitamin A in last 6 months	257	28.3	15.5-41.2
Households who consumed ≥4 food groups	314	69.8	65.2-74.3
Children 6-24 months who are breastfeeding (N=339)	92	30.6	24.2-36.8
Children introduced to other foods before 6 months (N=339)	257	28.3	15.5-41.2
Under five Mortality Rate (U5MR) as deaths/10,000/ day	0.63		0.02-1.24
Crude Mortality Rate (CMR) as deaths/10,000/ day	0.29		0.10-0.49

Analysis of immunization estimates reveals very low coverage with the exception of Polio vaccination which reported 79.2%. Measles immunization coverage among the 9-59 months estimated at 24.5% and Vitamin A supplementation coverage for children of 6-59 months at 28.3% remained low. When compared to the recommended 95% coverage (Sphere 2004), immunization coverage in Goldogob district is poor. With the seasonal changes, malaria, and watery diarrhoeal diseases mainly affecting children were reported in most parts of the Hawd Pastoral Livelihood Zone.

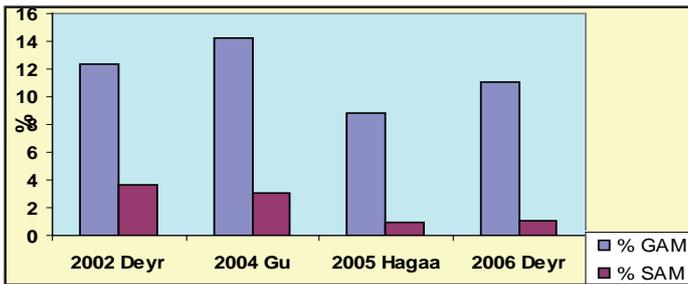
The assessment further indicated that 25% of the children reported having suffered watery diarrhoea two weeks prior to assessment with potential risk analysis indicating that those who suffered diarrhoea were 1.51 times likely to be wasted (95% CI: 1.03<RR>2.22) and p value=0.03. Suspected malaria/febrile illness prevalence was estimated at 19% and potential risk analysis indicated that those who suffered suspected malaria two weeks prior to the assessment were 1.79<sup>7</sup> times likely to suffer wasting (1.79; 95%CL 1.11<RR<2.91) with a p value = 0.0039 which indicates that the association is highly significant. The assessment also revealed that feeding practices are poor with about 87% of the children aged 6-24 introduced to foods other than breast milk before the recommended age of six months and about 34% had stopped breast feeding even before six months of age. These poor infant and child feeding habits could potentially have predisposed children to acute malnutrition.

About half (52%) of the assessed households accessed water from safe sources (tap or protected wells) and 48% obtained water from unprotected wells/ berkedes. The majority (78%) of the households had access to sanitation facilities such as traditional pit latrines (40.9%). However, almost a quarter (22%) of the population used the 'bush' for open defaecation. Hygienically, this can precipitate diseases outbreak especially during floods and therefore a major environmental risk and a threat to the human health. Approximately 69.8% of the sampled population consumed a diversified diet with 4 or more food groups with the majority (99%) depending on their own production sources. Analysis of findings from assessments conducted in Goldogob in the past four years indicates high prevalence rates of acute malnutrition in the Deyr and Gu seasons (see figure 1). This may be linked to increased risk factors such

<sup>6</sup>Local Health Authority assessment findings and FSAU field staff assessments, <sup>7</sup>Risk ratio corresponds to added risk of malnutrition. The further the RR from 1.0 the greater the association. If RR confidence limits include 1.0, then there is no association. If it does not include 1.0 then the association is statistically significant.

as high malarial and diarrhoeal infections that may prevail at the time due to wet conditions.

Figure 1: Trends of Acute malnutrition in WHZ Score, Goldogob District

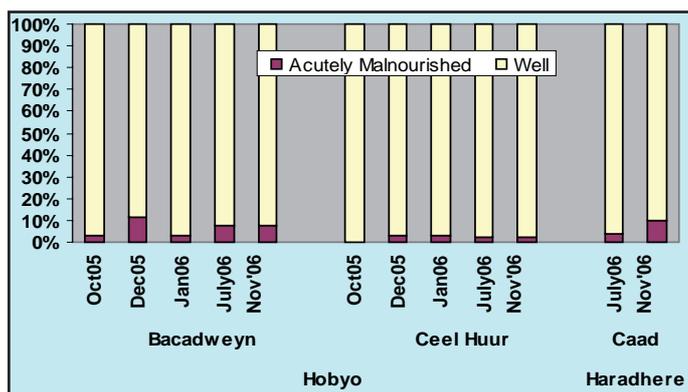


Following discussion with partners the following recommendation were made: enhanced routine EPI services at health centres, provision of mosquito nets to the vulnerable groups, (under 5 and pregnant mothers), and rehabilitation of acutely malnourished persons. In addition, strengthen health and nutrition education sessions at the health posts and in schools through existing women groups, especially on importance of latrines and safe use of water to address poor hygiene and sanitation practices.

### CENTRAL REGION South Mudug Sentinel Sites Surveillance

Following the Gu 2006 analysis, parts of Hobyo and Harardheere districts were classified as facing an Acute Food and Livelihood Crisis mainly due to civil insecurity, drought conditions and market disruptions. Meanwhile, acute malnutrition levels in the area have remained relatively low and within the typical levels for the area of 5 - 10%. As part of FSAU's regular monitoring activities, the fifth round of sentinel sites surveillance was conducted in November 2006 covering three sites<sup>8</sup> in Harardheere and Hobyo districts.

Figure 2. Distribution of acutely malnourished children in the sentinel sites in South Mudug Region, Oct 05 to Dec 06



Analysis of the data indicates generally low malnutrition levels <10%, with the trend being stable in Ceel Huur, but fluctuating in Bacadweyn (see figure 2). Trend analysis in Caad, will be undertaken following subsequent rounds of data collection. This possibly could be explained by household's dietary diversity showing an improving trend in all sites, following good Deyr rains. However high morbidity levels were among the factors contributing to malnutrition levels in certain sites. The proportion of sick children in the two weeks prior to the assessment was higher in all sites compared to that observed in July 2006. In addition a suspected measles outbreak was reported in Ceel Huur. Ongoing interven-

tions include health care services by CISP and food aid distributions by CARE in Elder and Harardhere September 2006.

### SOUTHERN REGION El Barde District Nutrition Assessment - Preliminary Findings

El Barde district in Bakool region neighbours Afer and Godey regions of Ethiopia. The FSAU Post Gu'06 Analysis classified parts of El Barde District as faced with a Humanitarian Emergency and other parts with an Acute Livelihood Crisis as a result of prolonged drought that led to a deterioration in the food security situation. The majority of the affected district population have been pastoral mainly rearing camel and goats, with the remainder agro-pastoralists and urban population.

A joint nutrition assessment was conducted in mid December 2006 by FSAU, UNICEF, WFP and IMC to determine the nutrition situation and the potential underlying causes. The standard assessment methodology was used and a total of 934 children aged 6-59 months and measuring 65-109.9 cm assessed for nutrition status and 900 households assessed for retrospective mortality rates (90 days). Preliminary findings indicate global acute malnutrition of 17.7% (C.I: 15.3 – 20.3) with severe acute malnutrition of 3.2% (2.2 – 4.6) and oedema of 0.4% (0.1-1.2). This indicates a critical situation (WHO), and has shown a slight deterioration from previous assessment conducted in the area in March 2004 where a GAM of 15.7% and a SAM of 1.3% were reported. Prior to this, in August 2000, an assessment which covered both neighbouring Rab Dhure District and El Barde (both similar livelihoods) reported a GAM of 13.7% and a SAM of 3.8%. The differing times of year do not make a direct comparison feasible, however it is useful in indicating a slight increase in the recent trends of acute malnutrition.

The retrospective crude mortality rate was 0.64 (CI: 0.28 – 1.01) and under-five mortality rate 1.03 (CI: 0.39 – 1.68) deaths per 10,000/day are acceptable (WHO, SPHERE 2004). Mortality for the under-fives is mainly attributed to acute respiratory infection (ARI) and diarrhoea. Further results indicate high morbidity levels with 34.3% of the assessed children reported to have suffered from at least one communicable illness (ARI, diarrhoea and suspected malaria/febrile illness) in two weeks prior to the assessment. Morbidity was significantly associated with malnutrition, with the children who were reportedly sick being about one and half times more likely to be malnourished than those who were not sick (p=0.00043). The coverage of health programmes, polio immunization, measles vaccination and vitamin A supplementation was far below the recommended 95% (Sphere 2004). Detailed analysis is on going at FSAU and results will be shared in the near future.

### Lower Shabelle Sentinel Sites Surveillance

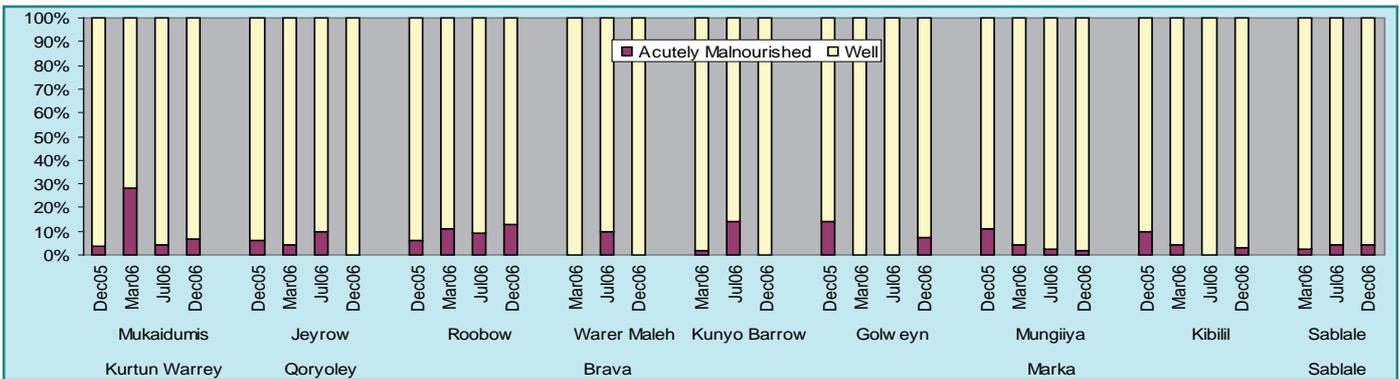
Following the post Gu 2006 analysis, certain areas in Lower Shabelle were classified to be in chronically food insecure phase with a moderate risk to Acute Food and Livelihood Crisis. The region has faced three consecutive poor rainy seasons, namely Gu 2005, Deyr 2005/06 and Gu 2006. More recently 2006/7 Deyr rains resulted in flooding in parts of Lower Shabelle which has resulted in some displacement in affected parts of the region. Nutrition surveillance

<sup>8</sup>Bacadweyn, Ceel Huur and Caad

data in 2006 indicates that acute malnutrition levels have remain relatively low in the majority of the sites and within the typical levels for the area. The fourth round of sentinel sites surveillance data collection was undertaken by FSAU in collaboration with COSV in December 2006 covering a total of 9 sites<sup>9</sup>. Analysis of the data indicates generally low levels of malnutrition (*see figure 3*); similar observations were made from health facilities data where the proportion of malnourished children screened monthly remained low. An improvement in dietary diversity was also noted across the sites with only Roboow reporting about 3% households having

consumed three or fewer food groups. However there was still a noted increasing trend of numbers of acutely malnourished children in five of the sites (Mukaidumis, Roobow, Golweyn, Kibilibi and Sablale sites) over the last 5 months, in some cases lower than the same time last year yet other cases higher. The proportion of children who were reported to have been sick two weeks prior to the screening continued to increase in all the sites, possibly contributing to the malnutrition levels observed. Malaria and diarrhoea were the most common diseases reported – this is in line with expected seasonal trends. However, in some parts this could be elevated due to the localised flooding.

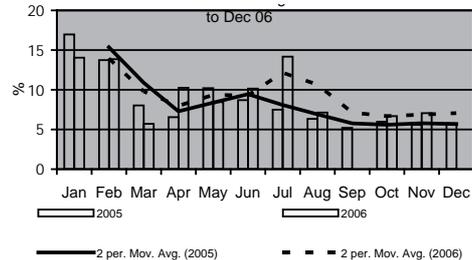
**Figure 3. Distribution of acutely malnourished children in the sentinel sites in Lower Shabelle Region**



### Health Information System (HIS – November 2006 Version) - Overview

The Health Information System (HIS) for Somalia is a software package designed to analyze key indicators to reflect the health situation (Nutrition, Morbidity, Safe Motherhood and EPI) for effective health planning. The system was developed by FAO, UNDP, UNICEF, WFP, and WHO in 2000. The consolidated health data summary, within the database at a central location, enables detection and documentation of health trends over time at health facility, district, regional and national levels. The HIS reports on monthly data collected from a minimum of 50 (up to 120 in some cases) health centres across the country depending on the indicator<sup>10</sup>. In mid 2006 the database was updated following a review with partners and this new system allows for more detailed analysis with additional indicators per sector.

**Figure 4: % total malnutrition in Hiran Region Jan '05 - Dec '06**



databases: FSAU (Nutrition), UNICEF (Safe Motherhood and EPI) and WHO (Morbidity). Training of health facility staff by these agencies is undertaken on routine basis to enhance data quality. The data is then used as a source of information for triangulation with other relevant data such as nutrition assessment or feeding centres statistics to provide an analysis of the nutrition situation. An example graph summary of Hiran Region generated from the HIS Nutrition data is illustrated in figure 4. The new updated HIS is currently being shared with partners through the Nutrition Working Group/Cluster Meeting structure with efforts to further enhance and develop this system planned for 2007.

The design of the HIS is such that data is collected monthly on the four key areas nutrition, morbidity, safe motherhood and EPI, from the standard registers in selected health facilities where primary health care is delivered. From there it is sent to intermediary level at either district or regional level and then to a central location. This data is then forwarded to key focal agencies in Nairobi who then update the central sector based

#### The FSAU 2007 Calendar

In the 2007 FSAU Nutrition and Food Security Calendar key messages are conveyed under four main themes as follows:



- 1) Micronutrients are essential for healthy and happy families
- 2) Food Processing, Preservation and Storage is essential for sustainable nutrition wellbeing and household food security
- 3) Women play key roles in Somali Livelihoods
- 4) Markets play a central role in food and livelihood security

Calendars are currently available directly from FSAU in Nairobi and will be soon available to download from our website.

#### Other related publications and Releases

- o FSAU/FEWSNET Market Data Update, December 2006;
- o FSAU/FEWSNET Climate Data Update, December 2006
- o FSAU Food Security and Nutrition Brief, December 2006

<sup>9</sup>Mukaidumis, Jeyrow, Roobow, Golweyn, Mungiiya, Kibilibi, Warer Maleh, Kunyo barrow and Sablale. <sup>10</sup> Nutrition data is collected from 113 health facilities.