FSAU
Food Security Analysis Unit - Somalia

NUTRITION UPDATE

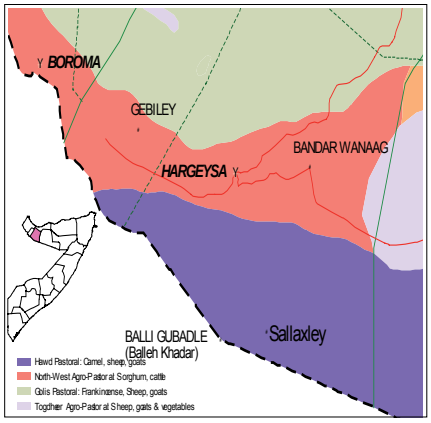
November 2006

OVERVIEW

- Preliminary findings from the Hawd of Hargeisa Nutrition Assessment conducted in November 2006 indicate typical levels of [1]global acute malnutrition (GAM) of 5.0-9.9%.
- The heavy flooding affecting parts of South and Central Somalia has caused some [2]destruction of assets, underground food stores and population displacement. As nutritional status is a late outcome indicator the effects are not immediate however there are concerns that it is likely to have a negative impact on nutritional status for the following reasons:
  - o Reduced access to therapeutic and supplementary feeding centres for malnourished children has been reported in some locations
  - o Reduced access to safe water and sanitation facilities. Many of the affected populations are at risk of consuming contaminated water and therefore prone to water bourne diarrhoeal diseases. A notable increase in diarrhoeal diseases has being reported at health centre level.
  - o Reduced access to supplies, both food and non food items (through purchase or humanitarian assistance) due to damaged roads;
- Regular emergency nutrition interventions are on-going predominantly in South and Central Regions with intensified efforts to provide outreach services to the flood affected communities. However access for the delivery and monitoring of humanitarian assistance in parts of Central and Southern regions is still being hampered by the ongoing insecurity, tensions and/or floods.
- Poor infant and child feeding practices continue to be identified as a major underlying cause for malnutrition throughout the country.
- With the development of the new [3]WHO child growth standards which are not yet rolled out in Somalia, preliminary analysis using datasets from recent nutrition surveys conducted in Somalia indicates that many more children will be identified as severely malnourished when using the new reference populations than with the current reference population.
- Iodine deficiency has been observed in some parts of the country, manifested by visible goitres. Two case studies are presented.

HAWD OF HARGEISA NUTRITION ASSESSMENT

The Hawd of Hargeisa is a pastoral livelihood zone located in Waqooyi Galbeed Region and was classified as chronically food insecure from the post Gu 2006 analysis. A joint nutrition assessment was conducted on November 11th to 19th 2006, (Mid *Deyr)* by the FSAU, MOHL, UNICEF, WFP and SRCS to determine the current nutrition situation and investigate the potential underlying causes. The standard two-stage cluster sampling methodology was used and a total of 945 children aged 6-59 months, measuring 65-109.9 cm, were assessed for nutritional status with 901 households for retrospective mortality rates (90 days).



Findings indicate a global acute malnutrition (GAM) of **8.1%** (C.I: 6.5-10.1) with [4]severe acute malnutrition of **1.9%** (CI: 1.2-3.1). These results indicate an alert nutrition situation (WHO classification) and are consistent with the long term estimates of GAM (5-10%) for the area. These results also indicate an improvement from the previous assessment conducted in December 2005 where a GAM of 11.4% was reported, although a [5]different methodology was applied; therefore a direct comparison is not feasible, however is useful for monitoring trends. Additional findings indicate that 5% of the women aged 15-49 years (N=481) were classified as moderately malnourished[6]. The retrospective crude mortality rate (CMR) was **0.33** (CI: 0.15-0.51) and under five mortality rate, **0.75** (CI: 0.21-1.28) deaths per 10,000/day both within acceptable limits (WHO and Sphere).

Morbidity levels are high with 29.4% of the assessed children reported to have suffered from at least one of the communicable childhood illnesses in two weeks prior to the study (one month for measles cases). Use of health facilities located in Salaxley and Balligubadle is limited, and only 18% of the reported sick children had done so . The main source of drinking water for the majority of the households (88.8%) was berkads. Faecal disposal into the bush was by 77.7% of the households.

[1]Global Acute Malnutrition (GAM) is measured as WHZ <-2 Z scores or oedema
[2]FSAU, SWALIM, FEWSNET, November 27th 2006 - see FSAU website for more flood details http:// www.fsausomali.org
[3]WHO Child Growth Standards2006

[4]Severe Acute Malnutrition (SAM) is measured as WHZ < -3 Z scores and/or oedema
[5]Purposive sampling of 106 Households (219 children) in 9 selected villages in the same district as December 2006
[6]MUAC < 23.0 cm for pregnant and MUAC < 18.5 cm for the non pregnant women

Indicator	No	% (95% CI)
Total number of children assessed	945	100
Global Acute Malnutrition (WHZ<-2 or oedema)	77	8.1 (6.5-10.1)
Severe Acute Malnutrition (WHZ<-3 or oedema)	18	1.9 (1.2-3.1)
Oedema	0	0
Proportion of malnourished women (N=481)	24	5 (2.7-8.8)
Proportion of breastfeeding children aged 6–24 months (N=344)	128	37.2 (32.1 – 42.6)
Children introduced to solid food before the age of 6 months (n=324)	271	78.8
Children reporting a communicable illness in the 2 wks prior to the assessment: Any illness	277	29.3 (26.4-32.3)
Diarrhoea	149	15.8 (13.5- 18.3)
ARI	162	17.1 (14.0 – 19.7)
Febrile illness	7	0.7 (0.3 – 1.6)
Suspected measles in preceding 1 month prior (N=896)	7	0.8 (0.3 – 1.7)
Children (9-59 months) immunised against measles (N=896)	309	34.5 (31.4 – 37.7)
Children who have ever received polio vaccine (N=945)	922	97.6 (96.3 – 98.4)
Children who received Vitamin A supplements in last 6 months	342	36.2 (33.1 – 39.4)
Households consuming ≥4 Food groups (N=475)	440	92.6 (89.8 – 94.7)
Households using open wells/berkads as the main source water	422	88.8 (85.5 – 91.5)
Proportion of households who used the bush for faecal disposal	369	77.7 (73.6 – -81.3)
Under five Mortality Rate (U5MR) as deaths/10,000/ day	0.75 (0.21-1.28)	
Crude Mortality Rate (CMR) as deaths/10,000/ day	0.33 (0.15-0.51)	

With the exception of Polio immunization (**97.6%),** following a very recent campaign**,** the coverage of the other health programmes (vitamin A supplementation, measles vaccination) was far below the recommended 95% coverage (Sphere 2004). Additional findings are provided in the table above.

Mitigating factors include good dietary diversity with 92.6% of the households reported to have consumed meals from four or more food groups, (mainly cereal, milk, sugar and oil) in the preceding 24 hours to the assessment. Access to milk was attributed to increased milk production and availability with the current good *Deyr* 2006 rains. Over 95% of the assessed households reported to have consumed milk in the preceding 24 hours to the assessment. Formal support through the 'humanitarian interventions were also reported to have enhanced dietary diversity in about 8% of the assessed households.

Analysis of findings indicates that morbidity and poor child feeding practices are major aggravating factors to the alert nutrition situation. Morbidity was significantly associated with malnutrition with children reported to have been ill being one and half times more likely to be malnourished than those who were not sick (p=0.05). Particularly, ARI (p=0.0006) and suspected malaria/febrile illness (p=0.000) were associated with malnutrition.

The high incidence of diarrhoeal diseases (15.8%), potentially attributed to consumption of contaminated water may also be a contributory. Sub-optimal child feeding practices is evident with only 37.2% of the children aged 6-24 months being breastfed at the time of the assessment and only 6.1% of the children fed for the recommended five times in a day and this may have negatively impacted on the nutrition situation. Qualitative information indicates concerning feeding practices of giving children water/ sugar solution immediately after birth, and introduction of complementary foods to infants after their first month of life as common. This predisposes children to a risk of diarrhoea and ultimately a vulnerability to malnutrition early in life.

Recommendations include enhanced health care services to cover rural areas, increased access to safe water for consumption, nutrition education to enhance appropriate infant and child feeding practices and long term approaches to sanitation facilities.

FLOODING and NUTRITION

The heavy flooding that has affected parts of South and Central Somalia, and Hiran region in particular, has caused some destruction of assets including stored foods (underground stores) as well as population displacement. **Current figures report that up to [7]450,000 people have been affected in one way or another** and that this number could still rise depending on how the situation evolves with the densely populated riverine areas being most affected. The floods present an additional shock to this population that had recently suffered the impact of drought. Serious (GAM 10%-14.9%) to critical (GAM> 15%) levels of acute malnutrition had been recorded prior to the flood in some of these areas and there are concerns that the nutrition situation may deteriorate in certain areas as a result of increased diarrhoea and reduced access to food in the short term. However there are also likely to be positive impacts of the floods which will be seen in the longer term.

On-going interventions to mitigate the situation include enhancing the existing post-drought nutrition responses which include selective feeding activities. In addition there are efforts by NGO and the UN to ensure the supply of safe water in locations such as Bellet Weyne in Hiran Region, the Shabelle's and in Juba through water trucking, hygiene promotion and chlorination of water at household level. Efforts to deliver nutrition supplies (fortified blended foods) to the displaced and vulnerable populations and the tracing of the displaced populations continue. Increased logistical support has been called for to facilitate rapid needs assessment and efficient supply delivery. Increasing access to flood affected communities remains a challenge with agencies planning to utilise boats for increased outreach. As part of the planned Post Deyr Assessment to be conducted in late December 2006, efforts will be made to assess the nutritional status of communities affected by the flood using rapid assessment techniques and reported on in future updates.

[7]FSAU, FEWSNET, SWALIM estimates Dec 06

CURRENT EMERGENCY NUTRITION RESPONSE

Following the drought that characterized the South and Central regions of Somalia in late 2005/ early 2006 and the increased levels of [8]malnutrition recorded, humanitarian agencies increased the emergency nutrition activities. The critical levels of malnutrition were mainly associated with poor dietary intake, high disease incidences and poor maternal and child care practices, most of which are attributed to other underlying factors like food insecurity, inadequate health services and poor sanitation. Based on the population estimates and the levels of acute malnutrition (weight-height percentage of median indicator) recorded, an estimated [9]47,000 children were identified to be in need of nutrition rehabilitation and were therefore targeted by the selective feeding programme in Bay, Bakool, Gedo and Middle and Lower Juba Regions. Efforts to address the underlying causes of malnutrition have also been made through an integrated nutrition response approach.

To date [10]34 supplementary feeding programmes, 5 therapeutic feeding programmes and 40 outpatient therapeutic care centres (Community based therapeutic feeding care centre) have been established in Bay, Bakool, Gedo and Middle Juba Regions. Since January approximately 16,000 severely and moderately malnourished children have been rehabilitated. Of note are the performance indicators which continue to achieve Sphere standards for recovery, death and defaulter which indicate programme quality. Considering the recurrent shocks that Somalia experiences which are manifested by chronic levels of high acute malnutrition and the cultural issues that undermine the population's nutritional wellbeing, improving community resilience was deemed necessary to be integrated with emergency nutrition responses by the nutrition working group for Somalia. The selective feeding programme activities are therefore complemented by parallel livelihood and food security programmes (e.g. bee keeping and seeds provision targeting households with malnourished children in Bakool as well as kitchen garden promotion), water, sanitation and hygiene promotion (e.g. provision of soap and hygiene messages), improved public health promotion and food aid activities (where necessary). Promotion of increased micronutrient intake through dietary diversity and micronutrient provision during routine nutrition programmes and accelerated campaigns (e.g. Vitamin A) was also undertaken. Food aid (inclusive of blended food) was provided to the regions with food shortages. Nutrition and health education were also emphasized.

Humanitarian assistance coverage has been hindered in parts of Juba Valley and Gedo Region by insecurity, lack of agencies with capacity to implement nutrition programmes, over-stretched capacity of the existing agencies implementing nutrition activities, poor infrastructure and limited funding. Capacity building of local NGO staff to implement nutrition interventions in the absence of internationals is on-going in parts. Increased funding, capacity building of local and INGO on appropriate emergency nutrition responses in emergency as well as parallel activities for more sustainable effort to address the underlying causes of malnutrition are recommended in order to meet the continuing needs.

[8]FSAU Food Security and Nutrition bulletin, Feb 2006
[9]Estimates from UNICEF, using <80% of the reference median wt/ht
[10]UNICEF Somalia

INFANT & CHILD FEEDING PRACTICES

International health bodies including WHO and UNICEF recommend exclusive breastfeeding as the optimum feeding practice for infants in the first six months of life. Thereafter infants should receive complementary foods with continued breastfeeding up to 2 years of age or beyond. To enable mothers establish and sustain exclusive breastfeeding for 6 months, WHO and UNICEF recommend:

- Initiation of breastfeeding within the first hour of life,
- Exclusive breastfeeding – that is the infant only receives breast milk without any additional food or drink, not even water,
- Breastfeeding on demand – that is as often as the child wants, day and night and no use of bottles, teats or pacifiers.
- Moreover, it is recommended that infants start receiving timely, adequate, safe and appropriate complementary food at 6 months of age in addition to breast milk.

The FSAU has analysed data on infant and child feeding practices, from 13 nutrition assessments conducted in the past 3 years. Findings indicate that **breast-feeding duration for most children lasts for 12 or less months**; In only about **two thirds of the cases are children breastfed on demand** and the rest breastfed 4 or less times a day; **Complimentary feeding begins early** with water given mostly at birth. Moreover, most children are given **animal milk** –predominantly camel or goat milk **before they are one month** old. For most children, solid foods like rice or *canjera* are introduced at the age of 6-12 months. Main foods given to infants (0 – 2 years) are goat milk, Canjera or rice mixed with sugar and oil/butter and porridge (flour, sugar and oil). The **frequency of complementary feeding is mostly four times** or less in a day.

The breastfeeding practices fall far below the standard recommendation exclusive 6 months of breastfeeding. Moreover, complementary feeding is initiated very early in life with high protein animal milk and cereal-based fluid. This may have health implications including risks of infections, and over-taxing of under-developed digestive tract and the young kidneys of the child which are not fully developed to deal with the protein in animal milk. Both the frequencies and onset of breast and complimentary feeding are suggestive of a community that is poor in terms of access to food and information. A country wide Knowledge, Attitudes and Practice (KAP) assessment on infant and child feeding (breast and complimentary) is therefore necessary to identify information gaps, training and advocacy needs. What is clear is that more information on the attitudes of women towards breastfeeding and the obstacles to breastfeeding and improved child feeding practices such as work load and out of home activities for women need to be better understood. In addition a season-based assessment on the local foods available and how they can be improved to meet the dietary needs of young children is necessary. Efforts to address these information gaps will be made in 2007 by FSAU.

NEW GROWTH CURVES

Over the years, the NCHS 1977 population reference (constituted in Epi 6 and Nutrisurvey softwares) has been used as the global standard for examining child growth and nutritional status when analysing nutrition survey data. The NCHS 1997 reference population was drawn from measurements on children from the US, who were mostly bottle fed infants. Research on child growth has since indicated differences in growth patterns of breast-fed and bottle-fed children. In the WHO 2006 Child Growth Standards, this issue has been addressed with a study on 8440 healthy breastfed infants and young children from diverse ethnic backgrounds, Brazil, Ghana, India, Norway, Oman and USA.

The FSAU Nutrition Project has conducted a preliminary comparative analysis of data sets from eight assessments conducted in 2006 using both the NCHS 1977 and WHO 2006 population references. Findings indicate that, for most assessments, the prevalence rates for global acute malnutrition (GAM) based on weight for height z score (WHZ) are similar, while rates of severe acute malnutrition have shown an increase with the new reference population. FSAU is planning to conduct more detailed analysis on additional nutrition data sets from the assessment conducted over the last 6 years using both reference populations and will share the findings with partners. The plans for the roll of these new reference population growth curves for Somalia have not yet been outlined.

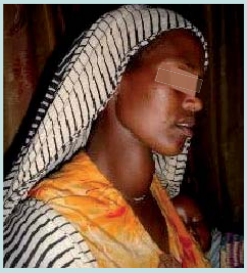
IODINE DEFICIENCY

Micronutrient deficiencies (also referred to as *hidden hunger*), particularly those of iron, iodine and vitamin A are of major public health significance which affects billions of people in the world, more so in developing countries and countries in emergency and transition. Although required by the body in minute quantities and primarily preventable, iodine deficiency still affects more than [11]1.65billion people worldwide with an estimated 1/3 of the population of the developing world not protected. Iodine deficiency is most common among the poor households, pregnant women and pre-school children and is prevalent in mountainous and lowland regions far from the ocean/sea that experience frequent flooding which depletes the soil of it's iodine content. Deficiency of iodine causes hypothyroidism, goitre and if severe during pregnancy cretinism characterized by retardation in physical and mental development of the foetus. Only sea foods, iodized food (such as salt or foods prepared with iodised salt) and cereals grown in soil rich in iodine provide sufficient iodine for body functions. In Somalia, data on the prevalence of iodine deficiency and the availability and use of iodized salt is scanty. The salt consumed is either locally extracted (crude salt) from evaporated sea brine or imported. However, even the imported salt is not certified as iodized given the lack of a bureau to certify food standards. A factory established in Bossasso to pilot production of iodized salt in 2004 collapsed as a result of the lack of investment interest. The recent (August-September, 2006) MICS assessment by UNICEF included salt testing to determine levels of iodization in salt consumed by households with the results expected in the very near future. Tragically for so many people, treatment of complications associated with Iodine deficiency is rare due to lack of highly of appropriate resources in Somalia. The case studies below have been conducted by FSAU's Nutrition Analysts and indicate that prevalence of goitre is of major concern requiring further analysis and attention.

Case Study 1*: Rashid Mohamoud, Hariirad, Awdal Region

Rashid, a ten year old boy suffers from multiple ailments and complications including goitre, night-blindness, scabies and anorexia (see photo). He is currently not on any treatment for these complications as his family, returnees from Ethiopia, are unable to raise sufficient funds for specialized treatment. In addition, he has been identified as suffering from acute malnutrition (MUAC <12.5cm) and is not enrolled in school. The typical diet for Rashid and his family comprises of anjera (Somali pancake), tea, rice, oil and onions with sauce. Local salt (rock extracts) is added to foods to improve the taste. On some days, the family skips meals due to lack of food. Mohamoud, Rashid's father, attributes his inability to seek medical attention for Rashid, to poverty and destitution.

Case Study 2*: Nimo Mursal, Huddur Town



Nimo (29), is married, has had six live births and lost three children. Nimo has a visible goitre and is concerned that the gland continues to enlarge. She also suffers from constant heart pain, headache, fatigue, dizziness and visual problems and sometimes, poor appetite, difficulty in breathing and swallowing. Nimo and her family's typical diet comprise of Somali ugali, anjera, oil and vegetables to which she adds local salt. Iodized salt or oil is not available in Bakool region while sea food is expensive and beyond her reach. Four months ago, Nimo was misinformed that intake of excessive quantities of the local salt would reduce her problem, and though she has tried it, her condition has worsened. Nimo's efforts to access treatment from a health facility in Huddur town have been unsuccessful as the facility does not provide such specialized treatment for her goitre, and she was referred to Mogadishu. Unfortunately, she has no money to cover neither the trip nor medical expenses. Nimo receives emotional support from four other women in Huddur town, with similar complications, and hope that 'help will come one day.'

**Real names not used to conceal identity*

FSAU recommends more detailed analysis into the prevalence of IDD in Somalia and encourages efforts to address this condition both in the short term and long term through both curative and preventative measure.

Other related publications and Releases

- o FSAU/FEWSNET Market Data Update, November 2006.
- o FSAU/FEWSNET Climate Data Update, November 2006

[8]The Micronutrient Initiative

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