Nutrition Information in Crisis Situations

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Highlights

ETHIOPIA—DROUGHT CONTRIBUTES TO WORSENING FOOD INSECURITY—Over 12 million people are currently classified as food insecure in Ethiopia, with those in the Somali and Oromia regions the most affected. Compounding the problem, drought has caused significant crop and livestock losses.

KENYA—MAIZE STOCKS INADEQUATE—A shortfall in maize production has led to a sharp increase in the average market price, further compromising food security for many poor Kenyan families. As a result, the WFP has more than doubled the number of beneficiaries in its programs. The long rain season has begun, although results have been varied so far, and crop forecasts are mixed.

SOMALIA—SURGE OF VIOLENCE IN MOGADISHU LEADS TO MASSIVE POPULATION MOVEMENT—Hundreds of civilians have been killed and tens of thousands have been displaced in the most recent clashes in the capital. Commerce has been disrupted throughout the country, compromising an already fragile food security situation. Piracy is also of concern and is playing an important role in rising market prices. This year's *Gu* rains have been inconsistent, provoking fears of a failed harvest in many regions. In Puntland and Somaliland, a drought has already been officially declared.

SUDAN—750,000 PEOPLE IN DARFUR IN NEED OF ASSISTANCE—Negotiations are under way with the Government to allow aid agencies expulsed from the country in March 2009 to resume their activities in Darfur. Nutrition surveys revealed high rates of malnutrition in many parts of Darfur, highlighting the need for immediate emergency assistance.

DRC—INSECURITY PERSISTS IN EASTERN CONGO—The FDLR continue to attack and burn villages in North and South Kivu. As of early June, an estimated 930,000 people in North Kivu and another 120,000 in South Kivu had fled their homes. The population is increasingly food insecure as a result of the conflict. Rates of severe malnutrition were found to be elevated in several surveys carried out in the provinces of Bandundu, Orientale and Kasaï Orientale.

ZIMBABWE—CHOLERA EPIDEMIC LARGELY UNDER CONTROL—The number of new cholera cases has stabilized and fewer deaths are being reported. The total number of cases reported as of May 31st was 98,429, with 4,276 deaths.

BURUNDI—FOOD SECURITY BECOMING INCREASINGLY PROBLEMATIC —Important progress in the Comprehensive Ceasefire Agreement between the government and the Forces Nationales de Libération (FNL) has been made in recent months. Over 95,000 refugees were repatriated from Tanzania in 2008 and another 60,000 are expected in the coming months. The government and partners are working to reintegrate returnees, with special efforts being made to negotiate land sharing deals for those whose land has been appropriated. Food insecurity is becoming increasingly problematic, particularly in some of the country's Northern provinces.

Risk Factors affecting Nutrition in Selected Situations

Situations in the table below are classed into five categories relating to prevalence and or risk of malnutrition (I—very high risk/prevalence, II—high risk/prevalence, III—moderate risk/ prevalence, IV—not at elevated risk/prevalence, V-unknown risk/prevalence; for further explanation see section "Indicators and classification" at the end of the report).
The prevalence/risk is indirectly affected by both the underlying causes of malnutrition, relating to food security, public health environment and social environment, and the constraints limiting humanitarian response. These categories are summations of the causes of malnutrition and the humanitarian response, but should not be used in isolation to prescribe the necessary response.

	Somalia Hiran Agro-patoral livelihood zone	**Sudan** Kassala State, North Sudan	**Guinea** Youmou prefecture	**Ethiopia** Shashego woreda, Hadiya zone, SNNPR	**Nepal** Jajarkot district, Bheri zone
Nutritional risk category	I	I/II	IV	III	III
Households' livelihoods	☹	☹	😐	☹	😐
External assistance	☹	😐	😐	😐	😐
Availability of water and access to potable drinking water	☹	😐	?	☹	☺
Health care	☹	😐	😐	😐	😐
Sanitation	☹	☹	?	☹	☹
Social environment	😐	?	?	?	😐
Child feeding practices	☹	😐	?	😐	😐
Accessibility to population	☹	😐	☺	☺	☺
Resources for humanitarian intervention	😐	😐	😐	😐	😐
Availability of information	😐	☺	☺	☺	☺

☺ Adequate 😐 Mixed ☹ Inadequate

Greater Horn of Africa

Ethiopia

Going into the June-September hunger period, many parts of Ethiopia are highly food insecure, most notably in the Somali and Oromia regions. Some 12.5 million people are in need of assistance and this number could increase in the coming months as a result of the poor *belg/gu* season (FEWS, 05/09). In addition, clan conflict in the south has led to the displacement of approximately 200,000 people.

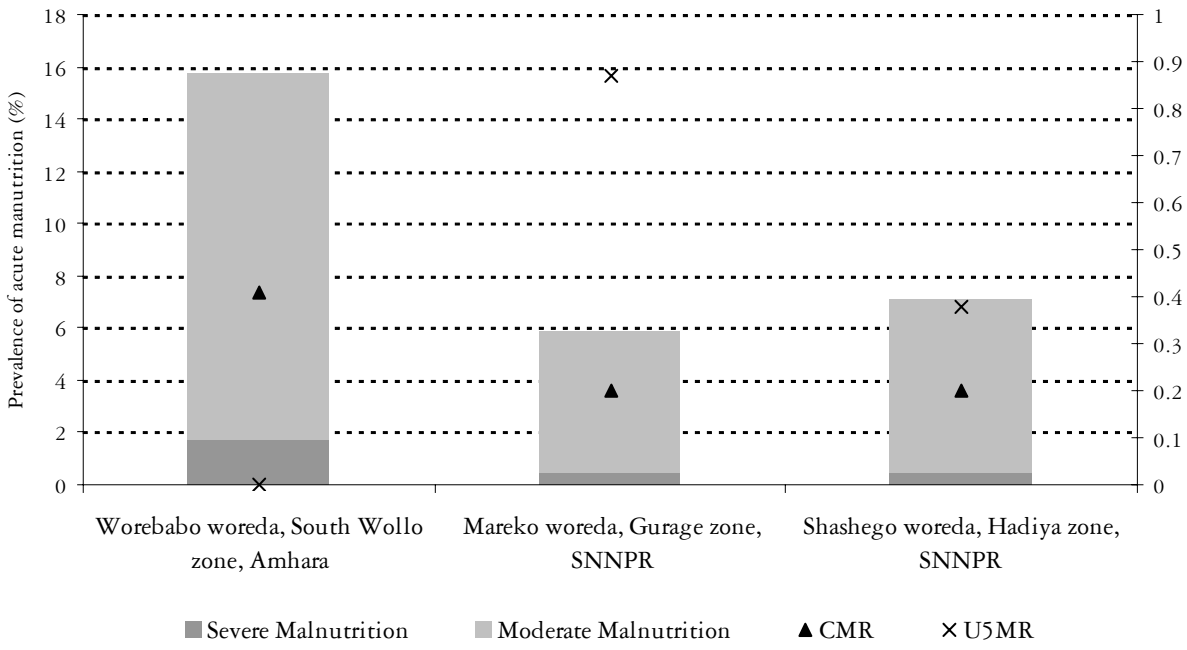
Nearly a third of those requiring emergency food assistance are living in the Somali region. Recurrent drought has decimated livestock, further reducing sources of both income and food. An inadequate *belg* crop, coupled with poor coffee yields, is contributing to a worsening situation in SNNPR. Malaria outbreaks have also been reported and in combination with heightened food insecurity, a rise in feeding center admissions has been noted (FEWS, 05/09).

The WFP has been experiencing pipeline problems since June 2008 and some areas reliant on food aid are receiving only partial rations, often as much as three months late. A break in the national relief pipeline is expected in June 2009. Failing the arrival of additional assistance, the overall food security situation is likely to deteriorate even further.

Rates of malnutrition vary

Concern carried out three nutrition surveys between September and November 2008. The

FIGURE I RESULTS OF NUTRITION SURVEYS (CONCERN 09-11/08)



first, in the South Wollo zone of Amhara region revealed a rate of acute malnutrition of 15.7% (C.I. 11.4-20.0), just above emergency levels (Concern, 09/08). Severe malnutrition and mortality rates were all within the acceptable range (figure 1).

The other surveys were both conducted in the SNNPR, where the nutrition situation was found to be worrisome (Concern, 10/08, 11/08). Again, severe malnutrition and mortality rates were below emergency levels (figure 1).

Kenya

This year's long rain season has started off well in the Rift Valley highlands and in the west, around Lake Victoria where crop production is expected to be satisfactory. On the other hand, rains have been poor so far in the Southeastern and Coastal Marginal agricultural lowlands, as well as in large parts of the agro-pastoral and pastoral livelihood zones. Several years of inadequate rains, including the most recent short-rains season, have left these areas highly vulnerable to food insecurity. In addition, increased competition for scarce grazing resources is likely to trigger conflict in pastoral zones (FEWS, 05/09).

Maize is in short supply throughout the country and, as a result, prices have risen by as much as 180% in some areas. The Ministry of Agriculture has estimated that it needs 9 million bags of maize to meet needs until the next harvest at the end of August 2009. As of May 29th, they reported a stock of only 6.5 million bags, although the long rains season harvest is expected to contribute another 1 million bags (OCHA, 11/06/09).

The WFP has been ramping up its activities and has increased its caseload from 1.2 million people in 17 districts to 2.6 million beneficiaries in 26 districts. However, due to funding shortfalls, the scale-up has been slow to get underway. A cereal deficit also forced a reduction in rations in May 2009 and the WFP announced that current stocks are only enough to last until this August (OCHA, 11/06/09).

Overall, as many as one million people in the marginal agricultural districts are thought to be highly food insecure, while in the coastal districts the estimate is roughly 300,000. As families continue to struggle with deteriorating conditions, their coping strategies are increasingly insufficient to meet their needs, as evidenced by rising rates of child malnutrition.

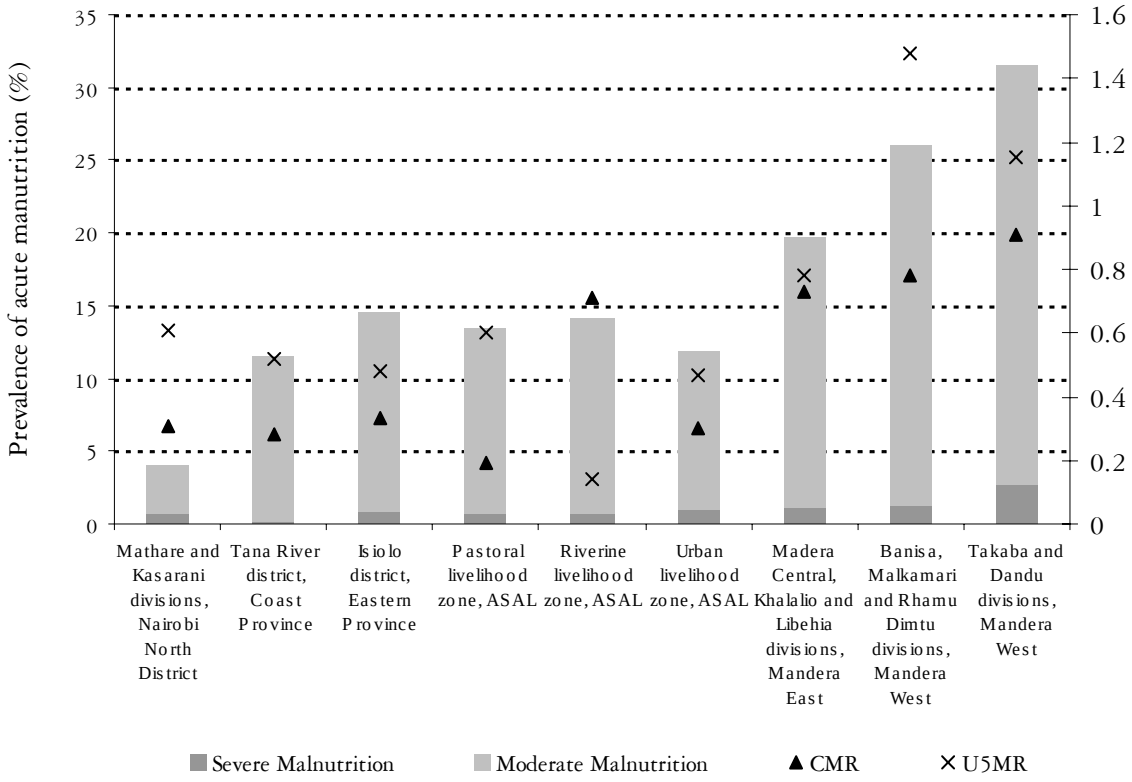
Prevalence of malnutrition generally high

A total of nine surveys were carried out by AAH-US/ACF-I between November 2008 and March 2009, with rates of acute malnutrition ranging from 4.1-31.5% (figure 2).

A survey conducted in the Mathare slum of Nairobi found a rate of acute malnutrition of 4.1% (C.I. 2.7-5.5). Severe malnutrition and mortality rates were similarly low (AAH, 11/08). The situation was found to be serious in a series of surveys done among the three livelihood zones of the arid and semi-arid region (ACF-I, 12/08).

Three surveys performed in the districts of Mandera revealed critical levels of acute malnutrition (AAH-US, 04/09). In the Takaba and Dandu divisions, the prevalence of severe malnutrition was found to be elevated at 2.6 (C.I. 1.3-3.9), although mortality rates were all well below emergency thresholds. Explanations for the high rates include poor diet diversity and inadequate access to safe water.

FIGURE 2 RESULTS OF NUTRITION SURVEYS
(AAH-US, 11-08, 01-03/09; ACF-I, 12-08)



Somalia

Renewed fighting between government forces and opposition forces in Mogadishu has led to major population displacement. As of June 5th, the UNHCR estimated that up to 91,000 people had fled the capital (see map). Approximately half of the displaced have gone to the Afgoye corridor, while the rest are still in or along the periphery of the city (FEWS, 05/09). Hundreds have been killed in the recent conflict, with many more wounded, nearly all civilians. In addition, commercial activities have been interrupted, leading to disruptions across the country.

There is also some indication that troop mobilization is occurring along the Somalia/ Ethiopia border and in parts of Central Somalia. Should new fighting erupt, the trade route from the port of Bossaso to the Central and Southern regions will be severely hampered. This area is also host to large numbers of IDP camps and could provoke another wave of population movement (FEWS, 05/09).

Persistent food insecurity

The food security situation in the IDP camps, parts of Gedo and Bakool and particularly in the Central regions, is particularly worrisome. Inflation continues to be of concern, in part because of piracy. Large sums of ransom money are being funnelled into the local economy and driving up the cost of imports, which are both contributing to rising market prices.

This year's *Gu* rains started on time, but so far, have been inconsistent. Parts of the Shabelles, Bay and Bakool regions have received

adequate rainfall. However, rains have been late and insufficient in many of the main pastoral regions, and both Puntland and Somaliland have already officially declared a drought. It is likely that the August harvest will fail in Sool, Nugal, Mudug, Galgadud, Togdher and most of Bari. Furthermore, early rains in localized pastoral regions have attracted herders from drier areas, sparking conflicts and damaging fragile grazing lands.

At the moment, three million people require emergency humanitarian assistance; however, this number could rise in the coming months should the political situation continue to degrade.

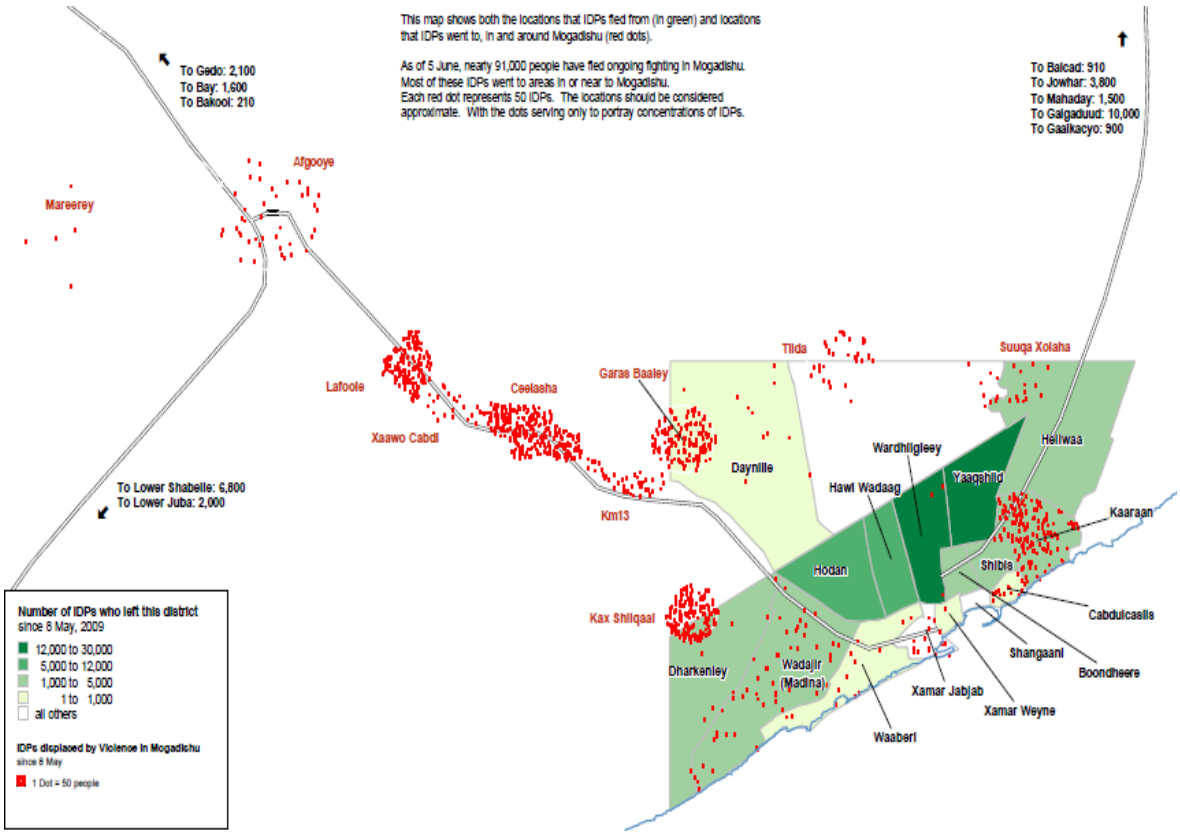
Sustained critical rates of acute malnutrition

A total of twenty nutrition surveys were performed by FSAU and partners in the period covered, with rates of malnutrition above emergency levels in fourteen of the surveys (figure 3, table 1).

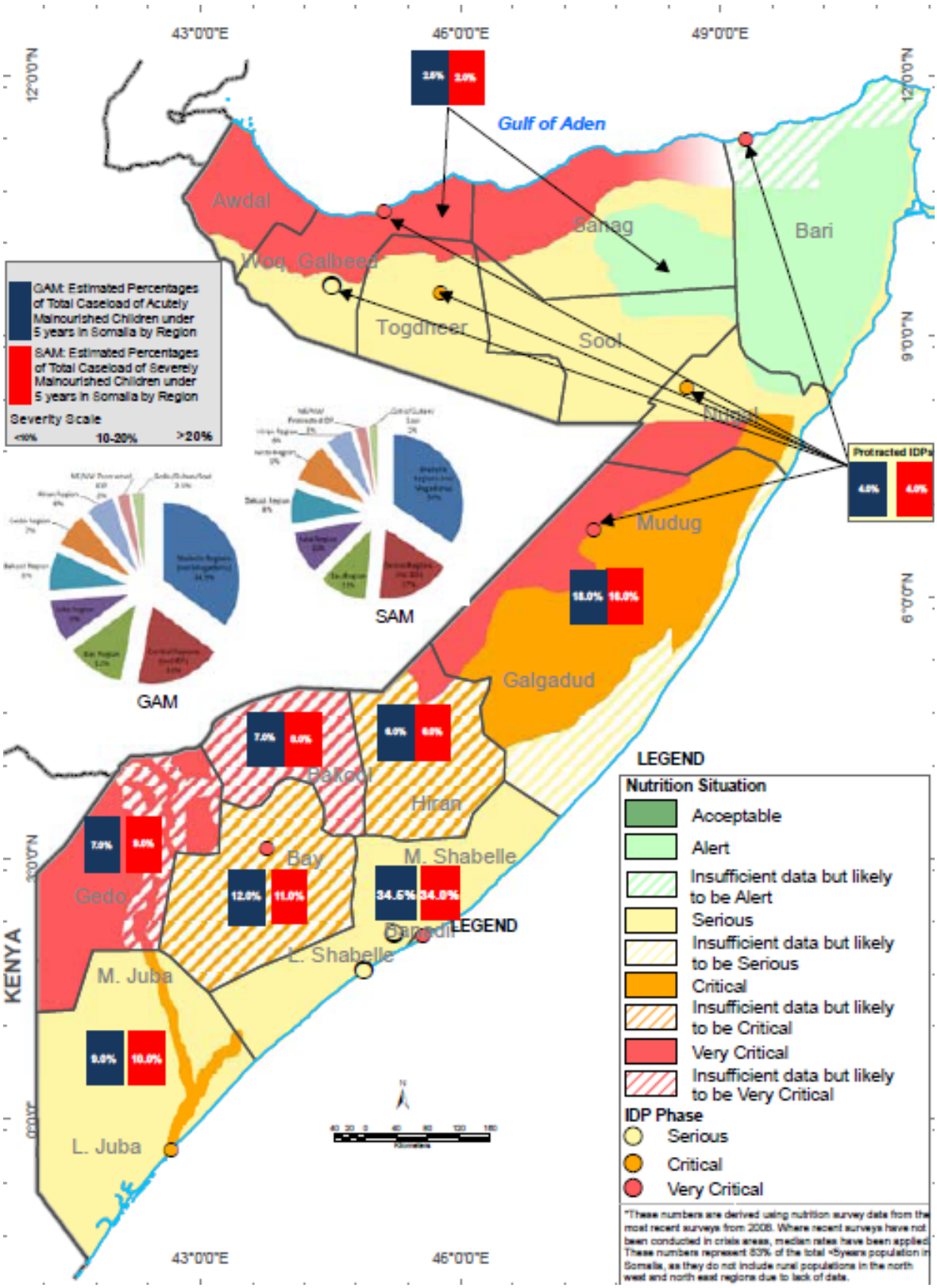
Findings from the three surveys carried out in the Lower and Middle Shabelle regions in November 2008 indicate that the nutrition situation, while serious, has slightly improved since the last assessment in May 2008 (FSAU, 02/09). It seems likely that ongoing humanitarian assistance, along with a satisfactory off-season harvest and increased access to fresh foods, has helped to ameliorate overall conditions in the region.

Similar surveys done in the Central region

Population movements from May 8th to June 5th 2009, Somalia (UNHCR 05/06/09)



SOMALIA INTEGRATED PHASE CLASSIFICATION MAP:
Distribution of estimated caseloads of acutely malnourished children, January '09 (FSAU, 04/09)



show rates of acute malnutrition above emergency cut-offs. Compared to previous surveys, those carried out in November 2008 indicate the situation in Addun is more-or-less stable, but that it has gotten worse in Hawd (FSAU, 02/09). Both areas are suffering from persistent drought conditions and are host to large IDP communities. Furthermore, security conditions are such that aid organizations have had to suspend important nutrition programs.

A very critical nutrition situation was found across all livelihood zones in the Gedo region in surveys performed in December 2008 (FSAU, 02/09). Several years of poor harvests, along with rising costs, have resulted in a drop in food availability for many families. Ongoing civil unrest has also made it difficult for aid agencies to provide services.

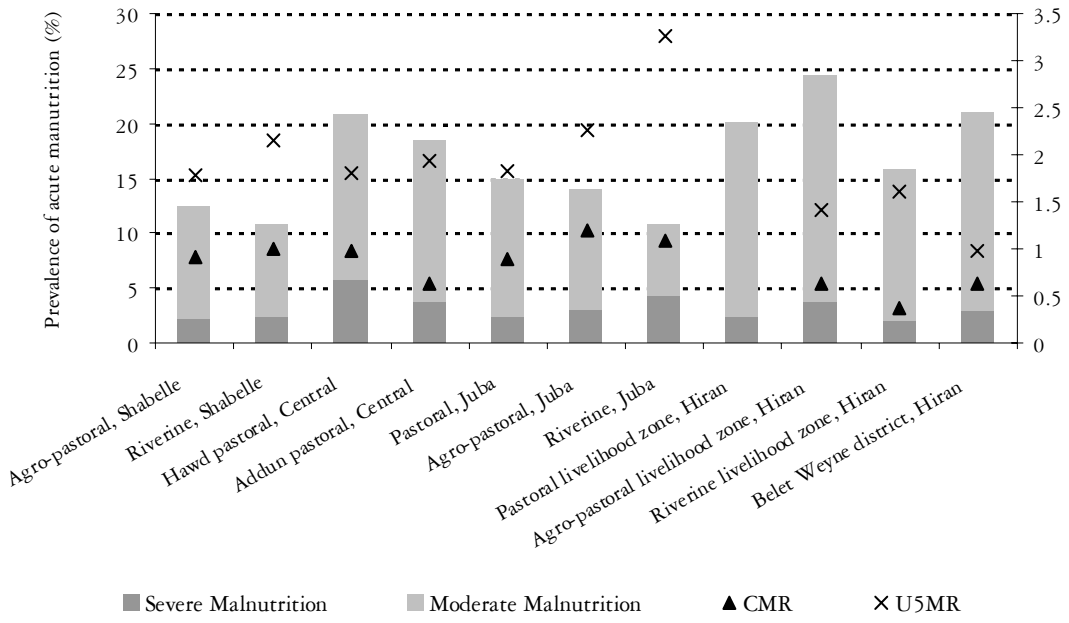
Results for nutrition surveys carried out in the Juba regions in December 2008 reveal a serious situation (FSAU, 02/09). It should be pointed out that, while the prevalence of acute malnutrition does not exceed the emergency threshold in any of the surveys, rates of severe malnutrition were found to be quite high. In the riverine livelihood zone, 1.8% of cases were suffering from oedema and the U5MR rate was 3.27/10,000/day (C.I. 1.97-5.39).

Data from the series of surveys completed in the Hiran region in April 2009 indicate that the situation has gotten worse since the last round of surveys carried out in June 2008 (FSAU, 04/09). The prevalence of acute malnutrition was found to be very critical in all four of the surveys, and severe malnutrition rates were also all elevated.

IDPs

Follow-up surveys among the IDP populations of Bassaso and Garowe in October 2008 show that the prevalence of acute malnutrition is well above emergency levels and demonstrates

Figure 3 Results of Nutrition Surveys, Somalia, 2008-2009
(FSAU/Joint, 02/09; FSAU/Joint, 04/09)



a significant deterioration as compared to past assessments (FSAU, 02/09). Rates of severe malnutrition were excessively high among both of the surveyed groups (table 1).

A final set of surveys was performed in the Somaliland IDP settlements of Hargesia, Burao and Berbera (FSAU, 04/09). Compared to similar surveys from September 2007, the situation is serious, but stable in Hargesia, and has deteriorated in Burao and Berbera (figure 1).

Overall

Persistent political instability and outbreaks of violence, coupled with ongoing drought conditions, have left the civilian population increasingly vulnerable to food insecurity and malnutrition. Humanitarian actors are unable to fully carry out activities in many areas at a time when even more people are in need of assistance.

Table 1 Results of Nutrition and mortality surveys, IDP populations (FSAU/Joint, 02/09; FSAU/Joint, 04/09)

Survey Area	Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Oedema (%)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
NORTHWEST AND NORTHEAST REGIONS					
Bossasso	27.9 (24.3-31.9)	7.6 (5.3-10.8)	0.9	1.04 (0.63-1.72)	3.05 (1.08-5.12)
Garowe	17.4 (exhaustive)	4.4 (exhaustive)	0.3	-	-
SOMALILAND					
Hargesia	10-15% (Pr=0.96)*	1-2% (Pr=0.77)*	0.3	-	-
Burao	18.8 (exhaustive)	3.0 (exhaustive)	0.5	0.29 (0.14-0.59)	0.55 (0.19-1.60)
Berbera	17.9 (exhaustive)	1.7 (exhaustive)	-	0.58 (0.33-1.02)	0.99 (0.42-2.29)

*LQA methodology

Sudan

Darfur

Insecurity in the region continues to hinder humanitarian activities. UN partners, along with remaining aid agencies, are attempting to fill the gap after the expulsion of multiple NGOs in March 2009. The FAO estimates that nearly 750,000 people in Darfur have been left without assistance as a result of the expulsions (UN, 28/05/09). Negotiations that would allow some of the NGOs to resume work in Darfur are under way with the Government of Sudan.

Ten surveys were cleared for publication in the period covered, with rates of malnutrition ranging from worrisome to critical (UNICEF, 03/09). The prevalence of severe malnutrition was variable and mortality rates were all within the acceptable range (figure 4). It should be noted that all of the surveys were conducted well before the interruption to nutrition programs and food distributions and may not fully represent the current situation.

South Sudan

An estimated 700,000 people are considered food insecure in South Sudan. The north-western and eastern parts of the region are primarily affected and those most vulnerable include the chronically food insecure, returnees, refugees and those living in conflict zones (FEWS, 05/09). As the hunger season has just begun, the number of those affected could rise by as much as 10-30% in the coming months and continue until after the main harvest in October.

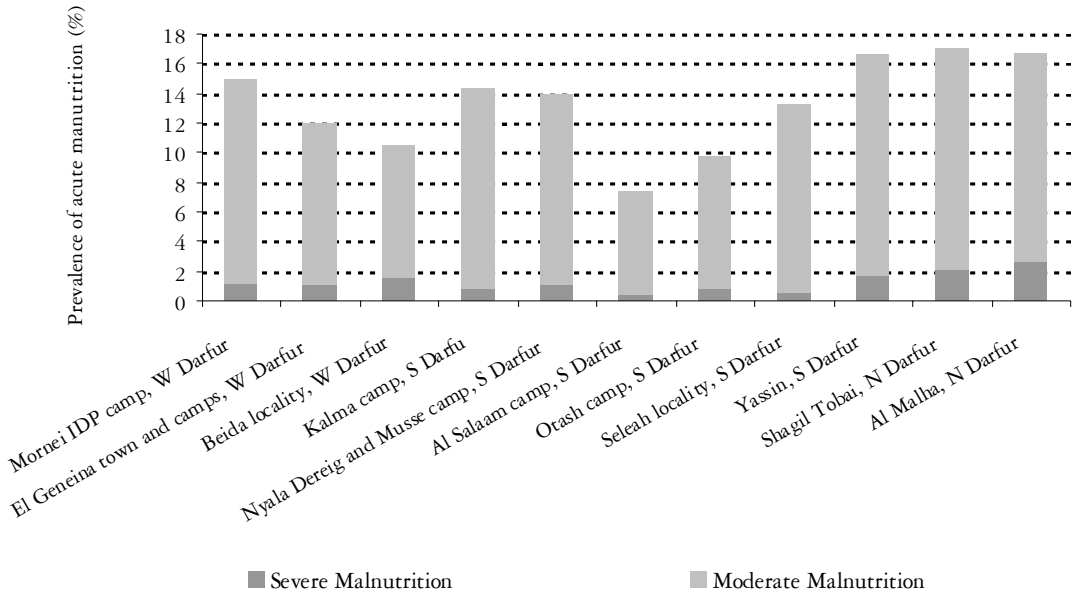
The rainy season began on time in April in most zones, but was followed by a dry spell in May. It remains to be seen how crops will be affected.

Inter-clan conflict over cattle continues to be a problem in many areas, most especially in the Eastern floodplains livelihood zone. In the last several months, up to 20,000 people have been displaced from Waat, Wuror, Akobo, Nyirol and areas further north. An attack in Pibor county in March 2009 left over 400 dead and retaliatory raids provoked widespread displacement. Conflict between rival Nuer clans re-escalated in May, prompting the GoSS and UNMIS to send in security forces.

Several nutrition surveys carried out in Upper Nile and Warrap states by AAH-US showed critical situations, with rates of acute malnutrition all over 20% (table 2). The prevalence of severe malnutrition was especially high at 3.1% (C.I. 1.7-4.5) in the Southern zone of Malakal county survey. Measles vaccination rates were below recommended levels in all of the surveys.

A final survey was performed in Northern Barhr el Ghazal state just after the harvest and, following the seasonal trend, showed a serious, but improved situation as compared to a simi-

Figure 4 Results of Nutrition and mortality surveys (Concern, 07-08/08; UNICEF, 03/09)



lar survey done in April 2008 (Concern, 11/08; table 2). Further analysis of the data indicates that the nutritional status of children in Aweil West county is significantly better than those in Aweil North county.

North Sudan

GOAL conducted a follow-up survey in the region of Kassala, including IDP and resident populations. The results showed a critical, but stable, situation and were very similar to the last survey carried out in November 2007 (GOAL, 11/08). The prevalence of acute malnutrition was 18.5% (C.I. 14.3-23.5), including 1.9% (C.I. 1.1-3.4) severe acute malnutrition.

Table 2 Results of Nutrition and mortality surveys (Concern, 11/08; AAH-US, 11/08; AAH-US, 01/09)

Survey Area	Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Oedema (%)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
NORTHERN BARHR EL GHAZAL STATE					
Aweil West and North Counties	12.3 (10.3-14.6)	2.0 (1.2-3.2)	0.2	0.30	0.35
UPPER NILE STATE					
Melut County	20.4 (17.2-23.6)	1.8 (0.7-2.9)	0.0	0.80 (0.41-1.19)	0.23 (0.0-0.59)
Southern zone of Malakal county	27.2 (24.3-30.1)	3.1 (1.7-4.5)	0.0	0.28 (0.04-0.52)	0.72 (0.03-1.42)
WARRAP STATE					
Gorgol West County	20.1 (17.4-22.8)	2.4 (1.2-3.5)	0.0	0.27 (0.05-0.50)	0.26 (0.0-0.63)

West Africa

Guinea

The current political situation in Guinea is fragile. Since the death of former president Lansana Conté and the rise to power of the National Council for Democracy and Development (CNDD) by military coup in December 2008, the country has continued to suffer in the face of economic decline.

The new president, Moussa Dadis Camara, has since launched a new campaign against drug trafficking, the production of counterfeit medication and former government officials accused of corruption. In a recent report, Human Rights Watch details abuses by government soldiers in the implementation of the crackdown, including widespread robbery, searches without warrants and several cases of rape (HRW, 27/04/09). The military disputes most of the charges, claiming that those committing the crimes are posing as soldiers, perhaps as a way to discredit the new government.

An estimated 53% of the population is living on just one dollar per day and as inflation continues to push prices higher, people are increasingly vulnerable to food insecurity (ACH-S, 11/08).

ACH-S recently conducted two random-sampled nutrition surveys in Guinea (ACH-S, 11/08). The first, in the capital Conakry, showed the prevalence of acute malnutrition to be worrisome. The second, carried out in Yomou prefecture, found the nutrition situation to be acceptable (table 3). Severe malnutrition and mortality rates were well below emergency levels, but measles vaccination rates were quite low in both of the surveyed populations. Respondents in both surveys stated that the current economic crisis was having an effect on their eating patterns and in Yomou prefecture, 68% of households said that not having enough food was their primary concern.

Table 3 Results of Nutrition Surveys, Guinea, 11/08 (ACH-S, 11/08)

Survey Area	Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
Conakry city	6.8 (5.0-8.6)	0.5 (0.0-0.9)	0.6 (0.41-0.94)	1.38 (0.34-2.42)
Yomou prefecture	4.3 (3.1-5.9)	0.6 (0.3-1.4)	0.5 (0.28-0.72)	1.0 (0.16-1.83)

Mali

The overall 2009 food security outlook is considered good for much of the country. The main exception to this is in the north-east part of the Kidal region, where attacks by Tuareg bandits are responsible for local population displacements and disruption of trade routes (FEWS, 05/09).

Although higher than the five-year average, grain prices are stabilizing. Most of the markets are well-supplied and the majority of households are able to purchase adequate stocks to meet their needs. The hunger season is now at its peak and preparations are now underway for the planting season (FEWS, 05/09).

ACH-S conducted a nutrition and KAP survey in the northern region of Gao in November 2008. Although severe malnutrition and retrospective mortality rates were within acceptable ranges, the prevalence of acute malnutrition was near emergency levels at 14.9% (ACH-S, 11/08; table 4). This represents a decrease in both malnutrition and mortality since the last survey carried out in November 2006.

The KAP survey targeted women with children under the age of three and included data on breastfeeding and weaning, along with feeding and general hygiene practices. Findings on breastfeeding and weaning showed there was general improvement since the last survey in April 2007. Specifically, more infants are being given solid and semi-solid foods at the appropriate time. However, on-demand breastfeeding rates were quite low and the frequency of breastfeeding was lower than in previous studies. It was also found that over 80% of women get their water from safe water sources, as compared to only 38% in 2007.

Table 4 Results of Nutrition Survey, Gounzoureye and Sony Aliber communes, Gao region, Mali (ACH-S, 11/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
14.9 (11.8-18.1)	0.9 (0.0-1.7)	0.35 (0.13-0.58)	0.60 (0.09-1.12)

Central Africa

Burundi

Important progress in the Comprehensive Ceasefire Agreement between the government and the Forces Nationales de Libération (FNL) has been made in recent months. Following a summit in early December 2008, the FNL changed its name in order to comply with Burundian law and has taken action towards disarmament, both necessary steps in the process to becoming a registered political party. The government, for its part, has reopened the Gitega demobilization center for former child soldiers and begun negotiations for the integration of FNL members into its defense and security forces. President Pierre Nkurunziza has also stated he will release remaining FNL prisoners, and that he will keep 33 civil service posts open for senior FNL members (UNSC, 05/09).

Refugees

According to the UN, over 95,000 refugees were repatriated from Tanzania in 2008 and another 60,000 are expected in the coming months (UNSC, 05/09). The government and partners are working to reintegrate returnees, with special efforts being made to negotiate land sharing deals for those whose land has been appropriated. To this effect, some landless returnees are being settled in newly created villages. Three such villages have been formed so far in Southern Burundi and planning is underway for as many as eleven more in provinces that border Tanzania.

Food insecurity is becoming increasingly problematic, particularly in some of the country's Northern provinces. Several years of drought have led to chronic food shortages, and in November 2008, acute food shortages led to the displacement of nearly 1,400 households. In response, the government, UN agencies and several NGOs implemented both food security and nutrition programs.

MSF-B reopened its nutrition program in Kirundo province in February 2009 and carried out a random sampled nutrition survey shortly after. The prevalence of acute malnutrition was found to be 9.3% (C.I. 6.7-12.0), including 4.0% (2.2-5.7) severe acute malnutrition (MSF-B, 03/09). Even more worrisome is that 3.3% of the severe cases presented with oedema. The rate of under-five mortality was well above the emergency cut-off (table 4).

Table 4 Results of Nutrition Survey, Kirundo Province, Burundi, March 2009
(MSF-B, 03/09)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Oedema (%)	Under 5 Mortality (/10,000/day) (95% CI)
9.3 (6.7-12.0)	4.0 (2.2-5.7)	3.3	4.5 (2.1-6.9)

Democratic Republic of Congo

Security remains volatile

The security situation in Eastern Congo remains tense as the Forces Démocratiques pour la Libération du Rwanda (FDLR) continue to attack civilians and humanitarian staff. As a result, government troops, along with MONUC reinforcements, have expanded operations against the FDLR in South Kivu. The ongoing violence has spurred further civilian displacement throughout the region, with an estimated 930,000 IDPs in North Kivu and another 120,000 in South Kivu (USAID, 04/06/09). It should be noted that these figures also include some long-term IDPs.

The protracted crisis in Eastern Congo is con-

tributing to a worsening food security situation. Insecurity has blocked access to land, thus preventing local crop production, while persistent looting has depleted family food stocks. There have also been reports that government troops are occupying homes and confiscating food from families in South Kivu. The WFP and partners have increased food aid to those affected by the conflict, including emergency air drops to some of the most isolated areas.

In addition to the violence, cholera continues to be a problem, most notably in South Kivu. A total of 3,071 cases and 26 deaths (Case Fatality Rate: 0.8%) have been reported since the beginning of the year. Just over 1,800 cases have been identified in North Kivu (WHO, 01/06/09).

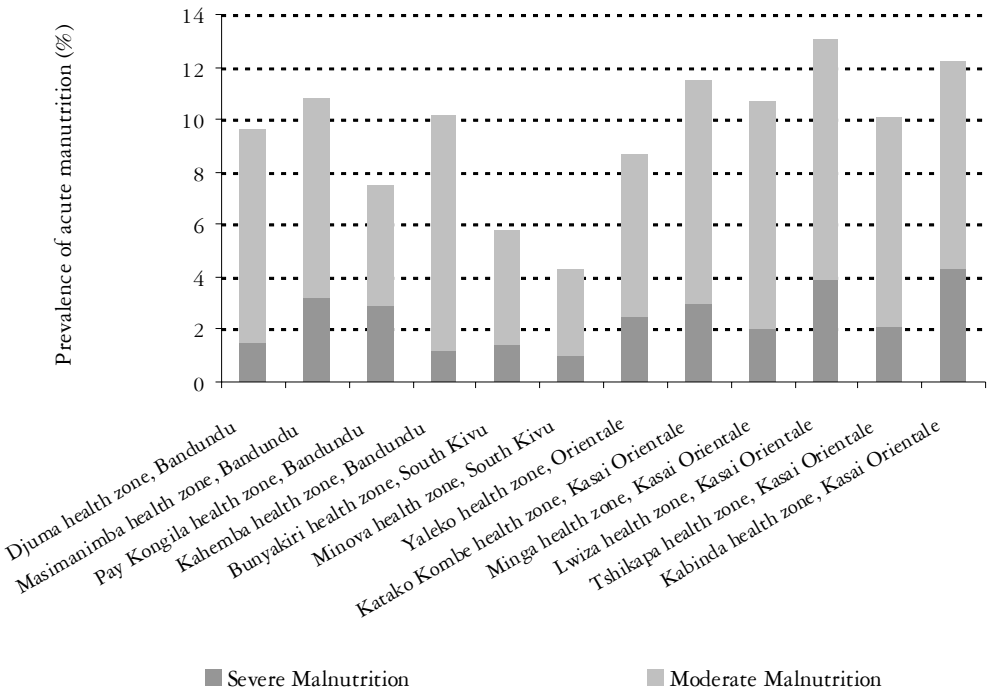
High rates of severe malnutrition

AAH-US carried out a total of twelve random sampled surveys in DRC in the period covered, including four in Bandundu, two in South Kivu, one in Orientale province and five in Kasaï Orientale province.

The overall nutrition situation in Bandundu ranged from worrisome to serious, with the prevalence of malnutrition ranging from 7.5% to 10.8% (figure 7). Of greater concern are the high rates of severe malnutrition in two of the surveys: 3.2% (C.I. 1.7-4.7) in Masimanimba and 2.9% (C.I. 1.7-4.1) in Pay Kongila. The proportion of oedema cases was also somewhat high in both surveys, at 2.3% and 1.2% respectively (AAH-US, 10/08; AAH-US, 12/08).

Despite security concerns, rates of acute malnutrition in the surveyed areas of South Kivu were largely acceptable (figure 7). Severe malnutrition and mortality were also found to be under control (AAH-US, 12/08; AAH-US,

Figure 7 Prevalence of acute malnutrition
(ACF-F, 07-09/08)



03/09).

In Kasaï Orientale province, the nutrition situation was identified as serious (AAH-US, 10/08; AAH-US, 11/08; AAH-US, 01/09). Even more troubling however, is that the prevalence of severe malnutrition was at or above 2% in all five surveys (figure 7).

The final survey was carried out by AAH-US in the Yaleko health zone of Orientale province in August 2008 (AAH-US, 08/08). While the prevalence of acute malnutrition was below emergency levels, it should be pointed out that the rate of severe malnutrition was high (figure 7).

Southern Africa

Zimbabwe

While this year's combined cereal harvest was much better than the last, the national cereal deficit is still estimated at nearly 700,000MT. The government, along with international partners, is looking at ways to cover the gap. Through its Safety Net programs, the WFP registered approximately 550,000 beneficiaries in May and is expecting to add even more in the next few months. In addition, a revision to the 2009 Consolidated Appeal Process (CAP) was added, increasing the amount requested by US$168 million, most of which is to be directed to emergency humanitarian programs (OCHA, 05/09).

Food security conditions have generally improved throughout the country due to the satisfactory harvest and the continued arrival of imported goods. As a result, markets are well-stocked and prices for most items have been decreasing over the past few months. Despite the downward trend, most commodities are still too expensive for the majority of the population, especially those who are living in urban settings and rely heavily on purchased goods. For example, civil servants started receiving a US$100 stipend in February 2009, but according to the Consumer Council of Zimbabwe (CCZ), this amount is only enough to cover 23% of the basic family basket (FEWS, 05/09).

Number of cholera cases has stabilized

The number of new cases and deaths has slowed considerably and the outbreak is now believed to be under control. Overall, 55 of the country's 62 districts have been affected by the epidemic that began in August 2008. As of May 31, 2009, a total of 98,429 cases had been reported, with 4,276 deaths (OCHA, 05/09). The cumulative Case Fatality Rate (CFR) stands at 4.3%.

Matabeleland North and South provinces have not reported any new cases in the last 8 weeks, and Bulawayo reported its last new case over a month ago. Most remaining new cases are from Harare, Manicaland and Masvingo provinces. Despite a slow in the number of new cases, vigilance remains high throughout the country and major efforts are being made to improve water and sanitation conditions before the onset of this year's rainy season.

KAP survey in Manicaland

Goal carried out a baseline KAPB survey in the Makoni district of Manicaland in November 2008. The survey used a cluster sampling methodology and gathered information on water and sanitation, child feeding practices, vaccination rates, school attendance and food security (GOAL, 11/08).

Selected results from Manicaland KAP survey:

(GOAL, 11/08)

WASH

Average daily consumption of water (liters per person per day) : 5.7
HHs using 10 liters or less per person per day (%) : 88.1
HHs using protected water source, wet season (%) : 83.0
HHs who treat their water before drinking (%) : 3.3
HHs using undesignated open area for defecation (%) : 34.8
HHs using latrine/designated area for defecation (%) : 62.4

FOOD SECURITY

HHs with own production (cash or food crops) as main source of income (%) : 41.1
HHs with food as main monthly expenditure (%) : 76.2
HHs with private production as main food source (%) : 22.2
HHs with food aid as main food source (%) : 21.1

CHILD HEALTH

Children 6-59 months who received Vitamin A in the past 6 months-recall and card (%) : 88.8
Children 9-59 months vaccinated against measles-recall and card (%) : 93.8

CHILD FEEDING

Children <24 months put to the breast within the first hour of life (%) : 72.9
Infants <6 months exclusively breastfed, 24hrs before survey (%) : 43.8
Infants 6-8.9 months receiving complementary foods, 24hrs prior to survey (%) : 86.7

Asia

Nepal

Nepal is ranked 138th out of 177 countries on the Human Development Index, making it one of the world's less-developed countries. Given its diverse population and the difficult access to those living in rural areas, large health and economic disparities exist.

As an ongoing part of the Community Based Management of Acute Malnutrition (CMAM) pilot project, Concern carried out a nutrition survey in Jajarkot district in December 2008. Jajarkot is one of the 15 districts of the Mid-Western Development region, Bheri zone, and is one of the least developed districts in Nepal.

The survey revealed a serious nutrition situation, although rates of acute malnutrition were lower than those found in other regions during similar CMAM surveys (Concern, 12/08; table 5). However, this survey was carried out in December, which is considered to be the most food secure month of the year, so direct comparison to other survey results is not possible.

Poor dietary diversification, as well as inadequate child care and feeding practices, were

Table 5 Results of a nutrition Survey, Jajarkot District, Bheri zone, Nepal December 2008 (Concern, 12/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
9.1 (6.7-11.4)	2.0 (0.5-3.5)	-	-

Results of surveys

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
GREATER HORN OF AFRICA **ETHIOPIA**										
Worebabo woreda, South Wollo zone, Amhara	Sept-08	Residents	113,027	Concern	15.7 *15.9[1]*	11.4-20.0 *11.9-19.9*	1.7 *2.9[1]*	0.6-2.9 *1.1-4.6*	0.2	MUAC < 11 cm: 1.6 MUAC<12.5 cm: 17.4
Mareko woreda, Gurage zone, SNNPR	Oct-08	Residents	75,347	Concern	5.9	3.3-8.5	0.5	0.0-0.9	0.0	MUAC < 11 cm: 0.0 MUAC<12.5 cm: 11.5
Shashego woreda, Hadiya zone, SNNPR	Nov-08	Residents	134,296	Concern	7.1 *7.3[1]*	5.2-9.5 *5.4-9.8*	0.5 *0.6[1]*	0.1-1.4 *0.2-1.6*	0.0	MUAC < 11 cm: 0.2 MUAC<12.5 cm: 8.7
KENYA										
Mathare and Kasarani division, Nairobi North district	Nov-08	Residents	443,000	AAH-US	4.1 *3.9[1]*	2.7-5.5 *2.5-5.2*	0.7 *0.5[1]*	0.0-1.4 *0.0-1.2*	0.5	MUAC < 11 cm: 0.3 MUAC<12.0 cm: 1.6
Tana River district, Coast province	Nov-08	Residents	142,077	AAH-US	11.5 *12.1[1]*	8.9-14.1 *9.5-14.7*	0.1 *1.3[1]*	0.0-0.4 *0.4-2.1*	0.0	MUAC < 11 cm: 0.0 MUAC<12.0 cm: 1.1
Isiolo district, Eastern Province	Nov-08	Residents	-	AAH-US	14.5 *14.9[1]*	11.9-17.1 *12.7-17.3*	0.8 *1.7[1]*	0.3-1.4 *0.8-2.5*	0.0	MUAC < 11 cm: 0.1 MUAC<12.0 cm: 1.1

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1]According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

NOTE: see the end of the report for guidance in interpretation of indicators

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
21.2	94.9	-	42.5	MUAC < 21.0 cm (non-pregnant): 18.6 MUAC < 21.0 cm (pregnant): 7.0	0.41	0.14-0.68	0.00	0.00-0.00
7.3	84.3	-	84.6	-	0.20	0.00-0.40	0.87	0.03-1.78
23.0	77.2	-	76.5	MUAC < 21.0 cm (pregnant): 0.0 MUAC < 21.0 cm (lactating): 5.9	0.20	0.02-0.38	0.38	0.00-0.99
47.3	90.4	-	-	-	0.31	0.18-0.45	0.61	0.23-1.00
-	-	-	-	-	0.28	0.07-0.49	0.52	0.02-1.02
-	-	-	-	-	0.33	0.18-0.48	0.48	0.04-0.92

[#] Measles vaccination coverage for children aged 9-59 months

Results of surveys

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]	Severe Acute Malnutrition** (%) (95% CI)[§]	Oedema (%)	MUAC[#] (%)
KENYA								
Arid and Semi-Arid Region (ASAL)								
Pastoral livelihood zone	Dec-08	Residents	-	ACF-I	13.5 11.1-15.9 *15.5[1] 12.7-18.4*	0.7 0.2-1.3 *1.5[1] 0.6-2.4*	0.1	MUAC < 11 cm: 0.0 MUAC<12.0 cm: 0.4
Riverine livelihood zone	Dec-08	Residents	-	ACF-I	14.1 11.5-16.8 *13.7[1] 10.8-16.7*	0.7 0.1-1.3 *1.6[1] 0.6-2.7*	0.0	MUAC < 11 cm: 0.4 MUAC<12.0 cm: 1.0
Urban livelihood zone	Dec-08	Residents	-	ACF-I	11.9 9.4-14.5 *12.6[1] 9.8-15.4*	1.0 0.2-1.8 *1.6[1] 0.7-2.5*	0.0	MUAC < 11 cm: 0.1 MUAC<12.0 cm: 1.2
Mandera Central, Khalalio, and Libehia divisions, Mandera East district	Jan-09	Residents	65,294	AAH-US	19.8 16.2-23.4 *20.5[1] 16.6-24.4*	1.1 0.4-1.9 *2.8[1] 1.4-4.1*	0.3	MUAC < 11 cm: 0.0 MUAC<12.0 cm: 1.4
Banisa, Malkamari and Rhamu Dimtu divisions, Mandera West district	Feb-09	Residents	72,848	AAH-US	26.0 21.7-30.3 *26.2[1] 21.5-30.8*	1.2 0.3-2.1 *4.2[1] 2.6-5.8*	0.0	MUAC < 11 cm: 0.1 MUAC<12.0 cm: 1.1
Takaba and Dandu divisions, Mandera West district	Mar-09	Residents	30,138	AAH-US	31.5 27.0-35.9 *32.3[1] 28.2-36.4*	2.6 1.3-3.9 *5.7[1] 3.5-7.8*	0.0	MUAC < 11 cm: 0.6 MUAC<12.0 cm: 3.9

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1]According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

Continued...

Measles immunisation coverage (%)[#]		Assessment of micronutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
25.5	82.9	-	-	-	0.19	0.02-0.35	0.60	0.01-1.19
40.3	89.8	-	-	-	0.71	0.42-1.01	0.14	0.0-0.42
51.3	88.3	-	-	-	0.30	0.11-0.50	0.47	0.07-1.87
29.2	92.6	-	50.1	-	0.73	0.38-1.09	0.78	0.11-1.44
12.1	72.9	-	23.4	-	0.78	0.45-1.12	1.48	0.74-2.22
15.0	65.6	-	30.0	-	0.91	0.6-1.22	1.15	0.51-1.78

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)§		Severe Acute Malnutrition** (%) (95% CI)§		Oedema (%)	MUAC# (%)
SOMALIA										
Northwest and Northeast Regions										
Bossasso IDPs	Nov-08	Displaced	-	FSNAU/ Joint[1]	27.9 *28.9[2]*	24.3-31.9 *25.5-32.6*	7.6 *14.0[2]*	5.3-10.8 *10.9-17.7*	0.9	-
Garowe IDPs	Nov-08	Displaced	-	FSNAU/ Joint[1]	17.4	exhaustive	4.4	exhaustive	0.3	-
Shabelle Regions										
Agro-pastoral livelihood zone	Nov-08	Residents	-	FSAU/ Joint[1]	12.5 *13.1[2]*	10.6-14.6 *10.7-15.8*	2.2 *4.4[2]*	1.3-3.6 *3.1-6.2*	0.4	MUAC<12.5 cm: 6.8
Riverine livelihood zone	Nov-08	Residents	-	FSAU/ Joint[1]	10.8 *10.7[2]*	8.6-13.5 *8.4-13.4*	2.5 *3.3[2]*	1.4-4.4 *2.2-4.9*	1.1	MUAC<12.5 cm: 9.4
Merka/ Afgoye IDPs	Nov-08	Displaced	-	FSAU/ Joint[1]	12.3 *12.4[2]*	9.7-15.5 *9.4-16.3*	2.8 *5.2[2]*	1.7-4.8 *3.3-8.2*	1.0	MUAC<12.5 cm: 9.7
Central Regions										
Hawd pastoral livelihood zone	Nov-08	Residents	-	FSNAU/ Joint[1]	20.8 *21.8[2]*	14.9-26.8 *18.9-24.0*	5.8 *7.0[2]*	3.2-8.4 *5.2-8.9*	0.5	MUAC<12.5 cm: 8.5
Addun pastoral livelihood zone	Nov-08	Residents	-	FSNAU/ Joint[1]	18.4 *18.8[2]*	12.7-24.2 *15.7-21.0*	3.8 *6.1[2]*	2.0-5.4 *4.2-8.1*	0.0	MUAC<12.5 cm: 3.9

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
§95% Confidence Interval; not mentioned if not available from the survey report
Mid Upper Arm Circumference
[1] From FSNAU Nutrition Update
[2] According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

Continued...

Measles immunisation coverage (%)[#]		Assessment of micronutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
-	67.3	-	53.1	MUAC < 23.0 cm (pregnant): 40.8	1.04	0.63-1.72	3.05	1.08-5.12
-	-	-	-	-	-	-	-	-
-	32.7	-	57.1	MUAC < 23.0 cm (pregnant): 13.2	0.91	0.16-1.34	1.78	1.05-2.98
-	52.7	-	51.1	MUAC < 23.0 cm (pregnant): 17.6	1.01	0.66-1.55	2.15	1.17-3.94
-	57.6	-	56.1	MUAC < 23.0 cm (pregnant): 16.7	0.70	0.37-1.34	1.69	0.90-3.17
-	15.7	-	44.6	-	0.98	0.58-1.45	1.80	0.87-3.60
-	23.8	-	46.1	-	0.63	0.32-1.26	1.94	0.88-4.26

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
SOMALIA										
Gedo Region										
Pastoral livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	25.4 *27.4[2]*	21.8-29.0 *23.7-31.6*	6.6 *10.8[2]*	4.8-8.7 *8.3-14.0*	0.3	MUAC<12.5 cm: 19.8
Agro-pastoral livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	>20%[3]	-	-	-	-	MUAC<12.5 cm: 13.0
Riverine livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	>20%[3]	-	-	-	-	-
Juba Region										
Pastoral livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	14.9 *15.0[2]*	11.2-19.4 *11.5-19.4*	2.4 *4.0[2]*	1.3-4.2 *2.6-6.2*	0.2	MUAC<12.5 cm: 11.9
Agro-pastoral livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	13.9 *14.3[2]*	8.3-19.5 *8.7-19.9*	2.9 *4.2[2]*	0.5-5.4 *1.1-11.3*	0.5	MUAC<12.5 cm: 23.0
Riverine livelihood zone	Dec-08	Residents	-	FSAU/ Joint[1]	10.9 *12.8[2]*	8.8-13.5 *9.3-17.4*	4.2 5.3[2]	2.9-6.0 3.3-8.5	1.8	MUAC<12.5 cm: 19.1

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§] 95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1] From FSNAU Nutrition Update
[2] According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)
[3] According to Lot Quality Assurance (LQAs) survey methodology

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
-	63.4	-	47.3	MUAC < 23.0 cm (pregnant): 30.1	0.69	0.34-1.37	1.15	0.33-3.88
-	20.4	-	25.4	MUAC < 23.0 cm (pregnant): 32.0	0.69	0.39-2.20	0.99	0.44-3.60
-	74.2	-	74.2	-	-	-	-	-
-	44.0	-	42.9	MUAC < 23.0 cm (pregnant): 28.0	0.90	0.51-1.58	1.82	1.1-3.01
-	53.4	-	47.5	MUAC < 23.0 cm (pregnant): 31.4	1.19	0.83-1.75	2.27	1.5-3.45
-	71.4	-	60.2	MUAC < 23.0 cm (pregnant): 37.5	1.08	0.68-1.71	3.27	1.97-5.39

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
SOMALIA										
Hiran										
Pastoral livelihood zone	Apr-09	Residents	-	FSNAU/ Joint[1]	*20.2[2]*	*14.0-26.4*	2.5 *4.5[2]*	0.4-4.7 *1.5-7.6*	0.5	MUAC < 11 cm: 1.5 MUAC<12.5 cm: 6.1
Agro-pastoral livelihood zone	Apr-09	Residents	-	FSNAU/ Joint[1]	24.5 *25.5[2]*	18.3-30.8 *19.7-31.2*	3.7 *8.1[2]*	1.4-5.9 *5.6-10.6*	0.6	MUAC < 11 cm: 1.0 MUAC<12.5 cm: 8.7
Riverine livelihood zone	Apr-09	Residents	-	FSNAU/ Joint[1]	15.9 *16.9[2]*	11.3-20.6 *11.5-22.2*	2.0 *4.6[2]*	0.7-3.3 *2.7-6.5*	0.7	MUAC < 11 cm: 1.5 MUAC<12.5 cm: 10.7
Belet Weyne district	Apr-09	Residents	144,345	FSNAU/ Joint[1]	21.0 *21.2[2]*	16.1-25.9 *16.3-26.0*	2.9 *6.2[2]*	1.4-4.5 *3.7-8.7*	0.3	MUAC < 11 cm: 1.9 MUAC<12.5 cm: 9.3
Somaliland										
Hargesia IDP Population	Apr-09	Displaced	-	FSAU/ Joint[1]	10-15%[3]	Pr=0.96	1-2%	Pr=0.77	0.3	-
Burao IDP population	Apr-09	Displaced	-	FSAU/ Joint[1]	18.8 *20.5[2]*	Exhaus-tive	3.0 *4.9[2]*	Exhaus-tive	0.5	MUAC < 11 cm: 1.2 MUAC<12.5 cm: 9.7
Berbera IDP population	Apr-09	Displaced	-	FSAU/ Joint[1]	17.9 *18.3[2]*	Exhaus-tive	1.7 *3.3[2]*	Exhaus-tive		MUAC < 11 cm: 1.0 MUAC<12.5 cm: 13.1

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§] 95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1] From FSNAU Nutrition Update
[2] According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)
[3] According to Lot Quality Assurance (LQAs) survey methodology

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
-	10.2	-	12.6	MUAC < 23.0 cm (pregnant): 22.7	-	-	-	-
-	18.8	-	19.3	MUAC < 23.0 cm (pregnant): 26.1	0.64	0.45-0.90	1.41	0.76-2.61
-	29.1	-	27.4	MUAC < 23.0 cm (pregnant): 16.9	0.36	0.14-0.95	1.61	0.58-4.45
-	24.2	-	23.8	MUAC < 23.0 cm (pregnant): 16.0	0.64	0.40-1.93	0.97	0.48-1.93
-	69.3	-	67.7	-	-	-	-	-
-	73.5	-	59.9	MUAC < 23.0 cm (pregnant): 25.0	0.29	0.14-0.59	0.55	0.19-1.60
-	48.7	-	83.1	MUAC < 23.0 cm (pregnant): 14.8	0.58	0.33-1.02	0.99	0.42-2.29

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
SUDAN										
West Darfur										
Mornei IDP camp	Jul-08	Displaced	78,812	Concern	14.9	11.8-18.6	1.1	0.4-2.7	0.1	MUAC < 11 cm: 0.5 MUAC<12.5 cm: 7.7
El Geneina town and camps	Aug-08	Residents / Displaced	-	Concern	12.0	9.3-15.5	1.1	0.4-2.6	0.2	MUAC < 11 cm: 0.6 MUAC<12.5 cm: 4.4
Beida locality	Dec-08	Residents	70,000	Tearfund[1]	10.5	8.0-13.8	1.6	0.7-3.3	0.4	MUAC < 11 cm: 0.0 MUAC<12.5 cm: 3.4
South Darfur										
Kalma IDP camp	Sep-08	Displaced	-	ACF-F[1]	14.4	11.4-18.0	0.8	0.2-2.3	-	-
Nyala-Dereig and Musse camp	Sep-08	Displaced	-	ACF-F[1]	14.0	11.1-17.6	1.1	0.4-2.7	-	-
Al Salaam camp	Nov-08	Displaced	-	ACF-F[1]	7.4	5.3-10.3	0.4	0.0-1.7	-	-
Otash camp	Dec-08	Displaced	-	ACF-F[1]	9.8	7.3-12.9	0.8	0.2-2.3	-	-
Seleah locality	Nov-08	Residents	-	Merlin[1]	13.3	10.6-15.9	0.6	0.1-1.2	-	-
Yassin	Dec-08	Residents	-	Merlin[1]	16.6	13.8-19.4	1.7	0.9-2.4	-	-

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1] From Darfur Nutrition Update

Continued...

Measles immunisation coverage (%)[#]		Assessment of micronutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
54.0	82.4	-	98.1	-	0.33	-	0.74	-
36.8	80.5	-	98.8	-	0.50	-	0.69	-
63.6	88.8	-	93.5	-	0.49	0.14-0.84	0.34	0.27-1.06
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
SUDAN										
North Darfur										
Shangil Tobai	Nov-08	Residents	-	MoH/ Unicef[2]	17.0	14.6-19.8	2.1	1.3-3.4	-	-
Al Malha	Dec-08	Residents	-	MoH/ Unicef[2]	16.7	14.1-19.6	2.6	1.6-4.1	-	-
North Sudan										
Kassala State	Nov-08	Residents / Displaced	59,974	GOAL	18.5 *19.7[1]*	14.3-23.5 *15.8-24.4*	1.9 *4.6[1]*	1.1-3.4 *3.0-6.9*	0.0	MUAC < 11 cm: 1.0 MUAC<12.5 cm: 4.2
Northern Barhr el Ghazal State										
Aweil West and North counties	Nov-08	Residents / Displaced	-	Concern	12.3 *13.2[1]*	10.3-14.6 *11.2-15.6*	2.0 *2.9[1]*	1.2-3.2 *2.0-4.3*	0.2	MUAC < 11 cm: 0.3 MUAC<12.5 cm: 6.0
Upper Nile State										
Melut County	Nov-08	Residents / Displaced	38,019	AAH-US	20.4 *18.8[1]*	17.2-23.6 *15.3-22.2*	1.8 *2.3[1]*	0.7-2.9 *1.2-3.4*	0.0	MUAC < 11 cm: 1.0 MUAC<12.0 cm: 3.1
Southern Zone of Malakal County	Nov-08	Residents	42,500	AAH-US	27.2 *23.1[1]*	24.3-30.1 *19.5-26.6*	3.1 *4.7[1]*	1.7-4.5 *3.1-6.3*	0.0	MUAC < 11 cm: 2.3 MUAC<12.0 cm: 5.1
Warrap State										
Gorgol West County	Jan-09	Residents	223,861	AAH-US	20.1 *18.1[1]*	17.4-22.8 *15.5-20.8*	2.4 *2.4[1]*	1.2-3.5 *1.4-3.4*	0.0	MUAC < 11 cm: 0.5 MUAC<12.0 cm: 1.3

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§] 95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1] According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)
[2] From Darfur Nutrition Update

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[$]		Under 5 Mortality (/10,000/day) (95% CI)[$]	
Proved by card	Card + history	deficiencies	within the past 6 months					
-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-
46.7	83.5	-	98.1	-	0.56	0.34-0.79	0.39	0.0-0.77
-	46.2	-	53.0	MUAC < 21.0 cm (non-pregnant): 4.7 MUAC < 23.0 cm (pregnant): 24.6	0.30	-	0.35	-
33.3	76.3	-	-	-	0.80	0.41-1.19	0.23	0.0-0.59
26.8	67.7	-	-	-	0.28	0.04-0.52	0.72	0.03-1.42
3.1	26.3	-	-	-	0.27	0.05-0.50	0.26	0.0-0.63

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]		Severe Acute Malnutrition** (%) (95% CI)[§]		Oedema (%)	MUAC[#] (%)
WEST AFRICA										
GUINEA										
Conakry city	Nov-08	Residents	1,618,242	ACH-S	6.8 *7.9[1]*	5.0-8.6 *5.9-9.8*	0.5 *1.2[1]*	0.0-0.9 *0.5-1.8*	0.1	MUAC<11.0 cm: 0.1 MUAC<12.0 cm: 0.8
Yomou prefecture	Nov-08	Residents	229,194	ACH-S	4.3 *4.7[1]*	3.1-5.9 *3.4-6.4*	0.6 *0.5[1]*	0.3-1.4 *0.2-1.3*	0.3	MUAC<11.5 cm: 1.0 MUAC<12.5 cm: 5.7
MALI										
Gounzoureye and Sony Aliber communes, Gao region	Nov-08	Residents	85,161	ACH-S	14.9 *16.8[1]*	11.8-18.1 *13.0-20.6*	0.9 *3.3[1]*	0.0-1.7 *1.4-5.2*	0.0	MUAC<11.0 cm: 0.7 MUAC<12.0 cm: 3.0

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1] According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
24.8	69.6	-	-	-	0.6	0.41-0.94	1.38	0.34-2.42
12.9	42.3	-	-	-	0.50	0.28-0.72	1.0	0.16-1.83
55.0	92.5	-	-	-	0.35	0.13-0.58	0.60	0.09-1.12

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]	Severe Acute Malnutrition** (%) (95% CI)[§]	Oedema (%)	MUAC[#] (%)
CENTRAL AFRICA								
BURUNDI								
Kirundo Province	Mar-09	Residents	436,012	MSF-B	9.3 6.7-12.0 *9.5[1] 6.8-12.3*	4.0 2.2-5.7 *5.4[1] 3.2-7.6*	3.3	MUAC<11.0 cm: 1.0 MUAC<12.5 cm: 7.6
DRC								
Bandundu								
Djuma health zone	Oct-08	Residents	173,852	AAH-US	9.6 7.8-11.5 *11.5[1] 9.1-13.9*	1.5 0.8-2.2 *2.2[1] 1.1-3.2*	0.2	MUAC<11.0 cm: 2.0 MUAC<12.0 cm: 6.4
Masimanimba health zone	Oct-08	Residents	161,376	AAH-US	10.8 7.1-14.6 *10.7[1] 7.2-14.2*	3.2 1.7-4.7 *4.6[1] 2.8-6.3*	2.3	MUAC<11.0 cm: 1.9 MUAC<12.0 cm: 7.6
Pay Kongila health zone	Oct-08	Residents	121,958	AAH-US	7.5 5.9-9.1 *7.3[1] 5.5-9.1*	2.9 1.7-4.1 *1.7[1] 0.7-2.6*	1.2	MUAC<11.0 cm: 0.2 MUAC<12.0 cm: 3.1
Kahemba health zone	Dec-08	Residents	206,132	AAH-US	10.2 7.0-13.3 *12.1[1] 9.0-15.1*	1.2 0.4-2.0 *2.4[1] 1.4-3.4*	0.0	MUAC<11.0 cm: 0.2 MUAC<12.0 cm: 2.7
South Kivu								
Bunyakiri health zone	Dec-08	Residents	122,825	AAH-US	5.8 4.1-7.5 *5.3[1] 3.6-6.9*	1.4 0.4-2.3 *1.4[1] 0.4-2.3*	1.4	MUAC<11.0 cm: 0.1 MUAC<12.0 cm: 1.4
Minova health zone	Mar-09	Residents	164,385	AAH-US	4.3 3.0-5.6 *3.4[1] 2.5-4.4*	1.0 0.4-1.5 *0.4[1] 0.0-0.8*	0.4	MUAC<11.0 cm: 0.4 MUAC<12.0 cm: 2.2

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1]According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

Continued...

Measles immunisation coverage (%)[#]		Assessment of micronutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
31.1	86.6	-	-	-	-	-	4.5	2.1-6.9
42.1	91.5	-	90.5	-	0.27	0.08-0.47	0.91	0.19-1.62
16.3	90.4	-	88.7	-	0.65	0.37-0.93	1.18	0.46-1.91
47.5	90.2	-	84.0	-	0.62	0.27-0.96	0.97	0.26-1.67
11.8	74.1	-	91.2	-	0.20	0.00-0.40	0.63	0.00-1.22
1.6	79.8	-	89.6	-	0.32	0.15-0.49	0.34	0.00-0.70
4.7	88.2	-	92.0	-	0.17	0.00-0.33	0.31	0.00-0.63

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[§]	Severe Acute Malnutrition** (%) (95% CI)[§]	Oedema (%)	MUAC[#] (%)
DRC								
ORIENTALE								
Yaleko health zone	Aug-08	Residents	112,344	AAH-US	8.7 5.5-11.8 *6.8[1] 4.4-9.2*	2.5 0.8-4.1 *1.6[1] 0.9-2.4*	0.6	MUAC<11.0 cm: 0.9 MUAC<12.0 cm: 7.2
KASAÏ ORIENTALE								
Katako Kombe health zone	Oct-08	Residents	112,100	AAH-US	11.5 9.3-13.7 *11.2[1] 9.2-13.3*	3.0 1.6-4.4 *3.7[1] 2.5-4.9*	1.4	MUAC<11.0 cm: 2.2 MUAC<12.0 cm: 7.1
Minga health zone	Oct-08	Residents	133,185	AAH-US	10.7 8.5-12.9 *10.8[1] 8.7-12.8*	2.0 1.2-2.9 *3.2[1] 2.1-4.3*	1.3	MUAC<11.0 cm: 1.6 MUAC<12.0 cm: 6.8
Lwiza health zone	Nov-08	Residents	137,776	AAH-US	13.1 9.0-17.2 *13.8[1] 9.7-17.9*	3.9 1.7-6.0 *4.2[1] 2.1-6.3*	1.5	MUAC<11.0 cm: 0.7 MUAC<12.0 cm: 6.2
Tshikapa health zone	Nov-08	Residents	300,882	AAH-US	10.1 7.9-12.3 *10.8[1] 8.3-13.2*	2.1 1.2-3.0 *2.2[1] 1.2-3.3*	0.7	MUAC<11.0 cm: 1.2 MUAC<12.0 cm: 5.5
Kabinda health zone	Jan-09	Residents	226,768	AAH-US	12.2 8.8-15.7 *11.2[1] 8.1-14.3*	4.3 2.3-6.2 *4.4[1] 2.4-6.5*	3.6	MUAC<11.0 cm: 2.7 MUAC<12.0 cm: 9.3

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[§]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1]According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

Continued...

Measles immunisation coverage (%)[#]		Assessment of micro-nutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
1.6	68.5	-	87.5	-	0.92	0.64-1.19	1.94	1.03-2.85
0.5	86.6	-	86.8	-	0.47	0.23-0.72	1.13	0.41-1.85
0.6	85.1	-	90.6	-	0.75	0.43-1.07	1.01	0.31-1.71
25.4	82.3	-	85.9	-	0.69	0.00-1.38	1.13	0.00-2.26
11.2	56.9	-	81.5	-	0.91	0.00-2.03	1.94	0.47-3.41
47.8	82.5	-	82.7	-	1.29	0.65-1.92	2.57	1.39-3.75

[#] Measles vaccination coverage for children aged 9-59 months

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI)[$]		Severe Acute Malnutrition** (%) (95% CI)[$]		Oedema (%)	MUAC[#] (%)
ASIA NEPAL										
Jajarkot district, Bheri zone	Dec-08	Residents	134,868	Concern	9.1 *10.5[1]*	6.7-11.4 *7.9-12.8*	2.0 *2.4[1]*	0.5-3.5 *0.7-3.8*	0.0	MUAC<11.0 cm: 1.0 MUAC<12.5 cm: 14.8

*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)
** Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)
[$]95% Confidence Interval; not mentioned if not available from the survey report
[#] Mid Upper Arm Circumference
[1]According to WHO 2006 Child Growth Standards (http://www.who.int/childgrowth/en/)

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Measles immunisation coverage (%)[#]		Assessment of micronutrient	Vitamin A distribution coverage,	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI)[§]		Under 5 Mortality (/10,000/day) (95% CI)[§]	
Proved by card	Card + history	deficiencies	within the past 6 months					
-	-	-	-	-	-	-	-	-

[#] Measles vaccination coverage for children aged 9-59 months

Survey methodology

The Greater Horn region

Ethiopia

Worebabo woreda, South Wollo zone, Amhara

A random-sampled nutrition survey was conducted by Concern in September 2008, using a two-stage 30-by-20 cluster sampling methodology to measure 630 children between the ages of 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rates, as well as various food security and public health indicators.

Mareko woreda, Gurage zone, SNNPR

A two-stage 36-by-18 cluster-sampled nutrition survey, including measurements of 656 children 6-59 months, was conducted by Concern Worldwide in October 2008. The survey also estimated measles vaccination and vitamin A distribution coverage, along with crude and under-five mortality rates.

Shashego woreda, Hadiya zone, SNNPR

A two-stage 36-by-17 cluster sampling methodology nutrition survey was completed by Concern Worldwide in November 2008. 612 children 6-59 months were included in the sample. The survey also estimated measles vaccination and vitamin A distribution coverage, as well as retrospective mortality rates, various food security, public health and infant and child feeding practice indicators.

Kenya

Mathare and Kasarani divisions, Nairobi North district

A two-stage 36-by-18 cluster-sampled nutrition survey was carried out by AAH-US in November 2008. The survey included 786 children 6-59 months. The survey also estimated measles vaccination and crude and under-five mortality rates.

Tana River District, Coast Province

A two-stage 45-by-16 cluster-sampled nutrition survey, including measurements of 849 children 6-59 months, was conducted by AAH-US in November 2008. The survey also estimated crude and under-five mortality rates.

Isiolo district, Eastern province

A random-sampled nutrition survey was conducted by AAH-US in November 2008, using a two-stage 42-by-20 cluster sampling methodology to measure 835 children between the ages of 6-59 months. The survey also estimated retrospective mortality rates.

Pastoral, Riverine and Urban livelihood zones, Arid and Semi-Arid region

Three random cluster-sampled nutrition surveys were conducted by ACF-I in November 2008. The surveys measured 821, 686, and 695 children 6-59 months respectively. The survey also estimated measles vaccination coverage and crude and under-five mortality rates, as well as various food security and public health indicators.

Mandera East and West districts, Northeastern province, Arid and Semi-Arid region

Three random cluster-sampled nutrition surveys were conducted by AAH-US between January and March 2009. The surveys measured 811, 743, and 640 children 6-59 months respectively. The survey also estimated measles vaccination and Vitamin A distribution coverage and retrospective mortality rates.

Sudan

Mornei IDP camp, West Darfur

A random-sampled nutrition survey was conducted by Concern Worldwide in July 2008. A standard 30-by-30 cluster sampled methodology was used to identify and measure children 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rates, as well as various food security and infant and child feeding practice indicators.

El Geneina Town and IDP camps, West Darfur

The survey was conducted by Concern Worldwide in August 2008. A 30-by-30 cluster sampling methodology was used to measure 947 children between 6-59 months. The survey also estimated measles vaccination and Vitamin A distribution coverage along with crude and under-five mortality rates.

Beida locality, West Darfur

The survey was conducted by Tearfund in December 2008. A 30-by-30 cluster sampling methodology was used to measure 959 children between 6-59 months. The survey also estimated measles vaccination and Vitamin A distribution coverage along with crude and under-five mortality rates.

Kassala State, North Sudan

A two-stage 30-by-24 cluster-sampled nutrition survey, including measurements of 736 children 6-59 months was conducted by GOAL in November 2008. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rates, as well as various food security, public health and infant and child feeding practice indicators.

Aweil West and North counties, Northern Barhr El Ghazal state, South Sudan

Concern Worldwide carried out a two-stage 30-by-30 cluster sampling methodology nutrition survey in November 2008. In total, 960 children were included in the analysis. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rates, as well as various infant and child feeding practice indicators.

Melut county, Upper Nile State
AAH-US performed a two-stage 31-by-20 cluster sampling methodology nutrition survey in November 2008. Anthropometry data were collected on 617 children between 6-59 months. Measles vaccination coverage and retrospective mortality rates were also measured along with various food security and public health indicators.

Southern zone of Malakal county, Upper Nile State
A random-sampled nutrition survey was conducted by AAH-US in November 2008. A two-stage 32-by-20 cluster sampled methodology was used to measure 651 children 6-59 months. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Gorgol West county, Warrap State
A random-sampled nutrition survey of 638 children 6-59 months was conducted by AAH-US in January 2009. A two-stage 31-by-20 cluster design was employed. The survey also estimated measles vaccination, retrospective mortality rates and various food security and public health indicators.

West Africa
Guinea
Conakry city
A three-stage 40-by-21 cluster sampling methodology nutrition survey was completed by ACH-S in November 2008. A total of 852 children between the ages of 6-59 months were included in the sample. Other data collected for the survey included estimates of measles vaccination and vitamin A distribution coverage and crude and under-five mortality rates.

Yomou prefecture
The survey was conducted by ACH-S in November 2008. A 37-by-22 cluster sampling methodology was used to measure 932 children between 6-59 months. The survey also estimated measles vaccination and crude and under-five mortality rates.

Mali
Gounzoureye and Sony Aliber communes, Gao region
A 36-by-19 cluster sampling methodology nutrition survey was performed by ACH-S in November 2008. A total of 703 children 6-59 months were included in the final analysis. Information on measles vaccination and crude and under-five mortality rates were also collected.

Central Africa
Burundi
Kirundo province
MSF-B carried out a two-stage 30-by-30 cluster sampling methodology nutrition survey in March 2009. In total, 911 children were included in the analysis. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Democratic Republic of Congo
Djuma health zone Bandundu province
The survey was conducted by AAH-US in October 2008. A two-stage 30 cluster sampling methodology was used to measure 945 children between 6-59 months. The survey also estimated measles vaccination, vitamin A distribution coverage and retrospective mortality rates.

Masimanimba health zone, Bandundu province
A standard 32-by-30 cluster sampled nutrition survey was carried out by AAH-US in October 2008. A total of 914 children 6-59 months were measured. Other data collected for the survey included estimates of measles vaccination and vitamin A distribution coverage and crude and under-five mortality rates.

Pay Kongila health zone, Bandundu province
The survey was completed by AAH-US in October 2008. A two-stage 32-by-30 cluster sampling methodology was used to measure 924 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage and retrospective mortality rate over 3 months prior to the survey.

Kahemba health zone, Bandundu province
AAH-US performed a two-stage 26-by-25 cluster sampling methodology nutrition survey in December 2008. Included in the study were 667 children between the ages of 6-59 months. Measles vaccination and vitamin A distribution coverage and retrospective mortality rates were also surveyed.

Bunyakiri health zone, South Kivu province
The survey was conducted by AAH-US in December 2008. A two-stage cluster sampling methodology of 30 clusters was used to measure 883 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution along with crude and under-five mortality rates.

Minova health zone, South Kivu province
A random-sampled nutrition survey of 944 children 6-59 months was conducted by AAH-US in March 2009. A two-stage 30-by-32 cluster design was employed. The survey also estimated measles vaccination and vitamin A distribution coverage and crude and

under-five mortality rates.

Yaleko health zone, Orientale province

The survey was conducted by AAH-US in August 2008. A two-stage 30-by-30 cluster sampling methodology was used to measure 933 children ages 6-59 months. The survey also measured measles vaccination, vitamin A distribution coverage and crude and under-five mortality rates.

Katako Kombe health zone, Kasaï Orientale province

The survey was completed by AAH-US in October 2008. A two-stage 30-by-31 cluster sampling methodology was used to measure 938 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage and retrospective mortality rate over 3 months prior to the survey.

Minga health zone, Kasaï Orientale province

AAH-US performed a two-stage 30-by-31 cluster sampling methodology nutrition survey in October 2008. Included in the study were 944 children between the ages of 6-59 months. Measles vaccination and vitamin A distribution coverage and retrospective mortality rates were also surveyed.

Lwiza health zone, Kasaï Orientale province

The survey was conducted by AAH-US in December 2008. A two-stage cluster sampling methodology of 30 clusters was used to measure 956 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution along with crude and under-five mortality rates.

Tshikapa health zone, Kasaï Orientale province

A random-sampled nutrition survey of 953 children 6-59 months was conducted by AAH-US in November 2008. A two-stage 30-by-31 cluster design was employed. The survey also estimated measles vaccination and vitamin A distribution coverage and crude and under-five mortality rates.

Kabinda health zone, Kasaï Orientale province

The survey was conducted by AAH-US in January 2009. A two-stage 30-by-31 cluster sampling methodology was used to measure 939 children ages 6-59 months. The survey also measured measles vaccination, vitamin A distribution coverage and crude and under-five mortality rates.

Asia

Nepal

Jajarkot district, Bheri zone

Concern carried out a two-stage 36-by-30 cluster sampling methodology nutrition survey in December 2008. In all, 947 children between the ages of 6-59 months were included in the study. The survey also estimated various food security, public health and infant and child feeding practice indicators.

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Greater Horn of Africa

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Concern	11/08	Final report nutrition survey, Shashego woreda, Hadiya zone, SNNPR
FEWS	05/09	Ethiopia, Food Security Update

Kenya

AAH-US	11/08	Nutritional anthropometric and mortality survey, Children under five years old, Final report, Mathare and part of Kasarani divisions, Nairobi
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AAH-US	11/08	Nutritional anthropometric and mortality survey, Children under five years old, Final report, Garbatulla, Oldonyiro, Sericho and Merti division
ACF-I/MoH	12/08	Garissa integrated nutritional survey
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Somalia

FSAU	02/09	Technical Series, Report No. V. 16, Nutrition situation, Post-*Deyr* 2008/09
FSNAU/Joint	04/09	Nutrition Update, March-April 2009
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FEWS	05/09	Food Security Update
UNHCR	05/06/09	Map: IDP movement from Mogadishu as of June 5th, 2009

Sudan

Concern	07/08	Nutrition survey, Mornei Internally displaced persons camp, West Darfur
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AAH-US	11/08	Nutritional anthropometric survey, children under five years of age, Melut, Paloch, Galdora, Bemichuk, Wunamom and Panamdit payams, Melut county, Upper Nile State
AAH-US	11/08	Nutritional anthropometric survey, children under five years of age, Southern Zone of Malakal county, Upper Nile State
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AAH-US	01/09	Nutritional anthropometric survey, children under five years of age, Gogrial, Alek South, Alek North, Alek West, Kuac North, Kuac South and Riau Payams, Go grial West County, Warrap State
UNICEF	03/09	Darfur Nutrition Update, Issue 20, covering period January-March 2009
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West Africa

Guinea

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HRW	04/09	Guinea: Rein in Soldiers, Armed Robbery, Extortion, and Intimidation Under New Government

Mali

ACH-S	11/08	Enquête nutritionelle et de mortalité rétrospective, Communes de Gounzoureye et de Sony Aliber, Région de Gao

ACH-S	11/08	Rapport de l'enquête CAP du projet ECHO et ACF-E, Commune de Gounzoureye, Hamakouladji, Village de la commune de Sony-Ali-Ber, Région de Gao

Central Africa

Burundi

MSF-B	03/09	Enquête nutritionnelle et de mortalité rétrospective, Province sanitaire de Kirundo
UNSC	22/05/09	Fifth report of the Secretary-General on the United Nations integrated office in Burundi

DRC

AAH-US	10/08	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Djuma, Province de Bandundu
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AAH-US	10/08	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Katako Kombe, Province du Kasaï Orientale
AAH-US	10/08	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Minga, Province du Kasaï Orientale
AAH-US	11/08	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Lwiza, Province du Kasaï Orientale
AAH-US	11/08	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Tshikapa, Province du Kasaï Orientale
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AAH-US	03/09	Rapport d'enquête nutritionnelle antrhopométrique, Zone de santé de Minova, Province du Sud Kivu
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WHO	01/06/09	Action sanitaire en situation de crise en RD Congo, Rapport hebdomadaire des activités

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Zimbabwe

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Asia

Nepal

Concern	12/08	Nutritional survey report, Jajarkot district

Abbreviations and acronyms

AAH-US	Action Against Hunger USA
ACF-F	Action Contre la Faim France
ACF-I	Action Contre la Faim International
ACH-S	Action Contre El Hambre Spain
BMI	Body Mass Index
CI	Confidence Interval
CFR	Case Fatality Rate
CMR	Crude Mortality Rate
< 5 MR	Under-five Mortality Rate
Epi	Epicentre
FAO	Food & Agricultural Organization of the United Nations
FARDC	Forces Armées de la Republic Democratic du Congo
FEWS	Famine Early Warning System
FSNAU	Food Security and Nutrition Analysis Unit for Somalia
GoE	Government of Ethiopia
GoSS	Government of South Sudan
HRW	Human Rights Watch
IDP	Internally Displaced Person
LQA	Lot Quality Assurance
MOH	Ministry of Health
MSF	Médecins Sans Frontières
MSF-B	Médecins sans Frontières - Belgium
MUAC	Mid-upper arm circumference
NGO	Non-governmental Organisation
OCHA	Office for the Co-ordination of Humanitarian Assistance
Pr	Probability
SFC	Supplementary Feeding Center
SNNPR	Southern Nations, Nationalities, and People's Region (Ethiopia)
TFC	Therapeutic Feeding Center
UN	United Nations
UNHCR	United Nations High Commission on Refugees
UNICEF	United Nations International Children's Emergency Fund
UNSC	United Nations Security Council
USAID	US Agency for International Development
WFP	World Food Programme
WHO	World Health Organization
WRA	Women of Reproductive Age

Indicators and risk categories

The methodology and analysis of nutrition and mortality surveys are checked for compliance with internationally agreed standards (SMART, 2002; MSF, 2002; ACF, 2002).
Most of the surveys included in the Reports on Nutrition Information in Crisis Situations are random sampled surveys, which are representative of the population of the targeted area. The Reports may also include results of rapid nutrition assessments, which are not representative of the target population but rather give a rough idea of the nutrition situation. In that case, the limitations of this type of assessments are mentioned.
Most of the nutrition survey results included in the Reports target children between 6-59 months but may also include information on other age groups, if available.
Detailed information on the methodology of the surveys which have been reported on in each issue, is to be found at the end of the publication.

Nutrition indicators in 6-59 month olds

Unless specified, the Reports on Nutrition Information in Crisis Situations use the following internationally agreed criteria:

. **Wasting**, defined as weigh-for-height index (w-h) < -2 Z-scores of the NCHS reference.
. **Severe wasting**, defined as weigh-for-height index < -3 Z-scores of the NCHS reference.
. **Oedematous malnutrition or kwashiorkor**, diagnosed as bilateral pitting oedema, usually on the upper surface of the feet. Oedematous malnutrition is always considered as severe malnutrition.
. **Acute malnutrition**, defined as the prevalence of wasting (w-h < -2 Z-scores) and/or oedema
. **Severe acute malnutrition**, defined as the prevalence of severe wasting (w-h < -3 Z-scores) and/or oedema.
. **Stunting** is usually not reported, but when it is, these definitions are used: stunting is defined as < - 2 Zscores height-for-age, severe stunting is defined < - 3 Zscores height-for-age.
. **Mid-Upper-Arm Circumference (MUAC)** As there is no international agreement on MUAC cut-offs, the results are reported according to the cut-offs used in the survey.
. **Micro-nutrient deficiencies**
Micro-nutrient deficiencies are reported when data are available.

Nutrition indicators in adults

No international consensus on a definitive method or cut-off to assess adult under-nutrition has been reached (SCN, 2000). Different indicators, such as Body Mass Index (BMI, weight/height2), MUAC and oedema, as well as different cut-offs are used. When reporting on adult malnutrition, the Reports always mention indicators and cut-offs used by the agency providing the survey.

Mortality rates

In emergency situations, crude mortality rates and under-five mortality rates are usually expressed as number of deaths/10,000 people/day.

Interpretation of indicators

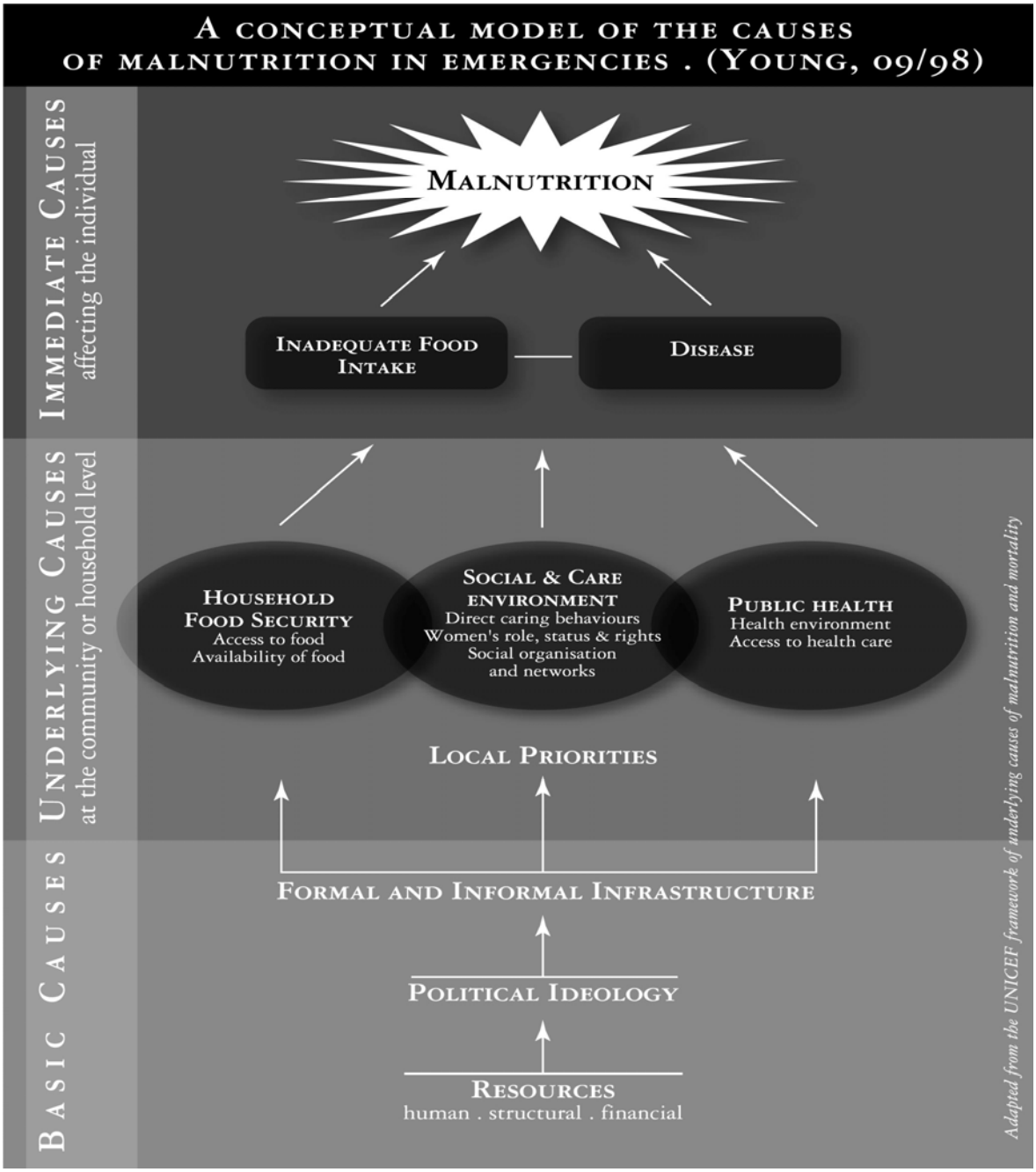
Prevalence of malnutrition and mortality rates are late indicators of a crisis. Low levels of malnutrition or mortality will not indicate if there is an impending crisis. Contextual analysis of health, hygiene, water availability, food security, and access to the populations, is key to interpret prevalence of malnutrition and mortality rates.
Thresholds have been proposed to guide interpretation of anthropometric and mortality results.
A prevalence of acute malnutrition between 5-8% indicates a worrying nutritional situation, and a prevalence greater than 10% corresponds to a serious nutrition situation (SCN, 1995). The Crude Mortality Rate and under-five mortality rate trigger levels for alert are set at 1/10,000/day and 2/10,000/day respectively. CMR and under-five mortality levels of 2/10,000/day and 4/10,000/day respectively indicate a severe situation (SCN, 1995).
Those thresholds have to be used with caution and in relation to contextual analysis. Trend analysis is also recommended to follow a situation: if nutrition and/or mortality indicators are deteriorating over time, even if not above threshold, this indicates a worsening situation.

Classification of situations

In the Reports, situations are classed into five categories relating to risk and/or prevalence of malnutrition. The prevalence/risk is indirectly affected by both the underlying causes of malnutrition, relating to food, health and care, and the constraints limiting humanitarian response. These categories are summations of the causes of malnutrition and the humanitarian response:
• Populations in *category I* – the population is currently in a critical situation; they either have a *very high risk* of malnutrition or surveys have reported a very high prevalence of malnutrition and/or elevated mortality rates.
• Populations in *category II* are currently at *high risk* of becoming malnourished or have a high prevalence of malnutrition.
• Populations in *category III* are at *moderate risk* of malnutrition or have a moderately high prevalence of malnutrition; there maybe pockets of high malnutrition in a given area.
• Populations in *category IV* are *not* at an elevated nutritional risk.
• The risk of malnutrition among populations in *category V* is *not known*.

Nutrition causal analysis

The Reports on Nutrition Information in Crisis Situations have a strong public nutrition focus, which assumes that nutritional status is a result of a variety of inter-related physiological, socio-economic and public health factors (see figure). As far as possible, nutrition situations are interpreted in line with potential underlying determinants of malnutrition.



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NICS quarterly reports

The UN Standing Committee on Nutrition, which is the focal point for harmonizing nutrition policies in the UN system, issues these Reports on Nutrition Information in Crisis Situations with the intention of raising awareness and facilitating action. The Reports are designed to provide information over time on key outcome indicators from emergency- affected populations, play an advocacy role in bringing the plight of emergency affected populations to the attention of donors and humanitarian agencies, and to identify recurrent problems in international response capacity. The Reports on Nutrition Information in Crisis Situations are aimed to cover populations affected by a crisis, such as refugees, internally displaced populations and resident populations.

This system was started on the recommendation of the SCN's working group on Nutrition of Refugees and Displaced People, by the SCN in February 1993. Based on suggestions made by the working group and the results of a survey of the readers, the Reports on Nutrition Information in Crisis Situations are published every three months.

Information is obtained from a wide range of collaborating agencies, both UN and NGOs. The Reports on Nutrition Information in Crisis Situations are put together primarily from agency technical reports on nutrition, mortality rates, health and food security.

The Reports provide a brief summary on the background of a given situation, including who is involved, and what the general situation is. This is followed by details of the humanitarian situation, with a focus on public nutrition and mortality rates. The key point of the Reports is to interpret anthropometric data and to judge the various risks and threats to nutrition in both the long and short term.

This report was compiled by Julie Debons of the UN SCN Secretariat
Design concept: Marie Arnaud Snakkers

The chairman of the UN SCN is Alexander Müller

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If you have information to contribute to forthcoming reports, or would like to request back issues of the report, please contact:

Dr. Marzella Wüstefeld, NICS Coordinator,
UN Standing Committee on Nutrition
20, avenue Appia, 1211 Geneva 27, SWITZERLAND
Tel: +(41-22) 791.04.56, Fax: +(41-22) 798.88.91,
Email: scn@who.int
Web: http://www.unscn.org

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