

Nutrition Information in Crisis Situations

United Nations System
Standing Committee on Nutrition



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Highlights

ETHIOPIA—HIGH LEVELS OF FOOD INSECURITY PERSIST—The 2008 *meher* harvest was inadequate in several regions, leaving 12.4 million people in need of food or cash assistance. Furthermore, the planting of this year's *Belg* crop has been delayed due to insufficient rains fueling fears of a second failed harvest. The situation is especially worrisome in the regions of SNNPR, Oromia, Tigray and Afar, where the *Belg* harvest provides for the majority of household food needs.

DRC—CLASHES SPUR DISPLACEMENT—Fighting between the Congolese Army and Laurent Nkunda's FDLR in North Kivu forced hundreds of thousands of people to leave their homes in the months between August 2008 and January 2009. The situation has calmed down somewhat since Nkunda's arrest in January 2009, but military operations persist between government forces and rebel troops. LRA forces using Orientale province as a base have also led attacks against the civilian population, leaving 115,000 people displaced and 600 dead since January 2009.

SOMALIA—HUMANITARIAN SITUATION CONTINUES TO DETERIORATE—The situation in Somalia is increasingly precarious. Food prices are beginning to stabilize, but they are still many times above those in previous years. The number of displaced persons in the country has risen to over 1 million since last summer, while humanitarian aid is severely limited due to insecurity. 200,000 thousand children under the age of five are estimated to be malnourished, 60,000 of whom are thought to be suffering from severe malnutrition.

SUDAN—AID GROUPS FORCED TO LEAVE DARFUR—Thirteen aid groups were ordered to suspend humanitarian programs in Darfur following the International Criminal Court's indictment of Sudanese President

Omar Bashir for war crimes on March 4th, 2009. At least 1.5 million people are dependent on international aid across the three states and fears for their condition are mounting.

ZIMBABWE—THOUSANDS DEAD FROM CHOLERA EPIDEMIC—A power-sharing agreement between Mugabe's ruling Zimbabwe African National Union–Patriotic Front (ZANU–PF) and opposition leader Morgan Tsvangirai's Movement for Democratic Change (MDC) was signed in September 2008. After further negotiations, the MDC officially joined the government in February 2009. The country, still struggling with extreme inflation and a crumbling infrastructure, was overtaken by an epidemic of cholera in August 2008. To date, nearly 90,000 cases have been confirmed, a large number of them in urban areas. Despite efforts by the government and international aid agencies, at least 4,000 deaths have occurred. Infection rates appear to be slowing as of March 2009, but the situation cannot yet be said to be fully under control.

HAITI—SERIES OF HURRICANES WREAK HAVOC—Several hurricanes and tropical storms hit Haiti in August and September 2009. All told, more than 800,00 people were affected and over 150,00 were displaced. While the immediate humanitarian response to the disasters was generally good, many of the displaced lost their homes and have not yet been able to rebuild. Damage to infrastructure was also severe and significant repairs are required. Approximately 20% of crops were lost in the storms contributing to the estimate that one-third of the entire Haitian population is food-insecure.

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 agropastoral and riverine livelihood zones	SUDAN Al Salam IDP camp, South Darfur	MAURITANIA Gorgol region	HAITI Ville de Gonaives, Artibonite department	NIGER Tahoua department, Tahoua region
Nutritional risk category	II	II	I/II	IV	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

Following a moderate-to-poor 2008 *meher* harvest in many parts of the country, 12.4 million people are expected to require food or cash assistance in 2009 (FEWS, 03/09). The Government sponsored Productive Safety Net Program (PSNP), an assistance program for chronically food insecure people, is targeting over half of those, while the rest will need emergency assistance until at least June 2009. Due to ongoing food aid shortages, resources are being allocated according to need.

Belg rains, crucial for crop production in much of the country, have been late to arrive this year, causing a delay in planting. A second failed *Belg* harvest is probable if the rains don't come in sufficient quantity by the end of March. The regions of Afar, Tigray, Oromia and SNNPR are particularly vulnerable to seasonal fluctuations, as they rely on the *Belg* harvest to provide up to 80-85% of annual food crops.

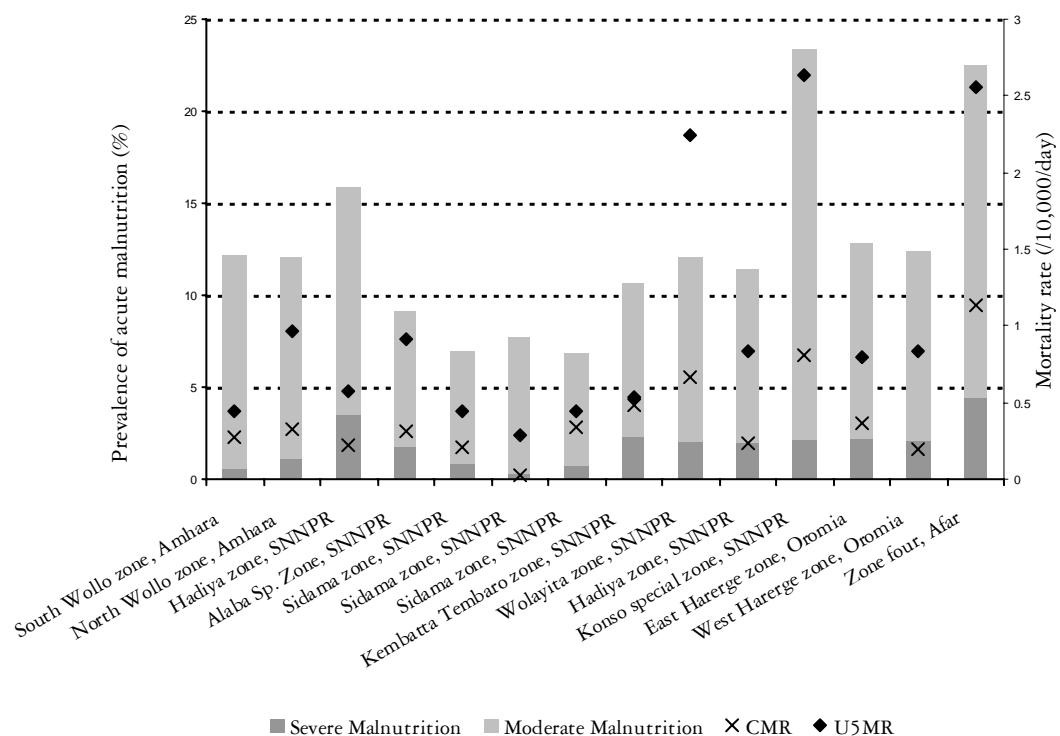
Adding to already high levels of food insecurity is the continuing rise of inflation. In February 2009, the national inflation rate was 46.1%. Food inflation alone was 61.1%, with the price of maize increasing by nearly half from the same period last year.

Insecurity, drought and major livestock losses continue to undermine the food security situation in the Somali region (FEWS, 03/09). In addition, the region has been affected by outbreaks of rabies in both cattle and people and cases of malnutrition are said to be on the rise. The GoE is planning a nutrition survey in April 2009.

Nutrition situation varies widely

A total of nine nutrition surveys were carried out in SNNPR, with rates of acute malnutrition ranging from 6.9% to 23.4% (figure 1) (ENCU, 09/08). The Sidama zone reported

FIGURE I RESULTS OF NUTRITION SURVEYS, ETHIOPIA, MAY-SEPTEMBER 2008 (ENCU, 06-09/08; GOAL, 07/08; CONCERN 09/08)



the lowest rates of both malnutrition and mortality. Results from the Konso woreda (Konso special zone) were the most troubling, with an U5MR of 2.63/10,000/day and severe malnutrition at 2.2% (C.I. 1.1-4.5).

Surveys conducted in the Amhara and Oromia regions revealed similar rates of acute malnutrition (figure 1). While the results show a serious situation, severe malnutrition and mortality were well below emergency levels. Rates of measles vaccination, however, need to be improved.

A final survey, performed by MSF-H in the Teru woreda of the Afar region in August 2008, shows an especially alarming situation (figure 1). Acute malnutrition was found to be above the emergency threshold, with severe malnutrition reaching 4.5% (C.I. 2.3-6.8) and under-five mortality at 2.56 (C.I. 1.28-3.83).

Kenya

Prolonged drought conditions, rampant inflation, political instability and a high prevalence of HIV/AIDS are but a few of the factors complicating an already complex food security situation in Kenya. The Kenya Food Security Steering Group (KFSSG) recently conducted a short-rains assessment and found that approximately 2.5 million people in the pastoral, agro-pastoral and marginal agricultural zones are food insecure (FEWS, 03/09).

Of particular concern is the deteriorating situation in urban settings. The same study estimated that over 7.5 million people living in urban slums in Nairobi and Mombasa are food insecure and that rates of global acute malnutrition are on the rise. Up to 37% of households stated that they were consuming only one meal per day. Additional coping mechanisms included the sale of household goods, migration to find jobs and personal loans.

In the wake of nationwide post-election violence in December 2007, AAH-US decided to

conduct a nutrition survey in the Greater Nakuru districts in July 2008 (AAH-US, 07/08). An area generally described as food secure, the survey found the rate of acute malnutrition to be low, at only 3.8% (2.0-5.5). Severe malnutrition and mortality rates were equally low (table 1), indicating that the area is recovering well from the recent instability.

TABLE 1 RESULTS OF A NUTRITION AND MORTALITY SURVEY, GREATER NAKURU, KENYA, JULY 2008 (AAH-US, 07/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
3.8 (2.0-5.5)	0.0 (0.0-0.2)	0.14 (0.04-0.24)	0.24 (0.0-0.67)

Somalia

The humanitarian situation in Somalia remains critical. According to the post-*Deyr* analysis by FSAU, the current crisis is largely due to the overall economic situation, which has driven up prices and further devalued the already weak Somali shilling (FSAU, 11/02/09). Overall, it is estimated that 43% of the population will require emergency humanitarian assistance in the next few months. Urban poor and IDPs have been seriously affected and account for over two-thirds of those in need.

While food prices declined somewhat in the last months of 2008, they are still anywhere from 300-825% higher than in previous years (FEWS, 03/09). Increases in food expenditures, coupled with stagnant incomes, have severely reduced household purchasing power. In addition, remittances from abroad have decreased in the last several months, further reducing disposable income.

Ongoing insecurity throughout the country has led to an increase in the number of IDPs. Since last summer, the number of displaced persons has jumped from 870,000 to over 1 million, a quarter of those being protracted IDPs (FSAU, 11/02/09). Increased attacks on

humanitarian workers led to an overall decrease in aid in 2008. As a result, support for IDPs, including access to basic services, is severely limited and they are increasingly vulnerable to food insecurity and malnutrition.

The 2008 *deyr* season was considered poor and below-average rainfall so far this year is seriously threatening livelihoods (FEWS, 03/09). Severe water shortages have been reported, most notably in pastoralist regions, and prices for water have increased sharply. The regions of Galgadud and Mudug have been the most affected, along with Gedo and parts of Middle and Lower Juba, where traditional water sources have largely been depleted. March to May rains, necessary for an adequate *Gu* harvest and to restock water holes, are predicted to once again be below normal, compounding an already precarious situation.

One in six children acutely malnourished

According to an integrated analysis of the nutrition situation carried out by FSAU, 200,000 children under the age of five suffer from acute malnutrition in Somalia, of which 60,000 are severely malnourished (FSAU, 11/02/09). A

FIGURE 2 RESULTS OF NUTRITION SURVEYS, MIDDLE AND LOWER JUBA, SOMALIA, JUNE 2008 (FSAU/JOINT, 06/08)



full third of these children are in the Shabelle regions, which continue to host a significant number of IDPs. However, the situation is most worrisome in the regions of Galgadud and Mudug, where insecurity is preventing an estimated 10,000 children from receiving emergency treatment.

A total of nine nutrition surveys were performed by FSAU and partners in the period covered, with rates of malnutrition from alert to above emergency levels.

Two surveys were conducted in the Bay/Bakool region, both in July 2008. The first, in the Bakool agro-pastoral livelihood zone revealed a very critical situation (FSAU/Joint, 07/08). The rate of severe malnutrition was especially high at 3.8% (C.I. 2.6-5.6), while overall acute

malnutrition was well beyond emergency levels at 25.2% (C.I. 22.1-28.6) (table 2). Mortality rates, however, were in the acceptable range. The second survey, in the Burao IDP settlement, showed similar, albeit slightly lower, results (table 2).

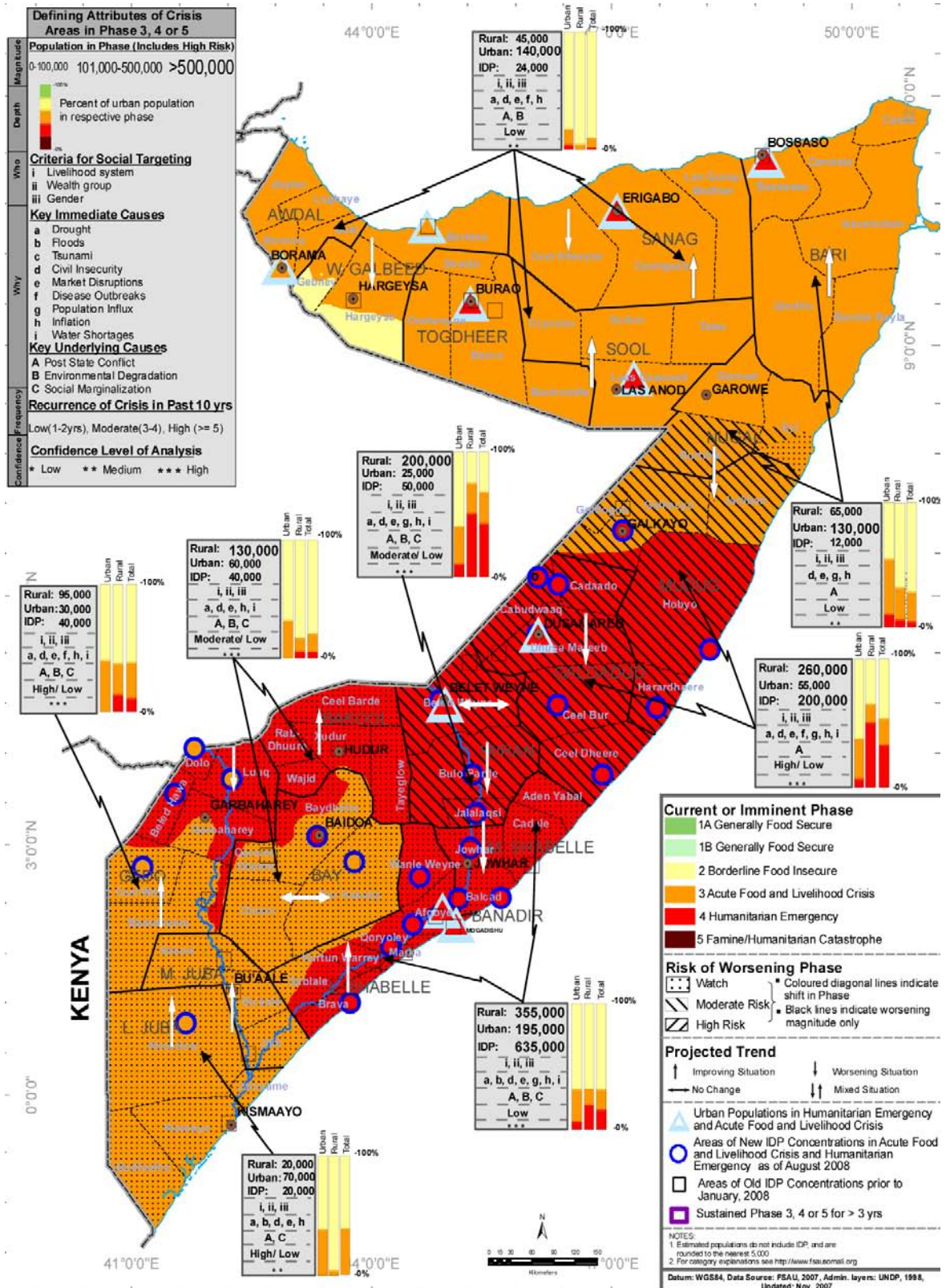
Surveys done in the Hiran region showed a somewhat better situation (FSAU, 06/08). The prevalence of acute malnutrition was 15.9% (C.I. 10.4-21.4) in the agro-pastoral zone and 17.7% (C.I. 13.3-22.1) in the riverine zone (table 2). Severe malnutrition rates were 2.6% (C.I. 0.8-4.4) and 4.0% (C.I. 1.7-6.2) respectively.

Three surveys were carried out in the regions of Middle and Lower Juba, with results in the serious to critical range (figure 2). There have

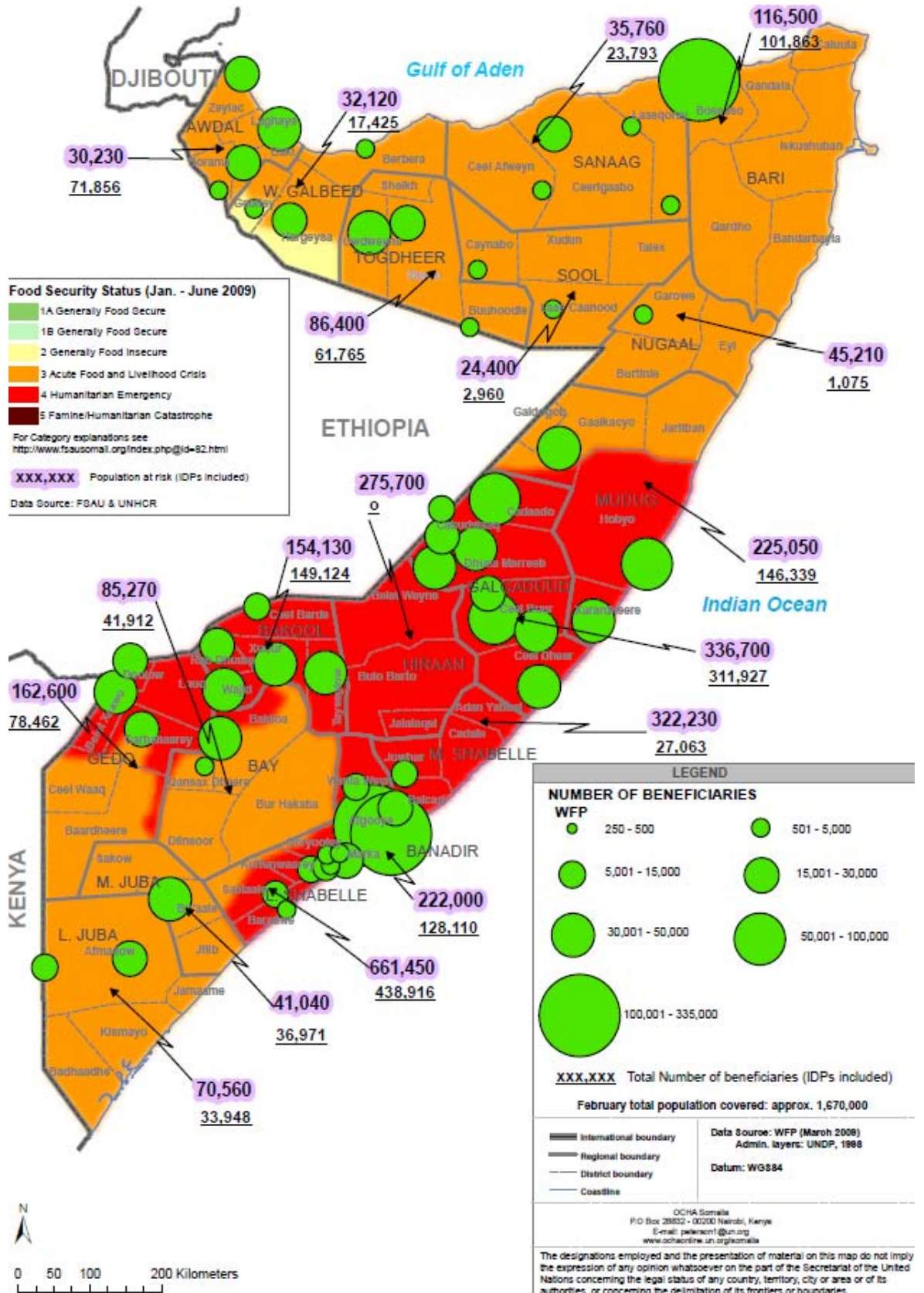
TABLE 2 RESULTS OF NUTRITION SURVEYS, SOMALIA, 2008 (FSAU, 06-07/08; FSAU 10/08)

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)
HIRAN					
Agropastoral livelihood zone	15.9 (10.4-21.4)	2.6 (0.8-4.4)	0.0	0.56 (0.25-0.87)	0.57 (0.01-1.14)
Riverine livelihood zone	17.7 (13.3-22.1)	4.0 (1.7-6.2)	1.7	0.72 (0.39-1.05)	1.78 (0.81-2.75)
BAKOOL					
Agropastoral livelihood zone	25.2 (22.1-28.6)	3.8 (2.6-5.6)	0.6	0.57 (0.33-1.0)	1.72 (0.89-3.32)
Burao IDP settlement	20.5 Exhaustive	2.3 Exhaustive	-	-	-
NORTHWEST REGIONS					
Golis Guban livelihood zone	20.7 (15.3-26.2)	2.4 (1.4-3.5)	0.2	1.05 (0.65-1.68)	1.06 (0.52-2.14)
Sool Plateau	9.9 (6.9-13.0)	0.5 (0.0-1.1)	0.2	0.64 (0.88-3.04)	1.64 (0.35-1.18)

SOMALIA INTEGRATED PHASE CLASSIFICATION MAP: RURAL, URBAN AND IDP POPULATIONS: PROJECTIONS TO THE END OF JUNE '09 (FSAU, 02/09)



SOMALIA FOOD AID DISTRIBUTION- FEBRUARY 2009 (OCHA, 03/09)



been no significant changes in acute malnutrition rates when compared to the last round of surveys done in December 2007 (FSAU/Joint, 06/08). Mortality rates were within normal limits.

The last surveys took place in October 2008 in the Northwest region (FSAU, 11/08). The first, in the Golis Guban livelihood zone uncovered high rates of both acute and severe malnutrition, with average rates of mortality. The second, in the Sool Plateau, showed a level of malnutrition at 9.9% (C.I. 6.9-13.0), which represents an improvement over previous surveys. Severe malnutrition was quite low and

mortality rates were below emergency levels (table 2).

Overall

The situation in Somalia continues to deteriorate, leaving the civilian population increasingly vulnerable. Urban areas are experiencing high levels of food insecurity due to rising inflation and a decline in remittances from abroad. Attacks on humanitarian actors continue to hinder intervention.

Sudan Darfur

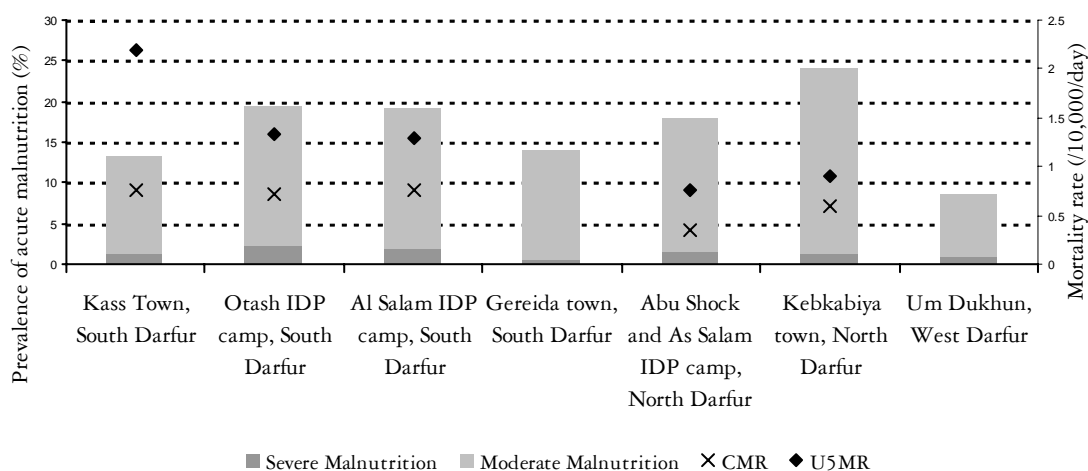
Persistent insecurity throughout Darfur in 2008 limited humanitarian activity in all three states (UNICEF, 12/08).

On March 4th, 2009, the International Criminal Court issued a warrant for the arrest of Sudanese President Omar Bashir, accusing him of war crimes and crimes against humanity in Darfur. The Sudanese government immediately retaliated by expelling 13 humanitarian organizations from Darfur (USAID, 23/03/09). As a result, lifesaving operations

to not less than 1.5 million people were halted. Support to nearly all of the regions health care centers has been interrupted, including 42 TFCs and 21 SFCs. It is feared that further population movements may be triggered by the lack of international assistance.

Multiple surveys were conducted throughout the region in the last half of 2008, with most showing a critical, but stable, situation (UNICEF, 11/08). All but one survey, conducted in West Darfur, revealed rates of malnutrition at or above emergency levels (figure

FIGURE 3 RESULTS OF NUTRITION SURVEYS, DARFUR, 2008 (ACF-F, 06/08; UNICEF, 09-12/08)



3). The prevalence of severe malnutrition was variable and mortality rates were all within the acceptable range.

Southern Sudan

Most areas in South Sudan are considered generally food secure and predictions for normal or near-normal March-May rainfall are good (FEWS, 03/09). That said, over one million people are still facing food insecurity in 2009, mostly returnees and other vulnerable populations. The possible influx of IDPs from Darfur into Northern and Western Bahr El Gazal states also remains a possibility, which would, in turn, put added pressure on their already limited resources.

GOAL carried out a MICS survey in the Sobat corridor of Upper Nile State in May 2008 (GOAL, 05/08). Conducted at the beginning of the hunger gap, the survey found alarming rates of both acute and severe malnutrition (table 3), both of which were higher than previous surveys from 2007. Possible explanations for this rise include flooding and subsequent crop damage in 2007, as well as inadequate feeding practices among infants and young children.

A second survey was performed by AAH-US in the Khorfulus and Atar areas of Jonglei State

in May 2008 (AAH-US, 06/08). The prevalence of acute malnutrition was above emergency levels at 23.9% (C.I. 20.4-27.4), with a moderately high percentage of severe malnutrition (table 3). Rates were slightly lower than in previous surveys, but still show a serious situation. Most of those surveyed said that they were heavily reliant on purchased food and that their food stocks were low or depleted.

Another survey done in Abyei County by MSF-CH in July 2008 revealed an elevated prevalence of acute malnutrition (MSF-CH, 07/08). Severe malnutrition was well-above emergency levels, although not unlike those found in the November 2007 survey. Crude mortality rates were similarly high and can be attributed to fighting in the region in May 2008 (table 3).

A follow-up nutrition survey in Rob Kona County, Unity State was done by AAH-US in August of 2008 (AAH-US, 08/08). Despite several years of intervention in the area, rates of malnutrition remain above emergency levels (table 3). Recommendations included improving vaccination rates for measles, improving access to clean water and continued food security programs that support dietary diversification.

TABLE 3 RESULTS OF NUTRITION AND MORTALITY SURVEYS, SOUTHERN SUDAN (AAH-US 05/08; GOAL, 05/08; MSF-CH, 07/08; ACF-F 08/08)

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)
JONGLEI STATE					
Abyei County	26.5 (22.5-30.8)	3.6 (2.2-5.9)	0.002	2.00 (1.2-2.8)	0.50 (0.0-1.4)
UPPER NILE STATE					
Khorfulus and Atar areas	23.9 (20.4-27.4)	1.9 (0.9-2.9)	0.0	0.36 (0.18-0.54)	0.53 (0.01-1.05)
AGOK AREA					
Sobat Corridor	29.1 (24.3-33.8)	4.3 (2.7-5.8)	0.0	0.80 (0.3-1.3)	1.52 (0.6-2.5)
UNITY STATE					
Rob Kona County	18.8 (16.0-21.5)	2.3 (1.1-3.5)	-	0.68 (0.35-1.02)	1.99 (0.69-3.29)

West Africa



Guinea

President Lansana Conté died on December 23rd, 2008, ending his reign of twenty-four years. Guinea's constitution dictated that power be transferred to the President of the National Assembly Aboubacar Somparé (ICG, 05/03/09). However, within hours, a small group of military officers formed the National Council for Democracy and Development (Conseil National pour la démocratie et le développement, CNDD), taking control and suspending the constitution. Tensions ran high in the capital Conakry over the next day, and faced with overwhelming popular support for the new junta, Somparé finished by ceding power to the CNDD.

Captain Dadis Camara, Guinea's self-elected president has promised new elections by the end of 2009, but so far, little progress has been made in this direction. International pressure on the new government to establish a clear transition timetable is mounting amid domestic demands for reform.

ACH-S conducted a random-sampled nutrition survey in Kissidougou prefecture in July 2008 (ACF-S, 07/08). Located in the SE part of the country, Kissidougou has been negatively affected by the current economic crises, in particular by rising food costs. The increase in oil

prices in early 2008 drove up the price of local rice by more than 14%.

Results of the survey indicated a stable nutrition situation. The prevalence of acute malnutrition was in the acceptable range and mortality rates were well below emergency levels (table 4). However, it should be noted that the survey was carried out at the beginning of the lean season and nearly all of the respondents reported their food stocks were running low and that they had reduced the number of meals eaten per day.

TABLE 4 RESULTS OF NUTRITION SURVEY, KISSIDOU-GOU PREFECTURE, GUINEA (ACH-S 07/08)

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)
Kissidougou prefecture	4.8 (2.8-6.7)	0.6 (0.1-1.1)	0.51 (0.31-0.71)	0.94 (0.29-1.59)

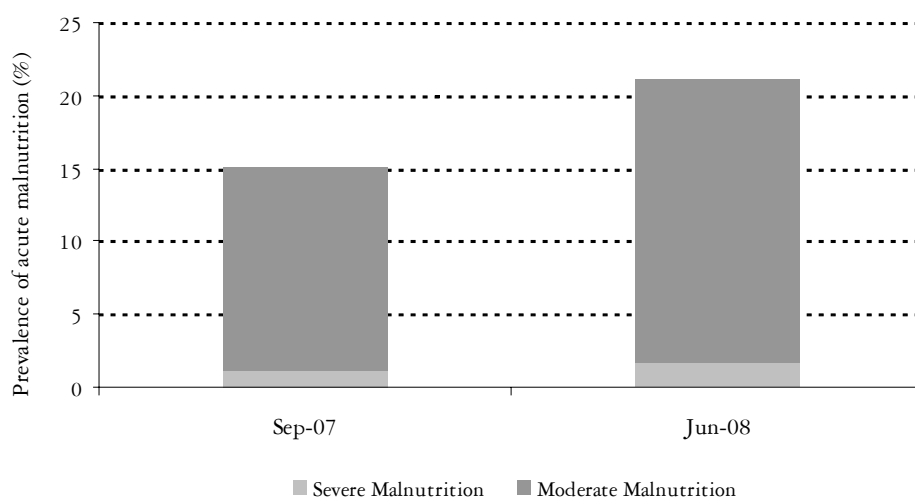
Mauritania

Food prices have more-or-less stabilized in Nouakchott and the markets are said to be well stocked (FEWS, 02/09). Rural areas are still experiencing rising costs, but the food security situation has nevertheless been generally described as average-to-good in much of the country. Certain livelihood zones however, most notably parts of the Senegal River Valley, the rain fed farming zone and the west of the agropastoral zone, are nonetheless experiencing moderate food insecurity due to poor crop growth and it is predicted that they could en-

ter into the hunger gap period as early as March 2009.

ACH-S conducted a nutrition survey in the southern region of Gorgol in June 2008 (ACH-S, 06/08). Although severe malnutrition and retrospective mortality rates were within acceptable ranges, the prevalence of acute malnutrition was above emergency levels at 21.1% (C.I. 16.7-26.2). This represents an increase since the last survey carried out in September 2007 (figure 4).

FIGURE 4 TRENDS IN ACUTE MALNUTRITION, GORGOL REGION, MAURITANIA, (ACH-S, 06/08)



Niger

Despite what is described as a generally favorable food security forecast for much of the country, the situation is expected to deteriorate in certain regions over the coming months (FEWS, 02/09).

Overall grain production is expected to surpass the five-year average, putting per capita production at 323 kg, well above the estimated 231 kg needed to cover the average person's individual needs. However, production yields are highly localized and certain zones, most particularly in the north, are experiencing large deficits. Surpluses notwithstanding, prices remain above-average for most staple crops, most notably millet, sorghum and corn, putting pressure on the coping mechanisms of many poor rural families.

A shorter-than-average rainy season in pastoralist areas has resulted in reduced and sub-par animal grazing and watering conditions, further compromising food security. As a result, many are reporting a decrease in the milk and dairy production, essential components of the

local diet.

Niger also continues to be hit by outbreaks of meningitis and measles, as well as by a seasonal rise in the number of malaria cases. At least half of all health districts in the country have reported cases of meningitis, with 633 cases and 29 deaths confirmed in the month of February 2009 alone (FEWS, 02/09).

Health concerns, coupled with mounting food insecurity, have led to a recent increase in the number of admissions to therapeutic feeding centers. The departments of Tahoua, Tillabery, Maradi and Zinder appear to be the most affected for the moment. In recognition of the precarious situation, the GoN is in the process of launching its assistance plan, the National Food Crisis Prevention and Management System (DNP-GCA), targeting high-risk populations.

Several nutrition surveys were carried out in Niger in the summer of 2008. MSF/Epicentre conducted a series of surveys, covering districts in the regions of Zinder and Maradi, as well as one in the agricultural livelihood zone. The

prevalence of acute malnutrition ranged from 7.2-11.1%, all below the emergency threshold (MSF/Epicentre, 06/08) (table 5). Mortality and severe malnutrition rates were also all within the acceptable range.

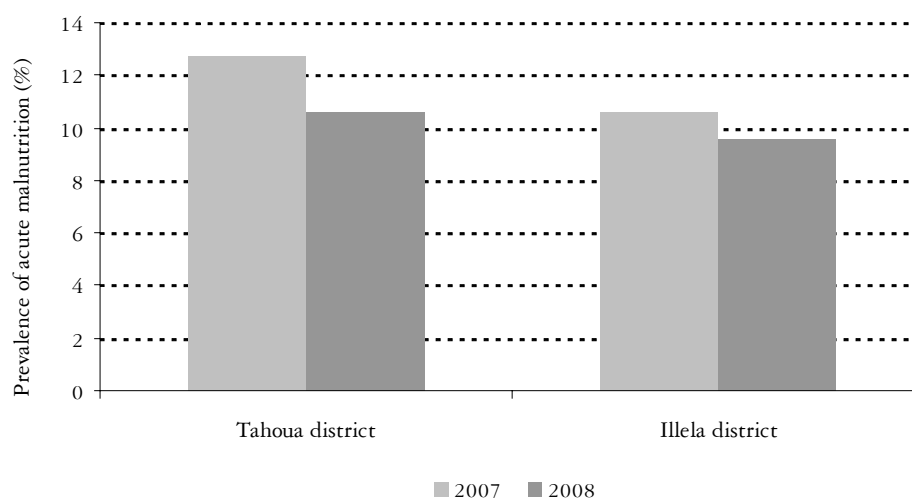
hunger gap, revealed results slightly better from those at the same time last year, perhaps explained by ongoing prevention and treatment efforts by the GoN and aid agencies (Concern, 07/08) (figure 5).

Two follow-up surveys were completed in the Tahoua region by Concern in July of 2008. Both surveys, completed at the height of the

TABLE 5 RESULTS OF NUTRITION AND MORTALITY SURVEYS, NIGER (MSF/EPICENTRE 06/08)

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)
Guidan Roundji district, Maradi region	7.2 (6.2-8.2)	0.4 (0.2-0.5)	0.0	-	0.62 (0.41-0.94)
Magaria district, Zinder region	11.1 (9.8-12.4)	0.9 (0.6-1.3)	0.0	-	0.81 (0.45-1.41)
Agricultural livelihood zone	10.6 (9.0-12.1)	0.8 (0.4-1.1)	0.2	-	1.05 (0.65-1.65)

FIGURE 5 TRENDS IN ACUTE MALNUTRITION, TAHOUA REGION, NIGER (CONCERN, 07/08)



Central Africa

Chad

Despite rising food and cooking fuel costs, the current food security situation in most of the country is generally food secure to moderately food insecure (FEWS, 03/09). However, mediocre pasturage and inadequate water sources for livestock are of increasing concern. The government also imposed a ban on the production of charcoal from unseasoned timber in January 2009. As charcoal is both an important source of income and an inexpensive cooking fuel, the ban is having a particularly negative effect, especially in urban areas.

Refugees

The needs of the 250,000 Sudanese refugees and 180,000 IDPs in Eastern Chad are largely being taken care of by the international community. However, of the \$388 million requested through CAP (Consolidated Appeals Process), only \$118 has been secured so far this year and nearly all of these funds have gone to WFP for food aid (FEWS, 01/09). Previous food pipeline problems appear to be resolved and distributions are regular.

According to the UN, an additional 6,000 refugees from the Central African Republic arrived in the border village of Daha (Salamat

region) in January 2009 (USAID, 27/02/09; UNHCR, 02/09). As the village is virtually inaccessible in the rainy

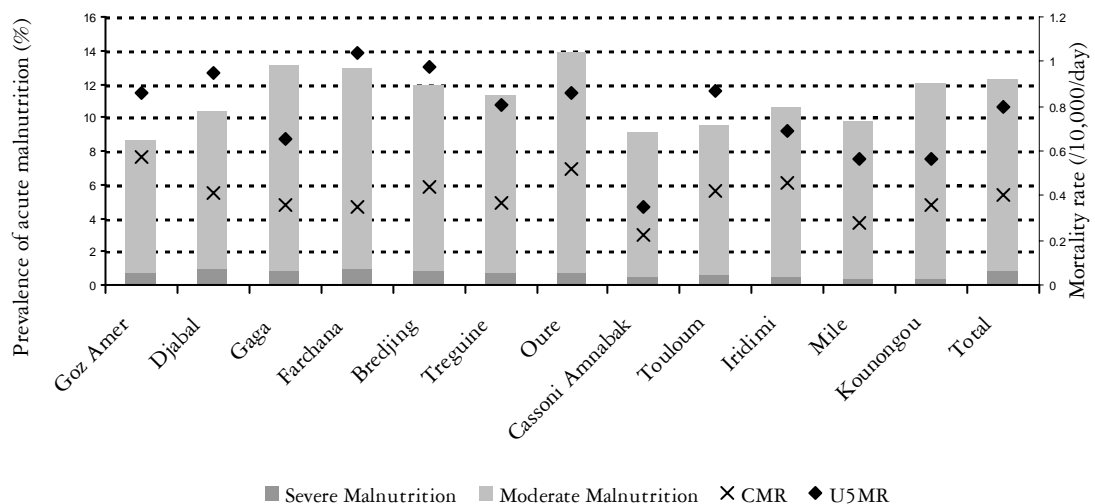
months, efforts are being made to relocate the refugees to a more secure location further from the border. As of February 2009, 58,000 refugees from CAR were residing in Chad.

In August of 2008, UNHCR and partners conducted nutrition surveys in 12 refugee camps located in Eastern Chad (UNHCR/Joint, 08/08). On the whole, the results indicate a serious situation (figure 6). When compared to the last series of surveys done in 2006, the rates of malnutrition have gone up slightly, but the increases were not all significant. The deterioration could be attributed to a rise in the number of refugees in the camps without a commensurate rise in services, the decreased food ration being distributed, general insecurity and poor water and sanitation facilities.

Four surveys were done by ACF-F in July and August 2008, all among Central African refugees in camps in Logone-Oriental and Moyen Chari (ACF-F, 08/08). The prevalence of acute



FIGURE 6 RESULTS OF NUTRITION AND MORTALITY SURVEYS, REFUGEE CAMPS, CHAD (UNHCR/JOINT, 08/08)

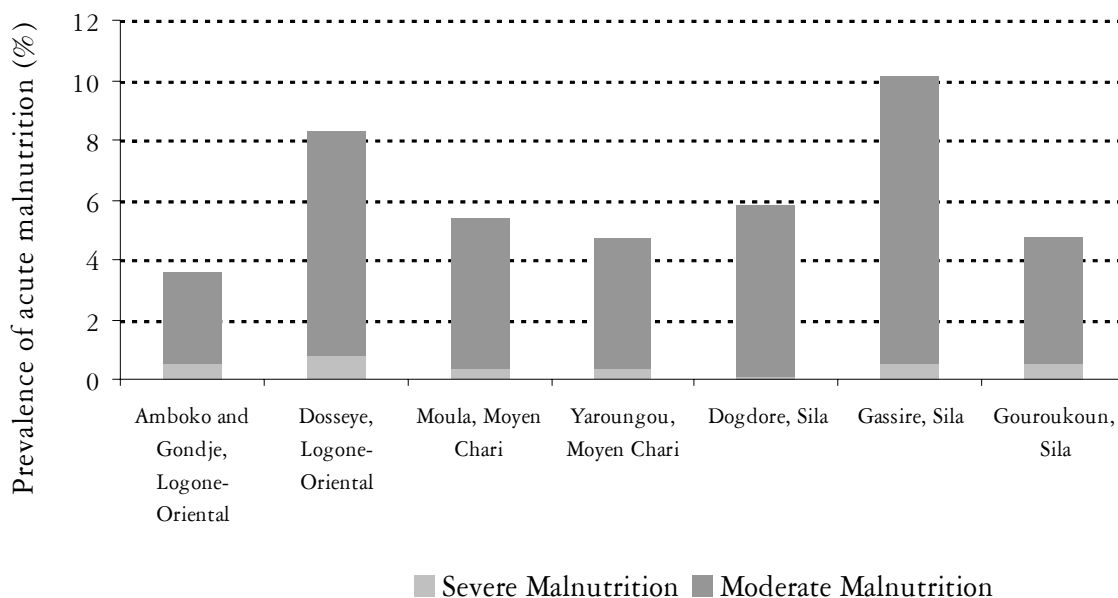


and severe malnutrition was under 10% in all four camps and indicates that the situation is more-or-less under control (figure 7). Mortality rates were also well under alert levels. With the exception of Moula camp, measles vaccination rates need improvement.

ACF-F conducted another three nutrition surveys in the towns and IDP camps of Dogdore, Gassire and Gouroukoun (Sila Region) in Sep-

tember 2008 (ACF-F, 09/09). Again, the prevalence of acute malnutrition was mostly under control, while severe malnutrition was quite low (figure 7). Gassire had the highest rate of acute malnutrition at 10.1% (C.I. 7.4-12.8), just above the alert level.

FIGURE 7 PREVALENCE OF ACUTE MALNUTRITION, CHAD (ACF-F, 07-09/08)



Democratic Republic of Congo

Renewed fighting leads to massive displacement in East Congo

Clashes between government forces and troops loyal to rebel General Laurent Nkunda erupted in August 2008, forcing hundreds of thousands of civilians in North Kivu to flee their homes. Estimates from January 2009 put the number of people displaced since August at 300,000, bringing the total number of IDPs in

North Kivu to just over 800,000 (USAID, 04/03/09).

The Rwandan government arrested Laurent Nkunda in January 2009 and then sent troops into DRC in a joint operation with the Congolese Army to oust Rwandan Forces Démocratiques pour la Libération du Rwanda (FDLR), causing further displacements. The Rwandan army withdrew most of its troops in February, but the Congolese army continues its operation. The situation has stabilized to some

extent and there are reports that IDPs are starting to return home in limited numbers.

Insecurity has also been a problem in Orientale province, where the Ugandan rebel group Lord's Army Resistance (LRA) has been operating. Between September 2008 and mid-January 2009, approximately 115,000 people had been displaced in the region and over 600 were killed (USAID, 23/01/09). Attempts to access those requiring assistance have been complicated by ongoing attacks and poor internal infrastructure.

In March 2009, the WFP issued an alert stating that they were only able to reach 1 million of the estimated 1.5 million people needing emergency food assistance in Eastern DRC (WFP, 19/03/09). Insecurity, logistical problems and underfunding were cited as barriers to program implementation. Many beneficiaries have been receiving reduced rations since October 2008 due to pipeline disruptions. As a result, WFP has been trying to cover needs by borrowing food from programs in neighboring countries.

Outbreaks of cholera persist in many parts of the country. From January to the beginning of March 2009, 1,962 cases and 16 deaths (Case Fatality Rate: 0.81%) were recorded in South

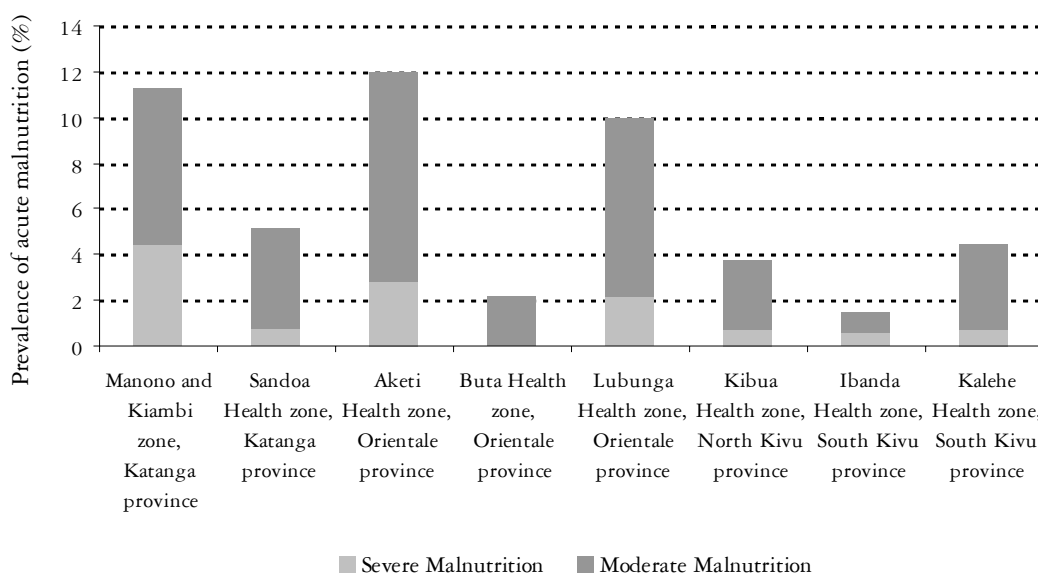
Kivu. An additional 908 case and 32 deaths (CFR: 3.5%) were reported in Katanga province over the same time period (WHO, 09/03/09). The MoH, in collaboration with UN agencies and other NGOs, has been working to provide effective treatment and to improve sanitary conditions.

Overall nutrition situation stable

AAH-US carried out a series of random sampled surveys in DRC last summer, including one in Katanga, one in North Kivu, two in South Kivu and three in Orientale province. For the most part, the nutrition situation was found to be relatively good, with all but two surveys reporting acceptable levels of acute malnutrition (figure 8). However, in two of the three zones in Orientale province surveyed, rates of acute malnutrition were at alert levels, with severe malnutrition over 2% in both cases.

A final survey was carried out by GOAL in the Manono and Kiambi zone of Katanga in June 2008 (GOAL, 06/08). While the prevalence of acute malnutrition was below emergency levels at 11.3% (C.I. 7.2-17.2), it should be pointed out that the rates of severe malnutrition and child mortality were extremely high (figure 8).

FIGURE 8 PREVALENCE OF ACUTE MALNUTRITION, DRC (GOAL, 06/08; AAH-US, 06-08/08)



Uganda

The North-eastern region of Karamoja is facing deteriorating food security conditions after three years of failed crops. Nearly one million people, representing over 95% of the region's population, are in need of assistance as household food stocks have been exhausted (FEWS, 02/09). The WFP, in partnership with local authorities, initiated an Emergency Operation (EMOP) in all five districts of the regions, which is expected to run until at least October of this year. In order to reach all those affected, the program still needs to secure another 70,000 MT of food.

Relocation efforts in the North of the country continue and in November 2008, it was estimated that over 60% of the 1.2 million 2005 IDPs had left the camps, most either to transit camps or to their places of origin. Those that remain are still vulnerable and are reliant on agencies to meet their food needs.

A random-sampled nutrition survey conducted in June 2008 by AAH-US in the Gulu/Amuru districts of Northern Uganda showed that global acute malnutrition increased to 8.7% (C.I. 6.5-10.8), more than double since last year (AAH-US, 06/08) (table 6). In addition, mortality rates have increased to near or alert levels. Possible explanations for the worsening situation are the lack of infrastructure and resources in return villages, including poor access to health care and inadequate water and sanitation facilities.

TABLE 6 RESULTS OF A NUTRITION AND MORTALITY SURVEY, GULU AND AMURU DISTRICTS, UGANDA JUNE 2008 (AAH-US, 06/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
8.7 (6.5-10.8)	1.4 (0.4-2.4)	1.26 (0.82-1.69)	1.94 (0.97-2.91)

Southern Africa

Zimbabwe

Following contested election results, a power-sharing agreement was signed between Mugabe's ruling Zimbabwe African National Union–Patriotic Front (ZANU–PF) and opposition Movement for Democratic Change (MDC) in September 2008 (USAID, 17/03/09). Due to ongoing disputes over implementation of this agreement, the MDC only consented to take part in a unity government on January 30th, 2009. MDC ministers formally joined the government in mid-February.

Despite some improvements in the political climate, the country's economic situation continues to worsen. An urban food security assessment, conducted by the Zimbabwe Vulnerability Assessment Committee (ZimVAC) in January 2009, found that one-third of households surveyed were food insecure, up from a quarter in a similar survey from November 2006 (FEWS, 02/09). The provinces of Mani-

caland and Matabeleland North had the highest levels of food insecurity.

Following the lifting of the ban on food imports, commercial and humanitarian actors have succeeded in importing nearly 750,000 MT of cereal since the beginning of the year. Increased availability has slightly decreased market prices, making some basic food staples more affordable to the general public. In an effort to curb inflation, civil servants have started being paid in dollars and other sectors are expected to start doing the same.

Cholera at epidemic proportions

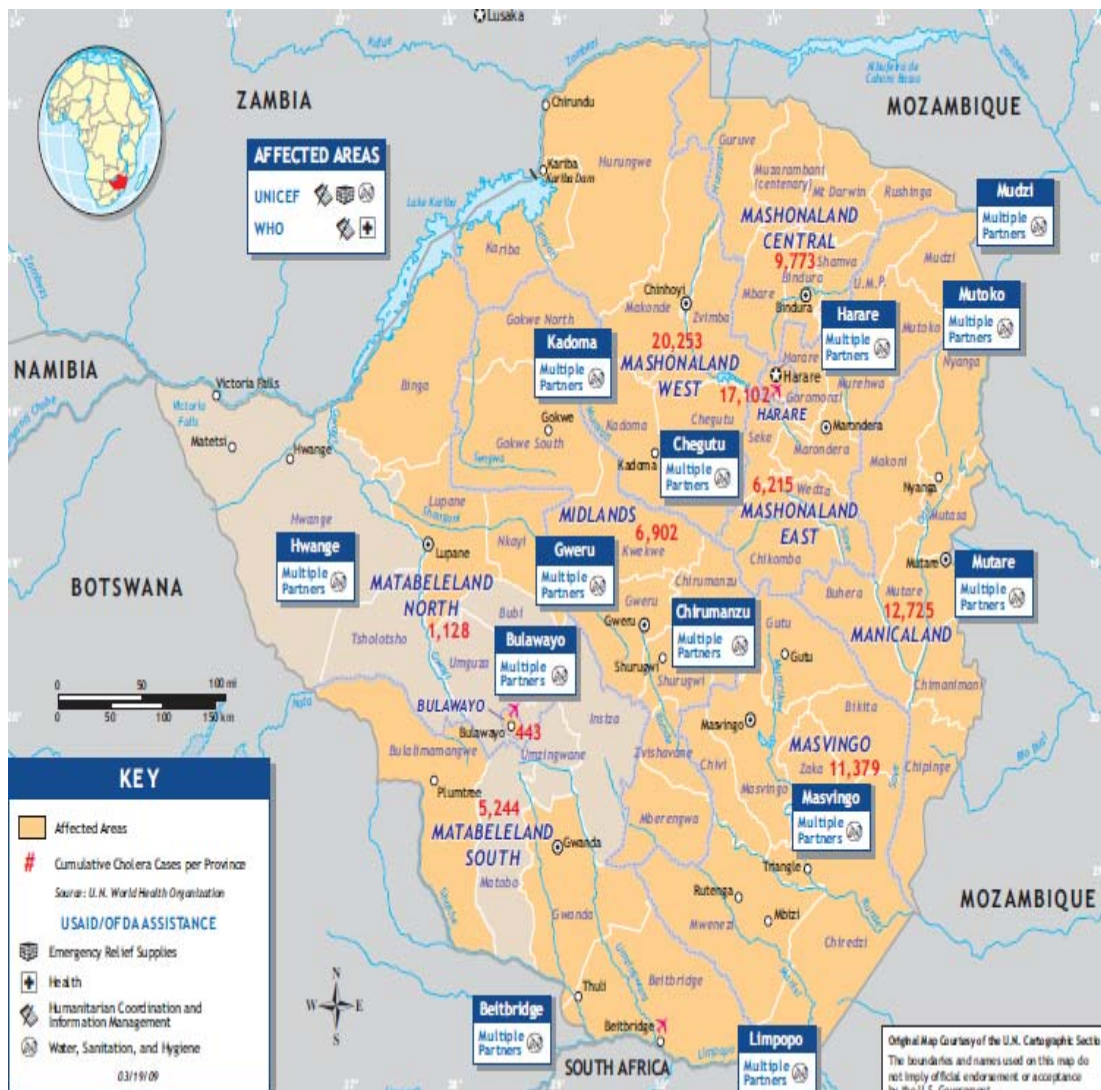
Poor access to clean water, most notably in urban areas, coupled with the onset of the rainy season led to the outbreak of cholera in August 2008. Zimbabwe's public health system was already in ruins and poorly prepared to deal with the sudden rise in cases. Further

complicating the situation, several major hospitals shut down in November 2008, forcing the government to declare a national emergency on December 4th. UNICEF, WHO and other international organizations have since been working to halt the epidemic through both curative and preventative measures.

of deaths are reported in community settings, indicating that appropriate treatment methods have not reached all affected areas. While infection rates have started to slow, the epidemic is not yet under control and important measures remain to be taken in order to improve overall water and sanitation conditions.

As of March 7th 2009 there were 88,834 cases of cholera reported and just over 4000 deaths (CFR: 4.5%) (WHO, 15/03/09). The majority

NUMBER OF CHOLERA CASES BY PROVINCE AS OF MARCH 2009, ZIMBABWE (USAID 19/03/09)



Asia

Nepal

Despite record crop production in 2008, the overall food security situation in Nepal remains worrisome. Poor meteorological conditions led to insufficient production in several regions. Moreover, the rains essential for winter crop production have not yet arrived this year and according to a recent rapid assessment carried out by the WFP across twenty districts, a full 70% of farmers predict a poor to very poor winter crop output (WFP, 02/09).

In May 2008 Concern conducted a random-sampled nutrition survey in the Midwestern region district of Bardiya. This baseline survey is part of the Community Based Management of Acute Malnutrition (CMAM) pilot project, which is being implemented in various agro-ecological zones around the country in partnership with UNICEF and ACF (Concern, 05/08).

The survey unveiled a high prevalence of acute malnutrition, although it was lower than rates found in other regions during similar CMAM



TABLE 7 RESULTS OF A NUTRITION SURVEY, BARDIYA DISTRICT, BHERI ZONE, NEPAL JUNE 2008 (CONCERN, 06/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
16.9 (13.1-20.6)	1.0 (0.3-1.8)	-	-

surveys (table 7). Lack of proper sanitation facilities, as well as confusion about certain child care and feeding practices, were identified as areas needing improvement.

Pakistan

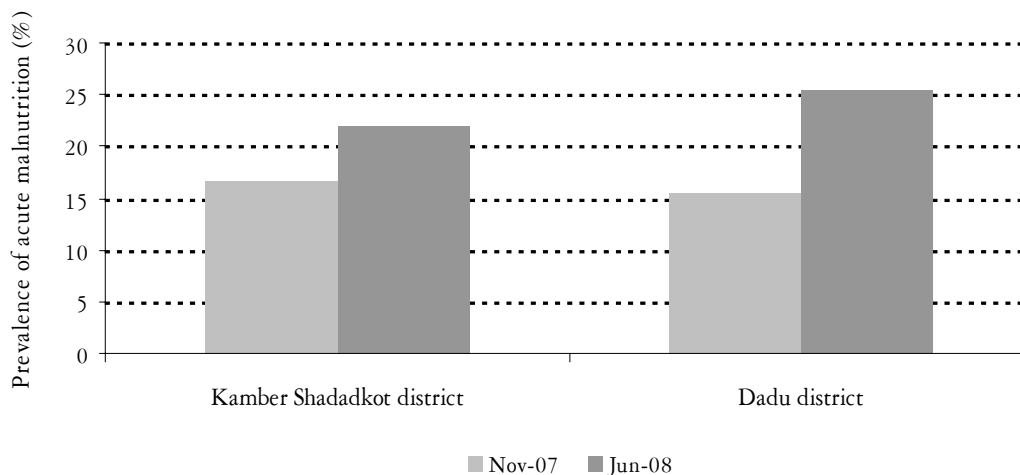
The provinces of Balochistan and Sindh suffered severe flooding following monsoon rains and the arrival of Cyclone Yemyin in June 2007 (AAH-US, 06/08). An estimated 100,000 people were displaced from the districts of Kamber-Shahdadkot and Dadu (Sindh province) alone. Emergency humanitarian assistance was provided in the months just after the flooding, and most of those displaced have since returned to their homes.

AAH-US carried out two follow-up nutrition surveys in June 2008 in the hardest hit zones. Acute malnutrition rates in both survey zones were found to be higher than those from November 2007 and well above emergency levels (AAH-US, 06/08). Severe malnutrition and mortality rates, on the other hand, were within

acceptable limits (figure 9).

Of note is that the surveys were done shortly after the wheat, barley and legume harvest, a period when food stocks are generally quite good. However, as the irrigation system was largely destroyed by the floods, the supply of water was inadequate for the cultivation of all crops, most specifically rice. The majority of survey respondents said that their harvests were smaller than usual. The downturn in production has driven food prices up by as much as 25% for some items. Coupled with the fact that many lost their livestock, an important source of income, the population has become increasingly food insecure and therefore, vulnerable to malnutrition.

FIGURE 9 TRENDS IN ACUTE MALNUTRITION, SINDH PROVINCE PAKISTAN (AAH-US, 06/08)



Caribbean

Haiti

Haiti was devastated by a series of tropical storms and hurricanes in August and September of last year. Over 800,000 people were affected, including 150,000 that were displaced or left homeless. Massive damage to infrastructure and livelihoods was reported across the country (USAID, 12/08).

As many as three million people, or one third of the total population, are currently classified as food insecure in Haiti (FEWS, 01/09). While food prices have been steadily declining over the past several months, the winter harvest was drastically reduced as a result of the storms. It is estimated that 20% of crops were destroyed.

The city of Gonaives, in the western department of Artibonite, was especially hard hit. On September 2nd, tropical storm Hanna struck, causing widespread flooding and effectively cutting off the city from the rest of the country. In all, 149 people were reported dead

and 50,000 families displaced (ACF-F, 11/08).

In November 2008, ACF-F conducted a nutrition survey in Gonaives. Rates of malnutrition and mortality were both well under control, suggesting that local coping mechanisms, coupled with relief efforts, in the wake of the storms were effective (table 8).

TABLE 8 RESULTS OF A NUTRITION AND MORTALITY SURVEY, CITY OF GONAIVES, ARTIBONITE DEPARTMENT, HAITI OCTOBER 2008 (ACF-F, 10/08)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Crude Mortality (/10,000/day) (95% CI)	Under 5 Mortality (/10,000/day) (95% CI)
4.4 (3.0-5.8)	0.7 (0.1-1.3)	0.54 (0.25-0.74)	0.59 (0.0-1.27)

Results of surveys

Survey Area	Date	Popula- tion	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]		Severe Acute Malnutrition** (%) (95% CI) [§]		Oedema (%)	MUAC [#] (%)
GREATER HORN OF AFRICA ETHIOPIA										
SNNPR										
Hadiya zone, Misrak Badawacho woreda	May-08	Residents	187,340	SC-UK ¹	15.9	12.2-19.5	3.5	2.3-4.7	2.2	-
Alaba Sp. Zone, Alaba Sp. Woreda	May-08	Residents	72,295	RENCU/ Joint ¹	9.1	6.3-11.9	1.7	0.6-2.9	1.4	-
Sidama zone, Tulla woreda	Jun-08	Residents	123,985	SC-US/ Joint ¹	7.0	4.1-10.0	0.9	0.0-2.0	0.3	-
Sidama zone, CLZ woreda	Jul-08	Residents	309,874	ACF ¹	7.7	5.6-9.9	0.3	0.0-0.6	0.1	-
Sidama zone, ELZ woreda	Aug-08	Residents	155,191	ACF ¹	6.9	5.0-8.8	0.8	0.1-1.5	0.5	-
Kembatta Tembaro zone, Kedida Gamella woreda	Jun-08	Residents	111,180	RENCU/ Joint ¹	10.7	8.4-13.1	2.3	1.3-3.3	1.1	-
Wolayita zone, Damot Gale woreda	Jul-08	Residents	153,200	GOAL	12.1 <i>13.0²</i>	8.7-15.5 <i>9.9-16.9</i>	2.1 <i>3.3²</i>	0.5-3.7 <i>1.8-6.2</i>	0.6	MUAC < 11 cm: 2.3 MUAC < 12.0 cm: 10.8
Konso special zone, Konso woreda	Jul-08	Residents	236,982	SC-US/ joint ¹	23.4	17.9-30.0	2.2	1.1-4.5	0.0	-
Hadiya zone, Soro woreda	Sept-08	Residents	225,120	Concern	11.4 <i>11.3²</i>	7.8-15.1 <i>7.7-14.9</i>	2.0 <i>1.8²</i>	0.7-3.2 <i>0.6-3.0</i>	0.3	MUAC < 11 cm: 1.8 MUAC < 12.0 cm: 6.7

*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

¹From ENCU quarterly bulletin (ENCUC, 30/06/08 and 30/09/08). The methodology is in accordance with the ENCU specifications for nutritional surveys, which are in line with international standards.

²According 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 deficiencies		Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
	Proved by card	Card + history						
5.2	61.2	-	73.2	-	0.22	0.06-0.37	0.57	0.01-1.12
24.4	93.0	-	95.0	-	0.31	0.11-0.52	0.91	0.0-2.11
20.1	73.1	-	90.8	-	0.21	0.04-0.38	0.45	0.06-0.97
20.0	80.0	-	70.1	-	0.03	0.0-0.09	0.29	0.0-0.67
13.1	86.9	-	72.0	-	0.34	0.10-0.58	0.45	0.0-0.92
34.7	92.7	-	89.8	-	0.48	0.24-0.72	0.54	0.0-1.19
14.6	78.1	-	86.7	-	0.66	0.25-1.07	2.24	0.71-3.77
9.1	44.2	-	44.2	-	0.81	0.47-1.15	2.63	1.28-3.99
8.0	86.9	-	89.4	-	0.23	0.05-0.42	0.84	0.14-1.54

[#] 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 [#] (%)
ETHIOPIA										
AMHARA										
South Wollo zone, Dessie Zuria woreda	May-08	Residents	172,428	Concern ¹	12.2	9.4-15.0	0.5	0.0-1.0	0.0	-
North Wollo zone, Gidan woreda	Jun-08	Residents	173,000	SC-UK ¹	12.1	9.2-14.9	1.1	0.3-1.8	0.2	-
OROMIA										
East Harerge zone, Kersa woreda, Oromia	Jun-08	Residents	161,844	Goal ¹	12.8 <i>13.0²</i>	9.2-16.4 <i>9.9-16.9</i>	2.2 <i>3.3²</i>	1.1-3.4 <i>2.0-5.5</i>	1.5	MUAC < 11 cm: 1.1 MUAC < 12.0 cm: 8.0
West Harerge zone, Kuni woreda	Sep-08	Residents	192,353	GoE ¹	12.4	9.4-15.3	2.1	0.8-3.3	0.3	-
AFAR										
Zone four, Teru woreda	Aug-08	Residents	48,515	MSF-H/ Joint ¹	22.5	18.1-27.0	4.5	2.3-6.8	0.0	-

* 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 From ENCU quarterly bulletin (ENCU, 30/06/08 and 30/09/08). The methodology is in accordance with the ENCU specifications for nutritional surveys, which are in line with international standards.

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

Continued...

Measles immunisation coverage (%) [#]	Assessment of micro-nutrient deficiencies		Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
	Proved by card	Card + history						
25.3	78.0	-	83.1	-	0.27	0.03-0.52	0.44	0.0-1.05
15.3	55.3	-	77.1	-	0.33	0.10-0.56	0.97	0.0-1.87
10.7	61.8	-	85.5	-	0.36	0.11-0.61	0.80	0.06-1.53
3.0	44.6	-	38.1	-	0.19	0.01-0.38	0.84	0.05-1.62
0.0	0.0	-	2.0	-	1.13	0.75-1.52	2.56	1.28-3.83

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

Survey Area	Date	Popula- tion	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]		Severe Acute Malnutrition** (%) (95% CI) [§]		Oedema (%)	MUAC [#] (%)
KENYA										
Nukuru, Molo, Nakuru North and Naivasha districts, Rift Valley Pro- vince	Jul-08	Residents	1,514,596	AAH-US	3.8 <i>3.0²</i>	2.0-5.5 <i>1.5-4.5</i>	0.0 <i>0.3²</i>	0.0-0.2 <i>0.0-0.8</i>	0.0	MUAC < 11cm: 0.2 MUAC < 12.0cm: 1.0
SOMALIA										
NORTHWEST REGION										
Golis Guban livelihood zone	Oct-08	-	-	FSAU- joint ¹	20.7	15.3-26.2	2.4	1.4-3.5	0.2	-
Sool plateau	Oct-08	-	-	FSAU- joint ¹	9.9	6.9-13.0	0.5	0.0-1.1	0.2	-
BAKOOL AND BAY										
Bakool Agropastoral livelihood zone	Jul-08	Residents	-	FSAU- joint ¹	25.2 <i>25.7²</i>	22.1-28.6 <i>22.2-28.7</i>	3.8 <i>9.3²</i>	2.6-5.6 <i>7.1-11.6</i>	0.6	MUAC < 11.0cm: 5.9 MUAC < 12.5cm: 27.0
Burao IDP settlement	Jul-08	Displaced	-	FSAU- joint ¹	20.5	Exhaustive	2.3	Exhaus- tive	-	-

*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 FSAU Nutrition Update

² According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)

Continued...

Measles immunisation coverage (%) [#]		Assessment of micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]	Under 5 Mortality (/10,000/day) (95% CI) [§]
Proved by card	Card + history					
49.6	93.8	-	-	-	0.14 0.04-0.24	0.24 0.00-0.67
-	43.0	-	46.9	MUAC < 18.5 cm (non-pregnant): 1.1 MUAC < 23.0 cm (pregnant): 17.1	1.05 0.65-1.68	1.06 0.52-2.14
-	36.6	-	47.7	MUAC < 18.5 cm (non-pregnant): 2.8 MUAC < 23.0 cm (pregnant): 18.6	0.64 0.88-3.04	1.64 0.35-1.18
-	55.4	-	57.4	MUAC < 23.0 cm (pregnant): 30.0	0.57 0.33-1.00	1.72 0.89-3.32
-	-	-	-	-	- -	- -

[#] 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										
Agropastoral livelihood zone	Jun-08	Residents / Displaced	49,325	FSAU-joint ¹	15.9 <i>16.6²</i>	10.4-21.4 <i>13.6-19.6</i>	2.6 <i>4.6²</i>	0.8-4.4 <i>2.8-6.3</i>	0.0	MUAC<11.0cm: 0.7 MUAC<12.5cm: 9.8
Riverine livelihood zone	Jun-08	Residents / Displaced	166,129	FSAU-joint ¹	17.7 <i>20.1²</i>	13.3-22.1 <i>17.0-23.1</i>	4.0 <i>6.8²</i>	1.7-6.2 <i>4.9-8.7</i>	1.7	MUAC<11.0cm: 2.8 MUAC<12.5cm: 12.6
MIDDLE AND LOWER JUBA										
Agropastoral livelihood zone	Jun-08	Residents	-	FSAU-joint ¹	17.8 <i>21.0²</i>	13.7-22.9 <i>16.6-26.2</i>	2.1 <i>5.2²</i>	0.9-4.7 <i>3.6-7.5</i>	0.3	MUAC<11.0cm: 1.2 MUAC<12.5cm: 16.7
Pastoral livelihood zone	Jun-08	Residents	-	FSAU-joint ¹	14.3 <i>14.0²</i>	11.3-17.2 <i>11.4-17.0</i>	2.6 <i>3.2²</i>	1.4-4.7 <i>1.9-5.3</i>	0.2	MUAC<11.0cm: 0.5 MUAC<12.5cm: 6.3
Riverine livelihood zone	Jun-08	Residents	-	FSAU-joint ¹	14.5 <i>16.3²</i>	11.7-17.7 <i>13.0-22.9</i>	2.2 <i>3.9²</i>	1.3-3.5 <i>2.9-5.6</i>	0.3	MUAC<11.0cm: 1.1 MUAC<12.5cm: 16.1

*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 FSAU Nutrition Update

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Continued...

Measles immunisation coverage (%) [#]		Assessment of micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
-	42.1	-	76.3	MUAC < 18.5 cm (non-pregnant): 1.0 MUAC < 23.0 cm (pregnant): 37.7	0.56	0.25-0.87	0.57	0.01-1.14
-	65.9	-	85.2	MUAC < 18.5 cm (non-pregnant): 0.7 MUAC < 23.0 cm (pregnant): 22.0	0.72	0.39-1.05	1.78	0.81-2.75
-	49.4	-	54.9	MUAC < 18.5 cm (non-pregnant): 0.7 MUAC < 23.0 cm (pregnant): 52.3	0.98	0.67-1.43	1.79	1.17-2.73
-	43.4	-	44.1	MUAC < 18.5 cm (non-pregnant): 0.4 MUAC < 23.0 cm (pregnant): 32.0	0.74	0.54-1.01	0.72	0.33-1.54
-	73.4	-	74.6	MUAC < 18.5 cm (non-pregnant): 0.4 MUAC < 23.0 cm (pregnant): 25.8	1.55	1.08-2.2	2.69	1.54-4.68

[#] 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										
SOUTH DARFUR										
Kass town	Jun-08	Residents/ Displaced	140,657	ACF-F	13.2 <i>13.6²</i>	10.4-16.8 <i>11.3-15.8</i>	1.3 <i>3.2²</i>	0.5-2.9 <i>2.1-4.4</i>	0.3	-
Otash IDP camp	Jun-08	Displaced	63,212	ACF-F	19.5 <i>21.1²</i>	16.1-23.5 <i>18.5-23.7</i>	2.3 <i>4.9²</i>	1.2-4.2 <i>3.5-6.3</i>	0.2	MUAC < 11 cm: 0.9 MUAC < 12.5 cm: 12.8
Al Salam IDP camp	Jun-08	Displaced	52,696	ACF-F	19.2 <i>21.7²</i>	15.7-23.1 <i>18.9-24.5</i>	1.9 <i>5.7²</i>	0.9-3.7 <i>4.3-7.1</i>	0.3	MUAC < 11 cm: 1.1 MUAC < 12.5 cm: 15.5
Gereida town	Jul-08	Residents/ Displaced	-	ICRC ¹	14.0	11.8-16.1	0.6	0.1-1.0	-	-
NORTH DARFUR										
Abu Shock and As Salam IDP camp	Jun-08	Displaced	101,795	ACF-F	17.9 <i>21.7²</i>	14.6-21.8 <i>18.2-25.3</i>	1.5 <i>3.4²</i>	0.6-3.1 <i>2.2-4.7</i>	0.0	MUAC < 11 cm: 0.4 MUAC < 12.5 cm: 10.9
Kebkabiya town	Jun-08	Residents/ Displaced	69,808	ACF-F	24.2 <i>24.8²</i>	20.4-28.4 <i>21.1-28.6</i>	1.3 <i>3.6²</i>	0.5-2.9 <i>1.7-5.6</i>	0.1	MUAC < 11 cm: 0.6 MUAC < 12.5 cm: 8.9
WEST DARFUR										
Um Dukhun	Jun-08	Residents/ Displaced/ Refugee	-	IMC/Joint ¹	8.6	6.2-11.0	1.0	0.3-1.6	-	-

*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 UNICEF Darfur Nutrition Update

² According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)

Continued...

Measles immunisation coverage (%) [#]		Assessment of micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
33.1	78.1	-	-	-	0.75	-	2.19	-
19.3	54.9	-	-	-	0.72	-	1.33	-
8.6	43.7	-	-	-	0.75	-	1.30	-
-	52.6	-	50.3	-	-	-	-	-
26.8	83.9	-	-	-	0.34	-	0.75	-
32.2	79.3	-	-	-	0.60	-	0.90	-
-	68.7	-	61.6	-	-	-	-	-

[#] 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										
AGOK AREA										
Abyei County	Jul-08	Displaced/Returnees	30,585	MSF-CH	26.5 26.1 ¹	22.5-30.8 22.7-29.6	3.6 7.0 ¹	2.2-5.9 5.0-7.0	.002	MUAC < 11 cm: 0.6 MUAC < 12.5 cm: 7.6
JONGLEI STATE										
Khorfulus and Atar areas	May-08	Residents	43,188	AAH-US	23.9 24.1 ¹	20.4-27.4 20.6-27.5	1.9 3.9 ¹	0.9-2.9 2.3-5.5	0.0	MUAC < 11 cm: 0.3 MUAC < 12.0 cm: 5.0
UPPER NILE STATE										
Sobat corridor	May-08	Residents/Displaced/Returnees	26,090	GOAL	29.1 28.4 ¹	24.3-33.8 23.9-32.9	4.3 7.5 ¹	2.7-5.8 5.2-9.9	0.0	-
UNITY STATE										
Rob Kona County	Aug-08	Residents/Returnees	54,201	ACF-F	18.8 18.2 ¹	16.0-21.5 15.9-20.6	2.3 5.0 ¹	1.1-3.5 3.7-6.4	-	MUAC < 11 cm: 0.6 MUAC < 12.0 cm: 3.6

*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 deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
17.1	70.1	-	-	-	2.00	1.2-2.8	0.50	0.0-1.4
26.9	59.2	-	-	-	0.36	0.18-0.54	0.53	0.01-1.05
18.4	41.8	-	51.3	-	0.80	0.3-1.3	1.52	0.6-2.5
16.3	66.2	-	-	-	0.68	0.35-1.02	1.99	0.69-3.29

[#] 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 [#] (%)
WEST AFRICA GUINEA										
Kissidougou prefecture	Jul-08	Residents	281,430	ACF-S	4.8 <i>4.2¹</i>	2.8-6.7 <i>2.5-5.8</i>	0.6 <i>0.8¹</i>	0.1-1.1 <i>0.2-1.4</i>	0.3	MUAC < 11 cm: 0.5 MUAC < 12 cm: 1.9
MAURITANIA										
Gorgol region	Jun-08	Residents	238,255	ACF-S	21.1 <i>23.5¹</i>	16.7-26.2 <i>18.9-28.9</i>	1.7 <i>3.1¹</i>	0.7-3.7 <i>1.9-5.1</i>	0.0	MUAC < 11 cm: 0.1 MUAC < 12.5 cm: 0.2
NIGER										
Guidan Roundji district, Maradi Region	Jun-08	Residents	-	MSF/ Epicentre	7.2 <i>9.2¹</i>	6.2-8.2 <i>8.2-10.1</i>	0.4 <i>1.0¹</i>	0.2-0.5 <i>0.6-1.3</i>	0.0	MUAC < 11 cm: 0.3 MUAC < 12.5 cm: 4.2
Magaria District Zinder region	Jun-08	Residents	-	MSF/ Epicentre	11.1 <i>14.0¹</i>	9.8-12.4 <i>12.8-15.2</i>	0.9 <i>3.2¹</i>	0.6-1.3 <i>2.6-3.8</i>	0.0	MUAC < 11 cm: 0.3 MUAC < 12.5 cm: 7.8
Agricultural livelihood zone	Jun-08	Residents	-	MSF/ Epicentre	10.6 <i>12.7¹</i>	9.0-12.1 <i>11.6-13.8</i>	0.8 <i>2.6¹</i>	0.4-1.1 <i>2.1-3.2</i>	0.2	MUAC < 11 cm: 1.0 MUAC < 12.5 cm: 8.7
Tahoua Department, Tahoua region	Jul-08	Residents	449,626	Concern	10.6	8.1-13.1	0.5	0.0-0.9	0.2	MUAC < 11 cm: 0.1 MUAC < 12.5 cm: 6.0
Illela Department, Tahoua region	Jul-08	Residents	330,697	Concern	9.6	7.5-11.7	0.7	0.2-1.2	0.0	MUAC < 11 cm: 0.1 MUAC < 12.5 cm: 5.2

*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 micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
44.5	81.6	-	-	-	0.51	0.31-0.71	0.94	0.29-1.59
29.3	76.4	-	-	-	0.23	0.30-1.28	0.62	0.13-0.39
-	-	-	-	-	-	-	0.62	0.41-0.94
-	-	-	-	-	-	-	0.81	0.45-1.41
-	-	-	-	-	-	-	1.05	0.65-1.65
31.0	75.6	-	72.1	-	0.16	0.01-0.30	0.15	0.0-0.29
31.1	80.2	-	76.0	-	0.07	0.02-0.16	0.13	0.01-0.27

[#] 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								
CHAD								
LOGONE-ORIENTAL								
Amboko and Gondje refugee camps, Nya Pende province	Jul-08	Refugees	23,730	ACF-F	3.6 2.4-4.8 <i>3.8¹ 2.3-5.3</i>	0.5 0.0-1.0 <i>1.1¹ 0.3-1.9</i>	0.2	MUAC < 11cm: 0.2 MUAC < 12cm: 2.6
Dosseye refugee camp, Nya Pende province	Jul-08	Refugees	8,260	ACF-F	8.3 5.9-10.8 <i>9.8¹ 7.4-12.2</i>	0.8 0.2-1.4 <i>2.0¹ 0.9-3.2</i>	0.2	MUAC < 11cm: 0.8 MUAC < 12cm: 4.1
MOYEN CHARI								
Moula Refugee camp, Grande Sido province	Aug-08	Refugees	5,640	ACF-F	5.4 3.6-7.2 <i>5.4¹ 3.4-7.4</i>	0.4 0.0-0.9 <i>0.8¹ 0.1-1.4</i>	0.0	MUAC < 11cm: 1.0 MUAC < 12cm: 4.3
Yaroungou refugee camp, Grande Sido province	Aug-08	Refugees	9,113	ACF-F	4.7 2.6-6.9 <i>6.2¹ 3.7-8.6</i>	0.4 0.0-0.9 <i>0.7¹ 0.0-1.4</i>	0.2	MUAC < 11cm: 0.3 MUAC < 12cm: 3.0
SILA								
Dogdore, Kimiti Province	Sep-08	Residents/Displaced	28,440	ACF-F	5.8 4.4-7.1	0.1 0.0-0.4	0.0	MUAC < 11cm: 0.0 MUAC < 12cm: 1.8
Gassire, Kimiti Province	Sep-08	Residents/Displaced	14,754	ACF-F	10.1 7.4-12.8	0.5 0.0-1.1	0.0	MUAC < 11cm: 0.3 MUAC < 12cm: 4.8
Gouroukoun, Kimiti province	Sep-08	Residents/Displaced	16,225	ACF-F	4.7 2.9-6.4	0.5 0.0-1.1	0.0	MUAC < 11cm: 0.2 MUAC < 12cm: 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 micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
34.8	87.8	-	-	-	0.32	0.12-0.51	1.26	0.38-2.14
23.7	54.5	-	-	-	0.30	0.13-0.47	0.63	0.0-1.32
86.0	95.7	-	-	-	0.13	0.0-0.27	0.62	0.0-1.33
44.9	76.4	-	-	-	0.16	0.01-0.32	0.62	0.38-1.39
74.3	87.5	-	-	-	0.51	0.22-0.80	1.08	0.38-1.79
52.1	83.9	-	-	-	0.46	0.24-0.68	1.56	0.41-2.70
35.9	64.3	-	-	-	0.53	0.31-0.74	2.07	0.95-3.20

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

Survey Area	Date	Popula- tion	Estimated Popula- tion Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]		Severe Acute Malnutrition** (%) (95% CI) [§]		Oe- dema (%)	MUAC [‡] (%)
CENTRAL AFRICA										
CHAD (CONTINUED)										
EASTERN CHAD										
Goz Amer Refugee camp	Aug-08	Refugees	2,753	UNHCR/ Joint	8.6 <i>11.2[†]</i>	6.0-11.1 <i>8.3-14.0</i>	0.7 <i>2.2[†]</i>	0.2-1.1 <i>1.2-3.2</i>	0.0	-
Djabal refugee camp	Aug-08	Refugees	2,710	UNHCR/ Joint	10.4 <i>9.2[†]</i>	7.8-13.1 <i>6.7-11.8</i>	0.9 <i>1.0[†]</i>	0.1-1.0 <i>0.4-1.6</i>	0.0	-
Gaga refugee camp	Aug-08	Refugees	3,993	UNHCR/ Joint	13.1 <i>13.4[†]</i>	10.8-15.4 <i>10.8-16.0</i>	0.8 <i>2.7[†]</i>	0.2-1.5 <i>1.7-3.7</i>	0.0	-
Farchana refugee camp	Aug-08	Refugees	3,140	UNHCR/ Joint	12.9 <i>12.6[†]</i>	11.0-14.9 <i>10.0-15.2</i>	0.9 <i>2.1[†]</i>	0.1-1.7 <i>0.8-3.3</i>	0.0	-
Bredjing Refugee camp	Aug-08	Refugees	2,559	UNHCR/ Joint	11.9 <i>10.4[†]</i>	9.6-14.3 <i>7.7-13.2</i>	0.8 <i>1.2[†]</i>	0.2-1.5 <i>0.4-1.9</i>	0.0	-
Treguine Refugee camp	Aug-08	Refugees	3,007	UNHCR/ Joint	11.4 <i>11.7[†]</i>	8.7-14.0 <i>9.5-13.8</i>	0.7 <i>1.7[†]</i>	0.1-1.4 <i>0.8-2.5</i>	0.0	-
Oure refugee camp	Aug-08	Refugees	2,997	UNHCR/ Joint	13.8 <i>15.2[†]</i>	10.4-17.3 <i>12.0-18.3</i>	0.7 <i>2.1[†]</i>	0.2-1.2 <i>1.1-3.0</i>	0.0	-
Cassoni Amnabak refugee camp	Aug-08	Refugees	4,035	UNHCR/ Joint	9.1 <i>11.5[†]</i>	7.2-11.0 <i>9.5-13.4</i>	0.5 <i>3.0[†]</i>	0.1-0.9 <i>1.6-4.4</i>	0.0	-
Touloum refugee camp	Aug-08	Refugees	3,235	UNHCR/ Joint	9.5 <i>10.8[†]</i>	6.8-12.2 <i>7.7-13.9</i>	0.6 <i>1.2[†]</i>	0.1-1.0 <i>0.5-1.9</i>	0.0	-
Iridimi refugee camp	Aug-08	Refugees	3,139	UNHCR/ Joint	10.6 <i>11.1[†]</i>	8.2-13.0 <i>8.7-13.6</i>	0.5 <i>1.2[†]</i>	0.0-1.0 <i>0.5-1.9</i>	0.0	-
Mile refugee camp	Aug-08	Refugees	2,781	UNHCR/ Joint	9.8 <i>10.6[†]</i>	6.8-12.7 <i>7.3-13.9</i>	0.4 <i>1.4[†]</i>	0.0-0.8 <i>0.4-2.4</i>	0.0	-
Kounongou refugee camp	Aug-08	Refugees	2,759	UNHCR/ Joint	12.1 <i>12.8[†]</i>	9.4-14.8 <i>10.5-15.2</i>	0.4 <i>1.4[†]</i>	0.0-0.8 <i>0.6-2.3</i>	0.0	-

*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

[†] According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)

Continued...

Measles immunisation coverage (%) [#]		Assessment of micro-nutrient deficiencies	Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
Proved by card	Card + history							
68.5	96.1	Mean Hb 11.6 ²	-	-	0.57	0.25-0.89	0.86	0.05-1.77
48.8	90.9	Mean Hb 11.4 ²	-	-	0.41	0.12-0.70	0.95	0.15-1.74
84.5	92.0	Mean Hb 11.3 ²	-	-	0.36	0.19-0.54	0.65	0.25-1.06
67.5	88.9	Mean Hb 11.3 ²	-	-	0.35	0.11-0.60	1.04	0.25-1.83
72.8	92.4	Mean Hb 11.6 ²	-	-	0.44	0.18-0.69	0.98	0.34-1.62
83.1	95.2	Mean Hb 11.4 ²	-	-	0.37	0.15-0.59	0.81	0.17-1.45
82.7	97.5	Mean Hb 11.4 ²	-	-	0.52	0.13-0.91	0.86	0.18-1.55
85.2	97.5	Mean Hb 11.7 ²	-	-	0.22	0.05-0.40	0.35	0.02-0.69
86.8	96.9	Mean Hb 11.6 ²	-	-	0.42	0.17-0.66	0.87	0.13-1.60
81.5	96.6	Mean Hb 11.7 ²	-	-	0.46	0.23-0.70	0.69	0.17-1.22
83.4	97.7	Mean Hb 11.3 ²	-	-	0.28	0.09-0.46	0.56	0.15-0.97
80.6	94.5	Mean Hb 11.2 ²	-	-	0.36	0.10-0.63	0.56	0.01-1.11

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

²For 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										
KATANGA										
Manono and Kiambi zone	Jun-08	Residents	345,591	GOAL	11.3 <i>12.2¹</i>	7.2-17.2 <i>7.7-18.7</i>	4.5 <i>7.0¹</i>	2.8-7.1 <i>4.3-11.2</i>	1.5	MUAC <11cm: 0.3 MUAC <12cm: 2.7
Sandoa Health zone	Jul-08	Residents	175,171	AAH-US	5.2 <i>5.1¹</i>	3.7-6.7 <i>3.6-6.7</i>	0.8 <i>0.6¹</i>	0.2-1.5 <i>0.1-1.2</i>	0.4	MUAC <11cm: 1.1 MUAC <12cm: 3.3
ORIENTALE										
Aketi Health zone	Jul-08	Residents	111,271	AAH-US	12.0 <i>11.9¹</i>	8.4-15.5 <i>8.4-15.4</i>	2.8 <i>2.8¹</i>	1.0-4.6 <i>1.0-4.6</i>	1.8	MUAC <11cm: 0.3 MUAC <12cm: 4.4
Buta Health zone	Aug-08	Residents	151,601	AAH-US	2.2 <i>2.2¹</i>	1.3-3.0 <i>1.4-2.9</i>	0.0 <i>0.2¹</i>	0.0-0.2 <i>0.0-0.5</i>	0.0	MUAC <11cm: 0.3 MUAC <12cm: 2.3
Lubunga Health zone	Aug-08	Residents	144,470	AAH-US	10.0 <i>8.0¹</i>	7.4-12.7 <i>6.1-10.0</i>	2.2 <i>1.9¹</i>	1.3-3.2 <i>0.6-3.2</i>	1.0	MUAC <11cm: 2.4 MUAC <12cm: 8.6
NORTH KIVU										
Kibua Health zone	Jun-08	Residents	81,174	AAH-US	3.8 <i>4.8¹</i>	2.8-4.8 <i>3.2-6.3</i>	0.7 <i>0.5¹</i>	0.3-1.2 <i>0.1-1.0</i>	0.5	MUAC <11cm: 0.2 MUAC <12cm: 0.9
SOUTH KIVU										
Ibanda Health zone	Jun-08	Residents	256,831	AAH-US	1.5 <i>2.3¹</i>	0.4-2.6 <i>0.9-3.8</i>	0.6 <i>0.7¹</i>	0.0-1.5 <i>0.0-1.6</i>	0.6	MUAC <11cm: 0.1 MUAC <12cm: 0.1
Kalehe Health zone	Jul-08	Residents	133,818	AAH-US	4.5 <i>4.6¹</i>	2.9-6.1 <i>3.0-6.2</i>	0.7 <i>0.7¹</i>	0.3-1.2 <i>0.2-1.3</i>	0.6	MUAC <11cm: 0.2 MUAC <12cm: 1.9

*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 According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)

Continued...

Measles immunisation coverage (%) [#]	Assessment of micro-nutrient deficiencies		Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
	Proved by card	Card + history						
30.2	66.7	-	83.9	-	1.61	1.23-2.13	4.29	2.96-6.17
0.8	87.1	-	89.0	-	0.51	0.23-0.80	1.29	0.49-2.09
5.8	64.4	-	93.8	-	1.44	0.62-2.26	3.15	1.25-5.05
2.5	74.1	-	93.3	-	1.15	0.62-1.68	2.21	0.85-3.56
1.0	68.2	-	91.7	-	1.05	0.75-1.35	2.30	0.79-3.80
11.3	87.3	-	93.0	-	0.38	0.16-0.60	1.10	0.45-1.76
10.1	93.8	-	94.1	-	0.23	0.06-0.39	0.21	0.00-0.50
13.2	85.5	-	94.5	-	0.94	0.39-1.49	2.71	1.09-4.34

[#] 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 [#] (%)
UGANDA								
NORTHERN UGANDA								
Gulu and Amuru districts	Jun-08	Residents/ Displaced/ Returnees	479,496	AAH-US	8.7 6.5-10.8 <i>9.0¹ 6.6-11.4</i>	1.4 0.4-2.4 <i>2.3¹ 1.0-3.5</i>	1.4	MUAC <11cm: 1.3 MUAC <12cm: 6.6
ASIA NEPAL								
Bardiya District, Bheri zone	Jun-08	Residents	382,649	Concern	16.9 13.1-20.6 <i>16.2¹ 12.6-19.9</i>	1.0 0.3-1.8 <i>2.8¹ 1.5-4.2</i>	0.1	MUAC <11cm: 0.6 MUAC <12.5cm: 10.8
PAKISTAN								
Kamber-Shahdalkot district, Sindh province	Jun-08	Residents	99,563	AAH-US	22.0 17.5-26.6 <i>22.7¹ 18.5-26.9</i>	1.1 0.3-1.9 <i>3.7¹ 2.3-5.2</i>	0.0	MUAC <11cm: 0.6 MUAC <12cm: 5.7
Dadu district, Sindh province	Jun-08	Residents	90,725	AAH-US	25.4 21.2-29.6 <i>28.3¹ 23.6-33.0</i>	1.5 0.6-2.3 <i>5.7¹ 3.8-7.6</i>	0.0	MUAC <11cm: 1.1 MUAC <12cm: 7.2
CARIBBEAN HAITI								
Ville de Gonaives, Département de l'Artibonite	Oct-08	Residents	199,742	ACF-F	4.4 3.0-5.8 <i>4.2¹ 2.9-5.6</i>	0.7 0.1-1.3 <i>0.2¹ 0.0-0.5</i>	0.1	MUAC <11cm: 0.1 MUAC <12cm: 1.6

*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 deficiencies		Vitamin A distribution coverage, within the past 6 months	Women's anthropometric status (%)	Crude Mortality (/10,000/day) (95% CI) [§]		Under 5 Mortality (/10,000/day) (95% CI) [§]	
	Proved by card	Card + history						
56.5	93.9	-	-	-	1.26	0.82-1.69	1.94	0.97-2.91
-	-	-	-	-	-	-	-	-
11.1	57.1	-	-	-	0.48	0.18-0.78	1.51	0.29-2.72
3.0	47.2	-	-	-	0.23	0.11-0.35	0.58	0.05-1.11
13.2	64.6	-	-	-	0.54	0.25-0.74	0.59	0.0-1.27

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

Survey methodology

The Greater Horn region

Ethiopia

Damot Gale Woreda, Wolayita zone, SNNPR

A random-sampled nutrition survey was conducted by GOAL in July 2008, using a two-stage 35-by-22 cluster sampling methodology to measure 777 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.

Soro woreda, Hadiya zone, SNNPR

A two-stage 34-by-18 cluster-sampled nutrition survey, including measurements of 612 children 6-59 months, was conducted by Concern Worldwide in September 2008. The survey also estimated measles vaccination and vitamin A distribution coverage, along with crude and under-five mortality rates.

Kenya

Nakuru, Molo, Nakuru North and Naivasha districts, Rift Valley province

A two-stage 36-by-18 cluster-sampled nutrition survey was carried out by ACF-F in July 2008. The survey included 636 children 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates and various food security and public health indicators.

Sudan

Kass town, South Darfur

A random-sampled nutrition survey was conducted by ACF-F in June 2008. A two-stage 30-by-32 cluster sampled methodology was used to identify and measure children 6-59 months. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Otash IDP camp, South Darfur

The survey was conducted by ACF-F in June 2008. A 30-by-32 cluster sampling methodology was used to measure 958 children between 6-59 months. The survey also estimated measles vaccination and crude and under-five mortality rates.

Al Salam IDP camp, South Darfur

ACF-F carried out a two-stage 30-by-32 cluster sampling methodology nutrition survey in June 2008. In total, 960 children were included in the analysis. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Abu Shock and As Salam IDP camps, North Darfur

A random-sampled nutrition survey was conducted by ACF-F in June 2008. A two-stage 30-by-30 cluster sampled methodology was used to measure 959 children 6-59 months. The survey also estimated measles

vaccination coverage and crude and under-five mortality rates.

Kebkabiya town, North Darfur

A random-sampled nutrition survey of 960 children 6-59 months was conducted by ACF-F in June 2008. 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.

Abyei County, Agok area

The survey was conducted by MSF-CH in July 2008. A two-stage 30-by-20 cluster sampling methodology was used to measure 661 children between 6-59 months. The survey also estimated measles vaccination coverage, retrospective mortality and various food security and public health indicators.

Khorfulus and Atar areas, Jonglei state

AAH-US performed a two-stage 36-by-20 cluster sampling methodology nutrition survey in May 2008. Anthropometry data were collected on 794 children between 6-59 months. Measles vaccination coverage and retrospective mortality rates were also measured.

Sobat corridor, Upper Nile State

The survey was conducted by GOAL in May 2008. A two-stage cluster sampling methodology of 30 clusters was used to measure 729 children between 6-59 months. 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.

Rob Kona county, Unity state

The survey was conducted by ACF-F in August 2008. A two-stage 30-by-25 cluster-sampled methodology was used to measure children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rates over three months prior to the survey.

West Africa

Guinea

Kissidougou prefecture

The survey was conducted by ACH-S in July 2008. A 39-by-22 cluster sampling methodology was used to measure 776 children between 6-59 months. The survey also estimated measles vaccination and crude and under-five mortality rates.

Mauritania

Gorgol region

A 40-by-10 cluster sampling methodology nutrition survey was performed by ACH-S in June 2008. A total of 423 children 6-59 months were included in the final analysis. Information on measles vaccination,

crude and under-five mortality rates and infant and child feeding practice indicators were also collected.

Niger

Zinder, Magaria and agricultural zones, Zinder Region

Three nutrition surveys were conducted by Epicentre in June 2008. Children between 6-59 months were measured for anthropometry. The surveys also estimated retrospective under-five mortality rates.

Tahoua department, Tahoua region

A two-stage 36-by-24 cluster sampling methodology nutrition survey was completed by Concern Worldwide in July 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.

Illéla department, Tahoua region

A two-stage 36-by-24 cluster sampling methodology nutrition survey was completed by Concern Worldwide in July 2008. 851 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.

Central Africa

Chad

Amboko and Gondje refugee camps, Nya Pende province, Logone-Oriental region

ACF-F carried out a two-stage 30-by-21 cluster sampling methodology nutrition survey in July 2008 among Central African refugees. In total, 637 children were included in the analysis. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Dosseye refugee camp, Nya Pende province, Logone-Oriental region

The survey was conducted by ACF-F in July 2008. A two-stage 30-by-21 cluster sampling methodology used to measure 635 Central African children between 6-59 months living in the camp. The survey also estimated measles vaccination and crude and under-five mortality rates.

Moula refugee camp, Grande Sido province, Moyen Chari region

A random-sampled nutrition survey of 520 Central African children 6-59 months was conducted by ACF-F in August 2008. A two-stage 30-by-17 cluster design was employed. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Yaroungou refugee camp, Grande Sido province, Moyen Chari region

ACF-F performed a two-stage 30-by-19 cluster sampling methodology nutrition survey in August 2008. Anthropometric data were collected among refugee children 6-59 months from the Central African Republic. Other data collected for the survey included estimates of measles vaccination coverage and crude and under-five mortality rates.

Dogdore, Kimiti province, Sila region

The survey was conducted by ACF-F in September 2008. A two-stage 30-by-26 cluster sampling methodology was used to measure 800 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rates.

Gassire, Kimiti province, Sila region

ACF-F carried out a two-stage 30-by-20 cluster sampling methodology nutrition survey among IDPs and host population in September 2008. In total, 595 children were included in the analysis. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Gouroukoun, Kimiti province, Sila region

A two-stage 30-by-20 cluster sampling methodology nutrition survey was completed by ACF-F in September 2008 among both the host and IDP populations. In total, 602 children were included in the analysis. Vaccination coverage and crude and under-five mortality rates were also surveyed.

Sudanese refugee camps, Eastern Chad

UNHCR and partners carried out standard two-stage 30-by-30 cluster sampled nutrition surveys in 12 refugee camps in Eastern Chad in August 2008. The surveys measured children 6-59 months for anthropometry and also collected blood samples from children and WRA to evaluate the prevalence of iron deficiency anaemia. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

Democratic Republic of Congo

Manono and Kiambi health zones, Katanga province

The survey was conducted by GOAL in June 2008. A two-stage 30 cluster sampling methodology was used to measure 984 children between 6-59 months. The survey also estimated measles vaccination, coverage and vitamin A distribution coverage and various food security and public health indicators.

Sandoa health zone, Katanga province

The survey was conducted by AAH-US in July 2008. A two-stage 30 cluster sampling methodology was used to measure 953 children between 6-59 months. The survey also estimated measles vaccination, vita-

min A distribution coverage and retrospective mortality rate.

Aketi health zone, Orientale province

A standard 30-by-30 cluster sampled nutrition survey was carried out by AAH-US in July 2008. A total of 959 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.

Buta health zone, Orientale province

The survey was completed by AAH-US in August 2008. A two-stage 30-by-30 cluster sampling methodology was used to measure 930 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.

Lubunga health zone, Orientale province

AAH-US performed a two-stage 30-by-30 cluster sampling methodology nutrition survey in August 2008. Included in the study were 939 children between the ages of 6-59 months. Measles vaccination and vitamin A distribution coverage and retrospective mortality rates were also surveyed.

Kibua health zone, North Kivu province

The survey was conducted by AAH-US in June 2008. A two-stage cluster sampling methodology of 30 clusters was used to measure 946 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution along with crude and under-five mortality rates.

Ibanda health zone, South Kivu province

A random-sampled nutrition survey of 944 children 6-59 months was conducted by AAH-US in June 2008. A two-stage 30-by-30 cluster design was employed. The survey also estimated measles vaccination and vitamin A distribution coverage and crude and under-five mortality rates.

Kalehe health zone, South Kivu province

The survey was conducted by AAH-US in July 2008. A two-stage 30-by-30 cluster sampling methodology was used to measure 940 children ages 6-59 months. The survey also measured measles vaccination, vitamin A distribution coverage and crude and under-five mortality rates.

Uganda

Gulu/Amuru districts, Northern Uganda

A random sampled 42-by-21 cluster survey was performed by AAH-US in June 2008. Data collected included anthropometry on 924 children 6-59 months, as well as measles vaccination and crude and under-five mortality rates.

Asia

Nepal

Bardiya district, Bheri zone

Concern carried out a two-stage 36-by-30 cluster sampling methodology nutrition survey in June 2008. In all, 961 children between the ages of 6-59 months were included in the study.

Pakistan

Kamber Shadadkot and Dadu districts, Sindh province

Two surveys were conducted by AAH-US in June 2008. Two-stage cluster sampling methodology using 32 clusters was employed in both districts and included 617 and 614 children 6-59 months. Vaccination coverage, mortality rates and food security indicators were also surveyed.

Caribbean

Haiti

City of Gonaives, Artibonite department

ACF-F carried out a two-stage 30-by-30 cluster sampling methodology nutrition survey in October 2008. In total, 908 children were included in the analysis. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

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Greater Horn of Africa

Ethiopia

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GOAL	09/08	Nutrition survey report, Kuni woreda, West Hararghe zone, Oromia
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West Africa

Guinea

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Niger

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Central Africa

Chad

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Uganda

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Southern Africa

Zimbabwe

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Asia

Nepal

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Pakistan

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Caribbean

Haiti

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Abbreviations and acronyms

AAH-US	Action Against Hunger USA
ACF-F	Action Contre la Faim France
ACH-S	Action Contre El Hambre Spain
BMI	Body Mass Index
CAR	Central African Republic
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
FSAU	Food Security Analysis Unit for Somalia
GoE	Government of Ethiopia
GoN	Government of Niger
ICC	International Criminal Court
ICG	International Crisis Group
IDP	Internally Displaced Person
MOH	Ministry of Health
MSF	Médecins Sans Frontières
MSF-CH	Médecins sans Frontières - Switzerland
MUAC	Mid-upper arm circumference
NGO	Non-governmental Organisation
OCHA	Office for the Co-ordination of Humanitarian Assistance
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
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.

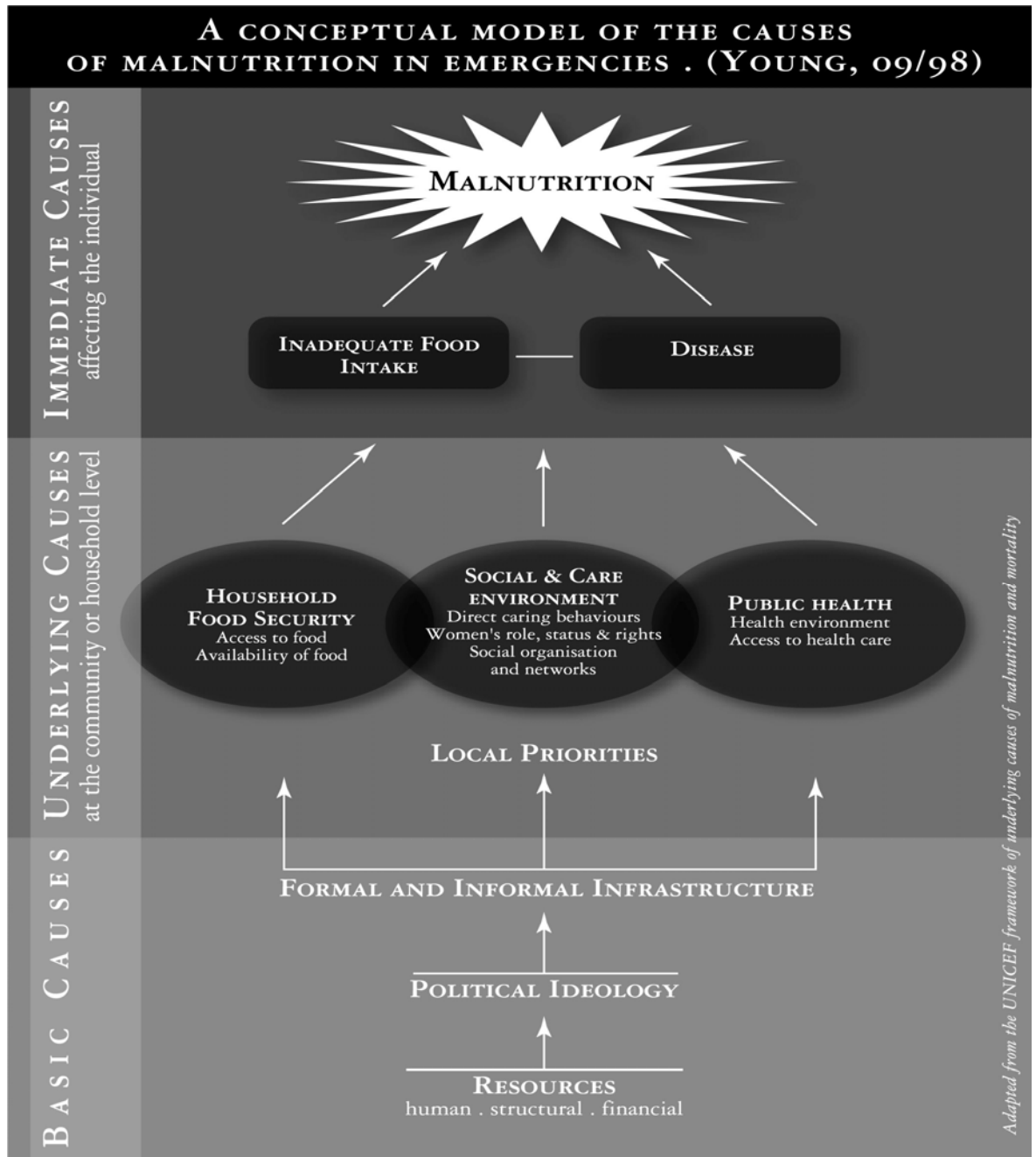
Classification of situations

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 is issued on the general responsibility of the Secretariat of the UN System/Standing Committee on Nutrition; the material it contains should not be regarded as necessarily endorsed by, or reflecting the official positions of the UN SCN and its UN member agencies. The designations employed and the presentation of material in this publication do not imply the expression of any opinion whatsoever on the part of the UN SCN or its UN member agencies, concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

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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:

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