

# Nutrition Information in Crisis Situations

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# Highlights

**SOMALIA—HUNDREDS OF THOUSANDS OF DISPLACED FACE DIRE CONDITIONS—** Fighting between the Transitional Federal Government (TFG), backed by the Ethiopian troops, and anti-TFG factions increased in Mogadishu in March and April, and was reported to be the worst wave of violence in the city for 16 years. An estimated 395,000 people, representing about one third of the town's population, have fled the city and concentrated mostly in Shabelle, Galgadud, Hiran, Mudug and Bay regions. In addition, another 30-40% of the population of Mogadishu is estimated to be displaced within the city. As of the end of April, the situation had calmed down in Mogadishu with the TFG reporting to control most of the city, and displacements out of the city had slowed dramatically. The humanitarian situation of the displaced was reported dire with a lack of shelter, clean water, safe sanitation, health care, medicine and food (FSAU, 30/04/07). Host populations were also affected by the massive influx of the displaced. As of the beginning of May, humanitarian aid had reached about 250,000 people, with 181,400 having received non-food items and 100,000 food aid.

**CENTRAL AFRICAN REPUBLIC—HUMANITARIAN AID REACHES THE IDPS—** An upsurge in violence in the north of the country in 2006 has led to the displacement of thousands of people, especially in the north-west. As of February 2007, the number of displaced was estimated at around 212,000 people. The humanitarian presence has increased in the area over the past few months, but access has remained uncertain. The conflict has had several consequences on the livelihoods of the population, such as the loss of food stocks and productive assets; reduction in crop production; drastic reduction of cotton production; reduced commercial flow and access to market; and an increase in prices of basic products. Despite this degradation in food security and livelihood, the situation was not considered catastrophic as of March 2007 in Ouham Pende, Ouham and Nana-Grimbizi provinces. However, it has been estimated that 190,000 displaced people and 32,000 non-displaced people were in a state of acute food insecurity in the north and were in need of food distri-

bution, especially during the forthcoming hunger gap.

In addition to the displaced population within the Central African Republic, 50,000 people have fled to Chad and 25,000 have sought refuge along the border in Cameroon. The latter are mostly nomadic cattle breeders who, according to assessment missions, live in destitute conditions and have received little international help so far. The most pressing priorities are food, health care, and water and sanitation projects.

**NEPAL—INCREASING CONCERNS —**

According to a WFP assessment conducted in November/December 2006, 197,905 people were experiencing an acute food and livelihood crisis and another 215,463 were facing a deteriorating food security situation, due to drought and other adverse weather conditions. All the households were worse off compared to the same season last year with 63% of them experiencing a food shortage. The poorer the families were, the higher the decrease in income and access to food was.

In the camps, where about 100,000 Bhutanese refugees are sheltered, a nutrition survey conducted in January 2007 showed an acceptable level of acute malnutrition. However, stunting was significant as well as anaemia.

**OCCUPIED PALESTINIAN TERRITORIES—FOOD SECURITY STILL PRECARIOUS—**

A food security analysis concluded that 34% of the population of West Bank and the Gaza Strip was considered food secure in 2006, while 20% was marginally food secure, 12% was vulnerable to becoming food insecure and 34% was food insecure. Although not directly comparable with the FAO/WFP food security assessment in 2003, which used a different methodology, the findings were similar.

The results of the Palestinian Family Health Survey conducted at the end of 2006/beginning of 2007 showed that the level of wasting has remained under control. Compared with the same type of surveys conducted in 2000 and 2004, it seemed that stunting showed a slight increase especially in the Gaza Strip. However, it is difficult to know the significance of this increase.

## 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.

	<b>SOMALIA</b> IDPs from Mogadishu	<b>CENTRAL AFRICAN</b> <b>REPUBLIC</b> Ouham Pendé, Ouham & Nana- Grimbizi provinces	<b>ZAMBIA</b> Refugees in Kala camp	<b>NEPAL</b> Refugee camps	<b>OCCUPIED PALESTINIAN</b> <b>TERRITORIES</b>
Nutritional risk category	I/II	II/III	IV	III	II/III
<b>FOOD SECURITY</b>					
Households' livelihoods	☹	☹	☺	☺	☺
External assistance	☺	☺	☺	☺	☺
<b>PUBLIC HEALTH ENVIRONMENT</b>					
Availability of water and access to potable drinking water	☹	☹	☺	?	☺
Health care	?	☺	☺	☺	☺
Sanitation	☹	?	☺	?	☺
<b>SOCIAL AND CARE ENVIRONMENT</b>					
Social environment	☹	☹	☺	☺	☺
Child feeding practices	?	☺	?	☺	?
<b>DELIVERY OF ASSISTANCE</b>					
Accessibility to population	☹	☺	☺	☺	☺
Resources for humanitarian Intervention	☺	?	☺	☺	☺
Availability of information	☺	☺	☺	☺	☺



ADEQUATE



MIXED



INADEQUATE

# Greater Horn of Africa

## Ethiopia

In spite of the good 2006/2007 *Meher* harvest and a general improvement in the food security situation, constraints are still affecting poor households: pastoralists have not yet recovered from the previous drought; cereal prices have remained at record highs; and official border closures with Somalia have disrupted market activities and supplies in south-eastern Somalia (FEWS, 10/05/07). The prospect of the *Belg* season is uncertain due to a dry spell that affected cropping areas of Oromia, Tigray, Amhara and SNNPR regions in February/early March 2007.

Cases of acute watery diarrhoea were still reported in 62 of the 192 districts affected, mostly from Bale, Borena and East Hararge zone, Oromia; Gedeo zone, SNNPR; zone 1 and 3 of Afar and in Harare and Somali regions. However, the case fatality rate has remained relatively low at 1.2% (OCHA, 14/05/07).

It has been reported that about 50,000 refugees recently fled from Somalia to Ethiopia (FEWS, 04/07), although only some 1,500 were registered in Kebrikeyah and Hartisheik camps (WHO, 16/05/07).

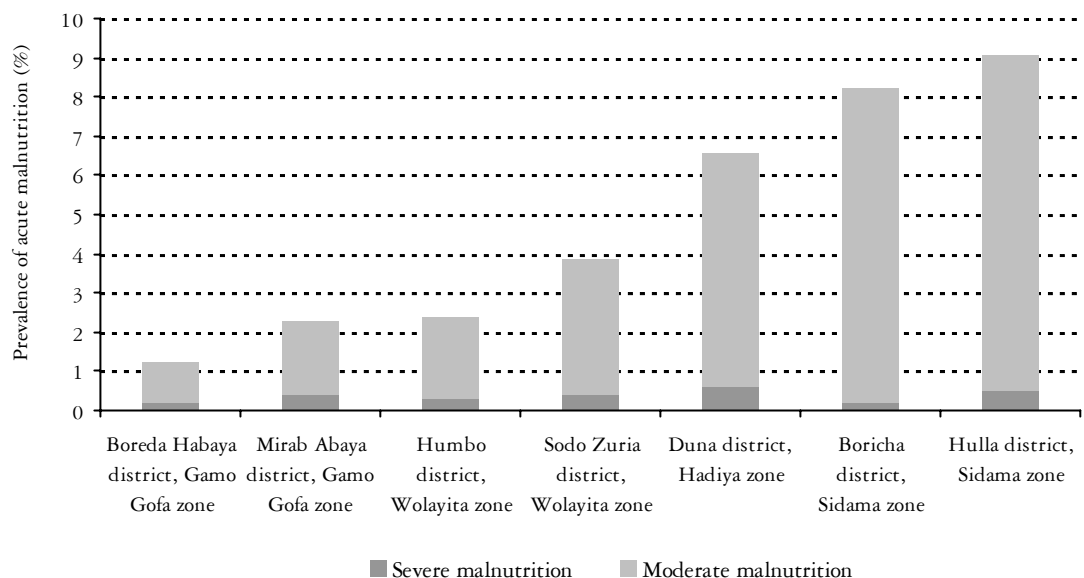
The government and humanitarian partners have agreed to implement the IASC cluster approach to respond to emergencies (DPPA, 15/03/07). The cluster approach aims to improve coordination and accountability of international and national humanitarian actors in several sectors such as nutrition, health, and water and sanitation.



## General improvement of the nutrition situation in the post-harvest season, but pockets remain at risk

A nutrition survey conducted in Dolo Bay and Dolo Ado districts, Afder and Liben zones, in February 2007, showed a critical nutrition situation (ENCU, 31/03/07), which was comparable to January 2006 and worse than in September 2006, despite an improvement in the food security situation at macro level. **The prevalence of acute malnutrition was 22.5% (19.1-25.8), including 2.7% (1.4-4.1) severe malnutrition in February 2007 compared to 14.5% (11.8-17.2), including 0.7% (0.1-1.3) severe malnutrition in September 2006.** Measles vaccination and vitamin A distribution coverage were far below expected levels, but

FIGURE 1 PREVALENCE OF ACUTE MALNUTRITION, SNNPR, ETHIOPIA, DECEMBER 2006-FEBRUARY 2007 (ENCU, 31/03/07)



mortality rates were below alert thresholds. It does not seem that the population of these districts benefited from the Productive Safety Net (PSN) or food aid in 2007.

In SNNPR, the situation differed depending on the district, with Boreda Abaya and Miab Abaya districts, Gamo Gufa zone, Duna in Hadiaya zone, and Humbo and Sodo Zurie districts, Wolayita zone, revealing a prevalence of acute malnutrition under control or typical of a post harvest period (figure 1). In Sidama zone, the prevalence of acute malnutrition was average in Hulla and Boricha districts. It has significantly decreased in Hulla, compared to the prevalence recorded during the hunger-gap period in April 2006. In Hulla and Boricha, 7% and 16% of the population was entitled to the PSN, respectively, and none to food aid distribution between January and June 2007.

Surveys in Amahara, Harare and Oromia also showed the nutrition situation was under control to average with the exception of Dessie Zuria, South Wollo zone, Amhara where the prevalence of acute malnutrition was of concern (table 1). The survey was conducted after

TABLE 1 PREVALENCE OF ACUTE MALNUTRITION, ETHIOPIA, JANUARY-FEBRUARY 2007 (ENCU, 31/03/07)

Survey Area	Acute Malnutrition (%) (95% CI)		Severe Acute Malnutrition (%) (95% CI)		Oedema (%)
<b>OROMIA</b>					
Fedis district, East Haraghe zone	6.8	4.9-8.6	0.5	0.0-1.0	0
<b>AMHARA</b>					
Dessie Zuria district, South Wollo zone	16.2	13.5-18.9	1.4	0.6-2.2	0.1
Kalu district, South Wollo zone	7.7	5.4-10.1	0.1	0.1-0.3	0.0
<b>HARARE</b>					
Sofi & Erer districts	4.9	2.8-6.9	0.3	0.0-0.7	0

a poor *Meher* harvest in the area, and the food security situation was also of concern. About 30% of the population was benefiting from the PSN and no food distribution was planned in the area between January and June 2007.

## Kenya

Food security has generally improved in the previously drought-affected areas and food distribution beneficiaries will be reduced from 2.4 m in 2006 to 1.3 m in 2007 (FEWS, 05/07). Nutritional surveillance showed a decline in malnutrition in Garissa, Marsabit and Turkana districts. Compared to the same period in 2006, acute malnutrition has almost halved in the first quarter of the year. As of May 2007, the prognosis in key cropping areas was looking promising. However, Wajir, Isiolo, Garissa, Tana River and Ijara districts were still considered highly food insecure. The pastoralists will need time to recover from the drought and the Kenya Food Security Steering Group has identified critical long-term interventions to sustain improvements in pastoral food security (FEWS, 04/07).

The number of suspected cases of Rift Valley Fever has decreased and the ban on the slaugh-

ter of livestock has been lifted (OCHA, 04/04/07).

## Grim situation in Mont Elgon

The escalation of clashes between rival communities around land allocation issues in Mount Elgon district, west Kenya, has led to the displacement of about 62,000 people representing nearly half of the total population in the district (KRCS, 04/07). In addition, a significant number of homes and some crops were burnt (OCHA, 04/04/07). The IDPs live mainly in market centres, churches, mosques and public buildings, or with relatives.

Food security is reported to be very poor as crops were burnt or left behind and insecurity has prevented the IDPs to return for harvesting. People have lost their main income source, the district being one of the country's granaries and people's livelihoods depending mainly on the sale of crops. There is also a lack of grazing land for the families that keep livestock.

Prices of food and fuels have sharply increased. The water and sanitation situation is reported to have deteriorated. Some health facilities are not accessible due to insecurity; others are closed because of the displacement of health staff. The operational and accessible health facilities are overwhelmed. Protection is also an issue with increasing reports of rape and violence against young girls.

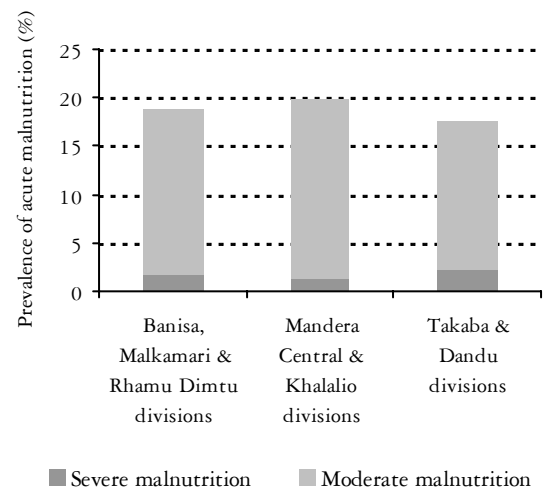
Concerted efforts to restore peace and resolve conflict are on-going (OCHA, 07/05/07). Some humanitarian aid has been delivered and more is planned. Food, non-food items and medical supplies have been distributed to the IDPs and support to health care implemented. Needs that are not covered include protection, psycho-social care for victims of violence, sanitation, education, and seeds and tools for families who have returned. Moreover, 11,000 people who have taken refuge in the most inaccessible areas have not received assistance yet. Impaired access due to poor roads and volatile security condition is a major constraint on the delivery of humanitarian relief.

About 5,000 people have sought refuge in nearby Uganda where they have not received any external assistance. The conditions in the area are reported to be deplorable and will further deteriorate with the onset of the hunger-gap season.

### Critical nutrition situation in Mandera district

Three surveys conducted in Mandera districts showed critical nutrition situations (AAH-US, 03/07) (figure 2). The prevalence of acute malnutrition was comparable with that of surveys done in the same area in March 2006. Mandera district is chronically food insecure and part of the district was also affected by severe flooding at the end of 2006. The food security prospect was favourable in April/May 2007.

FIGURE II PREVALENCE OF ACUTE MALNUTRITION, MANDERA DISTRICT, KENYA, MARCH 2007 (AAH-US, 03/07)



## Recommendations

*From the Kenya Food Security Steering Group to sustain improvements in pastoralist areas*

- Establish hunger safety nets
- Establish a certification system for Rift Valley Fever and other diseases requiring quarantine
- Rehabilitate and develop infrastructure in the market-dependent pastoral livelihood zones
- Address chronically high malnutrition and poor access to health services
- Assist destitute pastoralists
- Strengthen existing early warning and food security analysis systems
- Enhance emergency preparedness
- Improve land, water and crop management
- Enact the National Policy for the Sustainable Development of Arid and Semi Arid Lands of Kenya

## Somalia

Fighting between the Transitional Federal Government (TFG), backed by the Ethiopian troops, and anti-TFG factions increased in Mogadishu in March and April, and was reported to be the worst wave of violence in the city for 16 years. An estimated 395,000 people, representing about one third of the town's population, have fled the city and concentrated mostly in Shabelle, Galgadud, Hiran, Mudug and Bay regions (table 2) (FSAU, 10/05/07). In addition, another 30-40% of the population of Mogadishu is estimated to be displaced within the city (FSAU, 30/04/07).

As of the end of April, the situation had calmed down in Mogadishu with the TFG reporting to control most of the city, and displacements out of the city had slowed dramatically (OCHA, 30/04/07). There were even reports of a small number of families coming back, mostly to the areas of the city which had not been involved in the fighting (UNHCR, 11/05/07). However, fear of violence was preventing large scale return. Were people to come back, shelter would be a major issue. Houses, and abandoned public buildings where some of the estimated 250,000 people who were internally displaced within the city by previous conflicts were sheltering, were destroyed by the battles. Moreover, the TNG announced that people would have to leave the public buildings in the coming weeks. UNHCR has engaged in negotiations in order that these people can be relocated in other parts of the city where they can access basic services and infrastructure.

### Hundreds of thousands of displaced face dire conditions

The humanitarian situation of the displaced was reported dire with a lack of shelter, clean water, safe sanitation, health care, medicine and food (FSAU, 30/04/07). Host populations were also affected by the massive influx of the displaced. Prices of imported food and non-food items have sharply risen since mid-March. As of the beginning of May, humanitarian aid had reached about 250,000 people, with 181,400 having received non-food items and 100,000 food aid (OCHA, 04/05/07). WFP

TABLE 2 NUMBER OF PEOPLE DISPLACED FROM MOGADISHU BY REGION (FSAU, 10/05/07)

Regions	Estimated number of displaced people
Mudug	80,00
Galgadud	10,000
Hiran	90,000
Shabelle	10,000
Bay	90,000

also started food distribution in Mogadishu at the end of April (WFP, 08/05/07).

Insecurity, banditry, incidents of piracy, logistic difficulties and limited humanitarian presence in some areas have hampered delivery of humanitarian aid (OCHA, 30/04/07).

The lull in the fighting as well as discussions between the UN Emergency Relief Coordinator, the TFG and civil society to improve support for unhindered humanitarian access to populations in need, seems to have allowed for some improvement in access lately.

Although the food appeal was well resourced with 97% coverage, other sectors were under funded, with the overall appeal being only 37% covered. CERF funds were given to UNICEF and UNHCR (OCHA, 18/05/07).

An exhaustive nutrition assessment in Baidoa town, conducted in five camps hosting families displaced by the recent fighting as well as families displaced for more than ten months, showed a critical nutrition situation (FSAU/N, 04/07). Among the 1,106 children aged 1-5 years screened, 18.6% had a MUAC < 12.5 cm, including 4.3% with a MUAC < 11 cm. There seemed to be no difference between the new and old displaced.

High numbers of acute diarrhoea cases are still being reported in South and Central regions, with 30,101 cases, including 966 deaths, between the first of January and the eleventh of May (OCHA, 18/05/07). While the outbreak has been effectively contained in areas where the situation allows access, the response is inadequate in the other areas due to insecurity and/or lack of health partners to implement the response.

## Nutrition situation still critical in the South

Several surveys conducted in South Somalia showed serious to critical nutrition situations (table 3), which were comparable to those found in previous years when comparisons were possible (FSAU/N, 03/07). The riverine areas of Hiran experienced floods at the end of last year and most of the population was considered to be suffering from an acute food and livelihood crisis or humanitarian emergency. On the other hand, food security in the agro-pastoral and pastoral livelihood groups of Hiran, and Qansadhere and Dinsor district of Bay, was considered to have improved following the Deyr rains. This improvement does not seem to have translated into a similar improvement in the nutrition situation.

Nutrition surveys conducted in the three livelihood zones of Guedo also showed critical nutrition situations (table 3) (FSAU/N, 04/07), which, however, seemed to have slightly improved, although not significantly, compared

to 2006. Levels of acute malnutrition have remained consistently high in the region since the 1992 crisis. Although the food security situation improved in 2007 compared to 2006, 200,000 people were still considered suffering from an acute food and livelihood crisis, or a humanitarian emergency at the time of the surveys.

## Overall

The situation of the close to 400,000 people displaced by the fighting in Mogadishu appears dire. Although some humanitarian aid is provided, gaps in response remain, due to insufficient funding, hindered access and lack of humanitarian actors. In areas surveyed in Bay, Bakool and Hiran regions, the nutrition situation is still critical (category II) in spite of a reported improvement in food security in most of these areas.

TABLE 3 PREVALENCE OF ACUTE MALNUTRITION AND MORTALITY RATES, SOMALIA, FEBRUARY-APRIL 2007 (FSAU/N, 03/04/07; FSAU/N, 04/04/07)

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)	
<b>HIRAN</b>									
Riverine areas	18.2	15.7-20.9	3.0	2.0-4.3	0	0.52	0.32-0.72	1.47	0.85-2.10
Agropastoral and pastoral areas	15.7	13.4-18.3	1.7	1.0-2.8	0	0.22	0.08-0.35	0.87	0.33-1.41
Belet Weyn town	12.6	10.6-15	1.1	0.6-2.1	0	0.65	0.42-0.8	2.19	1.35-3.01
Belet Weyne district	15.4	13.1-17.9	2.0	1.2-3.2	0	0.64	0.41-0.86	1.45	0.79-2.12
<b>BAY</b>									
Qansadhere	17.9	15.5-20.6	3.5	2.5-5.0	0.3	0.71	0.33-1.08	0.52	0.18-1.21
Dinsor district	19.9	17.3-22.7	2.7	1.8-4.0	0.4	1.08	0.59-1.56	1.95	0.83-3.08
<b>BAKOOL</b>									
Wajid town and surrounding areas	15.6	12.4-18.8	1.1	0.2-2.0	-	0.56	0.34-0.78	1.55	0.88-2.21
<b>GEDO</b>									
Pastoral areas	19.9	17.4-22.7	2.6	1.7-3.9	0	1.05	0.51-1.60	1.48	0.22-3.18
Agro-pastoral areas	16.7	14.4-19.3	3.1	2.1-4.5	0	1.53	0.75-2.30	2.65	1.11-4.18
Riverine areas	17.7	15.3-20.4	3.5	2.5-5.0	0	1.09	0.50-1.67	1.63	0.68-2.57



## Sudan Darfur

The security situation in Darfur has remained volatile (UNNEws, 18/05/07). Nutrition surveys conducted in South and West Darfur showed stable or improved situations compared to previous years.

In Nyala town and surrounding IDP camps, South Darfur, the prevalence of acute malnutrition has remained within the same range since 2005, with marked seasonal variations (figure 3) (ACF-F, 04/07). On the other hand, mortality rates seem to have increased but as confidence intervals were not provided in the survey reports, it is difficult to know if this increase is significant.

In IDP camps, in Ed Daein, South Darfur, the situation was critical (table 4) as of February 2007 and comparable to that found in the same period in 2005 (UNICEF, 03/07). At the beginning of 2007, 25,000 new IDPs arrived in the camps. Only 70% of the displaced families were registered for food distribution. Access to soap and toilets, although reported as having improved compared to the end of 2005, was still insufficient with 64.6% and 40.9% of the families having access to them, respectively.

In Gereida camp, South Darfur, the situation has improved compared to previous years and was average (figure 4) (UNICEF, 03/07). Mortality rates seemed also to have significantly improved.

In Beida locality, West Darfur, the situation was still precarious although it showed a slight but non-significant improvement compared to 2006 (table 4) (UNICEF, 03/07).

## South Sudan

Food security is deteriorating as can be expected at the onset of the hunger-gap and is expected to worsen as the season progresses, especially for the poorest families, returnees and people affected by insecurity (FEWS, 04/07). The delayed rains in the Hills and Mountains livelihood zones (Bahr El Jabal and parts of Eastern Equatoria) are also a matter of

FIGURE III PREVALENCE OF ACUTE MALNUTRITION AND MORTALITY RATES, NYALA TOWN & SURROUNDING IDP CAMPS, SOUTH DARFUR, SUDAN

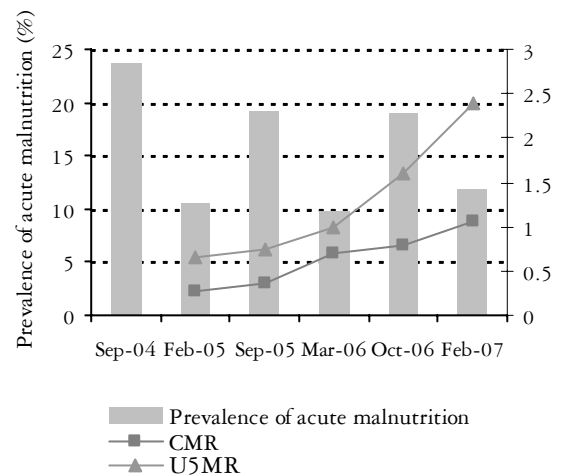


FIGURE IV PREVALENCE OF ACUTE MALNUTRITION AND MORTALITY RATES, GEREIDA IDP CAMP, SOUTH DARFUR, SUDAN

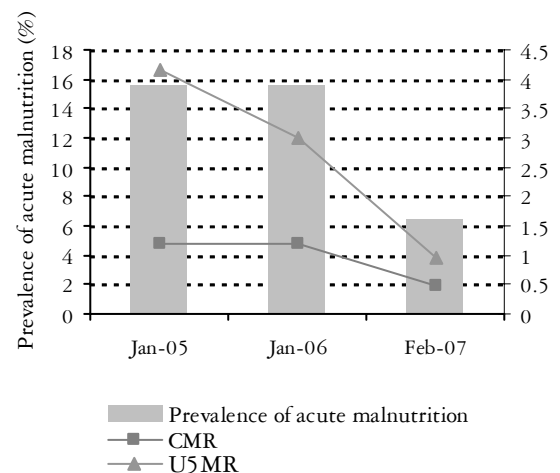


TABLE 4 PREVALENCE OF ACUTE MALNUTRITION, DARFUR, SUDAN (UNICEF, 03/07)

Survey Area	Acute Malnutrition (%) (95% CI)		Severe Acute Malnutrition (%) (95% CI)		Oedema (%)
<b>SOUTH DARFUR</b>					
IDPs, Ed Daein	21.9	19.4-24.7	3.9	2.8-5.4	-
<b>WEST DARFUR</b>					
Beida locality	11.4	8.4-14.8	1.3	0.5-2.9	-

TABLE 5 PREVALENCE OF ACUTE MALNUTRITION , SOUTH SUDAN (AAH-US, 02/07; AAH-US, 03/07)

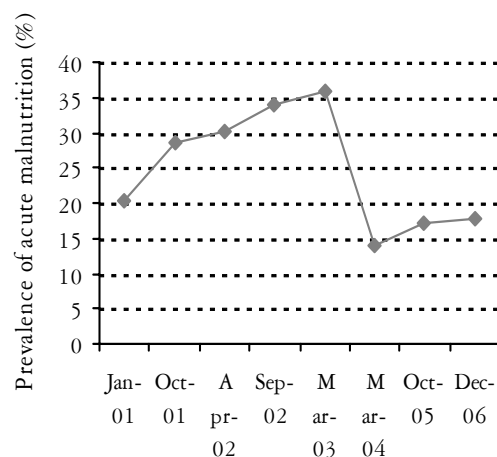
Survey Area	Acute Malnutrition (%) (95% CI)		Severe Acute Malnutrition (%) (95% CI)		Oedema (%)
<b>UPPER NILE</b>					
Melut, Paloch, Galdora and Bmichuk districts, Melut county	21.0	17.2-24.9	1.7	0.5-2.8	-
Central, Northern and Southern districts, Malakal county	22.2	18.7-25.7	0.9	0.3-1.6	-
<b>WARRAP</b>					
Alek South, North, West, Riau & Gogrial districts, Gogrial county	19.0	15.3-22.7	0.9	0.1-1.8	-

concern. People in Northern Bahr el Gazal are expected to face difficult conditions because of poor harvest last year due to flooding, cattle rustling this year and a significant number of returnees (FEWS, 04/07).

About 34,500 people have been assisted to repatriate to the South (OCHA, 18/05/07). In addition, 143, 600 refugees have returned, including 61,400 assisted by UN organisations and partners.

Humanitarian needs remain unmet for several reasons such as a gap of funds during the transition between emergency and development,

FIGURE V PREVALENCE OF ACUTE MALNUTRITION , OLD FANGAK DISTRICT, SUDAN



and the lack of capacity within the government of Sudan (IRIN, 22/05/07).

Surveys conducted in South Sudan continue to show critical nutrition situations. In Old Fangak, the prevalence of acute malnutrition was still high, although the situation had improved within the last four years (figure 5) (AAH-US, 12/06). In Melut, Malakal, and Gogrial county, the situation was poor (table 5) and comparable to that found in the same areas, although not exactly the same locations, within the previous years (AAH-US, 02/07; AAH-US, 03/07).

## Central Africa

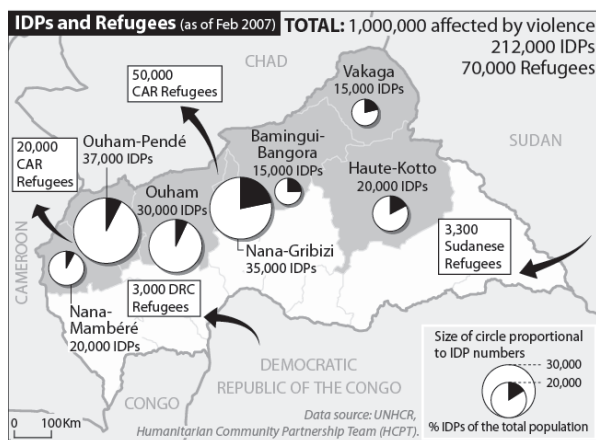
### Central African Republic

An upsurge in violence in the north of the country in 2006 has led to the displacement of thousands of people, especially in the north-west (see NICS 11). As of February 2007, the number of displaced was estimated at around 212,000 people (see map). The humanitarian presence has increased in the area over the past few months, but access has remained uncertain. The conflict has had several consequences on

the livelihoods of the population, such as the loss of food stocks and productive assets; reduction in crop production; drastic reduction of cotton production; reduced commercial flow and access to market; and an increase in prices of basic products (SC, 03/07). As of March 2007, basic food stuffs such as cassava and groundnuts were still available in the area, al



DISPLACED POPULATIONS, CAR, FEBRUARY 2007  
(RELIEFWEB, 13/03/07)



beet at low levels, and food availability in markets was low (WFP, 03/07). Trade with the rest of the country and with neighbouring countries was almost inexistent and imported goods such as sugar, oil and salt were absent in rural markets.

Food frequency and diet diversity had significantly decreased, according to a WFP assessment (WFP, 03/07). Most of the people interviewed only ate once a day (compared to twice a day before the crisis) and meat, fish and oil had disappeared from the diet. Cereal consumption had also decreased. Most families had consumed roots, tree bark and wild fruit the day before the interview. People were also reported to have few cooking instruments and little access to water.

Despite this degradation in food security and livelihood, the situation was not considered catastrophic as of March 2007 in Ouham Pende, Ouham and Nana-Grimbizi provinces (SC, 03/07). Moreover, according to a nutrition assessment conducted in the provinces of Ouham and Ouham-Pende, which was not representative of the population but was conducted in areas where security allowed, the nutrition situation was not alarming (ACF-F, 02/07). **Among the 104 6-59 month-old displaced children screened, none had a MUAC < 110 mm and only one had a MUAC < 120 mm. Among the 381 resident children screened, 4 (1.0%) had a MUAC < 110 mm and 16 (4.2%) had a MUAC < 120 mm. No oedematous children were found.**

However, the WFP assessment estimated that 190,000 displaced people and 32,000 non-displaced people were in a state of acute food insecurity in the north (WFP, 03/07) and were in need of food distribution, especially during the forthcoming hunger gap. The WFP will distribute a full food ration for 6 months to this food-insecure population. The FAO was also to distribute seeds and tools for the forthcoming planting season (SC, 03/07) and provision of health care was under way (SC, 03/07).

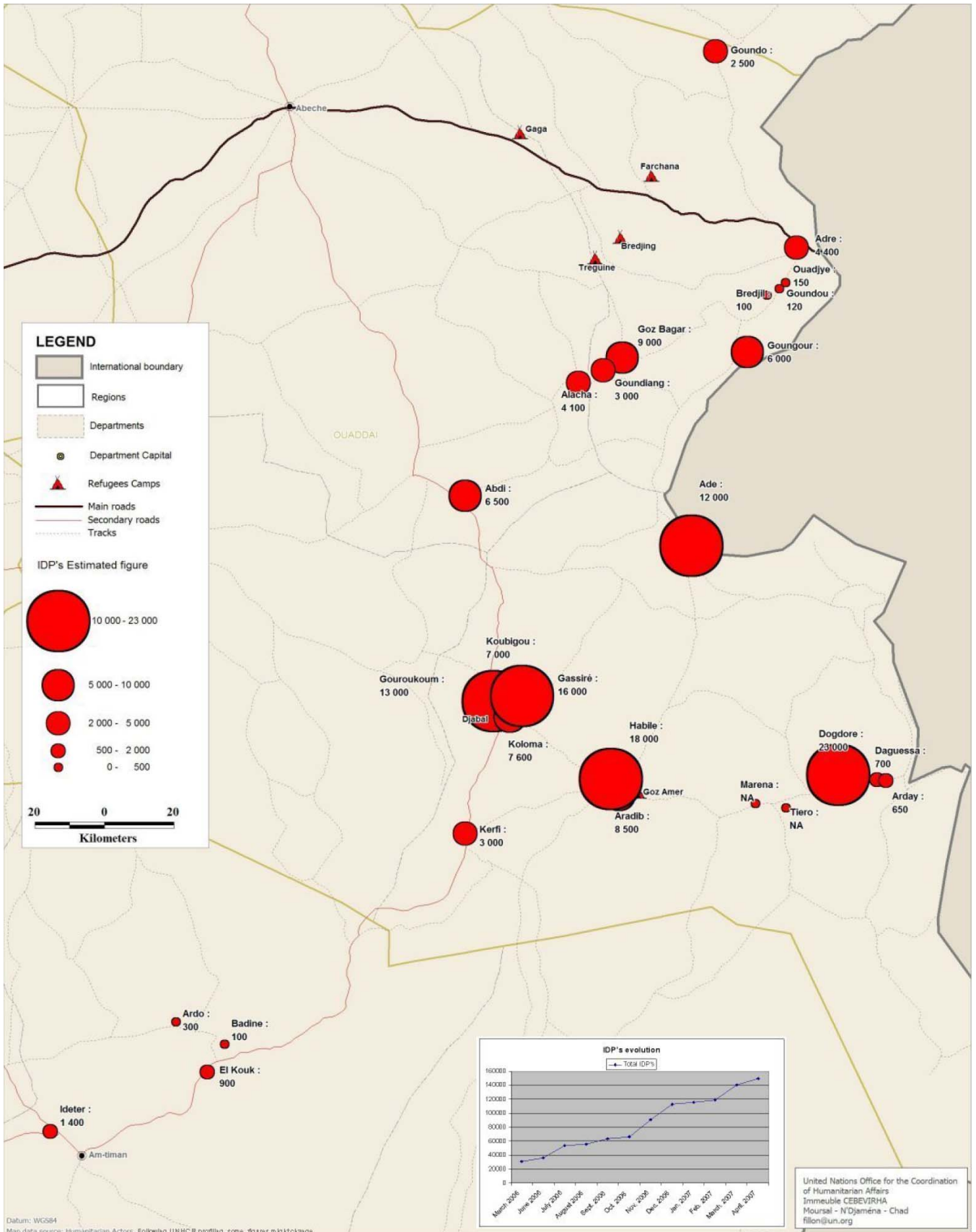
In addition to the displaced population within the Central African Republic, 50,000 people have fled to Chad and 25,000 have sought refuge along the border in Cameroon. The latter are mostly nomadic cattle breeders who, according to assessment missions, live in destitute conditions (UNHCR, 27/03/07). The food security and nutrition situation seemed poor. Most of the refugees have lost or sold their livestock (IFRC, 28/05/07). They lack agricultural implements and seeds for planting, although local communities have allowed them some lands. They mainly rely on the sale of firewood. The refugees in Cameroon have received little international help so far, and the most pressing priorities are food, health care, and water and sanitation projects.

As a follow-up to a nutrition survey conducted in Bangui in January 2006 (see NICS 11), another survey was conducted in January 2007 (ACF-F, 01/07). **The nutrition situation was not critical, with a prevalence of acute malnutrition of 5.8% (4.2-7.4), including 0.5% (0.0-1.1) severe malnutrition, and was within the same range as in January 2006.** Mortality rates were under control: CMR= 0.49 (0.27-0.72), U5 MR=0.36 (0.0-0.92).

## Overall

The situation of the displaced people and people affected by the conflict in the North of the country is poor (category III). The on-going humanitarian response to the crisis might prevent further deterioration during the forthcoming hunger gap.

ESTIMATED DISPLACED POPULATION IN EASTERN CHAD, APRIL 2007 (OCHA, 29/04/07)



## Chad

The number of IDPs has continued to increase in Eastern Chad over the past months and was estimated at around 140,000 as of April 2007 (CAP, 09/05/07). The IDPs are sheltered mainly in Dar Sila and Dar Assongha departments, in nine major sites and a number of smaller sites (see map).

The security situation in the area is still volatile, although the state of emergency, imposed six months ago in the country, was lifted in May (IRIN, 25/05/07).

Displaced families have received humanitarian aid such as non-food items, food, safe drinking water and health care. However, gaps in provi-

sion of aid remain and access to many areas will become increasingly difficult during the rainy season between June and September.

There are few data available on the nutrition status of the displaced population. In Ade IDP site, however, the nutrition situation has been reported as worrying (UNICEF, 15/05/07). It seems that there are few nutrition programmes for the IDPs, apart for those located near to Goz Amir and Djabal refugee camps, who can access the nutrition centres there. It is unclear if the lack of nutrition activities is explained by a nutrition situation that does not warrant implementation of such activities, or by a gap in the humanitarian response.

## Democratic Republic of Congo

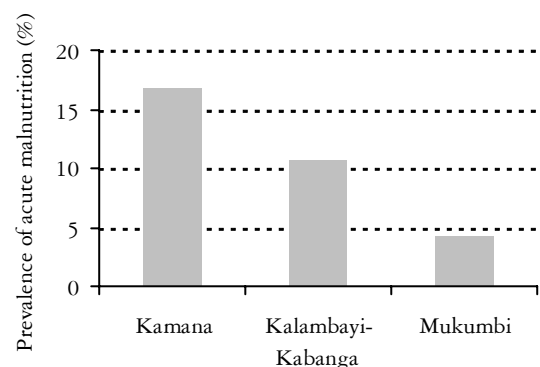
The security situation remains volatile, especially in the east of the country.

Several surveys conducted in Kasai Oriental, in areas where fighting raged between 1998 and 2003, showed poor to critical nutrition situations (WFP, 10/06) (figure 6). Especially worrying was the high proportion of oedematous children. The surveys were conducted during the hunger-gap season and food security appeared poor. Families seemed to lack proper tools and seeds to undertake adequate agricultural and fishing activities. Exclusive breastfeeding rates were very low and introduction of complementary foods before six months was widespread.

In Ituri district, Orientale province, the nutrition situation was still poor (figure 7) but showed a marked improvement compared to 2004 (COOPI, 11/06; COOPI, 12/06; COOPI, 01/07). The security situation had also improved, although it was reported to still be volatile.

In Tshopo district, Orientale province, levels of acute malnutrition, and especially of kwashiorkor, seemed critical in Yaleko health zone (figure 7) (LWF/joint, 10/06). On the other hand, the situation was under control in Opala

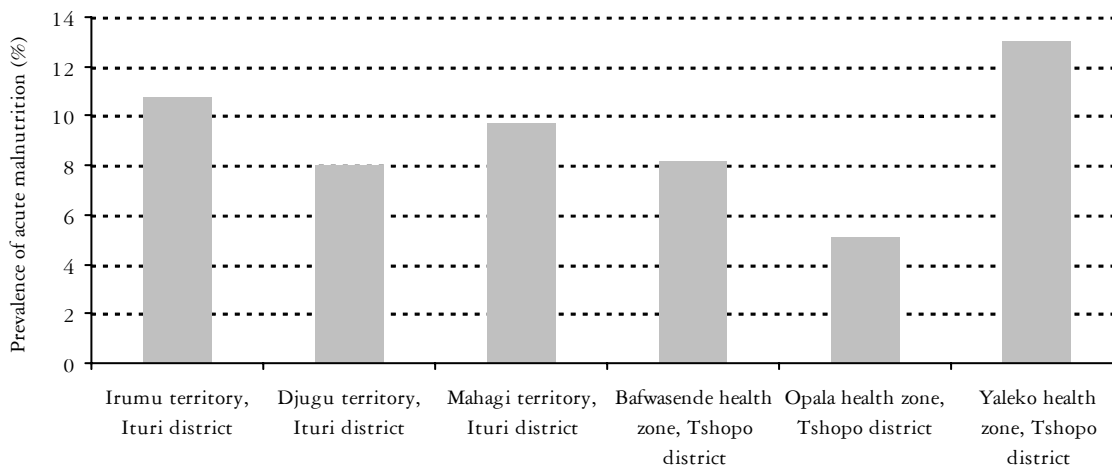
FIGURE VI PREVALENCE OF ACUTE MALNUTRITION, KASAI ORIENTAL PROVINCE, DRC, OCTOBER 2006 (WFP, 10/06)



health zone, and average in Bafwasende.

The situation was also poor in Lusangi and Sarabila health zones, Maniema province. **The prevalence of acute malnutrition was 11.3% (9.2-13.4) including 3.2% severe acute malnutrition (Concern, 02/07).** Mortality rates were also worrying. The survey was conducted shortly after the harvest, at a time when the nutrition situation should be at its best. Access to quality health care was reported to be poor because of inadequate staffing and supplies in medicines, and high costs. Child-feeding practices were less than satisfactory.

FIGURE VII PREVALENCE OF ACUTE MALNUTRITION, ORIENTALE PROVINCE, DRC, OCTOBER 2006-JANUARY 2007 (COOPI, 11/06; COOPI, 12/06; COOPI, 01/07; LWF/JOINT, 10/06)



According to a survey conducted in Bulungu health zone, Kwilu district, Bandundu province, in January 2007, **the prevalence of acute malnutrition was 9.5%, including 4.5% severe acute malnutrition, with 3.1% of oedematous children** (PRONANUT/Joint, 01/07). This is within the same range as recorded in the nearby Vanga and Mosango health zones in October 2006 (see NICS 12).

## Overall

Despite an improvement in the security conditions, the nutrition situation seemed to remain precarious (category II) in most of the areas of Maniema, Bandudu, Kasai Orientale and Orientale provinces where surveys were conducted in late 2006/early 2007.

## Southern Africa

### Zambia

A random-sampled nutrition survey was conducted in Kalma refugee camp in March 2007 (AAH, 03/07). The camp shelters 19,040 people, mostly from DRC origin. Although the refugees relied mainly on the food distribution (full food ration), they were also engaged in small-scale agricultural and income-generating activities. Water availability and sanitation were reported as being good.

The nutrition situation was acceptable and has been stable for the past few years. **The prevalence of acute malnutrition was 3.2% including 0.3% severe malnutrition. However, the level of stunting was high, with 55% of the children stunted.**



# Asia

## Nepal

As another step in the peace agreement, an interim coalition government was formed at the beginning of April 2007 (OCHA, 05/04/07). However, some groups protested that they were not included. Clashes and disruption of official activities were still reported throughout the country.

Although no reliable figures exist, about 200,000 people were estimated to have been displaced by the conflict (see NICS 7) (IDMC, 16/10/06). Few returns seemed to have taken place so far.

### Poor food security and nutrition situations in vulnerable areas of Nepal

A mission of experts on the human right to food has described hunger and food insecurity across the country as "pervasive" (IRIN, 23/04/07). The mission stated that the government has no comprehensive strategy to address hunger, and that there is a lack of coordination between the capital and the regions and between ministries. Main obstacles to food access were found to be endemic discrimination; insufficient and insecure access to land, and evictions; and discriminatory access to resources such as forests and fishing areas.

According to a WFP assessment conducted in November/December 2006, 197,905 people were experiencing an acute food and livelihood crisis and another 215,463 were facing a deteriorating food security situation, due to drought and other adverse weather conditions (WFP, 01/07). However, these numbers had decreased compared to the previous assessment when 900,000 people were facing a deteriorating or acute food security situation.

According to the families interviewed during the assessment, the main problems they were facing were adverse weather conditions (20.5%); human illness (18.9%); lack or loss of employment (17.1%), and unavailability of food (16.3%). All the households were worse off compared to the same season last year with 63% of them experiencing a food shortage. The poorest were the most affected with



93.8% of the extremely poor and 67.7% of the poor experiencing a food shortage compared to 17.9% of the better-off. A significant proportion of the populations reported a reduction in income, especially in the Terai (close to 70%). A decrease in access to food was even more pronounced with more than 60% of families affected in the Terai and the Far-West. The poorer the families were, the higher the decrease in income and access to food was. The most common coping mechanisms were shifting to less expensive/preferred foods; reducing meals, borrowing and migration. Sale of assets or lands was not widely practised. Casual labour represented the main livelihood for the poor, followed by crop farming and remittance. Assistance programmes only represented a very low proportion of the livelihood of all the wealth groups.

However, the winter harvest was reported to have been good, especially in the Terai (OCHA, 12/04/07). In the Hills and Mountain districts of Mid and Far Western Regions, a substantial localised decrease in production was reported.

A nutrition survey conducted in the eight most vulnerable Village Development Committees of Bahjyang district in the Far-West region in December 2006, showed a poor nutrition situation (ACF-F, 01/07). **The prevalence of acute malnutrition was 11.0% (7.6-14.4), including 1.2 % (0.0-2.4) severe malnutrition. Night blindness was reported in 0.5% of the children and 15.4% of the women.** Mortality rates were under control. The survey was conducted before the traditional hunger-gap period between February and June, and the situation might worsen further.

The nutrition situation was comparable to that of the nearby Humla and Mudug districts where a survey was conducted at the beginning of 2006.

TABLE 6 RESULTS OF A NUTRITIONAL SURVEY, BHUTANESE REFUGEE CAMPS, NEPAL, JANUARY 2007 (CDC/JOINT, 01/07)

Acute Malnutrition (%) (95% CI)	Severe Acute Malnutrition (%) (95% CI)	Stunting (%) (95% CI)	Anaemia among children* (%) (95% CI)	Anaemia among women** (%) (95% CI)
4.2 (2.8-6.4)	0.2 (0.0-1.1)	26.9 (23.2-31.0)	43.3 (39.0-47.7)	13.6 (10.6-17.2)

\*Hemoglobin concentration < 11.0 g/dL

\*\*Hemoglobin concentration < 12.0 g/dL for non-pregnant women; < 11.0 g/dL for pregnant women

FIGURE VIII TRENDS IN PREVALENCE OF ACUTE MALNUTRITION, REFUGEE CAMPS, NEPAL

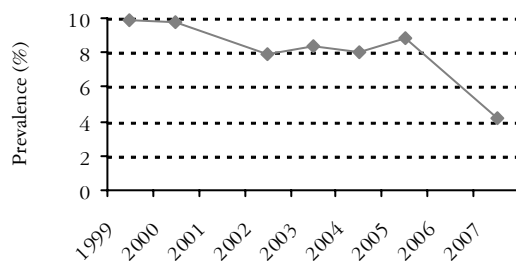
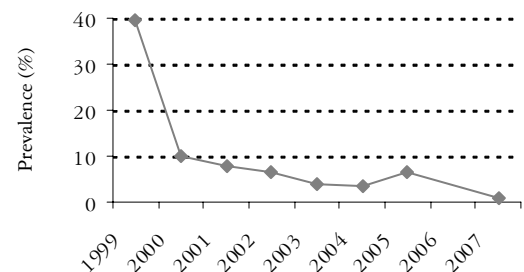


FIGURE IX TRENDS IN PREVALENCE OF ANGULAR STOMATITIS, REFUGEE CAMPS, NEPAL



Feeding patterns were inadequate, with 46% of the women having consumed neither vegetables nor fruit the day prior to the interview, and 23.7% having eaten neither animal foods nor pulses. Only 21.2% of the women had had antenatal care during their current/last pregnancy. Access to health services appeared low with more than half of the women reporting there was no functioning health post in the community. The main obstacles to going to a health post were distance and cost. On the other hand, most women have had contact with the Female Community Health Volunteers, especially during vaccination campaigns.

## Refugees

About 104,000 refugees are sheltered in seven camps in Jhapna and Morang districts, south-eastern Nepal. They are ethnic Nepalese who left Bhutan in the early nineties when the kingdom launched cultural reforms, and have lived in the refugee camps ever since. Although talks have been held repeatedly, no agreement about repatriation of the refugees has been reached yet.

As of the end of May 2007, violence erupted at the Nepal-India border as a group of about 7,000 refugees tried to cross the border to

reach Bhutan via India (IRIN, 30/05/07). Two refugees were killed and hundreds injured. Tension between the refugees who want to go to a third country and those who insist on being given the right to return to Bhutan had increased since the US offer to resettle 60,000 of the refugees (AFP, 29/05/07).

A random-sampled nutrition survey conducted in January 2007 showed an acceptable level of acute malnutrition (CDC/joint, 03/07) (table 6). However, stunting was significant as well as anaemia. Night blindness was also reported in 2% of the children and 10% of their mothers. Angular stomatitis, a sign of riboflavin deficiency was present in 1% (0.4-2.3) of the children, while about 10% showed scarred angular stomatitis, a sign of past riboflavin deficiency.

Compared to previous years, the prevalence of acute malnutrition and angular stomatitis has decreased (figure 8 & 9). However, the present survey was conducted in January, a time when food security is better than in June-July when the previous surveys had been conducted. It is therefore difficult to interpret the apparent improvement in the situation.



Comparison with the results of the 2006 Demographic and Health Survey in the south-eastern areas of Nepal (DHS, 2006), showed that stunting, wasting, and anaemia in women seemed lower among refugees than Nepalese (stunting = 36.9%; wasting = 11.2%; anaemia among women = 36.9%), but that anaemia in 6-59 month-olds was at about the same level.

Although breastfeeding was almost universal at ages 1 and 2, exclusive breastfeeding below six months was low with about 76% of the children having received water, tea or other liquids before three months of age. Mothers' practices of complementary feeding were poor because of inadequate knowledge and possibly high cost of nutrient-rich foods.

Refugees receive a full food ration as well as some non-food items, such as cooking fuel (WFP/UNHCR, 06/06). Refugees have not

been accorded the right to work or to access agricultural land. Many, though, work outside the camps but only on a limited scale with earnings far less than what is needed for sustainability (WFP/UNHCR, 06/06).

According to the survey, about 92% of the mothers reported that at least one of the household members earned cash income. Only 33% and 19% of the mothers owned a kitchen garden and chicken or goats, respectively. Almost all women bought food in the market, especially vegetables, potatoes, milk, meat and fruit.

Access to good quality water, with an average of 20-25 l/pers/day, and sanitation were reported to be adequate in the camps (WFP/UNHCR, 06/06). Health status also seemed satisfactory and the mortality rate was under control.

## Middle East

### Occupied Palestinian Territories

Since the start of the second Intafada in 2000, Palestinians have suffered a deterioration in their livelihoods, food security, and access to basic services (see RNIS 43 and NICS 4).

A food security analysis released early 2007 concluded that 34% of the population of West Bank and the Gaza Strip was considered food secure in 2006, while 20% was marginally food secure, 12% was vulnerable to becoming food insecure and 34% was food insecure (FAO/WFP, 21/02/07). Although not directly comparable with the FAO/WFP food security assessment in 2003, which used a different methodology, the findings were similar.

Refugees were most likely to be food insecure with 39.7% of the refugees categorised as food insecure, and 29.1% as food secure, compared to 30.2% and 38.5% for non-refugees. Moreover, refugees living in camps, who represent only 34% of the refugees, were more vulnerable with 44.7% of them food insecure and

only 23.3% food secure. The urban population was more likely to be food secure than rural population: 39.4% vs. 30.4%. The Gaza Strip was more affected by food insecurity with 58% of the food insecure non-refugees located in the Gaza Strip and 24% in the West Bank.

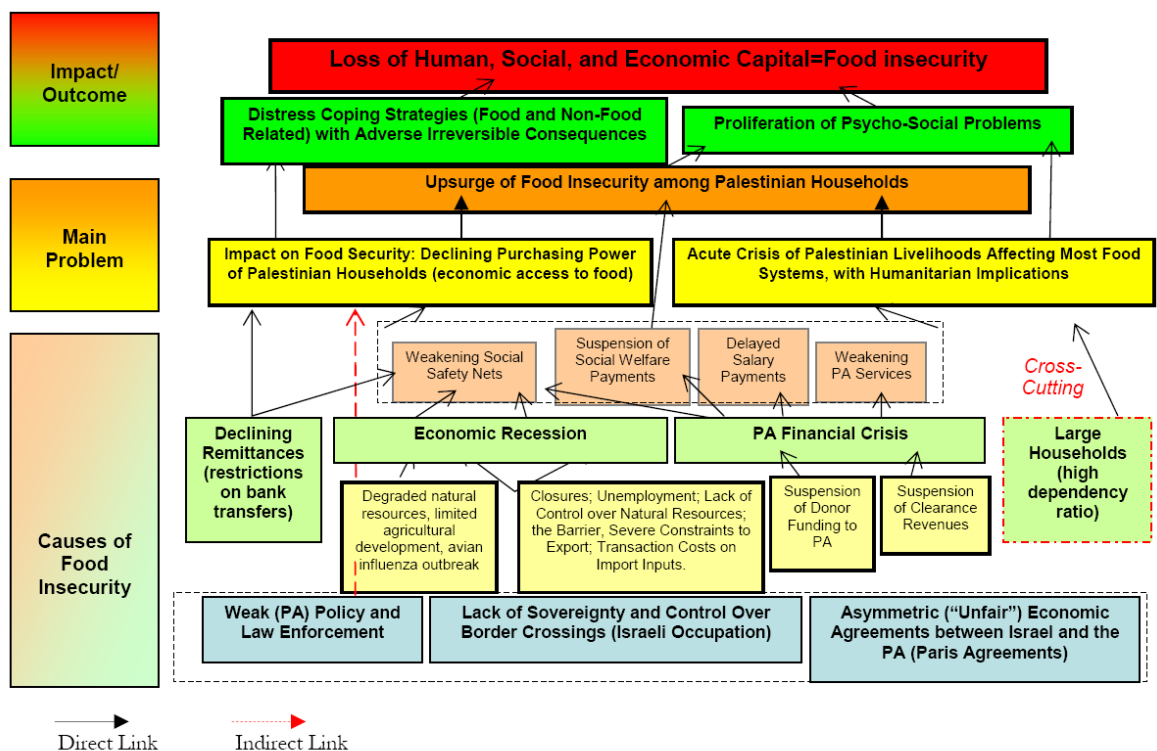
New population groups such as families supported by the Palestinian Authority government employees have become food insecure since the beginning of 2006. This is explained by the fact that following the victory of Hamas at the parliamentary elections at the beginning of 2006, key donors suspended international aid to the Palestinian Authority government (PA), leading to a drop of 60% in its income (OXFAM, 04/07). This is reported to have had an adverse effect on the livelihoods of Palestinians, the PA being a major employer, employing about 161,000 people who support about 1 m dependents. The decrease in income has meant that salary payments have been irregular and services, such as health care, schools and provision of welfare payments have been curtailed. OXFAM reported a 30% in-

crease in poverty in 2006. To mitigate this situation, a temporary international mechanism was established by the European Commission in the last semester of 2006 with the aim of channelling aid directly to Palestinians. This has included social allowances to health workers, provision of fuel to hospitals and water systems. A new unity government was formed in March 2007, following an agreement between Fatah and Hamas. However, direct aid to the Palestinian Authority had not resumed as of April 2007.

Economic access to food was still the most significant concern in terms of food security, with increases in food prices, especially in the Gaza Strip amidst the drastic reduction in livelihoods. Food aid was found as having recently become a more prominent source of food. Factors leading to food insecurity are described in figure 10.

The results of the Palestinian Family Health Survey conducted at the end of 2006/ beginning of 2007 showed that the level of wasting has remained under control with 1.4% of the children wasted, including 1.7% in West Bank and 1.2% in the Gaza Strip (PCBS/joint, 04/07). About 13% of the children were stunted in the Gaza Strip and 7.9% in the West Bank, or an average 10.2% in the Palestinian Territories. Compared with the same type of surveys conducted in 2000 and 2004, it seemed that stunting showed a slight increase from 7.5% in 2000 to 9.9% in 2004 and 10.2% in 2006. This was especially marked in the Gaza Strip with an increase from 8.3% in 2000 to 13.2% in 2006. As the confidence intervals or a statistical comparison were not provided in the report, it is difficult to know the significance of this increase.

FIGURE X FACTORS LEADING TO FOOD INSECURITY AS DEPICTED IN QUALITATIVE FEEDBACK SESSIONS (FAO/WFP, 21/02/07)



## Abbreviations and acronyms

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AAH	Aktion Afrika Hilfe
AAH-US	Action Against Hunger USA
ACF-F	Action Contre la Faim France
AFP	Agence France Presse
CAP	Consolidated Appeal Process
CDC	Center for Disease Control
CMR	Crude Mortality Rate
< 5 MR	Under-five Mortality Rate
DHS	Demographic and Health Surveys
DPPC	Disaster Prevention and Preparedness Commission
ENCU	Emergency Nutrition Coordination Unit
FAO	Food & Agricultural Organization of the United Nations
FEWS	Famine Early Warning System
FSAU	Food Security Analysis Unit for Somalia
IDMC	International Displacement Monitoring Centre
IFRC	International Federation of Red Cross and Red Crescent Societies
IRIN	International Regional Information Network
KRCS	Kenya Red Cross Society
LWF	Lutheran World Federation
MOH	Ministry of Health
OCHA	Office for the Co-ordination of Humanitarian Assistance
SC-UK	Save the Children-United Kingdom
UNHCR	United Nations High Commission on Refugees
UNICEF	United Nations International Children's Emergency Fund
WFP	World Food Programme
WHO	World Health Organization

# References

## Greater Horn of Africa

### Ethiopia

ENCU	31/03/06	Emergency Nutrition Quarterly Bulletin (First quarter 2007)
DPPA	15/03/07	Fortnight bulletin.
FEWS	10/05/07	Ethiopia food security update– April 2007
OCHA	14/05/07	Relief bulletin: Weekly humanitarian highlights in Ethiopia
WHO	16/05/07	Situation report Somalia crisis

### Kenya

FEWS	04/07	Kenya food security update
FEWS	05/07	Kenya food security update
KRCS	04/04/07	Kenya: Mt Elgon preliminary appeal
OCHA	04/04/07	Humanitarian update: Kenya
OCHA	07/05/07	Update on conflict and displacement in Kenya

### Somalia

FSAU/N	03/07	Nutrition Update
FSAU/N	04/07	Nutrition Update
FSAU	30/04/07	Food Security and Nutrition, Quarterly Brief
FSAU	10/05/07	Displacement, AWD and prices
OCHA	30/04/07	Humanitarian situation in Somalia: Monthly analysis, April 2007
OCHA	04/05/07	UN and partners reach 250,000 with assistance in Somalia
OCHA	18/05/07	Somalia: situation report—18 May 2007
UNHCR	11/05/07	UNHCR briefing notes
WFP	08/05/07	WFP starts food distributions in battle-scarred Mogadishu

### Sudan

AAH-US	12/06	Nutritional anthropometric survey, children under five years old, Old Fangak payam, Zeraf county, Jonglei state, Central Upper Nile
AAH-US	02/07	final report, Wudier district, Longuchok county, Upper Nile state
AAH-US	03/07	Nutritional anthropometric survey, children under five years old, results summary, Alek South, Alek North, Alek West, Riau and Gogrial payams, Gogrial West County, Warrap state
AAH-US	04/07	Nutritional anthropometric survey, children under five years old, results summary, Melut, Paloch, Galdora and Bemichuk payams, Melut County, Upper Nile state
AAH-US	04/07	Nutritional anthropometric survey, children under five years old, results summary, Central, Northern and Southern Payams of Malakal county, Upper Nile state
ACF-F	04/07	Nutritional anthropometric and retrospective mortality survey, children 6 to 59 months, Nyala town and surrounding IDP camps, South Darfur, Sudan
FEWS	04/07	Southern Sudan: Food security update
FEWS	04/07	Southern Sudan: Food security watch
IRIN	22/05/07	Sudan: Funding fails to meet humanitarian needs
OCHA	18/05/07	Humanitarian action, recovery, and development in Southern Sudan: Facts and figures-Snapshot, 18 May
UNNews	18/05/07	Number of returning Southern Sudanese refugee tops 140,000– UN agenda

## Central Africa

### Central African Republic

ACF-F	01/07	Enquête nutritionnelle anthropométrique, enfants de 6 à 59 mois, ville de Bangui, République Centrafricaine
ACF-F	02/07	Rapport d'évaluation nutritionnelle, prefecture de l'Ouham et de l'Ouham-Pende, République Centrafricaine
IFRC	28/05/07	Cameroon: Population movement; DREF Bulletin no MDRCM004
Reliefweb	14/03/07	CAR: Humanitarian profile 2006/07

SC	03/07	Save the children assessment mission report in Central Africa Republic– 10 February/10 March 2007
UNHCR	27/03/07	Cameroon: New office opens to protect and care for Mbororo Central Africans
WFP	03/07	Executive brief: Central African Republic– Rapid emergency food security assessment in the North and North West provinces

## Chad

CAP	09/05/07	Chad, IDP emergency assistance, 2007, revision
IRIN	25/05/07	Chad: State of emergency lifted but troubles continue
OCHA	29/04/07	Chad: Estimated figure of IDP's as of April 2007
UNICEF	15/05/07	UNICEF external situation report Eastern Chad– 1-15 May 2007

## DRC

Concern/joint	02/07	Nutrition survey results summary, Lusangi and Saramabila health zones, South Maniema province, DRC
COOPI	11/06	Enquête nutritionnelle anthropométrique dans le territoire de Mahagi, district de l'Ituri, Province Orientale
COOPI	12/06	Enquête nutritionnelle anthropométrique dans le territoire de Djugu, district de l'Ituri, Province Orientale
COOPI	01/07	Enquête nutritionnelle anthropométrique dans le territoire de Irumu, district de l'Ituri, Province Orientale
LWF	10/06	Rapport d'enquêtes nutritionnelles réalisées dans les zones de santé de Bafwasende, Opala et Yaleko (district de la Tshopo/province Orientale)
PRONANUT	01/07	Enquête nutritionnelle dans la zone de santé de Bulungu, district de Kwilu, province de Bandudu
WFP/Joint	10/06	Rapport d'enquête nutritionnelle dans la zone de santé rurale de Mukumbi, province du Kasai Oriental
WFP/Joint	10/06	Rapport d'enquête nutritionnelle dans la zone de santé rurale de Kalambayi- Kabanga, province du Kasai Oriental
WFP/Joint	10/06	Rapport d'enquête nutritionnelle dans la zone de santé rurale de Kamana, province du Kasai Oriental

## South Africa

### Zambia

AAH	03/07	Nutrition status assessment survey, Kala refugee camps
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## Asia

### Nepal

ACF-F	01/07	Nutritional survey in Bahjang district of Nepal
AFP	29/05/07	Indian police fire on Bhutanese refugees fleeing Nepal
CDC/joint	03/07	Nutritional and micronutrient survey in Bhutanese refugee camps in Nepal
DHS	05/07	Nepal: Demographic and Health Survey, 2006– Final report
IDMC	16/10/06	Nepal: IDP return still a trickle despite ceasefire
IRIN	23/04/07	Nepal: NGOs call on government to prioritise food security
IRIN	30/05/07	Nepal: "Huge tragedy" looms as Bhutanese refugees stage "long march home"
OCHA	05/04/07	OCHA Nepal situation overview– March 2007
OCHA	12/04/07	OCHA Nepal situation overview
WFP/	06/06	Report of UNHCR/WFP joint assessment mission– Assistance to Bhutanese refugees in Nepal
UNHCR		
WFP	01/07	Food Security Bulletin– 16

## Middle East

### Occupied Palestinian Territories

OXFAM	04/07	Poverty in Palestine: the human cost of the financial boycott
PCBS/joint	04/07	Palestinian Family Health Survey, 2006, preliminary report
FAO/WFP	21/02/07	Comprehensive Food Security and Vulnerability Analysis (CFSVA), West Bank and Gaza Strip

# Results of surveys

Survey Area	Date	Popula- tion	Estimated Popula- tion Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) <sup>§</sup>	Severe Acute Malnutrition** (%) (95% CI) <sup>§</sup>	Oedema (%)	MUAC <sup>#</sup> (%)
<b>GREATER HORN OF AFRICA</b>								
<b>ETHIOPIA</b>								
<b>SNNPR</b>								
Hulla district, Sidama zone	Dec-06	Residents	123,375	SC-US <sup>1</sup>	9.1 7.0-11.2	0.5 0.0-1.0	0.1	-
Boricha district, Sidama zone	Feb-07	Residents	248,550	WV <sup>1</sup>	8.2 6.2-10.2	0.2 0.0-0.4	0	-
Duna district, Hadiya zone	Feb-07	Residents	117,045	SNNPR RENCU <sup>1</sup>	6.6 4.4-8.8	0.6 0.0-1.3	0.6	MUAC < 12 cm : 2.8
Boreda Abaya district, Gamo Gofa zone	Feb-07	Residents	73,140	WV <sup>1</sup>	1.2 0.1-2.2	0.2 0.0-0.6	0	-
Mirab Abaya district, Gamo Gofa zone	Feb-07	Residents	70,970	WV <sup>1</sup>	2.5 1.2-3.8	0.4 0.0-0.9	0	-
Humbo district, Wolayita zone	Feb-07	Residents	135,205	WV <sup>1</sup>	2.4 1.1-3.7	0.3 0.0-0.7	0	-
Sodo Zuria dis- trict, Wolayita zone	Feb-07	Residents	237,030	WV <sup>1</sup>	3.9 2.2-5.6	0.4 0.0-1.0	0.4	-
<b>OROMIA REGION</b>								
Fedis district, East Haraghe zone	Feb-07	Residents	206,945	DPPA/B <sup>1</sup>	6.8 4.9-8.6	0.5 0.0-1.0	0	-
<b>AMHARA REGION</b>								
Dessie Zuria dis- trict, South Wollo zone	Jan-07	Residents	274,880	Concern <sup>1</sup>	16.2 13.5-18.9	1.4 0.6-2.2	0.1	-
Kalu district, South Wollo zone	Jan-07	Residents	221,640	Concern <sup>1</sup>	7.7 5.4-10.1	0.1 0.1-0.3	0.0	-
<b>HARARE</b>								
Sofi & Erer districts	Feb-07	Residents	47,805	DPPA/B <sup>1</sup>	4.9 2.8-6.9	0.3 0.0-0.7	0	-
<b>SOMALI REGION</b>								
Dolo Bay & Dolo Ado, Afder & Liben zones	Feb-07	Residents	149,330	SC-US <sup>1</sup>	22.5 19.1-25.8	2.7 1.4-4.1	0	MUAC < 12.5 cm: 6.5
<b>KENYA</b>								
<b>MANDERA DISTRICT</b>								
Banisa, Malkamari & Rhamu Dimtu divisions	Feb-07	Residents	-	AAH-US	18.7 14.6-22.9 <i>13.3<sup>2</sup> 14.6-22.1</i>	1.7 0.8-2.7 <i>3.8<sup>2</sup> 2.2-5.4</i>	-	-
Mandera Central and Khalalio divi- sions	Feb-07	Residents	-	AAH-US	20.9 17.6-24.1 <i>21.0<sup>2</sup> 17.4-24.7</i>	1.2 0.4-2.1 <i>3.0 1.9-4.1</i>	-	-
Takaba & Dandu divisions	Feb-07	Residents	-	AAH-US	17.5 14.0-20.9 <i>18.1<sup>2</sup> 14.9-21.3</i>	2.3 0.7-3.9 <i>3.6 1.5-5.8</i>	-	-

\* 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

<sup>§</sup> 95% Confidence Interval; not mentioned if not available from the survey report

<sup>#</sup> Mid Upper Arm Circumference

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

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

Continued...

Measles immunisation coverage (%) <sup>#</sup>		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) <sup>§</sup>		Under 5 Mortality (/10,000/day) (95% CI) <sup>§</sup>	
Proved by card	Card + history							
3.7	87.7	-	83.8	-	0.21	0.07-0.36	0.45	0.01-0.89
37.0	80.4	-	82.6	-	0.1	0.0-0.2	0.16	0.0-0.44
3.2	64.0	-	59.7	-	0.44	0.22-0.67	1.0	0.26-1.74
15.4	87.2	-	86.8	-	0.16	0.0-0.32	0.17	0.0-0.53
32.6	93.2	-	97.3	-	0.12	0.0-0.26	0.19	0.0-0.61
16.2	84.5	-	92.1	-	0.24	0.09-0.4	0.71	0.03-1.39
82.2	85.3		89.2		0.09	0.0-0.17	0.28	0.0-0.68
5.7	48.6	-	89.1	-	0.21	0.02-0.45	0.87	0.03-1.77
30.2	90.2	-	93.6	-	0.36	0.06-0.65	0.34	0.4-1.08
47.7	92.7	-	96.9	-	0.06	0.0-0.17	0.34	0.0-0.77
14.0	92.2	-	76.3	-	0.05	0.0-0.11	0.10	0.0-0.31
6.4	44.6	-	35.0	-	0.03	0.01-0.15	0.29	0.01-0.58
10.3	60.8	-	-	-	0.33	0.07-0.58	1.39	0.34-2.43
8.4	92.2		-	-	0.18	0.0-0.35	0.76	0.0-1.54
10.3	60.8	-	-	-	0.33	0.07-0.58	1.39	0.34-2.43

<sup>#</sup> Measles vaccination coverage for children aged 9-59 months

<sup>§</sup> Female caregivers aged 15 to 49 years

Survey Area	Date	Popula- tion	Estimated Popula- tion Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) <sup>§</sup>	Severe Acute Malnutrition** (%) (95% CI) <sup>§</sup>	Oedema (%)	MUAC <sup>#</sup> (%)
<b>SOMALIA</b>								
<b>HIRAN</b>								
Riverine areas	Mar-07	Residents	167,070	FSAU/ joint	18.2 15.7-20.9	3.0 2.0-4.3	0	-
Agropastoral and pastoral areas	Mar-07	Residents	-	FSAU/ joint	15.7 13.4-18.3	1.7 1.0-2.8	0	-
Belet Weyn town	Mar-07	Residents	34,545	FSAU/ joint	12.6 10.6-15	1.1 0.6-2.1	0	-
Belet Weyne district	Mar-07	Residents	-	FSAU/ joint	15.4 13.1-17.9	2.0 1.2-3.2	0	-
<b>BAY</b>								
Qansadhere	Mar-07	Residents	-	FSAU/ joint	17.9 15.5-20.6	3.5 2.5-5.0	0.3	-
Dinsor district	Mar-07	Residents	-	FSAU/ joint	19.9 17.3-22.7	2.7 1.8-4.0	0.4	-
<b>BAKOOL</b>								
Wajid town and surrounding areas	Feb-07	Residents	-	ACF-F	15.6 12.4-18.8	1.1 0.2-2.0	-	-
<b>GEDO</b>								
Pastoral areas	Apr-07	Residents	-	FSAU/ joint	19.9 17.4-22.7	2.6 1.7-3.9	0	-
Agro-pastoral areas	Apr-07	Residents	-	FSAU/ joint	16.7 14.4-19.3	3.1 2.1-4.5	0	-
Riverine areas	Apr-07	Residents	-	FSAU/ joint	17.7 15.3-20.4	3.5 2.5-5.0	0	-
<b>SUDAN</b>								
<b>SOUTH DARFUR</b>								
IDPs , Ed Daien	Feb-07	Displaced	-	Tearfund	21.9 19.4-24.7	3.9 2.8-5.4	-	-
Gereida camp	Feb-07	Displaced	-	ICRC	6.4 4.9-8.1	0.7 0.3-1.5	-	-
Nyala town and surrounding IDP camps	Apr-07	Residents/ Displaced	-	ACF-F	11.8 9.1-15.2	0.7 0.2-2.1	0.1	MUAC < 11 cm: 0 MUAC < 12 cm: 0.9
<b>WEST DARFUR</b>								
Beida locality	Dec-06	Residents/ Displaced	-	Tearfund	11.4 8.4-14.8	1.3 0.5-2.9	-	-
<b>UPPER NILE</b>								
Old Fangak dis- trict, Jonglei state	Dec-06	Residents	55,515	AAH-US	17.8 14.4-21.8	1.5 0.6-3.3	0.1	MUAC < 11 cm: 0.8 MUAC < 12 cm: 3.0
Melut, Paloch, Galdora and Bmichuk districts, Melut county	Mar-07	Residents	-	AAH-US	21.0 17.2-24.9 21.3 <sup>1</sup> 17.8-24.9	1.7 0.5-2.8 4.5 <sup>1</sup> 2.9-6.1	-	-
Central, Northern and Southern districts, Malakal county	Mar-07	Residents	-	AAH-US	22.2 18.7-25.7 21.8 <sup>1</sup> 18.6-25.0	0.9 0.3-1.6 3.0 <sup>1</sup> 2.0-4.1	-	-
<b>WARRAP</b>								
Alek South, North, West, Riau & Gogrial districts, Gogrial county	Feb-07	Residents	-	AAH-US	19.0 15.3-22.7 19.0 <sup>1</sup> 15.1-22.8	0.9 0.1-1.8 2.8 <sup>1</sup> 1.3-4.4	-	-

\*Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)

\*\* Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)

<sup>§</sup>95% Confidence Interval; not mentioned if not available from the survey report

<sup>#</sup> Mid Upper Arm Circumference

<sup>1</sup> According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)



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Measles immunisation coverage (%) <sup>#</sup>	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) <sup>§</sup>		Under 5 Mortality (/10,000/day) (95% CI) <sup>§</sup>	
	Proved by card	Card + history						
-	58.9	-	68.3	-	0.52	0.32-0.72	1.47	0.85-2.10
-	51.4	-	57.7	-	0.22	0.08-0.35	0.87	0.33-1.41
-	70.7	-	73.8	-	0.65	0.42-0.8	2.19	1.35-3.01
-	68.4	-	73.2	-	0.64	0.41-0.86	1.45	0.79-2.12
-	65.1	-	72.7	-	0.71	0.33-1.08	0.52	0.18-1.21
-	73.3	-	65.5	-	1.08	0.59-1.56	1.95	0.83-3.08
-	64.0	-	-	-	0.56	0.34-0.78	1.55	0.88-2.21
-	86.1	-	76.6	MUAC ≤ 23 cm: 19.7 MUAC ≤ 20.7 cm: 5.5	1.05	0.51-1.60	1.48	0.22-3.18
-	29.7	-	31.8	MUAC ≤ 23 cm: 36.6 MUAC ≤ 20.7 cm: 13.4	1.53	0.75-2.30	2.65	1.11-4.18
-	71.4	-	70.9	MUAC ≤ 23 cm: 10.2 MUAC ≤ 20.7 cm: 6.5	1.09	0.50-1.67	1.63	0.68-2.57
-	64.0	-	74.7	-	0.17		0.42	
-	93.5	-	-	-	0.48		0.94	
25.7	88.0	-	-	-	1.05		2.4	
-	78.8	-	86.6	-	0.37		0.45	
7.1	52.6	-	-	-	0.79	0.27-1.3	1.16	0.69-1.64
22.0	52.0	-	-	-	0.83	0.41-1.25	0.69	0.19-1.20
48.5	80.3	-	-	-	0.50	0.20-0.79	0.55	0.00-1.15
3.9	21.0	-	-	-	0.58	0.28-0.89	0.97	0.28-1.65

<sup>#</sup> Measles vaccination coverage for children aged 9-59 months<sup>1</sup> Pregnant and lactating women aged 15-49 years

Survey Area	Date	Popula- tion	Estimated Popula- tion Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) <sup>§</sup>	Severe Acute Malnutrition** (%) (95% CI) <sup>§</sup>	Oedema (%)	MUAC <sup>#</sup> (%)
<b>CENTRAL AFRICA</b>								
<b>CENTRAL AFRICAN REPUBLIC</b>								
Bangui	Jan-07	Residents	524,320	ACF-F	5.8 5.2 <sup>1</sup> 4.2-7.4 3.6-6.8	0.5 0.7 <sup>1</sup> 0.0-1.1 0.2-1.3	0.1	-
<b>DRC</b>								
<b>MANIEMA</b>								
Lusangi and Saramabila health zones	Feb-07	Residents	-	Concern/ joint	11.3 9.2-13.4	3.2 2.1-4.3	1.7	MUAC < 11 cm: 2.6 MUAC < 12.5 cm: 6.1
<b>BANDUDU</b>								
Bulungu health zone	Jan-07	Residents	-	PRONA- NUT	9.5	4.5	3.1	-
<b>KASAI ORIENTAL</b>								
Kalambayi- Kabanga health zone	Oct-06	Residents	121,640	WFP/joint	11.5	5.1	3.1	-
Kamana health zone	Oct-06	Residents	147,205	WFP/joint	26.2	6.0	2.0	-
Mukumbi health zone	Oct-06	Residents	92,310	WFP/joint	15.9	7.8	4.0	-
<b>ORIENTALE</b>								
Irumu territory, Ituri district	Jan-07	Residents	518,305	COOPI	10.8 8.8-12.8	3.1 2.0-4.2	1.7	-
Djugu territory, Ituri district	Dec-06	Residents	1,304,175	COOPI	8.0 6.2-9.8	3.2 2.1-4.4	2.3	-
Mahagi territory, Ituri district	Nov-06	Residents	955,010	COOPI	9.7 7.8-11.6	2.4 1.4-3.3	2.2	-
Bafwasende health zone, Tshopo district	Oct-06	Residents	-	LWF/joint	8.2	4.3	1.0	-
Opala health zone, Tshopo district	Oct-06	Residents	-	LWF/joint	5.1	0.7	0.4	-
Yaleko health zone, Tshopo district	Oct-06	Residents	-	LWF/joint	13.0	8.1	5.2	-
<b>SOUTHERN AFRICA</b>								
<b>ZAMBIA</b>								
Kala refugee camp	Mar-07	Refugees	19,038	AAH <sup>2</sup>	3.2	0.3	-	-
<b>ASIA</b>								
<b>NEPAL</b>								
Eight Village Development Committees, Bahjang district	Dec-06	Residents	34,005	ACF-F	11.0 7.6-14.4 12.7 <sup>1</sup> 9.3-16.1	1.2 0.0-2.4 2.4 <sup>1</sup> 0.6-4.1	0	MUAC < 11 cm: 0.4 MUAC < 12 cm: 5.0
Refugee camps	Jan-07	Refugees	-	CDC/joint	4.2 2.8-6.4 4.2 <sup>1</sup> -	0.2 0.0-1.1 0.6 <sup>1</sup> -	0	-
<b>MIDDLE EAST</b>								
<b>OCCUPIED PALESTINIAN TERRITORIES</b>								
Occupied Pales- tinian Territories	Nov-06/ Jan-07	Residents/ Refugees	-	PCBS/joint	1.4	0.3	-	-
West Bank	Nov-06/ Jan-07	Residents/ Refugees	-	PCBS/joint	1.7	0.3	-	-
Gaza Strip	Nov-06/ Jan-07	Residents/ Refugees	-	PCBS/joint	1.2	0.3	-	-

\* Acute malnutrition (children aged 6-59 months): weight-height < - 2 Z-scores and/or oedema (NCHS/WHO references)

\*\* Severe acute malnutrition (children aged 6-59 months): weight-height < - 3 Z-scores and/or oedema (NCHS/WHO references)

<sup>§</sup> 95% Confidence Interval; not mentioned if not available from the survey report

<sup>#</sup> Mid Upper Arm Circumference

<sup>1</sup> According to WHO 2006 Child Growth Standards (<http://www.who.int/childgrowth/en/>)

<sup>2</sup> Aktion Africa Hilfe

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Measles immunisation coverage (%) <sup>#</sup>		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) <sup>§</sup>		Under 5 Mortality (/10,000/day) (95% CI) <sup>§</sup>	
Proved by card	Card + history							
24.5	73.4	-	-	-	0.49	0.27-0.72	0.36	0.0-0.92
0.9	50.5	-	76.2	-	1.08		2.07	
-	92.0	-	94.6		0.4		1.4	
40.9	80.9	-	-	-	-		-	
45.8	90.5	-	-	-	-		-	
55.3	62.8	-	-	-	-		-	
16.1	78.4	-	-	-	-		-	
21.1	81.4	-	-	-	-		-	
22.1	74.3	-	-	-	-		-	
68.5	84.7	-	-	-	-		-	
61.7	81.5	-	-	-	-		-	
47.0	77.6	-	-	-	-		-	
-	92.2 <sup>1</sup>	-	86.6	-	-		-	
-	-	-	98.8	MUAC <sup>2</sup> < 16 cm: 0 MUAC < 18.5 cm: 2.4 MUAC < 21 cm: 24.1 MUAC < 22 cm: 43.8	0.21	0.09-0.32	0.49	0.05-0.92
85.4	99.2	See p 15	97.5	-	-		-	
-	-	-	-	-	-		-	
-	-	-	-	-	-		-	
-	-	-	-	-	-		-	

<sup>#</sup> Measles vaccination coverage for children aged 9-59 months

<sup>1</sup> Among children 6-59 months

<sup>2</sup> Among 15 to 49 years old women, including pregnant and lactating

# Survey methodology

## The Greater Horn region

### Kenya

#### MANDERA DISTRICT

Three surveys were conducted by AAH-US in February-March 2007. Two-stage cluster sampling surveys of 31 clusters of 14 households in Mandera Central and Khalalio divisions; 36 clusters of 18 households in Banisa, Malkamari & Rhamu Dimtu divisions; and 37 clusters of 18 households in Takab and Dandu divisions, were conducted. The surveys also estimated measles vaccination coverage and mortality rates over the previous 90 days.

### Somalia

#### HIRAN REGION

Four two-stage 30-by-30 cluster-sampled nutrition surveys were conducted by FSAU/joint in riverine areas, agro-pastoral areas, Belet Weyne town and Bellet Weyn districts, in March 2007. The surveys also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates and various food security and public health indicators.

#### QANSADHERE AND DINSOR DISTRICTS, BAY REGION

Two two-stage 30-by-30 cluster-sampled nutrition surveys were conducted by FSAU/joint in March 2007, in Qansadhere and Dinsor districts. The surveys also estimated measles vaccination coverage and crude and under-five mortality rates and various food security and public health indicators.

#### WAJID TOWN AND SURROUNDING AREAS, BAKOOL REGION

A random-sampled nutrition survey was conducted by ACF-F in February 2007. A two-stage cluster sampling methodology was used to measure 819 children between 6-59 months. The survey also estimated measles vaccination coverage, and crude and under-five mortality rates.

#### GEDO REGION

Four two-stage 30-by-30 cluster-sampled nutrition surveys were conducted by FSAU/joint in riverine areas, agro-pastoral areas and pastoral areas, in March 2007. The surveys also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates and various food security and public health indicators.

### Sudan

#### NYALA TOWN AND SURROUNDING IDP CAMPS, SOUTH DARFUR

A random-sampled nutrition survey was conducted by ACF-F in April 2007. A two-stage 30-by-30 cluster sampling methodology was used to measure 957 children. The survey also estimated measles vaccination coverage and crude and under-five mortality rates.

#### CENTRAL, NORTHERN AND SOUTHERN PAYAMS, MALAKAL COUNTY, UPPER NILE

The survey was conducted by AAH-US in March-April 2007. A two-stage cluster sampling methodology of 34 clusters was used to measure 759 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rates over three months prior to the survey.

#### OLD FANGAK PAYAM, ZERAF COUNTY, CENTRAL UPPER NILE

The survey was conducted by AAH-US in November-December 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 925 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

#### MELUT, PALOCH, GALDORA AND BEMICHUK PAYAMS, MALUT COUNTY, UPPER NILE STATE

The survey was conducted by AAH-US in February-March 2007. A two-stage cluster sampling methodology of 36 clusters was used to measure 716 children between 6-59 months in Bentiu & Rob Kona. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the surveys.

#### ALEK SOUTH, ALEK NORTH, ALEK WEST, RIAU AND GOGRIAL DISTRICTS, GOGRIAL WEST COUNTY, WAR-RAP STATE

A two-stage cluster-sampling survey was conducted by AAH-US in January-February 2007. 642 children between 6-59 months were surveyed. The survey also estimated measles vaccination coverage and retrospective mortality rate.

## Central Africa

### Central African Republic

#### BANGUI

The survey was conducted by ACF-F in January 2007. A two-stage cluster sampling methodology of 32 clusters was used to measure 934 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rates.

### Democratic Republic of Congo

#### KALAMBAYI-KABANGA, MUKUMBI AND KAMANA HEALTH ZONES, KASAI ORIENTAL

The surveys were conducted by WFP and PRONANUT in October 2006. A two-stage 30 x 32 cluster sampling methodology was used in each survey to measure children between 6-59 months. The surveys also estimated measles vaccination coverage and various food security indicators.

**BAFWASENDE, OPALA & YALEKO HEALTH ZONES,  
TSHOPO DISTRICT, ORIENTALE PROVINCE**

The surveys were conducted by LWF/joint in October 2006. A two-stage 30 x 30 cluster sampling methodology was used in each survey. The surveys also estimated measles vaccination coverage.

**IRUMU, DJUGU, MAHAGI TERRITORIES, ITURI DISTRICT, ORIENTALE PROVINCE**

The surveys were conducted by COOPI in November and December 2006, and in January 2007. A two-stage 30 x 30 cluster sampling methodology was used in each survey. The surveys also estimated measles vaccination coverage.

**LUSANGI & SARAMABILA HEALTH ZONES, MANIEMA PROVINCE**

The survey was conducted by Concern in February 2007. A two-stage 30 x 30 cluster sampling methodology was used. The survey also estimated measles vaccination and vitamin A coverage, and retrospective mortality rates.

**BULUNGU HEALTH ZONE, BANDUDU PROVINCE**

The survey was conducted by PRONANUT/joint in January 2007. A two-stage 30 x 30 cluster sampling methodology was used. The survey also estimated measles vaccination and vitamin A coverage, and retrospective mortality rates.

## **Southern Africa**

### **Zambia**

**KALA REFUGEE CAMP**

The survey was conducted by Aktion Africa Hilfe (AAH) in March 2007. A systematic sampling methodology based on the registered under-five population was used to measure 918 children between 6-59 months. The survey also estimated vitamin A and measles vaccination coverage.

## **Asia**

### **Nepal**

**REFUGEE CAMPS**

The survey was conducted by CDC/UNHCR/WFP in January 2007. A systematic sampling methodology based on the registered under-five population was used to measure 497 children between 6-59 months. The survey also estimated vitamin A and measles vaccination coverage and various food security and public health indicators.

**BAHJANG DISTRICT**

The survey was conducted in eight Village Development Committees (Dahabagar, Lakgaun, Sainpasela, Bhamchaur, Maulali, Baraibnath, Banjh and Parakatne) by ACF-F in January 2007. A two-stage cluster sampling methodology of 42 clusters was used to measure 773 children between 6-59 months. The survey also estimated vitamin A and measles vaccination coverage, mortality rates and various food security and public health indicators.

## **Middle East**

### **Occupied Palestinian Territories**

The survey was conducted by PCBS/joint between November 2006 and January 2007. The sample was a stratified two-stage random sample. At the first stage 325 enumeration areas were selected from all Palestinian Territory. At the second stage, 40 households were randomly selected from each enumeration areas. 13,238 households were surveyed: 8,781 in the West Bank and 4,457 in Gaza Strip.

# 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/height<sup>2</sup>), 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.

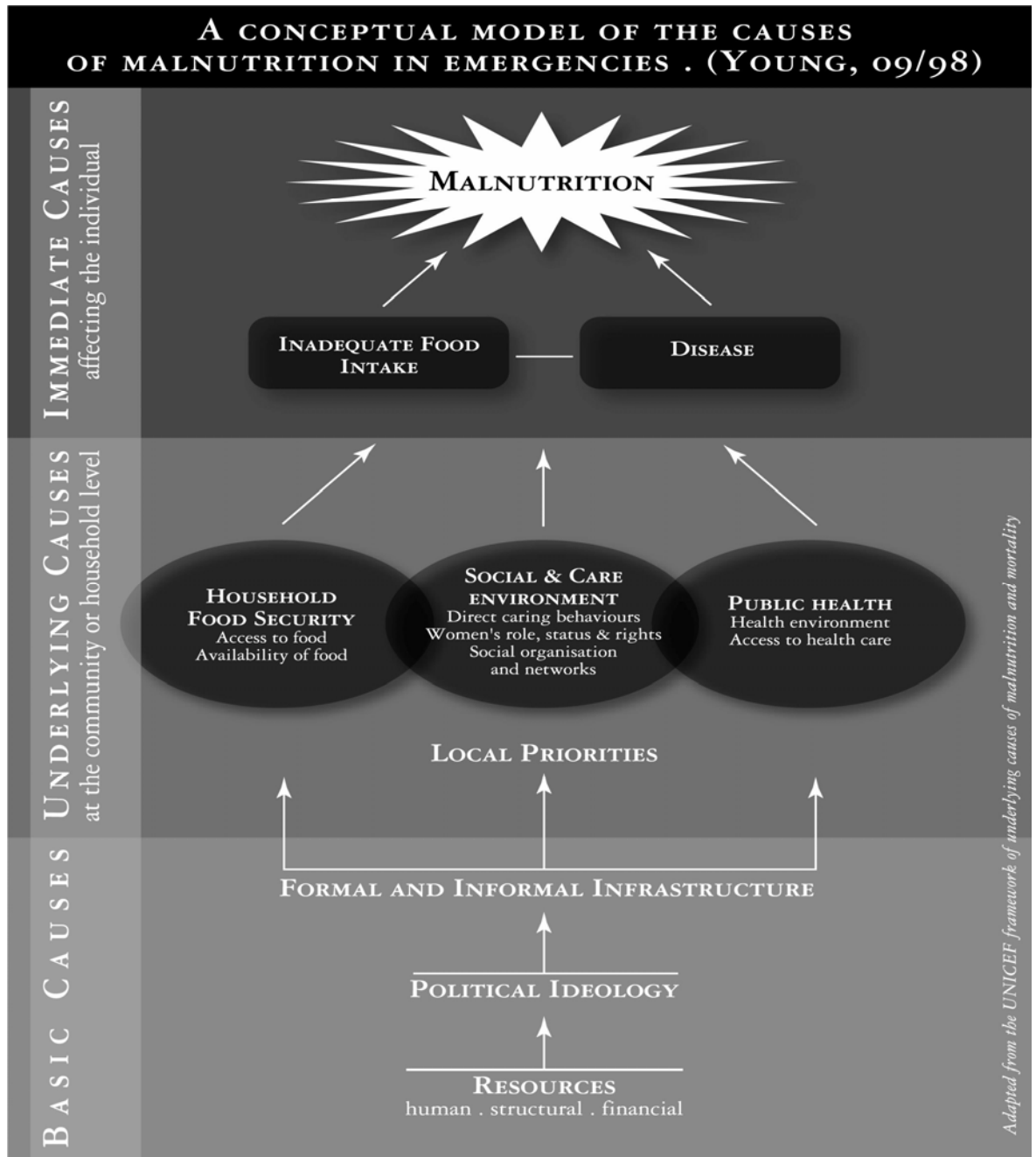
## Classification of situations

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.

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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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