

Nutrition Information in Crisis Situations

United Nations System
Standing Committee on Nutrition



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MAY 2006 . REPORT NUMBER IX



Highlights

ETHIOPIA—ALARMING SITUATION IN SOMALI REGION AND ZONE 2 AND 4 OF AFAR— Nutrition surveys conducted early this year confirmed the serious situation in parts of the pastoral areas. This is partly due to the poor last *deyr* rainy season. About 1.5 m people, representing more than one third of the population, are in need of emergency food and non-food aid. The situation is likely to further deteriorate during the forthcoming dry season.

KENYA— FOOD INSECURITY STILL EXTREMELY SEVERE IN PASTORAL AREAS— About 3 m people are in need of emergency food aid, especially in Marsabit, Isiolo, Mandera and Turkana districts, but the food pipeline is only 50% resourced. The beginning of the rains has brought some relief but the overall performance of this rainy season will determine the future food security of the affected areas. Nutrition surveys conducted in Moyale, Samburu and Marsabit districts, three of the ten districts considered as the most affected by the drought, showed dire situations, especially in Marsabit.

SOMALIA—SITUATION STILL PRECARIOUS—The food-security situation remains precarious for the estimated 2.1 m people affected by two poor rainy seasons, especially in the south of the country. Cereal prices had greatly increased and were much higher than within the same period last year. In areas where humanitarian food aid has been delivered, it seems that cereal prices have been controlled even if they were still higher than last year. The *Gu* rainy season has started favourably in most parts of the south which might be a positive factor for improvement of food security in the future. Nutrition surveillance has intensified in the south of the country and according to several random-sampled nutrition surveys conducted over the last few months, the nutrition situation was found to be highly precarious.

DRC—APPALLING SITUATION AMONG IDPs IN KATANGA— Following an upsurge in violence in the north and the centre of Ka-

tanga province in November-December 2005, it is estimated that about 165,000 people have been displaced. Thousands of them, almost destitute, are gathered in displaced camps around towns, with makeshift shelters, poor access to basic needs, and lack of protection. Relief has been slow and needs are still not covered, despite a recent upscale in aid.

MALAWI—AVERAGE SITUATION— Malawi has faced a number of food and nutrition crises over the past five years, especially in 2001-2002. Again in mid-2005, an appeal was launched by the government of Malawi to support immediate humanitarian needs and to minimise the long-term impact of the current food crisis. According to nutrition surveys conducted in 26 districts of Malawi, prevalence of acute malnutrition varied widely depending on district, and was acceptable in ten districts, average in 12 districts and precarious in four districts.

NEPAL—WORRYING SITUATION IN KARNALI PROVINCE— Drought in some of the districts of the impoverished Karnali province has raised concern about a possible food crisis in the area. A nutrition survey conducted in Mugu and Humla districts, which are among the least developed districts in Nepal, in March 2006, showed a precarious nutrition situation. Further food security assessments were on-going.

DPR KOREA—PERSISTENCE OF FOOD INSECURITY— It is difficult to analyse the food and nutrition situations in North Korea due to the paucity and uncertainty of the reliability of information. It seems however that the nutrition situation of the children surveyed in 2004 compares with the regional average. Although the economic and agricultural situation seems to have improved in recent years, it is still precarious. The food security and nutrition situations in the country are still very fragile and need continuous attention.

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 Affected populations in the South	ETHIOPIA Affected population in Somali region	KENYA Moyale, Samburu & Marsabit districts	DRC IDPs in Dubic, Katanga	INDONESIA NAD and Nyas island	NEPAL Humla and Mugu districts, Karnali province
Nutritional risk category	I/II	I/II	I/II	I/II	III	II/III
FOOD SECURITY						
Households' livelihoods	☹	☹	☹	☹	☺	☹
External assistance	☺	☹	☹	☹	☺	☹
PUBLIC HEALTH ENVIRONMENT						
Availability of water and access to potable drinking water	☹	☹	☹	?	☹	?
Health care	☹	☹	?	?	?	?
Sanitation	?	?	?	?	?	?
SOCIAL AND CARE ENVIRONMENT						
Social environment	☹	?	?	?	?	?
Child feeding practices	?	?	?	?	?	?
DELIVERY OF ASSISTANCE						
Accessibility to population	☹	☺	☺	☺	☺	☺
Resources for humanitarian Intervention	☺	☹	☹	☺	☺	☺
Availability of information	☺	☺	☺	☺	☺	☺



ADEQUATE



MIXED



INADEQUATE

Greater Horn of Africa



Ethiopia Alarming situation in Somali region and Zone 2 and 4 of Afar region

Nutrition surveys conducted early this year confirmed the serious situation in parts of the pastoral areas (table 1). This is partly due to the poor last *deyr* rainy season (see NICS 8). Under-five mortality rates were also high in most of the areas surveyed.

About 1.5 m people, representing more than one third of the population, are in need of emergency food and non-food aid. The situation is likely to further deteriorate during the forthcoming dry season. Liben, Gode and Afder zones of Somali region and Zones 2 and 4 of Afar region are especially at risk of famine if interventions are not scaled up (FEWS, 03/06). So far, humanitarian aid does not seem to have been sufficient to avoid a crisis, and still remains short in terms of food distributions. Furthermore, crucial nutrition and non-food inter-

ventions seem to be lacking (FEWS, 03/06).

Improved harvest

At national level, the 2005/06 harvest is estimated to be 14% above last year and 46% above the average of the previous years, mainly because of improved rainfall and increased use of fertiliser and improved seeds (FAO/WFP, 24/02/06). However, 2.6 m people will still be in need of food aid, at least until June 2006, of whom 1.5 m are in Somali region (see above). On top of this, 7.2 m chronically food-insecure people will benefit from the Productive Safety Net Programme.

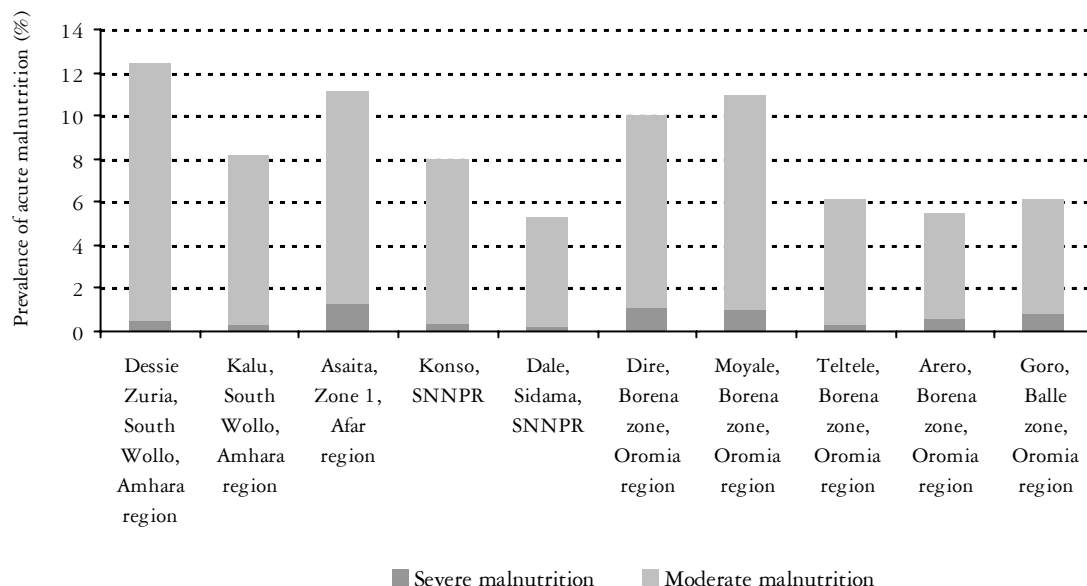
Nutrition surveys showed average to poor nutrition situations in different areas of Ethiopia (figure 1). In Borena zone, Oromya region, the situation was not critical, despite the failure of last rainfall.

TABLE 1 RESULTS OF SURVEYS IN SOMALI AND AFAR REGIONS, ETHIOPIA (ENCU, 30/03/06; GOAL, 10/05)

District	Date	% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Measles immunisation coverage (%)*	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
SOMALI REGION						
Guna Goda, Deghabur zone	Feb-06	20.6 (16.4-24.6)	3.9 (2.2-7.1)	5.0	0.42	1.09
Denan, Gode	Jan-06	23.5 (19.9-27.6)	3.1 (1.7-5.5)	9.4	1.97	6.69
East Imey, Gode	Feb-06	21.7 (18.1-25.7)	2.5 (1.3-4.4)	2.3	-	-
Agro-pastoral areas, Dolo Ado & Dolo Bay, Liben & Afder zones	Feb-06	19.0 (15.4-22.3)	1.6 (0.6-2.5)	33.9	0.72	2.4
Pastoral areas, Dolo Ado, Dolo Bay & Bare, Liben & Afder zones	Feb-06	18.8 (15.9-21.6)	1.4 (0.3-2.5)	17.2	0.77	3.35
Cherati town, Afder sone	Jan-06	18.6 (15.2-21.9)	2.3 (1.1-3.5)	55.0	1.0	3.3
Moyale & Hudet, Liben zone	Feb-06	19.7 (16.0-23.4)	1.8 (0.8-2.7)	22.9	1.02	3.24
AFAR REGION						
Berhale, Zone 2	Oct-05	19.0 (16.0-22.3)	2.0 (1.1-3.4)	71.8	0.41	1.05
Yalo, zone 4	Mar-06	11.1 (8.4-14.4)	1.1 (0.4-2.6)	5.5	0.51	1.54

* According to cards or mothers' statements

FIGURE I RESULTS OF SURVEYS, ETHIOPIA (ENCU, 30/03/06)



Recommendations

Somali region, from ENCU bulletin (ENCU, 30/03/06)

- Carry out measles vaccination and Vitamin A supplementation campaign
- Support exiting health care system
- Provide timely general food ration in adequate quantity and quality targeted to the most affected areas and population groups
- Implement targeted supplementary and therapeutic feeding programmes
- Provide animal feed and veterinary services
- Dispense emergency sanitation campaign, water tankering and rehabilitation of dysfunctional water points

Kenya

Nutrition situation still poor in Kakuma and Dadaab refugee camps

Kakuma refugee camp is located in Turkana district and hosts about 90,000 refugees, mostly from Sudan (80%) and Somalia (17%). A new wave of Somali refugees has begun to pour in to the camp as a result of drought in parts of Somalia (CARE, 27/04/06).

According to a nutrition survey conducted in November 2005, the nutrition situation was still highly precarious in the camp and has not improved compared to previous years (figure 2) (IRC, 01/06). In 2005, the general food distribution was about 90% of the targeted 2,100

Kcal/pers/day full ration. Refugees seem highly reliant on the general ration and the poorest people sell part of it to buy other foods, such as sugar, vegetables and meat or non-food items which are not distributed regularly. Breast-feeding practices seem average with 89.3% of the 0-23 month olds being breastfed, and 95.5% of the 6-23 month olds receiving complementary feeding. On the other hand, only 20% of those less than six months old were exclusively breastfed, and dietary diversity of complementary food was poor.

Dadaab refugee camps in Garissa district host about 140,000 refugees, mainly from Somalia. The nutrition situation was highly precarious

TABLE 2 PREVALENCE OF ANAEMIA, DADAAB REFUGEE CAMP, KENYA, JUNE 2005 (BMZ/UNHCR/GTZ, 06/05)

Population group	N	Mild anaemia (%) (95% CI)	Moderate anaemia (%) (95% CI)	Severe anaemia (%) (95% CI)	Total anaemia (%) (95% CI)
6-59 months*	304	17.8	53.3	15.1	86.2
Pregnant women*	-	12.0	48.0	14.0	74.0

*Mild anaemia: Hb = 10.0-10.9 g/dl; moderate anaemia: Hb = 7-9.9 g/dl; severe anaemia: Hb < 7 g/dl

as of June 2005 and has remained stable compared to 2003 (BMZ/UNHCR/GTZ, 06/05). The food distribution for the first semester of 2005 had been near the targeted 2,100 Kcal/pers/day, except in May when it was lower. As in Kakuma, people sold part of their rations for other foods such as sugar, milk or meat. Anaemia was widespread in the camps among children and pregnant women and was indicative of a public health problem (table 2).

Food insecurity still extremely severe in pastoral areas

About 3 m people are in need of emergency food aid, especially in Marsabit, Isiolo, Mandera and Turkana districts (see map), but the food pipeline is only 50% resourced (FEWS, 10/04/06). The beginning of the rains has brought some relief but the overall performance of this rainy season will determine the future food security of the affected areas.

FOOD SECURITY STATUS, KENYA, MARCH 2006 (FEWS, 10/04/06)

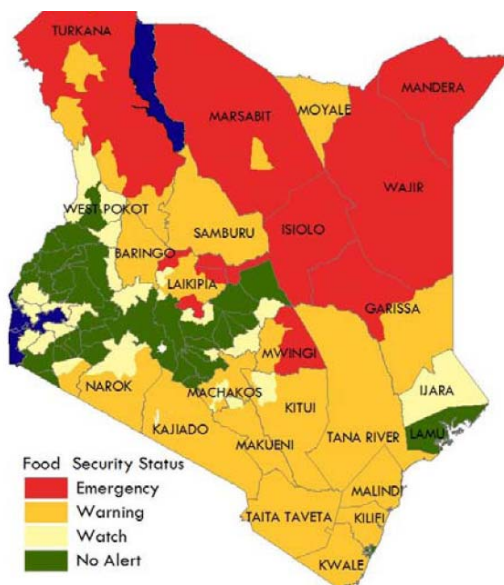
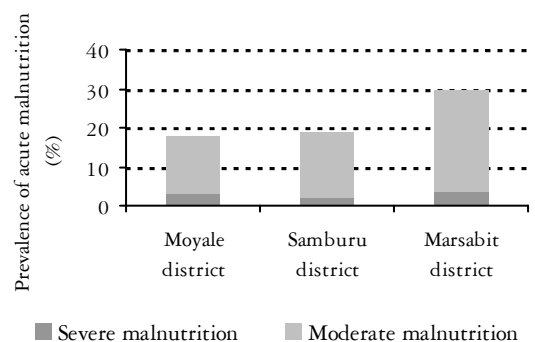


FIGURE 2 PREVALENCE OF ACUTE MALNUTRITION, KENYA, MARCH 2006 (UNICEF, 03/06)



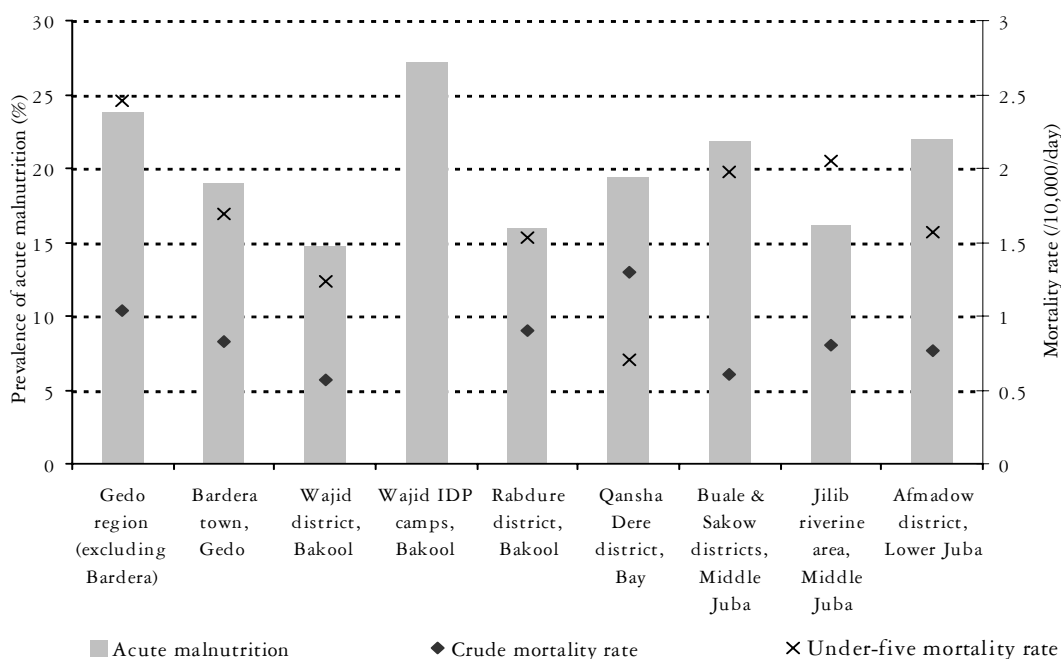
Random-sampled nutrition surveys conducted in Moyale, Samburu and Marsabit districts, three of the ten districts considered as the most affected by the drought, showed dire situations, especially in Marsabit (figure 2) (UNICEF, 03/06). Most of the households have reduced their food intake and were reliant on food aid. Almost all households reported receiving food in the three months prior to the survey. The survey report recommended, among other things, the continuation and scale-up of the food distribution, and the implementation of supplementary and therapeutic feeding programmes.

Somalia

The food-security situation remains precarious for the estimated 2.1 m people affected by two poor rainy seasons, especially in the south of the country (Fews, 04/06). Cereal prices had greatly increased and were much higher than within the same period last year. In areas where humanitarian food aid has been delivered, it seems that cereal prices have been controlled even if they were still higher than last year. The *Gu* rainy season has started favourably in most parts of the south which might be a positive factor for improvement of food secu-

urity in the future. However, continued provision of food aid and livelihood support is still important to protect the remaining assets. Nutrition surveillance has intensified in the south of the country and according to several random-sampled nutrition surveys conducted over the last few months, the nutrition situation was found to be highly precarious while under-five mortality rates were of concern (figure 3). In Rabdure and Wajid district, Bakool region, malnutrition rates were consistent with typical levels in these districts (FSAU/N, 02/06).

FIGURE 3 RESULTS OF NUTRITION AND MORTALITY SURVEYS, SOUTHERN SOMALIA (FSAU/N, 02/06; FSAU, 04/06; FSAU/N, 05/06; MSF-CH, 02/06)



Sudan Darfur

Insecurity is still widespread in Darfur although a peace agreement was signed by the largest rebel group and the Government of Sudan, but not by the other rebel groups, in early May (USDS, 18/05/06). In addition, the food ration will be cut by half during the forthcoming hunger gap season due to WFP's

severe funding shortfall (BBCNews, 28/04/06). Even if funding commitments were to be found, food aid would probably not be delivered on time due to transportation constraints. The decrease in food rations will probably compromise the stabilisation of the situation that has been seen over the last months. Although data are not directly comparable because some feeding centres have been closed due to low beneficiary numbers, or program-

matic or funding constraints, admissions to feeding centres were far lower in April 2006 than in the same month last year (figure 4 & 5) (UNICEF, 04/06). This might be the result of improved humanitarian aid as well as a better harvest in 2005 than in 2004. Cereal harvest in 2005/2006 was estimated at about 190% of the 2004 harvest in the region (FAO/WFP, 15/02/06).

Surveys conducted during the post-harvest season showed varied situations (figure 6). Where comparison with the same period in 2005 was possible, surveys showed a stable situation in terms of nutrition and mortality (figure 7 & 8).

Food insecurity in Northern Bhar el Ghazal and pastoral areas of Kapoeta district

The 2005/2006 harvest was forecast at 55% higher than last year, and about 17% higher than the last five years average (FAO/WFP, 15/02/06). This good performance has been attributed to favourable rainfall, a low incidence of pests and diseases, and improved security. However 6.7 m people were estimated to be need of food aid, especially IDPs, returnees,

and highly vulnerable residents.

In Northern Bhar el Ghazal, the high number of returnees in Aweil East and West may further undermine the already precarious situation (Fewes, 09/05/06). In the pastoral areas of Kapoeta county, Equatoria, inadequate recovery of pasture and water availability has raised concern.

According to nutrition surveys conducted at the end of 2005 and beginning of 2006, the nutrition situation in the areas surveyed in Unity, Upper Nile and Bhar el Ghazal remained highly precarious (table 3), but stable compared to 2005 in areas where comparison was possible. It was slightly better in Kassala state, Eastern region, but still serious (table 3). On the other hand, mortality rates were under control (table 3).

Overall

Despite a generally good harvest in 2005/06, more than 6 million people remain in a highly precarious situation (category II), especially IDPs and returnees.

TABLE 3 RESULTS OF NUTRITION AND MORTALITY SURVEYS, SUDAN
(ACF-F, 11/05; AAH-US, 02/06; AAH-US, 03/06; GOAL, 11/05; GOAL, 12/05; GOAL, 01/06; TEARFUND, 03/06)

Location	Date	% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Measles immunisation coverage (%)*	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
Unity						
Bentiu town	Nov-05	20.8 (17.2-24.8)	1.9 (0.9-3.7)	80.1	0.32	0.94
Rob Kona town	Nov-05	22.2 (18.6-26.3)	1.8 (0.8-3.6)	87	0.33	1.14
Kassala						
Agricultural areas	Nov-05	11.8 (9.8-14.0)	0.5 (0.2-1.3)	89.9	0.25	0.39
Pastoral areas	Nov-05	14.6 (12.1-17.0)	2.0 (1.3-2.7)	66.0	0.28	0.44
Dablawet IDP camps, Kassala town	Jan-06	16.5	1.3	-	-	-
Upper Nile						
Malakal town	Dec-05	21.6 (19.1-24.4)	2.8 (1.9-4.1)	77.8	0.62 (0.39-0.85)	1.25 (0.63-1.88)
Galdora & Panamditi districts, Malut county	Mar-06	20.8	1.7	46.3	0.74	1.11
Bhar el Ghazal						
Alek South, North and West & Riau districts, Gogrial West county	Feb-06	23.9 (20.0-28.2)	4.2 (2.6-6.6)	14.3	0.25 (0.09-0.4)	0.22 (0.0-0.5)
Aweil South county	Mar-06	20.0 (16.3-23.7)	3.7 (1.6-5.6)	33.3	0.26 (0.0-0.43)	0.69 (0.0-1.35)
Aweil East county	Mar-06	22.7 (19.9-25.4)	2.6 (1.6-3.6)	41.7	0.62 (0.35-0.88)	1.4 (0.13-2.67)

* According to cards or mothers' statements

FIGURE 4 TFC ADMISSIONS IN DARFUR, SUDAN (UNICEF, 04/06)

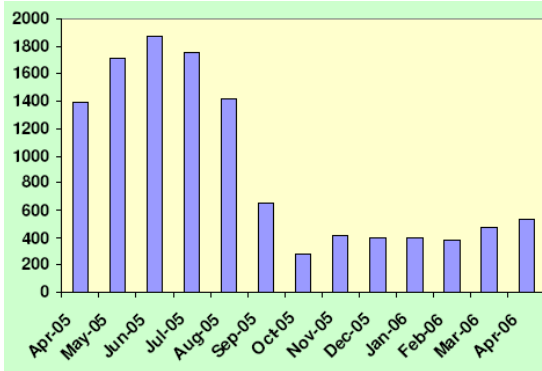


FIGURE 5 SFC ADMISSIONS IN DARFUR, SUDAN (UNICEF, 04/06)

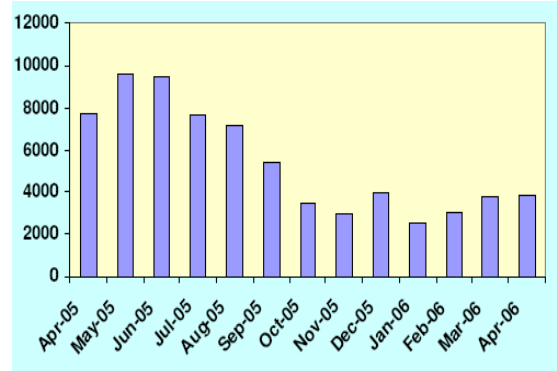


FIGURE 6 PREVALENCE OF MALNUTRITION AND MORTALITY RATES, DARFUR, SUDAN (ACF-F, 01/06; ACF-F, 02/06; ACF-F, 03/06; CONCERN, 02/06; GOAL, 10/05; GOAL, 11/05; MSF-S, 11/05; MSF-S, 12/05)

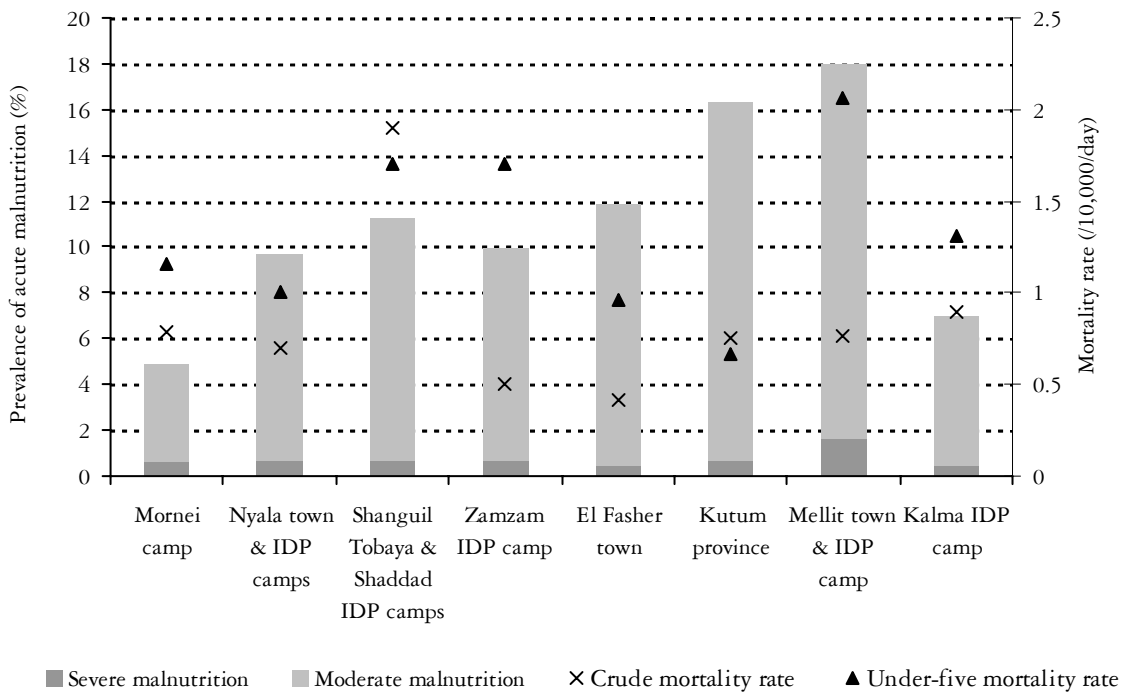


FIGURE 7 TRENDS IN PREVALENCE OF ACUTE MALNUTRITION, DARFUR, SUDAN

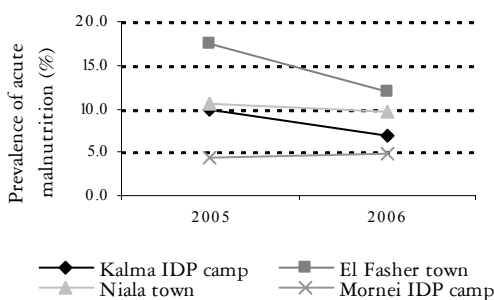
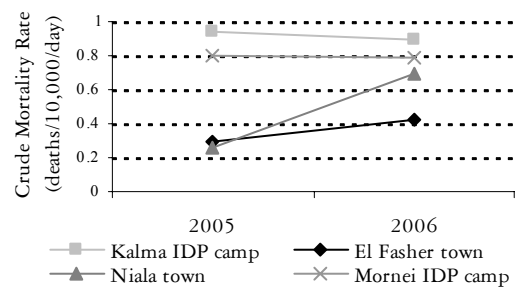


FIGURE 8 TRENDS IN CRUDE MORTALITY RATE, DARFUR, SUDAN



West Africa



Liberia

The return of 314,000 displaced people was completed by UNHCR at the end of April. Of the 22 camps and 13 spontaneous settlements, 22 have been closed (UNHCR, 21/04/06). More than 60,000 refugees have also returned. The majority of the returns took place in Lofa, Bomi, Bong, Capemount and Gbarplou coun-

ties. Reconstruction continues but needs, in terms of shelter, the availability of water and sanitation, health facilities, schools and food security, are still not covered (ACF-F, 12/05; ICRC, 04/06).

Niger

Despite a generally good 2005 harvest, some pockets of food insecurity have been identified in pastoral and agro-pastoral areas at the onset of the hunger-gap season (FEWS, 03/06). They result from insufficient food stocks, reimbursement of debts contracted during last year's crisis, cereal and fodder deficits and relatively high food prices.

Two random-sampled nutrition surveys conducted just after the harvest in the rural sur-

roundings of Zinder town and in Magaria department in Zinder region showed average to precarious nutrition situations (table 4). On the other hand, mortality rates were extremely high, probably due to the high number of malaria cases during this period (table 4). When compared to August 2005, which was during the hunger gap, the nutrition situation has significantly improved around Zinder town (see NICS 7).

TABLE 4 RESULTS OF NUTRITION AND MORTALITY SURVEYS IN ZINDER REGION, NIGER, DECEMBER 2005 (MSF-CH, 12/05)

Location	% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Measles immunisation coverage (%)*	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
Rural surroundings of Zinder town	11.3 (9.0-13.7)	1.7 (0.9-2.4)	44.2	1.7 (1.1-2.2)	5.4 (3.3-7.4)
Eight cantons of Magaria department	6.5 (4.9-8.0)	1.0 (0.4-1.6)	36.3	1.9 (1.3-2.5)	5.9 (3.9-7.9)

* According to cards and mothers' statements

Central Africa



Democratic Republic of Congo

Appalling situation among IDPs in Katanga

Following an upsurge in violence in the north and the centre of Katanga province in November-December 2005, it is estimated that about 165,000 people have been displaced (IRIN,

04/05/06). Thousands of them, almost destitute, are gathered in displaced camps around towns, with makeshift shelters, poor access to basic needs, and lack of protection (MSF, 01/06). Relief has been slow and needs are still not covered, despite a recent upscale in aid. With the rainy season hampering access by

TABLE 5 RESULTS OF A NUTRITION AND MORTALITY SURVEY AMONG DISPLACED PEOPLE IN DUBIE, KATANGA, MARCH-06 (MSF-H, 03/06)

% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
19.2 (15.7-23.3)	5.0 (3.2-7.6)	4.3 (3.5-5.3)	12.7 (10.1-16.3)

road, WFP has recently air dropped food to the province (WFP, 09/05/06). However, their operation has a critical fund shortfall of 36%. Registration of displaced people is on-going, which will facilitate estimation of needs and provision of aid (IRIN, 04/05/06).

According to a random-sampled nutrition survey conducted in March 2006 in the IDP camps near Dubie, the nutrition situation was bad, and mortality rates were appalling (table 5) (MSF-H, 03/06). Causes of mortality were not recorded.

Most of the displaced arrived in November and December 2005 and while they had been able to find some work during the planting season,

they have had very few means of earning income afterwards. They reported they had sold most of their belongings for food and were relying mostly on cassava. Food distributions have been erratic and covered less than half of the minimum requirements.

Overall

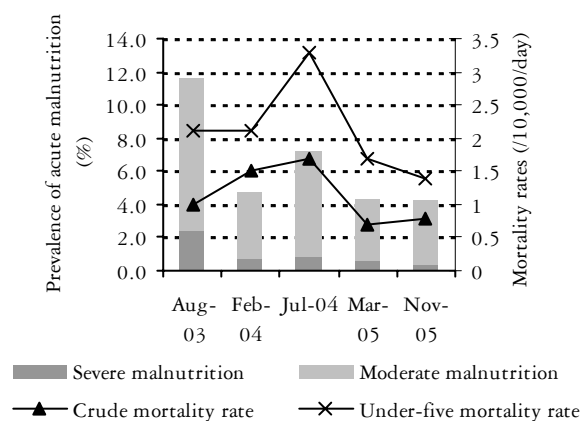
Funds and an upscale in relief programmes are urgently needed to contain the appalling situation (category I) of the displaced in Katanga.

Uganda

The security situation has shown a marked improvement in Northern Uganda over the recent months (Fews, 22/04/06). This has prompted thousands of IDPs to return home, especially in Lira district (USAID, 26/04/06). The Uganda People's Defence Forces have announced that they would reduce military escorts to convoys delivering non-food assistance. It is thought that this could hamper provision of humanitarian aid since a significant degree of insecurity still prevails (Fews, 26/04/06). The Government of Uganda has also issued stringent measures on operations of NGOs (Xinhua, 13/04/06).

A random-sampled nutrition survey conducted in Kalongo town, Pader district, in November 2005 showed a stable situation in 2005 (figure 9) (GOAL, 11/05).

FIGURE 9 PREVALENCE OF ACUTE MALNUTRITION AND MORTALITY RATES, KALONGO TOWN, PADER DISTRICT, UGANDA



Chad

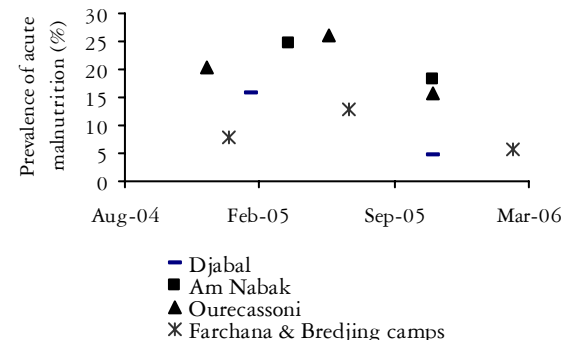
Contrasted situations in refugee camps

The nutrition situation seemed to have improved in some Sudanese refugee camps at the end of last year. Three surveys conducted in Djabal, Am Nabak and Ourre Cassoni camps showed an improvement of the situation compared to previous surveys, although the nutritional status was still precarious in two of the camps surveyed (figure 10) (AAH-US, 11/05). This might be due to an overall improvement in the provision of humanitarian aid. Mortality rates were under control. Another survey carried out in Farchana and Bredjing camps and in villages surrounding the camps in March 2006 showed a situation which was not critical and which has improved compared to last year (figure 10) (MSF-H, 03/06). The performance of nutrition programmes also showed an amelioration at the end of 2005 in all the camps (WFP/UNHCR/WHO/UNICEF, 01/06). In the South of the country, refugees from Central African Republic have continued to arrive. The situation in the two refugee camps seemed to be causing some concern (RI, 25/04/06).

High deterioration of the security situation in Eastern Chad

The security situation has deteriorated considerably in Eastern Chad since the beginning of 2006, as a result of militia attacks on Chadian villages and refugee camps (IRIN, 17/05/06). It seemed that the government of Chad could not guarantee security in parts of Eastern

FIGURE 10 TRENDS IN PREVALENCE OF ACUTE MALNUTRITION IN SOME SUDANESE REFUGEE CAMPS, CHAD



Chad. There were also reports of forced and voluntary recruitment in refugee camps and of attacks on humanitarian workers (UNHCR, 16/05/06; UNNews, 08/05/06). Increased insecurity has prompted the displacement of about 50,000 Chadians within their country (WFP, 03/05/06). Their food situation as well as that of the 20,000 people who host them might deteriorate rapidly. Seed protection activities were planned but no general distribution was envisaged as of beginning of May. Displaced families have also been distributed non-food items (ICRC, 18/04/06). The situation was to be carefully monitored. About 13,000 Chadian have also been reported to have fled to Sudan, where some of them will be relocated in camps (UNHCR, 12/05/06). President of Chad Idriss Deby was re-elected in the polls held at the beginning of May, which were boycotted by opposition parties (BBCNews, 14/05/06).

Southern Africa



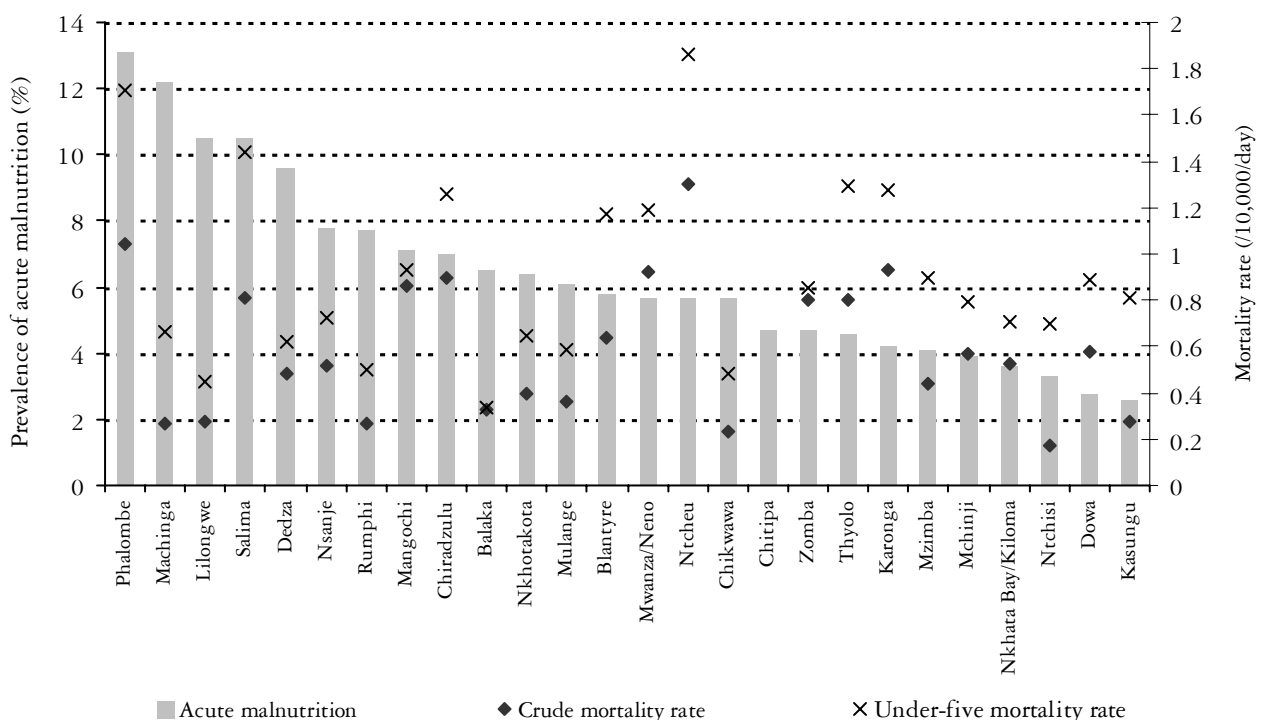
Malawi

Malawi has faced a number of food and nutrition crises over the past five years, especially in 2001-2002. Again in mid-2005, an appeal was launched by the government of Malawi to support immediate humanitarian needs and to minimise the long-term impact of the current food crisis (OCHA, 30/08/05). This 2005 crisis was due to below average rainfall, lack of inputs because of difficulties in procurement, transport, and delivery, and low purchasing power for agricultural inputs among the majority of smallholder farmers. The appeal was revised in November 2005 and it was estimated that 4.9 m people will need food assistance until the March 2006 harvest (UNICEF, 18/04/06). Because of dry spell in the first quarter of 2006, and high malnutrition rates in some districts, food distributions have been continued to 1.4 m people in 14 districts in April 2006. The 2006 harvest has been estimated to be good overall, but some pockets of food insecurity may remain in the north where crop conditions have not been optimal (IRIN, 03/05/06). Furthermore, people's livelihoods have been depleted during the several years of

hardship, and the high HIV prevalence also affects food security.

Random-sampled nutrition surveys were conducted in 26 districts of Malawi in December 2005 (MOH/UNICEF, 03/06). Prevalence of acute malnutrition varied widely depending on district, from 13.1% (10.8-15.4) in Phalombe district, South region, to 2.6 (1.6-3.6) in Kasungu district in the north, and was acceptable in ten districts, average in 12 districts and precarious in four districts (figure 11). Overall, districts in the South region showed higher prevalence of acute malnutrition, while the Northern region seemed better off. Oedematous children represented about one third of malnourished children, which is a significant proportion. Wasting seemed to have remained stable at national levels since the beginning of this century. Stunting was very high, varying from 54.2% (50.9-57.5) in Dedza to 23.8% (21.2-26.4) in Kasungu. Mortality rates also varied widely but were below the alert rate in all districts but Ntcheu and Phalombe (figure 11).

FIGURE 11 PREVALENCE OF ACUTE MALNUTRITION AND MORTALITY RATES, MALAWI, DECEMBER 2005 (MOH/UNICEF, 03/06)

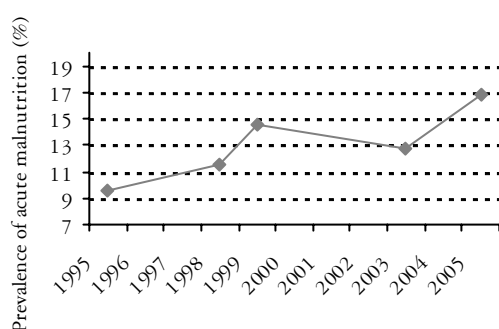


Asia

Bangladesh

About 20,000 refugees from the Rohingya minority of North Rakhine state in Myanmar are settled in two camps in Bangladesh. A random-sampled survey conducted in December 2005 showed a worrying situation, which has not improved compared to ten years ago (figure 12).

FIGURE 12 PREVALENCE OF ACUTE MALNUTRITION, REFUGEE CAMPS, BANGLADESH



Prevalence of micronutrient deficiencies such as anaemia and riboflavin deficiency was also high: 35.4% (60.0-70.6) of the 6-59 months children had anaemia (Hb < 11.0 g/dl), and 13.8% (9.0-18.5) riboflavin deficiency, respectively. On the other hand, under-five mortality seemed under control. Refugees are entitled to a full food ration. Food basket monitoring revealed that depending on the item, refugees received between 92% and 94 of the ration in 2004 and between 91% and 97% in 2005. However, the intended ration is deficient in most micronutrient, especially in calcium, riboflavin, iodine, vitamin A and iron. Food security and access to safe water and sanitation have always been limited in the camps (see NICS 1).

Myanmar

A random-sampled nutrition survey was conducted in Maungdaw and Buthidaung townships, located in the northern part of Rakhine state and mainly populated by the Rohingya community (ACF-F, 01/06). The area has poor

infrastructure and is under-developed. The survey revealed a high prevalence of acute malnutrition, while mortality rates were under control (table 5). The nutrition situation has remained within the same range for the last few years.

TABLE 5 RESULTS OF A NUTRITION AND MORTALITY SURVEY IN MAUNGDAW & BUTHIDAUNG TOWNSHIPS, NORTH RAKHINE STATE, MYANMAR, JAN-06 (ACF-F, 01/06)

% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Measles vaccination coverage (%)*	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
18.9 (15.5-22.9)	1.4 (0.5-3.0)	49.8	0.26)	0.79

* According to cards and mothers' statements

Indonesia

A random-sampled nutrition survey was conducted in 23 districts of Nanggroe Aceh Darussalam (NAD) and Nias Island in September 2005 (MOH/UNICEF/joint, 04/06). NAD was dramatically hit by the Tsunami in December 2004, and a further earthquake affected Nias

Island a few months later. The survey was conducted among resident and displaced households. Displaced families represented 10% of the surveyed population. The nutrition situation was precarious with a prevalence of acute malnutrition of 9.8%, which seemed similar between displaced and resident populations.

Only half of the children less than six months were exclusively breastfed and among the other half, 28.3% had received milk powder. Prevalence of anaemia was significant: 50.2% of the 6-59 month olds were anaemic (Hb < 11 g/dl) as well as 27.9% of non-pregnant women (Hb < 11 g/dl). It seems that children who had received sachets of micro-nutrient supplements were 25% less likely to be anaemic than children who had not.

Vitamin A distribution coverage was 82%, but varied greatly between districts, while measles vaccination coverage (by card or recall) was only 49.7%.

Women's BMI were measured and 8.3% of non-pregnant women had a BMI < 18.5, but

29% had a BMI \geq 25, showing overweight or obesity.

Housing and access to safe drinking water were poor. Forty-two percent of the IDP families were sheltered in temporary accommodation such as tents or communal buildings, but 62% had access to a protected water source, while only 28% of the resident families had access to protected water sources. Sixty percent of displaced and twenty one percent of resident families were receiving food aid.

This survey showed a similar nutrition situation to the nutrition survey which was conducted in March 2005 in 13 districts of NAD (see NICS 6).

Nepal

Following 19 days pro-democracy protests called by the Seven Party Alliance, King Gyandendra announced that the parliament which had been dissolved in 2002 would be reconstituted (OCHA, 05/05/06). A new government was formed and peace talks between the new government and the Maoists were set to begin by end of May (IRIN, 26/05/06). Maoists and the government declared a three months cease-fire, starting at the end of April. It is hoped that these new developments will restore peace

in Nepal.

Meanwhile, drought in some of the districts of the impoverished Karnali province has raised concern about a possible food crisis in the area (IRIN, 08/05/06).

A random-sampled nutrition survey conducted in Mugu and Humla districts, which are among the least developed districts in Nepal, in March 2006, showed a precarious nutrition situation, although mortality rates were under control (table 6) (ACF-F, 03/06). Further food security assessments are on-going.

TABLE 6 RESULTS OF A NUTRITION AND MORTALITY SURVEY IN HUMLA & MUGU DISTRICTS, KARNALI PROVINCE, NEPAL, JANUARY 2006 (ACF-F, 03/06)

% Acute Malnutrition (95% CI)	% Severe Acute Malnutrition (95% CI)	Vitamin A distribution coverage	Anaemia (Hb < 11 g/dl)	Crude Mortality (/10,000/day)	Under 5 Mortality (/10,000/day)
12.3 (9.9-14.7)	3.3 (2.0-4.6)	86.4%	38.1%	0.67 (0.5-1.29)	0.62 (0.05-1.29)

Pakistan

The October 2005 earthquake causes a tremendous number of deaths and major destruction in eight districts of the North-West Frontier (NWFP) and Azad Jamud and Kashmir (AJK) provinces (see NICS 8).

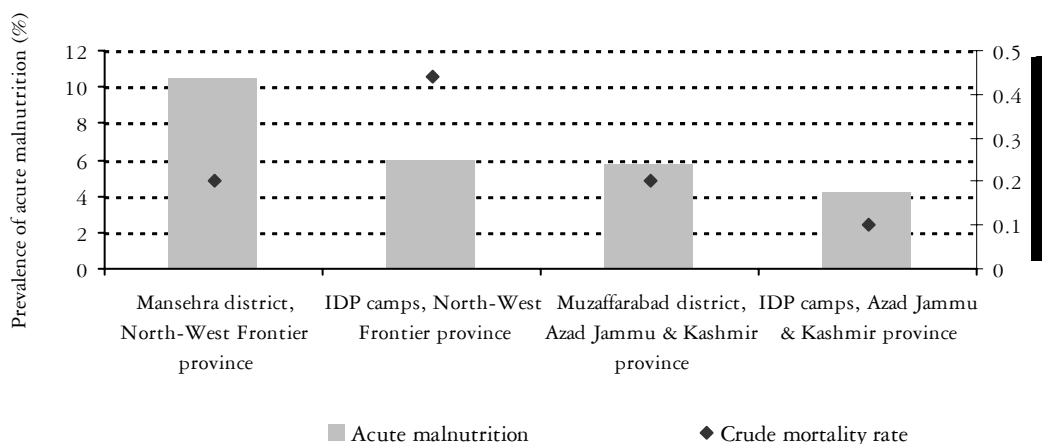
Two months later, four nutrition surveys were conducted. These were among non-displaced families in Mansehra district; NWFP, displaced camps in NWFP; non-displaced fami-

lies in Muzaffarabad district, AJK; and IDP camps in AJK (UNICEF/WFP/WHO, 07/02/06). The surveys showed average nutrition situations in IDP camps and in Muzaffarabad, while it was more precarious in Mansehra district (figure 13). Crude mortality rates within the period between the earthquake and the survey were under control (figure 13). About 70% of the families in Muzaffarabad received some of the food basket commodities,

while less than 40% of the families received them in Manshera. This is in accordance with the targeting of food aid to the most affected families, as the level of destruction in Muzaffarabad was greater than in Manshera. However, the levels of acute malnutrition appeared higher in Manshera than in Muzaffarabad. When the full food basket was taken into account, only 50% in Muzaffarabad, and 26% in Manshera, respectively had received it. The percentage was slightly higher in IDP camps, where 61.8% of the families in NWFP, and

55.6% in AJK respectively, had received it. The winter was milder than expected and there was no major medical emergency (MSF, 24/04/06). With the spring, many displaced people returned home, either spontaneously or with facilitation. As of mid-May, it was estimated that about 76% of the displaced families had returned home (OCHA, 19/05/06), however, thousands of households remained displaced. Aid efforts in Pakistan has recently shifted from relief to recovery programmes (IRIN, 24/05/06).

FIGURE 13 PREVALENCE OF ACUTE MALNUTRITION AND CRUDE MORTALITY RATE, PAKISTAN, DECEMBER 2005 (UNICEF/WFP/WHO, 07/02/06)



Democratic People's Republic of Korea

The Democratic People's Republic of Korea (DPRK), with an estimated 23 million inhabitants in a territory of 120,540 km², shares borders with South Korea, China and Russia (see map). DPRK has a centralised socialist economic system. Often referred to as a uniquely closed political system, the state exerts pervasive control over the population, the economy, and information (Becker, 1998; UNCHR, 2004; Eberstadt, 10/04). Following floods in 1995, DPRK requested humanitarian aid for the first time in its history and foreigners were allowed into the country (Becker, 1998). Ten years later, the government of DPRK declared

the emergency over (AFP, 16/03/05; Concern, 20/09/05; Reuters, 10/10/05) and asked the UN agencies and NGOs working in the country to terminate their emergency programmes by the end of 2005 (Concern, 20/09/05; DPA, 22/09/05).

The aim of this article is to review the trends in the nutrition situation and underlying factors such as food security over this decade and try to ascertain if the emergency is over, recognising that in the "Hermit Kingdom", the paucity of reliable information creates many challenges (Becker, 1998; ICG, 25/04/05; Noland, 07/03).



Background

Prior to being divided into two at the end of the Second World War, the northern part of the Korean peninsula was mostly industrialised, and the south was the bread basket which produced most of the food (USCHRNK, 2005). After the war, North Korea pursued a policy of food self-sufficiency (USCHRNK, 2005), but with only about 20% of arable land, and an adverse climate, significant yields could only be achieved by intensive farming, highly dependent on external inputs such as fertilisers and pesticides. Intensive farming together with increased deforestation eventually resulted in soil depletion and erosion. Areas under cultivation have been mostly concentrated in the south of DPRK, with South and North Phyongan and South and North Hwanghae representing 60% of the cultivated areas (FAO/WFP, 25/11/1997).

It seems that North Korea did well in terms of economic development after the Korean war up to the 1970s, with remarkable economic growth, and rapidly improving living standards (ICG, 25/04/05). The harvest doubled from 3.5 m MT in 1966, to 7.7 m MT in 1984, as a result of expansion of land under cultivation, mechanisation, irrigation, and heavy use of fertilisers (ICG, 25/04/05; Woo-Cumings, 2002). Requisite inputs for agriculture, and shortfalls in cereal production, were mostly covered through the preferential system of trade with the USSR, which also provided most of North Korea's needs for coal and refined oil, and one third of its steel (Noland, 07/03).

North Korea's economy, farming, and people's entitlement to food, goods, and basic needs were centrally controlled by the state. Cereals were to be dispatched to the population by the Public Distribution System (PDS) at subsidised prices, after the collective farms had kept their part. This ensured the redistribution of cereals from surplus to deficit areas (Woo-Cumings, 2002). Entitlements seemed to be a function of worker categories and political status. North Korean society is apparently organised based on a classification of people within three broad strata, and 51 categories, which depends on their perceived loyalty to the party (FIDH, 11/03). The lower perceived "hostile" class is thought to represent about 27% of the population, while the "basic mass" (middle class) could represent 45%, and the "core mass" or upper class (staff of the party, government and army) 28%. This classification, although denied by the government of DPRK, seems to be confirmed by North Korean refugees and to serve as a basis for entitlement to basic needs such as food, housing, health care, and education. Occupation seems also to be allocated according to these categories, with the perceived less reliable people being employed in dangerous work and hard labour, and the upper class being recruited as staff for the party, government, and army. Families from the lower class seem mostly located in the inland regions (Seong-Ho, 03/03).

Onset of the crisis

The economic crisis and the related food shortages are thought to have begun in the late 1980s (Becker, 1998; Eberstadt, 10/04) and intensified with the collapse of the former USSR in the early 1990s that ended aid and subsidised trade with North Korea (Eberstadt, 10/04). At the same time, China, the other major trade partner, began demanding hard currency settlement for oil imports (ICG, 25/04/05). By 1993, imports from Russia were only 10% of their 1987-90 average (Noland, 07/03). Energy supply dropped from 24 m MT in 1990 to 14 m MT in 1998 (ICG, 25/04/05), which paralysed the industry, transport, and agricultural sectors. Moreover, the policy of the North Korean government which contracted debts in the 1970s towards Western countries, the former USSR, and China, without repaying them, discouraged these countries from providing further loans (Becker, 1998) and North Korea failed to establish new trade relationships. This economic crisis was compounded by heavy floods in 1995 and 1996 which damaged crops and the infrastructure for production of power (Woo-Cumings, 2002). Drought and tidal waves in 1997 further worsened the situation (Katona-Apte, 1998).

While it is difficult to determine exactly when the crisis began, it seems likely that it was well before 1995 when humanitarian aid was first requested.

Impact of the crisis

The impact of these combined problems of debt, lack of external raw materials and energy imports together with natural disasters of flooding in 1995 and 96 followed by drought the next year provoked an enormous crisis in 1995/7. It is thought that as many as 70% of factories, mines, schools, hospitals, and other institutions had stopped functioning by 1997 (Becker, 1998).

SHARP DECLINE IN AGRICULTURAL PRODUCTION

According to various estimates, there was a decline in agricultural production in the 1990s compared to the 1980s (Noland, 07/03), and the government failed to take action to guarantee adequate food supplies (USCHRNK, 2005). The sharp decline of fertilizer produc-

tion, as a result of economic collapse, has been thought to be the main contributor to reduced crop yield (Woo-Cumings, 2002). The use of fertiliser dropped from 650,000 nutrient tonnes in 1989 to 100,000 in 1996 (FAO/WFP, 22/11/04). In 1998, it was estimated that only 20% of the tractors were operational, due to fuel and spare part shortages (FAO/WFP, 25/06/98). Floods and drought seem to have resulted in the loss of about 1.5 m MT of grains in 1995 and 1.6 to 1.9 million in 1997 (Katona-Apte, 1998), and livestock also seems to have decreased markedly (FAO/WFP, 22/11/04).

PUBLIC HEALTH

The ability of the government to supply medicine and maintain the medical infrastructure seems also to have collapsed with the economic crisis (UNICEF, 12/99). Testimonies seem to confirm the collapse of the health structures which, at best, provided a diagnosis but no medication (GF, 03/04). Incidence of diarrhoea and acute respiratory infection seemed to have risen as well as cases of tuberculosis (UNICEF, 12/99). The quantity and the quality of water seemed to have decreased (UNICEF, 12/99).

PUBLIC FOOD DISTRIBUTION SYSTEM

The rations provided through the PDS seem to have been cut as early as the late 1980s, and again in the early 1990s, when a campaign on "let's eat two meals a day" was launched (AT, 15/01/05; USCHRNK, 2005). The PDS seems to have virtually collapsed between 1994 and 1996, with the vestiges of its functionality depending on the regions and population categories (AT, 15/01/05; GF, 03/04; Seong-Ho, 03/2003; USCHRNK, 2005). The north-eastern areas (North and South Hamgyong, Yanggang and Kangwon provinces) are thought to have been affected two years earlier than other provinces (Noland, 07/03; Woo-Cumings, 2002), maybe partly because of the collapse of the transportation system (USCHRNK, 2005). Those areas were traditionally the poorest, and were food-deficit areas due to inhospitable growing conditions and high urbanisation (USCHRNK, 2005). According to a study, derived from testimonies of refugees mostly coming from North and South

Hamgyong, government rations (including PDS, farmers and military rations) provided on average about 260 g/pers/day in 1994, and represented the main source of food for 60% of the families (Robinson, 1999). The rations however constantly declined afterwards and were only 42 g/pers/day in 1996 and 24 g/pers/day in 1997. They only represented the main source of food for 28.4%, 9.8%, and 5.7% of the families in 1995, 1996 and 1997, respectively.

In 1996, the provision of food seems to have been decentralised to the county level, and distributions probably varied a lot depending on the county (Natsios, 08/99). The PDS is thought to have remained functional, mostly in the major cities, for high-ranking party members, officers, and soldiers (Becker, 1998; Noland, 07/03; Seong-Ho, 03/03), although the rations were cut by half (AT, 15/01/05). The military seemed also to have suffered from lack of food, and to have engaged in violence against civilians to get food (Becker, 1998; GF, 03/04). People categorised in the "hostile" strata seemed the most affected, and when the food distribution was limited, no food at all was provided to them (GF, 03/04).

COPING MECHANISMS

The population developed a number of coping mechanisms, which, at the peak of the crisis, were however often insufficient to prevent starvation and deaths.

According to Robinson's study among refugees, as the PDS ration decreased, people's main sources of food became purchase - for about 25% of the families in 1995, 1996, and 1997 (it was 16% in 1994); barter - for about 15% of the families (vs. 4% in 1994); and self-grown for about 7% (Robinson, 1999). Foraging for wild greens, bark of trees, and roots increased the most significantly, from 11.9% in 1994 to 22.8%, 34.7%, and 40.2% in 1995, 1996, and 1997, respectively. According to these figures it seems that purchase, barter, and self-grown were stretched to their limits, as they didn't increase while government rations decreased, and then people seemed to have been more and more reliant on foraging. The consumption of unusual wild foods is thought to have led to a high number of deaths

(Becker, 1998; GF, 03/04). The same pattern is observed from other testimonies stating that from 1995, as the PDS ration decreased, people began to sell their assets for food, but that by mid-1996, as no assets remained, it was harder and harder to get food (Seong-Ho, 03/03). People also seemed to rely on exchanging whatever could be stripped from places of employment for food diverted from cooperative or hidden plots (USCHRNK, 2005). Secret pre-harvesting seemed also to have been widespread (Natsios, 08/99), and unauthorised markets seemed to have proliferated in both towns and the countryside during the famine (Becker, 1998).

Most of the coping mechanisms which were developed for survival were not authorised by the government, which seemed to have reinforced punishments for trade and stealing of food (Becker, 1998). The lower stratum of the society seemed more at risk when caught, and more vulnerable to thieves (GF, 03/04). At the end of 1998, control of the population and population movement was reinforced (Natsios, 08/99).

THE FAMINE

At the peak of the crisis, probably somewhere between mid-1995 and mid-1997 (GF, 03/04; Natsios, 08/99), a famine certainly occurred, although it has not been witnessed by foreigners (who were prevented from accessing a number of areas) and its extent is difficult to determine (Becker, 1998).

Mortality rates seemed to have increased between 1996 and 1997, whilst the birth rate significantly declined within the same period (GF, 03/04). The same pattern is reported in another study conducted through interviews with refugees, who mostly came from the north-eastern province of North and South Hamgyong (Robinson, 1999). The birth rate was halved between 1996 and 1997, and crude death rate increased from 28.9/1,000 in 1995, to 45.6/1,000 and 56.0/1,000 in 1996 and 1997, respectively, that was far higher than the 5.5/1,000 derived from the 1993 census. According to the government, there were 220,000 deaths from starvation and related diseases between 1995 and 1998 (FIDH,

11/03; USCHRNK, 2005). Several studies attempted to quantify the number of deaths, relying on testimonies from refugees or extrapolation from demographic data; and estimates ranged between 600,000 and 3.5 m deaths, with one million, or about 5% of the total population, being regarded as a reasonable estimate (GF, 03/04; Goodkind, 2001). Mortality of children less than nine years old, and of the elderly more than 60 years old, seemed especially high (GF, 03/04). Widespread hunger oedema, and a typhus epidemic, were also reported (Becker, 1998).

It is not clear if the famine hit mostly urban or rural areas. It might have depended on the regions. Although there are some reports that people in rural areas had better coping mechanisms, as some were able to cultivate small plots (USCHRNK, 2005), testimonies from the northern area revealed that peasants were not better-off because of bad harvests and the required quota still being collected by the government (MSF, 02/05/02). It also seems that cities offered more coping mechanisms through widespread black markets. By the mid 1990s, conditions seemed to be very different according to geographical regions and social groups (Noland, 07/03). Pyongyang seemed to have been relatively protected, but still also to have experienced shortages (USCHRNK, 2005).

Humanitarian assistance

DPRK requested humanitarian aid in 1995, leading to a widespread response from countries, UN agencies, and NGOs. Food aid was about 500,000 MT in 1995 and 1996, rising to about 1 m MT, or about 15% to 20% of total minimum food needs, between 1997 and 2000 (INTERFAIS). WFP has mostly targeted aid to children, the elderly, and pregnant and nursing women, and has distributed fortified foods (WFP, 23/07/04). There has also been humanitarian aid in other sectors such as support to health infra-structure, agriculture, and water and sanitation.

The provision of humanitarian assistance has been highly controversial as the reclusive policies of the government render the monitoring

of humanitarian aid very difficult (USCHRNK, 2005). Food was only authorised for channelling through the government distribution system. Only a few expatriates (who must not be able to speak Korean) were allowed into DPRK, and their movements were restricted. Monitoring visits had to be requested in advance and were sometimes refused. Expatriates were allocated official counterparts who accompanied them during their field visits but often had no specific technical or sectoral skills (USCHRNK, 2005). Except in Pyongyang, the capital, expatriates were generally not allowed to move freely out of their official compound. However, it seems that WFP expatriates were authorised to do so in the recent years (USCHRNK, 2005). Forty to 50 counties, representing about 16% of the population, have always remained out bounds for humanitarian workers (FAO/WFP, 22/11/2004).

Some NGOs pulled out of the country after a few years of operation, because of the difficulties in monitoring aid, arguing that humanitarian assistance was not reaching the most needy (MSF, 02/05/02). Other humanitarian agencies have continued their programmes. It has been argued that some of the humanitarian aid was diverted to the military (USCHRNK, 2005), or was sold on the markets (Natsios, 08/99). It has also been stated that, at least in the mid-nineties, the government concentrated external aid to some areas, and denied it to the northern provinces of North and South Hamyong and Ryangang, representing 5.4 million people (Becker, 1998; USCHRNK, 2005). It has also been claimed that when food aid began to arrive the government cut commercial imports of food, and relocated the funds to other priorities, such as military, even during the famine (USCHRNK, 2005).

Post crisis recovery

The situation appeared to have somewhat improved since 1999 (Eberstadt, 10/04). Although, some degree of recovery has been reported, it does not seem that agriculture and industry have markedly recovered (ICG, 25/04/05). The energy crisis also seems to have persisted (ICG, 25/04/05). The reported level

of imports dropped sharply between 1990 and 1998 after which it increased again and by 2003 was twice the value of 1998. Exports were also known to have shown a sharp drop since 1990 and have only recovered somewhat since 1998, although to a much lower extent than imports. The trade deficit has therefore increased, and this is thought to have been financed by contributions from governments such as the US, China, South Korea, and Europe, in a mood of "engagement policy", and by illicit trade (Eberstadt, 10/04). Between 1999 and 2003, it is estimated that annual GDP growth was about 1 to 2% (ICG, 25/04/05), while it was -6.3 in 1997, and -1.1 in 1998 (FAO/WFP, 22/11/04).

AGRICULTURE PRODUCTION

In 2003 and 2004, the amount of fertiliser used had doubled compared to 1996, mainly due to donations, and was slightly more than 200,000 nutrient tonnes, although still far lower than the 600,000 thought to be used in 1989 (FAO/WFP, 22/11/04). 55% of the tractors seem to have been operational since 2001, compared to 20% in 1998 (FAO/WFP, 26/10/01; FAO/WFP, 22/11/04), and the supply of power had also improved in farms (FAO/WFP, 22/11/04). Although agricultural production has stabilised since the mid-nineties, it has never returned to the quantities produced in the 1980, and is thought to have been below 4 m MT until 2002 (Noland, 07/03). In 2003/2004, the estimate of cereal-equivalent production was about 4.3 m MT (FAO/WFP, 22/11/04), and was again 4% higher in 2005 than in 2004 (USDA, 18/11/05). Livestock also seems to have recovered somewhat, with an increase especially in the number of goats and rabbits (by 260% and 540%, between 1996 and 2001, respectively) which the government had encouraged the rearing of as well as poultry (FAO/WFP, 26/10/01).

ECONOMIC REFORMS IN 2002

Economic reforms, such as the increase in official prices and wages, and market reforms were announced in July 2002 (ICG, 25/04/05). Food, fuel, and electricity prices increased by 26 times on average, and rice increased by 550 times (ICG, 25/04/05); while wages only rose by an average factor of 18, but with discrepan-

cies depending on the work categories (ICG, 25/04/05). Agriculture and industry were more decentralised, and markets were authorised (ICG, 25/04/05). It seems that well-supplied markets have flourished and that informal local markets have also increased (FAO/WFP, 22/11/04). There was also widespread development of cooperative activities, such as sale of handicrafts, snacks, or shoe or bicycle repair (FAO/WFP, 22/11/04).

Persistence of food insecurity

While some Koreans have prospered, the situation seems poor for most due, among other things, to hyperinflation. With the breakdown of the PDS and the development of a market economy, food insecurity had become more related to the capacity of the families to command resources (USCHRNK, 2005). People who could benefit from foreign exchange seemed more able to cope with the present system (USCHRNK, 2005). The physical proximity of surplus areas was also a factor affecting food security (Noland, 07/2003). According to WFP/FAO, at least 30% of the working age force was under-employed or unemployed, and wages were reduced to below subsistence levels in 2004 (FAO/WFP, 22/11/04). The unemployment rate was double for women compared to men. Moreover, even people with a stable job seemed to engage in commercial transaction to increase their income (Seong-Ho, 03/03). Coping strategies, such as receiving food from relatives in rural areas, gathering wild food (80% of families in urban, and 65% in rural areas), using alternative foods such as acorn flour, or sea and riverweed, cultivating small gardens, and bartering personal belongings were widespread (FAO/WFP, 22/11/04; USCHRNK, 2005). According to WFP/FAO, the most vulnerable were people dependent on the PDS with only one income and several dependents (FAO/WFP, 22/11/04).

REINSTALLATION OF THE PUBLIC FOOD DISTRIBUTION SYSTEM IN LATE 2005

It is unclear to what extent the PDS has remained operational for the majority of the population. The PDS seemed to have been only a marginal source of food for years, at least in the north, according to recent testimonies from

refugees in China. The complete abolition of the system was denied by the North Korean government when it was raised by South Korean media in 2004, but it is thought that the PDS only continued to operate regularly in major urban centres (AT, 15/01/05). It seems that the PDS rations varied between 200 and 300 g/pers/day between 1998 and 2004, depending on the year, with important variations between counties and months (USCHRNK, 2005). In November 1998, the three best counties received an average of 350 g/pers/day, while the three worst counties only received an average of 125 g/pers/day (WFP/FAO, 29/06/1999). Rations received by farmers at the collective farms seemed higher than rations distributed through the PDS (USCHRNK, 2005).

The government of DPRK announced in October 2005 that the PDS will be reinstated at a ration of 500 g/pers/day and that trade in grains was banned, which also suggests that prior to this the PDS was probably not fully functional (HRW, 05/06). There have since been reports that the ration distributed was smaller than 500 g/pers/day. Although grain trade has been banned, it seems that black markets have continued to operate, and that prices have markedly increased.

END OF EMERGENCY FOOD AID

Food aid has been significant since the beginning of this overall crisis with a peak at 1.5 m MT in 2001, and a decline afterwards to 0.68 m MT in 2004 (INTERFAIS) reflecting a tendency to fatigue by some donors due to diplomatic conflicts such as the nuclear programme developed by DPRK (USCHRNK, 2005).

In mid-2005, North Korea asked the UN agencies and the international NGOs working in the country to terminate humanitarian aid by the end of 2005 (Concern, 20/09/05; DPA, 22/09/05). North Korea also decided not to be part of the humanitarian Consolidated Appeal Process in 2005 (AFP, 16/03/05). The government stated that the emergency was over, and that the country currently needs long-term projects and development assistance, only occasionally monitored by expatriates (Concern, 20/09/05, Reuters, 10/10/05). It has been suggested that North Korea would get privileged

aid from donors, such as South Korea and China, which might exert less monitoring (Chosun Iibo, 08/09/05). In 2006, North Korea has asked South Korea for 500,000 MT of food and 450,000 MT of fertiliser (Gov of RK, 27/04/06; Reuters, 02/05/06). WFP will continue its programme on a smaller scale with 150,000 MT of food to support 1.9 m people, compared to about 500,000 MT of food to support 6 m people previously (Reuters, 11/05/06; WFP, 11/05/06). WFP will only work in 30 counties, and its presence in the field will be reduced.

Nutrition situation

Before 1998, there were no comprehensive national nutrition surveys conducted in the country, but observations in orphanages, nurseries, and kindergartens seemed to indicate a worsening of the situation by mid-97 (see RNIS supplement on North Korea; Katona-Apte, 1998). From 1998 onwards, national nutrition surveys have been conducted every other year (CBS, 10/00; CBS, 11/02; CBS, 02/05; EU/UNICEF/WFP, 98), with a presence of expatriates in the field in the 1998, 2002, and 2004 surveys. However, a number of limitations render interpretation of the results and analysis of the trends of the surveys difficult. Firstly, access to the whole country was not available during the surveys (table 7). The 1998 and 2002 surveys were estimated to have covered about 71% and 75% of the total population, respectively. Coverage estimates were not available for the other surveys. Secondly the methodology of selection of clusters, families, and children, and the age range covered by the surveys, varied (table 7). In addition, in the 2002 and 2004 surveys, only the youngest child of the family was measured, although, when adjusted for the missing older children, the prevalence of acute malnutrition didn't change significantly.

Although the surveys are not directly comparable due to the reasons cited above, trends seem to indicate a gradual improvement of the nutrition situation, with a diminution of acute malnutrition and stunting (table 8). Stunting in children is mostly determined by ante-natal and early childhood conditions in the first two years of life. The rate of stunting might then be taken to reflect the conditions at the time of

TABLE 7 METHODOLOGIES USED IN THE SURVEYS CONDUCTED IN DPR KOREA, 1998-2004
(CBS, 10/00; CBS, 11/02; CBS, 02/05; EU/UNICEF/WFP, 98)

Date	Number of provinces/ municipalities surveyed	Percentage of counties accessible within the province surveyed	Percentage of the total population accessible and/or included in the survey	Sampling	Age range (months)
Sept-Oct 1998	9/9 provinces 3/3 municipalities	61% (22%-91% depending on the province)	71% of the population was accessible	First stage: 30 counties selected with probability proportional to population size (PPS) Second stage: 4 Ri-Dong/county selected with PPS Third stage: Systematic sampling of 30 households Survey conducted within households	6-84
May 2000	Not mentioned	Not mentioned	Not mentioned	Idem 1998	0-59
Oct 2002	7/9 provinces (2 provinces (Kangwon and Chagang) excluded by the survey team because less than 60% of the counties were accessible) 3/3 municipalities	87% (72%-100% depending on the province)	88% of the population was included in the sample frame (the 2 provinces excluded represented 12% of the total population) When also taking into account inaccessible counties in the provinces surveyed, the survey reached 75% of the total population.	Selection of 20 Ri/Dong per province/municipality according to urban/rural proportion Replacement of non-accessible Ri/Dong by accessible ones One nursery randomly selected from each Ri/Dong Two children from the nursery randomly selected 28 households selected by proximity to the households of the 2 children selected Only the youngest child selected within the family Came to a central location for measurement	0-84
Oct 2004	7/9 provinces (2 provinces (Kangwon and Chagang) excluded by the survey team because less than 60% of the counties were accessible) 1/3 municipalities (Kaesong and Nampo municipalities were not surveyed)	Not mentioned	83% of the population was included in the sample frame (the two provinces and 2 municipalities not surveyed represented 17% of the population) The percentage of the population accessible in the provinces surveyed was not mentioned.	Idem 2002	0-71

TABLE 8 MALNUTRITION IN DPR KOREA, 1998-2004
(CBS, 10/00; CBS, 11/02; CBS, 02/05; EU/UNICEF/WFP, 98)

Date	Age range	Acute malnutrition (%) (95% CI)	Severe acute malnutrition (%) (95% CI)	Stunting (%) (95% CI)
Sept-Oct1998	6-84	15.6*	-	62.3
May 2000	0-59	10.4**	4.2**	45.2
Oct 2002	0-84	8.1 (7.2-9.2)**	2.7**	39.2 (37.5-41.0)
Oct 2004	0-71	7.0 (6.2-8.0)**	1.8**	37.0 (35.4-38.6)

* Including 3 % oedema

** Oedema not assessed

birth and early childhood of these children. If rates of stunting recorded in the four surveys are plotted against the year of birth (figure 14), it would seem to indicate that conditions were already very poor at the beginning of the nineties and have improved since 97-98. The peak of the famine is not reflected in this figure, which might be due to a combination of different factors, such as the low birth rate during this period, especially in the more affected families. In any case, the above analysis should be regarded with caution due to the many uncertainties although the decrease in stunting rates from over 60% to less than 40% in 6 years is quite remarkable.

The results of the last survey, conducted in 2004, showed a situation which, although greatly improved, was still precarious with an average wasting rate, and a significant level of stunting (table 8). The wasting rate was comparable with Afghanistan and Vietnam, while the stunting rate was again comparable to Vietnam but lower than Afghanistan (Childinfo).

Moreover, there were wide discrepancies between provinces (table 9). The lowest rates of wasting were found in Nampo and Pyongyang cities, while the highest rates, three-fold higher than in Pyongyang, were reported in Ryangang, North and South Hamyong and South Hwanghae. Stunting followed the same pattern. This is in line with the analysis of food security in the country (see above), and the

TABLE 9 MALNUTRITION IN DPR KOREA BY PROVINCE, 2004 (CBS, 02/05)

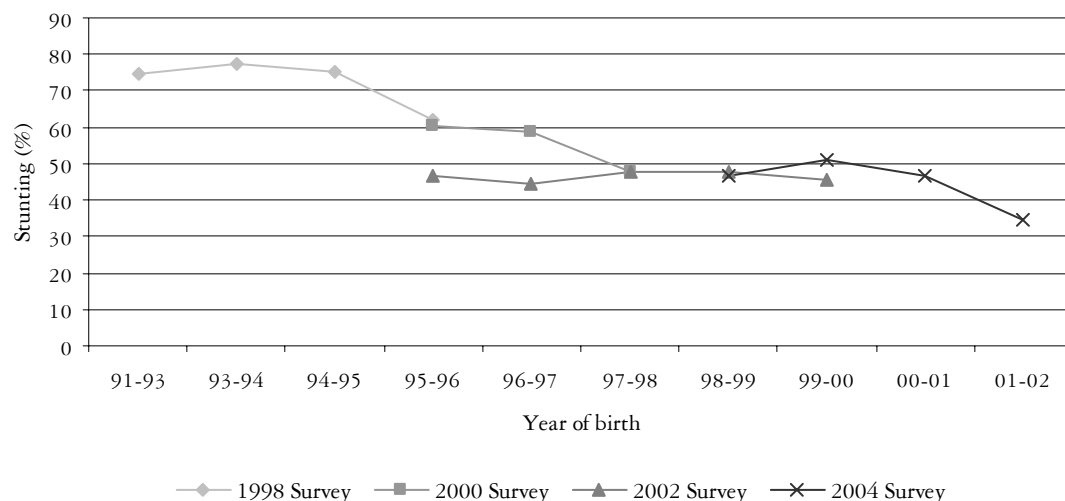
Province	Acute malnutrition (%) (95% CI)	Stunting (%) (95% CI)
Pyongyang	2.8	25.9
Nampo	4.3*	23.2*
Kaesong	7.0*	44.4*
South Phyongan	4.9	29.7
North Phyongan	6.0	41.2
South Hwanghae	7.6	36.7
North Hwanghae	7.9	41.0
South Hamgyong	10.8	46.7
North Hamgyong	10.0	40.0
Ryanggang	9.1	45.6

* Results of the 2002 survey

food consumption of the mothers, who reported the lowest frequency of consumption of pulses/meat/fish/eggs in South Hamgyong and Ryangang provinces.

Nutritional status of mothers of children aged less than two years, measured by MUAC, showed that about 32% of the women were

FIGURE 14 STUNTING IN CHILDREN AGED OVER TWO YEARS BY YEAR OF BIRTH AND SURVEY



thin (MUAC < 22.5 cm) in 2002 and 2004. Moreover, of the 25% and 50% of the women who authorised haemoglobin measurement in 2002 and 2004, respectively, about a third were anaemic (Haemoglobin < 12 g/L).

Child feeding practices although less than adequate with only 65% to 70% of the less than six-month olds exclusively breastfed, are still high compared to some other countries. About 90% of the children were still breastfeeding at one year but the percentage of breastfed children decreased rapidly after one year of age.

Overall

It is difficult to analyse the food and nutrition situations in North Korea due to the paucity and uncertainty of the reliability of information. It seems

however that the nutrition situation of the children surveyed in 2002 and 2004 compares with the regional average. Although the economic and agricultural situation seems to have improved in recent years, it is still precarious. The food security and nutrition situations in the country are still very fragile and need continuous attention. Furthermore it is probable that the lower class, thought to represent about one third of the population, is still likely to be suffering the consequences of food insecurity more than the rest of the population.

Abbreviations and acronyms

AAH-US
ACF-F
AFP
AT
BMI
CBS
CMR
< 5 MR
DPA

Action Against Hunger USA
Action Contre la Faim France
Agence France Presse
Asian Times
Body Mass Index
Central Bureau of Statistics
Crude Mortality Rate
Under-five Mortality Rate
Deutsche Presse Agentur

DSA	Development Studies Associate
ENCU	Emergency Nutrition Coordination Unit
EU	European Union
FAO	Food & Agricultural Organization of the United Nations
FEWS	Famine Early Warning System
FIDH	Federation Internationale des Droits de l'Homme
FSAU	Food Security Analysis Unit for Somalia
GF	Good Friends
HIC	Humanitarian Information Centre
HRW	Human Rights Watch
ICG	International Crisis Group
ICRC	International Committee of the Red Cross
IDP	Internally Displaced Person
INRAN	National Institute of Research for Food and Nutrition
IRC	International Rescue Committee
IRIN	International Regional Information Network
MOH	Ministry of Health
MSF	Médecins sans Frontières
MSF-CH	Médecins sans Frontières - Switzerland
MSF-H	Médecins sans frontières - Holland
MSF-S	Médecins sans frontières - Spain
MUAC	Mid-upper arm circumference
NGO	Non-governmental Organisation
OCHA	Office for the Co-ordination of Humanitarian Assistance
RI	Refugees International
RK	Republic of Korea
UNCHR	United Nations Commission on Human Rights
UNHCR	United Nations High Commission on Refugees
UNICEF	United Nations International Children's Emergency Fund
USAID	US Agency for International Development
USCHRNK	US Committee for Human Rights in North Korea
USDA	US Department of Agriculture
USDS	US department of State
WFP	World Food Programme
WHO	World Health Organization

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GOAL	12/05	Findings of a nutrition survey, Kuni district, West Hararghe zone, Oromya region
GOAL	12/05	Findings of a nutrition survey, Fedis district, East Haraghe zone, Oromya region
GOAL	12/05	Findings of a nutrition survey, Dale district, Sidama zone, SNNPR
GOAL	02/06	Findings of a nutrition survey, Guna Goda, Deghabut zone, Somali region
GOAL	02/06	Findings of a nutrition survey, East Imey, Gode zone, Somali region

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GOAL	11/05	Preliminary findings of a household and nutrition survey, Kutum province, North Darfur, Sudan
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Results of surveys

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]	Severe Acute Malnutrition** (%) (95% CI) [§]	Oedema (%)
GREATER HORN OF AFRICA							
ETHIOPIA							
SOMALI REGION							
Guna Goda district, Deghabur zone	Feb-06	Residents	63,700	GOAL	20.2 16.4-24.6	3.9 2.2-7.1	0.1
Denan district, Gode zone	Jan-06	Residents	-	From ENCU ¹	23.5 19.9-27.6	3.1 1.7-5.5	0.1
East Imey, Gode zone	Feb-06	Residents	91,560	GOAL	21.7 18.1-25.7	2.5 1.3-4.4	0.1
Agro-pastoral areas, Dolo Ado & Dolo Bay districts, Liben & Afder zones	Feb-06	Residents	-	SC-UK/US ¹	19.0 15.4-22.3	1.6 0.6-2.5	0.3
Pastoral areas, Dolo Ado & Dolo Bay districts, Liben, Afder & Bare zones	Feb-06	Residents	-	SC-UK/US ¹	18.8 15.9-21.6	1.4 0.3-2.5	0.0
Cherati town, Afder zone	Jan-06	Residents	-	MSF-B ¹	18.6 15.2-21.9	2.3 1.1-3.5	0.9
Moyale & Hudet Districts, Liben zone	Feb-06	Residents	-	SC-UK/US ¹	19.7 16.0-23.4	1.8 0.8-2.7	0.2
AMHARA REGION							
Dessie Zuria district, South Wollo zone	Jan-06	Residents	-	Concern ¹	12.4 9.5-15.9	0.5 0.1-1.9	0
Kalu district, South Wollo zone	Jan-06	Residents	-	Concern ¹	8.2 5.9-11.3	0.3 0.1-1.6	0
OROMIA REGION							
Kuni district, West Hararghe zone	Dec-05	Residents	153,780	GOAL	7.5 5.0-11.2	0.6 0.2-1.9	0
Fedis district, East Hararghe zone	Dec-05	Residents	253,554	GOAL	6.9 5.3-9.0	0.2 0.0-0.8	0.1
Goro district, Bale zone	Feb-06	Residents	-	Concern ¹	6.1 4.1-8.9	0.8 0.2-2.3	0
Dire district, Borena zone	Feb-06	Residents	-	CARE ¹	10.0 8.1-12.2	1.1 0.6-2.1	0.1
Moyale district, Borena zone	Feb-06	Residents	-	CARE ¹	10.9 8.9-13.1	1.0 0.5-2.0	0
Teltele district, Borena zone	Feb-06	Residents	-	CARE ¹	6.1 4.7-7.9	0.3 0.1-1.0	0.1
Arero district, Borena zone	Feb-06	Residents	-	WVE ¹	5.5 3.7-8.1	0.6 0.2-2.0	0.1
AFAR REGION							
Berale district, Zone 2	Oct-05	Residents	69,715	GOAL	19.0 16.0-22.3	2.0 1.1-3.4	0
Asaita district, Zone 1	Jan-06	Residents	-	From ENCU ¹	11.1 8.4-14.4	1.3 0.5-3.0	0.1
Yalo district, Zone 4	Mar-06	Residents	-	From ENCU ¹	11.1 8.4-14.4	1.1 0.4-2.6	0.0
SNNPR							
Dale district, Sidama zone	Dec-05	Residents	77,476	GOAL	5.3 3.5-7.9	0.2 0.0-1.3	0.1
Konso district	Jan-06	Residents	-	SC-US ¹	48.0 6.4-10.0	0.4 0.1-1.2	0
KENYA							
Kakuma camps	Nov-05	Refugees	91,000	IRC	19.6 17.3-22.2	1.7 1.0-2.7	-
Dadaab camps	Jun-05	Refugees	142,370	BMZ/joint	26.3 24.0-28.8	3.8 2.9-5.1	0.2
Moyale district	Mar-06	Residents	-	UNICEF	18.2 15.9-20.8	3.1 2.1-4.4	-
Samburu district	Mar-06	Residents	-	UNICEF	19.2 16.9-22.0	2.1 1.3-3.3	-
Marsabit district	Mar-06	Residents	-	UNICEF	29.9 25.8-34.3	3.5 2.0-5.7	-

*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

¹ From ENCU quarterly bulletin (ENCU, 30/03/06). The details of the methodology are not reported but the methodology is in accordance with the ENCU specifications for nutritional surveys, which are in line with international standards.

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							
0.1	5.0	-	17.2	-	0.42	0.1-0.6	1.09	0.3-2.5
0.8	9.4	-	43.1	-	1.97	1.3-2.4	6.69	4.4-8.6
0.0	2.3	-	42.2	-	-	-	-	-
10.1	33.9	-	0	-	0.72	0.46-1.02	2.4	1.4-3.3
1.5	17.2	-	0	-	0.77	0.4-1.14	3.35	2.3-3.4
30.8	55.0	-	-	-	1.0	0.7-1.4	3.3	2.0-4.7
2.7	22.9	-	0	-	1.02	0.4-1.14	3.24	2.3-4.4
39.5	87.5	-	-	-	0.21	-	0.93	-
59.2	89.4	-	-	-	0.23	-	0.62	-
-	66.9	-	66.6	-	0.26	-	0.64	-
-	70.9	-	84.4	-	0.28	-	0.57	-
16.7	40.3	-	92.8	-	0.48	-	1.34	-
22.3	56.8	-	-	-	-	-	-	-
17.4	54.4	-	-	-	0.16	-	0.19	-
25.0	57.5	-	-	-	0.09	-	0.10	-
1.2	10.9	-	70.2	-	0.21	-	0.52	-
-	71.8	-	76.7	-	0.41	-	0.34	-
64.2	90.5	-	90.5	-	0.25	-	1.0	-
0.0	5.5	-	57.2	-	0.51	-	1.54	-
5.3	81.3	-	82.8	-	0.28	-	0.53	-
35.2	95.5	-	93.6	-	0.1	-	0.3	-
73.4	89.5	-	72.4	-	-	-	-	-
51.1	91.6	See p 5	55.2	-	-	-	-	-
-	91.0	-	95.3	MUAC ¹ < 23.0 cm : 29.6%	-	-	-	-
-	92.0	-	74.0	MUAC ¹ < 23.0 cm : 53.5%	-	-	-	-
-	85.2	-	78.5	MUAC ¹ < 23.0 cm : 36.6%	-	-	-	-

[#] Measles vaccination coverage for children aged 9-59 months¹ Non pregnant women

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]	Severe Acute Malnutrition** (%) (95% CI) [§]	Oedema (%)
SOMALIA							
GEDO REGION							
Gedo region (excluding Bardera town)	Mar-06	Residents	-	FSAU/joint	23.8 21.1-26.7	3.7 2.6-5.2	1.5
Bardera town	Apr-06	Residents	51,800	FSAU/joint	19.0 15.9-22.6	3.9 2.5-6.0	0.7
BAKOOL REGION							
Wajid district	Jan-06	Residents	32,050	FSAU/joint	14.7 12.5-17.2	2.2 1.4-3.5	0.7
Wajid IDP camps	Feb-06	Displaced	-	FSAU/joint	27.1	8.6	3.5
Rabdure district	Jan-06	Residents	-	FSAU/joint	15.9 13.6-18.5	1.4 0.8-2.5	0
BAY REGION							
Qansha Dere district	Jan-06	Residents	-	MSF-CH	19.4 16.9-22.2	1.8 1.1-3.0	0
MIDDLE JUBA REGION							
Buale & Sakow district	Apr-06	Residents	134,455	FSAU/joint	21.9 19.3-24.8	6.6 5.1-8.4	-
Jilib riverine area	May-06	Residents	-	FSAU/joint	16.2 13.8-18.8	4.2 3.2-6.0	0.8
LOWER JUBA REGION							
Afmadow district	May-06	Residents	77,027	FSAU/joint	22.0 19.4-24.9	4.2 3.0-5.8	0.7
SUDAN							
SOUTH DARFUR							
Nayla town & IDP camps	Mar-06	Residents/Displaced	498,560	ACF-F	9.7 7.2-12.8	0.7 0.2-2.1	0.3
Kalma IDP camp	Feb-06	Displaced	89,754	ACF-F	7.0 4.9-9.8	2.9 1.6-5.0	0.2
NORTH DARFUR							
El Fasher town	Feb-06	Residents/Displaced	221,570	SMOH/UNICEF	11.9 9.9-14.1	0.4 0.1-1.1	0
Mellit town and IDP camps	Jan-06	Residents/Displaced	68,560	ACF-F	18.0 14.7-21.9	1.7 0.7-3.4	0.4
Kutum province	Nov-05	Residents/Displaced	100,330	GOAL	16.3 14.0-18.9	0.7 0.3-1.5	-
Shaddad & Shanguil Tobaya IDP camps	Dec-05	Displaced	9,800	MSF-S	11.3 8.8-13.8	0.7 0.0-1.3	-
Zam zam IDP camp	Nov-05	Displaced	-	MSF-S	10.0 7.7-12.3	0.7 0.1-1.2	-
WEST DARFUR							
Mornei displaced camp	Feb-05	Displaced	94,040	Concern	4.9 3.2-5.9	0.6 0.3-5.9	-
UNITY							
Bentiu town	Nov-05	Residents/Displaced	-	ACF-F	20.8 17.2-24.8	1.9 0.9-3.7	-
Rob Kona town	Nov-05	Residents/Displaced	-	ACF-F	22.2 18.6-26.3	1.8 0.8-3.6	-
KASSALA							
Agricultural areas	Nov-05	Residents	-	GOAL	11.8 9.8-14.0	0.5 0.2-1.3	0
Pastoral areas	Nov-05	Residents	-	GOAL	14.6 12.1-17.0	2.0 1.3-2.7	0.1
Dablawet IDP camps, Kassala town	Jan-06	Displaced	-	GOAL	16.5 -	1.3 -	0
UPPER NILE							
Malakal town	Dec-05	Residents/Displaced	119,770	GOAL	21.6 19.1-24.4	2.8 1.9-4.1	0
Galdora & Panamdit districts, Malut county	Mar-06	Residents	-	AAH-US	20.8 -	1.7 -	-
BHAR EL GHAZAL							
Alek South, North and West & Riau districts, Gogrial West county	Feb-06	Residents	-	AAH-US	23.9 20.0-28.2	4.2 2.6-6.6	-
Aweil South county	Mar-06	Residents	187,980	Tearfund	20.0 16.3-23.7	3.7 1.6-5.6	0
Aweil East county	Mar-06	Residents	429,265	Tearfund	22.7 19.9-25.4	2.6 1.6-3.6	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

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							
-	60.9	-	76.8	MUAC ¹ < 18.5 cm : 0%	1.04	0.65-1.44	2.46	1.38-3.54
-	89.7	-	79.0	MUAC ¹ < 18.5 cm : 10.0%	0.83	0.59-1.07	1.69	0.98-2.41
-	-	-	-	MUAC ¹ < 18.5 cm : 0.8%	0.57	0.26-0.89	1.24	0.32-2.16
-	76.2	-	76.1	-	-	-	-	-
-	81.0	-	80.7	MUAC ¹ < 18.5 cm : 0%	0.9	-	1.53	-
19.0 ¹	47.6 ¹	-	-	-	0.7	-	1.3	-
-	92.5	-	69.0	MUAC ¹ < 18.5 cm : 3.0%	0.61	0.39-0.83	1.98	1.26-2.69
-	97	-	88.4	MUAC ¹ < 18.5 cm : 0.0%	0.80	0.32-1.28	2.05	0.65-3.44
-	87.5	-	32.1	-	0.77	0.46-1.08	1.57	0.85-2.29
36.4	94.6	-	-	-	0.7	-	1.0	-
49.0	95.7	-	-	-	0.39	-	1.31	-
-	-	-	-	-	0.42	-	0.96	-
65.8	94.7	-	-	-	0.76	-	2.06	-
22.3	71.3	-	-	-	0.75	0.42-1.07	0.67	0.17-1.17
6.7	70.1	-	-	-	1.9	1.3-2.5	1.7	0.5-2.9
15.1	59.2	-	-	-	1.7	0.9-2.5	2.0	0.2-3.8
10.9	76.9	-	-	-	0.79	-	1.16	-
22.2	80.1	-	-	-	0.32	-	0.94	-
10.1	87	-	-	-	0.33	-	1.14	-
69.0	89.9	-	-	-	0.25	-	0.39	-
32.8	66.0	-	-	-	0.28	-	0.44	-
-	-	-	-	-	-	-	-	-
42.1	77.8	-	-	-	0.62	0.39-0.85	1.25	0.63-1.88
16.9	46.3	-	-	-	0.74	-	1.11	-
2.4	14.3	-	-	-	0.25	0.09-0.4	0.22	0.0-0.5
-	33.3	-	60.0	-	0.26	0.0-0.43	0.69	0.0-1.35
25.5	41.7	-	49.2	-	0.62	0.35-0.88	1.4	0.13-2.67

[#] Measles vaccination coverage for children aged 9-59 months¹ Non pregnant women

Survey Area	Date	Population	Estimated Population Number	Survey Conducted by	Acute Malnutrition* (%) (95% CI) [§]	Severe Acute Malnutrition** (%) (95% CI) [§]	Oedema (%)	
WEST AFRICA								
NIGER								
Rural surroundings of Zinder region	Dec-05	-	400,080	MSF-CH	11.3 9.0-13.7	1.7 0.9-2.4	-	
Magaria department	Dec-05	-	718,280	MSF-CH	6.5 4.9-8.0	1.0 0.4-1.6	0.3	
CENTRAL AFRICA								
DRC								
IDPs in Dubie, Kattanga	Mar-06	Displaced	15,680	MSF-H	19.2 15.7-23.3	5.0 3.2-7.6	2.9	
UGANDA								
Kalongo town	Nov-05	Residents/Displaced	-	GOAL	4.2 2.9-6.0	0.4 0.1-1.3	0.1	
CHAD								
Djabal refugee camp	Nov-05	Refugees	14,310	AAH-US	4.8 3.1-7.3	0.1 0.0-1.2	0	
Am Nabak refugee camp	Nov-05	Refugees	15,105	AAH-US	18.1 14.7-22.0	0.5 0.1-1.8	0	
Ourre Cassoni refugee camp	Nov-05	Refugees	29,000	AAH-US	15.7 12.6-19.4	1.4 0.5-3.0	0	
Farchana & bredjing refugee camps & surrounding villages	Mar-06	Refugees/Residents	51,390	MSF-H	5.8 4.3-7.3	0.3 0.0-0.7	-	
SOUTHERN AFRICA								
MALAWI								
SOUTH REGION								
Phalombe	Dec-05	Residents	-	MOH/joint	13.1 10.8-15.4	5.3 -	3.7	
Machinga	Dec-05	Residents	-	MOH/joint	12.2 10.2-14.2	5.0 -	2.2	
Nsanje	Dec-05	Residents	-	MOH/joint	7.8 6.2-9.4	3.3 -	2.6	
Mangochi	Dec-05	Residents	-	MOH/joint	7.1 5.5-8.7	3.1 -	1.8	
Chiradzulu	Dec-05	Residents	-	MOH/joint	7.0 5.4-8.6	2.5 -	1.6	
Balaka	Dec-05	Residents	-	MOH/joint	6.5 4.9-8.1	3.0 -	2.5	
Mulanje	Dec-05	Residents	-	MOH/joint	6.1 4.5-7.7	4.5 -	4.1	
Blantyre	Dec-05	Residents	-	MOH/joint	5.8 4.3-7.3	3.9 -	3.0	
Mwanza/Neno	Dec-05	Residents	-	MOH/joint	5.7 4.3-7.1	3.1 -	2.2	
Chitkwawa	Dec-05	Residents	-	MOH/joint	5.7 4.1-7.3	1.9 -	1.5	
Zomba	Dec-05	Residents	-	MOH/joint	4.7 3.3-6.1	2.5 -	2.2	
Thyolo	Dec-05	Residents	-	MOH/joint	4.6 3.3-5.9	2.0 -	1.2	
CENTRE REGION								
Lilongwe	Dec-05	Residents	-	MOH/joint	10.5 8.6-12.4	4.4 -	2.0	
Salima	Dec-05	Residents	-	MOH/joint	10.5 8.5-12.5	3.8 -	2.7	
Dedza	Dec-05	Residents	-	MOH/joint	9.6 7.6-11.6	2.8 -	0.3	
Nkhotakota	Dec-05	Residents	-	MOH/joint	6.4 4.8-8.0	3.0 -	2.5	
Ntcheu	Dec-05	Residents	-	MOH/joint	5.7 4.3-7.1	2.7 -	1.9	
Karonga	Dec-05	Residents	-	MOH/joint	4.2 3.0-5.4	1.7 -	1.1	
Mchinji	Dec-05	Residents	-	MOH/joint	3.9 2.7-5.1	1.9 -	-	
Ntchisi	Dec-05	Residents	-	MOH/joint	3.3 2.1-4.5	1 -	-	
Dowa	Dec-05	Residents	-	MOH/joint	2.8 1.6-4.0	0.9 -	0.3	
NORTH REGION								
Chitipa	Dec-05	Residents	-	MOH/joint	4.7 3.3-6.1	2.5 -	1.5	
Mzimba	Dec-05	Residents	-	MOH/joint	4.1 2.8-5.4	2.5 -	2.2	
Nkhata Bay/Likoma	Dec-05	Residents	-	MOH/joint	3.6 2.4-4.8	2.0 -	1.5	
Kasungu	Dec-05	Residents	-	MOH/joint	2.6 1.6-3.6	1.5 -	1.3	

*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

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

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							
11.5	44.2	-	-	-	1.7	1.1-2.2	5.4	3.3-7.4
13.2	36.3	-	-	-	1.9	1.3-2.5	5.9	3.9-7.9
-	-	-	-	-	4.3	3.5-5.3	12.7	10.1-16.3
49.3	92.2	-	91.2	-	0.78		1.38	
72.1	85.5	-	-	-	0.35	0.12-0.57	0.23	0.0-0.55
72.1	90.4	-	-	-	0.27	0.08-0.46	0.59	0.07-1.1
59.8	85	-	-	-	0.14	0.0-0.28	0.22	0.0-0.53
59.2	68.2	-	-	-	0.35	0.17-0.52	0.51	0.14-0.88
-	-	-	-	-	1.04	0.72-1.35	1.71	1.15-2.27
-	-	-	-	-	0.27	0.14-0.4	0.66	0.26-1.06
-	-	-	-	-	0.52	0.26-0.79	0.72	0.28-1.15
-	-	-	-	-	0.86	0.11-1.61	0.93	0.26-1.59
-	-	-	-	-	0.90	0.57-1.22	1.26	0.72-1.79
-	-	-	-	-	0.33	0.2-0.46	0.34	-
-	-	-	-	-	0.36	0.18-0.54	0.59	0.07-1.11
-	-	-	-	-	0.64	0.37-0.91	1.17	0.72-1.62
-	-	-	-	-	0.92	0.49-1.36	1.19	0.57-1.8
-	-	-	-	-	0.23	0.08-0.39	0.48	0.12-0.85
-	-	-	-	-	0.8	0.49-1.11	0.85	0.33-1.38
-	-	-	-	-	0.8	0.36-1.21	1.29	0.45-2.13
-	-	-	-	-	0.28	0.09-0.46	0.45	0.14-0.76
-	-	-	-	-	0.81	0.40-1.21	1.44	0.85-2.04
-	-	-	-	-	0.48	0.22-0.74	0.62	0.15-1.09
-	-	-	-	-	0.40	0.23-0.57	0.65	0.20-1.10
-	-	-	-	-	1.3	0.81-1.89	1.86	1.17-2.55
-	-	-	-	-	0.93	0.55-1.31	1.28	0.79-1.77
-	-	-	-	-	0.57	0.26-0.88	0.79	0.27-1.32
-	-	-	-	-	0.17	0.10-0.25	0.70	0.37-1.03
-	-	-	-	-	0.58	0.27-0.89	0.89	0.41-1.38
-	-	-	-	-	-		-	
-	-	-	-	-	0.44	0.25-0.62	0.9	0.36-1.43
-	-	-	-	-	0.53	-	0.71	-
-	-	-	-	-	0.28	0.14-0.41	0.81	0.38-1.23

[#] 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 (%)
ASIA							
BANGLADESH							
Nayapara & Kutupalong refugee camps	Dec-05	Refugees	20,860	UNHCR/INRAN	16.8 13.4-20.2	2.8 1.0-4.5	0
MYANMAR							
Maungdaw & Buthidaung townships, North Rakhine state	Jan-06	Residents	765,620	ACF-F	18.9 15.5-22.9	1.4 0.5-3.0	0.2
INDONESIA							
Nanggroe Aceh Darussalam province and Nias island	Sept-05	Residents/Displaced	3,635,790	MOH/UNICEF/joint	9.8 -	- -	0.9
NEPAL							
Humla & Mugu districts	Mar-06	Residents	84,530	ACF-F	12.3 9.9-14.7	3.3 2.0-4.6	0.6
PAKISTAN							
Mansehra district, North-West Frontier province	Dec-05	Residents	-	UNICEF/WFP/WHO/MOH	10.5 6.7-14.3	4.7 2.5-6.8	2.7
IDP camps, North-West Frontier province	Dec-05	Displaced	-	UNICEF/WFP/WHO/MOH	6.0 3.9-8.0	3.2 1.5-5.0	1.7
Muzaffarabad district, Azad Jammu & Kashmir province	Dec-05	Residents	-	UNICEF/WFP/WHO/MOH	5.7 3.8-7.5	2.5 1.1-4.0	2.5
IDP camps, Azad Jammu & Kashmir province	Dec-05	Displaced	-	UNICEF/WFP/WHO/MOH	4.2 1.9-6.5	1.2 0.0-2.3	1.0
DEMOCRATIC PEOPLE'S REPUBLIC OF NORTH KOREA							
Whole country, accessible areas	Oct-98	Residents	-	EU/UNICEF/WFP	15.6 -	-	3.0
Whole country, accessible areas	May-00	Residents	-	CBS	10.4 ¹ -	4.2	-
Whole country, accessible areas	Oct-02	Residents	-	CBS	8.1 ¹ 7.2-9.2	2.7	-
Whole country, accessible areas	Oct-04	Residents	-	CBS	7.0 ¹ 6.2-8.0	1.8	-

*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

¹ Oedema not assessed

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

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					
-	-	See p 13	-		-	0.2
9.9	49.8	-	-	BMI ¹ < 16: 12.7% BMI ¹ < 18.5: 27.0% BMI ¹ ≥ 25: 1.6%	0.26	0.79
	49.7	See p 13	82	BMI ¹ < 18.5: 8.3% BMI ¹ ≥ 25: 29%	-	-
-	-	See p 14	86.4	MUAC ≤ 194 mm: 3.8%	0.67 0.05-1.29	0.62 0.05-1.29
77.0	82.4	-	-	BMI ¹ < 16: 2.7% BMI ¹ < 18.5: 16.1%	0.2 0.06-0.47	-
64.3	68.5	-	-	BMI ¹ < 16: 1.5% BMI ¹ < 18.5: 15.5%	0.44 0.21-0.8	-
46.5	78.7	-	-	BMI ¹ < 16: 1.0% BMI ¹ < 18.5: 17.4%	0.2 0.0-0.4	-
37.4	77.9	-	-	BMI ¹ < 16: 2.3% BMI ¹ < 18.5: 14.8%	0.1 0.0-0.3	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-
-	-	-	-	-	-	-

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

¹ Non-pregnant women

Survey methodology

The Greater Horn region

Ethiopia

GUNA GODA DISTRICT, DEGHA BUR ZONE, SOMALI REGION

The survey was conducted by GOAL in February 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 797 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

EAST IMEY DISTRICT, GODE ZONE, SOMALI REGION

The survey was conducted by GOAL in February 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 933 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

KUNI DISTRICT, WEST HARAGHE ZONE, OROMIA REGION

The survey was conducted by GOAL in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 968 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

FEDIS DISTRICT, EAST HARAGHE ZONE, OROMIA REGION

The survey was conducted by GOAL in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 968 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

BERHALE DISTRICT, ZONE 2, AFAR REGION

The survey was conducted by GOAL in October 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 963 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

DALE DISTRICT, SIDAMA ZONE, SNNPR

The survey was conducted by GOAL in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 976 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage, crude and under-five mortality rates and various food security and public health indicators.

Kenya

KAKUMA REFUGEE CAMP

The survey was conducted by IRC in June 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 1,069 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage and various food security and public health indicators.

DADAAB REFUGEE CAMP

The survey was conducted by BMZ/UNHCR/GTZ in November 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 1,316 children between 6-59 months. The survey also estimated measles vaccination and vitamin A coverage and various food security and public health indicators.

MOYALE, MARSABIT NAD SAMBURU DISTRICTS

The surveys were conducted by UNICEF in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 6-59 months in each district. The surveys also estimated measles vaccination and vitamin A distribution coverage and various food security and public health indicators.

Somalia

GEDO REGION (EXCLUDING BARDERA TOWN)

A random-sampled nutrition survey was conducted by FSAU/joint in March 2006. A two-stage 30-by-30 cluster sampling methodology was used to measure 922 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

BARDERA TOWN, GEDO REGION

A random-sampled nutrition survey was conducted by FSAU/joint in April 2006. A two-stage 30 cluster sampling methodology was used to measure 558 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

WAJID DISTRICT, BAKOOL REGION

A random-sampled nutrition survey was conducted by FSAU/joint in January 2006. A two-stage 30 cluster sampling methodology was used to measure 906 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

WAJID IDP CAMPS, BAKOOL REGION

A random-sampled nutrition survey was conducted by FSAU/joint in February 2006. An exhaustive survey was conducted and 142 children between 6-59

months were measured. The survey also estimated measles vaccination and vitamin A distribution coverage, and various food security and public health indicators.

RABDURE DISTRICT, BAKOOL REGION

A random-sampled nutrition survey was conducted by FSAU/joint in January 2006. A two-stage 30 cluster sampling methodology was used to measure 9010 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

QUANSHA DERE, BAY REGION

A random-sampled nutrition survey was conducted by MSF-CH in January 2006. A two-stage 30 cluster sampling methodology was used to measure 900 children between 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.

BUALE & SAKOW DISTRICTS, MIDDLE JUBA REGION

A random-sampled nutrition survey was conducted by FSAU/joint in April 2006. A two-stage 30 cluster sampling methodology was used to measure 898 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

JILIB RIVERINE AREAS, MIDDLE JUBA REGION

A random-sampled nutrition survey was conducted by FSAU/joint in May 2006. A two-stage 30 cluster sampling methodology was used to measure 884 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

AFMADOW DISTRICT, LOWER JUBA REGION

A random-sampled nutrition survey was conducted by FSAU/joint in May 2006. A two-stage 30 cluster sampling methodology was used to measure 903 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, crude and under-five mortality rates, nutrition status of mothers and various food security and public health indicators.

Sudan

NYALA TOWN & IDP CAMPS, SOUTH DARFUR

The survey was conducted by ACF-F in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 960 children between 6-59 months. The survey also estimated measles vaccina-

tion coverage and retrospective mortality rate over three months prior to the survey.

KALMA IDP CAMP, SOUTH DARFUR

The survey was conducted by ACF-F in February 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 960 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

EL FASHER TOWN

The survey was conducted by MOH/UNICEF in February 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 956 children between 6-59 months. The survey also estimated retrospective mortality rate .

MELLIT TOWN & IDP CAMP, NORTH DARFUR

The survey was conducted by ACF-F in January 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 960 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

KUTUM PROVINCE, NORTH DARFUR

The survey was conducted by GOAL in November 2005. A two-stage cluster sampling methodology of 28 clusters was used to measure 902 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rate over three months prior to the survey and various food security and public health indicators.

SHANGUIL TOBAYA AND SHADDAD IDP CAMPS, NORTH DARFUR

The survey was conducted by MSF-S in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 586 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

ZAMZAM IDP CAMP, NORTH DARFUR

The survey was conducted by MSF-S in November 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 750 children between 6-59 months. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

MORNEI CAMP, WEST DARFUR

The survey was conducted by Conern in Feb 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 949 children between 6-59 months. The survey also estimated measles vaccina-

tion coverage and retrospective mortality rate over three months prior to the survey.

BENTIU & ROB KONA, UNITY STATE

The surveys were conducted by ACF-F in November 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 958 & 959 children between 6-59 months in Bentiu & Rob Kona, respectively. The surveys also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey.

MALAKAL, UPPER NILE

The survey was conducted by GOAL in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 976 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rate over three months prior to the survey and various food security and public health indicators.

DABLAWREET IDP CAMPS, KASSALA

An exhaustive survey was conducted by GOAL in January 2006. 1009 children between 6-59 months were surveyed.

KASSALA

Two surveys were conducted by GOAL in November 2005: one in the pastoral areas and one in the agricultural areas. A two-stage cluster sampling methodology of 30 clusters was used to measure 960 & 955 children between 6-59 months in the agricultural & agro-pastoral zone, respectively. The survey also estimated measles vaccination coverage and retrospective mortality rate over three months prior to the survey. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rate over three months prior to the survey and various food security and public health indicators.

GALDORA & PANAMDIT DISTRICTS, MALUT COUNTY, UPPER NILE

An exhaustive survey was conducted by AAH-US in March 2006.

ALEK SOUTH, NORTH, WEST & RIAU DISTRICTS, GOGRIAL WEST COUNTY, BHAR EL GHAZAL

The survey was conducted by ACF-F in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure about 900 children between 6-59 months. The survey also estimated measles vaccination coverage and mortality rate.

AWEIL SOUTH COUNTY, BHAR EL GHAZAL

The survey was conducted by Tearfund in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure about 900 children between 6-59 months. The survey also estimated measles vaccination and vitamin A supplementation coverage and mortality rate.

AWEIL EAST COUNTY, BHAR EL GHAZAL

The survey was conducted by Tearfund in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 930 children between 6-59 months. The survey also estimated measles vaccination and vitamin A supplementation coverage and mortality rate.

West Africa

Niger

RURAL SURROUNDINGS OF ZINDER TOWN AND MAGARIA DEPARTMENT, ZINDER REGION

The surveys were conducted by MSF-CH in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 899 and 897 children between 6-59 months in the rural surroundings of Zinder town and in Magaria department, respectively. The surveys also estimated measles vaccination coverage, retrospective mortality rate over two months prior to the surveys and various food security indicators.

Central Africa

Democratic Republic of Congo

IDPs IN DUBIE, KATANGA

The survey was conducted by MSF-H in March 2006. A systematic sampling methodology was used to measure 442 children between 6-29 months. The survey also estimated retrospective mortality over the previous 3 months and access to food.

Uganda

KALONGO TOWN, PADER DISTRICT

The survey was conducted by GOAL in November 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 959 children between 6-59 months. The survey also estimated measles vaccination and vitamin A distribution coverage, retrospective mortality rate over three months prior to the survey and various food security and public health indicators.

Chad

DJABAL, AM NABAK AND OURRE CASSONI REFUGEE CAMPS

The surveys were conducted by AAH-US in November 2005. A two-stage cluster sampling methodology of 30 x 30 was used. The surveys also estimated retrospective mortality over the previous 3 months and measles vaccination coverage.

FRACHANA & BREDJING REFUGEE CAMPS & SURROUNDING VILLAGES

The survey was conducted by MSF-H in March 2006 and covered the two camps and surrounding villages within a 3 km radius of the MSF health facilities. A two-stage cluster sampling methodology of 34 clusters was used.

ters was used to measure 1071 children between 6-59 months. The survey also estimated measles vaccination and retrospective mortality rate over three months prior to the survey.

Southern Africa

Malawi

The surveys were conducted by MOH/UNICEF and NGOs in 26 districts of Malawi. In each province, a two-stage cluster sampling methodology of 30 clusters was used to measure children between 6-59 months. The surveys also estimated measles vaccination and vitamin A coverage, retrospective mortality rate over six months prior to the surveys and various public health and food security indicators.

Asia

Bangladesh

REFUGEE CAMPS IN COX'S BAZAR

The survey was conducted by UNHCR/INRAN in December 2005. A two-stage cluster sampling methodology of 30 clusters was used to measure 514 children between 6-59 months. The survey also estimated under-five retrospective mortality rate, anaemia and various public health and food security indicators.

Myanmar

MAUNGDAW & BUTHIDAUNG TOWNSHIP, NORTH RAKHINE STATE

The survey was conducted by ACF-F in January 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 957 children between 6-59 months. The survey also estimated retrospective mortality rates, and nutritional status of mothers.

Indonesia

NANGGROE ACEH DARUSSALAM PROVINCE & NIAS ISLAND

The survey was conducted by MOH/UNICEF/joint. A two-stage cluster sampling methodology of 400 clusters was used to measure 8770 children. The survey also estimated measles vaccination and vitamin A coverage and various public health and food security indicators.

Nepal

HUMLA & MUGU DISTRICTS

The survey was conducted by ACF-F in March 2006. A two-stage cluster sampling methodology of 30 clusters was used to measure 513 children between 6-59 months. The survey also estimated retrospective mortality rates, nutritional status of mothers, anaemia and several public health indicators.

Pakistan

EARTHQUAKE AFFECTED AREAS

Four surveys were conducted among non-displaced families in Mansehra district, NWFP, displaced camps in NWFP, non-displaced families in Muzaffarabad district, AJK and IDP camps in AJK by UNICEF/WFP/WHO in December 2005. A two-stage cluster sampling methodology of 30 clusters of 20 households was used to measure children between 6-59 months in each survey. The surveys also estimated measles vaccination coverage, crude retrospective mortality since the earthquake, nutritional status of mothers and various food security and public health indicators.

Democratic People's Republic of North Korea

See p 22

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.
- . **SEVERE WASTING**, defined as weigh-for-height index < -3 Z-scores.
- . **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)** is sometimes used to quickly assess nutrition situations. 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 indica-

tors 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.

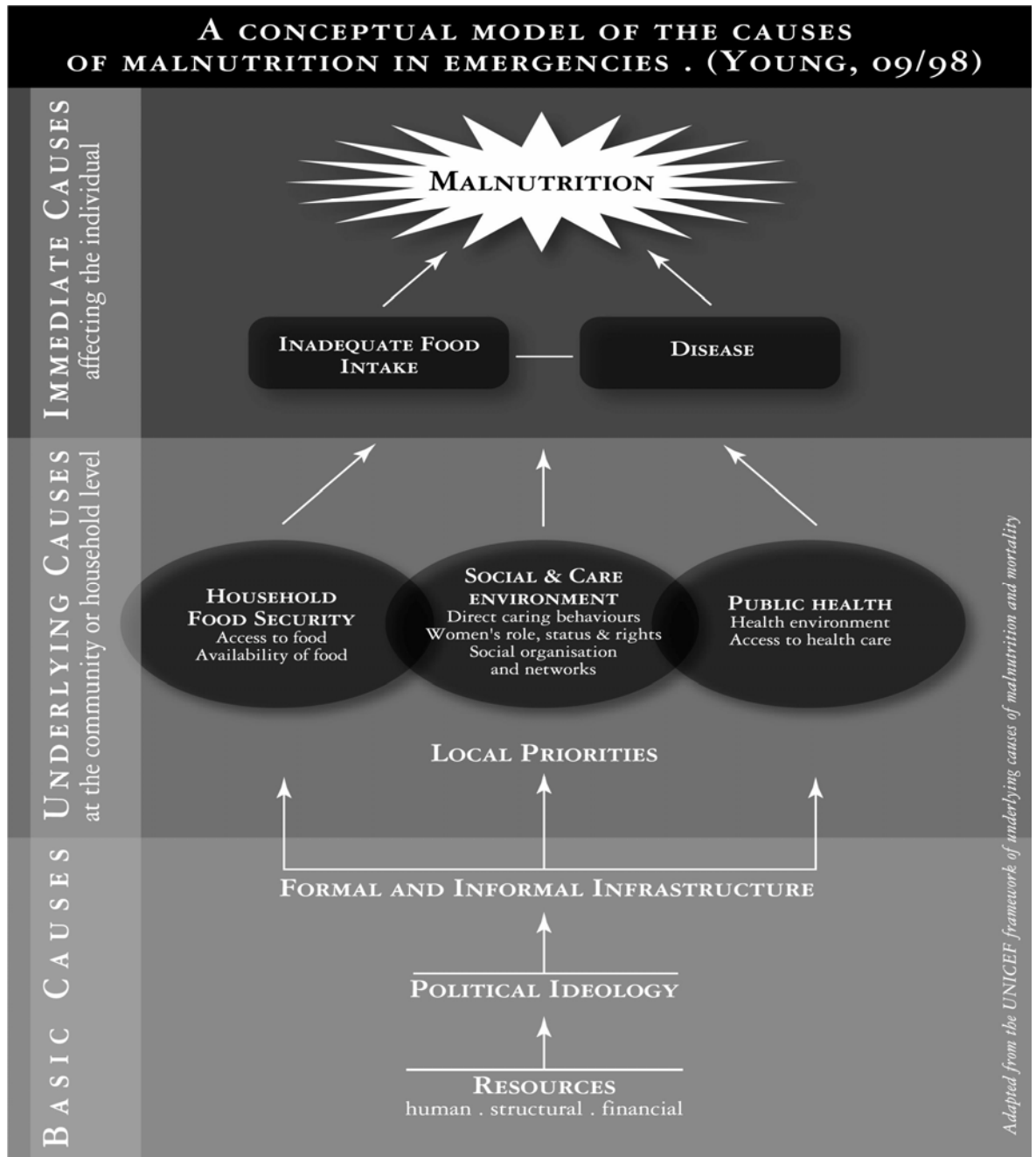
Classification of situations

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 UNS/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 UNS/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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The SCN Secretariat and the NICS Coordinator extend most sincere thanks to all those individuals and agencies who have provided information and time for this issue, and hope to continue to develop the excellent collaboration which has been forged over the years.

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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Funding support is gratefully acknowledged from the Canadian International Development Agency, the Department of Foreign Affairs, Ireland, the Royal Ministry of Foreign Affairs, Norway and UNHCR.

This report was also made possible through the support provided to the Food and Nutrition Assistance (FANTA) Project by the Office of Program, Policy and Management at the Bureau for Democracy, Conflict and Humanitarian Assistance and the Office of Health, Infectious Diseases and Nutrition at the Bureau for Global Health at the U.S. Agency for International Development, under the terms of Cooperative Agreement No. HRN-A-00-98-00046-00 awarded to the Academy for Educational Development (AED). The opinions expressed herein are those of the authors and do not necessarily reflect the views of the US Agency for International Development.