

# EMERGENCY NUTRITION QUARTERLY BULLETIN (Fourth Quarter 2006)

**Emergency Nutrition Coordination Unit**  
Early Warning Department  
(Disaster Prevention and Preparedness Agency)



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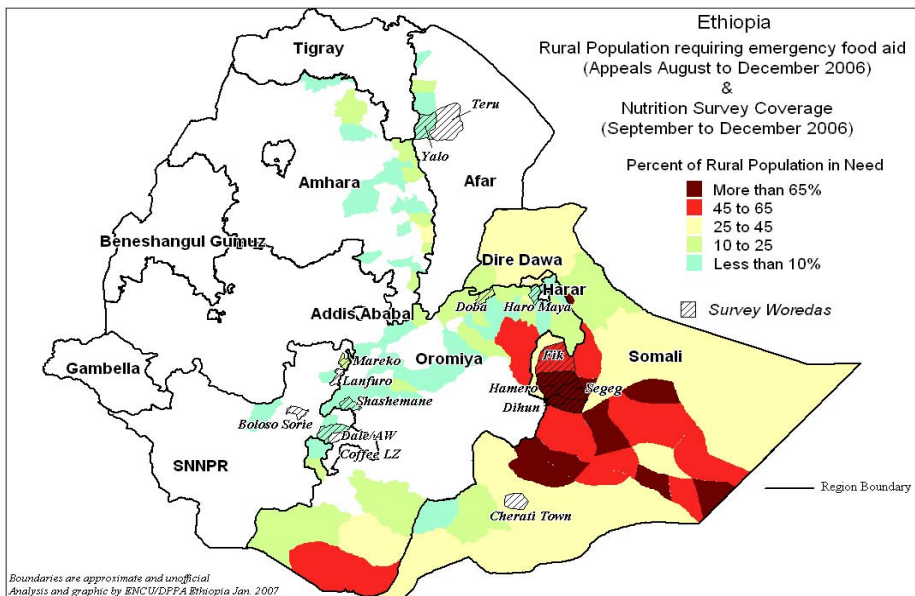
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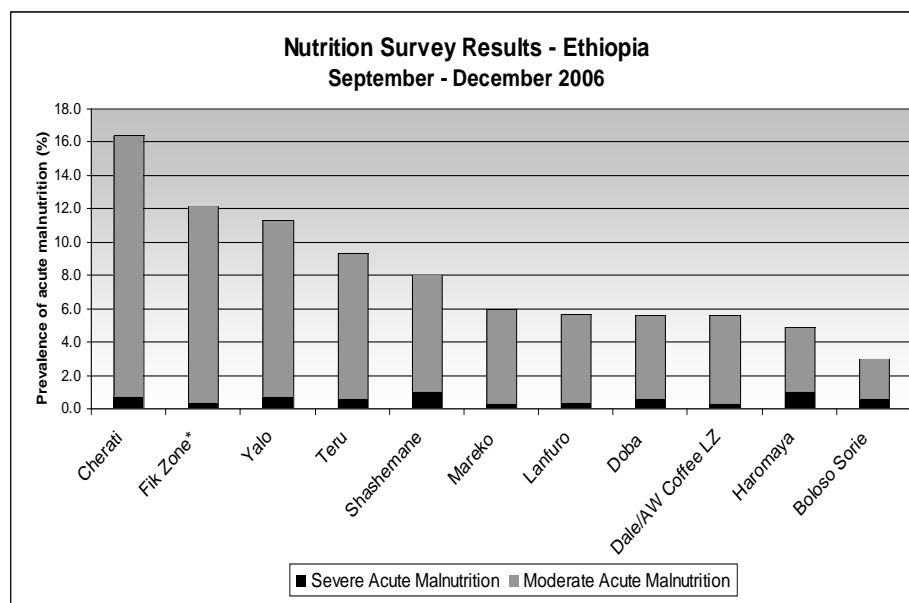
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A total of 12 surveys were carried out in the fourth quarter of 2006, one of them was rejected due to poor quality of the anthropometric measurements. The prevalence of global acute malnutrition fell between 3% to 8% in the cropping areas and between 9% to 16% in the pastoralist areas.



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**SNNP REGION**

**SILTI ZONE**

• **Lanfuro Woreda**

A 25 x 30-cluster survey was conducted by Save the Children-US in September, as an end line survey just before the handing over of its CTC program- started in July 2004, to the Ministry of Health.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 5.7% (CI: 4.0-7.4%) with 0.4% severe malnutrition and 0.1% kwashiorkor. Comparison with the previous survey conducted at the same season in September 05 with 6.1% GAM (CI: 4.7-7.9%) showed no significant difference in the level of acute malnutrition. The prevalence of malnutrition defined by MUAC below 12.0 cm and/or oedema was estimated at 3.8% during the survey and at 5.2% during the EOS screening of December 06.

**Health:** The crude and under five mortality rates were estimated at 0.32 and 0.16 deaths/10,000/day respectively, below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. Retrospective morbidity in the 2 weeks prior to the survey was 32% with malaria and diarrhea accounting for 35% and 24% of the morbidity respectively. It was reported that 52% of the children sick were taken to a health facility for treatment. Estimated coverage was 69% for BCG vaccination (verified by scar), 94% for measles vaccination (by card and recall) and 96% for vitamin A supplementation. Mass measles vaccination with vitamin A supplementation had been carried out in the month of May and June as part of the EOS package.

**Food Security:** Lanfuro belongs exclusively to the Alaba-Mareko Lowland Pepper Livelihood Zone. This is a relatively food secure zone with a valuable cash crop industry. The zone is predominantly *meher*- and long cycles crops-dependent. The hunger season typically occurs from May, when the *meher* harvest is depleted, to July, the beginning of green maize consumption. At the time of the survey maize was the main staple food consumed (86% of the HH inter-

viewed) and was sourced from own production (66%) or market purchase (33%) with cash generated from livestock sale and/or received from the Productive Safety Net Program. Livestock and pasture condition was reported to be good to average. None of the households reported resorting to consumption of wild food, unusual migration or sale of personal assets. The coming *meher* harvest due in November-December was expected to be better than last year and to increase household food availability and accessibility in the coming months.

**Conclusion & Recommendations:**

Though the survey was conducted in the pre-harvest season, the level of malnutrition was found to be low. The woreda existing capacity for treatment of malnutrition was deemed sufficient to handle the severe cases while EOS/TSFP catered for the moderate cases. It was recommended contributing further to low malnutrition level by implementing Essential Nutrition Actions and by increasing access to safe drinking water.



**Lanfuro Woreda**

The prevalence of global acute malnutrition prior to harvest was low at 5.7%. The *meher* harvest due in Nov/Dec was anticipated to be good and to increase household food security for the coming months.

## Mareko Woreda

The nutrition situation had significantly improved since April 06 with a decrease in the prevalence of global acute malnutrition from 13.6% to 6.0% in December. Though the food security and nutrition situation was found to be adequate at the time of the survey, the hunger gap was expected to start earlier in 2007 due to the poor yields of maize and pepper.

# ENCU

## Boloso Sorie Woreda

The prevalence of global acute malnutrition was low at 3.0% and typical for this time of the year, i.e. post-harvest season. The food security situation was described as satisfactory as a result of the recent *meher* harvest.

## GURAGE ZONE

### • Mareko Woreda

A 23 x 32 survey was conducted by ACF in December as an end line survey while handing over their OTP- started in April 2006, to the Ministry of Health.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 6.0% (CI: 3.9-8.0%) with 0.3% severe malnutrition and 0.1% kwashiorkor and was statistically significantly lower than in April 06, when GAM was estimated at 13.6% (CI: 11.0-16.2%). The level of malnutrition was similar to the EOS screening results, i.e. 6.4% of the children screened with a MUAC below 12.0 cm and/or oedema, conducted over the same period of time.

**Health:** The crude and under five mortality rates were estimated at 0.35 and 0.81 deaths/10,000/day. BCG vaccination coverage, estimated at 58%, was similar to the April 06 estimate of 55% while measles vaccination coverage (by card and recall), estimated at 92%, was found to be as high as in April with 95%. Vitamin A supplementation coverage was found to be slightly lower in December (75%) than in April (86%).

**Food Security:** Mareko exclusively belongs to lowland areas and is described as the Alaba-Mareko Lowland Pepper Livelihood Zone. Households rely mostly on long cycle crops and consequently any fluctuation in rainfalls during the *meher* season reduces food and cash incomes. Maize is the main staple and pepper is the main cash crop and income generating activity. The hunger season usually runs from May to June and the harvesting season is in November-December both for food and cash crop. At the time of the survey 69% and 81% of the households interviewed respectively stated that the maize harvest and pepper harvest were below average. The main causes cited was inadequate weather condition compounded by disease for pepper. On the other hand, 69% of the households reported that livestock condition was normal or good due to availability of crop residues for feeding.

## Conclusion & Recommendations:

The nutrition situation had improved as compared to April 06 with a significant decrease in the prevalence of global acute malnutrition. The current survey was conducted during the main harvesting period while the previous one was conducted during the hungry season, which started earlier as a result of a poor *meher* harvest. Though the food security and nutrition situation was adequate at the time of the survey, as a result of the recent *meher* harvest, close monitoring would be required in the coming months as the hunger gap was again expected to start earlier in 2007 due to the poor yields of maize and pepper.

## WOLAYITA ZONE

### • Boloso Sorie Woreda

A 21 x 30 cluster survey was conducted by IMC in December in order to monitor the nutrition situation in their project area.

**Nutrition:** Global Acute Malnutrition was estimated at 3.0% (CI: 1.5-4.5%) with 0.6% severe malnutrition and 0.2% kwashiorkor. No nutrition baseline was available for this particular woreda. However, according to the NSP (Nutrition Surveillance Program) baseline range of 4.2-6.0% wasting for the post harvest season in West Wolayita, the observed level of malnutrition could be considered as typical for this time of the year. The level of acute malnutrition defined by MUAC below 12.0 cm and/or oedema was found to be different in the survey (2.5%) as compared to the EOS screening (15.2%) conducted over the same period of time.

**Health:** The mortality rates for the population and for the under-five children were estimated at 0.54 and 0.55 deaths/10,000/day respectively, below the emergency level of 1.0 for CMR and 2.0 for U5MR. Retrospective morbidity was around 20% with cough, fever and diarrhea being cited as the 3 top main causes of morbidity in the 2 weeks prior to the survey. BCG vaccination coverage (by scar) was estimated at 85%, measles vaccination coverage (by card and recall) at 80% and vitamin A supplementation coverage at 83%.



# D O N E

## Dale and Aleta Wondo Woredas

The nutrition situation had markedly improved with a significant decrease in the malnutrition rates from 16.5% in June (hunger season) to 5.6% in December (post-harvest). Overall the *meher* harvest was rated as good and decline in food security and nutrition status was not expected before the next hunger gap due around April 2007.

**Food Security:** Boloso Sorie woreda stretches over 2 main livelihood zones, the Wolayita Ginger and Coffee LZ (42% of the population) and the Wolayita Maize and Root Crop LZ (51% of the population). Throughout Boloso Sorie the land is intensively cultivated and grazing land is very limited. The main production season runs from March to November beginning with the *belg* rains and continuing into the *kremt*. The main crops are maize, beans, sweet potatoes and teff. Seasonal food shortage occur from February, when main season crops run out, to June, when the first green crop (haricot beans) is harvested in most years, and from November to June in bad years. Potatoes in both LZ and enset in the Maize/Root LZ are critical to fill the hunger gap. At the time of the survey the two rainy seasons of 2006 were perceived to be normal in most parts of the woreda. However, excessive rains during the harvesting time and lack of adequate agricultural inputs were cited as contributing factors to a poor *meher* harvest and low household *meher* crop stocks. On the other hand, it was reported that ginger prices were low while livestock prices were favorable due to good livestock condition. Water and pasture availability for livestock was rated from average to good. None of the communities reported unusual coping strategies or migration.

### Conclusion & Recommendations:

The prevalence of acute malnutrition was low and typical for this time of the year, i.e. post-harvest season, when household food security is expected to be better and malnutrition rates to be lower. The food security was satisfactory as a result of the recent *meher* harvest. Future food security will depend on the harvest of sweet potatoes, and of enset to a lesser extent, due from March to May and consumed during the hunger season months. Any delay or failure of these harvests can precipitate severe food shortage and decline in nutritional status. It was recommended to continue the existing food and nutrition programs, i.e. Productive Safety Net, EOS and OTP.

## SIDAMA ZONE

### Dale and Aleta Wondo Woredas

A 16 x 43 survey was conducted by ACF in the Coffee Livelihood Zone of the 2 woredas in December as a follow up of the survey conducted in the same geographical area in June 2006. By the time the second survey was conducted these 2 woredas had been split into 3 additional woredas, Wonsho, Loko Abaya and Chuko.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 5.6% (CI: 4.1-7.1%) with 0.3% severe malnutrition and 0.1% kwashiorkor. Comparison with the previous survey conducted in June 06 where GAM was estimated at 16.5% (CI: 12.5-20.5%) showed a significant difference in the level of acute malnutrition.

**Health:** The mortality rates for the population and for the under-five children were estimated at 0.14 and 0.13 deaths/10,000/day respectively lying below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. BCG vaccination coverage estimated at 59% was similar to the June 06 estimate of 56% while measles vaccination coverage (by card and recall) estimated at 93% was found to be as high as in June with 94%. Vitamin A supplementation coverage was found to be lower in December (60%) than in June (89%).

**Food Security:** Around 43% and 60% of the population of Dale and Aleta Wondo respectively live in the Sidama Coffee Livelihood Zone. This LZ covers the midland areas and is described as relatively food secure despite huge disparities between wealth groups, especially in terms of land holding. The zone is dependent on *belg* and *kremt* rains, enset is the main food crop while coffee is the main cash crop. The hunger gap runs from April to July while the main harvesting period stretches from September to December both for food crops and coffee. According to the *meher* pre-harvest assessment the food



security situation was overall satisfactory. It was reported that the amount and distribution of the *kremt* rains had been above average, the *meher* harvest was rated as good as well as the coffee harvest though the production was threatened by diseases, pasture and water availability was adequate, and livestock condition was good with no disease outbreak.

**Conclusion & Recommendations:**  
The nutrition situation had markedly

improved since June 06 with a significant decrease in the malnutrition rates from 16.5% to 5.6%. The current survey was conducted during the main harvesting period while the previous one was conducted during the hungry season preceded by a below average *meher* harvest. The current *meher* harvest was rated as good and hence the food security and nutrition situation was not expected to decline before the traditional hunger gap around April-May 2007.

**Table 1: Survey Results for SNNPR**

Key indicators	Silti Zone	Wolayita Zone	Sidama Zone	Gurage Zone
	Lanfuro September 23 – 29	Boloso Sorie December 6-10	Dale/Aleta Wondo Coffee LZ December 12-20	Mareko December 4-10
GAM in Z-scores (95% CI)	5.7% (4.0% - 7.4%)	3.0% (1.5% - 4.5%)	5.6% (4.1% - 7.1%)	6.0% (3.9% - 8.0%)
SAM in Z-scores (95% CI)	0.4% (0% - 1.0%)	0.6% (0% - 1.2%)	0.3% (0% - 0.7%)	0.3% (0% - 0.6%)
Kwashiorkor	0.1%	0.2%	0.1%	0.1%
CMR Death/10,000/day (95% CI)	0.32 (0.10 - 0.54)	0.54 (0.22 - 0.87)	0.14 (0 - 0.30)	0.35 (0.13 - 0.57)
U5MR Death/10,000/day (95% CI)	0.16 (0 - 0.31)	0.55 (0 - 1.15)	0.13 (0 - 0.42)	0.81 (0.2 - 1.41)
Major causes of U5MR	Malaria	Malaria	ARI	Not reported
Morbidity	32.0%	19.6%	Not collected	Not collected
Major illnesses or symptoms	Diarrhea & Malaria	Cough, Malaria & Diarrhoea	-	-
Measles coverage by card (95% CI)	5.9% (1.8% - 10.0%)	37.0% (31.7% - 42.7%)	11.2% (8.9% - 13.6%)	6.0% (4.2% - 7.8%)
Measles coverage by card + recall (95% CI)	93.5% (91.1% - 95.8%)	80.4% (75.5% - 84.6%)	93.4% Not reported	91.6% Not reported
BCG coverage (scar) (95% CI)	68.5% (63.6% - 73.3%)	84.7% (80.1 - 88.3%)	59.6% (56.0 - 63.3%)	57.7% (54.1% - 61.2%)
Vitamin A in past 6 months (95% CI)	Not reported	82.6% (77.9% - 86.5%)	59.8% (56.1% - 63.4%)	74.5% (71.3% - 77.6%)

**Table 2: Food and Nutrition Interventions in Surveyed Woredas of SNNPR**

	Silti Zone	Wolayita Zone	Sidama Zone		Gurage Zone
	Lanfuro	Boloso Sorie	Dale	Aleta Wondo	Mareko
Estimated population size	105,349	326,123	386,289	349,865	105,349
Estimated Under Five population	21,070	65,225	77,258	69,973	21,070
Productive Safety Net – No of beneficiaries	23,914	52,209	23,550	23,490	21,256
% of rural population	22.7%	16.0%	6.1%	6.7%	20.2%
Food Aid Aug-Dec. 06 – No of beneficiaries	No	No	4,000	No	13,000
% of rural population			1.0%		12.3%
EOS- November 2006					
No of children acutely malnourished*	986	4,410	Data not available yet	568	668
As a percentage of screened children	5.2%	15.2%		8.6%	6.4%
Therapeutic Feeding Unit	Tura HC	Areka HC Dubo HS	Bokaso HC Mesenkela HC Yirgalem Hospital	No	Koshe HC
Outreach Therapeutic Programme	SC-US-phased out in Dec 06	IMC	ACF	ACF	ACF-phased out in Nov 06

\* MUAC below 12.0 cm and/or oedema



# ENCU

## Teru and Yalo Woredas

The surveys were conducted at the beginning of the hunger season, which typically occurs from October to February. The nutrition situation was considered to be poor with 9.3% GAM in Teru and 11.3% GAM in Yalo.

## AFAR REGION

### ZONE 4

#### • Teru and Yalo Woredas

Two 22 x 45-cluster surveys were conducted by Concern in November, one in Teru and another in Yalo, in order to assess the nutrition status of the population in each woreda.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 11.3% with 0.7% SAM in Yalo and at 9.3% with 0.6% SAM in Teru. Comparison with the previous survey conducted in Yalo in March 2006 with 11.1% GAM (CI: 8.4-14.4%) did not show any significant difference in the level of acute malnutrition while no previous surveys had been conducted in Teru. The prevalence of malnutrition defined by MUAC below 120 mm and/or oedema was estimated at 1.9% in Teru and 2.9% in Yalo while it was found at 51.1% and 5.9% in Teru and Yalo respectively during the EOS screening conducted 2 months before. Such a discrepancy questioned the validity of the EOS screening in Teru woreda.

**Health:** The crude mortality rates were estimated at 0.42 and 0.49 deaths/10,000/day with an under five mortality rate of 1.22 and 1.40 deaths/10,000/day in Yalo and Teru respectively below the CMR and U5MR emergency thresholds of 1 and 2 deaths/10,000/day but above the average CMR and U5MR for sub-Saharan Africa of 0.27 and 1.0 deaths/10,000/day. Retrospective morbidity was at 9.6% for Yalo and 12.5% for Teru with diarrhea, cough and malaria being the top 3 causes of morbidity. Measles was also cited as a cause of morbidity in both woredas, where measles vaccination coverage (by card and recall) was found to be low with 34% in Yalo and 8% in Teru. Vitamin A supplementation coverage was estimated at 74% in Yalo and was similar to the EOS results with an estimated 73% coverage. However, a major discrepancy was found in Teru where vitamin A coverage was estimated at 28% by the survey and 82% by the EOS. BCG vaccination coverage was extremely low in both

woredas with 2-3% of the children 6-59 months having a BCG scar, reflecting a poor access and/or low utilization of health services. It was noted that there were very few functioning health services in these woredas.

**Water and Sanitation:** In the communities surveyed access to clean water was very poor with 2 to 4% of the households collecting water from protected sources while access to latrines was non-existent. Roughly half of the households interviewed had to walk more than 2 hours to the source of water.

**Caring Practices:** Mothers with children under 3 years of age were asked selected questions on child feeding practices. Only 9% and 17% of the mothers interviewed in Teru and Yalo respectively reported initiated breastfeeding within 1 hour after birth. Around 15% and 21% of the mothers interviewed in Teru and Yalo respectively reported to practice exclusive breastfeeding during the first 4-6 months of life while the majority introduced liquids or solids in addition to breast milk within the first 4 months. In addition 45% and 31% of the mothers in Teru and Yalo respectively reported to have weaned their child before the age of 20 months. Reasons cited for early weaning were natural believes, mother got sick and was advised to stop breastfeeding, or mother got pregnant.

**Food Security:** Teru and Yalo woredas are part of the Teru Pastoral Livelihood Zone, a highly livestock-dependent area. The main rainfall season, karma, usually occurs between July to September and determine the availability of both pasture and water for most of the year. The short rains (March-April), sugum, though poor and patchy are also important for pasture regeneration and water availability after the long dry season, jilaal, stretching from October to February. Milk production usually starts in July, declines at the beginning of jilaal and rises again during sugum. The hunger period, when food and water for both humans and livestock are in short supply, occurs in the months leading to the sugum rains, and may be extended further if the short rains fail. Nearly all



the households interviewed in both woredas cited wheat and milk as the main food consumed at the time of the surveys while the main food sources were relief food distributed by the Government (50 kg of wheat per family per month) and own animal production. The main sources of income included sale of livestock (80% in both woredas) and livestock products (6% in Yalo and 19% in Teru). In Teru the livestock condition was reported to be poor by 51% of households mainly due to lack of adequate grazing and/or diseases while in Yalo the livestock condition was rated from good (28%) to medium (45%) as a result of good sugum rainfalls.

**Conclusion & Recommendations:** The surveys were conducted at the beginning of the long dry season and the nutrition situation was considered to be poor. It was recommended to support the health, nutrition and water/sanitation sectors in order to reduce morbidity and improve nutrition in children. This included improving access to health services, i.e. geographic coverage, quality of care, functional EPI, integrating management of severe malnutrition into health services, promoting key child feeding and hygiene practices at the community level, and improving access to safe water and latrines.

**Table 3: Survey Results for Afar**

Key indicators	Zone Four	
	Teru November 3-8	Yalo November 11- 17
GAM in Z-scores (95% CI)	9.3 % (6.8% - 11.9%)	11.3% (9.0% - 13.5%)
SAM in Z-scores (95% CI)	0.6 % (0.2% - 1.1%)	0.7% (0.2% - 1.2%)
Kwashiorkor	0%	0%
CMR Death/10,000/day (95% CI)	0.49 (0.08 - 0.9)	0.42 (0.11 - 0.7)
U5MR Death/10,000/day (95% CI)	1.4 (0.12 - 2.67)	1.22 (0.18 - 2.63)
Major causes of U5MR	ARI & Diarrhoea	Diarrhoea
Morbidity	12.5%	9.6%
Major illnesses or symptoms	Malaria, ARI, Diarrhoea & Measles	Diarrhoea & ARI
Measles coverage by card (95% CI)	5.3% (2.3% - 8.2%)	21.3% (12.2% - 30.3%)
Measles coverage by card + recall (95% CI)	8.0% (4.1% - 11.9%)	34.0% (24.8% - 43.3%)
BCG coverage (scar) (95% CI)	1.8% (0.7% - 2.9%)	2.7% (0.8% - 4.6%)
Vitamin A in past 6 months (95% CI)	28.0% (19.0% - 36.8%)	74.4% (65.2% - 83.5%)

**Table 4: Food and Nutrition Interventions in Surveyed Woredas of Afar**

	Zone Four	
	Teru	Yalo
Estimated population size	43,436	23,951
Estimated Under Five population	8,687	4,790
Productive Safety Net – No of beneficiaries % of rural population	21,825 50.2%	12,050 50.3%
Food Aid Aug-Dec. 06 – No of beneficiaries % of rural population	No	1,200 5.0%
EOS- November 2006		
No of children acutely malnourished*	2,300	188
As a percentage of screened children	51.1%	5.9%
Therapeutic Feeding Unit	No	No
Outreach Therapeutic Programme	Concern	Concern

\* MUAC below 12.0 cm and/or oedema



# ENCU

## Fik, Hamero, Segeg & Dehun Woredas

The nutrition situation was rated as serious with 12.2% GAM in presence of multiple aggravating factors. The food security and nutrition situation in the coming months will depend on the performance of the *deyr* rains, which usually stretches from early October to December.

## SOMALI REGION

### FIK ZONE

- **Fik, Hamero, Segeg & Dehun Woredas**

A 20 x 45 cluster survey was conducted by Save the Children-UK in October as an end line survey before closing down its CTC program, run since November 2005.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 12.2% (CI: 9.5-14.9%) with 0.4% severe acute malnutrition and 0.3% kwashiorkor. Previous surveys conducted in May 05 showed GAM of 20.7% (CI: 17.2-24.2%) in Segun and Dehun and of 16.1% (13.6-18.7%) in Fik and Hamero. Statistical comparison was not possible as the survey coverage was different between May 05 and September 06.

**Health:** The crude and under five mortality rates were estimated at 0.33 and 0.97 deaths/10,000/day respectively, below the emergency thresholds of 1.0 and 2.0 respectively. Retrospective morbidity was very high with almost half of the children (48%) having experienced a disease episode in the 2 weeks prior to the survey. Diarrhea (37%) followed by cough (33%) and fever (24%) were cited as the 3 top main causes of morbidity. It was reported that 52% of the children sick were taken to a health facility for treatment. BCG vaccination coverage was extremely low with 9% of the children 6-59 months having a BCG scar. Measles vaccination and vitamin A supplementation coverage were also very low with 37% and 33% respectively. Access to health care was reported to be extremely low in all woredas where health structures were not sufficient and not equipped with necessary drugs and professionals. There was a UNICEF supported mobile clinic operational in Segeg woreda.

**Food Security:** About 80% of the population living in Fik, Hamero, Segeg and Dehun is pastoralist and mainly dependent on livestock and livestock products for both food and cash sources. They rear camel, shoats and cattle in this order of importance. The rest of the pop-

ulation is agro-pastoralist and found in south/central Segeg and north Duhun and Fik. They mainly grow sorghum and to a lesser extent maize using the gu rains. The 4 woredas benefit from 2 rainy seasons, the gu rains from April to early June and the *deyr* rains from October to December. The rains are important for both livelihood groups in terms of water and pasture availability as well as crop cultivation. The *deyr* rains had already started at the time of the survey though patchy but close to normal in the concerned pocket areas. Thus water and pasture were not replenished yet and livestock migration was going on to far places such as Oromia or Degehabur. Migration to Babile, a major livestock market, had been constrained due to inter-clan tensions resulting to reduced access to fair livestock prices as well as limited movement along the traditional trade route to Somali. Staple cereal prices were reported to be doubled as compared to the same time last year and hence terms of trade were not favorable. The poor food security situation was compounded by an unknown disease killing camels and erratic, inadequate (below the recommended allocation per capita) and poorly targeted general food distribution.

### Conclusion & Recommendations:

The nutrition situation was rated as serious with 12.2% GAM in presence of aggravating factors: poor access to food, restriction of movement of pastoralists, poor water and pasture availability, very high morbidity, low measles coverage and no crop production expected before 9 months. The survey was conducted at the beginning of the *deyr* rainy season; the food security situation in the coming months will depend on the performance of the *deyr* rains. If adequate, pasture will be regenerated and livestock condition improved along with increased availability of milk. Short-term recommendations included improved delivery of food aid, continuation of the existing CTC program at least until December, inclusion of the 4 woredas in the EOS program, and provision of emergency veterinary services to prevent further deaths of camels.



# U C N E

## Cherati Town

There was no significant difference in the prevalence of global acute malnutrition between January and September 2006 with 18.6% and 16.4% GAM respectively though the previous survey was conducted after the failure of the deyr rains and the current one was post-harvest and after relatively good gu rains.

## AFDER ZONE

### • Cherati Town

A 24 x 30-cluster survey was conducted by MSF-B in September, as a follow up of the January 2006 survey. At the time of the writing up of this bulletin the survey report was still not available and hence the presentation is limited to summary findings. The prevalence of global acute malnutrition was estimated at 16.4% (CI: 13.7-19.2%) with 0.7% SAM. There was no statistically significant difference in the level of acute malnutrition compared to the previous survey with 18.6% GAM (CI: 15.2-21.9%) though the latter had been conducted after the failure of the deyr rains. In contrast the current survey had been conducted post-harvest and after relatively good gu rains. The crude and under five mortality rates were estimated at 0.63 (CI: 0.33-0.93) and 1.94 (CI: 0.96-2.93) respectively, below the emergency thresholds of 1.0 and 2.0 deaths/10,000/day respectively. In January 06 CMR was at 1.0 (CI: 0.7-1.4) and U5MR at 3.3 (CI: 2.0-4.7) deaths/10,000/day. Measles vaccination coverage (by card and recall) was estimated at 81% and was found to be high-

er than in January (55%). Vitamin A supplementation coverage was very low at 30% while BCG vaccination coverage (confirmed by scar) was relatively high with 73% (these 2 indicators had not been collected in January).

## GODE ZONE

### • Kelafo Woreda

A standard 30 x 30 cluster survey was conducted by ADRA (Adventist Development and Relief Agency) in October as a baseline for its recently started health and nutrition program in Kelafo. The survey results were rejected due to the lack of accuracy in anthropometric measurements, the presence of significant measurement errors as evidenced by the high number of WHZ flagged records (5%) and the high Standard Deviation of the WHZ of 1.4 well above the acceptable upper limit of 1.2. It was also believed that the prevalence of kwashiorkor (estimated at 5.8%) was overestimated due to misdiagnosis of nutritional oedema, as there was no history of alarming rates of oedematous malnutrition in Somali region even in times of acute emergencies.

**Table 5: Survey Results for Somali**

Key indicators	Fik Zone	Afder Zone
	Fik, Hamero, Segeg & Dehun Sept 29 - Oct 11	Cherati town September 12- 16
GAM in Z-scores (95% CI)	12.2% (9.5% - 14.9%)	16.4 % (13.7% - 19.2%)
SAM in Z-scores (95% CI)	0.4% (0% - 0.8%)	0.7 % (0% - 1.3%)
Kwashiorkor	0.3%	0.1%
CMR Death/10,000/day (95% CI)	0.33 (0.17 - 0.49)	0.63 (0.33 - 0.93)
U5MR Death/10,000/day (95% CI)	0.97 (0.46 - 1.48)	1.94 (0.96 - 2.93)
Major causes of U5MR	Diarrhoea	Not reported
Morbidity	47.7%	Not reported
Major illnesses or symptoms	Diarrhea & Cough	Not reported
Measles coverage by card (95% CI)	0.9% (0% - 1.8%)	56.2% (47.6% - 64.9%)
Measles coverage by card + recall (95% CI)	37.2% (28.8% - 45.6%)	80.5% (Not reported)
BCG coverage (scar) (95% CI)	9.1% (4.9% - 13.3%)	72.8% (65.9% - 79.6%)
Vitamin A in past 6 months (95% CI)	33.4% (25.2% - 41.6%)	29.8% (19.3% - 40.3%)



# ENCOUNTER

## Shashemane Woreda

The nutrition situation with 8.0% GAM was considered as typical in absence of aggravating factors. The prevalence of acute malnutrition was significantly higher in younger children (6-30 months) with 12.6% GAM than in older children (30-59 months) with 6.6% GAM.

**Table 6: Food and Nutrition Interventions in Surveyed Woredas of Somali**

	Fik Zone				Afder zone
	Fik	Hamero	Segeg	Dehun	Cherati town
Estimated population size	129,247	48,657	23,156	33,275	8,959
Estimated Under Five population	25,849	9,731	4,631	6,655	1,792
Productive Safety Net – No of beneficiaries	57,373	22,565	14,060	16,811	No
% of rural population	44.4%	46.4%	60.7%	50.5%	
Food Aid Aug-Dec. 06 – No of beneficiaries	69,500	40,500	21,600	22,500	No
% of rural population	53.8%	83.2%	93.3%	67.6%	
EOS- November 2006					
No of children acutely malnourished*	3,540	1,623	1,339	1,547	No
As a percentage of screened children	19.7%	24.2%	23.1%	29.8%	
Therapeutic Feeding Unit	No	No	No	No	Cherati HC
Outreach Therapeutic Programme	SC-UK - phased out in December 2006				MSF-Belgium

\* MUAC below 12.0 cm and/or oedema

## OROMIA REGION

### WEST ARSI ZONE

#### Shashemane Woreda

A standard 30 x 30 cluster survey was conducted by GOAL in October to assess the impact of Acute Watery Diarrhea on the population nutrition and health status. Shashemane woreda formerly in East Shoa zone had been recently moved to West Arsi zone.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 8.0% with 1.0% severe malnutrition and 0.2% kwashiorkor. No baseline or previous surveys were available for comparison. The prevalence of acute malnutrition was significantly higher in younger children (6-29 months) with 12.6% GAM than in older children (30-59 months) with 6.6% GAM. The prevalence of malnutrition defined by MUAC below 12.0 cm and/or oedema was estimated at 4.0% during the survey and 5.3% during the EOS screening conducted in the same month.

**Health:** The crude mortality and under five mortality rates were estimated at 0.11 and 0.19 deaths/10,000/day respectively, below the average for developing countries of 0.27 and 1.0 respectively. Retrospective morbidity was high with one quarter of the children having experience a disease episode in the previous 2 weeks. Amongst them 57% were taken to a health facility to

seek treatment. Diarrhea was the most prevalent reported disease, accounting for 33% of the morbidity. It was reported that only 31% and 9% of the woreda population had access to protected water sources and latrines respectively. Coverage was estimated at 48% for BCG vaccination (verified by scar), 73% for measles vaccination (by card and recall) and 83% for vitamin A supplementation.

#### Conclusion & Recommendations:

The nutrition situation was considered as typical in absence of aggravating factors. No food or nutrition interventions were recommended. Strengthening of the existing capacity for management of moderate and severe malnutrition was recommended along with immunization activities.



# ENCOUNTER

## Haromaya and Doba Woredas

The surveys were conducted during the main harvesting season and showed a prevalence of global acute malnutrition of 4.9% in Haromaya and 5.6% in Doba. The *meher* harvest was described as relatively good though some pocket areas were affected by insufficient or excessive *kremt* rains.

## EAST and WEST HARARGHE ZONE

### • Haromaya & Doba Woredas

A 26 x 30 cluster survey was conducted by IMC/SC-UK in December in each woreda as an end line survey before handing over IMC therapeutic program to the Ministry of Health. IMC run a CTC program in Haromaya and Doba since December 2005 and June 2005 respectively.

**Nutrition:** The prevalence of global acute malnutrition was estimated at 4.9% (CI: 3.2-6.5%) in Haromaya and 5.6% (CI: 3.9-7.4%) in Doba with 1.0% and 0.5% severe malnutrition respectively. No baseline data was available for these woredas. There was a significant difference with the previous surveys conducted in Haromaya in April 2005 with GAM of 9.6% (CI: 7.5-11.8%) and in Doba in February 2005 with GAM of 19.3% (16.9-22.0%). The prevalence of malnutrition defined by MUAC below 12.0 cm and/or oedema was estimated at 6.1% both in Haromaya and Doba during the surveys. During the EOS screening it was found to be at 9.8% in Haromaya in October and 6.2% in Doba in December.

**Health:** The crude and under five mortality rates in both woredas were below the emergency thresholds of 1.0 and 2.0 deaths/10,000/day and the average for developing countries of 0.27 and 1.0 deaths/10,000/day. CMR and U5MR were respectively estimated at 0.24 and 0.28 deaths/10,000/day respectively in Haromayo, and at 0.29 and 0.72 deaths/10,000/day in Doba. Retrospective morbidity was around 20% in both woreda with cough and diarrhea being the 2 top causes of morbidity. BCG vaccination coverage verified by the presence of a scar was 58% in Haromayo and 31% in Doba. Measles vaccination (by card and recall) and vitamin A supplementation coverage were respectively estimated at 76% and 86% in Haromayo and 56% and 70% in Doba.

**Food Security:** The majority of the population living in Haromaya and Doba rely

on rain fed agriculture, the main food crop being sorghum and maize while the main cash crop is chat in Haromaya and haricot beans in Doba. The 2 woredas benefit from 2 rainy seasons, *belg* from March to May and *meher* from end of June to mid-September, but are heavily *meher* dependant. The period from October to January corresponds to the main harvesting season. The performance of the 2006 *meher* rain was described as relatively better than the past 2 years resulting in improved food security. It was, however, reported that some pocket areas required close monitoring as a result of excessive rains in parts of Haromaya (7 kebeles were flooded and crops were destroyed) or insufficient rains in lowland areas of Doba. At the time of the survey crops were harvested and the yield was reported to be better than the past year, cereal prices had reduced while livestock prices had increased, and livestock condition was good.

### Conclusion & Recommendations:

The nutrition surveys were conducted in the midst of the harvesting season and showed that the food and nutrition situation was overall satisfactory and did not require additional responses to the existing nutrition and food interventions.

**Table 7: Survey Results for Oromia Region**

Key indicators	West Arsi Zone	East Hararghe Zone	West Hararghe Zone
	Shashemane Sept. 30- Oct. 5	Haromaya December 12-25	Doba December 12-25
GAM in Z-scores (95% CI)	8.0% (5.3% - 10.6%)	4.9 % (3.2% - 6.5%)	5.6% (3.9% - 7.4%)
SAM in Z-scores (95% CI)	1.0% (0.2% - 1.8%)	1.0 % (0% - 2.1%)	0.6% (0.1% - 1.2%)
Kwashiorkor	0.2%	0.6 %	0.4%
CMR Death/10,000/day (95% CI)	0.11 (0.02 - 0.33)	0.24 (0.07 - 0.40)	0.29 (0.12 - 0.45)
U5MR Death/10,000/day (95% CI)	0.19 (0.01 - 1.11)	0.28 (0.12 - 0.69)	0.72 (0.06 - 1.38)
Major causes of U5MR	AWD & ARI	Not reported	Diarrhea
Morbidity	24.5%	19.1%	22.3%
Major illnesses or symptoms	Diarrhea & ARI	Diarrhea & Cough	Diarrhea & Cough
Measles coverage by card (95% CI)	5.2% (3.4% - 7.7%)	33.0% (22.9% - 43.2%)	2.4% (1.0% - 3.9%)
Measles coverage by card + recall (95% CI)	72.6% Not reported	70.4% (61.9% - 78.9%)	55.8% (48.0 - 63.6%)
BCG coverage (scar) (95% CI)	47.8% (43.2% - 52.3%)	58.0% (49.8% - 66.2%)	30.6% (23.4% - 37.8%)
Vitamin A in past 6 months (95% CI)	82.5% (78.4% - 85.4%)	85.7% (77.9% - 93.4%)	70.2% (60.6% - 79.7%)

**Table 8: Food and Nutrition Interventions in Surveyed Woredas of Oromia**

	West Arsi Zone	East Hararghe Zone	West Hararghe Zone
	Shashemane	Haromaya	Doba
Estimated population size	233,145	202,585	124,434
Estimated Under Five population	46,629	40,515	24,887
Productive Safety Net – No of beneficiaries % of rural population	No	20,000 9.9%	29,046 23.3%
Food Aid Aug-Dec. 06 – No of beneficiaries % of rural population	15,000 6.4%	8,600 4.2%	18,880 15.2%
EOS- November 2006			
No of children acutely malnourished* As a percentage of screened children	2,018 5.3%	374 9.8%	1,354 6.2%
Therapeutic Feeding Unit	Gambo HS	Alemaya HC	No
Outreach Therapeutic Programme	No	IMC - due to phase out soon	

\* MUAC below 12.0 cm and/or oedema

## SURVEY DATA QUALITY CONTROL

The quality of the survey results was checked in order to determine (1) if significant bias had been introduced during the sampling procedures and measurements and (2) whether the survey results were representative and reliable. Findings of the quality check are compiled in table 10.

- Bias in cluster selection  
In theory, clusters selection should be done on the smallest geographical units using the PPS (probability proportional

to size) sampling technique, thereby ensuring that each individual of the population has an equal chance of being included in the sample. In practice, cluster selection was done in a single stage at village level using PPS in only 4 surveys. For the remaining 8 surveys cluster selection was done in 2 stages: clusters were firstly selected at kebele level using PPS and were then allocated randomly to the village level within the selected kebeles.

- Bias in children selection  
The demographic breakdown of the survey samples allow verifying whether the samples are not biased in terms of age and sex, and are representative of the population group (6-59 months) targeted by the surveys. In nutrition surveys the proposed age groups, 6-17 months, 18-29 months, 30-41 months, 42-53 months and 54-months, are centered around whole years in order to minimize bias due to misreporting of age. The distribution of these age groups should not vary too much from the typical distribution for children 6-59 months in the developing world (WHO, 2000), as shown in the table 9. Likewise the sex ratio of boys to girls should not vary too much from the expected sex ratio and should lie between 0.9 and 1.1.

**Table 9: Typical demographic distribution 6-59 months (WHO, 2000)**

Age groups	Total
6-17 months	23.90%
18-29 months	25.50%
30-41 months	22.40%
42-53 months	19.20%
54-59 months	9.00%

Age biases are of particular concern for anthropometry, as younger age groups (6-29 months) are usually more likely to be malnourished than older age groups (30-59 months). This means that an under-representation of the younger age groups (or over-representation of the older age groups) may give a lower prevalence of malnutrition than the actual one while over-representation of the younger age groups (or under-representation of the older age groups) may give a higher prevalence of malnutrition than the actual one. Sex bias is less likely to affect malnutrition rates unless there is evidence that either boys or girls are usually more affected by malnutrition.

There was no age bias towards the younger or older children in the 12 surveys conducted during this quarter. The younger age group (6-29 months) lied between 42 to 50% while the older age group (30-59 months) lied between 50 to 58%, and did not significantly differ from the expected 49% for the 6-29 months and 51% for the 30-59 months. There was no sex bias in 11 out of 12 surveys while boys were slightly over-represented in Teru survey with a sex ratio of 1.2.

- Bias in measurements  
Children should be measured accurately to the nearest 100 g for weight and to the nearest 1 mm for length/height. Poor accuracy in measurements can cause significant errors in classifying children nutritional status and can result in major changes in the prevalence of malnutrition in either direction. Measurements biases are checked by assessing the final decimal for weight and height and determining whether there is significant digit preference. In all surveys but one (Kelafo) there was no digit preference for weight and height.

- Overall quality of the survey  
In a good survey the distribution of the WHZ of the sample should be normally distributed. The overall quality of survey can then be assessed by comparing key characteristics of the WHZ curve to those of a normal distribution. This includes the standard deviation, skewness and kurtosis of the WHZ distribution. These checks are automatically done by Nutrisurvey, the SMART software.

- The standard deviation of weight-for-height: this indicates whether there are substantial random errors in the measurements. In a normal distribution the SD of WHZ is equal to + 1. The SD of WHZ should lie between 0.8 and 1.2 z-score units for weight-for-height. The SD of WHZ was within the acceptable range for all surveys but one, i.e. Kelafo with a SD of 1.4. This was indicative of a high number of erroneous WHZ likely to be due to measurement errors and resulting in overestimation of the prevalence of acute malnutrition.

- The skewness of weight-for-height: this is a measure of the degree of asymmetry of the data around the mean. A normal distribution is symmetrical and has zero skewness. The moment of skewness should lie between plus or minus one. Positive skewness indicates a long right tail while negative skewness indicates a long left tail. None of the surveys exhibited skewness problem.

- The kurtosis of weight-for-height: this is a measure of the relative peakedness or flatness compared with a normal distribution. A normal distribution has zero kurtosis. The moment of kurtosis should lie between plus or minus one. Positive kurtosis indicates a relatively peaked distribution while negative kurtosis indi-

cates a relatively flat distribution. One survey (Kelafo) out of 12 exhibited a positive kurtosis and hence a peaked WHZ distribution.

- Conclusion

All the surveys conducted in this fourth quarter but one (Kelafo) were in line with the quality standards with adequate sample representativeness, accurate weight

and height measurements and a WHZ distribution close to normal. The Kelafo survey exhibited a number of abnormalities and hence anthropometric results were rejected. This included a highly significant digit preference both for weight and height measurements, a high SD of the WHZ above the acceptable upper limit and a positive kurtosis.

**Table 10: Results of Survey Quality Check**

Agency	Woreda	Digit preference		SD of WHZ	Skewness of WHZ	Kurtosis of WHZ	% of WHZ flags	Representativeness of the sample	
		Weight	Height					Age group distribution	Sex Ratio
Concern	Teru	No	No	0.821	-0.029	-0.044	0%	6-29 months: 43.3% 30-59 months: 55.6%	1.2 bias towards boys
Concern	Yalo	No	No	0.833	0.087	0.337	0%	6-29 months: 44.0% 30-59 months: 56.0%	1.0
SC-UK	Fik, Hamero, Segeg & Dehun	No	No	0.856	0.581	0.777	0%	6-29 months: 44.8% 30-59 months: 55.2%	0.9
MSF-B	Cherati town	No	No	0.839	0.301	0.007	0.1%	6-29 months: 50.0% 30-59 months: 50.0%	1.0
GOAL	Shashemane	No	No	0.868	0.090	0.511	0.1%	6-29 months: 41.9% 30-59 months: 58.1%	0.9
SC-US	Lanfuro	No	No	0.834	0.145	0.655	0.3%	6-29 months: 43.3% 30-59 months: 56.7%	0.9
IMC	Boloso Sorie	No	No	0.841	0.066	0.568	0.5%	6-29 months: 42.1% 30-59 months: 57.9%	1.0
ACF	Mareko	No	No	0.835	0.222	-0.106	0%	6-29 months: 48.2% 30-59 months: 51.8%	0.9
ACF	Dale/AW Coffee LZ	No	No	0.811	0.374	0.268	0%	6-29 months: 41.9% 30-59 months: 58.1%	0.9
SC-UK/IMC	Doba	No	No	0.782	-0.033	0.342	0%	6-29 months: 46.4% 30-59 months: 53.6%	0.9
SC-UK/IMC	Haromaya	No	No	0.866	0.113	0.337	0%	6-29 months: 49.3% 30-59 months: 50.7%	0.9
ADRA	Kelafo	Digit .0: +++ Digit .5: ++	Digit .0: +++	1.415 out of range	0.010	2.447 positive kurtosis	5%	6-29 months: 45.5% 30-59 months: 54.5%	1.0

## NUTRITION SURVEY DATABASE

Table 11 presents the number of standardized nutrition surveys conducted in Ethiopia since 2000. It does not include surveys conducted in resettlement areas, IDP and refugee camps.

**Table 11: Number of surveys per region and year**

Region	Year							Total
	2000	2001	2002	2003	2004	2005	2006	
SNNPR	9	5	35	30	14	25	19	137
Oromia	3	2	20	27	22	20	14	108
Amhara	5	9	24	17	9	7	6	77
Somali	8	5	5	5	8	11	12	54
Tigray	0	0	6	7	3	3	0	19
Afar	0	0	4	5	1	6	4	20
Gambella	0	0	0	0	0	0	0	0
Benshangul Gumez	0	0	0	0	0	0	0	0
Total	25	21	94	91	57	72	55	415