

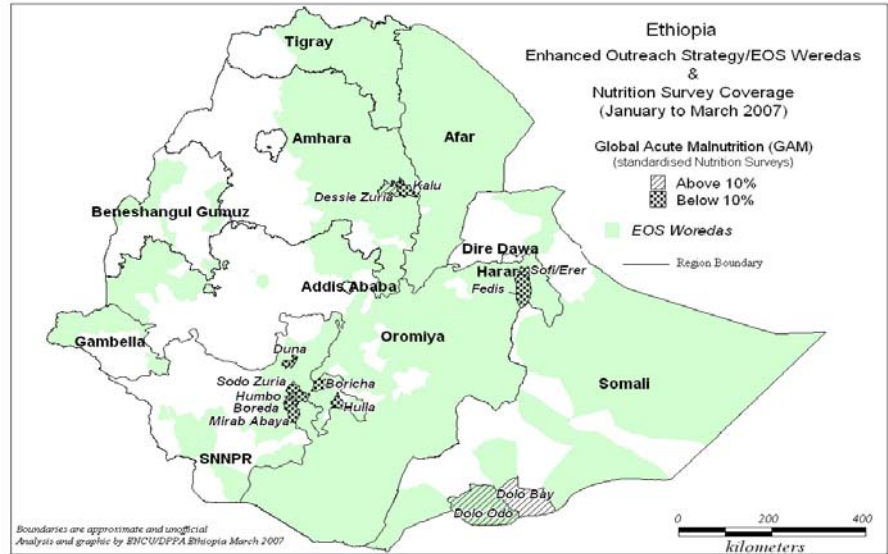
EMERGENCY NUTRITION QUARTERLY BULLETIN

(First Quarter 2007)

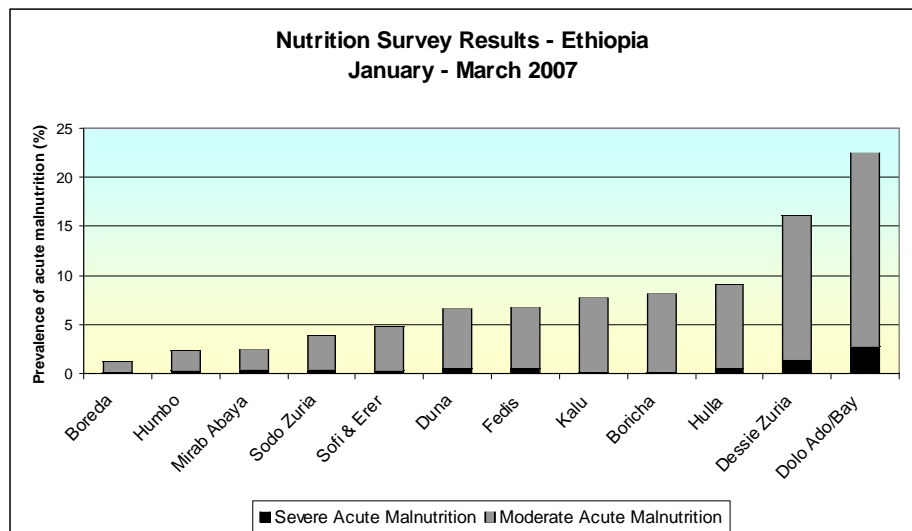
Emergency Nutrition Coordination Unit

Early Warning Department

(Disaster Prevention and Preparedness Agency)



A total of 12 nutrition surveys conducted between late December 2006 and early March 2007 are presented in this bulletin. Eleven surveys were carried out in cropping areas of Amhara, Harare, Oromia and SNNPR during the *meher* post-harvest season while the remaining one was conducted in the pastoral area of Somali region. The prevalence of global acute malnutrition was found to be below 10 % in all cropping woredas but one, i.e. Dessie Zuria with 16% GAM, and above 20% in the surveyed pastoral area. The overall good nutrition status in the cropping areas confirmed the food security findings whereby the 2006 *meher* harvest was reported to be generally good. In contrast, the nutrition status in the pastoral population seemed to be little influenced by the food security situation and remained very poor (when defined by the weight-for-height indicator) in spite of the good performance of the 2006 *deyr* rains.



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AMHARA REGION

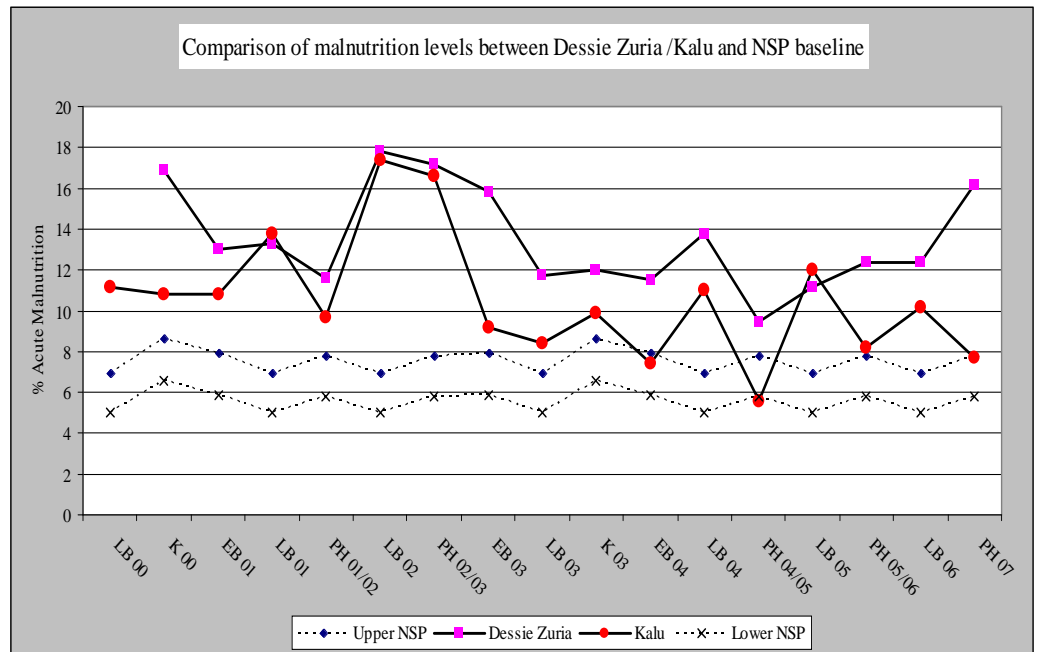
SOUTH WOLLO ZONE

• Kalu and Dessie Zuria Woredas

Two nutrition surveys were conducted in Kalu and Dessie Zuria in January as part of the regular monitoring of Concern project areas. The SMART method was used for the planning phase, resulting in sampling 38 clusters of 23 children in Kalu and 31 clusters of 23 children in Dessie Zuria.

Nutrition: The prevalence of global acute malnutrition was estimated at 7.7% with 0.1% SAM in Kalu and at 16.2% with 1.4% SAM in Dessie Zuria. A total of 16 surveys have been conducted over the past 6 years in each woreda. The prevalence of global acute malnutrition ranged over seasons and years

from 6% to 17% in Kalu, and from 10% to 18% in Dessie Zuria, with 2002/03 being the worst year in terms of nutrition status in both woredas. Over the past 6 years the level of malnutrition in Dessie Zuria was above the NSP baseline ranges in all seasons surveyed and remained above 10% in spite of a substantial percentage of the population receiving food aid and/or PSNP. In Kalu malnutrition levels were also higher than the NSP range over the past 6 years, except for the post harvest season 04-05, again in spite of ongoing food aid and PSNP. The prevalence of GAM for January 2007 was above the NSP baseline of 5.8-7.8% for post-harvest (Dec-Feb) in DZ while it was comparable to the NSP baseline in Kalu.



Kalu and Dessie Zuria Woredas

The nutrition situation was typical in Kalu with 7.7% GAM while it was rated as serious in Dessie Zuria with 16.2% GAM. The poor nutrition and food security in Dessie Zuria was a matter of concern, as the next significant harvest was not due before June/July in the areas benefiting from *belg* and not before November/December in the predominantly *meher*-dependant area.

Health: The crude mortality rate was 0.06 and 0.36 deaths/10,000/day in Kalu and Dessie Zuria respectively while the under-five mortality rate was estimated at 0.34 deaths/10,000/day in each woreda. Retrospective morbidity was low with 10% in Kalu and 14% in DZ. Measles (by card and recall) and vitamin A coverage was estimated at 93% and 97% in Kalu, and at 90% and 94% in DZ. These results were very similar to those of the previous survey conducted in July/Aug 2006 where measles and vitamin A coverage was estimated at 92% and 97% in Kalu, and at 85% and 91% in DZ. BCG

coverage was at 73% in Kalu and 61% in DZ falling under similar ranges as in the previous surveys with 73% in Kalu and 58% in DZ.

Food Security: Kalu woreda, because of its high proportion of lowlands and low-midlands, is predominantly dependant on *kremt* rains (Aug.-Sept.) to support *meher* crops harvested from November to December. In higher areas of the woreda *belg* crops (oat, barley and wheat) are also cultivated and harvested in June/July. In contrast, Dessie



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Sofi and Erer Woreda

The nutrition situation with 4.9% GAM was found to be typical for the post harvest period. Prospect for food security in the coming months was expected to be normal and usual coping mechanisms to fill the food gap during the traditional hunger period.

Zuria woreda, because of its high proportion of high- and mid-lands, is both dependant on *belg* (Jan.-Feb.) and *kremt* rains to support *belg* and *meher* crops harvested in June/July and November/January respectively. There is also a significant proportion of the population who is solely *belg* dependant and hence at great risk of food insecurity. In Kalu, the 2006 *meher* harvest was reported to be good due to evenly distributed *kremt* rains, improved crop management and pest control. Water and pasture availability and livestock condition were also reported as good in the whole woreda. In Dessie Zuria, the 2006 *meher* harvest was rated as poor, mostly due to untimely and unevenly distributed *kremt* rains while livestock condition was reported as good due to adequate water and pasture availability and absence of disease.

Conclusion: The nutrition situation was typical for this time of the year in Kalu with 7.7% GAM while it was rated as serious in Dessie Zuria with 16.2% GAM. The surveys had been conducted after the main harvesting season when the malnutrition rates are expected to be at the lowest due to improved access to food. The poor nutrition and food security in Dessie Zuria was a matter of concern, as the next significant harvest was not due before June/July in the areas benefiting from *belg* and not before November/December in the predominantly *meher*-dependant area. It was recommended to ensure that the EOS/TSFP distribution was timely, i.e. a maximum of 3 weeks after the screening as par the TSFP guideline, and to consider monthly distribution instead of every 3 months in order to prevent further deterioration of the children nutrition status.

HARARE REGION

• Sofi and Erer Woredas

A standard 30 x 30 cluster survey was conducted by DPPA/B in Sofi and Erer in February.

Nutrition: The prevalence of global acute malnutrition was estimated at 4.9% with 0.3% severe malnutrition. No cases of oedema were observed. No baseline data were available for these woredas.

Health: The crude and under five mortality rates were estimated at 0.05 and 0.10 deaths/10,000/day respectively while retrospective morbidity was low at 9%. Measles vaccination (by card and recall) and vitamin A supplementation were estimated at 92% and 76% respectively with a BCG coverage of 74%.

Food Security: The main livelihood of Sofi and Erer is rain-fed agriculture complemented by subsidiary livestock rearing. The woredas are described as solely *meher* harvest dependant. *Belg* rains stretch from mid-march to mid-June followed by *kremt* rains until mid-September. The main food crop is sorghum while the main cash crop is chat in the midland areas and groundnuts in the lowland areas. The hunger

gap lasts about 4 months from June to September and coping strategies at this time of the year includes sale of firewood, charcoal and labor. The 2006 *meher* production was reported to be good due to favorable weather condition with regard to the onset, amount, distribution and cessation of the rains. The livestock condition was also rated as good due to availability of water and pasture and absence of major diseases.

Conclusion: The nutrition situation with 4.9% GAM was found to be typical for the post harvest period, when acute malnutrition is expected to be at its lowest. Prospect for food security in the coming months was expected to be normal and usual coping mechanisms to fill the food gap during the traditional hunger period.



ENCU

Dolo Bay and Dolo Ado Woredas

The nutrition situation remained serious with 22.5% GAM and did not show statistically significant improvement as compared to January 2006. The present survey was conducted after good *dyer* rains while the previous one was conducted after the complete failure of the *dyer* rains.

SOMALI REGION

AFDER AND LIBEN ZONE

• Dolo Bay and Dolo Ado Woredas

A 25 x 40 cluster survey was conducted by Save the Children-US in Dolo Ado and Dolo Bay at the end of February as an end line survey before handing over their nutrition program to the MoH.

Nutrition: The prevalence of global acute malnutrition was estimated at 22.5% (CI: 19.1%-25.8%) with 2.7% severe malnutrition. There was no significant difference in the level of malnutrition as compared to the survey conducted in January 06 in the pastoral areas of Dolo Ado, Dolo Bay and Bare woredas, with 18.8% GAM (CI: 15.9%-21.6%). The level of acute malnutrition defined by MUAC below 12.5 cm and/or nutritional oedema was estimated at 6.5% far below the GAM estimate and was found to be similar to the January 06 results with 4.9%.

Health: The crude mortality rate was estimated at 0.03 below the emergency threshold of 1 death/10,000/day while the under five mortality rate was at 0.29 below the emergency threshold of 2 deaths/10,000/day. Retrospective morbidity was around 21% with cough and malaria being cited as the most common causes of morbidity. BCG vaccination coverage was low with 24% of children under five having a BCG scar while measles coverage (confirmed by card and recall) and vitamin A supplementation coverage were also low at 45% and 35% respectively.

Food Security: The 2 woredas are predominantly pastoral and highly reliant on livestock and livestock products while subsistence farming is found along the Dawa and Genale rivers. The gu and *dyer* rains are the two main rainy seasons: the former usually occurs from April to June while the latter starts from October and ceases in December. Both rains are critical in improving water and pasture availability. The performance of the 2006 *deyer* rains was described as very good, and even excessive in some places, as compared to last year's. The livestock was generally in a good condi-

tion, though diseases were reported amongst goats and camels. It was noted that compared to the same season last year the deaths of animals had significantly decreased whereas the price of livestock had increased and the cereal prices had decreased resulting in favorable terms of trade. It was further reported that the excessive rain had affected the already ripen harvest in the riverine areas and resulted in reduced yields.

Conclusion: The nutrition situation in the agro-pastoral communities of Dolo Ado and Dolo Bay remained serious with 22.5% GAM and did not show statistically significant improvement as compared to January 2006. The present survey was conducted during the long dry season, *jilaal*, after good 2006 *deyer* rains while the previous one was conducted during the same season but after the complete failure of the 2005 *deyer* rains. However, the improved food security situation did not translate into improved nutritional status. Future food security prospect will now depend on the performance of the coming gu rains due in April.



Fedis Woreda

The prevalence of global acute malnutrition was estimated at 6.8%. There was no statistically significant difference in the level of malnutrition as compared to the previous survey conducted during the same season last year with 6.9% GAM.

OROMIA REGION

EAST HARARGHE ZONE

Fedis Woreda

A 26 x 30-cluster survey was conducted by GOAL in February as an end line survey while handing over its nutrition program to the MoH. At the time of the writing up of this bulletin the survey report was not available and hence the presentation is limited to the summary findings. The prevalence of global acute malnutrition was estimated at 6.8% (CI: 4.9-8.6%) with 0.5% SAM. There was no statistically significant difference in the level of malnutrition as compared to the

previous survey conducted during the same post-harvest season last year with 6.9% GAM (CI: 5.3-9.0%). The crude and under five mortality rates were estimated at 0.21 and 0.87 respectively, below the emergency thresholds of 1.0 and 2.0 deaths/10,000/day. Measles vaccination coverage (by card and recall) was estimated at 49% while vitamin A supplementation coverage was at 89%.

Table 1: Survey Results for Amhara, Harare, Somali and Oromia

Key indicators	Amhara		Harare	Somali	Oromia
	South Wollo Zone		-	Afder/Liben Zones	East Hararghe
	Dessie Zuria January 10-18	Kalu January 22-29	Sofi & Erer Feb 18-March 4	Dolo Bay & Dolo Ado Feb 25- March 1	Fedis February 19-24
GAM in Z-scores (95% CI)	16.2% (13.5%-18.9%)	7.7% (5.4%-10.1%)	4.9% (2.8%-6.9%)	22.5% (19.1%-25.8%)	6.8% (4.9%-8.6%)
SAM in Z-scores (95% CI)	1.4% (0.6%-2.2%)	0.1% (0.1%-0.3%)	0.3% (0%-0.7%)	2.7% (1.4%-4.1%)	0.5% (0%-1.0%)
Kwashiorkor	0.1%	0%	0%	0%	0%
CMR Death/10,000/day (95% CI)	0.36 (0.06-0.65)	0.06 (0-0.17)	0.05 (0-0.11)	0.03 (0.01-0.15)	0.21 (0.02-0.45)
U5MR Death/10,000/day (95% CI)	0.34 (0.40-1.08)	0.34 (0-0.77)	0.10 (0-0.31)	0.29 (0.01-0.58)	0.87 (0.03-1.77)
Major causes of U5MR	ARI	Urinary tract obstruction	Not reported	Not reported	Not reported
Morbidity	14.2%	10.1%	9.2%	20.9%	15.6%
Major illnesses or symptoms	Diarrhea & ARI	Diarrhea & Malaria	Diarrhea & Cough	Cough & Malaria	Diarrhea
Measles coverage by card (95% CI)	30.2% (23.8%-36.5%)	47.7% (42.2%-53.2%)	14.0% (not reported)	6.4% (1.1%-11.8%)	5.7% (not reported)
Measles coverage by card + recall (95% CI)	90.2% (86.2%-94.2%)	92.7% (90.4%-94.9%)	92.2% (not reported)	44.6% (34.4%-54.9%)	48.6% (not reported)
BCG coverage (scar) (95% CI)	61.0% (55.9%-66.1%)	72.7% (67.7%-77.7%)	73.9% (not reported)	23.7% (15.7%-31.7%)	36.0% (not reported)
Vitamin A in past 6 months (95% CI)	93.6% (88.7%-98.5%)	96.9% (94.8%-99.1%)	76.3% (not reported)	35.0% (27.9%-42.6%)	89.1% (not reported)

Table 2: Food and Nutrition Interventions in Surveyed Woredas of Amhara, Harare, Somali and Oromia

	Amhara		Harare	Somali		Oromia
	South Wollo Zone			Afder Zone	Liben Zone	East Haraghe
	Dessie Zuria	Kalu	Sofi & Erer	Dolo Bay	Dolo Ado	Fedis
Estimated population size	274,878	221,639	47,804	82,908	124,443	206,947
Estimated Under Five population	54,976	44,328	9,561	16,582	24,889	41,389
Productive Safety Net – No of beneficiaries % of rural population	73,275 26.7%	51,993 23.5%	Data not available at woreda level	No	No	69,524 33.6%
Food Aid Jan-June 07	No	No	No	No	No	No
EOS Screening	December 2006	December 2006	October 2006		October 2006	October 2006
No of children acutely malnourished*	1,317	474	565	No	5,225	2,649
As a percentage of screened children	5.0%	1.6%	6.3%		27%	9.9%
Therapeutic Feeding Unit	Dessie HS	No	No	No	Dolo Ado HC	Fedis HC
Outreach Therapeutic Programme	Concern	Concern	No	SC-US	SC-US	GOAL

* MUAC below 12.0 cm and/or oedema



ENCENE

Hulla Woreda

The prevalence of global acute malnutrition was estimated at 9.2% and was significantly lower as compared to a previous survey conducted in April 2006 in 12 midland kebeles of Hulla with 18.1% GAM. The previous survey was conducted during the hunger gap and in the most food insecure kebele while the current one was conducted during the main harvesting season on a wider geographic area.

SNNP REGION

SIDAMA ZONE

• Hulla Woreda

A 26 x 30 cluster survey was conducted by Save the Children-US in 32 kebeles of Hulla towards the end of December 2006, as an end line survey while SC-US nutrition program was being gradually handed over to the MoH.

Nutrition: The prevalence of global acute malnutrition was estimated at 9.2% with 0.6% severe malnutrition. No baseline nutrition data were available for comparison purposes. It was, however, found to be significantly lower as compared to a previous survey conducted in April 2006 in 12 midland kebeles of Hulla with 18.1% GAM.

Health: The crude and under five mortality rates of 0.21 and 0.45 deaths/10,000/days respectively were below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. Retrospective morbidity was low with 13% of the children having experienced a disease episode in the 2 weeks prior to the survey. Measles vaccination (by card and recall) and vitamin A supplementation coverage was relatively high at 88% and 84% respectively.

Food Security: Hulla woreda is divided into 2 agro-ecological zones: the highlands (64%) and the midlands (36%). The Midlands of Hulla are part of the Sidama Coffee Livelihood Zone and are reported as a relatively productive area with two rainy seasons, *belg* and *kremt*. However, most households do not produce enough food for the whole year even in "good" years. The Highlands of Hulla are part of the Sidama-Gedeo Enset and Barley Livelihood Zone and are described as food secure because of its perennial stock of enset, significant livestock holding and reliable rains. According to woreda agriculture officials the 2006 *meher* harvest was expected to be below average with an estimated decrease in yield by one third, due to continuous rains from September to December and pest infestation. Water and pasture availability as well as livestock condition were reported to be

good to average at the time of the survey. There was no report of unusual migration, consumption of wild food or sale of personal assets.

Conclusion & Recommendations:

Though the geographic coverage was wider in the current survey, comparison with the previous survey results showed a significant difference in the nutrition situation: the prevalence of global acute malnutrition decreased from 18.1% in April 2006 to 9.2% in December 2006. The previous survey was conducted during the hunger gap while the current one was conducted during the main harvesting season. It was recommended for SC-US to maintain adequate support to the Woreda Health Bureau for smooth continuation of the CTC program and to monitor the situation closely, as the nutrition status was expected to deteriorate around April during the hunger season.

• Boricha Woreda

A 22 x 30 cluster survey was conducted by WVE in Boricha at the end of February.

Nutrition: The prevalence of global acute malnutrition was estimated at 8.2% (95% CI: 6.2%-10.2%) with 0.2% severe malnutrition. When compared to previous surveys conducted in May 2006 with 6.8% GAM (95% CI: 5.2%-8.8%) and in March 2005 with 12.3% GAM (95% CI: 9.6%-15.7%) there was not statistically significant differences in the prevalence of acute malnutrition.

Health: The Crude and Under Five mortality rates were estimated at 0.10 and 0.16 deaths/10,000/day respectively, below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. Morbidity in children was estimated at 11.2% with malaria and diarrhea being cited as the main causes of morbidity. BCG, measles (card and recall) and vitamin A supplementation coverage rates were estimated at 50%, 84% and 80% respectively.

Boricha Woreda

The survey was conducted during the post-harvest season and showed that the prevalence of acute malnutrition (8.2%) was relatively low and that the food security situation was normal for this time of the year.

ENCU

Duna Woreda

The level of acute malnutrition defined by MUAC below 12.0 cm and/or oedema was estimated at 2.8% and was far much lower than the December EOS screening results of 19.2%.

The nutrition situation with 6.6% GAM was considered as typical for this time of the year.

Food Security: Most of the population in Boricha (64%) lives in the Sidama Maize Belt Livelihood Zone while the rest belongs to the Sidama Coffee Livelihood Zone (25%) and the Bilate Basin Agro-Pastoral Livelihood Zone (11%). The Maize Belt zone is described as food insecure and *belg*-dependent for the production of maize; shorter-cycle crops such as beans, sweet potatoes and teff are planted twice a year during each rainy season. The main cash crops include coffee, chat and chilli peppers while livestock is an important source of income. The Coffee livelihood zone is a relatively productive area with two rainy seasons, *belg* and *kremt*. Enset is the main food crop while coffee is the main cash crop, and these are by livestock rearing. However, most households do not produce enough food for the whole year even in a "good" year and hence rely highly on markets. The Bilate Basin zone is a low rainfall area with two rainy seasons, *belg* and *kremt* and is relatively food secure due to substantial livestock holding per household. In the 3 livelihood zones of Boricha the months of April to June represents the hunger season, which ends with the consumption of green maize in July. It was reported that the 2006 *meher* was good and better than the previous year due to adequate rain performance. Livestock condition was also good as well as water and pasture availability.

Conclusion: The survey was conducted during the post-harvest season and showed that the prevalence of acute malnutrition (8.2%) was relatively low and that the food security situation was normal for this time of the year.

HADIYA ZONE

• Duna Woreda

A 25 x 31 cluster survey was conducted in Duna by a multi-agency team led by SNNPR RENCU in February. The survey objective was to verify the nutrition situation following the 6th round of EOS screening conducted in December, where high level of children were identified as acutely malnourished, i.e. 19% of the children screened identified as having a MUAC below 12.0 cm and/or nutritional oedema.

Nutrition: The prevalence of global acute malnutrition defined by WHZ and/or oedema was estimated at 6.6% with 0.6% severe malnutrition. The level of acute malnutrition defined by MUAC below 12.0 cm and/or oedema was estimated at 2.8% and was far much lower than the EOS screening results of 19.2%. A post-EOS screening verification assessment conducted in January by SNNPR RENCU and GOAL showed similar discrepancies. A total of 103 children registered in the EOS/TSFP were re-measured in 2 kebeles of Duna. It was found that only 44% of these children actually had a MUAC below 12.0 cm, the differences ranged between 0.1 to 4.7 cm.

Health: The crude and under five mortality rates were estimated at 0.44 and 1.00 deaths/10,000/day respectively with 17.6% retrospective morbidity. Measles vaccination (by card and recall) and vitamin A supplementation were estimated at 64% and 60% respectively and found to be much lower than the statistics of the Woreda Health Bureau reporting a coverage of 96% for measles and 105.4% for vitamin A.

Food Security: Duna woreda stretches over 2 main agro-ecological zones, the highlands (59%) and midlands (30%). The main livelihood is subsistence farming with enset, wheat, potatoes, barley, beans and peas as the major crops. The woreda is mostly *meher* dependant and hence the main harvesting period is November-December. The overall crop production for 2006 was rated satisfactory due to good performance of the rains though localized crop failure was reported in wet highlands. Water and pasture availability, and livestock condition were also reported to be good while the terms of trade were favorable. It was noted that the government resettlement program was implemented in Duna and households had been transferred to fertile parts of Dawro zone.

Conclusion and Recommendations:

The survey results did not confirm a serious nutrition situation as depicted by the EOS screening results. The nutrition situation with 6.6% GAM was considered as typical for chronically food insecure areas such as Duna. In addition, all the food security indicators showed that the

Humbo Woreda

The prevalence of acute malnutrition (2.4%) was low and typical for this time of the year, i.e. post-harvest season, when household food security is improved.

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food security situation was satisfactory at the time of the survey. It was recommended to strengthen the screening component of the EOS by providing adequate training prior to the campaign and supervision during its implementation, thereby improving the data quality and minimizing inclusion errors.

WOLAYITA ZONE

• Humbo Woreda

A 22 x 30 cluster survey was conducted by WVE in Humbo at the end of February as part of the monitoring of its operational area.

Nutrition: The prevalence of global acute malnutrition was estimated at 2.4% (CI: 1.1%-3.7%) with 0.3% severe malnutrition. There is no baseline for this particular woreda, as previous surveys conducted over the past 6 years were rather patchy and covering different seasons. The level of acute malnutrition since 2000 ranged from 2.1% to 12.5%. When compared to the NSP (Nutrition Surveillance Program) baseline range of 4.2-6.8% wasting, the observed level of malnutrition was typical for the post harvest season in Wolayita.

Health: The mortality rates for the population and for the under-five children were estimated at 0.24 and 0.71 deaths/10,000/day respectively, below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. Retrospective morbidity was high at 39% with malaria/fever and ARI/cough being cited as the 2 top main causes of morbidity in the 2 weeks prior to the survey. BCG, measles vaccination (by card and recall) and vitamin A supplementation coverage were estimated at 57%, 85% and 92% respectively.

Food Security: Most of the population of Humbo (90%) lives in the Wolayita Maize and Root Crop LZ while the remaining 10% belongs to the Chamo-Abaya Irrigated Banana LZ. The former is described as an area with the most varied cropping of all Ethiopia with two growing cycles per year while the latter is described as the most prosperous zone of the Region with irrigated banana production, cotton production and abundant pasture. Seasonal food shortage

occurs from February, when the main season crops run out, to June, when the first green crop is harvested. The food security at the time of the survey was rated as satisfactory as a result of the 2006 *meher* harvest due to adequate *kremt* rains distribution. Around 94% of the households interviewed reported own production as the main source of food with maize and sweet potatoes being the main food consumed in the past month while 76% of the households reported livestock condition to be good to average.

Conclusion: The prevalence of acute malnutrition (2.4%) was low and typical for this time of the year, i.e. post-harvest season, when household food security is improved. Future food security will depend on the harvest of sweet potatoes and of enset to a lesser extent, to fill the hunger gap of February to May.

• Sodo Zuria Woreda

A 22 x 32 cluster survey was conducted by WVE in Sodo Zuria at the end of February as part of the monitoring of its operational area.

Nutrition: The prevalence of global acute malnutrition was estimated at 3.9% with 0.4% severe malnutrition. A number of surveys were conducted in this woreda over the past 6 years, however not on a regular basis and at difference seasons. The level of acute malnutrition recorded since 2000 ranged from 2.7% to 20.0%. When compared to the NSP (Nutrition Surveillance Program) baseline range of 4.2-6.8% wasting, the observed level of malnutrition was typical for the post harvest season in Wolayita.

Health: The mortality rates for the population and for the under-five children were estimated at 0.09 and 0.28 deaths/10,000/day respectively while retrospective morbidity was around 20%. BCG vaccination, measles vaccination (by card and recall) and vitamin A supplementation coverage were relatively high at 85%, 82% and 89% respectively.

Food Security: About two thirds of the population of Sodo Zuria lives in the Wolayita Maize and Root Crop LZ while

Sodo Zuria Woreda

The prevalence of acute malnutrition was low at 3.9% and typical for this time of the year, i.e. post-harvest season with a normal *meher* harvest.



ENCU

Mirab Abaya Woreda

The level of acute malnutrition was low at 2.5% in absence of aggravating factors. The survey was conducted during the post harvest season while the household food stocks had been replenished by the *meher* crop production.

the remaining third belongs to the Wolyata Barley and Wheat LZ. The former is described as an area with the most varied cropping of all Ethiopia with two growing cycles per year while in the latter the poorer half of the population is food insecure most years. In the Maize/Root Crop LZ seasonal food shortage occurs from February to June whilst in the Barley/Wheat LZ there are 2 hunger seasons: the first in March-April and the second in August-September. The food security at the time of the survey was rated as good due the recent *meher* harvest, which was similar to a normal year as a result of adequate rain performance, and increased utilization of agricultural inputs and improved seeds.

Conclusion: The prevalence of acute malnutrition (3.9%) was low and typical for this time of the year, i.e. post-harvest season with a normal *meher* harvest. Future food security will depend on the performance of the *belg* rains and the harvest of the root crops, to fill the hunger gaps.

GAMO GOFA ZONE

• Mirab Abaya Woreda

A 17 x 30 cluster survey was conducted by WVE in Mirab Abaya at the end of February as part of the regular monitoring of its operational area.

Nutrition: The prevalence of global acute malnutrition was estimated at 2.5% (CI: 1.2-3.8%) with 0.4% severe malnutrition. No cases of oedema were recorded. The last survey conducted in this woreda dated back to February 2003 with GAM of 8.8% (CI: 6.4-11.9%).

Health: The mortality rates for the population and for the under-five children were estimated at 0.12 and 0.19 deaths/10,000/day respectively lying below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. BCG, measles vaccination (by card and recall) and vitamin A supplementation coverage were found to be high at 82%, 93% and 97% respectively.

Food Security: Mirab Abaya woreda stretches over two livelihood zones, the

Gamo Gofa Maize and Root Crop LZ (60%) and the Chamo-Abaya Irrigated Banana LZ (30%). The former consisting of upper lowlands and midlands is described as highly food insecure due to erratic weather, high population density, trypanosomias and relative isolation while the latter consisting of lowlands is described as the most prosperous zone of the Region with irrigated banana production, cotton production and abundant pasture. The food security indicators and coping strategies used at the time of the survey indicated that the woreda food security situation was equivalent to a "normal" year.

Conclusion: The level of acute malnutrition was low at 2.5% in absence of aggravating factors with adequate household food security, low mortality and morbidity rates, high measles and vitamin A coverage. The survey was conducted during the post harvest season while the household food stocks had been replenished by the *meher* crop production. The ongoing safety net program and EOS/TSFP was expected to address anticipated food shortage during the hunger gap, which normally occurs around April to May.

• Boreda Abaya Woreda

A 17 x 30 cluster survey was conducted by WVE in Boreda Abaya towards the end of February.

Nutrition: The prevalence of global acute malnutrition was estimated at 1.2% with 0.2% severe malnutrition. No baseline nutrition data were available for comparison purposes.

Health: The crude and under five mortality rates of 0.16 and 0.17 deaths/10,000/days respectively were below the average for developing countries of 0.27 and 1.0 deaths/10,000/day. Retrospective morbidity was estimated at 20% with diarrhea and malaria being the top 2 diseases. Measles vaccination (by card and recall) and vitamin A supplementation coverage was relatively high at 87% each.

Food Security: Boreda Abaya woreda stretches over 2 livelihood zones, the Gamo Gofa Maize and Root Crop LZ

Boreda Abaya Woreda

The level of acute malnutrition was low with 1.2% GAM and indicative of a satisfactory food security situation at the household level.

(70%) and the Gamo Gofa Enset and Barley LZ (30%). The former consists of upper lowlands and midlands and is described as highly food insecure due to erratic weather, high population density, trypanosomias and relative isolation. The latter consists of wet midlands and highlands and most of the population is food secure except the poorer households due to insufficient land holding. *Belg* and *kremt* rains are two important rainy seasons for growing crops and pasture regeneration. The food security indicators and coping strategies used at the time of the survey indicated that the

woreda food security situation was equivalent to a "normal" year.

Conclusion: The level of acute malnutrition was very low with 1.2% GAM and indicative of a satisfactory food security situation at the household level. The survey was conducted after the main harvesting season, which was rated as good. It was anticipated that the ongoing Safety Net Program and EOS/TSFP would cover the existing needs during the coming hungry season due in April.

Table 3: Survey Results for SNNPR

Key indicators	Sidama Zone		Hadiya Zone	Gamo Gofa Zone		Wolayita Zone	
	Hulla December 25-29	Boricha Feb. 26- March 2	Duna February 18-23	Boreda Abaya Feb 27-March 3	Mirab Abaya Feb. 26-March 2	Humbo Feb. 16-March 2	Sodo Zuria Feb 22-March 3
GAM in Z-scores (95% CI)	9.1% (7.0%-11.2%)	8.2% (6.2%-10.2%)	6.6% (4.4%-8.8%)	1.2% (0.1%-2.2%)	2.5% (1.2%-3.8%)	2.4% (1.1%-3.7%)	3.9% (2.2%-5.6%)
SAM in Z-scores (95% CI)	0.5% (0%-1.0%)	0.2% (0%-0.4%)	0.6% (0%-1.3%)	0.2% (0%-0.6%)	0.4% (0%-0.9%)	0.3% (0%-0.7%)	0.4% (0%-1.0%)
Kwashiorkor	0.1%	0%	0.6%	0%	0%	0.1%	0.4%
CMR Death/10,000/day (95% CI)	0.21 (0.07-0.36)	0.10 (0-0.20)	0.44 (0.22-0.67)	0.16 (0-0.32)	0.12 (0-0.26)	0.24 (0.09-0.40)	0.09 (0-0.17)
U5MR Death/10,000/day (95% CI)	0.45 (0.01-0.89)	0.16 (0-0.44)	1.00 (0.26-1.74)	0.17 (0-0.53)	0.19 (0-0.61)	0.71 (0.03-1.39)	0.28 (0-0.68)
Major causes of U5MR Morbidity	Not reported 13.0%	Not reported 11.2%	Diarrhea/ARI 17.6%	Diarrhea 19.7%	Diarrhea 15.6%	Fever 39.3%	Not reported 20.6%
Major illnesses or symptoms	Diarrhea & Cough	Malari & Diarrhea	Diarrhea & Scabies	Diarrhea & Malaria	Fever & Diarrhea	Fever & ARI	Cough & Diarrhea
Measles coverage by card (95% CI)	3.7% (1.8%-5.5%)	11.7% (8.5%-14.9%)	3.2% (1.7%-5.6%)	15.4% (11.3%-20.7%)	32.6% (26.9%-38.8%)	16.2% (12.4%-20.8%)	45.3% (40.1%-50.5%)
Measles coverage by card + recall (95% CI)	87.7% (80.9%-94.6%)	83.6% (78.1%-89.1%)	64.0% not reported	87.2% (82.2%-91.0%)	93.2% (89.1%-95.9%)	84.5% (80.2%-88.5%)	82.2% (77.8%-85.9%)
BCG coverage (scar) (95% CI)	55.3% (47.1%-63.4%)	49.5% (41.0%-58.9%)	41.6% (36.6%-46.7%)	72.7% (66.8%-78.0%)	81.5% (76.1%-85.9%)	57.0% (51.5%-62.4%)	85.3% (81.1%-88.7%)
Vitamin A in past 6 months (95% CI)	83.8% (CI: NR)	79.6% (70.5%-88.6%)	59.7% (54.6%-64.6%)	86.8% (82.0%-90.6%)	97.3% (94.3%-98.8%)	92.1% (88.5%-94.6%)	89.2% (85.5%-92.1%)

Table 4: Food and Nutrition Interventions in Surveyed Woredas of SNNPR

	Sidama Zone		Hadiya Zone	Gamo Gofa Zone		Wolayita Zone	
	Hulla	Boricha	Duna	Boreda Abaya	Mirab Abaya	Humbo	Sodo Zuria
Estimated population size	123,375	248,553	117,045	73,138	70,972	135,205	237,031
Estimated Under Five population	24,675	49,711	23,409	14,628	14,194	27,041	47,406
Productive Safety Net – No of beneficiaries % of rural population	9,133 7.0%	39,760 16.0%	10,913 9.3%	16,569 23.0%	26,769 37.7%	41,729 30.9%	29,536 12.5%
Food Aid Jan-June 07	No	No	No	No	No	No	No
EOS Screening	Nov/Dec 2006	Nov/Dec 2006	Nov/Dec 2006	Nov/Dec 2006	Nov/Dec 2006	Nov/Dec 2006	Nov/Dec 2006
No of children acutely malnourished* As a percentage of screened children	2,517 13.0%	1,134 3.0%	4,218 18.4%	1,308 12.0%	279 2.7%	1,527 6.0%	2,639 8.8%
Therapeutic Feeding Unit	Hagerselam HC	Yirba HC Darara HC	No	No	No	No	No
Outreach Therapeutic Programme	MoH	MoH	No	No	No	IMC	IMC

* 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 6.

- **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 6 surveys out of 12. For the remaining 6 surveys cluster selection was done in 2 stages, i.e. 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 5. 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 5: 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 significant age bias in the 12 surveys conducted in this quarter: the younger age group (6-29 months) lied between 39% to 48% close to the expected 49% while the older age group (30-59 months) lied between 52% to 61% close to the expected 51%. There was a slight sex bias towards boys in 2 surveys, i.e. Hulla and Dolo Ado, with a sex ratio of 1.2.

- **Bias in measurements**

Children should be measured precisely to the nearest 100 g for weight and to the nearest 1 mm for length/height. Poor precision 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. There was no digit preference neither for weight nor for height in all surveys presented in this bulletin.

- **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: 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. High SD indicates that there are substantial random errors in the measurements. In 3 surveys out of 12 the SD of WHZ was just below the lower limit of 0.8.

- 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 indicates a relatively flat distribution. Four surveys, i.e. Hulla, Boricha, Fedis and Dolo Ado out of 12 exhibited a positive kurtosis and hence a peaked WHZ distribution.

● Conclusion

None of the surveys presented in this bulletin showed significant bias in sampling and/or measurements. However, 3 surveys showed a low SD and hence were likely to underestimate the prevalence of wasting. Until there is further guidance from the SMART group it remained difficult to explain such a finding whereas all the other indicators were in line with the quality standards.

Table 6: Results of Survey Quality Check

Agency	Area Surveyed	Sampling frame	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	Kalu	Kebele	No	No	0.785	0.236	0.028	0.1%	6-29 months: 45.3% 30-59 months: 54.7%	1.0
Concern	Dessie Zuria	Kebele	No	No	0.797	0.005	0.240	0%	6-29 months: 43.0% 30-59 months: 57.0%	1.1
DPPA/B	Sofi & Erer	Village	No	No	0.935	0.304	1.905	0.2%	6-29 months: 43.7% 30-59 months: 56.3%	1.1
GOAL	Fedis	Village	No	No	0.923	0.781	3.262 positive kurtosis	0.3%	6-29 months: 47.7% 30-59 months: 52.3%	1.1
SC-US	Dolo Bay & Dolo Ado	Kebele	No	No	0.940	0.616	2.358 positive kurtosis	1.0%	6-29 months: 44.8% 30-59 months: 55.2%	1.2 bias towards boys
SC-US	Hulla	Kebele	No	No	0.886	0.415	1.911 positive kurtosis	0.1%	6-29 months: 39.1% 30-59 months: 60.9%	1.2 bias towards boys
SNNPR RENCU	Duna	Village	No	No	0.764	0.143	0.268	0%	6-29 months: 46.9% 30-59 months: 53.1%	1.0
WWE	Mirab Abaya	Village	No	No	0.852	-0.097	0.415	0%	6-29 months: 44.0% 30-59 months: 56.0%	1.0
WWE	Boricha	Kebele	No	No	0.964	0.766	2.865 positive kurtosis	0.3%	6-29 months: 40.3% 30-59 months: 56.3%	1.0
WWE	Boreda Abaya	Kebele	No	No	0.805	0.190	0.349	0%	6-29 months: 43.5% 30-59 months: 56.5%	0.9
WWE	Sodo Zuria	Village	No	No	0.861	0.125	0.225	0%	6-29 months: 44.7% 30-59 months: 55.3%	1.1
WWE	Humbo	Village	No	No	0.875	0.115	0.108	0%	6-29 months: 41.8% 30-59 months: 58.2%	0.9

NUTRITION SURVEY DATABASE

Table 7 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 7: Number of surveys per region and year

Region	Year								Total
	2000	2001	2002	2003	2004	2005	2006	2007	
SNNPR	9	5	35	30	14	25	20	6	144
Oromia	3	2	20	27	22	20	14	1	109
Amhara	5	9	24	17	9	7	6	2	79
Somali	8	5	5	5	8	11	12	1	55
Tigray	0	0	6	7	3	3	0	0	19
Afar	0	0	4	5	1	6	4	0	20
Gambella	0	0	0	0	0	0	0	0	0
Benshangul Gumez	0	0	0	0	0	0	0	0	0
Harare	0	0	0	0	0	0	0	1	1
Total	25	21	94	91	57	72	56	11	427