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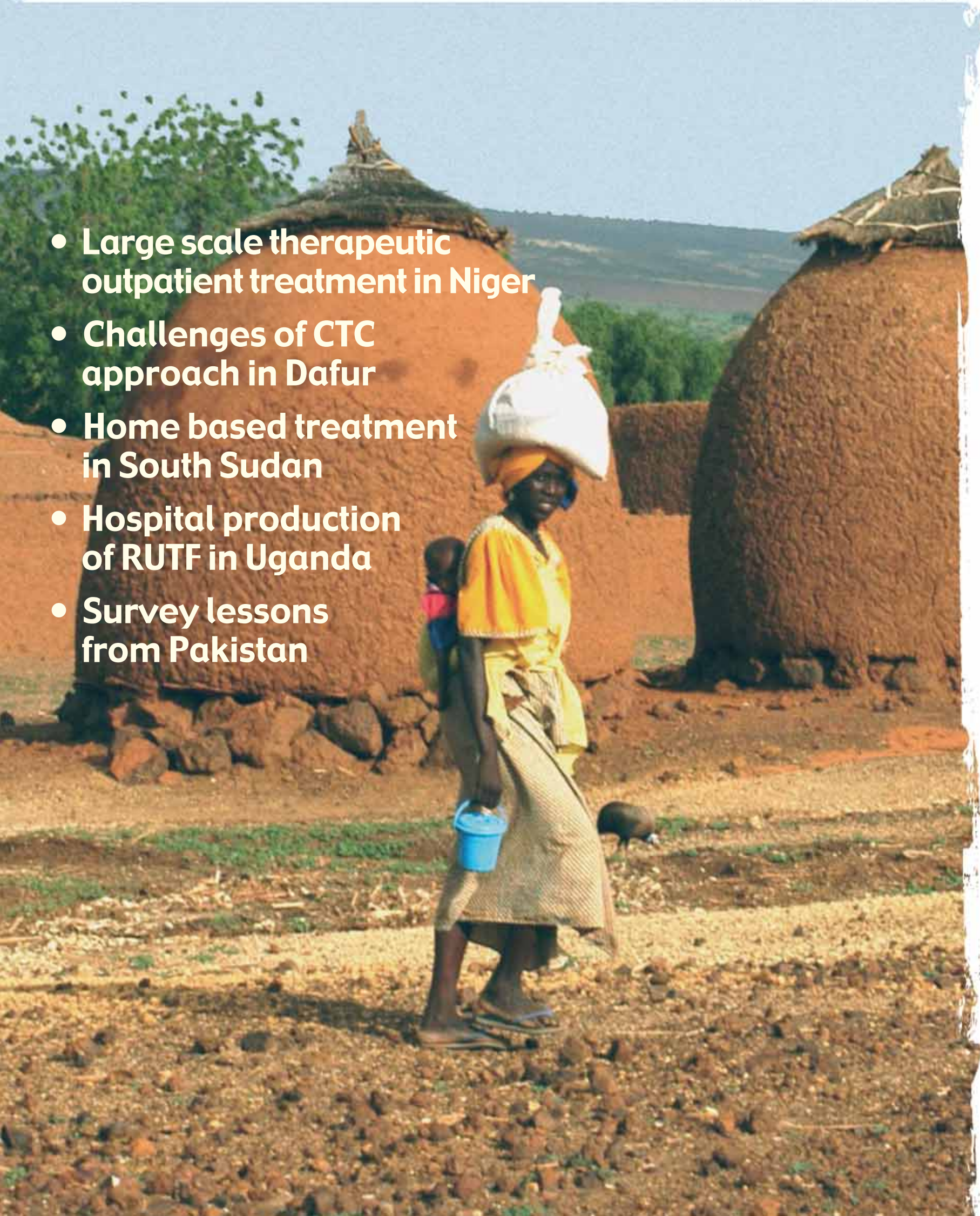
Field Exchange

Emergency Nutrition Network



- Large scale therapeutic outpatient treatment in Niger
- Challenges of CTC approach in Dafur
- Home based treatment in South Sudan
- Hospital production of RUTF in Uganda
- Survey lessons from Pakistan

Contents

From the Editor

This issue of Field Exchange features four field articles about community based therapeutic care of the severely malnourished, a type of programming that is increasingly being rolled out by humanitarian agencies.

The article by Josephine Querubin from ACF-USA is about a home based treatment (HT) programme in Upper Nile and Bahr el Ghazal in southern Sudan, introduced following drought and a large returnee influx. HT was adopted as previous experiences of using the centre based therapeutic feeding model had been poor with high defaulter rates and low coverage. Although the HT programme appears to have been very successful, it was reliant upon a large network of home visitors for screening and referrals so that maintaining a large cadre of field staff working under arduous circumstances and difficult terrain was a significant challenge.

The article by Milton Tectonidis and his colleagues from MSF describes their experience of scaling up an outpatient therapeutic feeding programme in Naradi and Zinder provinces in Niger following drought and dramatic millet price inflation. The programme served 63,000 severely malnourished children and was the largest intervention of it's kind in MSF history. Programme outcome indicators were very good with cure rates of 91% and mortality rates as low as 3.2%. The authors suggest the experience demonstrates that in countries with high endemic rates of child wasting, the vast majority of severely malnourished children can be treated with weekly surveillance and RUTF.

A third field article by Tina Krumbein, Veronika Scherbaum, and Hans Konrad Biesalski describes the production of RUTF made from local produce for use in a rural hospital in Kumi, Uganda. Hospital staff coped well with the production process and, most importantly, costs were easily absorbed within the hospital budget so that production was sustainable.

An article by Gwyneth Hogley Cotes from GOAL describes the impact of high levels of insecurity on CTC and SFP programming in Kutum and Jebel Mara in Darfur. Programmes were frequently disrupted due to logistical and communication constraints. Consequently, programme effectiveness was significantly reduced, i.e. reduced coverage, poor weight gains and reduced cure rates. Furthermore, insecurity increased the overall cost of the programme. GOAL adopted a number of strategies to combat these problems. The programme was decentralised so that access was improved and services could continue if agency staff couldn't get to programme sites. Locally based field nutrition staff were trained and employed to continue running services, on their own if necessary. GOAL also developed strong communication channels with communities, leaders and authorities. This was facilitated by employing large numbers of nutrition outreach workers.

A fifth field article shares programme experiences following the recent Pakistan earthquake. The piece by Leah Richardson, Moazzem Hossain, and Kevin Sullivan discusses the experience of conducting a nutrition survey in very difficult terrain and various methodological adaptations that were employed to get round practical constraints.

The research section in this issue of Field Exchange covers a number of interesting areas.

There are some disturbing findings from two micronutrient studies conducted on long-term refugee populations in east, southern and northern Africa. One study found that refugees were consuming excessive amounts of iodine and that there was an urgent need for revising salt iodisation levels. The second study determined that levels of anaemia and vitamin A deficiency were unacceptably high. In three out of five camps surveyed, over 60% of individuals were anaemic while levels of Vitamin A deficiency were between 21-60% in the five camps. Over the past few decades it has generally been micronutrient problems like scurvy, beri-beri or pellagra that have been highlighted. Vitamin A and iron deficiency have rarely been assessed. These findings point to the need for more routine monitoring of iodine, iron and vitamin A status amongst displaced populations – especially the long term displaced.

Another research piece describes the Malawi government experience of utilising 'commodity options contracts' to safeguard against price volatility. These contracts involve payment of a premium in exchange for the right, but not the obligation, to either buy or sell a commodity at a predetermined price for a particular period of time into the future. The contract signed by the Malawian government with Standard Bank of South Africa in September 2005 allowed for the purchase of a maximum of 60,000 tonnes of maize at a cost of approximately $18m – enough to meet the food gap if donor and private sector commercial imports did not reach anticipated levels. In response to continued evidence of shortages in the market and concern about rising local prices, the government exercised the first tranche of the options contract on 7th of October, buying 30,000 tonnes of maize. It exercised the second tranche on 15th of November, when it bought the remaining 30,000 tonnes. Malawi's early experience with options contracts was largely positive. The majority of the purchased maize was used to meet humanitarian needs and did not reach the commercial market. The maize helped to avoid severe shortfalls in the humanitarian pipeline. Additionally, by the time of delivery in December 2005/January 2006, prices had risen by between $50-$90 a tonne above the ceiling price of the contract while transport costs had also increased.

There is also a summary in the research section of a recent HPG paper written about the current emergency affecting the Greater Horn of Africa, where an estimated 11 million are at risk due largely to drought and conflict. The authors argue that although early warning systems worked well, late, inappropriate or insufficient responses occurred due to inadequate preparedness, capacity imbalances between food aid and livelihoods programming and funding constraints. There was far too great a bias towards food aid programming, and longer-term livelihoods programming was only small-scale. These findings mirror those of an earlier study also reported in Field Exchange (Levine S and Chastre C, 2004)[1] on interventions conducted in the Gt Lakes region between 1996-2001.

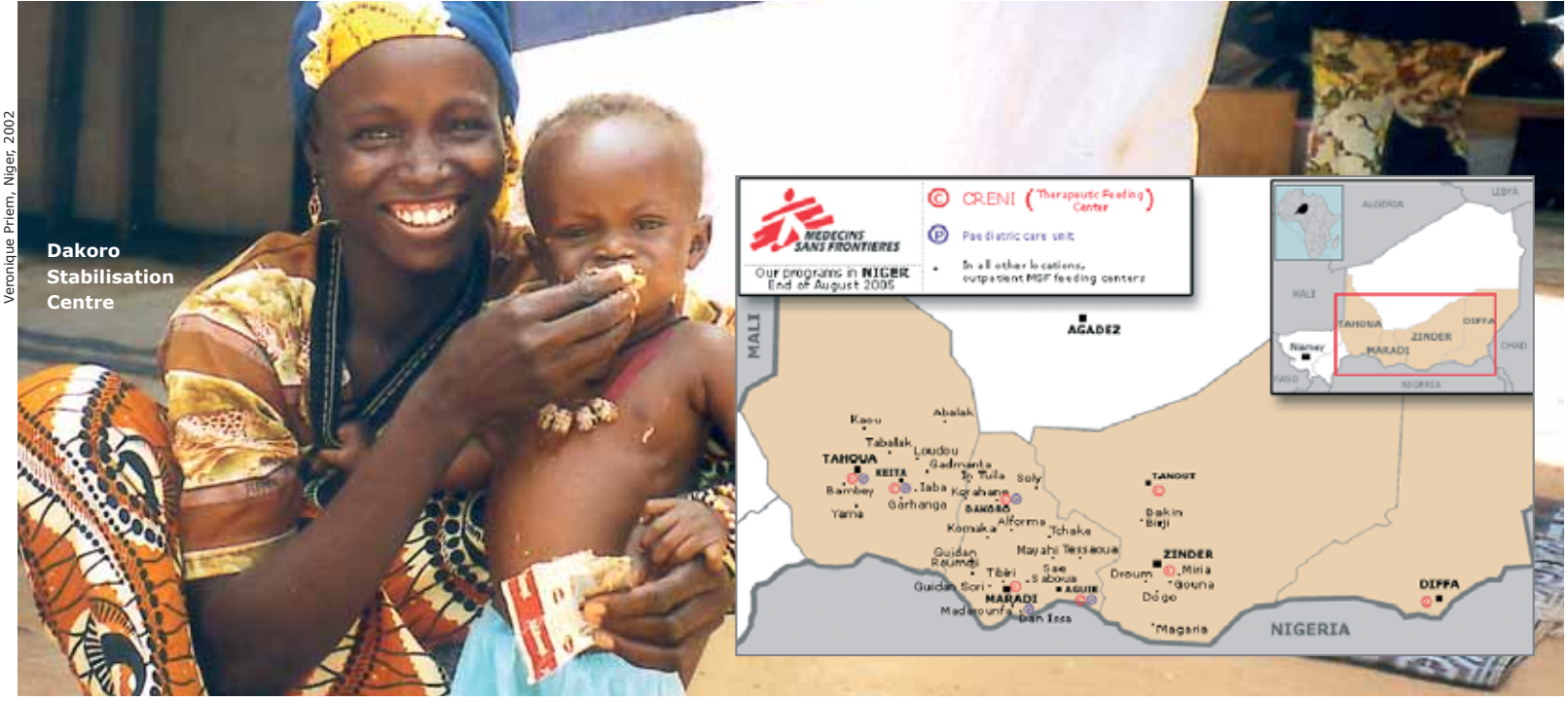
This issue also carries a letter from Andy Seal and Marko Kerak concerning the new WHO growth standards. After careful comparison with the existing NCHS/WHO standards and application to a number of refugee data sets from Africa and Asia, the authors assert that in spite of the theoretical advantages of the new standards, there are potentially serious implications for emergency needs assessment and feeding programmes that have not as yet been addressed. For example, eligibility for therapeutic feeding programmes may be increased by up to 500-600%. Their conclusion is that operational agencies need to urgently work together to achieve consensus on the way ahead before these new standards find their way to the field.

Finally, the ENN has received charity status in the UK and four trustees join the Directors Board to oversee our charitable work. They are Dr Bruce Laurence, Director of Public Health in the north-east of England and former Medical Director with the NGO, Merlin; Victoria Lack, Lecturer in Public Health and Primary Care at City University, London who has previously spent years working in the field with ACF; Nigel Milway, a senior executive with British Telecom for over 14 years who now heads up his own leadership and coaching consultancy; and last but not least Arabella Duffield, currently a nutrition advisor with SC UK who has previously worked with the ENN on a number of projects. In the November issue of Field Exchange we'll include a more detailed look at the ENN and plans for its future.

Jeremy Shoham
Editor

Any contributions, ideas or topics for future issues of Field Exchange? Contact the editorial team on email: office@ennonline.net

[1] Levine S and Chastre C et al (2004). Missing the point. An analysis of food security interventions in the Great Lakes. Humanitarian Practice Network Paper, Number 47, July 2004. See summary in Field Exchange 23, p9



Veronique Priem, Niger, 2002

Scaling up the treatment of acute childhood malnutrition in Niger

By Isabelle Defourny, Emmanuel Drouhin, Mego Terzian, Mercedes Tatay, Johanne Sekkenes and Milton Tectonidis

Milton Tectonidis

Emmanuel Drouhin is the Niger Desk Officer, Isabelle Defourney the deputy Desk Officer for Niger and Mego Terzian is the Emergency Desk Officer, all based in Paris with MSF France. Johanne Sekkenes is the Head of Mission of MSF Niger and Milton Tectonidis the Nutrition Consultant in the Medical Department of MSF France.

This article presents a strong case from Niger that managing severe malnutrition on a large scale through outpatient treatment is a real possibility.

For a short period during the summer of 2005, Niger – a country whose people are amongst the poorest in the world - had the dubious privilege of hitting prime time on international television, as officials and advisors attempted to explain why so many children were starving and why nothing had been done to help them. Despite a prevalence of wasting constantly hovering around or above 15% and the third highest under-5 mortality rate in the world (259 per 1000 live births[1]), health authorities and their bilateral, multilateral and international partners present in the country were almost exclusively focused on development programmes addressing 'underlying causes'. Food security early warning systems in Niger were essentially limited to rainfall data and agricultural production estimates. The absence of any sustained attempt to monitor, let alone treat, acute malnutrition, combined with a fatalistic complacency towards high 'structural' rates of wasting, led to unacceptable delays and errors in the response to the epidemic of malnutrition that affected Niger in 2005.

The development of solid equivalents of therapeutic milks in the last five years is inspiring a major change in the treatment of acute malnutrition[2,3,4]. These nutrient-dense Ready to Use Therapeutic Foods (RUTF) have led to the development of an outpatient approach to treatment based on simplified medical and nutritional protocols for all but the most complicated cases. In rural settings, multiplication and decentralisation of programme entry points leads to rapid and thorough diagnosis of wasted cases in the community. Effects on programme capacity and coverage are dramatic and costs per patient treated reduced. Programme indicators such as cure, mortality and default rates have, to the surprise of many, consistently outperformed those obtained with the classic approach advocating predominant or exclusive inpatient management[5,6].

Applying this new strategy to the crisis in Niger in 2005, Médecins Sans Frontières (MSF) expanded operations well beyond the programme established in Maradi region in 2001, going on to admit over 63,000 severely malnourished children in therapeutic feeding programmes during the year, by far the largest nutritional intervention in the organisation's history. Even outside periods of acute crisis, home consumption of RUTF has the, as yet, unexploited potential of making the effective management of acute malnutrition far more accessible in resource poor countries characterised by high malnutrition rates and numbers of wasted.

MSF in Niger and the response to the 2005 crisis

The outpatient treatment programme for severe malnutrition in Maradi was opened in July 2001 after a measles epidemic swept through the region. The continuing large numbers admitted (4,443 in five months) exceeded expectations and led MSF to maintain the project. The number of admissions rose every year reaching 9,524 in 2004, by which time direct admissions into outpatient care had increased to over 50% of all admissions. Reluctance amongst clinicians to discharge stabilised patients quickly from the inpatient centre had been overcome, cure rates had reached 83.5% and overall mortality rates had fallen to 6%.

In the first few weeks of 2005, the MSF team in Maradi noticed a distinct change in the pattern of admissions compared to previous years. By early February 2005, weekly admission rates were triple what they had been in 2004, without any additional deployment on the part of the existing programme. By mid March 2005, MSF launched evaluations in Maradi and Tahoua that confirmed high rates of acute malnutrition - months earlier than the usual hunger gap - and began to expand and extend activities in both regions. Weekly family food rations and a large discharge ration were added to the therapeutic package of RUTF and medical care offered to all admitted children. By early July 2005, 45 international staff and 660 national staff were running 27 outpatient centres (OC) and five stabilisation centres (SC) for severely wasted children. From August 2005 onwards, activities in Tahoua and the northern parts of Maradi were handed over to other international agencies, and subsequent MSF efforts were concentrated on the most affected areas of Maradi and Zinder, where the majority of admissions for severe malnutrition were being recorded. In late September 2005, the feeding programme in Maradi admitted 2,043 new patients and was monitoring 8,727 malnourished patients a week, 934 of them in the

[1] Unicef. State of the world's children 2006: Excluded and invisible. NY: Unicef 2005.
[2] Briend A, Lacsala R, Prudhon C, Mounier B, Grellety Y, Golden MH. Ready-to-use therapeutic food for treatment of marasmus. Lancet 1999; 353: 1767-1768.
[3] Collins S. Changing the way we address severe malnutrition during famine. Lancet 2001; 358: 498-501.
[4] Community Based Therapeutic Care (Khara T. Collins, S. ed). ENN Special Supplement Series, No. 2, Emergency Nutrition Network, November 2004.
[5] Collins S, Sadler K. Outpatient care for severely malnourished children in emergency relief programmes: a retrospective cohort study. Lancet 2002; 360: 1824–1830.
[6] Ciliberto MA, Sandige H, Ndekha MJ, Ashorn P, Briend A, Ciliberto HM, and Manary, MJ. Comparison of home-based therapy with ready-to-use therapeutic food with standard therapy in the treatment of malnourished Malawian children: a controlled, clinical effectiveness trial. Am J Clin Nutr 2005; 81: 864 –870.

Madarounfa Outpatient Centre

Anne Yzebe, Niger, 2005

four inpatient facilities and the rest in outpatient care. In the three southernmost departments of Maradi, two decentralised paediatric units were also opened and medicines were provided to a dozen government health centres, to facilitate free outpatient and referral health care for all under 5 children. Between July and October 2005, MSF distributed over 4,000 tons (129,487 rations) of blended, enriched flour and cooking oil to families of 53,031 at risk or moderately malnourished children aged less than 5 years old. In Zinder region, MSF would go on to admit over 21,000 severely malnourished children in the last five months of the year, using the same simplified outpatient system as in Maradi.

Programme design

Children between 65 and 110 cm of height were admitted on the basis of mid-upper arm circumference (MUAC) < 110 mm, weight-for-height (W/H) < -3 Z scores (ZS) of the NCHS standard or the presence of bilateral oedema. Children in the same height range with a weight for height between –2 and –3 ZS accompanied by severe pathology were also admitted. Children between 60 to 65 cm height and above 6 months of age were admitted on the basis of weight-for-height or oedema criteria only.

All admissions received systematic amoxicillin for 5 days, single doses of albendazole, folic acid and vitamin A according to weight, and measles immunisation. Those identified as positive for falciparum malaria by rapid blood test received artemesin-based combination therapy (ACT). Specific treatments were given for respiratory, gastrointestinal or cutaneous diseases according to standardised protocols. All complicated cases presenting with anorexia, severe pathology or moderate to severe bilateral oedema were immediately referred to a SC. Uncomplicated cases were consulted and weighed weekly and sent home with further specific treatments, 1000 kcal/day of a RUTF (two 92g packages of Plumpy'nut daily) and as of March 2005, a family protection ration of 5 kg of blended, enriched flour (Unimix) and 1 litre of cooking oil. Returning outpatients with anorexia, severe pathology, appearance of moderate to severe oedema, abrupt or progressive weight loss or failure to gain weight after 4 weeks in the programme, were referred to a SC. Children reaching exit criteria (W/H > -2 ZS for 2 consecutive weeks, mid upper arm circumference > 110 mm, no oedema and absence of ongoing infection) were sent home with a discharge ration of 50 kg of millet, 25 kg of cow peas and 10 litres of cooking oil.

All six SCs had planned capacities of up to 250 children, with actual patient counts reaching over 300/day in some centres during the peak part of the year when 100 patients/day were being admitted. Along with standard feeding centre facilities, SCs had well staffed intensive care units of up to 50 beds to handle critical cases referred from outpatient care. These units were equipped with oxygen, a mini blood bank, broad spectrum parenteral and oral antibiotics and the ability to monitor a large number of children receiving tube feeding (F-100 milk) or rehydration (Resomal solution). Stabilised patients were referred back to outpatient care unless they had already reached discharge criteria (W/H > -2 ZS for 3 consecutive days, mid upper arm circumference > 110 mm, no oedema and absence of ongoing infection) in which case they were discharged directly home with a one-month discharge ration.

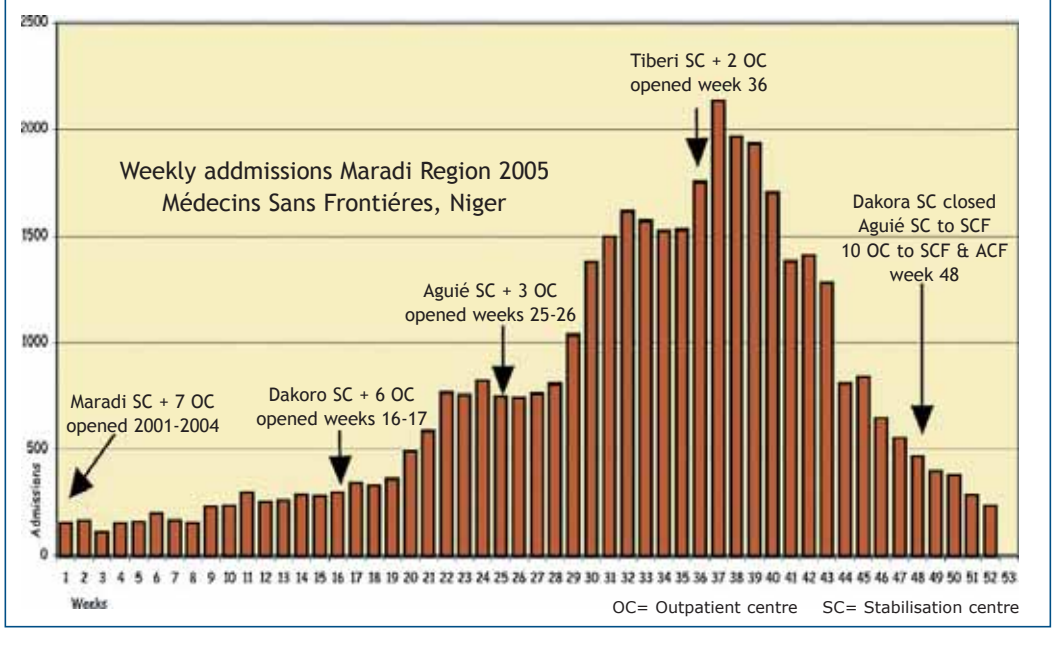
Results

MSF admitted 43,529 malnourished children into its programmes in Maradi and Tahoua region between January 1st and December 31st 2005 (see figure 1). Almost 20,000 were admitted in a ten week period (weeks 30 to 40) in August and September 2005. As in previous years, 95% of admitted children were under 85 cm in height. Moderately malnourished children between –2 and –3 ZS with severe pathology represented 6.4% of admissions, and kwashiorkor only 2.8%. These results are typical for countries in the Sahel, with chronic high rates of wasting striking weaning age children less than 24 months old, reaching dramatic levels during hunger gap periods and epidemic proportions during bad years.

Detailed results are given here for all 37,483 patients treated and discharged from programmes in Maradi region, including the SCs in Maradi, Aguié, Tiberi and Dakoro and 18 associated OCs in the six rural departments (Madarounfa, Guidan Roumdji, Aguié, Tessaoua, Mayahi and Dakoro) opened for at least part of the year (see table 1). Results from 2005 are compared with results for the same region between the years 2001-2004 when there was one SC in Maradi and seven outpatient centres in the three heavily populated, agricultural departments of southern Maradi, which also accounted for 75% of the admissions in 2005 (see figure 2). Geographical expansion was not the determining factor explaining the dramatic increase in the number of admissions to MSF programmes in Maradi over previous years.

Out of the 39,353 admissions in Maradi region in 2005, only 0.8% was readmissions (relapse within 3 months of previous discharge). A total of 25,688 (65.3%) were admitted directly into outpatient care and of these, 1,996 (7.8%) were subsequently referred to a SC at some point during the course of treatment. OCs

Figure 1 Weekly admissions to Maradi programme during 2005



accounted for 31,246 (83.4%) of 37,483 total discharges (see table 2). Overall programme cure rate was 91.4%, mortality rate 3.2%, default rate 4.7% and 0.7% were transferred out of MSF programmes.

These results are superior to those obtained in 2004 when cure rates were 83.5%, default rates 10.3% and mortality rates 6.0%. Readmission rates also dropped from 1.6% in 2004 to 0.8% in 2005. The better results in 2005, despite much larger patient numbers, was probably due to early diagnosis and greater participation in the programme, encouraged by the introduction of protection and discharge rations in March 2005 amidst widespread household food insecurity. Although children discharged from outpatient care have longer durations of stay and lower daily weight gains than those treated as inpatients, they still spend less than a month (29.1 days) in the programme and their daily weight gain (10.5 g/kg/d) is well above recognised benchmarks. It could be argued that spreading the total weight gain over a longer period of time within the patient's usual family environment may be a factor explaining the low rate of relapse (0.8%) following cure.

Discussion

Niger faced an epidemic of acute malnutrition in 2005 primarily affecting young children less than 24 months of age in the southern areas of Maradi and Zinder provinces during the hunger gap period between June and October. This epidemic occurred on top of chronically high rates of wasting and mortality amongst young children.

In Niger, most rural families are highly dependent on market food purchases for a large part of their dietary intake . In 2005, millet prices in Maradi reached up to 28,000 CFA for a 100 kg bag in July compared to 8,000 CFA received by farmers at the time of the previous harvest in 2004. There is a striking correlation between the market price of millet in Maradi in 2005 and the number of admissions of wasted children into MSF programmes five weeks later (see figure 3).

MSF's experience in Niger has important implications for medical practice in countries with high endemic rates of childhood malnutrition and large numbers of children requiring treatment

.

- The results of MSF's outpatient programme described here, combined with results from an increasing number of similar pro grammes elsewhere, suggests that the vast majority of severely wasted children can be cured with simplified weekly surveillance and ready to use therapeutic foods for home consumption.
- In Niger since 2001, tens of thousands of mothers and fathers have been making sustained efforts to bring their wasted children to MSF feeding programmes where, in over whelming numbers, they persist in attending each week until complete cure of their child has been achieved. All reason and evidence suggests that faced with an effective, accessible and easy to use remedy, parents are willing to go to great lengths to save the lives of their children.
- The new paradigm of outpatient care using nutrient dense therapeutic foods makes nonsense of the argument that the treatment of malnutrition is a desirable but impossible objective for resource poor countries. Therapeutic foods can be produced and made widely available where the need is greatest. Acute childhood malnutrition, highly prevalent and frequently lethal, is also eminently treatable.

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Table 1 Programme indicators for Maradi programme, 2005

		Maradi	Aguié	Tibiri	Dakoro	Total Maradi region
Weeks SC open		**Weeks 01-52**	**Weeks 25-48**	**Weeks 36-52**	**Weeks 16-48**	
Admissions OC (n)		7,926	1,982	2,256	1,501	**13,665**
Admissions SC (n)		13,612	4,277	4,239	3,560	**25,688**
Total admissions (n)		**21,538**	**6,259**	**6,495**	**5,061**	**39,353**
Proportion direct admissions to OC *(%)*		63.2%	68.3%	65.3%	70.3%	**65.3%**
Cured	n	15,968	6,340	7,139	4,800	**34,247**
	(%)	*(90.8%)*	*(90.7%)*	*(91.7%)*	*(93.6%)*	***(91.4%)***
Died	n	707	190	140	181	**1,218**
	(%)	*(4%)*	*(2.7%)*	*(1.8%)*	*(3.5%)*	***(3.2%)***
Defaulted	n	875	279	494	114	**1,762**
	(%)	*(5%)*	*(4%)*	*(6.3%)*	*(2.2%)*	***(4.7%)***
Transferred	n	37	180	8	31	**256**
	(%)	*(0.2%)*	*(2.6%)*	*(0.1%)*	*(0.6%)*	***(0.7%)***
Total Discharges (n)		**17,587**	**6,989**	**7,781**	**5,126**	**37,483**
Deaths in SC (n)		627	144	82	127	**980**
Discharges from SC (n)		3,379	1,175	733	950	**6,237**
Movements from SC to OC (n)		4,957	1,457	2,302	1,083	**9,799**
In hospital mortality *(%)*		*7.5%*	*5.5%*	*2.7%*	*6.2%*	***6.1%***
Movements OC to SC (n)		625	645	364	362	**1,996**
Direct admissions to OC (n)		13,612	4,277	4,239	3,560	**25,688**
OC to SC/Direct admission OC *(%)*		*4.6%*	*15.1%*	*8.6%*	*10.2%*	***7.8%***
Average length of stay OC (days)		29.1	31.9	28.5	26.5	**29.1**
Average length of stay SC (days)		13	11.7	16.4	16.1	**13.9**
Average weight gain OC (g/kg/d)		10.6	10.4	10.2	10.4	**10.5**
Average weight gain SC (g/kg/d)		18.9	19.1	14.3	14.2	**17.3**

SC=Stabilisation centre OC=Outpatient centre

Figure 2 Discharges by Category (%) Maradi 2001 - 2005

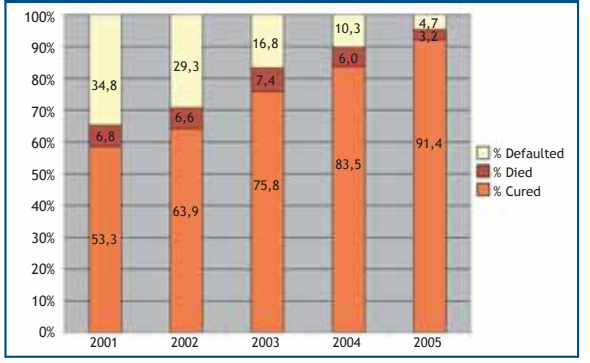
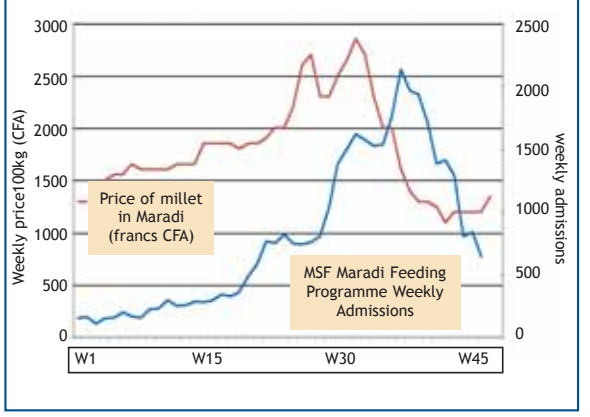


Table 2 Discharge profile per year for Maradi region

	Total discharge from SC and OC	Discharge from OC only
	n	n
2002	5,307	3,557
2003	6,355	3,871
2004	9,524	7,104
2005	37,483	31,246

Figure 3 Comparison between the evolution of weekly millet market prices in Maradi (FEWS/SIMA) and weekly admissions of malnourished children in Maradi (MSF)



Early initiation of breastfeeding reduces neonatal mortality

Summary of published research[1]

A recently published study assessed the contribution of the timing of initiation of breastfeeding to neonatal death. The study also set out to assess whether the different types of breastfeeding (exclusive, predominant, and partial breastfeeding) were associated with substantially different risks of neonatal death.

Method

This study took advantage of the 4-weekly surveillance system from a large ongoing maternal vitamin A supplementation trial (ObaapaVitA) in rural Ghana involving all women of childbearing age and their infants. During the course of routine four-weekly field visits, when a birth was reported, the trained village fieldworkers administered a 'birth' questionnaire, which included birth outcome and birth weight (if taken within 48 hours of birth at a health facility. At the next 4-week visit, an 'infant' questionnaire was administered to obtain additional outcome data (infant morbidity and mortality) and information about infant feeding practices. Infants were followed up at subsequent visits every 4 weeks until they reached 12 months of age.

Analysis

The analysis is based on 10,947 breastfed singleton infants born between July 2003 and June 2004 who survived to day 2 and whose mothers were visited in the neonatal period.

The primary comparisons were made between early and late initiation of breastfeeding and between the types of established breastfeeding patterns (exclusive, predominant, and partial). To reduce problems with reverse causality (i.e. the possibility of the breastfeeding pattern being affected by serious illnesses that lead to death), only infants who survived to day 2 and who were breastfed successfully were included in the primary analyses.

The mother's perception of birth size was used in the logistic-regression models as a proxy for birth weight (mothers' perception of an infant as "very tiny" or "smaller than average" gave a sensitivity of 80% and specificity of 95% in detecting a birth weight of 2.0 kg).

Results

Data were captured for 11,316 (82%) of the 13,860 singleton births within 28 days of delivery (median: 14 days postpartum; inter-quartile range: 7–21 days). Excluded from the analysis were 109 (41%) neonatal deaths which occurred within the first day of birth, 106 (0.9%) of the day-2 singleton survivors who did not initiate breastfeeding or started then stopped, plus 154 (1.4%) infants whose mothers moved out of the study area before the second infant interview. The analysis is based on the remaining 10, 947 infants, among whom there were 145 neonatal deaths from days 2 to 28.

Initiation of breastfeeding

Breastfeeding was initiated within one hour in 43% of the infants, between one hour and the end of the first day of birth in 28% of the infants, and by the end of day 3 in all but 1.3% of them. Overall, 70% of the infants were exclusively breastfed, 27% predominately breastfed and 2.1% partially breastfed during the neonatal period (median age 14 days for established breastfeeding pattern).

There was a marked dose response of increasing risk of neonatal mortality with increasing delay in initiation of breastfeeding from 1 hour to day 7. Overall, late initiation (after day 1) was associated with a 2.4-fold increase in the risk of neonatal mortality. The size of this effect was similar (Adjusted Odds Ration (aOR): 2.44; 95% CI:1.60 to 3.74; P <0.0001) when infants at high risk of death or when deaths during the first week (days 2–7) were excluded (aOR: 2.36; 95% CI: 1.44 to 3.87]; P<0.001).

The trend with late initiation was still significant after adjusting for the type of breastfeeding and the increased risk associated with late initiation was similar within each breastfeeding category. Infants who were given prelacteal feeds (any food or fluids before breastfeeding was established) on day 1 also had a high neonatal mortality risk (aOR: 1.63; 95% CI: 1.09 to 2.45; P <0.017).

Type of breastfeeding

The type of breastfeeding was also found to be associated with mortality risk. Both predominantly (aOR: 1.41; 95% CI: 0.97 to 2.03) and partially (aOR, 4.51; 95% CI, 2.38 to 8.55) breastfed infants had higher risks of neonatal death than exclusively breastfed infants, although the risk was much higher and only statistically significant in the partially breastfed group. The pattern was unchanged and the size of the ORs was only slightly reduced after adjustment for timing of initiation of breastfeeding.

Public heath significance

The percentage of neonatal deaths from 2 to 28 days of life that could be prevented if all of the infants in the study population initiated breastfeeding in the first hour of life was 41.3%. This is equivalent to preventing 22.3% of all neonatal deaths if it is assumed that breastfeeding has no impact on deaths during the first day of life. Similarly, initiating breastfeeding on the first day (rather than the first hour) could have saved 30.2% of neonatal deaths from days 2 to 28, or 16.3% of all neonatal deaths.

Conclusions

These findings indicate that both timing of initiation and type of breastfeeding pattern exert independent influences on neonatal mortality.

Interventions to improve early infant feeding practices can result in considerable reductions in neonatal mortality. All-cause neonatal mortality could be reduced by 16.3% if all infants initiated breastfeeding on day 1 of life and by 22.3% if initiation took place within the first hour. The risk of neonatal death is increased approximately fourfold if milk-based fluids or solids are provided to breastfed neonates.

[1] Edmond KM, Zandoh C, Quigley MA, Amenga-Etego S, Owusu-Agyei S, Kirkwood B (2006). Delayed Breastfeeding Initiation Increases Risk of Neonatal Mortality. Pediatrics 2006;117;380-386

S Nanama, B Faso

A woman working in one of the village households in Burkino Faso

Experience-based measure of household food insecurity

Summary of published research[1]

In a recent programme implemented by Africare and the nutritional science division of Cornell University, qualitative and quantitative methods were used to develop and validate an experienced-based measure of the access component of food insecurity in northern Burkina Faso. The project location was Zondoma province where there has been a Title 11 food aid-funded development province since 2000. In-depth interviews on food insecurity were conducted with ten household heads and 26 women using interview guides. Africare identified themes, classified households, created a table of food insecurity categories, identified items to add to or delete from an initial questionnaire, and developed and revised answer choices.

The experience-based questions asked ranged from "does your household eat until satisfied right now?" to "how many times in a month can you afford the following foods for household members?" There were also many very subjective questions, e.g. "do concerns about lack of food cause you insomnia?"

A longitudinal study conducted in parallel provided quantitative data on changes over time in household food insecurity, the economic situation and related factors. Data were collected on 126 simple and complex households from nine villages every January and July from 2001 to 2003 (five waves). These data allowed examination of changes in household food insecurity twice annually across the best and worst seasons for food, and evaluation of the ability of the experience-based measure to differentiate changes in household food insecurity.

Validity was assessed by examining reliability and by comparing the experienced-based food insecurity measure with economic status, dietary and anthropometric measures, and a measure created by an observer who rated the households' food insecurity. The results provide strong evidence that the food insecurity score, calculated from experience-based questionnaire items, was valid for determining seasonal differences in household food insecurity, differences among households in food insecurity at a given time and changes in household food insecurity over time in northern rural Burkina Faso.

[1] Frongillo A and Nanama S (2006). Development and Validation of an Experience-Based Measure of Household Food Insecurity within and across Seasons in Northern Burkina Faso. J. Nutr. 2006 136: 1409S-1419S.

Iron and vitamin A deficiency in African refugees

Summary of published research[1]

Five cross-sectional surveys were conducted in refugee camps in north and east Africa between 2000-2002 to assess the level of iron deficiency anaemia and vitamin A deficiency in populations dependent on long-term international food aid and humanitarian assistance. Although there has been much information on micronutrient deficiency outbreaks like scurvy, pellagra and beri-beri amongst refugees, there has been very little information published on the prevalence of the more widely prevalent deficiencies of iron, vitamin A and iodine.

Although there were various methodological issues around interpretation of the findings, e.g. issues of age recall may affect estimates of age-specific anaemia while recall bias may have affected estimates of vitamin A capsule coverage, the overall findings give enormous cause for concern.

Study findings

The prevalence of anaemia in children [haemoglobin (Hb) <110 g/L] was high, with >60% affected in 3 of five camps. Iron deficiency [serum transferring receptor (sTfR) >8.5 mg/L] was also high, ranging from 23 to 75% (this measure is used to assess iron deficiency because it is relatively unaffected by the acute phase response associated with inflammation and infection). There was also a strong ecological correlation between the prevalence of iron deficiency and anaemia among different camps. Although children were more affected, anaemia was also a public health problem in adolescents and women. While the prevalence of anaemia in the worst affected camps compares with findings from other refugee studies, i.e. in Burmese and Somali refugee children, the levels constitute a serious public health issue.

Mean serum retinol in children, after adjustment for infection status, ranged from 0.72 to 0.88 +/- 0.2 μmol/L in the four camps assessed and vitamin A deficiency (<0.7 μmol/L) was present at levels ranging from 20.5% to 61.7%. These findings compare unfavourably with recent national vitamin A deficiency prevalence estimates for eastern and southern Africa of 20-37.1%. In areas where vitamin A capsule distribution programmes were in effect, coverage ranged from 3.5% up to 66.2%.

The World Health Organisation (WHO) classification of micronutrient deficiency prevalence states, that a prevalence of 40% anaemia or 20% vitamin A deficiency comprises a substantial public health problem. The findings therefore demonstrate the inadequacies of current policies and practice in addressing micronutrient malnutrition in populations largely dependent on food aid. The persistence of these public health problems also contravenes agreed minimum standards in disaster relief.

Food aid rations received by the inhabitants of the surveyed camps vary over time but typically consist of a cereal, pulses, oil and salt. The micronutrient composition of rations for food aid-dependent populations has been subject to criticism for some years and has been implicated as a major factor in frequent micronutrient deficiency outbreaks. Efforts to tackle the problems identified in this paper are currently ongoing, with the recent publication of new policy papers on emergency food aid and fortification by the World Food Programme (WFP) and its active revision of food aid specifications.

The authors of the study conclude that further work should adopt a holistic public health nutrition approach linking effective fortification of food aid commodities, combined with supplementation of high risk groups where feasible and acceptable, promotion of recommended infant and young child feeding practices, pursuit of opportunities to facilitate refugee income generation, dietary diversification, and ensuring effective vector and parasite control.

[1] Seal. A et al (2006). Iron and Vitamin A deficiency in long-term African Refugees. Pp 808-813

Haemacue survey in Tanzania

A Seal, Tanzania, 2001

Excess dietary iodine in long-term African refugees

Summary of published research[1]

In Africa, great progress has been made towards the elimination of iodine deficiency, largely due to the increased household availability of iodised salt. However there are risks for populations with high intakes of iodine. In populations that were previously severely deficient, increased dietary iodine is associated with hyperthyroidism. Iodine induced hyperthyroidism is a serious condition that may, in extreme cases, lead to death, usually from heart-associated causes. Optimal iodine intake is therefore important, but due to poor quality control at the production level of iodised salt and the high levels of fortification required by some African governments – legislation that specifies up to 2.5 times the WHO recommendation – there is now a risk that populations which were previously severely deficient in iodine are now consuming an excess.

In light of this risk, a research study has recently been completed to assess the iodine status of long-term refugees dependent on international food aid and humanitarian assistance.

The study involved a series of cross-sectional two stage cluster or systematic random sample surveys on male and female adolescents aged between 10-19 years in six refugee camps in Kenya, Uganda, Ethiopia, Algeria and Zambia. The six surveys were carried out between March 2001 and July 2003 and the majority of survey subjects had spent all or most of their lives within these sites. Urinary iodine excretion and the prevalence of visible goitre were assessed. Salt samples of food rations were also collected and tested for iodine content by titration.

The study found that median urinary iodine concentration (UIC) ranged from 254 to 1200μg/L and in five of the camps exceeded the recommended maximum limit of 300μg/L, indicating excessive iodine intake. Visible goitre was assessed in four surveys where it ranged from 0.0% to 7.1%. The camp with the highest UIC also had the highest prevalence of visible goitre. The iodine concentrations in 11 salt samples from three camps were measured by titration and six of these exceeded the production level concentration of 20-40 ppm (parts per million) recommended by WHO, but were less than 100 ppm.

The authors concluded that excessive consumption of iodine is occurring in most of the surveyed populations and that urgent revision of the level of salt iodisation is required to meet current WHO recommendations. However, the study also concluded that based on an analysis of salt samples and the amount of salt normally distributed in the food ration, it was unlikely that the high levels of iodine found in urine excretion of some individuals were only due to 'over-iodisation' of salt.

There are a number of other possible explanations: salt intakes in these populations are considerably higher than assumed, the presence of salt iodised at a higher level than the sample that were tested, the consumption of significant quantities of iodine in other foodstuffs, or high levels of naturally occurring iodine in drinking water. The last possibility seems a likely candidate in the Tindouf camp, which is located in the Sahara desert.

In the final analysis the full cause of excessive iodine excretion remains unknown and further investigation is required urgently to identify the cause, assess any health impact and identify remedial action.

[1] Seal. A et al (2006). Excess dietary iodine in long-term African refugees. Public Health Nutrition, 9(1), pp 35-39

Market-based contracts protect against price rises in Malawi

Summary of research[1]

J Dana, Malawi//

Getting water in the drought affected landscape in Malawi

Commodity options contracts are typically used to hedge against price volatility. They operate in a similar way to insurance. Payment of a premium is exchanged for the right, but not the obligation, to either buy or sell a commodity at a predetermined price for a particular period of time into the future. The premium cost is determined by the difference between the current market price and the price protected, the length of time that the price protection is needed and the volatility of the market. There are two types of options contracts. 'Put' options are options to sell at a specified price in the future, and are typically used by producers or exporters to protect against falling prices. 'Call' options are options to buy at a specified price in the future and are typically used by importers to protect against rising prices. According to a recent article in Humanitarian Exchange, when combined with a physical delivery contract, options contracts can help importers manage costs, and mitigate the risk that prices will increase dramatically when there is a shortage in the market.

In September 2005, the Malawian government signed an options contract with Standard Bank of South Africa. The contract allowed for the purchase of a maximum of 60,000 tonnes of maize at a cost of approximately $18m – enough to meet the food gap if donor and private sector commercial imports did not reach anticipated levels. The Department for International Development-UK (DFID) provided the finance to pay the options premium up front and the World Bank provided technical support. The options contract provided the government with a mechanism to trigger additional imports at short notice, put a price cap on the cost of maize from South Africa and provided protection against the risk that prices would move higher. Agreeing an 'over the counter' contract meant that the cost, included delivery to Malawi, reduced uncertainty over transport prices.

In response to continued evidence of shortages in the market and concern about rising local prices, the government exercised the first tranche of the options contract on 7th of October, buying 30,000 tonnes of maize. It exercised the second tranche on 15th of November, when it bought the remaining 30,000 tonnes.

Malawi's early experience with options contracts was largely positive. The majority of the purchased maize was used to meet humanitarian needs and did not reach the commercial market. The maize helped to avoid severe shortfalls in the humanitarian pipeline. Additionally, by the time of delivery in December 2005/January 2006, prices had risen by between $50-$90 a tonne above the ceiling price of the contract while transport costs had also increased.

One of the key challenges that the private sector faces in Malawi is uncertainty about when the government will intervene in the maize market. To address this problem, the options agreement was made public via a government press release. Private sector traders in Malawi and in the region are supportive of this approach, and look forward to an opportunity to be involved commercially.

In the future, the government (or donors) could resell maize purchased through the options contract to local traders, who would then manage distribution and commercial sales. In this way, the government or donor role is limited to risk management (a critical need in Malawi, where local traders capacity to manage imports is weak). Over time, and as the capacity of local traders and the commercial market strengthens, this risk management function would naturally fall back to the private sector.

Implications for humanitarian agencies

Options contracts have the potential to enable a proactive, risk-management approach to the procurement of food by humanitarian agencies. They offer potential cost savings by allowing agencies to buy protection at lower market prices when these are available. They potentially speed up response mechanisms since triggering prearranged option contracts can be quicker than tendering for supply contracts. Local and regional trade are also supported through options contracts.

Enabling agencies, like the World Food Programme, to work with option contracts will, however, require some significant transformations in the way that funds are accessed and budgets managed. These contracts require long-term procurement plans if they are to be cost-effective. For those agencies that have significant core funding, this may not be a problem. However, where the procurement of food depends on contributions by donors to emergency appeals, the opportunities to agree at an early stage what food requirements will be in the future, and to ensure an early response, have been limited. Option contracts are a solution to this problem since they allow for contingent import contracting. As an example, donor agencies can begin purchasing options contracts at the first sign of a problem, then exercise or 'call' for deliveries only if needs become apparent.

Budgeting process within agencies may also have implications for the use of option contracts. In many agencies, significantly less money is budgeted for disaster preparedness and prevention than is allocated to disaster response. Spending money on options contracts may mean that there is less money to spend later on emergency aid, if the option does not enable a crisis to be averted. Most importantly, humanitarian agencies receive much less credit for their roles in preventing emergencies than they do for responding effectively when an emergency arises.

[1] Slater R and Dana J (2006). Tackling vulnerability to hunger in Malawi through market-based options contracts: implications for humanitarian agencies. Humanitarian Exchange, no 33, pp 13-17, March 2006

Critical gaps in drought response in Greater Horn of Africa

Summary of published research[1]

The drought currently affecting an estimated 11 million people in the Greater Horn of Africa is said to be the worst in more than a decade, with the impact being most severe in pastoral areas on the Ethiopia-Kenya-Somalia border. Many humanitarian actors have expressed frustration that in spite of excellent early warning, most agencies, donors and national governments proved unable to address the crisis effectively in its early stages. A recent HPG briefing paper reviews the extent of emergency livelihoods responses in the region, drawing on secondary data and interviews with national and international actors in affected areas.

The review argues that the quality and credibility of early warning systems have not been called into question in this case. The progressive deterioration of pastoral livelihoods in the region was well documented. However, while aid actors with a long-term presence in drought-affected areas moved quickly to modify and scale up their interventions in response to the crisis, it was not until the situation was extremely acute that it attracted meaningful attention.

National and international actors with infrastructure and programmes in affected areas were flexible in rapidly adapting and expanding pre-existing livelihoods interventions in response to the crisis, e.g. water development and rehabilitation activities, herd survival actions, human and animal health assistance and cash interventions were possible right from the start of the emergency. Opportunities were not, however, taken to build on longer-term work by heavily front-loading the emergency response with livelihoods interventions. Food requirements constituted 85% of total needs identified under the Kenyan Flash appeal while 83% of the revised Somali Consolidated appeal process was for food assistance.

The review asks why was there such a disconnect between long-term programming and the emergency response. Three main areas are identified as problematic: inadequate preparedness, capacity imbalances between food and livelihoods programming and funding constraints.

Inadequate preparedness

Despite the cyclical pattern of droughts in this area, there are no national preparedness plans in Somalia or Ethiopia. Kenya is more advanced and has community and district level drought preparedness plans. The main constraint appears to have been the absence

of national and sufficiently large local contingency funds to implement these plans rapidly on a large scale. The lack of effective coordination between district and national levels meant that these contingency plans did not form the basis of wider national and international responses. As a result, international actors largely bypassed national structures in each country. Since international actors also lacked pre-existing emergency plans for collective work, there was little consensus on the balance to be struck in the emergency response between preventive livelihoods interventions and food assistance.

Capacity imbalances between food and livelihoods programming

A key weakness was the lack of capacity for assessing, designing and implementing livelihoods interventions. Assessments were generally lacking the hard data that food assessments were able to provide to demonstrate potential life-saving impact. In addition, there appear to have been significant delays in planning for large-scale livestock related livelihoods interventions. Many donors, especially in Kenya, felt that plans for de-stocking were being submitted at a time when it was no longer appropriate to intervene to accelerate livestock off-take. Some agencies, particularly international relief organisations, also mentioned a lack of capacity to implement these programmes. Both implementing agencies and donors reported a dearth of innovative approaches: many claimed that the crisis was so severe that less established programming, such as cash transfers, were too risky. However, well-designed and timely livelihoods interventions were possible where agencies had longer-term programmes and an intimate understanding of the local context.

Funding constraints

Funding for livelihoods interventions was much lower than for food assistance. The difficulty of attracting donor funding for livelihoods projects was widely reported by humanitarian agencies, with donors in return indicating a lack of receptivity at headquarters to such interventions. This was reportedly due to an overload of requests for non-food resources globally, as well as a lack of contingency funding. Although the Consolidated Appeal for the Horn of Africa focused primarily on non-food interventions, it was not launched until April 2006 and was, in any case, critically under-funded.

Conclusion

Effective early warning does not ensure an adequate and timely response in slow onset disasters. Where agencies had a long-term presence and were flexible in redeploying funds earmarked for long-term activities, livelihoods interventions were implemented in a timely manner. It is essential that relevant national preparedness plans are in place in contexts where vulnerability is chronic and where acute crises are likely to develop. In order for these plans to be effectively put into operation, there must be investment in national capacity to implement emergency livelihoods programming on a large scale.

[1] Saving lives through livelihoods: critical gaps in the response to the drought in the Greater Horn of Africa. HPG briefing note. May 2006

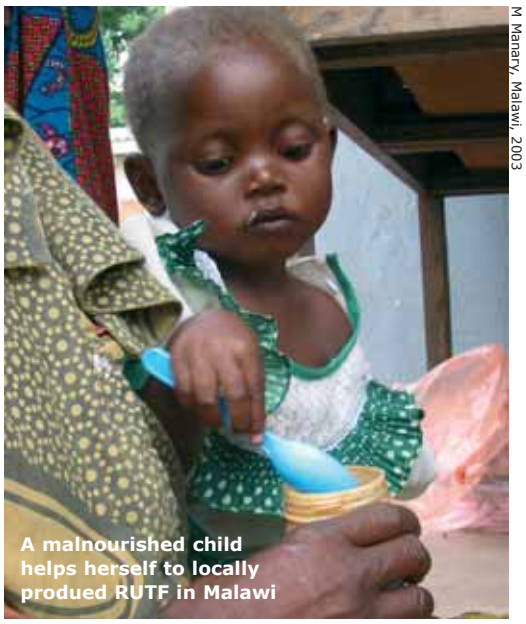
USAID in public–private alliance initiative

Summary of published research[1]

The United States Agency for International Development (USAID) established the public-private alliance initiative - the Global Development Alliance (GDA) - approximately four years ago. The initiative reflected the fact that over the past 30 years, resource flows from the United States (US) to the developing world had shifted from being predominantly government-led, to a situation where now 85% of resources come from fixed capital investment, remittances and various forms of private funding. According to a recent article in OECD Observer, there are many examples of how the GDA has successfully forged partnerships between the public and private sector.

Under the GDA in Malawi, a non-governmental organisation (NGO) called Project Peanut Butter (PPB) teamed up with Nutriset to establish a production facility for Ready to Use Therapeutic Food (RUTF). Nutriset donated financing and shared its intellectual property, i.e. the recipe. USAID gave $130,000 to PPB to finance the production facility and training of Malawian staff. PPB and Nutriset provided cumulative funding and in-kind resources worth $450,000. Nutriset did not make a profit. The production facility uses local raw materials and will soon have its capacity expanded. Other examples of successful partnership cited in the article include work with the Dutch company 'Royal Ahold', which is one of the largest buyers of food in the world. As well as bringing its knowledge of agricultural quality to the table, Royal Ahold co-funds projects with NGOs on the ground in Ghana. The company has found opportunities to encourage new businesses, such as cosmetic product lines from shea butter. USAID has contributed more than $2 million to the alliance, which Royal Ahold has more than matched through cash contributions and technical expertise.

There is also the Sustainable Forest Products Global Alliance with the Swedish firm Ikea, Home Depot and other large buyers of forest products to which USAID has contributed over $7.5 million since 2002. Alliance partners have more than matched this amount to the tune of over $27.5 million in funding.



A malnourished child helps herself to locally produced RUTF in Malawi

M Manary, Malawi, 2003

GDA is, however, not the only government agency building alliances. In recent years, other OECD countries have also become involved, e.g. GTZ, DFID and CIDA. In spite of the many successes, the article highlights the fact that there are important lessons to learn from this way of working.

First, grant mechanisms rather than budget support work best. Typically, USAID and private partners fund the implementing organisation, usually NGOs. Second, partnerships can boost aid effectiveness in some sectors. In agriculture, productivity appears to have been enhanced by bringing market disciplines and expertise about cultivation and quality standards to bear.

There are also lessons of warning. Partners share risk but do not make that risk disappear. Good projects have been known to come unstuck late in the process because of sudden shortage of business funds. Also, there are lobbies against partnerships seeing them as efforts to standardise global markets thereby creating losers, e.g. local farmers that do not make the cut. Partners, therefore, need to think about how farmers who do not meet productivity requirements in particular markets can diversify into other agribusinesses, such as food processing and packaging, or even switch to other areas such as tourism.

[1] Runde. D (2006). How to make development partnerships work. OECD Observer, No 255, May 2006, pp 35-37

Mothers feeding their children local RUTF, produced through Project Peanut Butter

M Manary, Malawi, 2003

Revisiting 'new variant famine' in southern Africa

Summary of published research[1]

The 'New Variant Famine' hypothesis was first published in 2003. It postulated four factors contributing to worsening food shortages in southern Africa and limiting recovery;

i) household level labour shortages due to adult morbidity and mortality, and the related increase in numbers of dependants
ii) loss of assets and skills due to adult mortality
iii) the burden of care for sick adults and children orphaned by AIDS, and
iv) the vicious interactions between mal nutrition and HIV.

A paper just published in Humanitarian Exchange draws on recent published research and two recent studies in Malawi and Swaziland to reassess the new variant famine hypothesis.

Both Malawi and Swaziland are predominantly agricultural, poor and vulnerable and are suffering high prevalence epidemics of AIDS. In both countries, farming is labour-intensive, reliant primarily on hoe-cultivated maize in a single farming season and food crisis, including chronic malnutrition and recurrent famine, is common to many parts of Malawi and Swaziland. Both countries also face a severe HIV/AIDS epidemic. Adult prevalence of HIV/AIDS among ante-natal clinic (ANC) attendees in Swaziland – 42.6% - is the highest in the world. In Malawi, prevalence among ANC attendees is 14.4%. Mortality in Swaziland has almost tripled over the past ten years, from about eight deaths per 1,000 in 1994 to about 23/1,000 in 2004. Adult mortality has also risen sharply in Malawi. In both countries, these increases are almost entirely due to AIDS.

HIV/AIDS and loss of household labour, assets and skills

Results of household studies in both countries during the 2002-3 crisis clearly show that HIV/AIDS was one cause of declining agricultural production. Evidence from Swaziland found a reduction in maize production of 54.2% in households with an AIDS-related death. In Malawi, households without an 'active adult' suffered a 26% drop in tuber production, a 53% fall in cereal production and a 51% reduction in cash crop income compared to households with at least one 'active adult'. There is also an important gender dimension to this impact. In Malawi, in households with a recent adult male death, the area planted is 32% lower than in households with a recent adult female death.

HIV/AIDS and rural livelihood coping strategies

A survey of HIV affected households in Malawi found that three quarters of households changed their usual crop mix towards less labour-intensive crops in response to labour shortages and lack of resources. In contrast, in Swaziland decreasing the area under cultivation was a common response. According to one study, the area under cultivation decreased by an average of 51% in households with an AIDS-related death, compared with 15.8% for households with a death that was not AIDS-related.

In Malawi, one household study found that some 40% of those affected by chronic illness sold a portion of their assets to buy food or to pay medical or funeral expenses. In Swaziland, households with an AIDS death experienced a 29.6% reduction in the number of cattle they owned.

HIV/AIDS and changing dependency patterns

In 2003, UNAIDS estimated that about 500,000 children (about 50% of the total number of orphans) in Malawi and 65,000 children (65% of total orphans) in Swaziland below 17 years of age had lost one or both parents to AIDS. Caring for an increasingly large number of orphans is placing a tremendous burden on extended families and community networks. At the same time, kinship networks have proven resilient in providing at least a minimum level of care and socialisation for children orphaned by AIDS.

HIV/AIDS and malnutrition

Overviews of nutritional surveys during the 2002-3 drought found clear signs that double orphans have a much higher prevalence of malnutrition compared with children with one or both parents living. It also found that, although child malnutrition rates were higher in rural areas (which tended to have lower HIV prevalence), the decline in nutritional status was most marked closer to towns (which have higher prevalence of HIV/AIDS than rural areas). There is also preliminary evidence that the rebound in nutritional status after the end of the drought in 2003 was less robust than expected.

Other aspects of the relationship between malnutrition and the HIV/AIDS epidemic remain speculative and under-researched. Little is known about the indirect impacts of the HIV/AIDS epidemic on the spread of childhood infectious diseases, and studies of adult nutrition and HIV infectivity and virulence are complex, contradictory and/or inconclusive.

In conclusion, the authors state that recent research supports the view that AIDS is challenging rural livelihoods, undermining resilience to other shocks and stresses and creating new patterns of malnutrition. It is also argued that in many areas of southern and eastern Africa, each turn of the cultivating seasons is seeing a small, significant and usually negative change in rural livelihoods. While communities are resourceful and inventive in responding to the stresses they face, a significant proportion of the rural population is being ground down into chronic destitution. According to the authors, this is preventable but it is not being stopped and until it is, we face the prospect of major, ongoing interventions to support social welfare in affected communities.

Runde. D (2006). How to make development partnerships work. OECD Observer, No 255, May 2006, pp 35-37

S Roughneen, Dafur, 2006

View of Fata Borno IDP camp, North Darfur, temporary home to 18,000 IDPs.

Delivering Supplementary and Therapeutic Feeding in Darfur: Coping with Insecurity

By Gwyneth Hogley Cotes, GOAL

Gwyneth joined GOAL in November, 2005 as the Nutrition Coordinator for Darfur, Sudan. She has a BA in International Studies and Master of Public Health (MPH) degree focusing on child health and survival. Her work experience includes researching the barriers to therapeutic feeding centre attendance in Eritrea in 2001 and training Ministry of Health staff in Ghana in improved disease control and immunisation information management techniques.

GOALs Simon Roughneen assisted in conceptualising, framing and editing this article. This article would not be possible without the professionalism and bravery of GOALs nutrition workers and the rest of the Darfur field team.

This article describes the ongoing challenges that insecurity poses to the GOAL nutrition programme in Dafur and the strategies they have responded with.

In February 2003, fighting erupted between Sudanese government forces and the Sudanese Liberation Army (SLA), a rebel movement seeking to achieve greater autonomy for the Darfur region and its people. Later the SLA was joined by the Justice and Equality Movement (JEM), a pan-Sudanese opposition group. The conflict made headlines around the world when government-armed 'Janjaweed' Arab militias conducted widespread attacks and looting in Darfur villages, resulting in an estimated 200,000 deaths and the displacement of some 2 million residents.

The fighting and displacement has slowed its pace somewhat since the start of the conflict but, in late 2005 and into 2006, areas of western and northern Darfur have seen renewed violence, resulting in new displacement. Currently, there are approximately 1.75 million Darfurians living in internally displaced persons (IDP) camps or host communities throughout Darfur, with another 200,000 refugees in Chad. The humanitarian situation has been further compromised by the spread of the conflict across the border into Chad. At the time of writing, an internationally mediated peace agreement was signed between the Sudanese government and one faction of the SLA. However, a second SLA faction and the JEM party refused to sign, causing tension throughout the Darfur region and raising concerns that the split could cause a resurgence of fighting.

As a result of the conflict, most residents of Darfur have seen a complete disruption of their lives and livelihoods, with access to land, markets, and services restricted by violence and fear. Productive assets have been depleted, either looted by warring factions, or sold as a means to get food and shelter.

Humanitarian situation

Despite the influx of aid in 2004, the humanitarian situation has remained precarious. As a result of widespread food aid and supplementary feeding, global acute malnutrition (GAM) rates have dropped from the critically high rates that were found at the height of the conflict, but are still alarming, ranging from 10-20% throughout Darfur. Even before the conflict, large portions of Darfur were characterised as 'chronically-destitute' with wasting levels of 20%, criteria that would have justified emergency intervention long before the fighting started[1]. However, after three years of intense humanitarian activity, international assistance is beginning to wane. Starting in May 2006, the World Food Programme (WFP) will be forced to halve its food aid to nearly 3 million residents of Darfur, because of a shortage of donor funding.

GOAL's work in Darfur

After the conflict began, GOAL set up two emergency assistance programmes in Darfur. The first was started in February 2004, in the Kutum region of North Darfur, an arid area subject to food insecurity even before the conflict. The war in Darfur had further exacerbated the health and nutrition problems in the area, and rates of malnutrition were typically higher than in other parts of Darfur. GOAL had a history of involvement in the region, and was already monitoring the humanitarian situation before the conflict began.

Approximately 45-50,000 IDPs are currently living in host communities and in camps near the primary town of Kutum. GOAL currently provides primary health care and water/sanitation services throughout the region and in camps. GOAL's nutritional services are provided using the Community-based Therapeutic Care (CTC) approach, including supplementary feeding (SFP), outpatient therapeutic feeding (OTP), and inpatient care for complicated cases of severe malnutrition.

In March 2004, GOAL began operating in Jebel Mara, a contested area in a fertile mountain region that once provided much of the region's food. After the war began, much of the land was abandoned following attacks on villages, and the food security and health of the population declined rapidly. At that time, GOAL was the only agency working in the area. The programme distributed non-food relief items to IDPs and provided supplementary feeding, therapeutic feeding (TFP), primary health care (PHC), and water/sanitation services. Due to a significant deterioration in the security situation, this programme was closed in January 2006.

The impact of insecurity on the provision of nutritional services

Difficulty providing services

GOAL's services are spread out over a wide area of North and West Darfur. Because population movements are restricted by insecurity, GOAL must travel to field sites on a daily basis to bring services to populations in need. As a neutral agency, GOAL provides nutrition services in both government and rebel-held areas of Darfur.

This presents logistical constraints in terms of transportation and communication, as GOAL has to coordinate all activities with all the various political factions before travel can be authorised. Access to programme sites is carefully regulated, and authorities on all sides must be notified in advance of all programme staff and patients who are to be transported across military boundaries.

The purpose of advance notification and communication procedures is to determine if fighting or suspicious movements are occurring in the travel areas. However it does not provide a guarantee of staff safety. Non-governmental organisations (NGOs) risk having their cars hijacked or getting stranded by an outbreak of violence each time they enter the field. Special communication equipment must be available, and all GOAL staff must adhere to very stringent security procedures at all times. Every step is taken to ensure, as much as possible, that personnel and assets are not exposed to unnecessary risk.

Rigid security protocols make it difficult to visit local communities outside of the clinic areas. Thus assessments, screening, follow-up visits, and community sensitisation cannot always take place as planned. In rural areas, nutrition services are generally provided in conjunction with clinic services, and screening is conducted among clinic attendees; active case-finding is nearly impossible given the security constraints. The coverage attained using this method is very low, and additional methods have to be developed in order to reach local communities.

Service interruptions

GOAL provides SFP and CTC services on a bi-weekly schedule, as weekly distributions resulted in large numbers of caretakers defaulting from the programmes. Prior to each distribution, communication with authorities and advance notification allows GOAL to identify areas that are unsafe for travel. When fighting or troop movements occur, programme activities have to be temporarily suspended, and no staff or food aid can be transported to field sites.

In most cases, there is no way to communicate to beneficiaries when services have been interrupted – no telephone service is available in rural sites. Beneficiaries sometimes travel long distances to reach the SFP/CTC site, only to find that staff and provisions have not arrived. This results in a serious lack of confi-

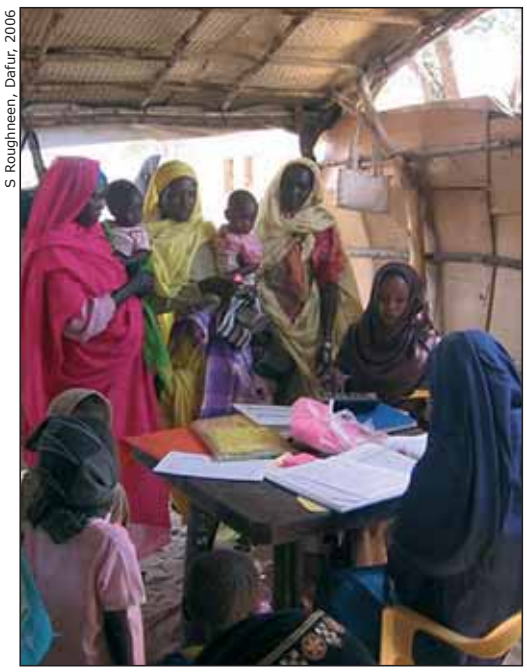
[1] Assessing the Impact of Humanitarian Assistance, A Review of the Methods in the Food and Nutrition Sector. Jeremy Shoham, HPG Background Paper.

Table 1 The impact of various degrees of insecurity on population movement and programming

Problem	Result	Impact on programme
Restricted access to conflict-affected areas	Limited screening in rural communities	Reduced programme coverage
	Limited ability to conduct household visits on children who are absent from OTP/SFP services	Increased default rates
	Low numbers of children followed up after default	Reduced ability to assess and respond to reasons for default
	Limited numbers of staff allowed into programme sites	Increased costs, as additional staff must be hired and trained in field locations
Occasional service interruptions due to fighting or insecurity	Reduced confidence in programme services	Increased default rates
		Reduced rate of weight gain
	Occasional long gaps in-between food distributions	Increased length of stay in programme
		Reduced cure rates
General conflict	Frequent population movements	Increased defaulter rates
		Need for increased flexibility in programme response
		Difficulty locating defaulters, large numbers of children lost to follow-up
	Women fear travelling far from homes	Increased defaulter rates
		Reduced coverage

dence in NGO services, particularly in rural areas. Caretakers become less willing to travel to the SFP site after a service interruption, resulting in high rates of programme default. The interruption also has a negative effect on the growth and recovery of the child, especially during periods of ongoing insecurity, when they may not receive supplementary food for six weeks or more.

S Roughneen, Dafur, 2006



GOAL nutrition worker Hawaida Tijani explains TFC rations for under-5s to mothers

Nutrition programmes are affected by interruptions of other services as well. Medical service closures can reduce the number of beneficiaries available for screening, lowering the programme's coverage. Suspensions or delays in general food distributions cause food to be shared among other family members, lowering cure rates.

Reduced programme effectiveness

Most agencies providing SFP and CTC services in Darfur report low levels of attainment of international standards for feeding programmes. In the current context, achieving the acceptable cure rates of more than 70% and default rates of less than 15% is extremely difficult.

Although much of the conflict-affected population is concentrated in IDP camps, mostly situated near major towns, hundreds of thousands of conflict-affected people are still living in rural communities. It is these populations that are most difficult to reach with nutritional services (see table 1). Even under more stable conditions, nutrition programmes often have problems with caretakers defaulting due to long distances between homes and services, poor understanding of the importance and purpose of feeding programmes, and seasonal migration. In Darfur, all those problems exist as well, but are compounded by the problem of caretakers who are often afraid to walk to SFP or CTC sites because of the threat of physical violence or harassment. In some areas of Darfur, African Union (AU) peacekeeping forces escort people twice a week from local communities to the market, or guard women as they collect firewood because the danger of rape or physical attack is so high. Caretakers may also have little confidence in the programme because the agency has previously been absent. In short, the costs of attending nutritional services often outweigh the perceived benefits.

Risk of sudden programme closure

One of the biggest problems with providing nutritional services in insecure areas is the possibility of a complete evacuation and abandonment of services in the event of a large-scale outbreak of fighting. The agency will not only lose capital assets, such as vehicles, computers, and office facilities, but less tangible resources as well, such as programme information and the training that has been invested in local staff. The community being served will suddenly be cut off from needed aid, and may be angry or resentful at the agency for pulling out, making re-entry into an area more difficult if the security situation improves sufficiently to allow for it.

Even smaller programme suspensions can present serious challenges to nutrition programmes. In December 2005, an attack on one of GOAL's key focal areas in West Darfur caused a shutdown of services in the vicinity. Numerous local field-based staff fled with their families to distant villages, including nutrition outreach workers. The food store located in the town was abandoned, all supplies and food commodities lost. Approximately 10,000 Darfurians were displaced to villages scattered throughout the area, including nearly 600 malnourished children who were enrolled in GOAL's SFP.

A rapid response was essential to ensure that a nutritional crisis did not emerge. GOAL conducted security assessments to determine the location of the majority of the new IDPs, and conducted rapid nutrition assessments within two weeks of the attack to determine where SFP services could be moved in order to reach the greatest number of displaced beneficiaries.

An additional problem was locating missing staff. In each village visited, sheikhs were asked to locate any displaced GOAL staff that had relocated to the area. The sheikhs were given the date and location of GOAL's next visit so that staff could receive pay and be returned to work in a new site if they so wished.

Although SFP supplies and staff were available in the area, the conflict was so disruptive that providing health or nutrition services was impossible. However, in another scenario, it may have been possible for SFP services to continue in this location, as all the required inputs – staff, food, and facilities – were already positioned in the field. Based on the lessons learned from this experience, GOAL is planning to test the option of self-sufficient field-based locations in its programme in North Darfur so that services can be continued for a short time, even if the location gets cut off from the programme base by fighting.

Strategies for dealing with insecurity

Decentralising services

Decentralising nutrition services allows for better access into local communities, and, if supplies and staffing are sufficient, can allow SFP and CTC services to continue even in the event of a suspension of travel to the field.

GOAL's nutrition programme in Jebel Mara operated out of one central hub, with four primary programme centres. In each, a food store was built to hold SFP supplies and food. Enough food was stored to cover at least two distributions, or one month, of food. From each of the programme hubs, two or three SFP sites were served. Every two weeks, nutrition workers travelled by car from the primary town in the region. They stayed in secure overnight locations, set up with bedding and shelters in each of the four programme hubs, which were then used as a base to provide SFP services to the surrounding sites.

Each programme hub was used as a base to serve 2-3 nearby SFP sites, and all sites were served during 3-4 day overnight visits. This strategy increased the amount of time available at each SFP distribution, allowing women enough time to walk from their homes to the project site. However, additional logistical and security planning was required to ensure that communication systems were in place and that supplies were pre-positioned and sufficient for the whole stay.

Overnight visits also increased the risk that staff could be stranded in a field location if fighting erupted between the field site and the programme base. This happened in January 2006, when the base town of Golo was attacked, and staff working in the field had to be evacuated by airlift. This underscored the importance of good communication systems, clearly-defined evacuation plans, and advance preparation – for example, one way to prepare for this scenario is to identify potential helicopter landing sites in all programme locations, and collect GPS data for each site.

Although it carries risks, the strategy of decentralising services could be taken one step further, by hiring local nutrition staff, who are then fully trained in providing SFP or CTC services. In the case of Jebel Mara, field-based nutrition staff had already been identified, and

S Roughneen, Dafur, 2006

Selma Abdullah of GOAL distributing TFC rations at Fata Borno Clinic/IDP Camp, north Darfur

the storage capacity for food commodities and supplies was adequate. Caretakers kept their registration cards with them so record-keeping was also decentralised.With additional training, the field-based nutrition staff could have continued SFP services even if the headquarters staff were unable to reach the location.

T Keegan, Dafur, 2006

GOAL staff meet local sheiks to discuss access and programme activities in Kutum town and IDP camps

Developing strong communication with communities, local leaders, and authorities

Good communication systems are crucial for a number of reasons. First, because of the threat of insecurity and the restrictions placed on NGO movement, agencies often have very limited direct access to local communities, making screen ing and community sensitisation impossible for town-based staff. Instead, community volun teers, locally-based staff, and local leaders must be enlisted to bring messages to communities.

In GOAL's Jebel Mara programme, between 4 and 8 outreach nutrition workers operated out of each programme hub. On distribution days, the outreach workers helped provide SFP services. During the rest of the two-week cycle, they visited the homes of children who had been absent at the distribution to reduce defaulters, and conducted screening and community sensitisation. Outreach workers were selected from local communities; although they were still subject to some danger while travelling in rural areas, they had better knowledge of the local security situation, and were better able to access rural communities.

In GOAL's North Darfur programme, locally-based Community Health Promoters (CHPs) conduct house visits to follow up on children absent from SFP or CTC services, to conduct screening and education, and to raise awareness among the community. In rural areas, where distances are great, CHPs are provided with donkeys in order to travel between villages. In areas where no CHPs are present, local sheikhs are asked to inform community members about nutrition services to encourage them to bring thin children for screening.

In October 2005, GOAL carried out a household nutrition survey, covering the entire catchment population of its North Darfur programme. To enter rural villages, a number of steps had to be taken:

- Discussions were held with local authorities to gain approval to carry out the survey.
- Advance approval was sought from authorities, listing all locations selected for the survey, and the dates that villages would be visited.
- Letters were carried by clinic staff to the sheikhs in the selected villages to inform them of the purpose of the survey, and the dates on which the communities would be visited.

Without effective channels of communication, the survey would not have been possible. Regular communication enhances the acceptability of the organisation within the community and reduces the threats to staff, who can sometimes be regarded with suspicion by military and political groups. It is important to maintain visibility and transparency of programme activities, so that communities are aware of who is providing key services, and how those services are organised. This reduces the risk to staff by increasing the perceived value of the organisation – there will be less interference in programme activities if soldiers or community members perceive that the organisation is providing valuable services, and can trust that the organisation will do what it says it will.

Health and Community Education

One of the most important factors in successfully providing nutrition services in insecure areas is community awareness and education. Because agencies are limited in their direct access to communities, following up on beneficiaries is much more difficult. Instead, nutrition workers must stress at each distribution the importance of returning every two weeks for services. In order to increase the perceived benefits of the programme, mothers are encouraged to think of Corn Soy Blend (CSB) as treatment for a sick child, rather than as food. At each distribution, caretakers have to be reminded of the importance of not sharing CSB.

In both of GOAL's Darfur programmes, SFP services are provided in conjunction with clinic services, located on or near the grounds of a local health centre. This encourages the idea of SFP as a treatment, and also allows easy referral between health and nutrition services.

Planning for the future

As in most emergency situations, there was a large influx of funding and agency support after the early, critical stages of the Darfur conflict, resulting in a quick improvement in health and nutritional status among children in the region. Funding for food aid and nutritional services has slowly waned since the initial crisis passed. However, hundreds of thousands of households are still dependent on food aid as their primary food source, and still lack access to livelihoods, productive land and alternative sources of food because of ongoing insecurity.

A number of challenges have emerged in 2006. The WFP recently announced that food aid rations in Darfur will be cut in half because of a shortage of funds. This will directly reduce the effectiveness of SFPs, as food rations are shared among other family members. Donor support for SFPs and TFPs has declined as a result of lowered admissions following the early nutritional crisis. The majority of agencies providing supplementary and therapeutic feeding in Darfur have demonstrated poor performance in comparison with internationally accepted standards for cure and default rates, resulting in further questions about the effectiveness of feeding programmes given the context of insecurity and difficult access.

It is difficult to get a true sense of the nutrition context in the region because of the constraints in carrying out surveys and rapid assessments. Surveys can only be conducted among accessible populations, such as in IDP camps, towns, and more stable rural areas. The most vulnerable children are often missed by these surveys. However, several recent assessments, including one carried out by GOAL in October 2005, have found that GAM rates are still above emergency thresholds in many areas, and increasing admissions in feeding programmes indicate that the situation is worsening. Food security has been further compromised by the conflict, especially for the many vulnerable populations still living in camp settings. Faced with a reduction in international assistance, many agencies are having to adopt new strategies to sustain the gains that have been made since 2003.

Given the precarious state of donor funding, the dependence of two million Darfurians on food aid, and the inability to predict the effect the Abuja peace deal will have on the security situation on the ground, it is clear that effective provision of nutrition services in Darfur is contingent on a number of external factors. On the one hand, reduced general food rations will compromise the effectiveness of the SFPs and TFCs, where implemented. On the other, renewed fighting between opposing factions – currently divided over the recent peace agreement – will undermine the ability of agencies to provide SFPs and TFPs.

Providing nutritional services in conflict settings is particularly challenging, but can be effective with planning, flexibility, and good communication. While high rates of malnutrition persist, populations in Darfur will continue to require emergency feeding services over the coming months. However, it is clear that short-term nutrition solutions, such as emergency feeding programmes, are at risk of being discontinued given the constraints that have developed over the last few months. In order to sustain the improvements that have been seen in nutrition over the last 3 years, greater attempts will need to be made to build the capacity of existing community and health structures to address malnutrition in the long-term.

T Keegan, Dafur, 2006

Drug distribution during an SFP at GOAL clinic, Kassab IDP camp, north Darfur

For further information, contact: Gwyneth Hogley Cotes, Nutrition Coordinator
email: ghogley@gmail.com, and Dennis Curry, Field Coordinator – Kutum, Darfur
email: dcurry@goalsudan.com

WHO meeting report on community-based management of severe malnutrition

Ministry of Health staff working in outpatient therapeutic care in a clinic in Ethiopia

J Spector, Valid Int, Ethiopia

A meeting of experts was organised by the Department of Child and Adolescent Health and Development and the Department of Nutrition for Health and Development of the WHO, by UNICEF and by the UN Standing committee on Nutrition in Geneva on 21-23 November 2005, to review recent developments in community-based management of severe malnutrition and to formulate recommendations. In preparation for this meeting, five background papers were prepared:

- A review of methods to detect cases of severely malnourished children in the community for their admission into community-based therapeutic care programmes. Myatt M, Khara T, Collins S.
- Efficacy and effectiveness of community-based treatment of severe malnutrition. Ashworth A.
- Key issues in the success of community-based management of severe malnutrition. Collins S, Sadler K, Dent N, Khara T, Guerrero S, Myatt M, Saboya M, Walsh A.
- Local production and provision of ready-to-use therapeutic food for the treatment of severe childhood malnutrition. Manary M.
- The sustainability of Community-based Therapeutic Care (CTC) in non-acute emergency contexts. Gatchell V, Forsythe V, Thomas PR.

These, along with the meeting report, are all available at
http://www.who.int/child-adolescent-health/publications/NUTRITION/CBSM.htm

Taking MUAC measurement of a child in Ethiopia

J Spector, Valid Int, Ethiopia

Revised Operational Guidance on IFE

An updated version of the Operational Guidance for Emergency Relief Staff and Programme Managers on Infant and Young Child Feeding in Emergencies is now available from the ENN. First developed by the Interagency Working Group on IFE in 2001, it has been revised by the IFE Core Group (UNICEF, UNHCR, WHO, WFP, IBFAN-GIFA, CARE USA, Fondation Terre des hommes, and ENN) co-ordinated by the ENN.

The aim of this short document is to provide concise, practical (but non technical) guidance on how to ensure appropriate infant and young child feeding in emergencies. A number of elements are also applicable in non-emergency settings.

The Operational Guidance focuses especially on infants and young children under 2 years of age and their caregivers, recognising their particular vulnerability in emergencies.

It is intended for emergency relief staff and programme managers of all agencies working in emergency programmes. It applies to emergency situations in all countries.

Beginning with a summary of key points, this 24 page document is organised into six practical steps:

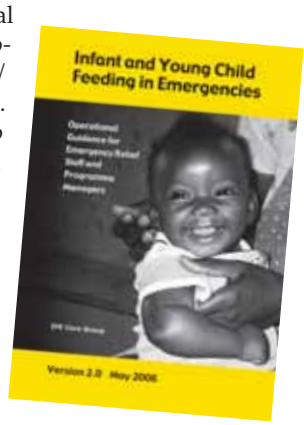
1 Endorse or Develop Policies
2 Train Staff
3 Coordinate Operations
4 Assess and Monitor
5 Protect, Promote and Support IFE through Integrated Multi-Sectoral Interventions
6 Minimise the Risks of Any Artificial Feeding.

Key definitions are included at the end and supporting information on how to implement the guidance is referenced throughout.

The revised Operational Guidance is currently available in English and Bahasa (Indonesia) and translation into other languages is underway.

Agency support and feedback

The 2001 Operational Guidance was supported by 30 INGOs/NGOs/UN agencies. The IFE Core Group wish to define and establish agency support for this revised edition with future prints listing supporting agencies.



If you or your agency would like to engage in this process, would like to receive print copes, or have any feedback or comments you wish to share, contact the IFE Core Group c/o Emergency Nutrition Network, 32, Leopold Street, Oxford, OX4 1TW, UK.
Tel: +44 (0)1865 324996, fax: +44 (0)1865 324997, email: ife@ennonline.net
The Operational Guidance can also be downloaded from http://www.enonnline.net in pdf or html format

International Food and Nutrition Security Course 2007

An international training programme on food and nutrition security is planned to take place between 12 February – 27 April, 2007, at Wageningen International, The Netherlands. It aims to provide the course participants with knowledge, skills and motivation to identify, plan and implement effective action on food and nutrition security at various levels, ranging from (national) policy level to regional, community, household and individual level programmes.

The training programme can be followed as a complete 11 weeks' programme, which leads to a diploma at postgraduate level or can be followed as 'stand alone' certificate courses.

Course content

1. Distance Learning Programme: Key Concepts in Food and Nutrition
2. Key Concepts and Current Issues in Nutrition
3. Food and Nutrition Security in the Context of HIV/AIDS
4. Seminar on Rights Based Approaches for Food
5. Monitoring and Evaluation of Impact on Food and Nutrition Security
6. Nutrition Communication and Promotion; a NewApproach to Nutrition Education

A limited number of fellowships to cover costs are available from the Netherlands Fellowship Programme (NFP). Candidates should first apply to Wageningen International for admission to the course before 1st September, 2006. Acceptable candidates then apply for a NFP fellowship through the Netherlands Embassy in their own country (deadline: 1st October 2006). The application deadline for non-fellowship candidates is 30th January 2007.

Apply to Wageningen International online at www.wi.wur.nl or email: training.wi@wur.nl or contact Wageningen International, P.O. Box 88 6700 AB Wageningen, The Netherlands, Tel +31 317 495 495 Fax: +31 317 495 395

For further information on the content of the course, email: fannie.deboer@wur.nl or wijnand.klaver@wur.nl

Improved formula for WHO oral rehydration salts

A new improved Oral Rehydration Salts (ORS) formula has been developed by the World Health Organisation (WHO) and UNICEF. It contains less glucose and sodium than the standard formula (245 mOsm/l compared with the previous 311 mOsm/l), which allows for quicker absorption of fluids. This reduces the need for intravenous fluids and makes it easier to treat children with acute non-cholera diarrhoea without hospitalisation. Because of the improved effectiveness of reduced osmolarity ORS solution, WHO and UNICEF now recommend that countries use and manufacture, for diarrhoea of all aetiologies and in all age groups, the new formulation.

Detailed recommendations concerning the provision and production of ORS are provided in a revised joint WHO/UNICEF publication, 'Oral Rehydration Salts: Production of the New ORS' that is available on the WHO website, along with the revised monograph of the formula at http://www.who.int/medicines/publications/pharmacopoeia/Oralrehydrationsalts.pdf/ Detailed technical information can be found on the UNICEF site: http://www.supply.unicef.dk/catalogue/bulletin9.htm

Additional information on diarrhoea can be found on UNICEF's Facts for Life website http://www.unicef.org/ffl/07/ and on the WHO Child and Adolescent Health web site http://www.who.int/child-adolescent health/New_Publications/CHILD_HEALTH/Acute_Diarrhoea.pdf

For more information contact: Daniela Bagozzi, Communications Officer, WHO
Telephone: +41 22 791 4544,
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E-mail: bagozzid@who.int or Claire Hajaj, Media Officer, UNICEF New York,
Telephone: +1 212 326 7566
E-mail: chajaj@unicef.org

Profile of new ORS formula

New ORS	g/l	%		mmol/l
Sodium chloride	2.6	12.683	Sodium	75
Glucose, anhydrous	13.5	65.854	Chloride	65
Potassium chloride	1.5	7.317	Glucose, anhydrous	75
Trisodium citrate, dihydrate	2.9	14.146	Potassium	20
	20.5	100	Citrate	10
			Osmolarity	245

The new ORS packaging
©UNICEF/SD02-025/Yvonne Thoby

Orientation workshop on IFE

The IFE Core Group[1] is planning an orientation workshop on infant and young child-feeding in emergencies (IFE) scheduled for 1-2 November 2006 in Oxford. Organised by the ENN and funded by UNICEF, IBFAN-GIFA and CARE USA, the overall aims of the meeting are:

- to orientate participants on IFE, the work of the IFE Core Group and the IFE resources that have been developed.
- to identify and practically address the key constraints facing staff in implementing IFE related policies and strategies in emergency settings.
- to network technical HQ and regional staff of UN agencies and NGOs with donors, professional bodies and academics.

The workshop agenda has been informed by a recent evaluation of the use of Module 2 (see summary in this issue) and by field experiences shared with the IFE Core Group relating to emergency responses in Pakistan and Indonesia post earthquake and post tsunami. This workshop is not limited to infant feeding specialists but will include NGO and UN HQ and regional staff, donors, professional bodies, academics and media representatives. The meeting will:

- Facilitate exchange of experiences on supporting IFE at a regional and national level, with focus on Asia in particular.
- Explore the use of policy guidance in recent emergency responses to identify strengths, weaknesses, and constraints to implementation.
- Highlight the recently updated Operational Guidance on Infant and Young Child Feeding in Emergencies (2006) and establish criteria that define agency support.
- Demonstrate the use of the training materials.
- Identify training needs and resources needed to support training activities.

The IFE Core Group members will meet for a third day to formulate a strategy for moving forward.

Anyone who is interested in attending, or would like to recommend a participant, should contact the IFE Core Group c/o Marie McGrath, ENN, tel: +44 (0)1865 324996, email: ife@ennonline.net,

[1] Since 1999, an interagency collaboration (IFE Core Group) has been committed to developing training materials and policy guidance on infant feeding in emergencies. The IFE Core Group currently comprises UNICEF, UNHCR, WFP, WHO, ENN, IBFAN-GIFA, Fondation Tdh, and CARE USA, co-ordinated (since 2004) by the ENN.

New Classification Tool Integrating Food Security and Humanitarian Action

A new tool has been developed at the Food Security Analysis Unit (FSAU) to harmonise and improve the rigour of classifying and providing early warning of various stages of food security and humanitarian situations. Developed in-situ in Somalia, the Technical Manual for the Integrated Food Security and Humanitarian Phase Classification (IPC) draws on internationally accepted standards and so is applicable in a wide array of livelihood contexts and crisis types.

The IPC is not an assessment method and does not replace existing food security information systems or methodologies. Rather, it is a complementary classification system that integrates multiple data sources, methods, and analyses to provide a 'common currency' for food security and humanitarian crises, explicitly linking analysis to action.

Key aspects of the tool include:

- Situation Analysis: where fundamental aspects of a situation (e.g. severity, cause) are identified.
- Classification of food security and humanitarian situations into one of five phases based on outcomes on lives and livelihoods – (1) Generally Food Secure, (2) Chronically Food Insecure, (3) Acute Food and Livelihood Crisis, (4) Humanitarian Emergency, and (5) Famine/Humanitarian Catastrophe. Using key information, Early Warning Levels (EWL) are used to communicate the risk of a worsening phase: (1) Alert, (2) Moderate Risk, (3) High Risk.
- A Strategic Response Framework is provided for each phase with a view to mitigating immediate negative outcomes, supporting livelihoods, and addressing underlying/structural causes.

Organised into four components, the IPC comprises a core Reference Table (covering phases and EWL), Analysis Templates (to help organise key information), Cartographic Protocols (mapping and communication tools to visualise situational analysis on one map), and Population Tables (to aid effective communication of population estimates).

The manual is available from the Food Security Analysis Unit – Somalia, Kalson Towers, Parklands, Box 1230 Village Market, Nairobi, Kenya
Ph: 254-20-3745734 Fax: 254-20-3745098
Email: fsauinfo@fsau.or.ke
Or online at http://www.fsausomali.org

Ideas for future improvements are welcome and should be directed to the FSAU.

Ref: FAO/FSAU 2006. Integrated Food Security and Humanitarian Phase Classifi cation: Technical Manual Version 1. Nairobi, FAO/FSAU Technical Series IV.11

New WHO growth standards

This New WHO Growth Standards for infants and children up to 60 months of age, highlighted in Field Exchange 27, are now available. The standards were developed using data collected in the Multi Centre Growth Reference (MGRS) study. They describe normal child growth from birth to 5 years under optimal environmental conditions and can be applied to all children everywhere, regardless of ethnicity, socio-economic status and type of feeding.

The new standards differ from any existing growth charts in a number of ways:

- The new standards are prescriptive and describe how children should grow. This differs to the descriptive references that have only been available until now.
- Breastfeeding is the biological norm and the breastfed infant is established as the normative growth model. The previous growth reference was based on the growth of artificially fed children.
- The pooled sample from the six participating countries has allowed the development of a truly international standard (in contrast to the previous international reference that was based on children from a single country). Child populations grow similarly across the world's major regions when their needs for health and care are met.
- These standards include new growth indicators beyond height and weight, such as skinfold thickness.
- The study's longitudinal nature allows the development of growth velocity standards. This should enable the early identification of children in the process of becoming under or over nourished, rather than waiting for children to cross a growth threshold.
- Six key motor development milestones are included that provide a link between physical growth and motor development.

The WHO continues to recommend the use of the NCHS/WHO international growth reference for children older than 5 years. The new standards do not affect anthropometric measures, indicators, cut-offs, etc, for adolescents, adults, pregnant adults, and the elderly.

The new growth standards will have implications for emergency nutrition programming, especially for screening, prevalence estimation and monitoring/evaluation.A paper by WHO comparing growth patterns and estimates of malnutrition based on the WHO Child Growth Standards and the NCHS/WHO reference is currently in press[1]. This analysis highlights important differences between the WHO standards and the NCHS reference that vary by age group, growth indicator, specific percentile or z-score curve, and the nutritional status of index populations. Particularly relevant for emergency contexts, the analysis identifies increased prevalence of wasting and severe wasting using the new growth standards, in infancy (2.5 – 3.5 times the estimates based on the NCHS references) and also throughout childhood (1.5 to 2 times the NCHS based estimate). The operational implications for emergency nutrition programming are not explored in this paper but are highlighted in a detailed letter submitted to Field Exchange (see this page).

The standards and associated software are available on the WHO website www.who.int/childgrowth.
Training and sensitisation will be taking place in various parts of the world during this year.

For further information, contact: Dr Mercedes de Onis, World Health Organization, Department of Nutrition, 1211 Geneva 27 Switzerland. Telephone: 41-22-791 3320. Fax: 41-22-791 4156. E-mail: deonism@who.int

[1] de Onis M, Onyango A, Borghi E, Garza C, and Yang H. Comparison of the WHO Child Growth Standards and the NCHS growth reference: implications for child health programmes. Public Health Nutrition, 2006 (in press).

Letters

This new 2006 WHO Growth standards: What will they mean for emergency nutrition programmes?

Dear Editor

Whilst welcoming the principles which have driven the development of the new 2006 WHO growth standards (see news piece this page), we wish to draw attention to important practical implications for emergency nutrition programmes. We think it is important that these are explored and discussed in detail before the new standards are implemented in operational settings.

The need for new growth standards

An internationally valid, 'gold standard' range against which child growth can be assessed has long been needed. There are several reasons why the previous NCHS (National Centre for Health Statistics)/ WHO Reference data fell short of this ideal:

i) It was constructed on a cohort of North American children, from a single community and a single ethnic group of European ancestry.
ii) Data was gathered from 1929-1975, a long period during which nutrition varied greatly. The main issue of concern was that infants were pre-dominantly bottle-fed rather than breastfed, as is considered ideal today.
iii) Statistical methods have advanced significantly since the original NCHS/WHO growth curves were constructed in the 1970's. Applying better statistical techniques to the same dataset was what led to the CDC 2000 growth references.
iv) Increasing numbers of studies in both developed and developing country settings found that apparently healthy, breastfed children were being labelled as abnormal according to the NCHS/WHO References.

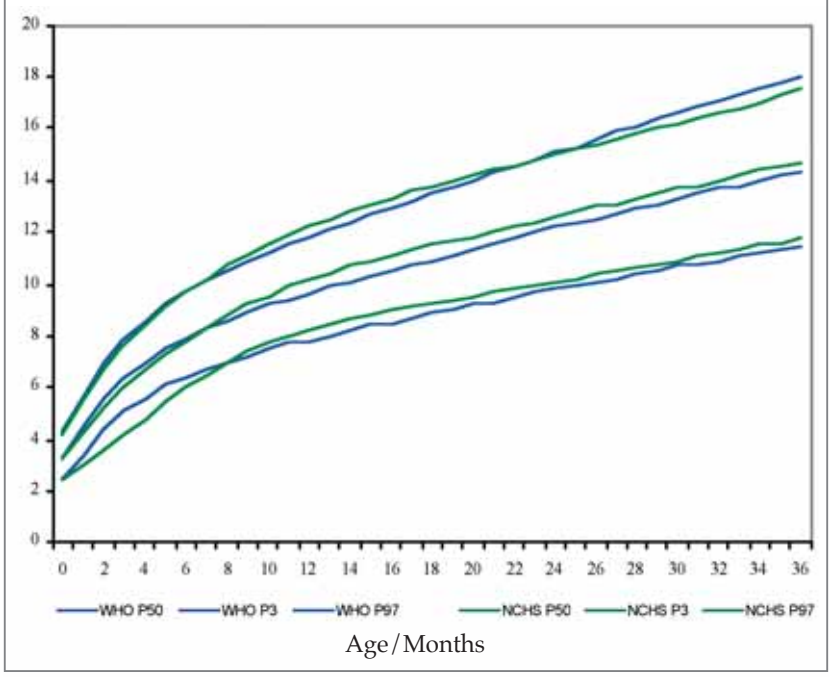
MGRS (Multi-centre Growth Reference Study)

The MGRS[1] ran from 1997-2003 and was explicitly designed to generate a growth standard to show how children should grow, rather than just a reference that allows comparison. Following extensive screening to select only those children free of health or environmental (socio-economic/nutritional) constraints to growth, a total of 8,440 children were observed at six international sites (Brazil, Ghana, India, Oman, Norway, USA). The study had two components: longitudinal work followed children from birth to 24 months; a cross-sectional study observed children from 18-71 months. State-of-the-art statistical techniques were chosen to construct growth curves from this data. Key outcomes from the MGRS are:

i) The strongest evidence yet that a single international child growth standard is valid. Free of environmental and nutritional constraints, children of very different ethnic groups all grew the same: only 3% of length variance was due to inter-site differences.
ii) New z-score and percentile references charts/tables for weight-forage, length/height-for-age, and weight-for-length/height.
iii) Additional standards not present in NCHS/WHO Reference: Body Mass Index (BMI); Mid upper arm circumference

[1] www.who.int/childgrowth/en/

Figure 1 – Comparison of weight for age percentiles for boys aged 0-36 months



(MUAC); skin-fold thickness; and motor developmental milestones.

iv) A devoted website with extensive literature relating to MGRS and the new standards.

v) Free downloadable software which may, in the future, enable both individual and population anthropometric status to be calculated using either NCHS/WHO Reference or WHO Standard data.

Differences between the old and new growth curves

There are important differences between the old references and the new standards. There is however no easy or consistent way of transforming anthropometric measures between the two: the growth lines do not run in parallel with simple shifts up or down. Factors affecting the magnitude and direction of differences between old and new cut-offs include: a child's age; a child's length/height; which measure (i.e. WHZ; WAZ or HAZ) is being considered; whether the child under consideration is above or below median; and whether the z-score or % of median is being considered. As an example, shown below are the weight-for-age percentile lines (P) for boys between 0 and 36 months. The curves cross, sometimes more than once, illustrating that the magnitude and direction of the difference between the NCHS/WHO Reference and the WHO Standards is dependent on the age of the children and his location on the distribution.

In short, the net effect of the new standards on the measurement and diagnosis of growth and malnutrition is complex!

Implications for emergency nutrition assessments and feeding programmes

1. Comparability and interpretation of nutrition data

Interpreting trends in nutritional status and setting agreed thresholds for action are important for emergency nutrition programmes. With the adoption of the new WHO standards the ability to easily compare the results of current surveys with previous data will be lost, and this will make new data more difficult to interpret.

This problem could be overcome by allowing for a period of dual-analysis of survey data. If results from surveys are analysed using both the new WHO Standards and the currently used NCHS/WHO Reference, then sufficient data and experience may be built up with the new system whilst assuring 'backwards compatibility'. Though potentially complex and confusing for non-specialist policy-makers, this approach would eventually enable trend and risk models to be recalibrated and appropriate new action thresholds set. However, a note of caution must be added. Although software is available from the WHO web site that can be used to analyse surveys (WHO Anthro 2005), at the moment it does not deal with cases of oedema in the standard way, making calculation of the correct estimates of Global Acute Malnutrition (GAM) and Severe Acute Malnutrition (SAM) difficult.

2. Prevalence assessments using z-scores

Weight-for-length/height is a key anthropometric measure for emergency feeding, widely used in malnutrition prevalence surveys to assess the need for, or effect of, a nutrition programme. It is therefore important to know what are the expected effects of the WHO Standards on the measured prevalence of GAM and SAM.

• *Effect on SAM ~ a marked increase*

Overall, the new WHO standards will increase the measured prevalence of SAM through increasing the value of the weight for height <-3 z-scores cut-off. The difference is maximal (1kg) for infants with lengths around 60 cm. As length increases, this difference narrows and from 76.5-86cm length, the NCHS/WHO Reference cut-off is temporarily higher by about 0.2 kg. With yet further height increase, the WHO Standard cut-off again becomes greater. There is a second peak difference of 0.6 kg for children above 100 cm.

• *Effect on GAM ~ small but unpredictable*

For GAM the weight for height cut-off is <-2 z-scores. The pattern of differences for -2 z-score follows that for -3 z-scores but, due to their different magnitudes, may lead to an increase or decrease in prevalence depending on the height profile of the surveyed populations and the relative contribution of SAM to GAM.

3. Feeding programme enrolment and discharge

• *Feeding programme enrolment if using % of median*

The percentage of the median has long been the de facto field measurement for the admission of children to selective feeding programmes (therapeutic for SAM; supplementary for moderate acute malnutrition). As yet, WHO do not provide % of the median tables for use with the new Growth Standards. However, if these are tabulated something unexpected is observed. Paradoxically, in contrast to what we saw with z-scores, when the new standards are applied in percentage of the median measurements, there is an overall decrease in the cut-offs for acute malnutrition. This would therefore lead to a decrease in the numbers of children eligible for selective feeding. Both the 70% and 80% curve follow the same pattern.

• *Feeding programme discharges if using % of median*

Discharge from selective feeding programmes typically takes place when patients achieve 80 or 85% of their median weight for height. With application of the WHO Standards, these cut-offs will be reached at a lighter weight so children will, on average, be discharged earlier. The effects of this change on relapse, re-admission or case fatality rates are currently unknown.

• *Feeding programme enrolment if using z-scores*

If agencies move to using z-scores based on the WHO Standards as entry criteria for selective feeding programmes what changes in admissions can be expected? We mentioned above that the -3 z-score cut-offs have increased with the new standards meaning that more children will be diagnosed as severely malnourished and therefore eligible for admission to therapeutic feeding. To assess what magnitude of difference this could entail we looked at historical data from 3 refugee operations in Africa and Asia. The numbers of children eligible for admission to therapeutic feeding increased by between 500 and 600%[2]. If programmes plan to use the new WHO Standard z-score cut-offs they may need to plan for at least a 5 fold increase in patient load.

• *Feeding programme discharges if using z-scores*

If patients are discharged at -2 z-scores then the impact on average treatment duration in any programme will be variable, depending on the particular height profile of the population.

Conclusions

The new WHO standards represent significant theoretical advantages over the old NCHS/WHO growth references. However, their introduction poses a number of potentially serious operational challenges, which, in the opinion of the authors, have not yet been adequately discussed or addressed.

In emergency settings, the likely effect is a great increase in the diagnosis of SAM, and a possible increase in GAM – if assessed by <-3 and <-2 Z-scores respectively. This might be seen as a great opportunity to enrol more children in therapeutic feeding programmes (TFPs). However, if this line is pursued the funding implications and possible diversion of resources away from food security, livelihoods, and other public health interventions need careful consideration.

There is however another, perhaps more serious possibility: if % of median remains the field programme admission criteria, significantly less children might be admitted to programmes. This risks confusion between different programmes, misallocation of resources, and potentially harmful impacts on clinical care and public health outcomes. It is crucial that operational agencies work to achieve a consensus on the way ahead.

Recommendations

We believe that the new WHO standards represent both great opportunities but also great challenges for emergency nutrition. They should not be implemented in haste. We call for a body comprising UN and NGO implementing agencies to be rapidly established to coordinate a response to this operational challenge.

Sincerely,

Marko Kerac, Valid International and College of Medicine, Blantyre, Malawi, and Andrew Seal, Institute of Child Health, London, UK

[2] unpublished data

A Fundi, ACF-USA, S Sudan, 2004

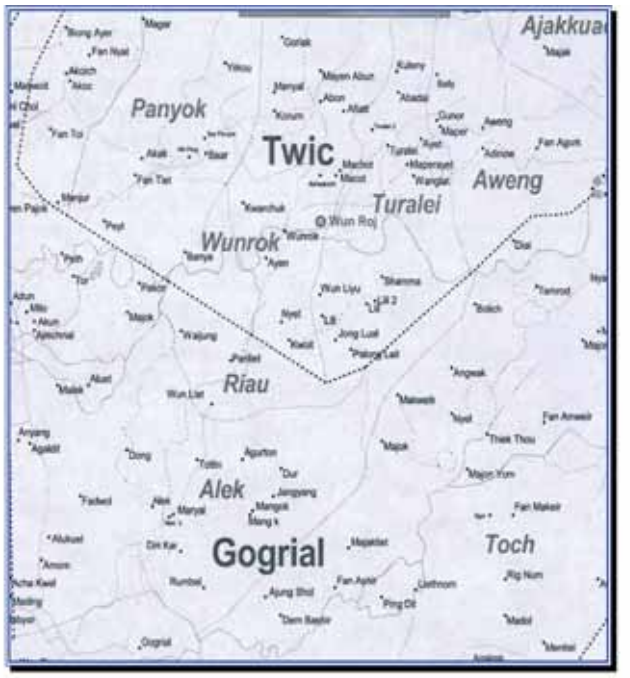
Waiting to be weighed in the HT programme

Home treatment for severe malnutrition in South Sudan

By Josephine Querubin, ACF-USA

Josephine Querubin is a medical doctor who has been working in humanitarian work for the past 12 years. Beginning in her home country, the Philippines, she moved to international work with the EU, MSF-CH, and then ACF-USA. She began working with ACF-USA in South Sudan in August 2003 becoming Medical and Nutrition Coordinator, and finished in March 2006.

The author would like to acknowledge the work of the local staff and ACF team in South Sudan reflected here. In particular, the author would like to mention Mark Wamalwa, Veronica Natesiro, Edna, and Samson Ekale who have displayed immense dedication and hard work in running the programmes in south Sudan, caring for the children in more ways than drugs and food alone ever could. The author would also like to acknowledge the support of Marie Sophie Simon, HQ nutritionist with ACF-USA, who has been with the team throughout and taught us how to do things right, yet enjoy at the same time.



This article details the largely positive experiences of ACF-USA in using home treatment as an integral part of their programme to manage severe malnutrition in South Sudan.

Many parts of South Sudan, especially in Upper Nile and Bahr-el Ghazal regions, experienced a prolonged pre-harvest hunger period in 2005 following the delayed rains that had adversely affected crop production in the previous year. Given the poor access to water and health services in the area, in conjunction with a large influx of returnees, the nutritional situation became even more precarious than usual. ACF-USA had a strong presence in Upper Nile since 2001 and was therefore able to extend programming in Bahr-el Ghazal in response to the emerging nutritional emergency in Twic and Gogrial counties in 2005.

Both Twic and Gogrial counties are situated in Warab State in the northern section of the Upper Nile region, North East of South Sudan. Warab State lies in the flood plains agro-ecological zone and receives extensive seasonal flooding from the tributaries of the River Nile. With a vast land area, the villages and homesteads are scattered and far apart. The population is predominantly from the Dinka tribe, which comprise approximately 5% of southern Sudan's estimated population of about 8.9 million. Crops and livestock production are the main sources of livelihood.

Background to treatment for severe malnutrition

It is common practice among the communities of the south for women to tend to every member in the family, as well as perform most of the household and farm labour. At the same time, mothers are the principal caretakers of any severely malnourished child admitted to a treatment centre. Conventional Therapeutic Feeding Centres (TFCs), especially in open settings with widely dispersed populations and where the beneficiary and caretaker must stay in for 24 hours for an average of one month, have always been faced with low coverage or a high default rate or both. Following various studies to improve the management of the severely malnourished and increase the impact of therapeutic feeding programmes, Action Contre le Faim (ACF) has, in recent years, employed the Home Treatment (HT) approach. In this approach, once medical complications have been controlled, the child continues nutritional rehabilitation with Ready-to-Use Therapeutic Food (RUTF) at home and comes for scheduled follow-up at the centre until the desired weight is reached. Piloted by ACF-USA in Upper Nile in 2004, the HT protocol was subsequently implemented in Gogrial county last year.

TFC–HT programme

The programme was designed to cover at least four Payams in the county (West Gogrial). One Therapeutic Feeding Centre-based Home Treatment Programme (TFC-HT) was established in Alek, with the capacity to treat 200 severely malnourished, along with one Supplementary Feeding Programme (SFP), designed for a capacity of 800 moderately malnourished children. Health Education and Gardening programmes were also implemented alongside. These programmes ran over a six-month period.

Initial activities of the team focused on linking with the SRRC (Sudan Relief and Rehabilitation Commission) counterparts, local authorities, and other agencies on the ground, on community orientation and mobilisation, and on preparing for both the logistics and technical requirements of the programme. ACF-USA designed and implemented this phase within a three-week period. During this period, Sudanese national staff received training that covered general subjects like the organisation's charter and Staff Rules and Regulations, as well as technical topics like nutrition/malnutrition, and the objectives and functioning of the TFC-HT and SFP. In addition, each category of staff received specific training following a standard module and according to their duties and responsibilities as detailed in their job descriptions.

From experience and analysis of the context, ACF-USA consider the minimum standard acceptable in south Sudan for feeding programmes coverage is 50% of the acutely malnourished children as estimated from a baseline nutritional survey in the targeted area. For its programmes in Alek, Gogrial West in 2005, ACF-USA targeted coverage of

60%, hence, 200 severely and 800 moderately malnourished were expected at the TFC-HT and SFPs, respectively. At the end of its six month programme life, the TFC-HT exceeded the expected beneficiary case load, having admitted 259 children under five years of age and three adults. This is equivalent to programme coverage of 78% of all severely malnourished children based upon the December nutritional survey and the February rapid assessment.

ACF South Sudan TFC–HT protocol

ACF-USA's protocol for the treatment of severely malnourished individuals is divided into different phases: Phase I or the Intensive Care Phase, Transition Phase, and Phase II or the Rapid Weight Gain/Rehabilitation Phase.

Admission criteria are as follows:

- For children 6-59 months, a weight for height ratio of less than 70% and/or bilateral oedema (kwashiorkor) and/or MUAC (Mid-Upper Arm Circumference) less than 11.0 cm for children with height above 75 cm.
- Children or adolescents from 5 years to 18 years, a weight for height less than 70% of the median and/or bilateral oedema.
- Adults with body mass index less than 16 and/or bilateral oedema

Phase I (Intensive Care) is carried out in the TFC where the patients receive systematic medical treatment, and daily medical follow-up, with specific treatment if indicated. Nutritional treatment is based on a F75 therapeutic milk diet that provided 135 ml/kg per kg body weight per day. The average stay is 4 to 7 days.

Patients move to the Transition Phase when:

- they are recovering their appetite
- in kwashiorkor cases, when the oedema has begun to disappear
- they are no longer fed by naso-gastric tube (if this was necessary during phase I)
- they are no longer seriously ill.

In the transition phase, the energy intake is increased and the proportion of energy-providing nutrients modified, allowing the patient to adapt progressively to a diet expressly designed to produce a rapid gain in weight. Hence, F100 milk is introduced at 100ml/kg to provide the same energy value as phase I, i.e. 100 kcal/day. This phase lasts 2-4 days and is also carried out in the TFC.

Following the transition phase, the patient without problems is transferred to Phase II (Rapid Weight Gain) of treatment (for patients with kwashiorkor, complete disappearance of oedema signals this transfer). The treatment consists of medical check-up every two days and full F100 diet (i.e. 200 kcal/kg/day plus porridge) to obtain optimal increase in weight. The average stay is 2 to 4 weeks. This phase is carried out either at the TFC or as Home Treatment.

The Home Treatment option is offered to caretakers whose children fit the following criteria:

- Older than 12 months
- Acute medical complication/illness have been controlled and no need for further medical treatment
- Absence of nutritional oedema on admission
- The child has successfully passed through phase 1, transition phase and spent 2 days in rehabilitation phase within the TFC itself
- The mother/caretaker fully understands the feeding protocols
- The patient/caretaker lives in the catch ments areas delimited for Home Treatment.

The patients on Home Treatment are not considered as cured, and medical and nutritional follow up continues through weekly attendance at the identified HT Centre/s and through regular monitoring by home visitors. In case of treatment failure or relapse (loss of weight, medical complication (such as primary complex tuberculosis (PTB)), the beneficiary is readmitted and continues treatment in the centre. Those who do not fit the HT eligibility criteria complete Phase II of treatment at the TFC.

The discharge criteria for the TFP are:

- an ascendant weight gain curve and no disease present, and
- reached target weight for height of 80% of median and MUAC > or = 12 cm for two consecutive measurements, and
- for kwashiorkor cases, at least 15 days since the disappearance of oedema.

All severely malnourished patients admitted to the therapeutic programme are discharged to the SFP for the Consolidation Phase. Patients are reviewed during the scheduled distributions of the SFP to receive follow-up care (medical monitoring and supplemental feeding) to avoid relapse.

Results

Based on all programme records, the cure rate in the TFC-HT programme was high at 81% (this compares well with the SPHERE minimum standard of 75%). The mean length of stay for the children who recovered was 48 days, averaging a weight gain of 9 g/kg/day. Seventy two percent of those children that recovered underwent home treatment, while 28% remained at the centre throughout. Of the 28% who were managed in the TFC, 10% did so due to persistent medical complication or because they were aged under 11 months. The remaining 18% were actually eligible for home treatment but opted to stay at the centre, either because of distance from their homes or due to flooding that would have impeded follow-up.

Weight gain

During the second phase of treatment where rapid weight gain is meant to occur, children at the TFC spent an average of 22 days gaining 16g/kg per day to reach the desired weight. At home, it took about 18 days longer to reach target weights with a slower weight gain of 7g/kg/day. Ninety two percent of the children on HT completed the treatment until full recovery, while only 82% did so at the TFC. The children who recovered on the HT regime spent 4-5 days in phase 1 and 4 days in transition at the stabilisation centre where they adapted to the use of RUTF (Plumpy'nut).

Length of stay

Some of the children had medical complications that could not be controlled or reversed at the TFC. Four and a half percent were therefore referred to specialised clinics, although the mortality rate at the TFC was still minimal at 2.5%. These specialised clinics (currently ten with another under construction) come in the form of PHCUs (Primary Health Care Units), run by Norwegian Church Aid (NCA). These provide primary health services for the entire county of West Gogrial, and are available for the referral of medical complication cases.

Defaulting

Overall, defaulter rates were low at 12%, with 15% defaulting among those who stayed at the TFC and 7% amongst those on HT. Generally, the shorter stay at the centre (average of 8-9 days) as well as the readiness to use RUTF at home improved receptivity to, and acceptability of, the HT programme among mothers and children. There were no cases of relapse among HT children that compelled their return to the centre. An ongoing study of this treatment protocol and its results across different AAH missions is being undertaken and it is anticipated that the duration of stay at TFCs may be even shorter elsewhere than found in this programme.

Constraints

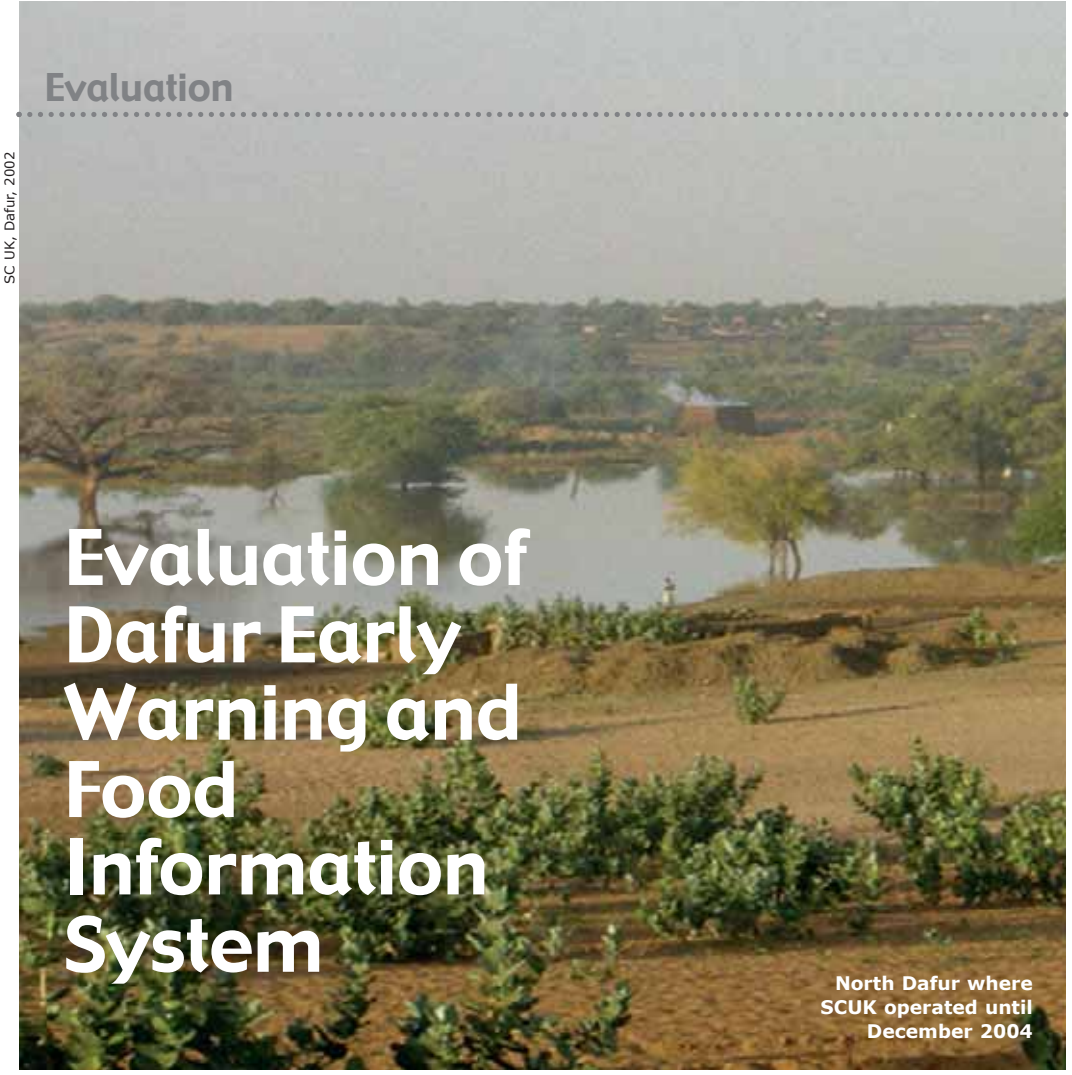
Although largely successful, certain programme constraints operated. As with most areas in south Sudan where ACF-USA operates, homesteads and villages are widely dispersed amidst difficult terrain, which frequently experiences widespread flooding. Without internal means of transport in the field or the capacity to match the number of centres with the number of villages, the strategy is highly reliant on a network of locally based 'home visitors'. Their critical role involves screening and referrals at the community and household level, monitoring the children (particularly those on home treatment) and tracing defaulters. Given the physical arduousness of the work and shortages of home visitors, programme effectiveness can easily be compromised. Given this and the general economic marginalisation and growing needs of the south Sudanese community, especially following the peace accord with the North, there are many challenges still to be tackled if we are to achieve full coverage and maximum impact of HT.

For further information, contact Adalbert Mena Fundi, email: med@aahssd.org, or Marie-Sophie Simon, ACF-USA, email: mss@aah-usa.org

[1] A training module for National Staff in the TFC/SFP was developed by ACF-USA and was employed in Alek.

A Fundi, ACF-USA, S Sudan, 2004

Medical assessment as part of the TFC-HT programme



SC UK, Dafur, 2002

North Dafur where SCUK operated until December 2004

Evaluation of Dafur Early Warning and Food Information System

Summary of evaluation[1]

Save the Children UK (SCUK) recently commissioned an evaluation of the Darfur Food Information System (DFIS), which was established in North Darfur in 1993. This evaluation was carried out in November and December 2005 and covered the third phase of the DFIS from 2002 to 2004. By that time, the system had expanded to monitor the food security status of displaced Dinka in South Darfur and more recently had expanded into West Darfur. During most of DFIS's lifetime, its principal role has been to provide early warning of the impact of drought, the main threat to food security in Darfur. In 2003, armed conflict broke out in the three states of Darfur on an unprecedented scale and with ferocious intensity. Thus, DFIS had to adapt from being a drought-oriented early warning system (EWS) to one where conflict was the principal threat to food insecurity, triggering the displacement of over a million people. How DFIS performed in adapting to this very different context was one of the key focus areas of the evaluation. The evaluation also reviewed the DFIS's effectiveness in providing early warning of drought-related food insecurity before 2003 and in triggering timely response.

After the tragic death of SCUK staff, the organisation decided to rapidly pull out of all the Dafur States on 19th December 2004. As a result, SCUK had to discontinue DFIS without a proper hand over to other actors. This evaluation also considers the legacy of DFIS since SCUK withdrew from Darfur.

Performance of DFIS prior to the conflict – 2002 to early 2003

Since 1996, DFIS has been based on the Household Economy Approach (HEA) methodology. The starting point was to divide rural North Darfur into six 'food economy zones (FEZ)' and to carry out baseline profiles in each. DFIS has been run entirely by national SCUK staff during its lifetime, ensuring a strong sense of ownership of the system and of its methodology by the SCUK Darfur team.

It is unfortunate that some of the baseline profiles that underpinned DFIS were written up but not published up until 2004 - at least four years after they had all been completed - thus missing opportunities to influence and inform. Nevertheless, the baseline profiles provide very valuable information on livelihoods in North Darfur and were essential to the annual village and household survey carried out in October each year. This is when HEA really came into its own, producing a clear plan for food aid needs in each FEZ, as well as recommendations for other non-food emergency interventions. There is every indication that this annual assessment was carried out effectively, professionally and in a timely manner during the pre-conflict period. The collaboration between international non-governmental organisations (INGOs), the World Food Programme (WFP) and government in the process was exemplary, under the auspices of the Food and Water Emergency Committee of North Darfur. In 2003, SCUK planned a nutrition survey encompassing causal analysis of one of the FEZs, but the field work was hampered by insecurity.

Market monitoring was done weekly throughout the year as an ongoing indicator of food security status. Nutrition surveys usefully complemented the regular food security monitoring by confirming the existence (or otherwise) of a food crisis in a FEZ of particular concern. However, the underlying causes of malnutrition are still poorly understood for some FEZs in North Darfur.

The publication of periodic DFIS bulletins throughout the year was the main means of communicating EW messages between annual assessments. These bulletins brought together analysis of all the different indicators and were particularly useful for trend analysis. However, presentation of the bulletins was not very compelling. Recommendations in earlier evaluations to improve the bulletins do not seem to have been effectively implemented.

SCUK's early warnings of annual food aid needs in North Darfur were rarely heeded and did not trigger a timely response from donor governments. A very small proportion of estimated needs were delivered by June/July – the critical months – in 2001, 2002 and 2003. The political environment was simply not conducive to a timely response.

Between 2001 and 2003, DFIS's close relationship with state government really paid off in terms of how the authorities, and the Wali in particular, could use the DFIS analysis for their own lobbying and advocacy purposes with federal government and with international donors. Collaboration with federal government at a technical level was also strong. DFIS was seen to provide accurate and realistic estimates of need partly because of its methodology. But federal government's overall willingness to respond to food crises and food insecurity in Darfur was limited.

The negative impact of a consistently late response to food crises in Darfur included distress migration, high malnutrition rates and reduced cultivation because of food shortages in the early 2000s. As is typical for most EWS, DFIS's focus was biased towards information gathering and analysis with much less attention paid to communication and advocacy. Given the hostile political environment that DFIS was operating within, there needed to be a much greater investment in advocacy (and persuasive oral presentations rather than written reports) than was actually the case. This would have required organisational commitment at all levels: in Darfur, Khartoum and London.

Technical support and capacity building of DFIS partners has been a prominent feature of its work. As a result, SCUK has built up a cadre of individuals in North Darfur – in government and in INGOs – with a good understanding of food security and of HEA, and has built a sense of ownership of the DFIS approach. The challenge with government was how to build capacity in a sustainable way when government departments were so poorly resourced in terms of basic infrastructure, such as computers and transport. Also, as government officials became more skilled, many sought work with international agencies. The one gap in DFIS's capacity-building work was with local community based organisations (CBOs) and NGOs, some of which enjoy much greater access to rural areas and local communities during the current conflict than government staff.

Performance of DFIS once conflict became the principal threat to food insecurity, 2003–2005

During 2003/04, SCUK's programme in Darfur went through a major transformation to adapt to a large-scale and highly politicised, conflict-related emergency. By all accounts, this was a very painful transition, ridden with tension between incoming international staff and long-term national staff, unclear management structures and the emergence of dysfunctional parallel systems. This seriously inhibited DFIS's performance.

Methodologically, it really struggled to adapt. A major gap was the lack of any assessment of DFIS's capacity to adapt to this escalating conflict environment, nor was consideration given to bringing in external expertise, despite the limited expertise in-country to work in such a politicised conflict environment. Erroneously, the focus of the country programme was on longterm issues of vulnerability and food security in Darfur. But fortuitously this meant that an external consultant was brought in during 2004 to support DFIS to address underlying issues of vulnerability. Adapting to the new conflict environment was not part of the consultant's terms of reference, although this soon became central to her role. This input was critical but was late. For example, not until mid-2004 did the HEA methodology adapt to doing rapid assessments. Yet these were needed from mid-2003. When rapid assessments were carried out, the reports were strong and well-written. Meanwhile the DFIS bulletins were not. They tended to follow the old format so they were neither compelling nor clear in terms of their key message. A much sharper and tighter analysis was needed. In short, the key early warning/monitoring role that SCUK could have played during 2004 was not fully realised.

In order to respect humanitarian principles when conflict broke out, and to protect SCUK's independence, DFIS needed to adapt institutionally to this changed and highly politicised environment. Most notably it needed to distance itself from government, one of the key actors in the conflict. Unfortunately this took a long time to happen, dangerously affecting perceptions of SCUK. Such an adjustment in institutional relationships would never have been easy and could only have been managed by an expatriate presence. It was too much to have asked of national staff who had spent years building those relationships.

Despite these shortcomings, there is evidence that DFIS played a valuable role early on in the conflict, briefing incoming agencies and providing time-series data (e.g. market price data) on demand. Although slow to be written up, its database on livelihoods before the conflict is invaluable for comparative purposes to understand how livelihoods have been affected by the conflict, and is being used as such by a small number of international agencies.

SCUK's withdrawal from Darfur was lamented, without exception, by all agencies interviewed during this evaluation. It has left a gap in information collection and analysis at state-level that has not yet been filled, as most agencies focus on information collection in their own particular geographic area of coverage. Unfortunately the way that SCUK withdrew did not help to bridge this gap. Withdrawal appears to have become a logistics exercise in which strategic decisions about handover to other agencies and even protection of the SCUK resource base, were overlooked. In short, SCUK has not left behind a functioning information system in Darfur.

[1] The Darfur Early Warning and Food Information System. Final Evaluation of Phase 111. By Margie Buchanan-Smith

Evaluation of use of IFE training materials

By Chloe Angood

Chloe has a Bachelors degree and a Masters degree in Development Studies, with an emphasis on HIV/AIDS, nutrition and agriculture. Following 3 years as a programme co-ordinator for the NGO, Viva Network, in Zimbabwe, she worked for the HQ offices of Viva Network (programme management and training) and for Mango (recruitment). She is currently studying for a MSc in Public Health Nutrition at the University of Southampton and working part-time for the ENN.

An evaluation was recently conducted of two training modules (Module 1 and 2) on Infant Feeding in Emergencies (IFE) developed by the IFE Core Group (UNICEF, WHO, WFP, UNHCR, IBFAN-GIFA, CARE USA, Fondation Terre des hommes and ENN) and produced by the ENN[1]. The purpose of the training modules is to prepare emergency relief staff to safeguard maternal and child health in emergencies by ensuring appropriate infant feeding. Module 1 is aimed at emergency relief staff while Module 2 is more specifically designed for health and nutrition workers directly involved with caregivers and infants. Both modules are available in print, online and on CD.

Method

The evaluation was conducted between February and May 2006 and covered the period April 2005 – April 2006. It involved an analysis of ENN's distribution database, downloads from the ENN website, and an email survey targeting 100 recipients. Thirty-four recipients responded to this email (one third of all recipients). Answers were clarified through further emails and telephone calls.

Main findings

Distribution of training materials

The print materials and CDs were distributed on request by the ENN. A discretionary subsidised charge was applied, although the materials were available free to individuals or agencies who could not afford to pay for them.

Overall, 169 copies of Module 1 and 826 of Module 2 and 47 CDs were distributed to 28 organisations (including UN organisations, local and international NGOs, training and research institutions) and 13 individuals in 46 different countries. In addition, 1755 items were downloaded from ENN's website between December 2005 and April 2006. The relatively small number of CDs requested may be due to lack of marketing as the CDs had been developed and produced by the ENN in-house on a 'shoe-string' budget, with no funding for larger scale production and distribution.

The majority of the materials (90%) were distributed to IFE Core Group members, mainly UNICEF, UNHCR, IBFAN-GIFA and CARE USA. The materials were mostly used internally by these organisations, in regional and field centres, or were distributed to partners. In some instances, the materials were shared with donors to highlight the work of the IFE Core Group and in one case cited, to successfully fundraise for continued agency participation in the IFE Core Group.

Only 10% of the print materials were disseminated directly to recipients outside of the IFE Core Group. Donor agencies did not feature on the print distribution list but were targeted by some IFE Core Group members and at the launch of the materials at the UN SCN meeting in 2005.

Downloading Module 2 from ENN's website may well be a more practical means of access for agencies – web access was identified as a significant access point in a previous evaluation of Module 1. However, even allowing for that, a more proactive targeting of field level operations is needed.

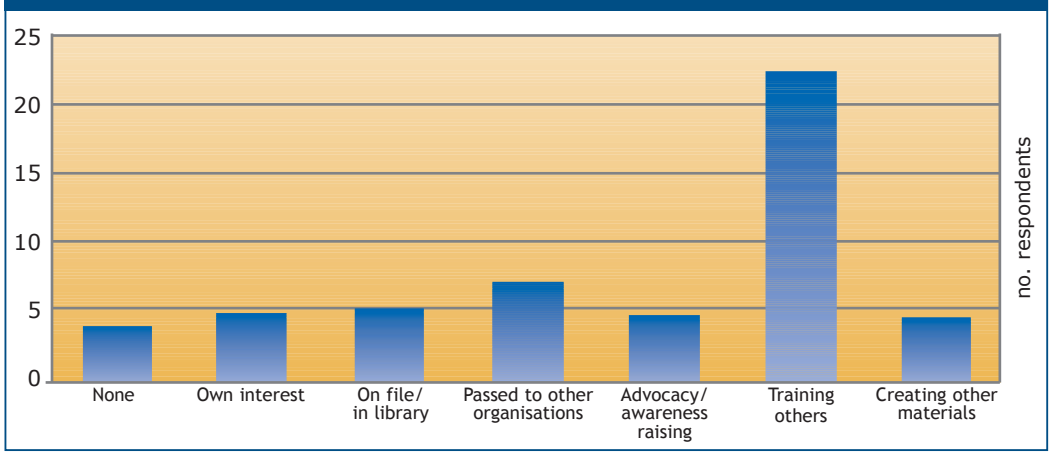
Uses of materials

The materials have been used in a variety of ways (See figure 1) in different contexts. These include:

- Training field practitioners. For example, UNHCR in Ethiopia used Module 2 to train field personnel in seven refugee camps, including doctors, nurses, midwives, community health agents and traditional birth attendants.
- Producing other training courses and materials. For example, IBFAN-Asia Pacific used Modules 1 and 2 to develop guidelines for their partners in how to survey calamity struck areas following the Asian tsunami.
- As an advocacy tool for policy change (see box 1).

[1] See Modules 1 and 2 online at www.ennonline.net and contact details at the end for print copies.

Figure 1 Use of materials by respondents



The materials have been used more broadly than intended – half of respondents used the materials in non-emergency contexts. Only one quarter used them to train practitioners – this may reflect alternative uses, the need for more specific targeting of the materials, or a lack of training skills amongst the users.

Content of materials
The survey confirmed that the materials provide previously unavailable technical information to field practitioners. A number of respondents described some of the content as 'unique' and filling a gap in information. However, there was a call to further simplify the text. A number of respondents also raised the appropriateness of the materials (particularly pictorial representation) in places where cultural taboos around breastfeeding exist.

Respondents highlighted gaps in information not covered by the materials. Infant feeding in the context of HIV and AIDS, and complementary feeding were considered priority areas. Other suggestions included:

- Practical advice on how to handle organisations handing out infant formula/baby milk
- Include a section '20 frequently asked questions' on infant feeding in emergencies
- Community preparedness for emergencies in terms of infant feeding (considered par ticularly relevant for Latin America)
- Related human rights and humanitaria laws.

Accessibility of materials
The survey revealed the need to make the materials accessible to a wider audience. There was clear demand for the modules to be translated into other languages (including French, Spanish and Italian). Other formats that may be more easily distributed were suggested, e.g. as a power point presentation and as a book. Although CD format could improve access considerably, it has been under utilised as a means of distribution[1]. Respondents also suggested holding training workshops.

Planning, Monitoring and Evaluation
Analysis of the project as a whole revealed a lack of clearly defined targets and indicators. The distribution of materials was adequately monitored by ENN, however the system to monitor web downloads needs improving. There is also no system to track dissemination by IFE Core Group members other than ENN. It is still early days but subsequent evaluations may reveal more about the long term impact of the training modules.

Recommendations

Specific recommendations from the evaluation include:

- Marketing the materials to a wider range of organisations, including international NGOs and donors, technical and nontechnical staff.
- Revision of the materials on the basis of new evidence in priority areas, such as infant feeding in the context of HIV and AIDS and the management of severely malnourished infants.
- Future updates should consider the adapted materials developed by users in future versions of the modules, refine the text, and develop versions applicable where cultural taboos may exist.
- Highlight resource gaps that do not fall within the remit of the IFE Core Group to other partners and organisations that might be willing to produce them.
- Consider developing new materials on priority areas, such as complementary feeding in emergencies. Engage in a deeper process of consultation with stake-holders to decide on priority areas.
- Translation of the materials into other lan guages, develop and market the CD format more widely, and consider producing future drafts of the modules in a more cost-effective format.
- Hold regional workshops to orientate users on applying the modules.
- Define plans, including targets, objectives, outputs and indicators for the next stage of the project.
- Set up systems to monitor downloads from the ENN website and to track the secondary dissemination of materials through IFE Core Group members.

Follow-up

Since the evaluation, the ENN has begun to address a number of the recommendations, including developing a better system to monitor downloads from the ENN's website, and direct 'marketing' of the materials to NGOs and donors. A number of the issues highlighted in the evaluation, such as developing training materials on complementary feeding in emergencies, updating the materials to reflect developing areas like infant feeding in the context of HIV and AIDS, and translation of the materials, have long been identified as priority work areas by the IFE Core Group. A perquisite to seeing these recommendations through is the identification of resources to support IFE activities. This will be one of the main outcomes sought at of the IFE orientation workshop scheduled in November 2006 (see news section in this issue).

A full copy of the evaluation is available from the ENN. For further information on the training modules or the November meeting, (see news piece, p14) contact the IFE Core Group c/o Marie McGrath, ENN, email: ife@ennonline.net

[1] Large sections of Modules 1 and 2 have been included on the recently completed TALC CD on community nutrition. For details, see www.talc.org

Box 1

"At the end of 2005 I was informed that a church organisation had written a letter to the Ministry of Health (MOH) offering to provide free infant formula to distribute to all artificially fed infants in country starting from 9 months of age. I spoke on the phone to the head of the MOH department and reminded her of the previous experience in our country when breastfeeding rates decreased 3 times because of the free formula supply, and I also reminded her of the provisions of the International Code. She suggested that I write a statement to this effect to the MOH, so that they could use it when answering the letter, which of course I did. I referred to Module 1, section 2.4 'Donations of infant formula in emergencies can be dangerous', Section 3.1 'The International Code of Marketing of Breastmilk Substitutes (BMS)' and Annex 1 'The International Code of Marketing of BMS – summary of portions relevant to emergencies'. I was told informally that my letter was shown to the deputy minister and was used while answering the letter of the church organisation. Their answer was negative. The church organisation also intends to change its practices and in future support breastfeeding. So you can see that the materials were quite useful."

Field respondent to evaluation, 2006.

T Krumbein, Uganda, 2005

A mother spoonfeeds her baby in the NU

Locally produced RUTF in a hospital setting in Uganda

By Tina Krumbein, Veronika Scherbaum, and Hans Konrad Biesalski

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Veronika Scherbaum holds a MSc degree in Mother and Child Health Nutrition. Since 1998, she has been a lecturer in Nutrition in Developing Countries at University of Hohenheim, Germany. In the 1980s she worked for several years in Ethiopia as a nutritionist. More recently, she has been involved in consultancies (mainly for evaluation of SFPs, TFPs and breastfeeding promotion) in Afghanistan, Iraq, Zimbabwe and Darfur.

Hans K Biesalski is director of the Department of Biological Chemistry and Nutrition. He is actively involved in research on vitamin A metabolism and is supervisor of studies in International Nutrition. He is a member of IVACG and chair of a couple of studies dealing with Vitamin A Deficiency Disorders (VAD).

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T Krumbein, Uganda, 2005

Food storage room in the Nutrition Unit

This article describes some of the preliminary findings of a recent study that introduced locally produced Ready to Use Therapeutic Food (RUTF)[1] into a hospital setting in Uganda, comparing its use to F100 during the rehabilitation phase. This article focuses particularly on the experiences producing local RUTF in a hospital setting, including cost comparisons with the routinely used F100.

Kumi Hospital (formerly Kumi Leprosy Centre) is located in Kumi district, about 8 km east of Kumi Town in Eastern Uganda. Established as a general hospital in1997, most of the services and programmes of Kumi Hospital are donor funded. In 1996/97, a poor regional harvest led the Medical Superintendent of Kumi Hospital to request a nutritionist from the German Medical Missionary Team (GMMT) to help with the construction of a Nutrition Unit (NU). The NU was subsequently established in September/October 1998.

Development of the Nutrition Unit (NU)

Initially the NU treated severely malnourished children in the rehabilitation phase, with stabilisation and initial care offered in the paediatric ward of the hospital. The NU also provided food (NU diet, see box 1) for malnourished children who were admitted to other wards or could stay near the hospital. At this stage, other ward staff provided medical care to the children. To improve the care and monitoring of the children, especially at night, and to avoid absence of the mothers/patients on some days, a 16-bed extension to the NU was opened in March 2001, where the children could be accommodated with their caretaker. In May 2004, the NU became a ward with its own employed nursing staff and a dedicated doctor for daily supervision. Severe clinical cases (e.g. those who required naso-gastric feeding) continued to be first admitted to the paediatric ward, with transfer to the NU once stabilised. Malnourished children without obvious medical complications were directly admitted to the NU ward.

All children admitted to the NU are treated according to WHO's 10-step-guidelines (1999). F75 (during the initial phase) and F100 (for the rehabilitation phase) are produced from fresh cow's milk, oil, sugar, and vitamin-mineral complex (CMV therapeutic). The majority of children are weighed daily and weight gain/kg/day was calculated.

As well as treating severe malnutrition, the NU is also actively involved in:

- Identification of malnourished children in the area through home visits or immunisation outreach work.
- Teaching caretakers about basics of nutrition, hygiene and primary health care. Caretakers also worked in the garden of the NU growing some of the food for the programme like groundnuts, vegetables and fruits.
- Counselling of the caretakers in the NU and during home visits, by a trained social worker.
- On the job training and supervision of NU staff.

Since the NU began in 1998, almost 1000 patients have been admitted. Additionally the NU has taken care of outpatients enrolled in the feeding programme but not admitted to the NU.

Study objectives

The main objectives of the study were:

- To compare weight gain, duration of stay and other parameters of two groups of children, one group receiving locally produced F-100 and the other locally produced RUTF, during the rehabilitation phase.
- To develop a suitable procedure for small scale local production of RUTF.
- To develop recommendations for use in the NU on how to produce and administer RUTF.
- To assess and compare prices of F-100 and RUTF (both locally produced)

The study was carried out in the NU between September and December 2005.

Study outline and preliminary findings

During the first weeks of the study, children entering the rehabilitation phase (after their appetite returned) were randomly divided into two groups, one group receiving F-100 and the other local RUTF. However, some children did not like the taste or could not manage[2] RUTF during this early stage of rehabilitation and so random allocation was abandoned. Instead, children whose appetite had improved and who liked the taste of the RUTF were managed using RUTF with small amounts of the NU-diet[3]. These children (n=10) were compared to those who had selected to receive either F-100 exclusively for several days first or immediately a combination of F-100 with small amounts of the NU diet (n=5). All three children who were suffering from oedematous forms of malnutrition on admission received F-75 during the initial phase. At the beginning of the rehabilitation phase, two kwashiorkor cases chose the F-100 group and one opted into the RUTF group. Thus self-selection determined the majority of assignments to the F100 or RUTF group, based on the appetite and food preference of the malnourished child.

Weight gain

Weight gain averaged 9.7g/kg/d in the F-100 group and 7.3 g/kg/d in the RUTF group. The mean duration of stay was 32.6 days in the F-100 group and 28.5 days in the RUTF group. On admission, all children in the F-100 group were severely wasted (W/H z-score <-3), compared to only 22% in the RUTF group. The fact that more severely wasted children self-selected for F-100 than RUTF needs further investigation.

Components of local RUTF

Local production of the RUTF took place in the kitchen of the NU. A procedure for production was developed during August/September 2005 based on an Instruction Manual for local Production of Plumpy'nut written by Nutriset.

As there were only a few[5] children receiving RUTF, only small amounts had to be produced each time – 250 or 500 g. A 500g portion was based on peanut paste (125 g), full cream milk powder (150 g), vegetable oil (75 g), sugar (140g), and vitamin-mineral mix (CMV Therapeutic; 8g). All ingredients for RUTF (See box 2) are available in Kumi or Mbale throughout the year. Although seasonal prices vary (especially sugar), ingredients remain available and their prices within the means of the NU.

Initial production trials

The method for local RUTF production is outlined in box 3. In the first trials in the NU, the oil was not heated however this unfavourably altered the taste of the product. Furthermore, local staff feared that uncooked oil might cause diarrhoea in some children. Therefore the oil was subsequently warmed.

Preparation area for therapeutic feeds in the NU kitchen.

T Krumbein, Uganda, 2005

Box 1

Preparation of the NU-diet

The NU provides locally available food for the patients (porridge, lunch, fruits, porridge and supper) several times daily and one meal per day for the caretakers. The caretaker meal consists of posho (a stiff porridge made from maize flour) and red kidney beans. Every 3-4 weeks, two staff members go to Kumi town or to Mbale (25 km southern of Kumi) and buy food. It is necessary to hire a vehicle from the hospital for this.

Preparation of therapeutic diets

The therapeutic diets (F75, F100, ReSoMal) for all malnourished patients, including those on other wards, are prepared in the 'staff-kitchen' of the NU by one member of the staff, usually the nutritionist. When the nutritionist is not on duty, other staff prepare the diets. Therapeutic milks are prepared in the morning as soon as fresh cow's milk[4] and water are boiled. Oil, sugar and CMV therapeutic are used to prepare therapeutic milk according to recipes hung up in the kitchen. The therapeutic milks are given out to the caretakers once a day in the morning and they are told to boil the milk again before giving it to the child. Each mother has to bring a plastic jug (they are commonly used and easy to obtain in the area). The name of the child is written on the jug and the diet is given out according to the calculated amount for the child. ReSoMal is also prepared in a jug, once in the morning and again during the day if necessary.

Every day, the staff give out food for the caretakers and the children who receive the NU-diet. The caretakers prepare their own lunch and the meals for the children on firewood or charcoal stoves in a kitchen outside the NU-building.

Food storage

One room in the NU is used to store food. This room is also the kitchen for the staff. Posho, beans, groundnuts, rice and sugar are kept in bags on the floor. Fruit and vegetables are covered and kept either on shelves or in the fridge. Flour (soya, rice, millet), fresh peas and green grams are kept in buckets on shelves. Vegetable oil is bought and kept in 20 litre cans.

[1] Based on Plumpy'nut®, a peanut paste semi-solid RUTF produced by Nutriset, France

[2] It is not only the taste, some children were unable to swallow RUTF - perhaps this is due to the consistency of peanut-based RUTF that may be difficult to manage during early stages of rehabilitation.

[3] The reason for early introduction of small amounts of the NU-diet was to increase the variability of food offered and to familiarise the child again with the taste of family food (e.g. a lunch/supper consisted of cereals, beans, dried fish flour, oil and vegetables which was offered ad libitum)

[4] Fresh cow milk is daily bought at 500 USh per litre from a farm near the hospital.

[5] In general, fewer malnourished children are admitted during the dry season as compared to the rainy season. In 2005, a total of 190 children were admitted in the Kumi hospital/NU with a case fatality of 11.6%. It is interesting to note that no child died during the study period, which may be attributed to increased attention and care given to these children by all staff members.

Initially the sugar was not ground which made the product very crumbly and difficult to eat. The sugar was subsequently ground before mixing with the milk powder, which made the product smoother and more palatable. It was feasible to grind all the sugar because there were only small amounts for each production cycle (140 g sugar for 500g RUTF).

In the beginning, an electric mixer, which was brought from Germany, was used to stir the ingredients. Subsequently, mixing was achieved through using a spoon and mashing and shaking ingredients in a closed container until the mixture was a paste.

This proved to be as effective as the electric mixer and was independent of electricity – an important consideration in an area where power cuts are common.

Training staff

After learning about RUTF production, the NU staff members had a chance to ask questions about the product and the production. A sheet with basic information about the product and quantities required for children was included with other recipes in the NU kitchen.

Advising mothers

The paste was given out to the children in cups with a lid. The mothers were told to feed the child with a spoon out of the cup and to offer sufficient amounts of drinking water.

Cost comparison

The cost of producing local F-100, using both fresh cows milk and full cream milk powder (FCM), and for locally produced RUTF were calculated and compared, based on quantities of each that contain 1000 kcal (see table 1). One litre (1000ml) of F-100 based on fresh cow's milk costed 698 USh (32 cent)[7] which is cheaper than the local RUTF produced in this study ((920 USh (42 cent)/1000kcal where groundnuts did not need to be purchased, and remains cheaper if groundnuts had to be bought (1004 USh (46 cent)/1000kcal). The high cost of milk powder is the main reason for the higher price of RUTF, which also accounts for the high cost of FCM based F100 - over double the price of fresh milk based F100.

Conclusions

Different degrees of malnutrition require different feeding options. For severely malnourished children with/or without complications, during the initial stage of rehabilitation it is appropriate to offer small amounts of RUTF in addition to F-100 and to observe which type of therapeutic food a child prefers.

Appetite does not always remain consistent during the early stages of recovery. Some children who re-developed signs of fever or diarrhoea temporarily lost their appetite again. In such situations, it is important to have access to alternative types of therapeutic food.

Locally produced RUTF was well accepted by the majority of less severely malnourished children in the NU. The duration of stay was also shorter in these children. This suggests that earlier discharge combined with a weekly check-up and distribution of RUTF (i.e. home-based therapeutic feeding until full recovery) is a realistic option for certain children and their caretakers, especially for those who live close by.

Local production of RUTF in the NU in Kumi hospital is feasible. The means for production (spoon, cups, boxes, a fridge) were already available in the NU, and practicalities, like grinding sugar or manual mixing, were possible since only small amounts were being prepared. However, local production did rely on imported vitamin-mineral mix, which in this instance was already being supplied. This may be a constraint where a supply and a budget are not in place. Only small amounts were produced, therefore the caster sugar, which was used instead of icing sugar, could be ground easily before use. This could become more difficult when larger amounts of RUTF have to be produced locally (e.g. during the rainy season when there are typically higher admission rates).

Recommendations

Different types of locally prepared RUTF (e.g. with milk powder in supervised feeding settings and without milk powder for locally prepared take home rations) should be explored to increase the variety and safety of therapeutic food and to support the local economy.

In an institutional setting (hospital/NU) the right time to offer RUTF to (severely) malnourished children with complications needs to be further investigated. There needs to be access to different types of therapeutic food for children at various stages of malnutrition.

Children who are discharged early (before full recovery) should receive a take-home ration of RUTF and be followed-up on a weekly basis. The right time for discharge needs to be negotiated between the caretaker and hospital/NU staff members.

For further information, contact: Dr. Veronika Scherbaum, email:scherbau@uni-hohenheim.de

[6] To prevent aflatoxin contamination mothers were told to exclude all peanuts that showed any discoloration or other irregular appearance.

[7] F-100 prepared with full cream milk would cost 1558 USh (71 cent) (see table 1)

Table 1 Cost-comparison of 1000kcal equivalents of F-100 (using fresh cow milk or full cream milk powder) and local RUTF

Fresh cows milk		Full cream milk powder (FCM)		Local RUTF	
Amount	**Cost**	**Amount**	**Cost**	**Amount**	**Cost**
880 ml fresh cows milk	440 Ush	110g FCM	1320 Ush	57g FCM	784 Ush
75g sugar	113 Ush	50g sugar	75 Ush	53g sugar	80 Ush
20g veg oil	35 Ush	30g veg oil	53 Ush	29 ml veg oil	29 ml veg oil 46 USh
Half a msp* CMV	110 Ush	Half a msp CMV	110 Ush	3g CMV	106 Ush
				48 g peanut paste	83 Ush **
Cost per litre:	**698 (32 cent)**	**Cost per litre:**	**1558 (71 cent)**	**Cost per 190g:*** **	**1004 Ush (46 cent)**

Costings calculated in Ugandan Shillings (Ush) and euro (cents).
*Measuring spoon included with CMV therapeutic
** When bought at the local market
*** Costing calculated from weights and prices to produce 500g RUTF (2625 kcal): where cost/500g divided by 2.63 to produce cost/190g RUTF (1000 kcal)

Box 2

Peanuts (or groundnuts) are very common in Kumi and are grown in the NU-garden. For the study, they were taken from this year's harvest. After harvesting, the mothers dried, peeled[6], roasted without salt and milled them using a wooden mortar. The paste was stored in a tin. Before making the RUTF, the quality of the paste was checked by checking the colour, smell and taste.

For the study, 7.5kg of full cream milk powder (enriched with Vitamins A and D) was bought in in Kampala and Mbale supermarkets at a cost of 30,000-35,000 USh (13.50-16 euro) per 2.5kg tin. Before using the powder, the use-by date, appearance, colour (white to yellow, creamy), taste and the smell (milky, bit sweet) were all checked.

Sugar and oil were already regularly bought by staff of the NU for the preparation of F-75 and F-100. Sugar was purchased in Kumi town in 50 kg-bags, which cost 75,000 Ush (34 euro) per bag (the price of 1 kg of sugar is 1,500 USh). It was impossible to stop ants getting into the bags so, before using the sugar, impurities were removed and quality was checked.

Vegetable oil was regularly bought in cans of 20 litres. The price of one can was 35,000-40,000 Ush (16-18 euro). The cost of 1 litre was 1,750-2,000 USh. Quality was checked before use.

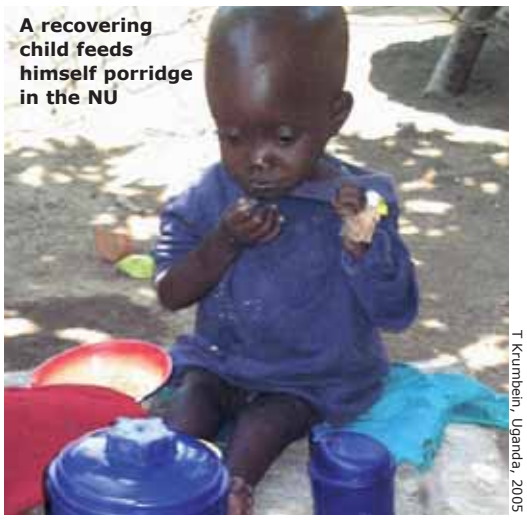
Vitamin-mineral-premix (CMV therapeutic) was already available in the NU since used in the preparation of F-75 and F-100. It is regularly ordered from Nutriset in France. The costs were as follows:

1 kg of CMV: 15.69 euro

1 carton of 6 tins of 800 g each (4.8 kg): 75.31 euro

Transport to Kumi from France: 62 euro/carton

Total price per carton (6 tins; 4.8 kg):302,080 Ush (137.31 euro)/carton (3 cents/g) CMV was stored in 800 g tins in the kitchen. Before use, the use-by date and quality were checked.



A recovering child feeds himself porridge in the NU

T Krumbein, Uganda, 2005

Box 3

1. First the vegetable oil is warmed through. Then the amount of peanut paste and the amount of (cooled) oil are weighed with a digital weighing scale to the nearest 0.1 g and both are mixed with a spoon until the mixture becomes homogenous (this takes about 5 minutes).
2. The sugar is then weighed and ground with a pestle and mortar to a finer powder. The required amount of milk powder and CMV are weighed and mixed with the sugar in a container. Mixing takes about 4-5 minutes.
3. The peanut-oil-mixture is then poured into the powder-mixture and again mixed with a spoon until it becomes a kind of paste. It is not only stirred but also pressed/mashed against the container.

Lutheran Development Services (LDS)

ENN, 2006

L to R: Bjorn Brandberg, Meketane Mazibuko, Euni Motsa, and Nhlanhla Motsa (picture taken in complete darkness!)

Name	Lutheran Development Services (LDS)
Address	P. O. Box 388, Mbabane, Swaziland
Tel	+268 404-5262/404-3122
fax	+268 404-3870
Email	lds@realnet.co.sz
Formed	1994
Director	Bjorn Brandberg
Number of staff	42
Main office	Ka Schiele, Mbabane, Swaziland, with a field offic in Ndzevane
Annual Turnover	4.5 million Emalangeni (approx 750,000 US dollars)

By Marie McGrath, ENN

An ENN trip to Swaziland offered the opportunity to profile one of the local NGOs, Lutheran Development Services (LDS), working there. Thanks to a very accommodating team who gathered together at only an hour's notice, I spent a couple of hours talking with four of the organisations' key staff. The Director of LDS, Bjorn Brandberg, joined the organisation in 2004, replacing the retiring director, Pamela Magitt. As an architect and a Sanitation Advisor, he first began working in Africa in 1976. Many years were spent doing consultancy work in the region with the World Bank/UNDP/UN Habitat. The desire to work with his own team was one of the reasons for joining LDS. Meketane Mazibuko, Gender and Advocacy Co-ordinator, and Euni Motsa, HIV & AIDS Coordinator, joined LDS as food distribution personnel in 1995. Halfway through the interview we were joined by Nhlanhla Motsa, the LDS Emergencies Project Manager, who began working with LDS in 1995. While I was impressed with how each had worked their way up the organisation into key roles, I was particularly taken with Euni's openness in sharing how 2002 was a particularly challenging year for her, where her appointment as HIV/AIDS Co-ordinator coincided with her learning of her own HIV positive status. While it has not been easy, the support and "gentle nudges" of her LDS colleagues has meant that she now heads up the HIV/AIDS section and is an inspirational example of positive living with HIV/AIDS.

Bjorn began by explaining how LDS emerged from a trend within the Lutheran World Federation (LWF) to shift from LWF owned NGOs to localised NGOs. LDS is the development arm of the Evangelical Lutheran Church in Southern Africa Eastern Diocese. It is an autonomous NGO governed by a Board of Directors whose chairperson is the bishop. LDS was formed in 1994 and is one of the first localised NGOs that is church owned. Geographically it covers Swaziland and part of Mpumalanga Province, South Africa. In practice, activities are concentrated in the drought-prone lowveld region of Swaziland, the area where there is the greatest need.

Given the high prevalence of HIV in Swaziland (42.6% at antenatal clinic screening), I asked Bjorn how significantly HIV/AIDS influenced their work. He responded that HIV/AIDS infiltrates, "even dominates" pretty much every aspect of their programming. One way or another, most of their activities are motivated, are influenced or viewed from a HIV/AIDS standpoint. This is helped through a LDS team that is dedicated to HIV/AIDS programming. While now an integrated project within LDS, this was not always the case. "When I first started with LDS", says Bjorn, "HIV/AIDS was a separate sector, actually located in a separate office to the rest of the LDS team. In an attempt to pull HIV activities of the church together, the HIV/AIDS team had been located in one unit". Meketane and Euni add how, despite the original good intentions, this had actually marginalised the group so integration was not very obvious, though they themselves couldn't see this. "So I had to take them by the ear, and drag them in", smiles Bjorn. "Literally", laughs Meketane, "every day he would come in and ask, 'when are you joining us in the LDS main offices?' and finally one day he came and said, 'you are moving in now, today' and so we did. It was only when we moved in that we realised how segregated we had been. Since then, the HIV/AIDS team have felt very much part of the LDS family."

"The next step is to drag the Lutheran church in as well", says Bjorn. "We have a common vision and goal and are doing everything but work together". He explains how the LDS network is much smaller than that of the church and, if they were to join forces, would form the biggest most powerful network. Extending their activities equally to all areas would really stretch their resources and dilute their efforts – something that working with the church network would help overcome. Recent developments have been encouraging. Fuelled by some lobbying by LDS – described as " putting the cat amongst the pigeons", by Bjorn – greater institutional pressure is now coming from the HQ of the LWF in Geneva and from the Nordic countries (who are the big funders for churches) to work with organisations like themselves. So while this collaboration is not as good as they'd like, Bjorn feels the "wind is now blowing in the right direction".

Three quarters of LDS's work is emergencies-related programming, with sustainability and community involvement at the core of what they do. "Our mission statement says it all", says Bjorn, "in that we work so that 'the poorest of the poor develop quality of life through acquisition of knowledge and skills for self-reliance and sustainability in enhancing their livelihoods'". But he adds that "preaching this is one thing, practising is quite another - we have high ideas about helping people to take charge of their own futures, but these can be too tough to implement on the ground". The team go on to detail some of the income generating activities (IGAs) they have been involved in, such as a beadwork project for people living with HIV/AIDS (PLWHA) in a day care centre in Bethal whose products are sold within South Africa. Other IGAs involve agriculture, poultry farming, and they are developing plans for some gardening projects. The hope is that with minimal input, IGAs can develop and reduce dependency on aid. Bjorn reaffirms that the challenge is to achieve this in areas of acute need where people have very limited capacity to help themselves, like in the lowveld region.

Despite their origins and links with the Lutheran church, LDS sources no funding from the local church community. "While we preach self sustainability, we then live as beggars ourselves" says Bjorn as he describes their funding sources. LDS gets most of its funding through the LWF and their core donors are Bread for the World, Church of Sweden mission, Finn Church Aid and Action by Churches Together (ACT). They also get funding from WFP, UNICEF, the National Disaster Task Force (NDTF) and UNAIDS as implementing partners. At the same time, they are trying generate funds through income generating projects that offer the freedom to use the proceeds and profits as they see fit. One initiative underway involves setting up a medical psychologist in a clinic in

Mbabane where he will run his own facility, charging those who can afford to pay, and in doing so generate income to support services for those in need and fill the huge gap in psychosocial services for those living with HIV/AIDS in Swaziland. Euni describes how, despite her positive approach and the support of her workteam, living with HIV/AIDS can still feel like a "disaster waiting to happen." This isn't helped by a lack of high profile role models in Swaziland living with HIV/AIDS and the considerable stigma still attached to the diagnosis. Bjorn goes on to elaborate on another plan in progress, to build a Conference Centre on the land surrounding their office which is owned by the church and which is the most economic use of the land. With his background in architecture, he was involved in drawing up the detailed plans a number of years ago. The process of approval has been long, but with the arrival of a new bishop for the diocese who is very supportive Bjorn feels that this project is coming much closer to fruition.

The arrival of Nhlanhla marks a good point to elaborate on LDS's emergency activities. LDS implements general food distributions under both WFP and the NDTF. School feeding programmes, mainly concentrated in the lowveld areas, provide children with a snack of Corn Soya Blend (CSB) and a cooked lunch. Through clinic feeding programmes, pregnant and lactating women and malnourished children under five years receive a take home ration of CSB. A newer innovation has been Neighbourhood Care Points (NCPs) for children who, for a variety of reasons, are not attending school in the drought affected region and are particularly vulnerable. Many come from child headed households. As well as providing a cooked meal, the NCPs offer the opportunity for informal education, and psychosocial support for children. While the NCPs started out in the lowveld region, they have spread to other areas. Food For Work (FFW) is being developed for those currently volunteering to support the NCPs, which is one of the ways LDS feels will help to transit between food aid and recovery.

Targeting is another challenge facing the emergencies programming. Nhlanhla describes how the Relief Committees are responsible for targeting food, mainly composed of women and a few men. While they have carried out training with committees and traditional leaders, there are always the few with vested interests who would like to wield their influence. "Sometimes those who are relatively well off still want to claim food", says Nhlanhla, " as they feel they are entitled since they come from a drought affected area". Targeting is particularly challenging when it comes to support for PLWHAs. Nhlanhla describes that there is still a lot of stigma associated with positive HIV status and people will travel out of their area to get tested where they are unknown. This initially made targeting very difficult and people were slow to come forward and reveal their status within their community. Nhlanhla continued that this has improved when it became policy that those who were targeted through HIV/AIDS were guaranteed their full food ration when stocks were running low and where distributed rations would need to be reduced. This proved enough of an incentive for those to come forward.

LDS have also been cooperating with LUSIP on a small holder project, SWADP (Swaziland Water and Agricultural Development Project). The lowveld region has very fertile soil and bringing in water to irrigate can increase productivity up to twentyfold. Sugar cane is the most profitable crop and can also be used for fuel production. "We wanted to make sure that this developed in the right way", said Bjorn, "we were worried that turning smallholders into shareholders might mean losing their identity, or the challenge of managing a monetary economy would prove too much." The project is in it's first phase, "trying to keep people as landowners with technical input and support for irrigation". As with all of their programming, they are taking a holistic approach, and will add on to the programme as needs emerge.

Suddenly, we are thrown into darkness due to a (typical) power failure and the team leap into action using the light of several mobile phones to finish the meeting. Bjorn feels that one of the biggest programming challenge for LDS is "figuring out how we can have the best impact". Lots of resources are taken up with orphan care, with food aid, and with increasing numbers or people becoming infected and becoming ill. "We want to be proactive, avoid children being orphaned, keep a productive force and keep people alive on treatment". The team feel that the roll out of anti-retroviral treatment (ART) is far too slow with very few clinics offering this. Transport distances means that it is often too difficult to travel to a clinic, queue, attend and then return in the one day. One of their organisational challenges comes from those churches that still describe HIV/AIDS as the 'curse'. Dealing with orphans is one of the big emerging challenges in Swaziland. "Even with the development of NCPs", says Bjorn, "these children are growing up without parents, they are streetwise but have little education, no psychological support and no one is passing on life skills". The team feel that the recent 'orphan farmer schools' being piloted by the WFP/FAO/Ministry of Agriculture in Swaziland is a significant move in the right direction, equipping community-identified vulnerable children with practical agricultural and life skills that they would not otherwise acquire.

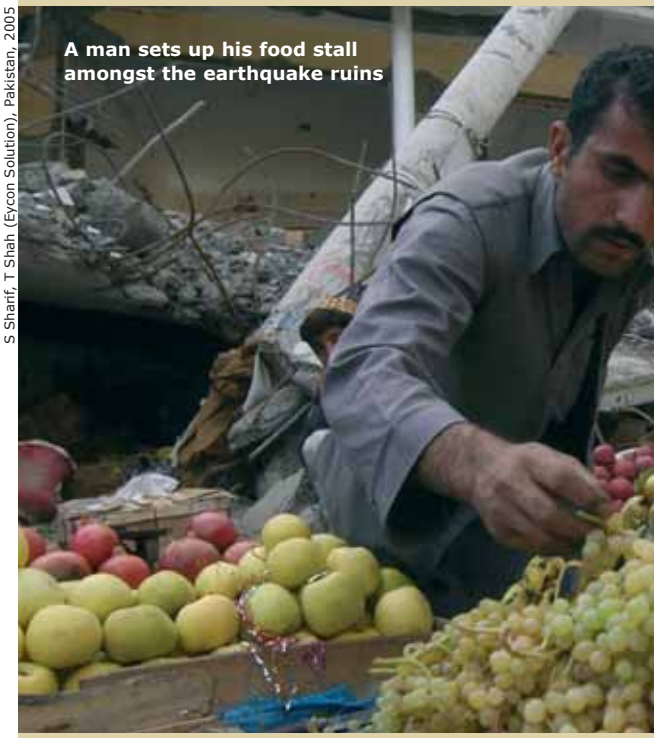
After all the difficulties portrayed by the team they were keen to emphasise that they are by no means discouraged. This was very obvious from the enthusiasm, comradeship and openness that they demonstrated throughout the interview. In the NGO sector, negative assumptions about church-based NGOs often surface, i.e. having an evangelical agenda. However, with LDS it seems their only agenda is helping the 'poorest of the poor' to help themselves as best they can.

S Sharif, T Shah (Eycon Solution), Pakistan, 2005

The Pakistan Earthquake Survey: Methodological Lessons Learned

By Leah Richardson, Moazzem Hossain and Kevin Sullivan

Acknowledgements go out to the survey teams as well as to those responsible for the close partnership between UNICEF, WFP, WHO and the Ministry of Health. Additionally, warm thanks to Rafah Aziz (UNICEF- Geneva), Mona Shaikh (WFP Pakistan), Shadoul Ahmed (WHO Pakistan), Rifat Anis (NIH, Pakistan), Zahid Larik (DDG, Nutrition Wing, MoH, Pakistan), Tehzeeb Ali (PHC Consultant, Pakistan), Fakhra Naheed (PO Nutrition Wing, MoH, Pakistan) and Shafat Sharif (Data Analyst, Eycon Solution, Pakistan) for all their hard work throughout the process.



A man sets up his food stall amongst the earthquake ruins

S Sharif, T Shah (Eycon Solution), Pakistan, 2005


A mother prepares food in a makeshift tent.

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Kevin Sullivan is an Associate Professor in the Department of Epidemiology, Emory University, Atlanta. His areas of expertise include epidemiologic methods, micronutrient deficiencies, anthropometry, and survey methods.

On October 8, 2005 a strong earthquake - said to be the most powerful in the region in 500 years - hit the northeastern part of Pakistan. The result was massive destruction and catastrophic mortality, primarily in the upper Northwest Frontier Province (NWFP) and in Azad Jammu Kashmir (AJK). Emergency relief was initiated within days of the earthquake to deal with the most immediate needs and within weeks of the event, a Rapid Food Security and Nutrition Needs Assessment was conducted by WFP and UNICEF (with support from OXFAM). The results indicated that among the affected areas, most were rural. Nearly 2.5 million had lost their homes and the majority of the population was living in makeshift tents. More than half reported loss of all grain stock and 15% reported complete dependence upon charity/aid. The rice and maize harvest had been interrupted, livelihoods had been severely curtailed, and morbidity rates were high.

Prior to the earthquake, acute malnutrition had been a major public health problem (at national level 13% global acute malnutrition) and in light of the aggravating factors, the situation was expected to deteriorate. Various agencies involved in the response wanted a more specific and accurate figure of the malnutrition prevalence along with relevant health and vulnerability information that would assist in designing appropriate interventions in affected areas. Therefore, a nutrition and health survey was planned by UNICEF/WFP/WHO in coordination with the national Ministry of Health (MOH). A technical working group of the implementing agencies was formed with representation from all partners to oversee the survey implementation – from design to data analysis through to report writing. In this context, the partnership worked extremely well and was a value-added step in the process. It could serve as a model for future assessments.

The principal objectives of the survey were to assess the nutritional status of children 6-59 months and their mothers, to estimate the crude mortality rates for the day of the earthquake as well as the pre/post earthquake rates, to determine the prevalence of morbidity, and to investigate food consumption patterns and household food security. Sample sizes were calculated for each of the survey populations using estimates of global acute malnutrition and crude mortality rates. Clusters were selected using the probability proportional to size methodology. Households were selected using systematic random sampling and household lists. Data were collected in the four surveys by six trained survey teams between 21 November and 25 December 2005.

Methodological Lessons Learned

Assessments conducted in times of crisis have limitations and problems brought about by (among other things) a lack of ready information, time constraints, and harsh/dangerous working conditions. This survey in Pakistan was no exception. Some of the problems encountered, mistakes made, and solutions found are just as valuable as the results. In sharing these experiences and lessons learned, the goal is to improve the quality of future assessments and to provide a platform from which to grow.

Lesson 1: At what level do you want your results to be representative?

The first challenge the technical working group faced was to create a study design that would capture separately the conditions of both the stable and moving populations affected by the earthquake. Creating a population sample frame was extremely difficult considering the ongoing migration and that those displaced (camps) were much more adversely affected than those who remained in their homes (communities). Additionally, the affected areas fell into two major political and geographical zones, Azad Jammu and Kashmir (AJK) and North West Frontier Province (NWFP) of Pakistan, which had different pre-disaster conditions and had not sustained damage proportionally. With these issues in mind, the struggle was to create a sampling frame that would translate into survey results representative of the different populations involved. Since the earthquake had affected the provinces unequally, and since the


S Sharif, T Shah (Eycon Solution), Pakistan, 2005

Scenes of destruction post earthquake in north eastern Pakistan

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A surveyor records details during the nutrition and health survey

S Sharif, T Shah (Eycon Solution), Pakistan, 2005

Survey team training

S Sharif, T Shah (Eycon Solution), Pakistan, 2005

Survey team

S Sharif, T Shah (Eycon Solution), Pakistan, 2005

Weighing a child in a household

affected populations were living in both camps and in communities, four cross sectional surveys were conducted. In the NWFP, two separate surveys were conducted, one among those living in camps and the other in communities of Mansehra District which was one of the most affected districts. In the AJK a similar approach was used with one survey conducted in camps and the other in communities of Muzaffarabad District. Findings from these four surveys could then be used to provide specific information of the two population sub-groups in the two distinct areas. Furthermore, the results could be used in tandem to determine quantitatively which populations and/or area were more in need of specific services when compared to others, thereby illustrating the overall health, nutrition and food security situation. Although the exercise was relatively more expensive and time consuming than doing only one survey, it was found to provide essential information at a level of detail that would have been impossible if only one sampling frame had been used to provide one overall estimate.

Lesson 2: How much supervision is enough?

An overarching and integral factor in all surveys, including this one, is the need for consistent and meticulous supervision. Unfortunately, due to the overwhelming nature of the emergency, staff capacity was limited and the survey coordinating team was not able to designate one supervisory person for the full data collection, analysis and report writing. In the absence of oversight and supervision by one fully responsible person, especially during data collection period, the survey teams relied on their individual team supervisors and previous experience/knowledge. Hence, some of their initiatives deviated from the prescribed methodology and caused some complications during data analysis. Thorough training followed by careful supervision of the overall process by one responsible person or team is a pre-requisite for a smooth and high quality assessment.

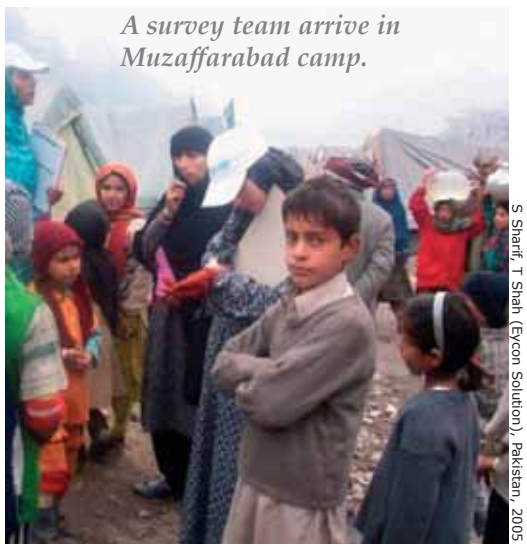
Lesson 3: How do you place your clusters, and must you go to all of them?

When external circumstances dictate that certain geographical areas are not accessible, and the accessibility will not change over the course of the assessment, these areas and populations should be excluded from your initial sampling universe. They have a zero probability of selection and have no purpose in the sampling universe. When accessibility is fluid (such as during times of conflict or, more context specific, under the threat of landslides or snow) it is recommended to keep those areas and populations in the sampling universe in case you might be able to reach them. Automatic exclusion of these areas may introduce bias into the results. Therefore, if there is substantial reason to believe that geographic areas may be unreachable, one potential solution is to estimate the number of clusters in these areas that may be unreachable. Then increase the overall number of clusters to be selected in order to ensure that the minimum required sample size is achieved (for example, selecting 33 clusters when you need 30 clusters but think that you may not be able to reach three.) Selecting more clusters based on the assumption that some may be unreachable is a reasonable approach.

The caveat for this sampling methodology is that if 33 clusters are selected with the hope of reaching at least 30, all accessible clusters must be included in the final sample. For example, if 33 clusters are selected, and only one of the 33 clusters is inaccessible, it is imperative that all 32 accessible clusters are included in the sample and that data collection does not stop with the first completed 30 clusters. Since the 33 clusters are selected using PPS, intentionally excluding clusters when 30 clusters have been sampled makes it a non-probability sample, and therefore may lead to non-representative results.

In Muzaffarabad community and in the AJK camps it was decided that the risk of losing clusters was great enough to warrant selecting additional ones. In the context of this survey where 30 clusters were required for the desired sample size, an additional three clusters were selected to act as a protective buffer. This means, in effect, 33 clusters were selected from the sampling universe using PPS and the final survey design was 33 clusters of 20 households. The survey team began data collection and, in Muzaffarabad, one cluster out of 33 was inaccessible while in the AJK camps it turned out that all clusters were accessible. The methodological problem occurred when once 30 clusters had been included in the sample, data collection stopped and the remaining 3 clusters were excluded from the survey. This intentional exclusion had the potential of

A survey team arrive in Muzaffarabad camp.



S Sharif, T Shah (Eycon Solution), Pakistan, 2005

injecting bias into the results, especially if the 2 or 3 excluded clusters were disproportionately different from the included clusters (harder to access, more affected by the earthquake, no access to humanitarian relief, etc).

Once data analysis began the coordinating team realised that the data was potentially biased and had to apply some retrospective methods during the analysis to correct the problem. The most important lesson to take from this is if an 'alternative methodology' is used in designing a survey, it is important to adhere to the accompanying methodological requirements.

Lesson 4: Do you calculate required sample size? And is your sampling unit the household or individual?

Cluster sampling for nutrition surveys has historically often been conducted using a standard 30x30 approach (without calculating the survey/context specific required sample size) and using the WHO/Expanded Programme on Immunisation (EPI) method for household selection. Sampling methodology has been moving away from the standard approaches of always using the 30x30 design and use of the next-nearest household quota sampling of eligible individuals. In this survey a few more recent and highly regarded sampling techniques were applied.

Firstly, sample size was calculated based on assumed prevalences, desired precision, and assumed design effect. Hence, the standard 30x30 survey deviated into a smaller, faster and cheaper 30x20 sample. Secondly, systematic, random sampling using household lists was applied in each cluster in order to select the households (and to move away from the potentially biased EPI method of proximity sampling). In applying this method, it is necessary to pre-select the exact households included in the data collection, therefore the primary sampling unit becomes the household, instead of the child. This means that the children included in the sample are only to be located in these 20 pre-selected households. It is unlikely that there will be exactly one child per household and it is possible that there may be less than exactly 20 children to be found inclusive among all the selected households. This means that in some clusters, there may be less than 20 children (and in some clusters there may be more than 20 children). The other reason, in this survey, to have a quota of households was for mortality estimates which should be based on households, regardless of whether or not there are children in the household.

The survey teams, with experience from other surveys, were accustomed to using the standard proximity sampling approach where children were the primary sampling unit and exactly 30 children were sampled per cluster. When using this 'new' sampling techniques they became nervous about clusters where 20 households did not yield a minimum of 20 children. Thinking that this would jeopardise the survey results, and not understanding the rationale behind this alternate methodology, the teams decided that a quota system for children must be applied to each cluster that yielded less than 20 children. Consequently, survey teams selected additional households until the 20 children quota was found, resulting in some cluster data containing more than 20 households.

When the data were being cleaned and primed for analysis, the coordinating team recognised that a modification of the methodology had been made in the field by the survey teams. With the prescribed survey methodology there was no way that there could be more than 20 households per cluster, therefore the change in sampling was immediately apparent. As a solution to the problem this imposed, the households exceeding the initial 20 household range were excluded from the analysis leaving the original methodology intact. Here, the lessons learnt worked two ways in that rigorous supervision could avoid extra time during data cleaning, while rigorous data cleaning helps in controlling manageable mistakes made during data collection.

Conclusion

The timely results of the survey played an important role in detailing the effects of the earthquake to the outside world, to agencies involved in the relief effort, and to donors interested in supporting the relief effort. Although there were problems encountered during this survey (as there is in every survey) coordinated interagency efforts ensured that the quality of the results were maintained. While high quality results are essential there is a high value in lessons learned – and shared.

For further information, contact: Leah Richardson, email: Leah.Richardson@wfp.org

People in aid

Mark Wamalwa, one of the Kenyan nurses working on the ACF TFC-Home Treatment programme (see field article)

ACF-USA, 2004

M Lung'aho, CARE USA, 2006

Training of Trainers. CARE IYCF-E/CARE Indonesia Breastfeeding Counseling course, W Timor, Feb-Mar 2006. Dr. Endang Widyastuti, CARE Indonesia Health Programme Leader and Dr. Herti Herjati, Program Coordinator, IYCF on extreme left, 1st row.

The activities reflected here are joint projects of the CARE Infant and Young Child Feeding in Emergencies (IYCF-E) Initiative and either CARE Kenya (the Dadaab IYCF Team is comprised of CARE Kenya, GTZ and UNHCR) or CARE Indonesia.

Kirk Dearden, Brigham Young University, at Dadaab Camps, CARE IYCF-E Initiative/CARE Kenya.

M Lung'aho, CARE USA, 2006

M Lung'aho, CARE USA, 2006

Kristin Helz, Columbia University and Ebla Farah, Dadaab Camps, CARE Kenya.

People in aid

M Lung'aho, CARE USA, 2006

Dr. Utami Roesli & participants CARE IYCF-E/CARE Indonesia Breastfeeding Counselling course, W Timor, Feb-Mar 2006

M Lung'aho, CARE USA, 2006

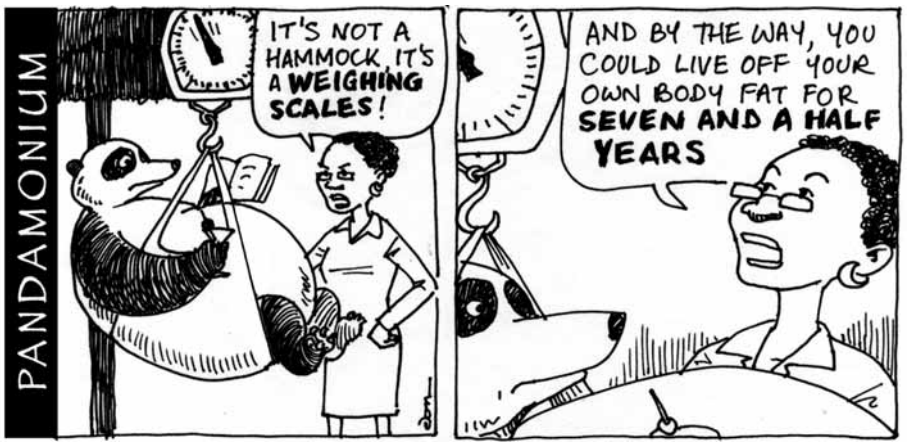
Kirk Dearden, Brigham Young University, at Dadaab Camps, CARE IYCF-E Initiative/CARE Kenya.

M Lung'aho, CARE USA, 2006

Dr. Felicity Savage and dr. Utami Roesli CARE IYCF-E/CARE Indonesia Breastfeeding Counselling course, W Timor, Feb-Mar 2006

M Lung'aho, CARE USA, 2006

IYCF-E Team members, Dadaab Camps, Kenya: L to R: Mary Lung'aho, Anne Njuguna, Rose Ndolo, CARE IYCF-E Initiative/CARE Kenya; Irene Soi, GTZ.



Correction

Learning about Exit Strategies in Southern Africa, Field Exchange 27

The Field Exchange editorial team would like to correct the acknowledgement on the field article on exit strategies published in Field Exchange 27 (p31) and written by Kara Greenblott. In an editing slip, one agency was selectively acknowledged which was not the intention nor action of the author. We apologise for the error. The author equally acknowledges all C-SAFE partners who contributed to the project. The online version of Field Exchange 27 has been corrected.

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Women on their way to Concern distribution site, Tahoua, Niger. Jenny Mathews, Concern Worldwide, Niger

Field Exchange supported by:

The Emergency Nutrition Network (ENN)

grew out of a series of interagency meetings focusing on food and nutritional aspects of emergencies. The meetings were hosted by UNHCR and attended by a number of UN agencies, NGOs, donors and academics. The Network is the result of a shared commitment to improve knowledge, stimulate learning and provide vital support and encouragement to food and nutrition workers involved in emergencies. The ENN officially began operations in November 1996 and has widespread support from UN agencies, NGOs, and donor governments. The network aims to improve emergency food and nutrition programme effectiveness by:

- providing a forum for the exchange of field level experiences
- strengthening humanitarian agency institutional memory
- keeping field staff up to date with current research and evaluation findings
- helping to identify subjects in the emergency food and nutrition sector which need more research.

The main output of the ENN is a tri-annual publication, Field Exchange, which is devoted primarily to publishing field level articles and current research and evaluation findings relevant to the emergency food and nutrition sector.

The main target audience of the publication are food and nutrition workers involved in emergencies and those researching this area. The reporting and exchange of field level experiences is central to ENN activities.

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