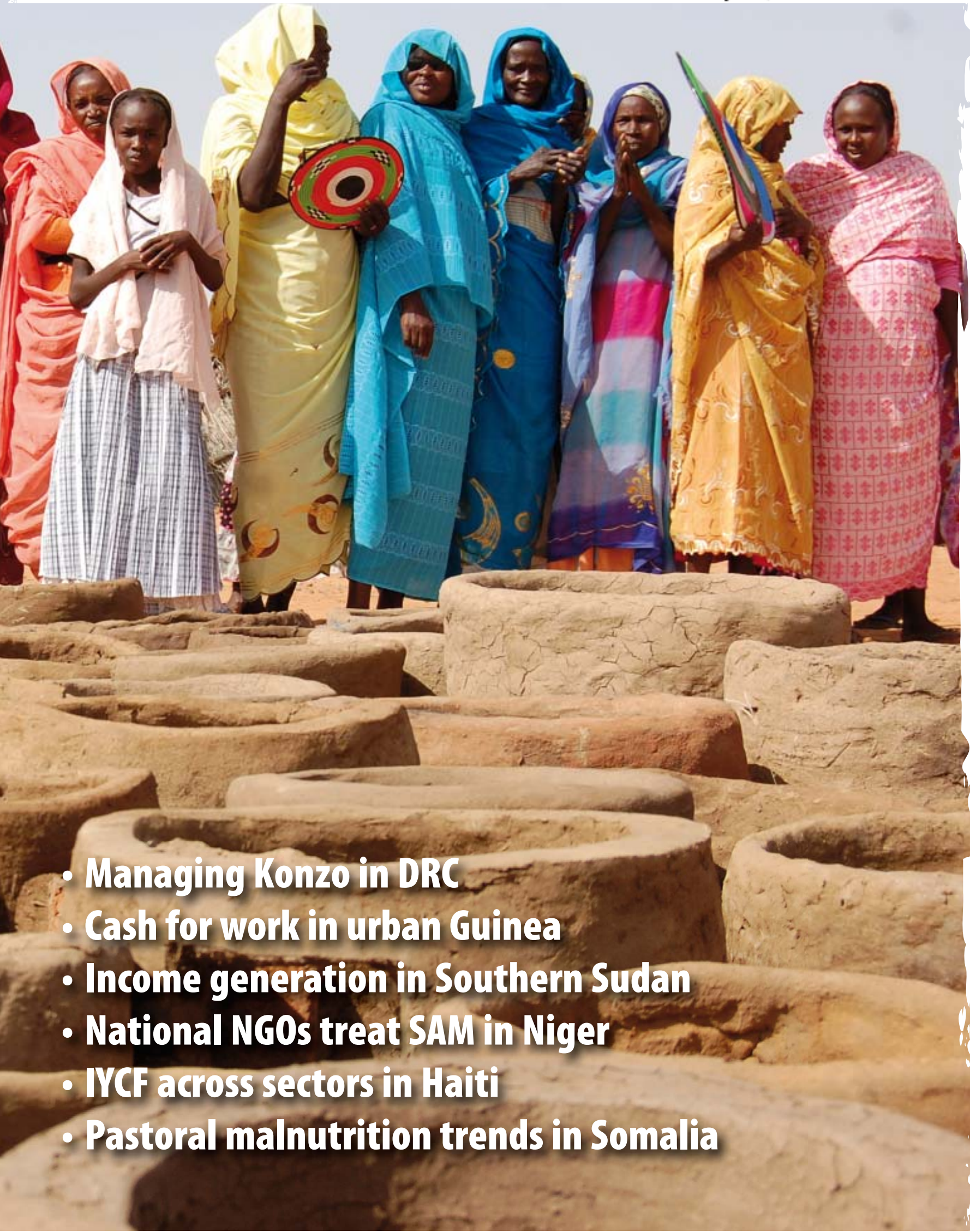


Field Exchange

Emergency Nutrition Network



- **Managing Konzo in DRC**
- **Cash for work in urban Guinea**
- **Income generation in Southern Sudan**
- **National NGOs treat SAM in Niger**
- **IYCF across sectors in Haiti**
- **Pastoral malnutrition trends in Somalia**

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An aerial view of Darfur, Sudan

Diego Fernandez/WFP, Sudan, 2007

The role of data and analytical tools in guiding and evaluating emergency programming figures strongly in this issue of Field Exchange. There are two field articles which shine light on the causes of malnutrition in very different contexts. ACF-USA carried out a baseline survey in an area of the Democratic Republic of Congo (DRC) where high levels of Konzo are reported. The survey identified key causes of Konzo which included not using enough water during cassava preparation underpinned by lack of access to water. Programme recommendations were framed accordingly. The second article, written by FSANU, examined trends in rates of malnutrition amongst pastoralists in Somalia and showed how these are strongly correlated with milk availability and seasonal factors. This finding is in line with other work reported in Field Exchange¹.

A further two field articles report on the impact of cash-based interventions on a variety of outcomes. The first is a cash for work programme in Guinea where impact on food consumption, income and coping strategies are measured. The second is an income generating activity programme involving cash grants and training in southern Sudan where impact on coping strategies, hunger levels and MUAC are measured.

The importance of monitoring is a key issue in the WFP evaluation of their 2009 EMOP (Emergency Operation) in Darfur. Here, the evaluation describes how the Darfur Food Security Monitoring System (DFSMS), which WFP established in 2009, showed not so much the impact of the General Food Distribution (GFD) but the lack of impact of a reduction in the GFD. For a variety of reasons, WFP had to reduce the ration during 2009, first to 70% and then 60% of a full ration. Taking account of milling and transport costs, as well as taxes to sheiks, there were times in the year when beneficiaries were making do with less than a half a full ration. However, the DFSMS showed no change in prevalence of malnutrition, mortality or coping strategies/ livelihood activities. The evaluation concluded that this reflected the disconnect between numbers registered and actual numbers, i.e. there was significant over-registration, as well as the reasonable harvest in many parts of Darfur and alternative livelihood options amongst the internally displaced population (IDP).

The research section of this issue of Field Exchange also has a strong focus on assessment and evaluation. An article by World Vision analyses the causes of malnutrition amongst the Dinka in southern Sudan. These are found to be largely embedded in social and cultural practices. There are two research pieces relating to food security measurements in Zimbabwe. The first looks at food security differences between adults and children in the same household and concludes that children tend to have worse food security. The implication being that household level targeting of interventions is not always appropriate. The second article describes the use of different measures of food security, i.e. Household Dietary Diversity Score (HDDS), months of food shortages, and the Household Food Insecurity Access Scale (HFIAS). It found that used separately, these different measures provide unique insights into the level and type of food security. The authors conclude that it may be best to combine different measures of food security to obtain a fuller picture of the situation and therefore enable the design of more appropriate responses.

Another study examined data from Indonesia during 1998 when prices of foods went 'through the roof' – the consumer food price index went up 188% at a time when various subsidies on food were removed. The authors conducted the analysis at two levels in an attempt to assess impact on food access. First, using the Starchy Staple Ratio (SSR) as the summary measure of household nutritional welfare, they assessed the impact of the dramatic change in food prices on household dietary composition. Secondly, the authors examined how the income elasticity of the SSR differs in the two survey rounds characterised by very different relative prices between cereals and other major food groups. The results suggest that cash transfer programmes may be even more effective during crises to protect the consumption of many essential micronutrients compared with non-crisis periods. However, in order to ensure that all micronutrients are consumed, specific nutritional supplementation programmes are also likely to be required, especially for nutrients like Vitamin C.

A study based on nutrition and mortality data from the Horn of Africa set out to assess criteria for emergency intervention decision-making based on associations between child wasting and mortality from 2000 to 2005. The analysis found that higher rates of global acute malnutrition (GAM) were associated with increased mortality of children under 5 years of age and that the association was stronger among populations with pastoral livelihoods than with agricultural livelihoods. Although GAM is therefore more effective in identifying groups with higher mortality risk for those practicing some pastoralism, there is still a useful predictive power for agricultural populations, with lower GAM cutoff points. In all groups, spikes of GAM and under five mortality rate (U5MR) corresponded with drought (and floods). The authors conclude that different GAM cutoff points are needed for different populations. For example, to identify 75% of U5MR above 2/10,000/day, the GAM cut-off point ranged from 20% GAM in the Rift Valley (Kenya) to 8% in Oromia or SNNPR (Ethiopia) or from 15% for pastoralists to 10% for agropastoralists.

Another article questions the appropriateness of current Sphere standards for protracted (IDP) situations. The summary focuses on the current nutrition standards. The authors argue that there is no framework that analyses particular risk factors for nutritional deficiencies in protracted displacement and thus no appropriate standardised recommendations exist. They suggest a collaborative effort – modelled on the Sphere process – is needed to address this.

Finally, there are two summaries of studies on the cost-effectiveness of community managed programmes for the treatment of severe acute malnutrition – in Ethiopia and Malawi. The Ethiopia study compares community based therapeutic care (CTC) cost-effectiveness with centre based therapeutic feeding programmes cost-effectiveness, whereas the Malawi study determines cost-effectiveness of community based management of acute malnutrition (CMAM) in terms of disability-adjusted life years (DALYS). In both cases, the community-managed interventions are found to be highly cost-effective.

A number of cross-cutting issues and conclusions emerge from all these articles and studies. First, there appears to be an unstoppable process whereby measurement and analytical tools are



continuously being refined or developed anew. In one sense this is encouraging, as these analytical advances provide greater insight into problems and how best to address these.

Second, and admittedly based only upon the snap-shot of experiences and research in this issue of Field Exchange, those agencies with an interest in impact measurement of food and nutrition programmes appear to be placing less emphasis on anthropometric indicators and more on a range of nutrition-related indicators or tools. These indicators or tools are able to help explain cause of malnutrition or how an intervention may be impacting nutrition, i.e. they provide plausible models of impact. Again, this is encouraging as nutrition and/or mortality data on their own may tell us little about processes that either lead to malnutrition or positively impact malnutrition.

Finally, and perhaps on a more discouraging note, this expansion of indicators and tools may lead to less standardisation of approaches used in assessment, monitoring and evaluation, and therefore greater difficulty in making comparisons between programmes and their impact. In this issue of Field Exchange this is seen most obviously in two sets of articles (cost effectiveness of CMAM/CTC and impact of cash transfer programmes). While it may be argued that a 'free market' for the development of different analytical tools will lead to more creativity, innovation and ultimately better practice, the down-side is that decision-makers are less able to make comparisons and learn from the myriad of field experiences out there. Donors in particular are affected by the plethora of approaches used by agencies to justify interventions and then measure their impact and are increasingly calling out for greater standardisation of assessment and monitoring tools amongst agencies. There is clearly a balance to be struck here and it is perhaps difficult to say where the line should be drawn. However, the current free-for-all and resulting lack of standardisation may well undermine achievements and should alert us once again to the need for stronger leadership in our sector to guide how we make assessments and then evaluate our response.

Jeremy Shoham, Editor

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

¹ Analysis of the 1996 Konzo outbreak in Democratic Republic of Congo. Field Exchange, Issue No 17, November 2002. p7. <http://fex.enonline.net/17/analysis.aspx>

In November 2009, Action Against Hunger (ACF-USA) launched a 22-month long intervention in the Bandundu province of the Democratic Republic of Congo (DRC) to address several factors underlying the Konzo epidemic affecting the population of Kwango district (see Figure 1). The 'Integrated Programme for the Eradication of Konzo in the Territory of Kwango in DRC' project is financed by the European Union (EU) Food Facility. It aims to eradicate the disease through a cross-sectoral approach that focuses on nutrition education and training, dietary diversification, improved water access and agricultural processing. A total of 12,500 households are expected to benefit from these activities.

Prior to implementing these activities, ACF-USA conducted both a baseline epidemiological study and a project impact study to gather information that would inform the design of the intervention. The initial baseline study was completed in August 2010 and involved 113 villages surveyed across 11 health zones. A total of 2,388 suspected Konzo cases were screened. Forty-six focus groups and 35 semi-structured interviews were held with key informants. The findings of the study have so far been disseminated to key stakeholders in Bandundu and Kinshasa, and are shared in this article. A follow-up article will be published at the end of the project (October 2011) to share results on the impact of the intervention.

What is Konzo?

Symptoms

Konzo is a sudden epidemic spastic paraparesis (paralytic) disease which leads to a permanent, symmetrical (but non progressive) paralysis of the affected person's lower limbs. It is a neurological ailment triggered by sustained dietary exposure to the cyanide present in improperly processed cassava. Symptoms of mild cases include trembling in both legs and walking difficulties. Severely affected individuals are incapable of walking without support and suffer from speech impediments as well as visual impairments. Konzo itself is not fatal, but its debilitating effects heighten the risk of morbidity and mortality from other diseases. Furthermore its disabling effects result in practical, social and economic challenges for individuals, and families of individuals, living with the limited physical capacity induced by Konzo. The disease usually appears in clusters within households, as exposure comes from food consumed as a family meal.^z

Aetiology of the disease

While the full aetiology of Konzo remains unclear, medical studies have attributed the appearance of the disease in DRC, Central African Republic, Tanzania, Mozambique and

elsewhere to diets combining both high levels of cyanide and low quantities of sulphur proteins (pulse crops such as peas and beans)¹. As a natural defence mechanism, cassava tubers and leaves produce two types of cyanogenic glycosides: linamarin and lotaustralin. These glycosides are decomposed by the linamarase enzyme, naturally present in cassava, to liberate hydrocyanic acid (HCN). Amino acids, which are the building blocks of protein, contribute to the elimination of certain dietary toxins. Diets deficient in protein can therefore lead to an accumulation of cyanate in the blood, as the body does not have sufficient sulphur-based amino acids to break down and eliminate the cyanide.

While cyanide is naturally present in all kinds of cassava, bitter varieties contain much higher levels than sweet varieties (1g cyanide/kg fresh tuber vs. 20mg/kg fresh tuber, respectively). Additionally, cassavas grown during drought are known to contain particularly high levels of cyanide. As a result of this natural toxicity, cassavas must be properly processed before they can be safely consumed. This process requires that they be peeled, grated and soaked in warm water for several days. This allows the linamarase enzyme to convert the linamarin into sugar and cyanide gas (which usually disperses harmlessly). The cassava should then be completely dried before being consumed or turned into flour.

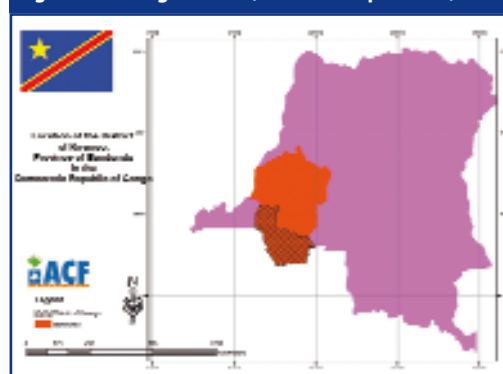
Overall, vulnerability to Konzo is heightened by the combination of low protein intake (associated with low diet diversity), poor soil conditions (which favour the cultivation and consumption of bitter cassava varieties), and a lack of sufficient water resources for thorough processing.

Characteristics of Bandundu province

Kwango district is situated in the south of the Bandundu province and comprises 14 health zones, themselves sub-divided into health areas. Kwango is characterised by very poor soils, which explains the prevalence of bitter cassava varieties in the district. Bitter cassava has greater pest and disease resistance and yields higher outputs even in poor soils.

A July 2007 nutrition survey conducted by MEMISA (an international non-governmental organisation (INGO) active in the area) determined that global acute malnutrition (GAM) rates were 21.1% (NCHS, 95% CI: 12.9%-29.4%) in Kahemba Health Zone, Kwango district. Following these findings, ACF implemented a nutritional programme in Kahemba from September 2007 to July 2009, as well as two food security and livelihood programmes between 2008 and 2009. While these interventions sought to improve the nutritional situation of the population, they did not exclusively target Konzo affected individuals and households. An ACF led nutrition survey conducted in December 2008 determined that the nutritional situation had improved in

Figure 1: Kwango district, Bandundu province, DRC



¹ Rosling H, Mlingi N, Tylleskär T, Banea M. 1993. Causal mechanisms behind human diseases induced by cyanide exposure from cassava. In: RocaWM, ThroAM, editors. Proceedings of the first international scientific meeting of Cassava Biotechnology Network, 25-28 August 1992. Cali, Colombia : Centro Internacional de Agricultura Tropical. p 366-75 Tylleskär T, Cooke RD, Banea M, Poulter NH, Bikangi N, Rosling H. 1992. Cassava cyanogens and konzo, an upper motoneuron disease found in Africa. Lancet 339:208-11. Tylleskär T, Banea M, Bikangi M., Fresco L., Persson L.A., and Rosling H. 1991. Epidemiological evidence from Zaire for a dietary etiology of konzo, an upper motor neuron disease. Bull World Health Organ. 69(5): 581-589.



A Konzo case in Kwango District, Bandundu Province, DRC

A cross-sectoral approach to addressing Konzo in DRC

By Dr. Emery Kasongo and Muriel Calo



Emery Kasongo is the ACF-USA Project Manager who led the study described. Previously he has worked as national consultant on several food security studies in the Democratic Republic of the Congo (DRC) and was a lecturer at the University of Lubumbashi.



Muriel CALO is a Food Security & Livelihood Advisor for ACF-USA, supporting the DRC-Kinshasa mission.

Special thanks go to the whole of the ACF study team, namely Benjamin Kitiko, Guillain Yumba Kabenge, Guy Munsansa, Damien Naimana, Césarine Kuwa, Nono Bumba, Paul Bahati, Jean Ngoie Mandaku, Roger Mubake, Rodolphe Mwamukenza, Richard Muhongo, Jacques Mahunda, Axel Matondo, Timothée Mutalala and Sylvain Lumbala. Thanks also to Pierre Kadet, the PRONANUT (Programme National de Nutrition in DRC), and the communities who participated in the study. The funding support of the European Union (EU) Food Facility Programme is gratefully acknowledged.

Kahemba (GAM 10.2% [NCHS, 95% CI: 7.0%-13.3%]), but that Konzo still represented a major challenge in the area.

Konzo accelerates and worsens malnutrition, and can be fatal if victims remain untreated. In 2010, reports from Kahemba continued to signal the appearance of new Konzo cases. From January to June 2010 alone about sixty new cases were reported.

The baseline study

Objectives of the study

The objective of the study carried out at the outset of the programme was to provide key baseline information to inform the design of programme activities. The overall programme would integrate three of ACF's technical areas of expertise: Food Security and Livelihoods (FSL), Nutrition/Health, and Water, Sanitation and Hygiene (WASH). Prevention is a central activity in the management of the spread of the disease. In particular, the study gathered data on:

- The incidence and epidemiology of Konzo disease in the district of Kwango
- Level of cyanide consumed by the population
- Nutritional status of Konzo patients
- Local beliefs surrounding the origin of Konzo disease
- Dietary diversity, beliefs and practices
- Agricultural crops and processing techniques
- Food access and availability
- Water sources and access

The study sought to establish correlations between these factors to understand better the underlying causality of the disease.

Methodology

The study was conducted in 11 of the 14 health zones in the Kwango district: Boko, Popokabaka, Kasongo Lunda, Wamba Luadi, Kitenda, Kenge, Feshi, Panzi, Kajiji, Kisanji and Kahemba (total population: 1,670,029) in the months of March through May 2010. See Figure 2 for study sites.

Data were collected using the following methods:

a) Control group studies

This involved comparing households with Konzo cases, to two control groups:

- Control households without Konzo cases in affected villages
- Control households in non-affected villages

Villages with high incidence levels of Konzo were identified using a purposive sampling method, with local leaders assisting ACF staff in listing any person with walking difficulties. A total of 2,218 Konzo cases were confirmed in 113 studied villages and in-depth physical examinations were carried out on about one-third of these cases. Urine samples and cassava flour samples were collected on 15% of surveyed households (Konzo-affected and control groups). A questionnaire was administered to about one-third of households (Konzo-affected and control groups) to better understand causal elements and other socio-economic factors underpinning the appearance of the disease (namely food consumption, cassava processing, water access and overall food security).

b) Focus group discussions

Two focus groups (one male and one female) were organised per village (with or without Konzo cases). A total of 46 focus group discussions were carried out across Kwango to gather first hand information on local perceptions of the disease, local agricultural and nutritional practices, as well as water sources and access.

c) Semi-structured interviews

Key informants (territory administrators, city and village chiefs, priests/pastors, teachers and agricultural experts) were interviewed better to understand the aetiology of the disease and obtain local advice about feasible interventions. A total of 35 semi-structured interviews were conducted across 11 health zones.

Nutritional data collection and analysis

Data collection was undertaken by three teams (four people each), responsible for one specific area of technical expertise over a period of 75 days. Local investigators were hired and supervised by experts from Kinshasa.

Nutritional data was analysed using Excel and EPI INFO software. Weight/height ratio was calculated for a total of 374 Konzo affected individuals under 18 years of age and Body Mass Index (BMI) for a total of 412 affected individuals over 18 years of age. As a precautionary measure it must be noted that the muscular atrophy linked to Konzo can result in biased anthropometric results and lead to an overestimate in the prevalence of malnutrition.

Food Security and WASH data collection and analysis

The food security part of study was carried out on a sample of 722 Konzo affected households and 112 control group households. Data relating to both Food Security and WASH were analysed using Excel.

Baseline study findings

The study determined that women were slightly more affected by Konzo than men (see Table 1). Out of the 2,218 confirmed Konzo cases encountered, 53.3% were female and 46.7% were male. Children under the age of 15 years represented the overwhelming majority of cases (73.9%) while individuals over the age of 15 years only represented 26.1% of cases. This suggested a high mortality rate among Konzo cases, given the non-reversible nature of the disease. The average Konzo prevalence rate across the 51 health areas visited was found to be 1.07%. Strong disparities were observed between health zones as prevalence ranged from 2.47% in Kajiji to 0.10% in Kisanji. The vast majority of cases (83%) were located in savannas, while 1% lived in hillside areas and 4% in valleys. See Figure 3 for Konzo prevalence rate by health zone and Figure 4 for number of cases by health zone.

Nutritional status

More than one quarter (25.8%) of Konzo cases under 18 years were diagnosed with GAM – out of which 12.6% suffered from severe acute malnutrition. Nutritional oedema was observed in 8.7% of those affected. Malnutrition rates did not significantly vary across gender, but younger children (ages 5 to 11 years) were slightly

Figure 2: ACF study sites

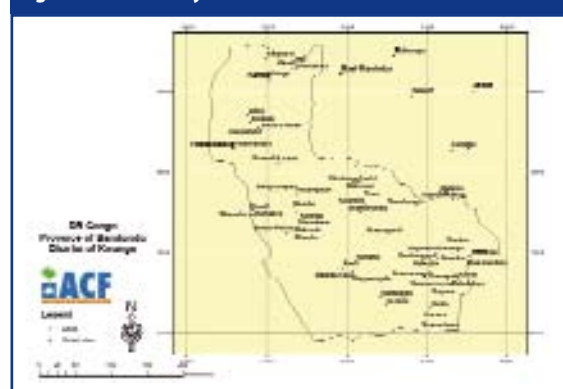


Table 1: Konzo cases by age and gender

	n	Sex		Total %
		Male (%)	Female (%)	
0 - 5 years (n = 587)	587	58.3	41.7	26.5
6 - 10 years (n = 756)	756	57	43	34.1
11 - 15 years (n = 290)	290	50	50	13.1
16 - 20 years (n = 151)	151	29.8	70.2	6.8
21 - 25 years (n = 121)	121	7.4	92.6	5.5
26 - 30 years (n = 82)	82	17.1	82.9	3.7
31 - 35 years (n = 73)	73	9.6	90.4	3.3
36 - 40 years (n = 54)	54	20.4	79.6	2.4
41 - 45 years (n = 24)	24	12.5	87.5	1.1
> 45 years (n = 80)	80	32.5	67.5	3.6
Total (n = 2218)	2218	46.6	53.4	100.0

Figure 3: Konzo prevalence by health zone

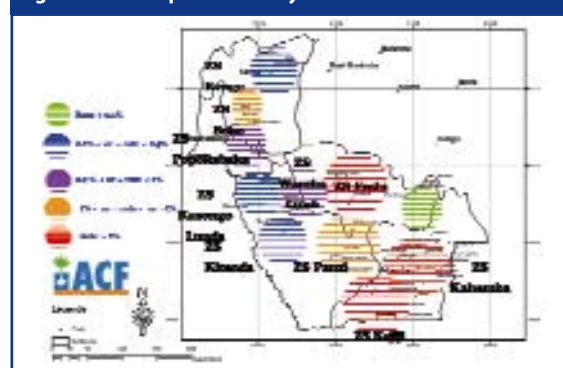


Figure 4: Number of confirmed Konzo cases by health zone

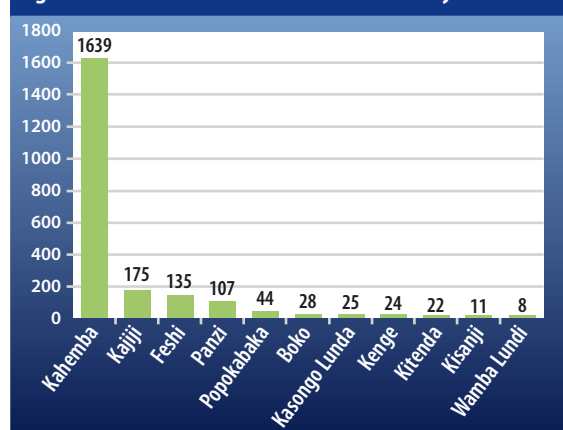
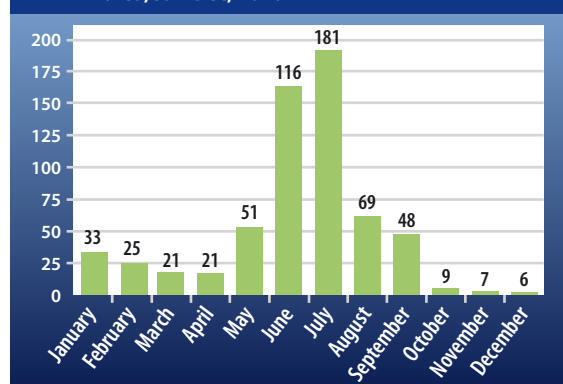


Figure 5: Monthly distribution of new cases across study area, Jan-Dec, 2010

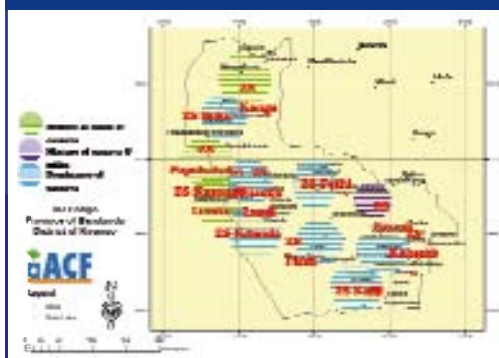




A Konzo case in Kwango District, Bandundu Province, DRC

Emery Kasongo Lengge Mukonzo, DRC, 2010

Figure 6: Distribution of staple foods in Kwango district



more affected than older ones (ages 12 to 17 years). BMI measures indicated that over half of Konzo cases (56%) over 18 years suffered from severe acute malnutrition, while 13.3% of Konzo cases were diagnosed with moderate acute malnutrition. Of the 199 female Konzo cases over 18 years, 31.2% were severely malnourished (MUAC < 21 cm).

Seasonality and Konzo occurrences

Our study determined that although new Konzo cases appear all year round, much higher numbers of new occurrences (incidence) were observed during the dry season (May to September) (see Figure 5). While the average over one year is 49 new cases per month, 51 were reported in May, 116 in June, 181 in July and 69 in August. Water access is most limited between the months of May and September (dry season) and food availability is very poor between June and September (lean season). Women are thus more inclined to use less water to process or ret their cassavas, and use the same water over and over again. Additionally, retting time is often cut down during the lean season as households have very little to eat and end up consuming their cassavas too quickly, before it has been properly detoxified. The appearance of new Konzo cases is clearly higher during this critical time of the year, and can most likely be linked to these seasonal hardships.

Local customs and Konzo incidence

Local beliefs and traditional customs were also identified as factors surrounding the appearance of Konzo. Our team learned that the disease is in fact considered to be 'a bad luck spell'. This makes it difficult to sensitise the population to prevention techniques, as locals see the condition as 'beyond their control'. In addition, certain local eating customs that favour the male head of household may contribute to making women and children much more vulnerable to Konzo. The male head of household is always served the largest portion, regardless of the overall quantity of food available to the household. These eating practices make women and children much more vulnerable to malnutrition as they are forced to only eat whatever is left over. Their diets therefore lack diversity and are insufficient. This trend is further enhanced by a number of taboos prohibiting women – particularly during pregnancy – from consuming certain protein-rich food items (turtle, monkey, eggs, avocados and nuts). This finding suggests a positive correlation between local dietary practices and taboos, and the higher Konzo incidence rates faced by women and children.

Agricultural practices and Konzo incidence

Most households were found to rely primarily on agriculture for food and quasi-uniformly cultivate cassava as their principal crop (90% of

surveyed households cultivate at least one cassava crop per year). Maize, groundnuts and beans were secondary crops in most cases, except in the Kisanji zone where millet was produced and consumed relatively heavily. Despite these rather uniform crop cultures, diverse environmental factors (such as soil fertility or soil water retention) do affect the quantity and quality of harvests across areas, and could ultimately have an impact on the nutrition of the populations in question.

In fact, Kisanji, which had the lowest Konzo incidence rate, is the only health zone to produce and consume millet (see Figure 6). This raises a hypothesis that should be further explored, whether the presence of millet in diets can explain lower Konzo rates. It is difficult to establish a clear link between the consumption of millet and Konzo incidence rates as the study only collected snapshot data. It would therefore be necessary to conduct a study over a longer period of time to further explore this relationship to ascertain whether the promotion of millet as a complementary or alternative staple food crop would be an effective strategy in the prevention of new Konzo cases in affected areas.

Water access

Water access is a critical factor in preventing further Konzo occurrences in the Kwango district. Accessibility is limited by two factors: distance to springs (reliable springs are often far away) and seasonality of springs (poor yield in dry season).

Households in Kwango have access to less than the minimum standard of 10L/person/day, and women generally use large containers (basins between 5 and 25 litres) to collect and transport water. An average of 50 to 60 minutes is devoted for each water collection roundtrip, twice a day (morning and evening). Water coverage levels are very low, with 5% coverage in the Feshi health zone and 4.3% in Kajiji (based on standard norms of 350 people per source). In Kajiji, 16 out of 67 existing sources had been protected, but the majority of these water points remain extremely difficult to access as they are situated on slopes and ramps. In Feshi, only seven out of 64 existing sources were protected and similar challenges applied in terms of accessibility.

Because of these particular challenges, women in rural areas most often prefer to directly soak the cassava on river banks, in ponds or in swampy areas in order to avoid carrying heavy quantities of water back to their homes. In urban areas, however, women prefer to ret the cassava in their homes (in buckets or barrels) due to the high likelihood of theft if the cassava is left overnight in a public area. This can be very challenging as the quantity of water available in urban areas is often insufficient, and women often re-use the same water three or four

times to ret their cassavas. This increases the likelihood of cyanide intoxication. An alternative technique also used to reduce the risk of theft involves digging a hole in swamp or riverside sites near cassava growing locations, filling it with water to permit the retting process, and then covering it with earth to conceal it. This practice is also hazardous because the cyanide that should be harmlessly released in the retting process is prevented from escaping by the earth layer.

Recommendations

Based on the findings, ACF-USA issued the following key recommendations.

- Training of key health zone staff, certified nurses, local leaders and community mobilisers to raise awareness of factors that increase vulnerability to Konzo and of processing techniques that decrease the cassava toxicity.
- Water access to be improved in the urban areas of Kahemba, Kajiji and Feshi where water supply is extremely limited during the dry season.
- Retting techniques to be enhanced through awareness building and training activities in rural areas.
- Dietary diversity to be increased by facilitating access to leguminous seeds (beans and black-eyed peas) and sweet cassava cuttings.
- Cereal and cassava processing to be facilitated through the installation of village-based mills to improve dietary diversity and increase value of household produce.
- Income generating activities to be developed and diversified across the entire district.
- Farm to market roads to be rehabilitated to support increased agricultural trade at prices beneficial to the producer.

ACF plans to carry out project activities in the highly affected areas of Kahemba, Kajiji, Feshi and Panzi and to a lesser extent in Kenge, Boko, Popokabaka, Kasongo Lunda, Wamba Luadi and Kitenda. Due to limited resources, the intervention will not focus on all Konzo locations, but rather on the most affected villages.

As a result of this limited coverage, ACF-USA encourages its partners to consider the following interventions:

- Conduct a baseline study on Konzo in the health zones of Tembo, Mwela Lemba and Kimbao which were left out of the ACF study due to time constraints and accessibility issues.
- Further investigate the epidemiological links between millet consumption and Konzo incidence.
- Address local water and sanitation needs other than those related to cassava retting. A list of all local water points, schools and health centres needing to be rehabilitated and sanitised is available upon request.
- Facilitate access to leguminous seeds and healthy cassava cuttings, along with other food security activities, in areas outside of ACF's coverage in the Kwango district.
- Integrate a Konzo sensitisation component in all ongoing and future nutrition interventions in the Bandundu district and other Konzo-affected provinces.

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Note: Field Exchange 17 previously featured a summary of a published paper on a Konzo outbreak in 1996 in Bandundu province. See <http://fex.ennonline.net/17/analysis.aspx>

Childhood Malnutrition and the Dinka of Southern Sudan

By Vikki Groves

Mothers cooking in Tonj South, South Sudan



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Special thanks to World Vision Sudan for commissioning this research and giving the author the opportunity to work with the communities of Tonj South. Thanks too, to the Dinka community members themselves and to all those who shared so willingly their time, customs, traditions, beliefs and knowledge with a western anthropologist fascinated by their way of life.



This article is a summary of a report¹ commissioned by the international humanitarian organisation, World Vision, to investigate the impact of social and cultural factors on childhood malnutrition amongst the Dinka of Tonj South County, Warrap State, Southern Sudan.

Southern Sudan is one of the least developed regions in the world. Decades of civil war, ethnic tensions and climatic changes have left its agricultural production and infrastructure in tatters with few hospitals, schools, roads or businesses. Levels of childhood malnutrition are of major global concern. According to the 2006 Sudan Household Survey, 31% (one in three) of children under the age of five years in Sudan were moderately to severely underweight². World Vision data (2006) for Warrap State found 14.1% of children were severely underweight³. In Tonj South County, the global acute malnutrition (GAM) prevalence (WHZ⁴ <-2 SD scores) was 20% (15.2-24.8, 95% C.I) whilst the severe acute malnutrition (SAM) prevalence (WHZ <-3 SD scores) was 3.7% (1.8-5.5 95% CI) (June, 2009⁵).

The determinants of malnutrition amongst the Dinka of Tonj South County are known to be many and multi-faceted. Reduced crop yields as a result of climatic conditions, conflict and poverty play a significant role. However, this research identified that there are a number of cultural factors that could have a significant influence on the nutritional status of children, pregnant women and lactating mothers in Tonj South County and that these factors can and should be taken into account when designing future nutrition programming.

Research methodology

This article focuses on the Rek Dinka of Tonj South County, Warrap State. It is primarily based on social research carried out in the region between November 2009 and February 2010, with some additional available information. Research was conducted using ethnographic methods that included quantitative and qualitative techniques. At the end of the study, 15% of the total 151 villages in Tonj South County were visited and interviews, focus group discussions (FGDs), questionnaires, informal discussions and direct observation conducted. A total of 100 in-depth interviews, 14 FGDs and 163 questionnaires were carried out.

Study limitations

This study offers a valuable insight into the cultural traits of the Rek Dinka in Tonj South County during the four month study period. However, it cannot be assumed that all Dinka sub-clans behave in the same way and it must be recognised that behavioural patterns will change at different times of the year. This research was influenced by the deterioration in the security situation in Tonj South during the period of fieldwork. This affected the research timetable, influenced which communities were visited and prevented many evening visits. Mechanical problems and poor road conditions further hindered data collection and limited access to certain communities.

Background

The Dinka, also known as the Moinjaang, are a Nilotic people made up of several independent groups linked by ties of kinship, which together form the single largest ethnic group in southern Sudan. Traditionally the Dinka are transhumant pastoralists whose cattle form the mainstay of life and culture, with small scale agriculture and subsistence farming supplementing their livelihoods. Cattle, however, have remained essential to the identity of all the Dinka people and are used as the medium of

exchange for virtually all Dinka transactions, including marriage, payment of debts and as a sacrifice to the spirits.

The prevalence of acute malnutrition in children in Tonj South remains at an unacceptable level. Standard assessment approaches of nutritional surveys, which consider GAM and SAM prevalence, and food security assessments, which examine harvest levels and food stocks, have been undertaken in the county but have been unable to uncover the underlying causes for this level of malnutrition.

Key findings

The following factors represent some of the most significant characteristics known to influence nutritional status and that are relevant to this ethnic group:

Awareness, understanding and treatment of malnutrition

For the Dinka of this region, the reasons and causes of malnutrition in children are explained through a series of traditional beliefs. These affect treatment patterns and choices, as well as the speed with which health centres or Community Therapeutic Care (CTC)/Community Managed Acute Malnutrition (CMAM) services are sought. The Dinka believe that if a woman has sex whilst breastfeeding, the male semen entering her will "travel to her breast" and poison the breastfeeding infant.

¹ Childhood malnutrition and the Dinka of Southern Sudan. An exploration into the cultural and social determinants of malnutrition in children under five years of age in Tonj South County. By Victoria Groves, Consultant Anthropologist, March 2010. Commissioned by World Vision Sudan.

² Sudanese Government of National Unity and Government of Southern Sudan. (2006). Sudan Household Health Survey, Sudan: Sudanese Central Bureau of Statistics/Southern Sudan Commission for Census, Statistics and Evaluation.

³ World Vision (2006) Tonj South Community Nutrition and Survival Project.

⁴ Weight for height z score, using WHO 2006 Growth Standards

⁵ Pertet, A. (2009) Report of Nutrition and Mortality in Tonj South, Warrap State, South Sudan.



A group eating in Makuei, Tonj Payam, South Sudan

For this reason, women will abstain from sex whilst nursing infants, which means that birth spacing is relatively well managed. However, the most common reason for women to stop breastfeeding is for her to have more children and to start having sex with her husband again. This can have a negative impact on existing children under the age of two years who therefore have a shortened period of breastfeeding and are sent to cattle camps (see below) at a younger age.

Traditional beliefs also surround the concepts of Jong-nar-lou and Jak-nar-lou, which focus on the need to please the disgruntled spirits of the maternal uncle or maternal grandmother, respectively. These spirits are thought to make children become “thin, old-in-the-face, and sick”, and can only be appeased by having an offering made to them either directly (if they are still alive) or through their living relatives. These offerings must include a bull, a goat and a chicken, which are valuable household resources. Many parents will wait until malnutrition has reached an advanced state in their children, having first exhausted traditional health provider options and having made their offerings to the spirits, before seeking treatment from a health centre for advanced forms of acute malnutrition.

Distribution of food at the household level

All meals are prepared by women. Men do not generally know how to cook and if they do, they do not do so. Women will spend several hours preparing food over open fires and when it is ready, they will divide it up onto large plates that are given to different ‘groups’ to share. Groupings differ slightly between households but it is usual for groups to include one for young children, another for older children, one for the husband and men, and another for women. Extra groups may include young men, visitors and grandmothers. Groups will share food from one dish. Children are usually, but not always, watched by their mothers to ensure that each child has an equal share.

The order of who is served first is the choice of the mother. The women and mother of the household will always eat last, even if pregnant or breastfeeding. They will sit with younger children and encourage them to eat their food. There is no sex bias affecting which children eat first or the quantity they receive. However, there is a tendency for women to give larger quantities of food to the men of the household, often serving themselves smaller, inadequate portions.

Ideally Dinka families will eat three times a day but frequency of food intake is subject to

seasonal change. Currently, food shortages are such that it is not uncommon for some households to eat only one meal a day. Children will eat with the rest of the household and are more vulnerable to malnutrition because they are unable to ingest large quantities of food in one sitting.

Dinka society is polygamous and most men have more than one wife. The number of wives a husband has affects how much time he spends within that household, which in turn affects the quantity of food available for other family members at meal times. It also affects the age at which children are weaned (cease breastfeeding). Favouritism between wives leads to the unequal distribution of a husband’s often limited resources, e.g. money to make purchases at the market.

Sharing

The Dinka operate within a cultural system that is both egalitarian and kinship based. As a result, all food is shared in equal parts among all those present. Whether related by kinship or even as strangers, most Dinka households will share their food with all those present. This action is based on the belief that all people can ‘meet again’ and by feeding a stranger today, he could feed you tomorrow. The practice of sharing food greatly impacts the quantity of food available for children within the household. It also makes targeting food aid difficult, as there is a definite discrepancy between the number of persons living within a household and the actual number of people eating at that household. There is little data available on the prevalence of malnutrition among adults. It can reasonably be assumed that prevalence is high, certainly within the more vulnerable groups such as women, young children or the elderly, as they have the least access to dietary supplements such as wild food sources.

Pregnancy and lactation

Children are extremely important within Dinka culture as they provide labour, protection (when they grow up) and cows (in the form of a ‘bride-wealth’⁶ paid by a groom’s family to a girl’s family to finalise a marriage alliance). It is difficult to estimate the average number of children a Dinka woman will have in her lifetime - like many African cultures, Dinka men and women view talking about the number of children they have, or pregnancies had, as bad luck. Cultural beliefs and practices towards pregnant women, with regard to diet, behaviour and work ethic, impact birth weight, the nutritional status of newborns and the health of new mothers. Women consistently perform the same daily duties (including walking long

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distances for water or firewood, pounding sorghum, sweeping the compound and cooking) up until the actual day of delivery. Diet remains as it was before pregnancy with no additions of specific food groups or increases in quantity. Pregnant women are also influenced by a number of taboo foods that can limit sources of protein; this is particularly significant during the months of the year when cow’s milk is unavailable.

Although the breastfeeding period typically excludes solid foods for infants aged 0-6 months, water is often introduced sooner. Drinking water tends to be untreated and given from dirty jerry cans or cups, exposing young children to pathogens that affect their health and nutritional status. If a mother is severely malnourished, the quantity and quality of breastmilk produced and her capacity to care for her young infant will be negatively affected. Protecting the nutritional status of mothers-to-be before and during pregnancy and during lactation is important to ensure maternal reserves are not depleted during breastfeeding, to preserve vitamin and mineral adequacy of breastmilk, and to ensure adequate nutritional status and birth weight of newborns.

Cattle camps

Cattle camps play an important role within the Dinka culture and are the scene of all major social activities. Young men, unmarried women, grandmothers and children all live in large camps to tend to, milk and protect cattle. During the dry season, the camp moves to where the water source is greatest, often a far distance from the villages they are from. All children are sent to the cattle camp to be weaned and to ‘forget their mother’s breast’; many will be very young when they arrive and will be taken care of by grandmothers or male relatives. This practice places young children, typically until the age of five years, in a dirty and dusty environment where their diet is restricted to cow’s milk only, although porridge is sometimes introduced sooner. Microbial contamination of cow’s milk is common and often results in intestinal irritations and infections that lead to diarrhoea, constipation or other illnesses. This diet of cow’s milk alone is inadequate for a young child recently weaned, as it does not contain the micronutrients needed to meet the demands of a growing child. There was no evidence of cow’s milk being mixed with the blood of cattle as a means of fortifying the milk and boosting iron intake.

Weaned children will either remain on the cattle camps to assist their fathers and grandmothers or return to the village to be with their mothers and assist them in their daily duties. Older siblings will often help their mothers to look after younger babies. It is rare to see one Dinka child alone, and commonplace to see children of five or six years old balancing a baby on their hip or soothing the tears of a younger sibling.

Hygiene

Knowledge, even a basic awareness of germs and how they are spread, is very limited amongst most Dinka communities, particularly those living in rural areas. Whilst cleanliness is considered important, it can often be a low priority for households with limited resources

⁶ Bride-wealth’ is a system of marriage payment whereby the groom’s family transfer wealth to the family of the bride at marriage in order to cement the union.

to purchase soap or for those living long distances from a water source. As a result, people, including children, do not wash their hands frequently. This increases the risk of disease transmission during food preparation, eating and other activities such as infant care.

Conclusions and implications for humanitarian programming

This article highlights some of the significant social and cultural practices and beliefs that were identified during field research as negatively impacting child health and nutrition status in Tonj South. In order for nutritional programming to be more effective here, or in any setting, it is imperative that these socio-cultural factors are understood and targeted in programme design. In the case of Tonj South, it is important to target nutrition programming at all levels of the community. Women should be targeted with nutrition education that emphasises eating a balanced diet, of adequate proportions, both during pregnancy and during the post-partum period, whilst men and grandmothers should be targeted, as the primary care-givers of children at the cattle camps, with nutrition and behaviour change communications.

Nutrition education should also be incorporated into water, sanitation and hygiene and livelihood projects to emphasise and explain to people the connection between hygiene and diet with health and nutritional status.

In any context, it is essential that local nutrition workers receive full training and education in the fundamental causes of malnutrition and that their trainers are cautious not to make any assumptions regarding their worker's basic levels of understanding. Training must cover more than simply learning how to measure and weigh children to identify malnutrition. Local staff are the public voice of humanitarian agencies and must lead behavioural change by example, so that proper health education is passed on to the community and produces lasting change.

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Vikki Groves, South Sudan, 2011

Cattle camp scene



Fluctuations in wasting in vulnerable child populations in the Greater Horn of Africa

Summary of research¹

A recent study set out to estimate levels of and fluctuations in wasting prevalence in children in arid and semi-arid areas of the Greater Horn of Africa according to livelihood (pastoral, agricultural, mixed migrants) season or month and year. Surveys conducted between 2000 and 2006 were used for this study.

Currently, invariant levels of wasting prevalence are used as triggers for humanitarian intervention. For example, the current World Health Organisation (WHO) guidelines on 'Management of Nutrition in Emergencies' puts forward a classification for severity of malnutrition based on prevalence of wasting irrespective of population type. Similar invariant trigger levels are adopted by SPHERE even though there is evidence that pastoral children's growth patterns differ considerably from those of children in populations with other livelihoods. Furthermore, variations by season are not well established, since most large surveys are infrequent and are not matched by season. However, previous data from clinic reports from nine African countries have indicated seasonal fluctuations of around 5 percentage points in prevalence of low-weight-for-age.

Results from around 900 area-level nutrition surveys (typical sample size about 900 children) were compiled and analysed. These surveys were carried out by non-governmental organisations (NGOs), coordinated by UNICEF, in vulnerable areas of Eritrea, Ethiopia, Kenya, Somalia, southern Sudan and Uganda. Demographic and Health Survey (DHS) and Multiple Indicator Cluster Survey (MICS) were used for comparison. Data were taken from measurements of children 0-5 years of age (or less than 110 cm in height).

The study found that among pastoral child populations, the average prevalence of wasting (<2 SD weight-for-height) was about 17%, 6-7 percentage points higher than the rates among agricultural populations or populations with mixed livelihoods. Fluctuations in wasting were greater among pastoralists during years of drought, with prevalence rising to 25% or higher. Meanwhile, prevalence among agricultural populations seldom exceeded 15%. This difference may be related to very different growth patterns (assessed from DHS and UNICEF/MICS surveys), whereby pastoral children typically grow up thinner but taller than children of agriculturalists. Wasting peaks are seen in the first half of the year, usually during the dry or hunger season. In average years, the seasonal increase is about 5 percentage points. Internally displaced people and urban migrants have somewhat higher prevalence rates of wasting. Year-to-year differences are the largest and loosely correlated with drought at the national level but subject to local variations.

The study also found that growth measured by stunting compared with wasting from 0 to 5 years of age – as seen from national DHS/MICS data – diverges dramatically between different livelihood groups. Wasting prevalence decreases with better socioeconomic status in pastoralists, whereas the response to better socioeconomic status in agriculturalists tends to be decreased stunting prevalence.

The authors of the study conclude that given the difference in growth patterns by livelihood, different criteria are needed in evaluating wasting prevalence. Also, tracking changes in wasting prevalence over time at the area level, e.g. with time-series graphical presentations, facilitates interpretation of survey results obtained at any given time. Roughly, wasting prevalence exceeding 25% in pastoralists and 15% in agriculturalists (taking account of timing) indicates unusual malnutrition levels. Different populations should be judged by population-specific criteria, and invariant prevalence cut-off points avoided; interpretation rules are suggested. Survey estimates of wasting, when seen in the context of historical values and viewed as specific to different livelihood groups, can provide useful timely warning of the need for intervention to mitigate developing nutritional crises. The survey data also suggest that internally displaced people (IDPs) were only marginally more malnourished than the surrounding populations. Returnee populations were not more malnourished. Groups that had migrated to small towns in North Eastern Kenya, mostly in Turkana in the surveys, were similar in wasting prevalence to the pastoral populations outside towns. However they were of particular concern, as they were becoming dependent on food distribution and were without viable livestock herds to allow re-establishment of normal livelihoods.

The authors also conclude that a move toward more regular reporting could substitute for some of the small-scale surveys currently being implemented. For example, reporting from clinics and regular surveys of sentinel areas, such as those undertaken by the arid and semi-arid lands project in North Eastern Kenya, could provide underlying monitoring. This would allow fewer surveys to be launched in response to other signs of problems, such as drought reports and population movements. Furthermore, survey methods themselves could be improved, especially if fewer surveys meant more resources available per survey. Priorities would include better sampling methods and, in some cases, investing in better age determination to allow estimates of stunting and underweight.

¹ Chotard, S et al (2010). Fluctuations in wasting in vulnerable child populations in the Greater Horn of Africa. *Food and Nutrition Bulletin*, vol 31, no 3 (supplement), pp S219-S233. 2010

Knowledge, Attitudes and Practices Study on Offal Consumption among the Somali Population

By Louise Masese Mwirigi and Joseph Waweru

A woman lures a camel into a newly constructed slaughterhouse in Boroma town

Research



with WFP, Kimetrica International, UNICEF and Feed the Children.



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The livestock sector remains the most important production sector of Somalia, with approximately 3 million animals being exported each year, generating about 40% and 80% of Somalia's gross domestic product (GDP) and foreign currency earnings respectively. It is important to ensure that livestock related infrastructure, such as slaughterhouses and meat and meat related facilities, are of the required standard and quality to reduce the risk of human and animal diseases and to optimise production to benefit households and the overall community. Consequently, through the Rapid Response Rehabilitation of Rural Livelihood's Project (RRRRLP) being implemented by the UN Food and Agriculture Organisation (FAO) Somalia in Somaliland and Puntland, a range of infrastructural interventions that aim to construct and equip slaughter facilities at community level have been undertaken.

The overall aim of the World Bank funded RRRRLP is to mitigate the chronic food crisis in Somalia, by increasing domestic food production and reducing livestock losses for poor rural households. One of the key expected outcomes is the promotion of sale of quality animal by-products and the consumption of offal as a means of improving community and household incomes and nutrition well being (see Box 1). The consumption of micronutrient rich food is essential, especially in light of findings from the recently conducted micronutrient study in Somalia that identified micronutrient deficiencies among women and children¹. This study, conducted by FSNAU and partners in 2009, revealed high levels of iron and vitamin A defi-

ciency in the country, especially among women and children. The overall anaemia and iron deficiency anaemia prevalence among children aged 6-59 months was above 45% in both Somaliland and Puntland. This level exceeds the 40% WHO threshold, classifying anaemia as a high public health priority. The prevalence rates of iron deficiency and anaemia for women of reproductive age (15-49 years) and school-aged children (6-11 years) were also of public health concern⁴. Similarly, prevalence of vitamin A deficiency indicated a severe situation with prevalence levels exceeding the 20% WHO cut off for a severe public health problem.

The slaughterhouses in the region have ancillary facilities that ensure that quality and wholesome offal is available to the communities. In order to promote the health and nutrition well being of the population, the community should be encouraged to consume offal meats.

For this to be achieved, an effective communications strategy aimed at promoting consumption of offal, especially by vulnerable groups (women and children), is imperative. The fundamental factor for a successful communication campaign strategy would be to ensure delivery of accurate, acceptable and appropriate messages that are accessible and understandable by the community. It was, therefore, crucial for proponents of the awareness campaign to have a full understanding of the practices, attitudes and level of knowledge the community has in relation to the consumption of offal. It was on this basis that RRRRLP commissioned the Knowledge, Attitudes and Practices (KAP) study that was undertaken by FSNAU.

KAP study method

Between 28th May and 6th June 2010, FSNAU and partners conducted a KAP study in relation to offal consumption among the communities in Boroma, Bossaso and Burao towns. The aim of the study was to gain further insight and understanding of the population's common practices, beliefs and level of knowledge with regard to consumption of offal. The findings could then be utilized to inform the design of an appropriate nutrition communication campaign targeting the promotion of offal

consumption in the community as a means of combating micronutrient deficiencies.

Focus Group Discussions (FGDs), Key Informant Interviews (KIs) and informal observations were the main data collection techniques used. The respondents were represented by various groups based on gender, age, occupation and socio-economic background ensuring all groups were given a chance to express their views and opinions openly. Analysis involved collating and interpreting all the information collected and analysing it for consistency and commonality of views.

Results

Results indicated that offal consumption is generally acceptable among the Somali population. The main factors affecting offal consumption included availability, cost, cultural beliefs and practices, socio-economic status and known or associated health benefits. The main types of offal consumed were liver, kidney, stomach/intestines, head, heart and bones (bone marrow). These types of offal are culturally acceptable, considered palatable, associated with known benefits to the body and are consumed by people of all ages. Offal is traditionally consumed mainly by women, apart from liver and kidney which are also consumed by men. Offal is generally prepared by first washing it thoroughly and then boiling or frying. The main accompaniments served with offal include bread, rice, canjera or pasta.

Conclusions and recommendations

The general cultural acceptability of offal consumption offers a positive opportunity to initiate the promotion of nutrition education packages that aim at promoting offal consumption for better health and well-being. However, some negative cultural beliefs and socio economic attitudes and lack of adequate supply are factors that limit the optimum consumption of offal in the community, especially by the vulnerable groups. Negative attitudes such as offal meat being considered "food for the poor" or liver not being fed to children under the ages of 2 years, are some of the negative factors affecting consumption of offal.

¹ National Micronutrient and Anthropometric Nutrition Survey, Somalia 2009, FSNAU, MOHL and Partners

² <http://www.offalgood.com/what-is-offal>

Box 1: The nutritional benefits of offal

Offal can be defined as those parts of an animal which are used as food but which are not skeletal muscle², including internal organs such as the heart, liver and lungs, all abdominal organs and extremities i.e. feet, and head (including brains and tongue). Offal, especially the liver, kidney and heart, are good sources of protein, fats and micronutrients, with the liver being particularly rich in iron, vitamin A and other micronutrients.

Global CMAM mapping in UNICEF supported countries

Summary of review¹

In spite of these alarming micronutrient deficiency rates reported in 2009, the consumption of locally available and micronutrient rich food groups is low. Promotion of the consumption of readily available local micronutrient rich foods, such as offal, is fundamental and by far the most sustainable strategy in combating the high levels of vitamin A and iron deficiency anaemia in Somalia,

The acceptance and inclusion of offal as part of the daily diet would result in increased income for the various actors along the live-stock production and marketing chains and access to cheaper and more affordable animal protein at household level. This development would improve household food and economic security, while having a positive impact on the nutritional and health situation of the community at large.

Advocacy ensuring that the community is made aware of the benefits of offal consumption especially for vulnerable groups is very important and should be considered a priority. The frequent consumption of offal as part of regular meals should be encouraged. This will involve ensuring that the population is made aware of the nutritive and health benefits associated with offal consumption and countering the negative beliefs and social perceptions that see offal as food for the poor. An advocacy strategy should include the training of health workers.

The micronutrient survey highlighted that the consumption of micronutrient rich foods such as fruit, vegetables, eggs and even offal is very low, especially amongst children under 2 years who are especially vulnerable to high rates of malnutrition. This is therefore a key target group to promote the consumption of offal.

It is also important to educate the community about inhibitors to iron absorption such as tea, and to encourage consumption of vitamin C rich foods to aid iron absorption. Traditionally, although offal is mainly consumed by women, liver and kidney are generally reserved for men and the well off. Women are generally only given liver as a curative measure when diagnosed with anaemia. Women with the support of men and other community members should be encouraged to consume liver and kidneys as well as other offal meat to promote their health. Communication campaigns should emphasis intra household distribution of these offal meats, ensuring that women are able to access a favourable amount of liver and kidney. If prepared and cooked well, offal meat can be very tasty. Proper preparation ensures that the offal tastes good and has a pleasant smell. As part of the communications strategy and awareness creation, handling of offal from slaughter to the table including cooking demonstrations should be conducted to illustrate cooking methods and recipes on how offal is prepared.

Finally, the provision of cold storage facilities to slaughterhouses or traders will help ensure that offal can be available for purchase at all times, and for all, even those without slaughterhouses nearby.

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A recent review commissioned by UNICEF set out to develop a global map on the status of Community-based Management of Acute Malnutrition (CMAM) with a focus on severe acute malnutrition (SAM) in UNICEF supported countries, at policy and programming levels. Management of SAM has been strongly supported by UNICEF in the last decade and remains an institutional priority. In recent years there has been a rapid increase in the number of countries implementing a community approach to managing acute malnutrition, as well as the expansion of these services within country. However, as yet there is a lack of strong, up-to-date, reliable global, regional and country data to monitor the quality and scale of programmes and services. In order to address this, UNICEF commissioned Valid International to carry out a global mapping of Community-based Management of SAM programming and recommend ways to improve data availability and reliability.

Over the past eight years, the community-based approach for the management of SAM without medical complications has become a key intervention for the management of acute malnutrition, gaining United Nations (UN) endorsement through a Joint Statement in 2007². There has also been a large shift from using management of SAM as an emergency intervention, to a service that is part of routine child health activities. In line with its remit for improving child health, and also as the Nutrition Cluster lead³, UNICEF is one of the principal organisations supporting the implementation and scale up of the CMAM approach with respect to managing SAM. UNICEF is the main provider of Ready to Use Therapeutic Food (RUTF), therapeutic milk (F-75, F100) and ReSoMal that are an essential part of treating SAM. UNICEF also provides technical support and capacity building, both directly to Ministries of Health (MoHs) and via non-governmental organisations (NGOs), to better manage SAM. Central to UNICEF's work is monitoring and evaluation (M&E) and information collection to demonstrate impact of programming.

Methodology

A questionnaire⁴ based on the World Health Organisation (WHO) health systems framework was designed by Valid International in

collaboration with UNICEF headquarters, Regional Offices (ROs) and Supplies Division (SD). Questions included qualitative information (general CMAM programme background/context, policy, financing and coordination, training/capacity development, drugs and therapeutic supplies) and quantitative information (caseloads, prevalence, access and coverage, performance indicators). The questionnaire was sent out in June 2010 to 77 UNICEF County Offices (COs), selected due on the basis of previous orders for therapeutic supplies or indicated by the ROs.

Sixty-nine UNICEF COs responded (90% response rate). Questionnaires completed by 55 countries^{5,6} with active CMAM programmes were analysed in detail. A summary of the key findings are given below.

Achievements to date

The first Community-based Management of SAM programmes started in Sudan, Malawi and Ethiopia between 2000 and 2003, reaching 9 countries (with the addition of Uganda, Zambia, Haiti, Niger, Bangladesh) by 2005, with a total of 55 countries by mid 2010 (see Figure 1). A further 7 countries are planning to introduce this approach for 2010/11, as well as Zanzibar as an extension of mainland Tanzania.

In nearly half of the countries (n=26), CMAM was initially introduced as an emer-

¹ Global Mapping Review of COMMUNITY-BASED MANAGEMENT OF ACUTE MALNUTRITION with a focus on SEVERE ACUTE MALNUTRITION. Global Mapping Review of Community-based management of acute malnutrition with a focus on severe acute malnutrition. Nutrition Section, Nutrition in Emergency Unit, UNICEF NY and Valid International. March 2011

² Community-based Management of Severe Acute Malnutrition A Joint Statement by WHO, UNSSCN, UNICEF May 2007

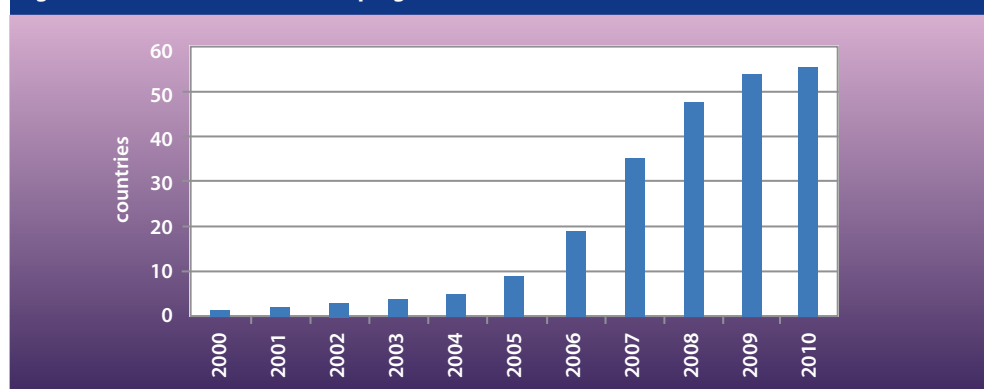
³ Tracking progress on child and maternal nutrition: a survival and development priority. UNICEF, Nov 2009

⁴ For any additional documents pertaining to the review, please contact UNICEF New York Nutrition in Emergencies office.

⁵ Questionnaire response: 55 'countries' are used as the denominator for analysis, since during this review, North and South Sudan were the same country, They are counted in this report as separate programmes.

⁶ UNICEF CO staff members are the source of information for the data compiled. Where possible clarifications and precisions were made with relevant staff but it was not possible to cross check with other CMAM information.

Figure 1: Evolution of new CMAM programmes from 2000-2010



gency response to environmental (drought, flood, cyclone) or political (insecurity) crises and implemented with support from NGOs and UNICEF. The high prevalence of acute malnutrition alone was the determining factor for 17 countries. HIV was stated as being the direct reason to introduce Community-based Management of SAM for Mozambique, Zimbabwe and, to some degree, Cameroon.

Scale up

Regarding scale up, the findings show that the roll out of Community-based Management of SAM is proceeding in an informal and localised way, rather than being directed by a strategic national plan. This is partly the result of the early stage of adoption of the Community-based Management of SAM approach (many countries are at pilot stage) and its initial introduction often being in an emergency context and carried out by individual NGOs. The main constraints affecting CMAM scale up reported were:

- Financial constraints to purchase RUTF
- Government priorities and policies regarding Community-based Management of SAM, including lack of acceptance of importation of RUTF
- Inadequate quality of existing activities e.g. some countries stated the need for programme reviews before deciding whether to scale up.

Technical support

External technical support was provided to countries for initial implementation, training and guideline development through consultant services or institutional agreements with donor funded technical organisations, such as Valid International and FANTA-2. This was often facilitated by the ROs and by international NGOs.

Caseload

The caseload is significant. During 2009, over 1 million children were admitted for treatment of SAM. The majority of children admitted to community-based therapeutic programmes were in East/Southern and Central/Western Africa.

National operational guidelines

To date, 52 countries (95%) have final or interim national operational guidelines or protocols for Community-based Management of SAM. Thirty-six of the 52 countries have had guidelines in place since 2009⁷. The existence of endorsed operational guidelines demonstrates acceptance from governments and MoH for the community based approach but does not automatically equate with its use and application by health centre staff.

Use of WHO Growth Standards

It was reported that WHO Growth Standards (GS) were now in use in the majority of countries (n=36). Although adoption of the standards is increasing, it has been a gradual process. In seven countries it has only been partial, i.e. not all

measures are applied across the whole country. In a further five countries where the GSs are included in the national protocol, they are not being used. Other countries are not yet moving to the new GSs due to resource implications that will result in higher SAM caseloads.

RUTF supplies

UNICEF provides at least 80% of the RUTF supplies in 70% countries (n=37) and provides 100% of RUTF requirements in 43% of countries (n=23)⁸. The Clinton Health Access Initiative (CHAI) is a major donor for supplies in several countries (100% in Botswana, Namibia, Swaziland and 99% in Mozambique) and UNITAID is the key donor in Zambia. Local production of RUTF is increasing, currently occurring in six countries (Democratic Republic of the Congo (DRC), Ethiopia, Madagascar, Malawi, Mozambique, Niger) and is planned in another 10 countries. According to the UNICEF Supplies Division, global suppliers exist in France, USA, Dominican Republic, South Africa, Kenya and India.

Acquisition of RUTF, the main commodity enabling community-based treatment, is well documented, showing an impressive increase in tonnage purchased by UNICEF during the last decade (see Figure 2).

Programme review status

Nearly half (47%) of countries (21) have had a programme review carried out within the last 3 years. Five countries considered that it was still too early to conduct an evaluation (Guatemala, Haiti, Botswana, Zambia, Zimbabwe), and a further two countries had a review planned for 2011 (Ethiopia, Burundi). While many reviews were of pilots or localised NGO programmes, encouragingly there is an increase in reviews of national level programming and policy.

Primary health integration

Progress has been made in at least 50% of countries to integrate CMAM with other primary health activities including Integrated Management of Childhood Illness (IMCI), Infant and Young Child Feeding (IYCF) and HIV/AIDS programmes.

Integration with both IMCI and IYCF policies has occurred in 13 countries, with a further 12 noting integration with IMCI alone and five countries with IYCF. For IMCI integration, the addition of mid-upper arm circumference (MUAC) to community-IMCI screening was the main change made. However, for both IMCI and IYCF it was frequently stressed that even when included as part of key policy documents and strategies, roll out or the level of activity at health centre level was still limited.

With regard to HIV and tuberculosis, Ethiopia and Mozambique reported integration with HIV

policies. Other country offices did not specify, although it is likely that many have links given the high HIV prevalence in many of the countries managing acute malnutrition.

Integration with national policies has happened in over half of countries. Results indicated that in 34 countries, a national nutrition policy exists in which Community-based Management SAM is integrated (finalised or draft). A further 10 countries do not have a national nutrition policy, while another 10 have a national nutrition policy but it does not yet include Community-based Management of SAM.

Challenges

Reporting systems

Despite the wealth of valuable information provided by UNICEF country offices, there are considerable information gaps and constraints in the overall CMAM data collection system. One of the most relevant constraints is the diversity of reporting systems with varying levels of complexity used in different countries, limiting comparability and compromising reliability of any analysis undertaken. This lack of consistent information may also be due to the lack of a nutritionist or a person in charge of data management and information systems in-country, especially in an emergency.

National guidelines

The review of national guidelines from 28 countries showed differences in terminology used and lack of standardisation in admission and discharge criteria, which can be expected given there is no standard international template to facilitate consistency. Of more concern, guidelines appear to be becoming longer and more complicated, especially certain protocols and reporting requirements. This will affect the understanding of frontline health workers who have to interpret and use these.

Service provision and coverage

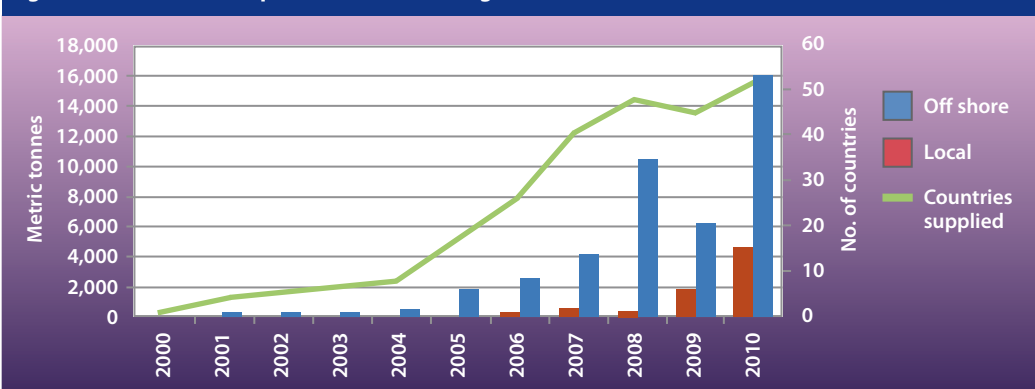
There is confusion between differentiating between the geographical distribution (service provision) and coverage (% of SAM cases treated).

It is difficult to draw conclusions at this stage as to what extent services are currently provided globally. Data on service provision was informed by just over half the countries (n=29). These indicated that, for the most part (18 countries), Community-based Management of SAM has, as yet, only been adopted in a small minority of administrative areas. In terms of the percentage of health facilities offering these services (clearly stated by 22 countries), the geographical distribution ranged from 1.4% to 94%. Half of the countries (50%, n=11) have Community-based Management of SAM available in less than 30% of existing facilities. It is important to note that this does not give an accurate picture of how programming is progressing without knowing whether the country is aiming for countrywide roll out or to support 'hotspots' with high rates of malnutrition.

Accurate estimates for programme coverage proved difficult to obtain due to the diversity of methods used, inaccurate information on population, SAM prevalence and incomplete caseload data.

⁷ In Bolivia, the guidelines referenced (2002) predate the introduction of CMAM in 2006.
⁸ It was commented that the UNICEF Supplies Division forecast only includes supplies provided, and needs met, by UNICEF, thus not giving the full picture as often countries receive supplies from various other sources.
⁹ CSAS: Centric Systematic Area Sample
¹⁰ SQUEAC: Semi-quantitative Evaluation of Access and Coverage

Figure 2: RUTF orders – quantities and ordering countries



Targeted coverage surveys using specific methodology e.g. CSAS⁹ or SQUEAC¹⁰ were specified by very few countries, although it is known they are being increasingly used with support from UNICEF and NGOs.

Information System: data collection and management

The lack of systematic collection of information from programmes represents a limitation to monitoring needs, gaps and impact. Only 23 (42%) countries have a database to manage and monitor the CMAM programme. Only a few countries mentioned a system to improve the chain of actions involved in information collection, including increasing the number of reports received at national level.

The responsibility for analysing the information was varied, but irrespective of where the responsibility falls, the findings clearly suggest that systems for the collection and transmission of reliable data need to be strengthened. The National Nutrition Centre/Section was responsible in the majority of countries (n=18), but also the M&E/ Health Information System (HIS) departments in eight countries, nutrition and statistical departments together in two countries and a further seven countries listed just the MoH or a specific section including family health or health promotion.

The transfer of information from local level to national level was sometimes outlined as a lengthy and often weak process. It ranged from direct transmission from health centre to national level to transfer of data in a series of 2, 3 or 4 steps, depending on the system and geographical divisions within country. Some countries rely on NGOs to transmit information and UNICEF still plays a significant role in facilitating data transfer, while others have focal points responsible for data transmission.

Feedback and action resulting from information supplied by countries is needed, as data collected is often not analysed or acted upon.

SAM caseload

Just over one-fifth of countries (22%, 12/53) could not provide caseload data for 2009, either because no data collection system exists or because information is held by MoH or implementing partners. Only 53% (29/55 countries) could provide any caseload data for January-May 2010.

Country caseloads are not directly comparable given the different stages of implementation and context influencing the numbers being admitted. For example, caseloads for 2009 ranged from small pilots with low caseloads e.g. Indonesia (n=73) and Timor Leste (n=230) to extensive countrywide programming of around 125,000 to 130,000 for Ethiopia and 124,187 in Niger in 2009.

Key performance indicators

Key performance indicators, such as the proportion of children who recovered, died or defaulted, were not provided by 26% (14/53) of countries for 2009. For these countries, there was either no system in place or the information was not available to UNICEF. In addition, 33% of the 39 responding countries received <50% of monthly reports at national level.

Of the 39 countries providing data, performance indicators for 22 countries met all Sphere standards, while 17 had one or more indicators that did not. Strong and weaker results were found across all regions. It is not advisable to compare these data further due to the fact that many country performance indicators did not add up to 100%,

some countries included non-recovered/non response in calculations and some did not, and the overall number of exits is very variable.

The reliability of performance indicators is questionable. The evidence suggests that the figures given for performance indicators themselves must be questioned. Only 39 countries out of 55 were able to provide information with respect to the percentage of monthly reports received at national level and 33% (13) of the 39 countries had received less than 50% of reports at national level. Reports received may well have come from stronger or better supported programme sites, thus biasing the overall findings. It was also found that the monthly reports were often received late or on an erratic basis. Only three countries received 100% of reports.

HMIS/HIS

While many countries recommended including SAM indicators in the Health Management Information System (HMIS), only 14 (25%) have started this process with one or more indicator included. Ten countries emphasised the importance of HMIS integration, merging key indicators with existing HIS/HMIS systems where possible, or as a subsection within HMIS. The number of indicators included varied from just the number of SAM cases admitted, to several indicators, including caseload and performance. If multiple indicators were included, an additional sheet was sometimes added to the standard HIS form. Caution is given against having too many indicators included if the system is to be maintained accurately.

Funding

The reliance on short term or emergency funding for therapeutic supplies, capacity building and MoH support activities was the major reason given for delaying and disrupting further scale up of activities and services. Information from the questionnaire demonstrates that short term funding has been available for starting Community-based Management of SAM in many countries, particularly where this has been introduced as part of an emergency response. Longer term funding is an important consideration as this intervention is gradually integrated into the routine activities of government health structures and moves beyond a purely short term emergency intervention.

UNICEF is the major provider of SAM treatment supplies and/or activities in all countries. Nutrition therapeutic supplies are also acquired by national governments, NGOs, international agencies and foundations. Multiple donors are the norm in virtually all countries. The most prominent in terms of supplies are UNICEF, the Clinton Health Access Initiative (CHAI)¹¹, USAID, ECHO, and the Government of Japan. Similarly, the most frequent donors for activities are UNICEF, USAID, ECHO, WHO, WFP and the Government of Japan. Although these provide the bulk of funding for this approach, the support of other donors and individual NGOs including Medecins sans Frontieres, Concern Worldwide, Action Contre la Faim and Save the Children are significant in financing activities and to some extent supplies and distribution in a number of countries.

The need for long term funding for RUTF and capacity building components of Community-based Management of SAM was raised by several UNICEF CO staff and highlighted in the training considerations (below).

Training

Training strategies, methodology and course length, in-service and pre-service training varied greatly between countries. As yet, only half the countries (n=28) have a country training strategy. This reflects the fact that the focus of Community-based Management of SAM has to date been largely localised. Although expansion of sites is now proceeding and the number of trained personnel is increasing, the design and implementation of a coherent national strategy is only starting to be realised. In-service training was used in the majority of countries (n=30) but pre-service training as yet is only taking place in nine countries.

The information provided highlighted that there is no standardised training model in use across countries. Time dedicated to Community-based Management of SAM training ranged from 1 or 2 days to 11 or 13 days. The duration of community volunteer training varied from 2 to 5 days.

Recommendations to improve global mapping of CMAM

1. Develop a global SAM reporting system

The development of a well-structured, reliable information system at each level of the information chain is fundamental to understanding the current situation and to appropriately directing resources to improve the quality of programming. The minimum information to be collated, analysed, and interpreted at HQ level should form the basis of a global SAM reporting system that is useful for each level. Where possible, this should also be accessible to external stakeholders, such as on a password basis. At a later stage, this could be extended to include IYCF and surveillance data (e.g. collating nutritional surveys and connecting to the Integrated Phase Classification (IPC), Health and Nutrition Tracking System (HNIS) and cluster). In the first phase of development, it is recommended to focus on management of SAM only. Specific recommendations include the following:

Country level recommendations

It is recommended to simplify and harmonise the reporting system (with MoH) for management of SAM programmes. This would involve using standardised key indicators and information between countries, if possible standard reporting templates, and, importantly, use of the same reporting system within country by all implementing partners. This includes greater linkage of reporting between HIV and SAM information systems to avoid double counting or omitting caseloads covered by HIV support. Only a few countries reported linkages between these services, although many countries have high HIV prevalence and extensive programming for HIV infected children and HIV-infected adults using RUTF.

The percentage and timeliness of monthly reports received at national level should be increased by making the stakeholders more accountable for the reporting system. Clarity on reporting obligations from UNICEF-HQ to country level will ensure countries place more focus on this issue.

Regional level recommendations

Additional technical or M&E support for COs should be provided from people experienced with CMAM. This could be a multidisciplinary team based in UNICEF ROs or may include experienced staff from other technical agencies. This

¹¹ CHAI was previously known as the Clinton Foundation

could help with issues including implementation, scale up and improving information flow, management and analysis of data.

HQ recommendations

Technical support: dedicate technical or M&E staff time to establish, manage and update the global SAM reporting system, in coordination and collaboration with the Supply Division and linked with ROs and COs. Ideally this will be a web based system.

2. Measuring service provision and coverage

It is necessary to develop a common way of indicating the service provision or geographical distribution of services available to treat SAM. It is recommended to calculate the number of facilities providing services to treat SAM out of the total number of health facilities. It is important to specify whether this information is provided for the whole country or only those parts of the country that are targeted for Community-based Management of SAM programming. Both pieces of information are important as they demonstrate different aspects of service access.

Increased use of localised coverage assessments will encourage reporting and understanding of coverage and barriers to accessing services.

3. Develop indicators for measuring integration into health systems

SAM indicators should be integrated into HIS/HMIS and agreement reached on which indicators can be integrated into HMIS. This should use experience from countries that have started this process and liaison with WHO-HQ.

Integration indicators/information should be developed that demonstrate progress into health initiatives including IMCI, HIV and tuberculosis, incorporation into annual health plans, health financing, pre-service training for medical staff etc. A national budget allocated to SAM could be useful.

More resources for M&E staffing, logistics/transport, training of supervisors, and information system focal points are required for the integration of CMAM into the health system to become a reality. Improving capacity and MoH resources are part of the integration process and should not be neglected or underestimated when calculating support or scale up needs from UNICEF.

4. Strengthen capacity development

As CMAM continues to develop and evolve, it is important to ensure technical staff, implementing partners and key stakeholders are kept updated with new evidence (includ-

ing cost and integration), guidance and resources to develop country programming appropriately. Recommendations include:

- Technical support more readily available for personnel involved in nutrition programming, data information systems and M&E regarding information flow, management, analysis and supply forecasting.
- Include in the country programme plan further technical and logistical support to appropriate MoH staff to improve quality and timeliness of reporting, given data are often collected and databases maintained by MoH personnel.
- Update, develop and disseminate the Programme Guidance for Community-based Management of SAM (an internal UNICEF document).
- Promote and facilitate CMAM forum and technical discussions to improve quality of information and mapping. Share successes and strategies with countries that are seeking guidance on start up or scale up.

Conclusion

This exercise has provided a good start to mapping Community-based Management of SAM, providing a large amount of information in a number of areas. However the report emphasises that:

- Caution should be taken when making country comparisons, given the wide range of contexts (e.g. emergency and development, high and low levels of acute malnutrition, secure or insecure), different phases (e.g. time since start up, presence of external support, operational research) and different objectives/priorities (countrywide vs localised response only).
- Wider input from MoH and implementing partners is needed to both validate and expand on the current information held for each country.
- CMAM is dynamic, both in terms of the approach and developments in the management of SAM and also in the number of countries and areas where this is being implemented.
- While information is needed for quality and accountability, it is essential to keep any information collection as simple and practical as possible and to only collect minimum information that is useful at all levels i.e. country, region and global.

UNICEF has already started to address some of these issues. For more information, contact Ilka Esquivel, Senior Advisor Nutrition Security/Emergencies, email: iesquivel@unicef.org

Lipid-Based Nutrient Supplement Research Network Meeting

By Sarah Style

Sarah Style is part of the ENN team working with UNHCR on the Anaemia Control, Prevention and Reduction Project

In April 2011, the International Lipid-Based Nutrient Supplements (iLiNS) Project hosted the second international LNS Research Network Meeting in Washington DC, the first of which was held in Rome in 2009. The key presentations and issues arising are summarised here.

The LNS Research Network is a group of researchers and practitioners joined by a common interest to explore the potential of Lipid-based Nutrient Supplements (LNS) to contribute to prevention of malnutrition in vulnerable populations. The key objectives of the meeting were to facilitate exchange between researchers and practitioners and share experiences on the potential of LNS in this area. Aside from poster presentations and abstracts of new, current and recent research, the majority of the meeting consisted of oral presentations. These were divided into sessions reflecting some of the key areas of research/activities involving LNS (of which a sample are highlighted below), and served to highlight some of the main learning outcomes and remaining challenges.

The first session focused on the use of LNS during the first two years of a child's life. Whilst analysis of impact on this age group is on-going, LNS studies presented showed a limited effect on growth outcomes. For example, results were presented from a study investigating the effect of complementary feeding with milk-LNS, soy-LNS and corn-soy blend (CSB) on the incidence of severe stunting amongst 6-18 month old infants in rural Malawi¹. The mean length and weight changes between groups were non-significant² and only the group fed milk-LNS, displayed a reduction, albeit small, in the incidence of very severe stunting after 12 months. LNS seemed to prevent further growth faltering from age 6-12 months, although this was not maintained in children 12-18m. It is thought that the timing of the intervention (height-for-age z score already low at enrolment), and the presence of infection may have played a part in reducing the potential impact of LNS (morbidity data were not presented). Further analysis is being undertaken to better understand these results.

An observational cohort study in Niger found a small but significantly higher weight gain, less decline in Mid-Upper Arm Circumference (MUAC) and lower mortality in 6-23 month old recipients of a blanket Ready-to use Supplementary Food (RUSF) distribution plus protective ration³. No difference in height gain or incidence of severe or moderate wasting among intervention groups was found. However, the study experienced a low attendance rate at distribution sites and comparability between those who received the ration and those who did not was an issue. Authors identified a need for further research on why some households attend ration distributions and others do not, as well as the ideal time for interventions to begin and the appropriate duration. Of interest, a further study (for which only the abstract was provided) found CSB and RUSF to be equally effective *treatment* foods for moderate acute malnutrition⁴. However the study

¹ Maleta et al. The effect of complementary feeding with lipid based nutrient supplements on incidence of very severe stunting among 6 to 18 month old infants in rural Malawi.

² $p=0.47$ and $p=0.13$ respectively: preliminary findings, and authors plan further analysis.

³ Grellety E et al. Potential benefits of a preventative distribution: results of an observational cohort study during the hunger gap in Niger, 2010.

⁴ Karakochuk C et al. CSB and RUSF are equivalence in their effect on the recovery of moderately malnourished children 6-60 months of age in southern Ethiopia: a cluster-randomised equivalence trial.

⁵ Boyd et al. Preventing Malnutrition: Operational research using two blanket distribution approaches in two internally displaced persons camps of South Darfur, Sudan.

⁶ See news piece in this issue of Field Exchange.

suggested that other external factors, including sharing practices and the presence of other food aid programmes, may have had a stronger impact on recovery than the actual treatment food itself.

The second session summarised results from the Breastfeeding, Anti-retrovirals and Nutrition (BAN) study in Malawi. Research was presented on the effect of daily consumption of LNS by HIV-infected mothers on both maternal weight and the growth of their exclusively breastfed HIV-uninfected infants from 0-24 weeks of age. Mothers were randomised to receive either no LNS, or 140g per day of LNS (to meet lactation, energy and protein needs), and were then further randomized within these groups to receive maternal antiretroviral drugs (ARV), daily infant nevirapine or no postnatal ARV regimen. Outcomes included infant weight, length, and body mass index (BMI). Results found no consistent effects of the maternal supplementation on infant growth. Interestingly, maternal weight loss was largest in the ARV groups, however, the use of LNS seemed to mitigate this and act as a buffer to the ARV associated weight loss. The generalisability of the results may be limited as the mothers included in the study were relatively healthy (indicated by CD4, haemoglobin measurements and BMI) and infants weighed $\geq 2\text{kg}$ at birth meaning that potential benefits may have been less than expected. It was highlighted that growth is unlikely to be impacted by maternal supplementation as supplementing the mother does not affect the breastmilk content of type II nutrients associated with growth, e.g. zinc, potassium, phosphorus and calcium.

The third session focused on LNS for refugee populations and research in this area, as well as on operational guidance for use of special nutritional products. In South Darfur, the impact of LNS (Plumpy'Doz) and an Improved Dry Ration (IDR) in blanket supplementary feeding programmes (BSFP), for preventing an increase in acute malnutrition during the 4-month hunger season was assessed⁵. In the longitudinal cohort study, children 6-36 months were randomly selected from two camps, each receiving one of the rations. Results showed that there was no statistically significant difference in mean weight-for-height z score (WHZ) between the two camps at baseline ($p=0.17$). However, at the final distribution, children in the camp receiving LNS had a significantly higher mean WHZ than those receiving IDR ($P=0.001$). Although a number of challenges were experienced including a high default rate (reducing sample size), and high staff turnover, levels of acute malnutrition were maintained at rates similar to the non-hunger period. It was suggested that LNS may be considered as a viable option for preventing malnutrition in such contexts. However further research is needed on optimising programme design, e.g. timing, duration of use, and cost-effectiveness, among other things (these areas were also highlighted by other studies as key challenges).

Complementing this, was a second presentation on refugee settings which described the development of operational guidance (OG) outlining the recommended stages and available tools for planning, implementing, monitoring and evaluating interventions to reduce micronutrient deficiencies and malnutrition in refugee populations⁶. Compiled by ENN on behalf of UNHCR, the guidance is

aimed at health and nutrition staff from UNHCR and implementing partners, to meet the needs and challenges involved in using relatively new products and approaches, including LNS in refugee settings. The guidance is in the process of finalisation and will be updated as and when necessary to ensure that the current version reflects the latest developments in product availability and use. Challenges in developing these guidelines include identifying an appropriate duration of use for these products, the potential for interaction of iron and malaria and the potential for adverse effects on breastfeeding practices. These are areas that will require future collaboration with others to resolve.

Following this, the use and sharing of LNS in the diet was discussed, with experiences being shared from Malawi, Niger and Ghana. Acceptability of LNS to children and mothers was a key focus of this session. LNS was found



to be acceptable as a breastmilk replacement to un-infected infants aged 6-12 months of HIV-infected mothers⁷; mothers reported that their children liked the taste, that it helped maintain health without breastmilk, and promoted weight gain. In general, other studies consistently reported that LNS was well liked by caregivers and their children, and that a range of positive benefits of the supplement to their children were frequently perceived, for example increased health and appetite. One study found challenges with children's acceptance of 'regular' complementary food, e.g. maize porridge, when LNS was no longer provided. However, where possible, caregivers overcame this by diversifying the diet and substituting the porridge with locally available ingredients, for example. Although many women believed that LNS increased their child's appetite, for some households this was also a concern, as they did not always have enough food to meet this increased appetite. Some study participants reported concerns with packaging that was difficult to open and the organoleptic properties (specifically taste, odour and texture) of the LNS⁸. A study reporting some sharing of the LNS found that this was largely

linked to social norms and sensitisation⁹. The importance and benefit of providing relevant counselling and education through a trusted source was emphasised¹⁰.

The final session focused on issues related to the regulation and marketing of LNS. Studies in the resource poor setting of Niger explored people's willingness to pay for LNS, which is taken to reflect acceptance of the product and its potential for regular consumption under 'real' conditions. Results indicated that a low cost, subsidised market based system for delivery of the product may be possible, dependent on identification of appropriate distribution systems¹¹. Also highlighted, was the need for amendments to the Codex Guidelines on Formulated Supplementary Foods for Older Infants and Young Children (IYCF) to include new products such as LNS and other formulated complementary foods. This will help ensure that their production and use conform to WHO/UNICEF's Global Strategy on IYCF. The need for improved regulation and guidance for the appropriate marketing of complementary food supplements (CFS) was also emphasised.

Whilst only a sample of the presentations and research shared have been covered above, the meeting provided an invaluable opportunity to share and learn from the many activities being carried out using LNS to improve malnutrition. A number of key learning outcomes and challenges were highlighted. Although the evidence remains thin, the randomised control trials (RCTs)/observational studies on LNS impact undertaken thus far have not yet yielded compelling evidence of impact and it may not always be feasible to conduct RCTs, given the continuing food crisis in many countries. Indications are that the:

- Use of LNS should not be a stand-alone option but requires appropriate water, sanitation and hygiene, health and other programmatic inputs.
- Good counselling and education on promotion of breastfeeding and appropriate complementary feeding practices should also accompany LNS interventions.
- Interaction between nutrition and infection needs to be further addressed.
- Dosage and composition requirements need to consider the potential for unintentional breastmilk displacement, sharing and cost issues.
- Clarity is needed as to whether LNS is positioned as a medicine or a food.

Evidently a number of challenges remain and there is a need for continued research to further investigate the efficacy and cost-effectiveness of LNS in different contexts, as a method of preventing malnutrition among vulnerable populations.

A full meeting report is available from the iLiNS Project at <http://www.ilins.org/>

⁷ Parker ME, Bentley ME, Adair L, van der Horst CM et al. Using LNS to replace breastmilk among HIV-positive population in Malawi: Results of the Breastfeeding, Antiretrovirals and Nutrition (BAN) Study.

⁸ Klevor MK, Dewey KG et al. Experiences with the use of LNS (Nkatepa) by pregnant and lactating women in Ghana.

⁹ Cohuet S, Marquer C, Grais RF et al. Intra-household use and acceptability of RUSF distributed in Niger between July and December 2010.

¹⁰ Parker ME, Bentley ME, Adair L, van der Horst CM et al. Using LNS to replace breastmilk among HIV-positive population in Malawi: Results of the Breastfeeding, Antiretrovirals and Nutrition (BAN) Study.

¹¹ Tripp K, Perrine C, Hartz R, Jefferds ME et al. Formative research for the development of a market-based home fortification program for young children in Niger.

Feasibility of private micro flood insurance provision in Bangladesh

Summary of research¹

A recent paper describes a study to test the viability of a flood insurance scheme in Bangladesh where a large proportion of the population regularly confronts livelihood and house property damage risks due to catastrophic events. Weather-related risk is a major cause of rural income fluctuations in Bangladesh. Impact assessments carried out by the Intergovernmental Panel on Climate Change identify Bangladesh as one of the world's worst victim countries in terms of the negative impacts of climate change.

In the study, a mixed quantitative-qualitative research approach was followed. In a large-scale rural household survey carried out between August and October 2006, 2,400 floodplain residents were asked about their demand for different forms of insurance schemes (crop damage, house property and unemployment insurance schemes). The households were in five districts located along the three major rivers in Bangladesh. Household willingness to pay was estimated and compared with expected indemnity payouts by insurance providers, within the framework of two different models of micro-insurance supply. The qualitative assessment was based on semi-structured interviews and a workshop with decision-makers in private insurance companies, micro-finance institutions and non-governmental organisations (NGOs) to investigate the viability of private insurance provision in Bangladesh.

Natural disasters result in systematic losses correlated across clients and geographical regions. Therefore insurers face the risk of having to compensate large losses due to a disaster event that affects clients in an entire community or region. As a result, the standard principle of paying damage compensation to affected clients only by pooling resources from non-affected clients typically does not apply. Furthermore the scope of reinsuring disaster insurance schemes is limited or the costs of reinsurance are very high. Due to these obstacles, private insurers have been reluctant to offer policies that cover flood and other natural hazards.

From the perspective of the insured, insurance demand in low-income economies frequently is low due to limited financial resources and thus has been found insufficient to ensure the risk pooling even within the community or region. Past studies have shown that the poorest households are most prone to floodplain risk and that even if an insurance provider exists, poor households in Bangladesh probably cannot afford commercial insurance due to income constraints.

Selections of households for the survey in each of the villages followed a systematic random sampling method. The survey questionnaire consisted of about 50 questions and was divided into three sections: socio-demographic household characteristics, the type and extent of suffering due to annual and incidental disaster flooding, and attitudes to and willingness to pay for micro-finance where respondents were presented with a hypothetical insurance programme. Households were asked whether they would like to participate in a scheme, about their most preferred insurance scheme, who they would prefer to have as a provider and preferred payment frequency. The key informant interviews and workshop with decision-makers took place a year later in 2007 with 20 representatives of government, private insurance companies and micro-credit providers.

Findings

The research reinforced the scepticism in the literature about potential low effective demand for new insurance products. Only one half of respondents agreed to participate in the hypothetical flood insurance programme. Although there may be models to reduce the administrative costs so that cost recovery may be feasible, there may be structural problems. It appears that key players in the micro-finance market in Bangladesh vary in terms of their motivations, degree of power and type of stakes they pursue in such a market. These differences make collaboration under such an organisational framework less likely and a potential collaborative agreement unstable.

Given the importance of profits among private insurance companies and the gap between the expected premium and the indemnity amount, it seems unlikely that private micro flood insurance can be introduced in Bangladesh at present.

A question remains as to whether an insurance programme stands more chance of survival and whether it could become more viable if it was implemented through a public-private partnership.

Given that micro-credit providers expressed interest in offering an affordable insurance scheme and the large inflow of foreign donations in this sector, they may be able to play a key role in developing a micro flood insurance market. Micro-credit providers, furthermore, have a competitive advantage in that they have more access to the client base, have better infrastructural facilities across even the most remote parts of Bangladesh, enjoy a greater degree of trust and credibility among clients, and have pre-existing information on client portfolios and risk history. The study also found indications that potential insurance clients prefer public provision of micro flood insurance, possibly because they consider flood risk protection a government responsibility or have a higher degree of trust in the public sector than the private sector. However, it is important not to underestimate the need for sound actuarial analysis in providing a viable insurance scheme in the long term. Such experience is only available in private insurance companies.

The authors conclude that a government-directed and facilitated process to settle and overcome the differences observed in the study between the non-profit micro-credit providers and profit-oriented private insurance companies is needed. This should build on the particular competences that each party can lend to the development of a viable micro flood insurance market through a public-private partnership.

¹ Akter, S et al (2011). Exploring the feasibility of private micro flood insurance provision in Bangladesh. *Disasters*, volume 35 (2), pp 287-307, 2011



Women head for a nearby flood shelter established by the government in Bangladesh

The Psychology of Food Riots: Why do price hikes lead to unrest?

Summary of online article

A vendor in Yemen, another country
where there have been food riots

A recent article published online about the psychology of food riots makes for interesting reading. Below is a slightly edited version of the piece where the two authors start by commenting that the year 2010 was a tough one for the global food system.

Wildfires, fuelled by record temperatures and a summer drought, burned away much of Russia's wheat harvest, spurring the Kremlin to halt exports. As a result, commodity prices skyrocketed. The United Nations (UN) panicked and called an emergency summit in September 2010. World food prices rose to a record high in December 2010. So far, 2011 has not been much better. In January, food prices were identified as one trigger for Tunisia's unrest, as well as for riots across much of northern Africa, including Egypt - a country that depends heavily on Russian grain. It seems that a food crisis along the lines of the one in 2008, when rioters in dozens of countries furiously protested the price of grain, might occur again.

Assuming a connection between rising prices, hunger, and violent civic unrest seems logical. Many commentators have emphasized this linkage. For its part, the UN emergency summit last year concluded with a reminder of the pledge taken during the 2009 World Food Summit: countries must "refrain from taking measures that are inconsistent with the [World Trade Organization] rules." In other words, the UN reaffirmed that free trade and increased agricultural production are the best means to achieve food security.

However, in spite of all the noisy media coverage and declarations by senior policymakers, few people have remarked on the actual motives of those who, in 2008, destroyed property in Argentina, Egypt, India, Indonesia, and Peru, brought down Haiti's government and are currently causing havoc in Tunisia and across the Middle East. After all, food riots have occurred throughout history but have not usually correlated with hunger or food prices. For the most part, the planet's 700 to 900 million hungry people have suffered in silence. And price volatility does not necessarily lead to screaming crowds, either. There are many more examples of people accepting volatile prices than rioting over them. So there is more to the protests than the logic of the pocketbook. A key psychological element - a sense of injustice that arises between seeing food prices rise and pouring a Molotov cocktail - is missing.

It is not yet clear how big a role food riots played in the toppling of the Tunisian government. But if history is any guide, Tunisians' feelings of being cheated were more important than actual food prices. Take Cameroon's experience

in 2008, for example. That year, this West African nation suffered one of the most serious and protracted food riots in the world, and scores were left dead after the crowds eventually dispersed. Remembering the crisis, Alexander Legwegoh, a Cameroonian academic and an expert on urban poverty and food security, and Bernard Motuba, an accountant who left Cameroon for Canada, said that it was not just bills that caused the violence; expensive fuel drove taxi drivers to strike and then, anger over merchants' profiteering on staple products broadened the protest. "The government knew a group of merchants were taking advantage of everyone and that this would grow to a political crisis." Yet, according to Legwegoh and Motuba, as the protesters' numbers swelled, the size of loaves of bread for sale in the markets shrank while their price tags remained the same.

The real culprits, then, were retailers who stockpiled grain in the hope that prices would continue to go up. This speculation spun Cameroon's food system further out of control and bred hatred. Motuba describes the food merchants as "cut-throat business guys who don't give a damn about people." When the government sent inspectors to grocery stores and warehouses to auction off any illicit surpluses, the public cheered. Prices had not returned to their earlier levels, but a seeming restoration of justice helped calm the rioters' tempers, whose fury, according to Motuba and Legwegoh, had been rooted more in a feeling of exploitation than a fear of starvation.

Moral outrage is a common theme in the history of food riots. In fact, the story of the food riots in Cameroon aligns well with that of the 1917 food riots in New York City, which managed to bring commerce and retail to a standstill in February and March. That year, Marie Ganz, a New York housewife, organized food protests, storming the Waldorf-Astoria and launching a citywide boycott of grocery stores. In her memoirs, Ganz painted a vivid scene: "Cart after cart [of produce] was overturned and the pavements were covered with trampled goods. . . . Onions, potatoes, cabbages flew through the air, and in each instance, the target was a ducking, wailing peddler, whose stock had been ruined beyond hope of recovery." The reason for the excitement was a sudden jump in grocery prices - 30 percent in a matter of weeks. But what kept Ganz and her contemporaries on the streets was the perception of wrongdoing. "The day of the profiteer had come," Ganz wrote. "Surely a thousand women, perhaps twice that many, were in that mad struggle, long-enduring wives and mothers who had resolved to bear the oppression of the profiteer no longer."

Ganz's anger, too, echoes events from the early eighteenth century, when hundreds of food riots caused tremendous commercial and

social damage across England and France. Until then, an ancient law called the Assize of Bread had set the price of wheat, determined the quality of flour, fixed bakers' fees, and obliged farmers to sell grain in easily accessible markets rather than at their farms, where merchants would have had a buyers' advantage over the urban poor who could not travel.

As a food system, however, the Assize of Bread was expensive. Although it kept grain prices stable, it also squashed the energies of enterprising middlemen and entrepreneurial bakers. As such, it ran counter to the logic of Adam Smith and his fellow economic rationalists, one of whom argued, "Let corn flow like water, and it will find its own level." Smith, in particular, believed that instead of helping the poor, such interference with the market damaged food security. If during a bad harvest year, for example, the government kept prices artificially low by preventing merchants from stockpiling food, then there would be no incentive to store grain or reduce consumption. This would only lead to greater hardship later in the year when food grew even scarcer. In a free market, prices would rise and merchants with surpluses would retain their stores. Hoarding would be considered a virtue when the merchants eventually released their surplus into the shopping bags of a needy public (for the right price).

Theoretically, this made sense. But rioting mobs are not economically rational. England's and France's slow shift from the protection offered by the Assize of Bread to the market-driven efficiency of *laissez faire* economics in the late 1600s and early 1700s coincided with the tail end of the Little Ice Age, which was spoiling harvests worldwide. The combination of volatile production and the replacement of welfare policy with free-market principles convinced many that unscrupulous merchants were profiting from hunger. In his description of the large-scale food riots that erupted across England and France at this time, the historian E. P. Thompson cited contemporary correspondence to show that the object of the crowds' anger was not high food prices so much as the ethical wrong of profiteering.

In 1768, an anonymous country gentleman wrote a letter to the British Parliament commenting on this moral factor. While denouncing the rioters for causing havoc, he argued that food, coming from God through the sun, rain, and soil, is ontologically different from money. Merchants, he asserted, must be wary of profiting too greedily from the trade of food abroad while the English were suffering. His message and that of Ganz's housewives, the Cameroonian mobs, and probably that of the Tunisian and Egyptian protesters, is that food riots are ultimately caused more by the perception of profiteering and less by the actual prices on the shelves.

Policymakers today must be mindful of the psychological causes of food riots when they discuss the correct mix of trade and protectionism that will safeguard our food security. If they simply embrace the efficiency of the market, public feelings of injustice may cause more trouble than the volatile price of food itself.

¹ Fraser, E and Rimas, A (2011). The psychology of Food Riots: Why do price hikes lead to unrest? Accessed at <http://www.foreignaffairs.com/articles/67338/evan-fraser-and-andrew-rimas/the-psychology-of-food-riots>. January 30th 2011

Revisiting Sphere: new standards of service delivery for new trends in protracted displacement

Summary of research¹

Protracted refugee situations (PRS) are those in which refugees find themselves in a long-lasting and intractable state of limbo. Roughly half of the world's refugees (5.2 million) by mid-2007 were living in protracted displacement. According to a recently published paper, trends among displaced persons are changing. Numbers are on the increase, the proportion of refugees who have been displaced for five years or longer has risen, and the average length of time people spend in protracted displacement has also grown. The authors argue this trend highlights the need for a new standard of service provision more appropriate to the displaced than the current Sphere standards, which were developed with acute emergencies in mind. It is further suggested that the Sphere Standards can only offer people living in PRS short-term policies and programmes designed for humanitarian emergencies, rather than more proactive, long-term policies and programmes designed to allow people to maximise their potential through development-oriented strategies for service delivery. A separate method of approaching the standard of care in post-emergency phase camps is that of integration, in which displaced and local populations alike receive the same services.

The authors identify shortcomings in the Sphere Standards for PRS with respect to reproductive health, nutritional chronic disease, mental health, capacity building and facilitating sustainable solutions. Further research, discussion and analyses is required to establish these standards with non-governmental organisations (NGOs) openly sharing lessons learned from their work with displaced populations. Suggestions for evidence-based best practice can then be agreed.

With regard to nutrition, the Sphere Standards encourage the procurement of local food sources for displaced populations, noting that general food distributions should be introduced only when absolutely necessary and should be discontinued as soon as possible. However, displaced populations often find themselves dependent on external food aid due to restrictions on movement, land use or income and inadequate local agricultural resources, e.g. Sierra Leonean and Liberian refugees living in Guinea. Long-term dependence and the frequent inability to engage in local agriculture has resulted in high levels of acute malnutrition in many PRS, including camps in Sierra Leone, Kenya, Ethiopia and Eritrea. Also, the Sphere Standards indicate that monitoring the specific micronutrient consumption of displaced populations is logistically unrealistic. While that may be the case in acute emergencies, PRS offers ample opportunity to monitor and regulate micronutrient status.

A recent analysis of micronutrient deficiencies in children living in five protracted refugee camps in Africa found a high prevalence of anaemia, iron deficiency and vitamin A deficiency. People reliant on food aid or restricted food sources for extended periods of time are thus at risk of acute and chronic malnutrition, as well as micronutrient deficiencies which have significant physical and mental consequences. Appropriate nutrition standards and indicators should be developed and included in guidelines for post-emergency camps. However, the authors argue, there is no framework that analyses particular risk factors for nutritional deficiencies in protracted displacement and thus no appropriate standardised recommendations exist.

The authors conclude that a collaborative effort to develop a sound evidence base examining the determinants of health for PRS is the first step. The second step, mirroring Sphere's success using a multi-agency development process, should involve a global discussion by all players involved in this research and service delivery, with the goal of agreeing upon a set of standards for persons living in protracted displacement. When finalised, these new standards will allow NGOs to be accountable to an industry standard, and to secure funding for each of the identified sectors. Donors require documentation of effective, proven interventions and services to initiate and renew funding. These standards will enable this process with services appropriate to populations who have undergone the indignity of protracted displacement.

If you have any experiences of working with displaced populations in protracted situations, we would be happy to feature them in future issues of Field Exchange. Send ideas to the ENN editorial team, email: marie@enonline.net

See also the news piece in this issue on the development of UNHCR's 'Operational Guidance on the Use of Special Nutritional Products to Reduce Micronutrient Deficiencies and Malnutrition in Refugee Populations'.

¹ McDougal. L and Beard. J (2011). Revisiting Sphere: new standards of service delivery for new trends in protracted displacement. *Disasters*, volume 35 (1), pp 87-101, 2011



An elderly woman shopping in Colombia, one of the countries that experienced price rises

Jamie Martin/World Bank, Colombia, 2007

Household threat of escalating food prices and recovery policies

Summary of working paper¹

A recent working paper by UNICEF briefly reviews possible causes of the food price spike that began in mid-2010, examines recent local food price movements in 58 developing countries during 2010 and discusses the adverse impacts of food price increases on households. It goes on to present a rapid desk review of international and domestic policy responses in 98 developing countries under a three-pillar policy framework - supporting consumption, boosting production and regulating/managing food markets. The paper also calls for urgent and coordinated policy actions by national governments and the international community.

The paper begins by outlining the possible causes of soaring global food prices, including weather shocks, exchange rate fluctuations and financial speculation. It goes on to analyse local food price trends in 58 developing countries using data from the Food and Agriculture Organisation's (FAO) Global Information and Early Warning System (GIEWS). The authors found local food price increases in more than two-thirds of developing countries in the sample during the latter half of 2010. These closely trailed global food market prices, at a slower but still substantial rate of increase (7.2 percent on average between May and November 2010). More importantly, aggregate domestic food price levels have remained alarmingly high compared to pre-2007/08 crisis levels (about 55 percent higher, on average, in November 2010 compared to May 2007). This implies that poor and vulnerable populations in many developing countries have been relentlessly coping with high food costs. The authors show that since 2008, poor households have exhausted coping strategies, such as eating fewer meals, cutting health expenditures, increasing debt and working longer hours in the informal sector. Household capacity for resilience is very limited. Latin America and South Asia regions appear to be those hardest hit.

In light of the danger that unabated increases in food prices pose to the right to food, Millennium Development Goals (MDGs) and social cohesion, the paper then presents a rapid desk review of national policy responses in 98 developing countries to draw insights into what is needed to tackle the renewed food price threat. Using a consumer, producer and regulatory policy framework, the authors recommend a better policy mix to address both immediate and longer term needs. A child lens as a guiding principle for designing policy responses to food price increases and achieving food security is also proposed. Many developing country governments are undergoing fiscal consolidation¹ and cutting social protection services and food subsidies in the process. The authors thus call for a turn from austerity-based fiscal policies to inclusive, food security responses in developing countries that are threatened by rising food prices. The paper concludes by advocating for urgent policy actions at national and international levels to ensure a 'Recovery for All' that will eradicate hunger and malnutrition among children and poor households.

¹ Ortis, I., Chai, J and Cummins, M (2011). Escalating food prices; the threat to poor households and policies to safeguard a recovery for all. UNICEF social and economic working paper, February 2011.
² Fiscal consolidation is a policy aimed at reducing government deficits and debt accumulation (OECD).

Cash transfers protecting dietary diversity during food crisis

Summary of working paper¹

In 1998, during the financial crisis in Indonesia, the value of the rupiah (Rp) depreciated dramatically from around Rp 2,400 per US\$ (June 1997) to just under Rp 15,000 per US\$ (June 1998). It finally settled between Rp 8,000 and 9,000 per US\$ by December 1998. These fluctuations in the exchange rate led to large increases in the price of tradable commodities in domestic markets. The consumer price index increased by 107% between February 1996 and February 1999. During the same period, the food price index rose by 188%. In addition, a number of existing subsidies on consumer goods such as rice, oil and fuel were removed in 1998.

In a recent paper, researchers used the shock to food prices in Indonesia to assess various aspects of the relationship between nutrient consumption and prices.

Type of analysis

The authors conducted the analysis at two levels. First, using the Starchy Staple Ratio (SSR) as the summary measure of household nutritional welfare, they assessed the impact of the dramatic change in food prices on household dietary composition. SSR is defined as the share of caloric availability derived from starchy staple foods (cereals and tubers). According to Bennett's Law, this ratio is inversely related to the importance of inexpensive starches relative to higher quality, more expensive and micronutrient-rich foods (such as meat and fish, fruits and vegetables). Secondly, the authors examined how the income elasticity of the SSR differs in the two survey rounds characterised by very different relative prices between cereals and other major food groups.

The analysis was conducted separately for urban and rural areas in the province of Central Java (one of the poorest provinces in Indonesia) in 1996 and 1999. Results are reported using non-parametric and regression methods. The analysis was supplemented by providing updated estimates of the income elasticity for energy (calories) and important nutrients in Indonesia, such as protein, carbohydrate, fat, iron, calcium, phosphorous, and vitamins A (carotene), B1 (thiamin), and C (ascorbic acid).

The authors suggest that at times of crises, cash transfers may be the fastest and least costly method of reaching the households most likely to be adversely affected, if the delivery infrastructure exists and has low levels of leakage. Reliable elasticity estimates can help policy makers determine before the event whether cash transfer programme can be at all effective at increasing nutrient availability among poor households or if alternative interventions may be necessary. Therefore, particular emphasis in the paper is placed on the sensitivity of the elasticity estimates to biases due to measurement error in consumption and the nutrient availability at the household level.

The authors also provide a test for whether the income elasticity for nutrients varies with the economic conditions faced by households. Changes in the relative prices of the staple food items may plausibly give rise to rather unex-

pected responses to how the demand for nutrients may be affected through a cash transfer. Take a situation where the level of total caloric availability is already low, for example. If the relative price of the staple increases during a crisis, households receiving a cash transfer may choose to spend more of their additional income on that same staple as long as it continues to be the cheapest source of calories and energy.

The analysis is based on the detailed consumption module of the nationally representative (urban and rural) National Socio-Economic Survey (SUSENAS) collected every three years by the Central Statistical Agency (BPS) of the Government of Indonesia. The 1996 round surveyed 60,678 households and the 1999 round surveyed 62,217 households. In February 1999 when the second SUSENAS was conducted, the inflation rate in Indonesia peaked. Comparing prices with 1996 provided the opportunity to examine economic behaviour in the context of dramatically different relative price regimes.

The consumption module of SUSENAS involves a 7 day household food quantity and value recall (216 food items in 1996 and 214 food items in 1999). It includes food purchased, gifted or self produced. Quantities were valued by local interviewers using the prevailing market prices in the villages where households reside. The micro-nutrient content of each food item was calculated using conversion factors published by the Nutrition Directorate in the Ministry of Health of Indonesia.

Findings and policy implications

The analysis led to a number of key findings:

Summary measures, such as the income elasticity of the SSR, may not change during crises but this masks important differences across specific nutrients.

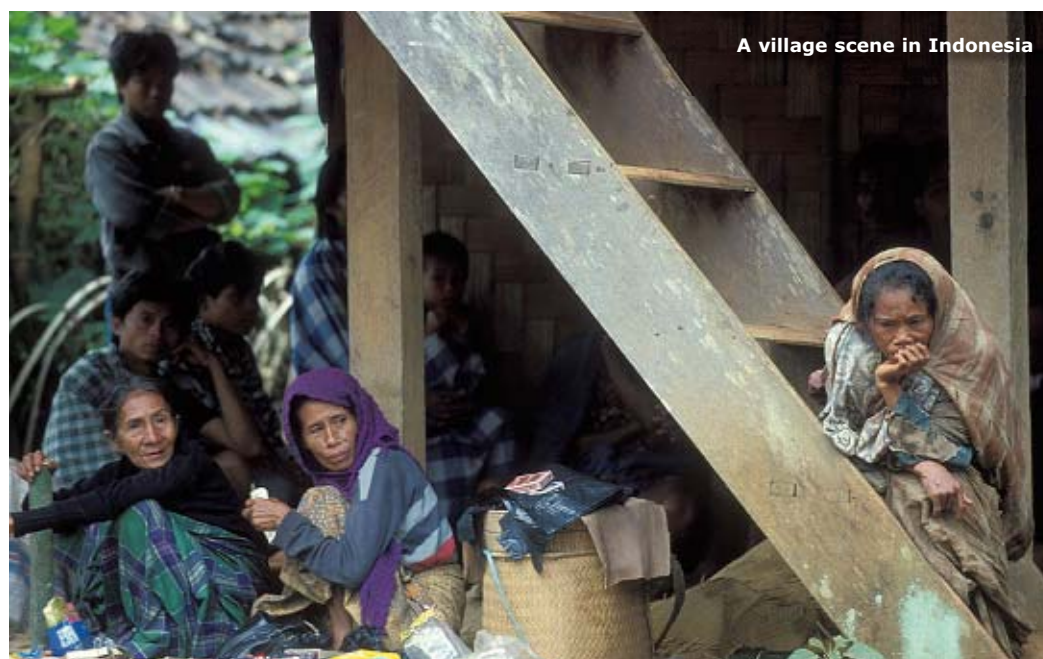
Controlling for measurement error, the income elasticity of some key micronutrients, such as iron, calcium, and vitamin B1, were significantly higher in the crisis year compared with a normal year, particularly in urban areas.

The income elasticity for certain micronutrients - vitamin C in this case - remains close to zero.

These results suggest that cash transfer programmes may be even more effective during crises to protect the consumption of many essential micronutrients compared with non-crisis periods. However, in order to ensure that all micronutrients are consumed, specific nutritional supplementation programmes are also likely to be required.

The results have two specific implications for policy. First, given the significant increases in the income elasticity of both micronutrients and macronutrients during a crisis, it appears that cash transfer programmes can play an integral role in helping households protect their consumption of essential nutrients during crisis. To the extent that the delivery infrastructure already exists and operates at low levels of leakage, cash transfers are widely accepted as the quickest and the cheapest interventions to scale up in order to reach households that are most likely to be adversely affected. This research shows that they can also be more effective in protecting the consumption of nutrients than in normal economic conditions. The second implication is that if the goal of policy in response to economic crises is to ensure the protection of all important micronutrients, then relying entirely on cash transfers may not be sufficient. For example, the consumption of vitamin C was found not to be responsive to income in both rural and urban Central Java. This suggests that specifically targeted micronutrient supplementation programmes may have to accompany cash transfers to ensure that key micronutrients are not sacrificed during crises. Future research could be directed at understanding and identifying which specific nutrients households are likely to sacrifice during a crisis in different settings.

¹ Skoufias, E, Tiwari, S and Zaman, H (2011). Can we rely on cash transfers to protect dietary diversity during food crisis. World Bank policy research working paper, 5548. January 2011



A village scene in Indonesia

Differences in food insecurity between adults and children in Zimbabwe

Summary of published research¹

A variety of methods have been utilised to assess food insecurity, including measures based on national food supplies and anthropometric methods. Generally, assessments of food security require categorising the entire household's food security status based on responses from the household head. In the process, the views of other household members – most notably those of children – are not considered. This is an important omission as there is evidence of age bias in resource allocations in developing countries

Neglecting the assessments of food intake of other household members may skew estimates of overall food security, food security within different groups, and analyses of the determinants of food security. A recent paper reports on a large scale survey from Zimbabwe where information regarding the food insecurity situation of the household was obtained from both a parent and a child. Three central questions were addressed in the survey:

- How does the overall incidence of food insecurity differ whether the child or the adult is the respondent?
- Within households, what is the correlation between adult and child reports of food insecurity?
- What are the determinants of adult and child reports of food insecurity?

The data used in this study were taken from a survey of over 6000 households across Zimbabwe in 2004. The survey was conducted by Catholic Relief Services (CRS) with funding from the US Agency for International Development (USAID). The sample frame was derived from the 2002 national census and comprised five districts, selected to represent the five basic areas of community life in Zimbabwe: urban, peri-urban, rural, commercial farm, and resettlement. In each district, a sample of households were selected by taking a sample of district wards, a sample of villages within each ward, a random sample of enumeration areas (EAs) within each village and a random sample of households in each selected EA. Finally, a household was retained in the sample if it contained a child between 6 and 18 years of age.

An adult in each household was asked demographic and economic questions pertaining to the household. In addition, a child between the ages of 6 and 18 years was randomly selected from those children present in the household to answer several questions. Both the child and the adult were asked the following questions regarding their food intake:

- How often do you have enough food? (Responses were always, sometimes, rarely, never)
- How many meals did you eat yesterday? (Responses were 0, 1, 2, 3, >3)

These two measures reflect individual intake of food within the household.

As both the adult and the child lived in the same household, their perceptions of food intake are likely to be correlated, even if they are not identical. As a result, a bivariate probit model, which allows for correlated errors between the equation for the adult and the equation for the child, was estimated in order to capture these correlations.

Results

Over half (57.1%) of the responses signified differences in reported food inadequacy for the adult and child in the same household. Among the cases where there were differences, 58.8% of the differences indicated a better situation for the child. Just under half (45.6%) of the adults

condition, the average household size was approximately five people, and most individuals were interviewed at home.

Bivariate probit results for both measures showed that the correlation between adult and child reports was positive ($q = 0.181$ for food inadequacy and $q = 0.232$ for 'the not enough meals measure') and statistically significant. Thus, even after controlling for several observed factors, adult and child reports were still positively correlated. While the positive and significant correlation between adult and child reports of not having enough meals and food inadequacy may suggest that the food insecurity status of the adult is representative of child food insecurity status, the results from the bivariate probit analyses do reveal differences in food inadequacy and number of meals among members within the household.

Using the food inadequacy measure, there appears to be age preference in food distribution with a tendency to protect younger children against food insecurity. A child in the age group 6–9 years, when compared to a child aged 16–18 years, has a lower likelihood of reporting food inadequacy. In addition, all other child characteristics have no impact on adult or child reports of food inadequacy, with the exception of being a male orphan. Adults living with a male orphan are significantly less likely to report being food inadequate. Covariates that proxy for income and assets of the household (sector of work and housing quality, respectively) and represent greater economic resources are consistently negatively associated with both adult and child food insecurity.

Results from the 'not enough meals' measure are similar to those reported above, as both adults and children in homes with greater economic resources are less likely to report food insecurity. There are however a few differences. For instance, using this measure, children aged 6–9 years were more likely to report eating fewer meals, as were female orphans.

There are marked differences in the predicted probabilities of food insecurity for children and adults based on their demographic and socioeconomic characteristics. Children are significantly less likely than adults to report food insecurity across most household and child characteristics. However, most of these significant differences in food insecurity reports occur mainly for the food inadequacy measure of food insecurity. Starting with age, the results show a tendency to protect younger children, as younger children are generally predicted to be significantly less likely to report being food insecure than the adult in the same household across the age gradient. This finding



Mother and child harvesting sweet potato on communal land in Zimbabwe

FAO/John Spaul, Zimbabwe

and children reported a different number of meals consumed the previous day. As with the food inadequacy measure, most of these cases (59.1%) were in favour of the child (i.e. the child consumed more meals than the adult).

The information demonstrates that there are differences in adult and child reports of food insecurity using both measures. In particular, there are statistically significant differences in adult and child reports between perceptions of number of meals consumed and food inadequacy for adults and children in these households. More specifically, the correlation between adult and child reports of food inadequacy is 0.133, while the correlation between the adult and child reports of the number of meals measure of food insecurity is 0.107. With respect to child characteristics, the sample is evenly split between boys and girls. About 33% of the sample were orphans and the children were roughly evenly distributed across age groups. In terms of household characteristics, the vast majority of caregivers were female. Most adults worked in the farming sector, less than half of the homes were in good or fair

is important mostly for the food inadequacy measure. The singular exception occurs for children aged between 13 and 15 years who are significantly less likely to report food insecurity by the 'not enough meals' measure. While there is evidence of children being protected along the age gradient, orphans do not appear to receive the same treatment.

Non-orphans, regardless of gender, are significantly less likely to report food insecurity across both measures. However, female orphans appear to be protected only by the food inadequacy measure and not by the 'number of meals' measure, while male orphans are not protected at all. Also, the gender of the caregiver is very important, as children in households with female caregivers are also protected against food insecurity. With regard to household size, children in most households are significantly less likely to report food insecurity by the food inadequacy measure, with the exception of children with eight household members who do not appear to be protected by either measure.

The variables that proxy for income (the sector of adult employment) and assets (quality of housing) generally follow the same pattern, in that children are less likely to be food insecure than adults. The notable exception is households where the adult works in the formal sector. In these households, for the food inadequacy measure, children are predicted to be more likely than adults to report being food insecure. In all other sectors of employment, there is evidence once again of protecting children. In fact, it appears that the poorer a family is based on the adult's employment sector, the greater the probability that the adult will report food insecurity when the child does not. These differences are significant at 1% for the food inadequacy measure. In particular, in the poorest homes, where the adult works in the labour/piece-work sector, children are significantly less likely to report being food insecure than adults across both measures. For the other measure of household economic welfare – the quality of housing – the results show that in households residing in higher quality homes, children are significantly less likely than adults to report food insecurity across both measures. From these results we can conclude that children are more likely to be protected from food insecurity in households that reside in higher quality housing, but not in households where the head earns a relatively high income.

There are several implications of this paper for policymakers and practitioners in Zimbabwe and elsewhere. The presumption that all household members have the same level of food insecurity is false for different demographics within the household. While there are differences in reports of food insecurity, in the main, the children in the household have lower levels of food insecurity than the adults. Thus, efforts in Zimbabwe to reduce food insecurity among children that distribute benefits at the household level are likely to benefit children. This general finding does not hold for all groups, though, insofar as children in households with an adult working in the formal sector are more likely to be food insecure than adults. To reach children in this category, one strategy is to provide meals to vulnerable children in school settings. Such a policy would have the secondary benefit of encouraging school attendance, while also leading to improved child educational and health outcomes.

¹ Kuku O, Gundersen G and Garasky S (2011). Differences in food insecurity between adults and children in Zimbabwe. *Food Policy* (2011) in press

Review of evidence of role of nutrition in HIV infection

Summary of published research¹

In 2007 there were an estimated 33 million people living with HIV. Sub-Saharan Africa accounted for 67% of all people with HIV and 75% of all AIDS deaths. The prevalence of HIV in the sub-Saharan Africa region is 6%. Although the number of new infections worldwide has stabilised since 2000, the number of people living with HIV has increased because of HIV treatments that are extending survival. Antiretroviral therapy (ART) is becoming more readily available across sub-Saharan Africa but the nutritional situation, which was already poor, is worsening further for certain vulnerable populations in the face of the global economic crisis.

A recent review examines the evidence for the relationship between HIV infection and malnutrition in adults in resource-limited settings. There were a number of key findings.

Adequate nutritional status supports immunity and physical performance. Weight loss caused by low dietary intake (loss of appetite, mouth ulcers, food insecurity, malabsorption and altered metabolism) is common in HIV infection. Regaining weight, particularly muscle mass, requires ART, treatment of opportunistic infections, consumption of a balanced diet, physical activity, mitigation of side effects, and perhaps appetite stimulants and growth hormone. Correcting nutritional status becomes more difficult as infection progresses.

Studies document widespread micronutrient deficiencies among HIV-infected people. However, supplement composition, patient characteristics, and treatments vary widely across intervention studies. Therefore, the World Health Organisation (WHO) recommends ensuring intake of Recommended Nutrient Intake (RNI) of each required micronutrient, which may require taking micronutrient supplements.

Few studies have assessed the impact of food supplements. Because the mortality risk in patients receiving ART increases with lower body mass index (BMI), improving the BMI seems important. Whether this requires provision of food supplements depends on

the patient's diet and food security. It appears that starting ART improves BMI and that ready-to-use fortified spreads and fortified-blended foods further increase BMI (the effect is somewhat less with fortified-blended foods). The studies are too small to assess effects on mortality.

Once ART has been established and malnutrition treated, the nutritional quality of the diet remains important, in part because of ART's long-term metabolic effects (dyslipidemia, insulin resistance, obesity). Food insecurity should also be addressed if it prevents adequate energy intake and reduces treatment initiation and adherence (due to the opportunity costs of obtaining treatment and mitigating side effects).

The authors draw a number of conclusions. Nutrition assessment, education and counselling should start immediately after the diagnosis of HIV infection. Whether the nutrition advice can be put into practice, however, depends on availability of and access to food, including animal-source and plant-source foods. Where ingredients for a balanced diet are not available or accessible due to food insecurity and poverty, provision of food supplements may be considered. Providing cash or other livelihood support can also be considered, but it is important that this results not only in increased caloric intake but also in improvement of the nutritional quality of the diet. The relationship between nutrition and HIV infection is very complex and is modified by factors such as nutritional status, including wasting or weight loss and micronutrient deficiencies, HIV disease stage, other physiological factors, and diet. The management of HIV disease therefore requires a combination of medical treatment, nutrition assessment, education and counselling, food supplements where necessary, and ongoing monitoring of outcome followed by adjustment of medical treatment and nutrition management.

¹ De Pee, S and Semba, R (2010). Role of nutrition in HIV infection: Review of evidence for more effective programming in resource-limited settings. *Food and Nutrition Bulletin*, vol 31, no 4 (supplement), pp S313-s337. 2010



A HIV infected mother and HIV infected child receive a voucher that entitles her to a month's supply of CSB and household food items



Health Extension Worker testing the appetite of a malnourished child, Menkere health post, Tigray region

Indrias Getachew, Ethiopia, 2010

Research

Cost effectiveness of community-based and inpatient therapeutic feeding programmes to treat SAM in Ethiopia

By Asayehegn Tekeste, Kebede Deribe, Dr Mekitie Wondafrash and Dr Girma Azene

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A retrospective study was recently conducted in SNNPR¹, Ethiopia to determine the average cost of treatment of a severely malnourished child in a therapeutic feeding centre (TFC) and in a community based therapeutic care (CTC) programme, to determine the effectiveness of TFC and CTC programmes as measured by the clinical outcomes, and to compare the cost effectiveness of the two approaches. CTC programming comprises community screening, an outpatient therapeutic programme (OTP) for uncomplicated cases and a stabilisation centre (SC) for complicated cases².

Data were collected in Shebedino woreda of the Sidama zone in the SNNPR from February to April 2007. The woreda is located south of the capital of the regional state Awassa. One of nineteen Woredas of Sidama Zone, it has 50 rural and three urban kebeles with an estimated population of 315,354 and population density of 630 people per km². Farming, which combines both crop cultivation and livestock rearing, is the major economic activity for 98% of households living in rural areas of the district. An average farmland shared by a household is less than or equal to 0.5 hectare.

In recent years (2000 - 2005), there have been unfavourable rainfall patterns, hampering crop production resulting in serious food shortages in lowland and mid highland areas of the district. In 2004, the information obtained from the Woreda Disaster Prevention and Preparedness Commission (DPPC) office revealed that 32 kebeles were in need of emergency food aid. Of those 32 kebeles, 22 of them had been receiving general ration from the regional DPPC. Save the Children US started running CTC programmes in the Woreda in July 2004.

Morocho TFC was opened on July 24, 2003, located within a health post compound. Initially the centre's capacity was planned to accommodate 100 children. However, as there were 122 children admitted within the first week, the capacity was revised to accommodate 200 children.

The Shebedino Woreda CTC programme was opened on 25th of July 2005 in response to a global acute malnutrition (GAM) prevalence of 16% with aggravating factors, identified in a May 2005 nutrition survey. The programme established one SC at Leku health centre and eight OTP sites.

Sample size and study method

The sample size for the study was determined using the sample size determination formula for two population means. Using a 15 % allowance for non-response, missed cases and out migration, the final sample size was determined at 328.

Stratified random sampling was employed to select the study subjects (patient cards and caregivers). First, the list of kebeles where the children served by the respective programmes came from were stratified into 'near', 'medium' and 'far' to the Morocho TFC based on information from the qualitative study. The calculated sample size was allocated proportionally to the number of children treated in each stratum. For these selected study subjects, patient card reviews were undertaken. The caregivers of these selected children were interviewed for the opportunity costs they incurred.

Health extension workers and community health assistants (CHAs) who spoke the local language, and lived in the study kebeles were recruited and collected the data for the household survey.

A semi-structured guide was used to collect data on the costs to caregivers from interviews and from Focus Group Discussions (FGD). Ten people were interviewed as key informants. Two FGDs each for TFC and CTC caregivers from Telamo and Remeda kebeles were conducted. The main purpose of the interviews and FGDs was to estimate the age of employees in the area, determine the daily wage rate and productivity during specific seasons and then calculate and value productivity loss or wage loss, time spent to reach the programme site, transportation costs and waiting time to obtain services.

Administrative records and reports were reviewed to gather data on costs and outcomes of the programmes. Patient cards were reviewed to identify direct costs of treatment for each beneficiary. The financial records and statements from Save the Children US's Ethiopia Country Office in Addis Ababa, Awassa, (EHNP) office and Project Units were also reviewed.

The 'societal perspective analysis', which considers costs to all sectors of the society, was used. Collection of cost data included both the direct costs of programme implementation and opportunity cost (economic cost) of the two alternative models under consideration. Since the cost estimation exercise in this study included use of cost data at different time periods, adjustments were made to account for inflation using appropriate indices, gross domestic product (GDP) deflators and exchange rates.

The effectiveness of the two programmes was measured in terms of cure rates, or number of children cured from severe acute malnutrition (SAM) as identified from their follow up care records. In this analysis, a child was considered to be cured if discharged on fulfilling the criteria of weight for height $\geq 85\%$ for two consecutive weighing and no oedema for ten consecutive days.

Results

A total of 328 patient cards/records of children cured in the programmes were reviewed. Out of these, 306 children (157 CTC and 149 TFC) were traced back to their households to interview their caregivers.

Cost for routine medicines and medicines for treatment of complications

The two programmes were run by a humanitarian organisation and therefore no user fees were incurred by the caregivers and families of the children.

¹ Southern Nations, Nationalities, and Peoples Region
² See Field Exchange 40 for a comprehensive series of articles on community based management of acute malnutrition in Ethiopia.

Among the 164 children treated in the CTC programme, only 19 children (11.6%) had to seek care in the SC. The average length of stay of a child admitted to the SC was 13.3 days. The rate of infection in the SC was 12.8% (21 children). The cost for additional treatments for these medical problems/complications in the CTC programme was estimated at \$0.17 per child.

In the TFC group, 71 children (43.3%) were treated for complications. A significantly greater number of children in the TFC group had medical complications compared to CTC children ($P < 0.001$). The cost for additional treatments for these medical problems/complications in TFCs was estimated at \$0.38 per child.

The average cost for medicines in CTC was \$1.92 per child compared to \$2.51 in the TFC.

Cost of therapeutic food

The cost of therapeutic food provided per child was found to be \$42.94 for TFC and \$55.53 for the CTC programme.

The total cost of food for caregivers in the TFC was \$11.64 per child compared to \$0.15 per child treated in the CTC programme.

In the TFC, soap, a jerry can, a blanket, a pair of bed sheets and insecticide treated net (ITN) were given to the beneficiaries while in the centre and at discharge. The cost was \$23.25 per child. Some of these items were also given to CTC beneficiaries, as well as a bucket to carry the bimonthly dry ration. The average unit cost of non-food items provided in the CTC programme was \$13.77.

Personnel cost

The average unit cost of staff per child for the TFC (\$122.36) was more than three times that of the CTC programme (\$37.1).

Capital depreciation and utilities

Based on the financial record reviews and reports for the period under study, capital depreciation and utilities costs of the programmes were estimated. The space used for treatment, capital items, utility at the sites and SC, vehicle operation and supplies were included in this cost category. The medical equipment used in the programmes were considered as recurrent expenditures, assuming that within the setting of emergency therapeutic feeding, their life is not expected to exceed one year.

The capital depreciation and utilities cost of the TFC was \$50.47 per child and the CTC programme cost was \$17.92 per child. A major portion of the overhead costs in both programmes went to vehicle rental. Here also, TFC costs were about three times more than CTC programming costs.

Total institutional costs

The total institutional cost incurred to treat a child was calculated by adding all cost categories discussed above. The institutional cost in the TFC was \$262.62 per child which was more than twice that of the CTC programme. (Table 1).

Costs to caregivers

Caregivers and families spend money while seeking treatment for the child. These include costs of transportation, food and lodging. Generally, the average costs to caregivers for the TFC was \$1.45 per child compared to \$0.92 per child for the CTC programme.

Opportunity cost to caregivers

The cost of lost productive time for caregivers

Table 1: Institutional cost in the two models, Shebedino Woreda, Sidama Zone, March 2007

Cost category	Therapeutic Feeding Centre		Community-based therapeutic care	
	Mean cost per child (\$)	Percent	Mean cost per child (\$)	Percent
All personnel salaries	122.36	46.59	37.1	28.85
Capital depreciation and utilities*	50.47	19.22	17.92	13.94
Medicines	2.51	0.96	1.92	1.49
RUTF /Milk based formula	42.93	16.35	55.53	43.19
Caregivers' food	11.64	4.43	0.15	0.12
Non food item supplies	23.25	8.85	13.77	10.71
Other supplies	9.46	3.60	2.18	1.70
Total institutional cost	262.62	100.00	128.58	100.00

*Here utilities include vehicle fuel and operation, electricity, maintenance, etc. RUTF: Ready to Use Therapeutic Food

while in programme was calculated based on their occupational status and the total time spent on caring for the child during treatment. Assuming caregivers were productive all the time, the opportunity cost in the TFC was \$20.92 per child and in the CTC \$5.88 per child.

Combining direct expenditure with the opportunity costs, the economic costs to caregivers was about \$21.93 per child for the TFC and \$6.29 per child treated in the CTC programme.

When caregiver and institutional costs are combined, the TFC costs \$284.56 per child while the CTC programme costs \$134.88.

Outcomes of the interventions

Out of a total of 693 children admitted to Morocho TFC, 616 children were cured with a cure rate of 88.9%. There were no reported deaths in the TFC.

Out of the 660 children discharged from Shebedino CTC during the period under review, 612 were cured. The cure rate was 92.7% for CTC. The death rate in CTC (1.2%) was higher than the TFC but very much lower than the Sphere standard.

The average cost per cured child in the TFC is 320 USD compared to 145.5 USD for the CTC programme (Table 2).

Discussion

Caregivers' direct costs were higher in the TFC than in the CTC group. Since TFCs are far from home, caregivers tend to spend more money to reach the centres compared to the CTC distribution sites. The average length of stay of children in the TFC (~27 days) and CTC (~42 days) was similar to findings reported elsewhere.

The direct cost of supplies for treatment and cost of medicines used to treat complications was three times higher for the TFC. The cost of therapeutic food for children was the only cost element that was higher in the CTC programme than in the TFC. The greater length of stay and lower rate of weight gain compared to TFC children might explain this.

The significantly higher average cost of caregivers' food in the TFC might be due to a smaller proportion (11%) of children in CTC who required inpatient treatment.

Three times more cost was incurred for professionals in TFCs, as these are large intensive care centres where the skill of professionals required is higher. Seventy-one full time support staff were required to operate the centre for three shifts round the clock. The staff that ran the CTC programme comprised only two staff, in addition to volunteers and part-time workers.

Vehicle rental took a significant portion of the overhead cost in CTC as teams needed to be transported to the sites every day.

Caregivers' costs (both direct and opportunity cost of lost productive time) were 3.5 times higher in the TFC as caregivers spent many days away from home with their child. The lower expenditure on drugs in the CTC group may also partly be due to community mobilisation and outreach activities helping families or community volunteers to detect malnutrition and seek treatment earlier.

With all the costs considered, the CTC model was more cost effective than the TFC model. One of the main limitations of the study is the fact that it is based upon retrospective information and recall bias may occur especially in the estimation of opportunity cost to caregivers. Another limitation was that the estimation of costs to caregivers in terms of productivity losses assumes similar patterns of work and does not take account of the seasonal variation in work availability.

Conclusions

The findings suggest that CTC is more cost effective than inpatient therapeutic care. The cure rate in the CTC was above 92% during the period under study, which was well above that of the TFC. Since therapeutic food costs were a significant part of the costs of CTC, local production of ready to use therapeutic food (RUTF) should be encouraged to cut the costs of care. Further comprehensive and prospective studies in drought prone pastoralist areas or amongst socio-culturally different populations are recommended.

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Table 2: Treatment outcomes of Morocho TFC and Shebedino CTC, Sidama Zone, March 2007

Outcome Indicator	TFC(n=693)		CTC (n=660)	
	Number	Percent	Number	Percent
Cured	616	88.89	612	92.73
Defaulted	8	1.15	7	1.06
Dead	0	0.00	8	1.21
Transferred in	47	6.78	11	1.67
Transferred to other TFC/CTC	16	2.31	19	2.88
Non responder	6	0.87	3	0.45
Total discharged	693	100.00	660	100.00

Cost effectiveness of CMAM in Malawi

Summary of published research¹



Nicky Dent/Concern Worldwide, Malawi, 2007

A recent study assessed the cost-effectiveness of community-based management of acute malnutrition (CMAM) to prevent deaths due to severe acute malnutrition among children under-five in Dowa District in Malawi.

Nutrition surveys conducted since 2002 indicate that the prevalence of severe acute malnutrition (SAM) in Dowa is generally at or close to 1% (range 0.4 to 1.1% based on seven district-wide surveys). Dowa district in central Malawi was the site of the first large-scale CMAM pilot, initiated by Valid International and Concern Worldwide in partnership with the Dowa District. Since that time, the Dowa programme has operated increasingly under the management of the District Health Office, who have reportedly budgeted all CMAM costs from their own budget for the 2010 fiscal year. Outpatient Therapeutic Programme (OTP) services for SAM are available at all 21 health centres in the district and linked via referral to inpatient therapeutic programme (ITP) services at the district's three hospitals. Malawi's CMAM protocols are in line with international standards. In 2007, 2896 children with SAM were admitted to the Dowa OTP. Over half (59%) of admissions were oedema cases, 20% were wasted according to mid upper arm circumference (MUAC) or weight-for-height criteria and the remainder were transfers/returning defaulters/other. CMAM is now included in Malawi's national health protocol and implementation has expanded from just two of Malawi's 28 districts in 2004, to 21 in 2008.

The study describes the incremental cost effectiveness of the CMAM programme in Dowa district of Malawi for 2007. It places the findings within the broader context of other child health economic evaluations that have been undertaken in Malawi or neighbouring countries.

Decision tree

The study authors used a decision tree to model the cost-effectiveness of CMAM integrated into existing health services versus existing health services with no CMAM, for the period January to December 2007 in Dowa district (see Figure 1). At year end, 2780 children had been discharged from the OTP (including 85 transfers to ITP). The decision tree is built around this known exit total and outlines the possible treatment pathways for SAM beginning with the primary decision to implement CMAM (scenario 1) or not implement CMAM (scenario 2), and branching at additional decision nodes until a terminal node of either dead or alive is reached. The proportion of SAM cases assigned

to each branch was based on data collected from the Dowa CMAM programme from January to December 2007 and key assumptions regarding mortality outcomes and uptake of health services among non-enrolled children. The respective costs and effects (in terms of DALYs¹) were calculated and aggregated for each treatment pathway. The difference in costs and effects between the two scenarios was used to estimate the incremental cost per DALY averted. DALYs are the sum of the present value of future years of life lost due to premature death (YLL) plus the present value of future life years lived with a disease or injury (YLD).

Reflecting the CMAM programme structure, children in the model exit the OTP in one of four ways: cured, died, defaulted/non-recovered, or referred to the ITP due to complications. A child defaults after missing two consecutive fortnightly visits. A child is discharged as non-recovered if he has not reached discharge criteria after his fourth month in the programme.

The defaulter and non-recovered categories have been combined for simplicity, assuming a similar mortality risk. Once children referred from the OTP to ITP are treated for complications, they either (a) return to the OTP to exit via one of the OTP exit categories above, or (b) die, either while under ITP care or after defaulting from ITP, or (c) live after defaulting from ITP.

The model also accounted for additional mortality risk faced post-discharge during the study year by all children exiting cured, defaulted and non-recovered. SAM cases not covered by (i.e. not enrolled in) the CMAM programme in scenario 1 or who live in areas where no CMAM is implemented (scenario 2) are assumed to have two treatment options: non-CMAM care or no treatment. Non-CMAM care includes any treatment for underlying illnesses received at a health centre (excluding therapeutic feeding) and any traditional inpatient therapeutic services received at one of the three hospitals (including therapeutic feeding).

Under the CMAM-implemented scenario, the probability of being enrolled in CMAM was based on the results of a CMAM coverage survey conducted in Dowa in early 2008. Mortality outcomes for children during their average treatment period of six weeks were known from OTP and ITP data, with the exception of defaulters/non-recovered. Additional mortality faced post-discharge was captured by adding 2.4% to the known OTP mortality rate of 1.0%. This 'background' mortality rate was

derived from the overall under-five mortality ratio for Malawi in 2006 (120/1000 live births) divided by five to represent the study year in which 1/5th of the denominator's live under-five births would have occurred. The mortality rate for OTP and ITP defaulters/non-recovered was conservatively assumed to be the same as those receiving no treatment. The mortality rate among children referred to the ITP within the CMAM-implemented scenario (scenario 1) was derived from the only available dataset—a database combining exit data for all ITP children, including but not differentiating those referred in from the OTP. To estimate specifically the outcomes of OTP referrals, the relative proportion for each exit category from the combined ITP database was applied to the total known referrals from OTP to ITP (n=85). The resulting numbers were used to represent the ITP outcomes in the model

The mortality rate for non-CMAM care (in scenario 1 and 2) was assumed to be the same as that for the CMAM programme's ITP component (11% as described above) plus the 2.4% annual background mortality rate. The mortality rate for children seeking no treatment (in scenario 1 and 2) was assumed to be 18.1%. This is based on a prospective cohort study conducted in northern Malawi which found the mortality rate among severely wasted children under-five (MUAC <110mm) to be 181.8 per 1000. The aggregate annual mortality rate for SAM cases covered by CMAM was 4.4% (123/2780), for the CMAM-implemented scenario as a whole it was 11.9% (809/6796) and for the CMAM not implemented scenario, 17.1% (1160/6796).

Estimating relative cost

To estimate the relative cost of each treatment pathway in the model, two unit costs were calculated: the average cost per child treated in CMAM and the average cost per child treated in non-CMAM care.

The no treatment arm was assumed to have zero cost. CMAM costs included those incurred by Concern for the 2007 calendar year and those budgeted by the government for the 2007/2008 fiscal year. All were converted into 2007 US\$ at 140 Malawi Kwacha per \$ and 0.73 Euro per \$. Concern covered 90% of the total cost of the programme. Ready to use therapeutic food (RUTF) accounted for the largest portion of total costs, followed by Concern administrative and direct staff costs.

¹ Wilford, R (2011) et al, Cost effectiveness of community-based management of acute malnutrition in Malawi. Health Policy and Planning, p 1-11. doi:10.1093/heapol/czr017

² Disability-Adjusted Life Years.

Concern's CMAM expenditure was tracked through its financial accounting system and split between capital (cars, motorbikes and computers) and recurrent costs (all remaining costs). Purchases prior to 2007, all made in US\$, were inflated to 2007 costs by the US Consumer Price Index. Car and motorbike costs were annualised over five years and computers over three years, using a 3% discount factor. The cost of RUTF was the total reported spent by Concern for Dowa for 2007, covering the cost of purchase, transport from the producer's factory in central Malawi and warehousing

Concern administration costs were comprised largely of an allocation from Concern Malawi's support staff and office costs, with the addition of support transport costs incurred at the Dowa and Lilongwe offices. Recurrent transport costs included the running costs of three shared cars allocated based on logs recording total kilometres driven for CMAM purposes.

Government costs for CMAM included those for OTP and ITP. Total government OTP costs were estimated using allocations from the budget for 1 July 2007 to 30 June 2008.

Allocations were made from annual staff salaries at 21 health centres (10% of one nurse, one medical assistant and four health surveillance assistants), district staff salaries (20%, 10% and 5% of one district nutritionist, two maternal and child health coordinators, and one health management information system officer, respectively), the district health budget's operating costs (1%) and the district drug budget (1%). The CMAM portion of the district's operating costs and drug budget were both allocated by multiplying the estimated proportion of health centre staff involved in OTP (15%) by the average proportion of total health centre days spent working in the OTP (10%) by the proportion of the total district health budget spent on health centres (66%).

Actual ITP costs (all covered by the District Health Office) were difficult to determine from district records. Further, it was not possible to distinguish ITP costs for children referred in from OTP (CMAM costs) vs self-referrals (non-CMAM costs). For this reason, a unit cost per child treated in the ITP was calculated using an assumed average stay of 7 days and an estimated cost per bed per day in a tertiary hospital in Malawi.

The resulting total CMAM cost was then divided by the total programme exits (2780) to arrive at the CMAM unit cost. The average cost per child treated with non-CMAM care was based on the assumption that one in four children seeking non-CMAM care accessed ITP treatment (using the same ITP unit cost, above), while the remaining three accessed the equivalent of three clinic visits and three courses of drugs.

Cost-effectiveness of CMAM

The total cost of providing CMAM (US\$470,703) and non-CMAM (US\$23,394) treatment for SAM in Dowa district in 2007 (scenario 1) was US\$494,097. The total estimated cost for treatment services where no CMAM programme was implemented (scenario 2) was considerably lower at US\$39,714. However, according to the model, there were 342 fewer deaths in the CMAM-implemented scenario than in the CMAM not implemented scenario, which at a 3% discount rate, equates to 10,883 DALYs averted.

The incremental costs and effects between the two options were combined to estimate an incremental cost-effectiveness ratio (ICER). The ICER of implementing CMAM in addition to existing health services was US\$42 per DALY averted (or US\$1,365 per life saved). Using the worst case scenario for all data gives an ICER of US\$493 per DALY averted. In the best case it is US\$11 per DALY.



Kate Golden/Concern Worldwide, Malawi, 2007

This study shows that the implementation of CMAM as an addition to the existing standard health services in Dowa district in rural Malawi in 2007 was a cost-effective decision. The ICER of US\$42 per DALY averted is very close to the findings of an analysis using similar methods for an urban CMAM programme in Lusaka, Zambia, which estimated a cost of US\$41 per DALY. The current study complements the Lusaka findings by demonstrating that CMAM is also cost-effective in a rural setting, where population density is lower and transport costs presumably higher.

The resulting CMAM ICER is within the general range of cost-effectiveness ratios esti-

ated for other priority child health care interventions in Africa, including community or facility-based case management of lower acute respiratory infections (US\$398), integrated management of childhood illness (US\$38), universal salt iodisation (US\$34–36), iron fortification (US\$66–70) and insecticide-treated bed nets for malaria prevention (US\$11 for sub-Saharan Africa).

The results of this study are expected to be relevant and generalisable to CMAM programmes in broadly similar contexts in sub-Saharan Africa, treating a comparable caseload and distributed across a similar network of health facilities. A number of additional contextual factors, however, will affect the degree to which the results can be generalised. This study model was not designed to assess variations in all of these, including the effect of changes in caseload or its three main determinants: SAM prevalence, population density and programme coverage. Any extrapolation of this study's results must therefore consider the following. First, higher levels of SAM than the 1% recorded for Dowa in 2007 are common in emergency contexts. Second, Malawi's population density of 158 people/km² is higher than the majority of Sub-Saharan African countries. Third, while Dowa's CMAM programme coverage was generally within the range seen in other CMAM programmes, variations are possible.

It is generally assumed that the ICER for CMAM could be reduced as a result of economies of scale achieved through higher coverage and/or more cases treated, as the unit cost for fixed costs, such as administration expenditure per child treated, would decrease. Economies of scale are less likely to be achieved through reductions in RUTF costs. Further, RUTF costs will rise in almost direct proportion to the number of children treated, mediated only slightly by their length of stay. Transport and staff costs will also increase proportionally with the number of admissions, although to a lesser extent. It is also expected that some cost efficiencies will be gained as CMAM is further integrated into existing Ministry of Health systems resulting in parallel Concern costs, particularly administration and staff, being reduced.

The authors believe and conclude that the study's findings are indicative and relevant to a large number of settings where SAM is found. As such, they make a considerable contribution to the evidence available for effective health and nutrition programming decisions. Decision makers at global, national and local level are therefore urged to include CMAM as an integrated component of primary health care packages and nutrition programmes in the large number of contexts broadly similar to Dowa or Lusaka.

Food security indicators after humanitarian interventions in Zimbabwe

Summary of research¹

Rural households in Zimbabwe experience various levels of food insecurity and vulnerability. Worsening macroeconomic conditions, a fragile political environment, poor rainfall, low incomes, deteriorating environmental conditions, and the impact of HIV and AIDS characterise their circumstances. Non-governmental organisations (NGOs) have responded to the situation with a number of food interventions to alleviate food insecurity and poverty. A recent study set out to provide an analysis of food security indicators used to assess households benefiting from food interventions in 2006 in Zimbabwe.

In the study, a total of 60 households were chosen for each of three districts (Uzumba-Maramba-Pfungwe (UMP), Chivi and Tsholotsho), targeting beneficiaries of the Agricultural Protracted Relief Programme. Data were collected in July 2006. UMP district has a mixture of agro-ecological regions representing a range of natural resource bases that underpin different livelihoods in the area. Chivi is located in the south-eastern part of the country and receives poor and erratic rains. Livelihood activities are generally organised around crop production with some income generating activities, including gold panning, cross-border trading and vegetable gardening. Tsholotsho is also in the dry southern part of the country with low and erratic rainfall. Floods recurrently occur and households are mainly dependent on remittances, livestock and drought-resistant crop production.

Household food security indicators, calculated on the basis of data collected by questionnaire, included the Household Dietary Diversity Score (HDDS), months of food shortages, and the Household Food Insecurity Access Scale (HFIAS). Districts were compared by analysis of variance and Tukey post hoc analysis.

Key findings were that the mean HDDS differed between the districts. Households in Chivi consumed foods from a greater variety of groups than households in Tsholotsho and UMP (4.7 vs 2.7 and 3.0 respectively, $p < 0.001$). Food shortages during the previous year were experienced by 76.4% of the households, with UMP having the lowest occurrence of food shortages (56.7%) and Tsholotsho the highest (95%). Households in Tsholotsho experienced hunger throughout the year. For households in UMP and Chivi, October to January were the critical months when households experienced the most hunger. Spearman correlation analysis showed an inverse correlation between HFIAS and HDDS ($r = -0.425$, $p < 0.01$). Households that experienced food shortages the previous year had a lower mean HDDS (3.2 vs 3.9, $p < 0.001$) and a higher mean HFIAS (17.1 vs 12.0, $p < 0.001$) than households that did not experience food shortages.

The authors concluded that there is value in using a variety and combinations of indicators in the design of food security interventions. The HDDS showed that beyond availability, food security also involves access to a variety of nutritious foods. The indicator pertaining to months of food shortages allows a deeper understanding of the nature of food insecurity. Hunger in Tsholotsho is experienced throughout the year, implying that the causes are chronic rather than seasonal, whereas Chivi and UMP experience seasonal hunger. The HFIAS use fully revealed the condition of food security in each site in terms of availability, stability, and intake of food.

The results show that any response to food insecurity needs to focus on increased consumption of specific food items to increase dietary diversity, particularly in Tsholotsho and UMP. Backyard gardens in Chivi and UMP provide a means for growing a variety of such crops. However, market interventions such as cash or food for work, that address erratic local food prices and chronic rather than seasonal food shortages, would be ideal for addressing food access in Tsholotsho. Seasonality in food shortages in Chivi and UMP should be taken into account in the design, targeting and timing of interventions. In Tsholotsho, the respondents' perceptions were that the situation had become worse regardless of the interventions, whereas in Chivi and UMP, the respondents did not perceive any noticeable differences.

In summary, the authors conclude that indicators are most beneficial when used in conjunction with one another, rather than as a summary index or scale.

¹ Gandure, S, Drimie, S and Faber, M (2010). Food security indicators after humanitarian interventions including food aid in Zimbabwe. *Food and Nutrition Bulletin*, vol 31, no 4, pp 513-522. 2010

Emergency intervention priorities from child wasting and mortality in the Horn of Africa

Summary of review¹

A recent study set out to assess criteria for emergency intervention decision-making in the Horn of Africa based on associations between child wasting and mortality from 2000 to 2005. Previous studies have shown that the relationship between underweight (measured by weight for age) and mortality differ between different populations. However, no such meta-analysis has been conducted for wasting and mortality. The current criteria for deciding on the severity of emergencies include food security indicators, wasting prevalence, and mortality rates. How these data are used to define an emergency depends on the information system being applied. Furthermore, the types of indicator used in different systems are universally applied, irrespective of livelihood or usual child growth patterns. This implies that malnutrition indicators have the same relations to risk for all populations.

The study was conducted on surveys between 2000 and 2005. Data were analysed on child global acute malnutrition (GAM) prevalence and mortality estimates from about 900 area-level nutrition surveys from Ethiopia, Kenya, Somalia, Sudan and Uganda. Data on drought, floods, and food insecurity were added for Kenya (Rift Valley) and Ethiopia from the food and Agricultural Organisation (FAO) reports at the time. Populations from urban areas and internally displaced people (IDPs) were excluded from the analysis. A total of 316 valid cases with GAM and under five mortality rate (U5MR) were included in the working dataset. Estimates of mortality were usually obtained by questionnaire through a 90-day recall.

The analysis found that higher rates of GAM were associated with increased mortality of children under 5 years of age, more strongly among populations with pastoral livelihoods than with agricultural livelihoods. GAM is therefore more effective in identifying groups with higher mortality risk for those practicing some pastoralism, but there is still useful predictive power for agricultural populations, with lower GAM cut-off points.

In all groups, spikes of GAM and U5MR corresponded with drought (and floods). Furthermore, different GAM cut-off points are needed for different populations. For example, to identify 75% of U5MR above 2/10,000/day, the GAM cut-off point ranged from 20% GAM in the Rift Valley (Kenya) to 8% in Oromia or SNNPR (Ethiopia) or from 15% for pastoralists to 10% for agropastoralists.

This suggests that survey results should be displayed as time series within geographic areas and that variable GAM cut-off points should be used, depending on livelihood or location. For example, a GAM cut-off point of 15% may be appropriate for pastoral groups and 10% for agricultural livelihood groups. These may be further tailored if resources are scarce and related to area. New survey results in an unknown situation could be assessed in several ways. First, they could be classified as above or below a wasting prevalence defined as having historically correctly identified high mortality cases. Secondly, single survey results of wasting prevalence can also be judged by comparison with distributions of previous GAM prevalence.

These data give a basis for re-examining the guidelines currently used for interpreting wasting (or GAM) prevalence in terms of implications for interventions. For the first time, this interpretation can be based on relation to risk – here, child mortality. Moreover, the authors argue, it seems no longer justifiable to apply a single wasting prevalence cut-off point when making decisions on emergency interventions for different populations, defined by area or by livelihood.

¹ Mason, J et al (2010). Identifying priorities for emergency intervention from child wasting and mortality estimates in vulnerable areas of the Horn of Africa. *Food and Nutrition Bulletin*, vol 31, no 3 (supplement), pp s234-s247, 2010

Cash for work programme in action

Cash-for-work in urban setting in Guinea

By Damien Helleputte and Julien Jacob



Damien Helleputte is technical coordinator of the Accion Contra el Hambre mission in Guinea since 2008.



Julien Jacob is currently working as senior Food Security and Livelihoods advisor for Accion Contra el Hambre in Spain. He has been working within the organisation in Asia and with other NGOs in Africa managing emergency food security and rural development projects.

Accion Contra el Hambre (ACF-E) is implementing a project to support low-income populations in urban areas of Guinea, funded by the European Union. The programme began in August 2009 and is due to end in November 2011. One of the proposed activities is the organisation of cash for work (CFW) with a focus on sanitation and more specifically, solid waste collection. Unhygienic sanitation practices are a major issue for Guinean towns, hence the particular orientation of this project. The Public Service for Waste Transfer estimates that only 39% of waste in Conakry is transferred to the landfill. This situation is causing significant environmental problems (such as illegal dumping, incineration, uncontrolled dumping of waste into the sea) and health problems (for example, risk of cholera and typhoid fever).

The project's specific objective is to reduce food and economic vulnerabilities of the poorest community groups of Conakry. Matoto town is one of the urban districts selected for the intervention on the basis that it has a high population density and accounts for roughly a third of the inhabitants of the capital city of Conakry. Implementation of a cash transfer programme is justified by the way the target population obtains food in Matoto, where purchase is the main source of food for 94.8% of households. Only 1.3% of the population within this area are farmers. Markets are well supplied and functional and lack of financial resources is why the most vulnerable populations have difficulty accessing food. Furthermore, the cash transfer programme allows the beneficiaries to identify and fulfil their basic needs while at the same time preserving their dignity.

CFW activities are organised in cycles of two to three months, at time periods subject to price inflation risk (school year, end-of-year festivities, Ramadan, lean season). ACF-E expects monthly household income to increase by 15% and that the food consumption of beneficiaries will be improved.

Methodology

Two rounds of CFW have been held since the beginning of the intervention. The first round targeted 554 beneficiaries (288 men, 266 women) spread across five districts of the town. Between January 18, 2010 and March 11, 2010, each beneficiary spent one day a week on waste collection, a total of eight days of work per person over the duration of the first cycle. The beneficiaries were paid monthly and received 20,000 Guinean francs (about 2.50 EUR) per working day. A total of 78,360,000 Guinean francs (about 10,450 EUR) have been distributed to beneficiaries. This amount is the equivalent of 3,918 person-days of work.

The second cycle of activity targeted 1,026 beneficiaries (421 men and 605 women) spread across seven districts. Between May 3, 2010 and July 19, 2010, each beneficiary dedicated one day per week for the waste collection activity, amounting to a total of 10-13 working days for the duration of the second cycle. The beneficiaries were paid monthly and received 23,000 Guinean francs (about 3 EUR) per day. In total, 222,985,000 Guinean francs (about 30,000 EUR) were distributed to beneficiaries. This amount is the equivalent of 9,695 person-days of work.

The daily CFW rate paid to beneficiaries was increased between CFW cycles 1 and 2. This measure was taken to maintain the purchasing

power of beneficiaries that was reduced as a result of inflation in basic commodities prices. The income per person received for each cycle would allow for the purchase of 4.5 kg of local rice. However, there is a limit to the daily wage that can be paid as this should not be allowed to increase to the point of destabilising local labour markets and/or attracting less vulnerable households.

Target beneficiaries were households living below the poverty line. Priority was given to women and young heads of households, as well as to households with malnourished children identified through a nutritional care programme in health centres in the same district.

Results

The impact of the programme on food consumption and income of vulnerable households has been measured during each CFW cycle.

Figure 1: Total average income (Guinean franc) for CFW cycles 1 and 2 before and after cash transfer

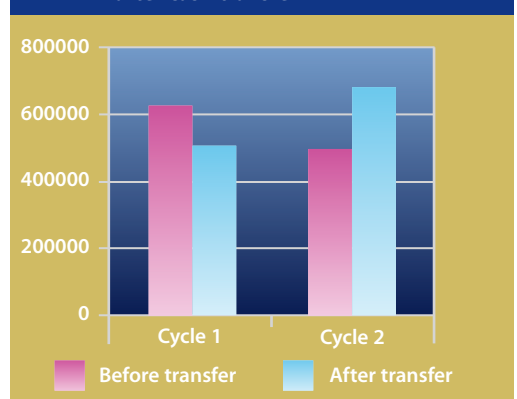


Figure 2: The proportion of beneficiaries with poor or borderline food consumption for CFW cycles 1 and 2, before and after cash transfers

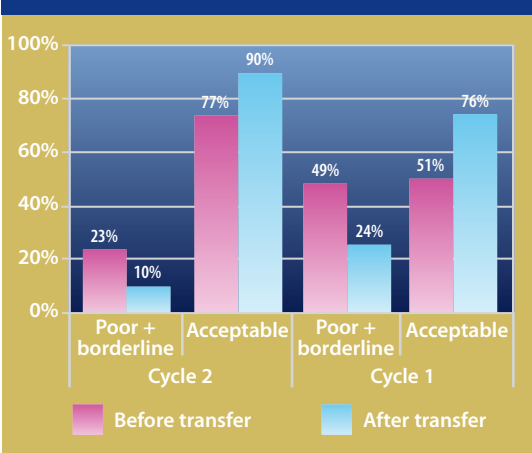


Figure 3: Food frequency (number of meals per day) for CFW cycles 1 and 2, before and after cash transfers

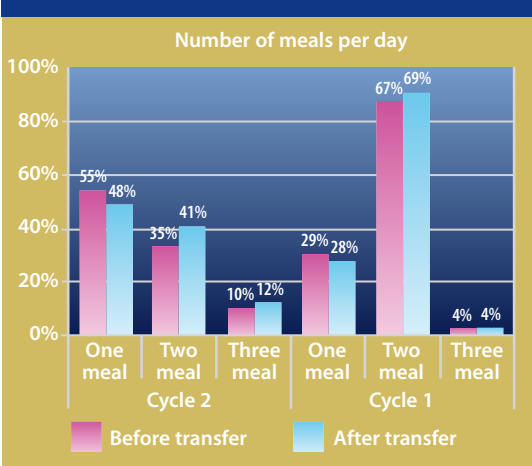


Figure 4: Use of cash transferred by beneficiaries for CFW Cycles 1 and 2

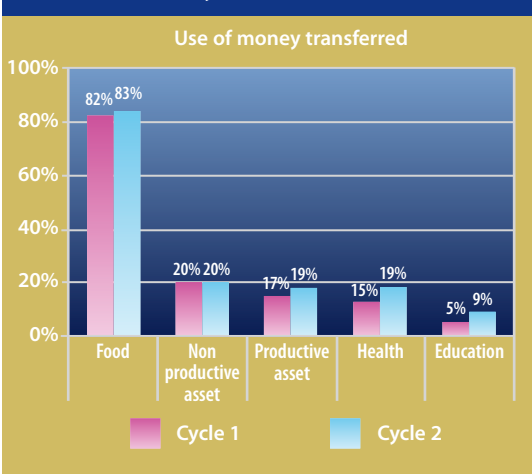
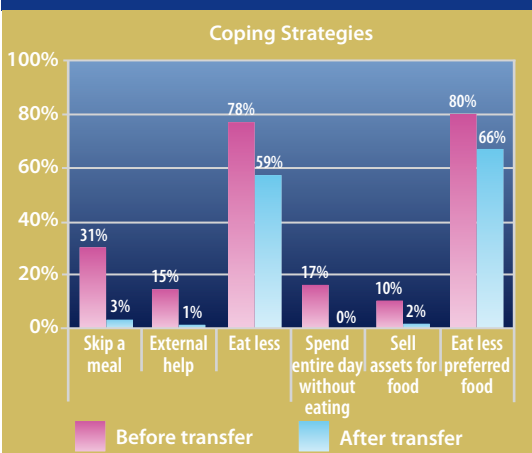


Figure 5: Coping strategies for CFW cycle 1, before and after cash transfers



Income

While the monitoring of the first cycle did not demonstrate any improvement in the total monthly income of beneficiaries, the second cycle showed an increase of 14% (see Figure 1). The average number of sources of monthly income by the beneficiaries actually decreased (but not significantly) after the first cycle of activity (2.00 before, 1.89 after). This may simply reflect the difficulty of assessing income sources, as it was hard to ask questions about income without having first established a measure of trust between the interviewee and the interviewer.

Between the first and second cycles, the criteria for identifying beneficiaries were strengthened, principally in relation to the economic vulnerability of households. Surveys conducted before the second cycle of activity led to the removal from the list of beneficiary households with the highest incomes. This is reflected in the findings that the average monthly income for beneficiaries before the first cycle of activity was 611,000 Guinean francs (65 EUR) but decreased to 553,000 (58 EUR) before the second cycle.

Food consumption

Monitoring data showed that there was a greater impact of the cash transfer on the food consumption of beneficiaries than on their income. The two main indicators used to measure this impact were the food consumption score (FCS) and frequency of food consumption (number of meals consumed per day).

The FCS divides food into seven groups (grains, legumes, vegetables, etc). A weighting (e.g. 0.5 for the group of sugars, up to 4 for the group of proteins) is then applied to each food group. The weighting for each group is multiplied by the number of days of consumption (over seven days) for each food group and the score for each group is added up. Scoring values computed for each method are shown on a scale ranging from 0 to 112. Thresholds of 24.5 and 38.5 were used to determine the three classes of food consumption: poor, borderline and acceptable.

During both cycles, the FCS increased after payment to the beneficiaries. During the second cycle, the average FCS was 44.07 before and 50.75 after cash transfer. The improvement in the FCS is more significant when the threshold scores of food consumption are compared. The proportion of beneficiaries with poor or borderline food consumption dropped from 49% to 24% during the second intervention cycle (see Figure 2). The quality of beneficiary diets also improved. When we look at the food groups included in the FCS, we observe an increase in the consumption of proteins and dairy products. Note also that a greater proportion of households in the second round had a poor or borderline FCS prior to the cash transfer as compared to the first cycle. This could be attributed to improved targeting to the most vulnerable households as well as the existence of higher commodity prices than in the first cycle.

The CFW has also impacted on the frequency of food consumption by beneficiary, although this is less pronounced than in the FCS (See Figure 3). Over the past two cycles, the number of beneficiaries who consumed

one meal decreased, with a greater proportion of household consuming two or three meals.

Beneficiaries use the money to meet their basic needs with the priority given to food (83% of the beneficiaries in the second cycle used some or all of the money for food) (see Figure 4). The amount distributed does not allow them to invest sufficiently in productive assets; only 19% of beneficiaries invested in productive assets in the second cycle.

The use of coping strategies was also investigated and several coping mechanisms were monitored (see Figure 5). These included eating less preferred foods (the mechanism used by 80% of the beneficiaries), reducing the amount of food per meal, going into debt or borrowing for food. The use of coping strategies to address food insufficiency significantly decreased after the transfer of money.



Cash for work programme beneficiaries

Conclusions

A key lesson from this impact study is that in order to mount an efficient cash transfer programme, it is necessary to have precise information on the socio-economic status of beneficiaries beforehand so that the amount of cash transferred meets their needs. It should be possible to adjust the CFW daily wage at any time depending on the context, although this requires regular monitoring of the prices of basic commodities on the markets. This is particularly true in urban areas where the primary source of food for the population is purchase. Both surveys showed that the impact of the cash transfer is most easily measured by indicators related to food consumption or coping mechanisms rather than through income related indicators.

Despite the constraints faced in implementing the CFW programme, ACF-E has managed to reduce the food insecurity and economic vulnerabilities of the poorest households in Conakry. The effect on household food security, however, is only temporary. Facing chronic inflation of basic commodities, additional measures should be taken to sustain the food security improvements achieved. With over half of beneficiaries never having attended school, vegetable gardening or small-scale income-generating activities would be the most appropriate short-term support that could be offered given the existing capacity of beneficiaries.

For more information, contact Julien Jacob, email: jjacob@achesp.org

Announcing Field Exchange 'Digest'



Ongoing analysis of the readership profile of the print issue Field Exchange shows that the majority of readers are from international agencies and research groups. Whilst there are a significant number of governments and civil society organisations reading Field Exchange, they are in a minority. Most of the field articles are written by international staff. While this is partly a reflection of the origins of Field Exchange (set up to capture lessons by international organisations), we are acutely aware of this imbalance. To address this, the ENN has developed a new pilot publication called Field Exchange Digest (FEX Digest). The first issue is available in English, French and Arabic.

FEX-Digest provides a summary of articles, information and news from previous issues of Field Exchange. About one quarter the size of a typical Field Exchange issue, it offers a snapshot of key articles and updated information on references, guidelines, tools, and trainings. The language used is less technical to appeal to a broader range of practitioners at national level.

The specific objective of FEX-Digest is to increase access to information published in Field Exchange among national stakeholders and to introduce FEX to those unaware of the publication as a means for sharing of national level programme experiences.

The first issue of FEX-D, funded by Irish Aid, was published in May 2011. It is hoped that this will continue as an annual publication and with further translations. Print editions are currently being disseminated to over 1,800 targeted recipients in five countries (Kenya, Ethiopia, Niger, Sudan and Bangladesh) and to selected international stakeholders.

Limited numbers of remaining print copies are available (free). Request online at www.enonline.net/fexdigest/subscribe or email: fexdigest@enonline.net. The electronic version of FEX-D in English, French and Arabic is available at: <http://www.enonline.net/fexdigest>

Pilot evaluation

The ENN is currently collecting feedback on this first issue. We invite you to complete a very short (5 minute) on-line survey after reviewing the publication. Your comments will help us to strengthen future issues of FEX-D. See links below for the survey in English, French and Arabic.

English survey: <http://www.surveymonkey.com/s/fexdigest>

French survey: http://www.surveymonkey.com/s/fexdigest_fr

Arabic survey: http://www.surveymonkey.com/s/fexdigest_ar

Feedback can also be sent to the FEX Digest editors, Carmel Dolan and Valerie Gatchell, email: fexdigest@enonline.net

UNICEF e-learning on nutrition in emergencies now available



A UNICEF e-learning course 'Introduction to Nutrition in Emergencies: Basic Concepts' is now available. This online course covers basic concepts around the humanitarian system and reform, undernutrition and response in emergencies, individual assessment, and micronutrients. It is based on key modules of the Harmonised Training Package: Resource Material for Training on Nutrition in Emergencies (the HTP) and reflect the content of HTP Version 2, 2011.

The course comprises 5 sections comprised of lessons and mini-lessons. Each lesson takes approximately 40 minutes to complete and each mini-lesson takes 10-15 minutes. At the end of each section there is a knowledge based test comprised of 15 questions. A final emergency scenario assessment tests application of the content from all 5 sections. To successfully complete the course and receive a certificate, a pass rate of 80% must be achieved for each test and for the emergency scenario assessment.

Contents:

Module 1: International Humanitarian System and Reform (6 lessons)

Module 2: Basic concepts in Nutrition in Emergencies (6 lessons, 1 mini-lesson)

Module 3: Measuring undernutrition in individuals (3 lessons, 4 mini-lessons)

Module 4: Micronutrients (4 lessons, 2 mini-lessons)

Module 5: Infant feeding in emergencies (7 lessons, 3 mini-lessons)

Sections 1-4 were commissioned by UNICEF to the Emergency Nutrition Network (ENN) and were jointly developed and produced. Existing e-learning content on infant and young child feeding in emergencies has been integrated as Section 5.

The course is hosted on UNICEF's intranet for UNICEF staff and for external users at <http://www.unicef.org/nutrition/training>

En-net update



By Tamsin Walters,
en-net moderator

en-net

Forty-four questions were posted on en-net between April and June 2011, eliciting 90 replies. In addition, 19 job vacancies have been advertised.

Recent discussions on en-net have included evidence of the impact of kitchen gardens on improving the quality of complementary feeding for infants and young children, mid upper arm circumference (MUAC) -only programming for treatment of moderate acute malnutrition (MAM), ready-to-use supplementary foods (RUSFs) and proposed new guidance on marketing of products, community based management of acute malnutrition (CMAM) programmes in Asia, and the challenges and successes of integrating CMAM programmes into routine Ministry of Health (MOH) activities.

There are several ongoing discussions on en-net on topical issues for which little clear guidance exists, with questioners looking for examples of what is actually happening in practice and asking for people to share experiences. Examples include malnutrition in pregnancy and lactation: what MUAC cut-offs are appropriate as admission criteria for programmes, or what cut-offs are currently in use and what is the evidence for them? How is response to treatment being measured? How are birth outcomes affected and is there useful information on this group coming out of programme evaluations to guide best practices? Another area of continued debate and discussion concerns implementation of CMAM programmes, particularly the challenges of integrating them into MOH activities and issues around ensuring that moderate malnutrition is adequately assessed and treated. The continuing debate around the effectiveness of supplementary feeding programmes (SFPs) and what appropriate alternatives exist that work, has intermittently surfaced in several questions.

Exchanges on how to accurately measure MUAC and the potential of thigh circumference as a viable alternative led to a discussion of sexual abuse perpetrated by humanitarian workers and the ongoing potential for it to happen in emergency situations. This discussion can be found in the cross-cutting issues area with links to resources from the Global Protection Cluster, <http://www.en-net.org.uk/question/392.aspx>.

Finally, issues over appropriate use, testing and regulation of RUSFs have been raised and discussed, and a 'spin-off' series of comments are included in this issue of Field Exchange.

To join a discussion and share your experience or to post a question, visit www.en-net.org.uk

en-net now has approximately 600 registered users, though people do not have to register to view the discussions. en-net is now 2 years old and has been adapted several times in response to suggestions from users. We are constantly looking to update it to more closely meet the needs of the nutrition community and to that end, ENN is now conducting an evaluation of the use of en-net to find out who is or is not using it, what are its perceived strengths and weaknesses and what changes both users and non-users would like to see to make it more useful for emergency nutrition practitioners in the field, as well as for the academic and research community.

We would be very grateful if you would take 10 minutes to complete the questionnaire and give us your feedback, thoughts and suggestions to help improve en-net. The questionnaire can be found at <http://www.surveymonkey.com/s/en-net>

New initiative to create a CMAM Forum

The rapid expansion of Community-Based Management of Acute Malnutrition (CMAM) into a diversity of contexts and the growing demand to share CMAM information and experiences have created a need for a clear, accessible mechanism to facilitate information sharing. Many governments and agencies are facing the same challenges but are not able to capitalise on lessons learnt within and among countries or agencies. Stakeholders involved in the management of acute malnutrition increasingly request that the coordination of information sharing be improved through an interactive forum that provides practical guidance on various themed subjects, especially while waiting for the development of relevant, formal, evidence-based guidelines or policies.

Over the past few years, a number of UN agencies, Inter Agency Standing Committee Global Nutrition Cluster (GNC) members, United Nations System Standing Committee on Nutrition (UNSCN), technical bodies, academic, training and research institutions, non-governmental organisations (NGOs), government technical personnel, donors and independent technical persons have expressed interest in participating in an information sharing forum. In addition, Ministry of Health personnel have expressed that they are keen to learn from the experiences of other countries. This informed discussion during the July 2010 GNC meeting in Geneva by a group of nutrition specialists on creating a forum where information sharing and discussion on CMAM would enhance the evidence-base and consolidate learning. Subsequently, a draft concept note was developed and shared with a wide health and nutrition audience in December 2010 to solicit feedback on and involvement in the CMAM Forum. The essence of the concept note it reflected here:

The objective of the CMAM Forum is to establish a robust information sharing mechanism to strengthen quality management of acute malnutrition through consolidating the evidence-base, promising practices, and lessons learnt. The CMAM Forum will link with nutrition and medical bodies involved in the management of acute malnutrition and will use existing information sharing systems, as appropriate. The involvement of a wide range of health and nutrition experts at the global, national, academic, and operational levels will be essential to the Forum's success. A Core Group and an Associates Group, with self-appointed membership and differing roles and responsibilities, will be created and a lead and support structure will be put in place.

At the start of the CMAM Forum initiative, an ad hoc group was formed comprising informal co-chairs and interested individuals representing 18 agencies that initially expressed interest in improving information sharing or are involved in CMAM initiatives. The ad hoc group proposed that the CMAM Forum's development have a modest start, leaving the potential to develop a more institutionalised structure for later, as necessary. A CMAM Forum terms of reference (TOR) document has been developed that proposes a two-phased strategy to help meet these requests.

In Phase One, a temporary structure to establish the CMAM Forum will be set up. A CMAM Forum Phase One Facilitator will be appointed to lead the activities in collaboration with the CMAM Forum ad hoc group and/or the Core Group members. The main focus of this phase will be to set up the CMAM Forum with active membership, define and set-up an information sharing mechanism, and prepare for Phase Two.

In Phase Two, the CMAM Forum will be established as a robust information sharing mechanism. The main focus of this phase will be to establish the information sharing mechanism (e.g. refining information sharing through collating, updating and storing relevant information, and managing active memberships) and to involve Group members in advocacy activities for the management of acute malnutrition. CMAM Forum Co-Chairs or a Facilitator will be appointed to lead the activities in collaboration with the Core Group members.

For further information, including a copy of the CMAM Form TOR, and to express interest in the initiative, contact Hedwig Deconinck, email: hdeconinck@aed.org or Nicky Dent, email: nicky@validinternational.org (informal co-chairs)

Update on SQUEAC/SLEAC method

Valid International has been working with Mark Myatt and FANTA-2 to develop a training manual for the updated SQUEAC/SLEAC1 method for assessing coverage. This is being completed, field tested and should be available later this year.

In February and March this year, Valid International, Mark, UNICEF and the Ministry of Health and Sanitation of Sierra Leone worked

together to use the new SLEAC/SQUEAC methodology to assess national coverage of treatment of severe acute malnutrition in Sierra Leone. This survey was extremely successful and illuminating and will be written up for a future edition of Field Exchange.

For further information contact Basia at Valid, email: basia@validinternational.org.



Nutrition books available from TALC

This series of titles are available from TALC (Teaching Aids at Low Cost), and are valuable for Nutrition Practitioners and Trainers as recommended by Ann Burgess and Marko Kerac (June 2011). The * indicates the book is available in other languages besides English.

A. Series Basic list, more essential books: sound information and good value

- Community Nutrition: a handbook for health and development workers. 2009. Burgess, Bijlsma & Ismael, £5.50
- Infant and Young Child Feeding - model chapter for textbooks for medical students and allied health professionals. 2009. WHO £1.30
- Caring for Severely Malnourished Children. 2003 Ashworth & Burgess £4.50 (also available at the same price as a PDF download)
- Sight and Life Manual On Vitamin A Deficiency Disorders (VADD) (2nd ed 2001). SIGHT & LIFE £1*French/Spanish
- Infant Feeding in Emergencies. Module 2 version 1.1. 2007. Emergency Nutrition Network. Free *French

B. Series Fuller texts, needed for special training and services

- The Politics of Breastfeeding (3rd edition). 2009. Palmer £7.75
- Protein-Energy Malnutrition. 2006. Waterlow £7.50
- Hospital Care for Children - Guidelines for the Management of Common Illnesses with Limited Resources. 2005 WHO £5.65* French and Russian.
- ABC of Nutrition (4th edition). BookPower 2003 £6
- Nutrition for Developing Countries (2nd edition). Savage King & Burgess 1993 £12 (some sections dated, but still contains much valuable material.)

CD-ROMs – useful for libraries and good value

Community Nutrition. TALC 2006. Free to health professionals who have limited access to the internet. Community Nutrition is a CD-ROM containing hundreds of nutrition resources including manuals, training courses, academic papers, briefs, practical guidelines, pictures, PowerPoint presentations and a video.

Topics in International Health. Nutrition Wellcome Trust, 2000. £5.00. 12 interactive tutorials that provide an illustrated introduction to the causes, epidemiology, treatment and prevention of malnutrition in developing countries.

e-TALC Health Development CD-ROMs

The e-TALC project provides a reliable and regular source of free health information aimed at health care workers in developing countries who have no or limited access to the internet.

Accessories

- Small Coloured Insertion Tape (MUAC) 115mm 0.25p
- Haemoglobin Colour Scale £25.00. A simple device for estimating haemoglobin for use when laboratory haemoglobinometry is not available.

You can order the books and other items through the 'Shop' at TALC's website www.talcuk.org or by emailing info@talcuk.org. Prices do not include postage.

If you know of other recent and good-value nutrition-related books that TALC might add to their catalogue, please inform TALC email: info@talcuk.org



Dr Ferew, MOH Advisor, Government of Ethiopia, addressing the consultation on Day 1

Planned study on feasibility and efficacy of IYCF in CMAM integration in Ethiopia

The Alive and Thrive Project¹ is supporting a two-year, field-based study on the integration of Infant and Young Child Feeding (IYCF) into Community-based Management of Acute Malnutrition (CMAM) in Ethiopia. IYCF-CMAM rollout is hampered by the lack of a clearly defined operational model for integrated programming and a weak evidence base in terms of impact of IYCF integration on nutritional and health outcomes, programme outputs, coverage, staff time, and costs². Led by Save the Children US, the study will be implemented through a consortium of partners including World Vision, the Emergency Nutrition Network (ENN), Nutrition Policy and Practice (NPP) and other national and international experts, in close coordination with the Government of Ethiopia. The study will investigate the feasibility (including impact on cost and

staff time) and efficacy of integrating activities that support, promote and protect IYCF into CMAM.

The study has three phases: consultation and planning (6 months), implementation (1 year) and evaluation, documentation and dissemination (6 months). As part of the study's planning phase, a technical consultation was held in Addis Ababa, Ethiopia from March 29 – 31, 2011. The aim of the consultation was to learn from Ethiopian experiences on CMAM and IYCF programming to-date, to consider operational models appropriate to Ethiopian priorities and context, and to explore research approaches to investigate an agreed operational model(s) in the context of the proposed study site.

The workshop was facilitated by Save the Children US and included representatives from the Alive and Thrive Project, the

Ministry of Health of Ethiopia, World Vision, ENN, NPP, Concern Worldwide, Hawassa University, and the SNNPR Regional Health Bureau.

The consensus and main recommendations of the consultation are summarised here.

Timeline and study sites

The study will be implemented in World Vision's existing CMAM programme sites in Durame and Shone Area Development Programmes (ADP) in the Southern Nations Nationalities and Peoples Region (SNNPR) of Ethiopia. Four Woredas (districts) have been selected, two within each ADP, including East and West Badewacho in Shone and Demboya and Kedida Gamela in Durame, about 330 km south of Addis Ababa. CMAM was established in these ADPs in 2009 and are Government of Ethiopia priority areas for nutrition response.

The study will focus primarily on intervention and control cohorts of children 6-24 months of age and their caregivers in the selected Woredas. The study will also consider collecting weight gain and maintenance data from siblings (between 6-24 months of age) of CMAM patients enrolled in the study. Infants less than six months of age have been excluded from the study due to limited sample size in this age range enrolled in these programmes. Healthcare providers and community volunteers will also be targeted through training and capacity building.

The IYCF Model

A set model for integrating IYCF into CMAM does not exist. An operational model was therefore proposed that includes four main activities identified as important

Box 1: IYCF Model

Evidence shows that mothers are more likely to make IYCF behaviour changes within a supportive environment/community. This often includes the husband, older children, grandmother, mother-in-law, traditional birth attendant (TBA) and traditional healer. Consideration for including and fostering these supportive functions must be made in an operational model for integration.

Mothers who are exposed to IYCF promotional activities through various activities/venues or 'contact points' are likely to have greater uptake, especially when mothers receive consistent and appropriate messages. However, messages alone are not enough. Most mothers already know about breastfeeding and that they should be doing it, but assistance needs to be provided to enable mothers to act on this knowledge. The more mothers feel supported, the more enabled they will feel to act on knowledge. The enabling environment in terms of resources and policy are also important.

Four main activities are identified to include in the IYCF Model:

Messaging: The delivery of limited and relevant information on IYCF promotion that can reach caregivers, influential community members, and communities at large.

Action-Oriented Groups: Action-Oriented Groups incorporate IYCF messages into group activities that are facilitated by health workers (HEW/VCHW) in a way to personalize information and encourage participants to try an action that is new or different. Facilitators are trained on Observe, Think, Try, Act (OTTA) skills to use stories, mini-dramas, or visuals to convey information and engage the group of participants.

Support Groups: An IYCF support group is a group of approximately 10-12 individuals (i.e. pregnant women, mothers, fathers, caregivers, etc.) to promote recommended breastfeeding and complementary feeding behaviours and provide mutual support.

One-on-One Counselling: The most effective but highly skills-based and resource-intensive of the four activities is one-on-one counselling which involves healthcare providers or trained counsellors providing individual assessments of mothers' feeding practices and developing IYCF plans to fit their specific needs. The activity is based on the WHO-recommended counselling guidelines of listening and learning, building confidence, and giving support. The intent is to move mothers in small, doable steps toward an ideal practice.

¹ Alive & Thrive (A&T) is a 5-year initiative (2009-2013) to improve infant and young child nutrition by increasing rates of exclusive breastfeeding and improving complementary feeding practices. A&T aims to reach more than 16 million children under 2 years old in Bangladesh, Ethiopia, and Viet Nam. Initial funding for A & T is provided by the Bill & Melinda Gates Foundation. <http://www.aliveandthrive.org>

² Training and workshop to integrate IYCF in CMAM. Summary of report. Field Exchange 40. p80.

³ Full guidance and recommendations can be found in the Integration of IYCF Support into CMAM Facilitator's Guide. Available at: <http://www.enonline.net/resources/722>

means of conveying IYCF messages and providing a supportive environment: messaging, action-oriented groups, support groups, and one-on-one counselling (see Box 1).

Integration approach

An IYCF in CMAM model requires identifying appropriate, feasible and beneficial contact points throughout the CMAM programme where key activities can be integrated³. The standard CMAM protocol is comprised of four components, including inpatient care (stabilisation centre), outpatient care (Outpatient Therapeutic Programme (OTP)), Supplementary Feeding Programme (SFP) and community outreach for screening, mobilisation, and messaging. In the consultation, the four activities from the IYCF model were considered at each of the standard CMAM component levels to identify possible entry points for effective integration. No options were considered that would add additional levels to the standard CMAM programme. Further investigation will be needed at each of the levels to operationalise the activities, i.e. who, how often, where, etc. Training of staff at key contact points will be a key part of the intervention.

Primary indicators

Consensus was reached to focus research questions exclusively on feasibility and efficacy. A number of primary indicators were identified although more work in this regard is needed:

- Assessing the feasibility of IYCF-CMAM integration was deemed an essential component of the study. Discussions revolved around what would be included in this question and how it would be measured. Measures should include delivery costs, opportunity costs, and staffing. One of the key considerations is the training needs of existing staff.
- It was agreed that indicators used to demonstrate efficacy should be limited to relapse/readmission and/or target weight gain or maintenance. These would be a measurable demonstration of improved IYCF practices. Benefits of integration on improving CMAM quality of care outcomes (i.e. cure rate) would be limited because it would not increase coverage or effectiveness of acute malnutrition management, but would use CMAM as an entry point to affect IYCF practices and improve malnutrition prevention.
- Coverage and cost effectiveness were excluded, mainly because of unique methodologies involved in measuring these outcomes, the limited time frame and specific confounders related to these measures.

Immediate follow up

Recruitment of a lead research partner was identified as a priority by project partners during the planning phase and was reinforced during the consultation. Subsequent follow-up by Save the Children US with the Centre for Disease Control (CDC) regarding the study design took place, which advised a longitudinal cohort study to follow two groups of children between 6-24 months, their caregivers and their siblings in intervention and comparison cohorts. Further refinement of the study design will be based on recommendations from a principal investigator from Addis Ababa University who will consult with the project partners on this research.

For further information on the project, including a full report of the March consultation, contact: Sarah Butler, Save the Children US, email: sbutler@savechildren.org

WHO consultation on management of moderate malnutrition in U5s

The WHO, in collaboration with UNICEF, WFP and UNHCR, hosted a second consultation to discuss the programmatic aspects of the management of moderate malnutrition in children under five years of age from 24th to 26th February 2010 (herein called MM2). The purpose of this meeting was to review the evidence on strategies and programmatic approaches to management of moderate wasting not addressed in the first meeting held in 2008 (MM1).

The general objectives of the meeting were:

- To improve overall policy and evidence-based programme guidance on management of moderate malnutrition, with specific emphasis on children with moderate malnutrition.
- To identify knowledge gaps that should be addressed by research, both in the area of dietary management and the modalities for providing that diet.

The specific objectives of the meeting were:

- To determine criteria for *admission and discharge* from specific programmes for moderately wasted children.
- To *estimate the burden* of moderate malnutrition (i.e. expected numbers of moderately malnourished children).
- To formulate recommendations on *how to improve management* of moderate cases of wasting in various settings using, for example, food supplementation and/or dietary counselling. Also to determine when to start and when to stop specific programmes, and how to mainstream programmes in national health systems.
- To formulate recommendations on how to improve *monitoring* of programmes on management of moderate wasting.

Day 1 and the morning of Day 2 of the meeting were dedicated to presentations and plenary discussion. The afternoon of Day 2 and morning of Day 3 were allocated to working groups in five thematic areas. Each working group was provided with 'consensus' statements largely prepared based on conclusions from presenters. The exception to this was the working group on stunting, as there were no presentations on this issue. Working groups were then tasked with reviewing and revising these draft consensus statements and required to develop key questions for evidence based (systematic) reviews, as well as key areas where there were knowledge gaps that need to be filled by research. Findings were fed back on the afternoon of Day 3. The meeting closed with a brief statement by WHO on next steps.

Below are the conclusions and recommendations of the five working groups (A-E).

Working Group A. Identification, admission and discharge criteria and estimating the burden of moderate acute malnutrition

Consensus statements:

1. A Mid Upper arm Circumference (MUAC)-based case-definition: 115 mm \leq MUAC < 125 mm without oedema identifies children with low MUAC at elevated risk of mortality. If used, a WHZ¹-based case definition of -3 \leq WHZ < -2 without oedema is also possible.
2. Children identified using these case definitions are likely to respond to appropriate treatment.
3. For children > 67 cm and \geq 6 months of age, MUAC <125 cm can be used as a stand-alone admission criteria. *Discharge can be made at MUAC \geq 125 mm for 2 consecutive visits.* Children admitted using WHZ should be discharged using percent weight gain (exact level to be confirmed, Prof Mike Golden and Dr Andre Briend in independent approaches both suggest approximately 8-10%).
4. For children < 67 cm and \geq 6 months of age, more research is needed to identify the appropriate admission and discharge based on MUAC. In the interim, weight for age z score (WAZ) for admission in place of different MUAC cut-off points (where growth monitoring programmes exist) and percentage weight gain for discharge. The minimum percent weight gain to be achieved for discharge should be used

¹ Weight for height z score

- An additional criterion for admission to Supplementary Feeding Programmes (SFP) is discharge from outpatient therapeutic treatment (OTP) of children who had severe acute malnutrition (SAM), according to existing OTP guidelines (with minimum length of stay in SFP of 2 months).
- Response to treatment should be monitored through weight. A decision tree or algorithm to guide movement through the programme should be developed based on repeated weight measures.
- The current commonly used methodologies (e.g. SMART surveys) allow for the estimation of the prevalence of moderate acute malnutrition (MAM) but not the incidence. Further research is required better to estimate incidence of MAM in programme settings.

Research questions:

- How do different anthropometric indicators (HAZ (height for age z score), WHZ, WAZ (weight for age z score), and MUAC) respond to newly developed treatments for MAM in HIV negative and HIV infected children?
- What is the most appropriate MUAC cut-off for discharge, considering the rate of relapse? Follow-up studies investigating short-term relapse rates should also be undertaken in subsequent pilot programmes that adopt MUAC-based discharge criteria.
- Among children < 67 cm and above 6 months of age, what are the appropriate admission and discharge criteria?
- What is an appropriate algorithm for child monitoring within the programme?
- How can we estimate incidence in programme settings?

Working group B: Strengthening approaches and decision-making for management of MAM in various settings

Consensus statements:

- The specific context that precipitates MAM in children must be considered to determine what approaches and interventions should be instigated. Chronic poverty, child caring practices, disease epidemics and political or natural catastrophe can all result in child hood MAM, but will require different responses. Prevention strategies should always be considered when formulating approaches in childhood MAM. The most common food-based approach, targeted SFPs, may not always be the most effective strategy to combat childhood MAM in a specific context. Use of specialised food-based approaches, blanket rations, general rations, cash transfer programmes, education and promotion of good infant and young child feeding (IYCF) practices, agricultural interventions, and poverty alleviation interventions and social protection should be considered.
- Targeted SFP performance data from a range of programmes, including coverage data, should be prospectively collected, collated and reviewed over a period of time to increase the knowledge of targeted SFP impact at the individual and population levels. These data should be integrated with national nutrition reporting systems. The Minimum Reporting Package (MRP) developed by the Emergency Nutrition Network (ENN)/Save the Children UK strives to provide a tool and a mechanism to accomplish this.
- Programmes for the management of MAM should link with programmes providing care services to children, such as Integrated Management of Childhood Illnesses (IMCI), programmes on the promotion of appropriate IYCF practices and more generally programmes aimed at preventing MAM.
- Evidence is needed to evaluate the effectiveness and cost-effectiveness of a range of approaches for prevention and treatment of children with MAM. These may include modified/expanded general rations, targeted supplementary food distribution, blanket distribution of specialised food products to children < 2 or < 5 years of age (either all year round or at critical junctures in the agricultural calendar), cash transfer/voucher programmes, and micro-credit initiatives. Review of evidence should consider distinctions between individual and population level outcomes.
- Evidence is needed on the role that implementation mechanisms and service delivery settings play in the effectiveness of interventions to manage and prevent MAM.
- Evidence is needed on the relative cost-effectiveness of various food products for management of MAM.
- In establishing an evidence base, randomised studies are optimal but are not always possible in many contexts. Non-randomised comparative studies can contribute significantly to the evidence base about the impacts of various food products, interventions,

and delivery mechanisms on the management of MAM.

Observational studies can also add to the body of knowledge in this area.

- Based on findings about effectiveness and cost-effectiveness, there is a need for decision-making criteria and frameworks to inform choice of optimal interventions in a variety of contexts.
- Programmes addressing moderate malnutrition and programs addressing HIV are synergistic but may have distinct objectives, and they should be linked and harmonised.
- Prevention of mother to child transmission of HIV (PMTCT) and paediatric HIV services should perform nutrition assessment and counselling and should establish linkages to refer children for nutrition support services as needed, especially where nutrition support services are not available as part of the HIV services. Programmes managing acute malnutrition should establish linkages to refer children (and parents) for HIV counselling, testing, treatment and care. Children failing to gain weight or MUAC in programmes managing MAM in geographic areas of high HIV prevalence should be tested for HIV and provided with treatment and care as needed.

Question for evidenced-based review:

What is the evidence base to recommend the use of targeted SFPs, modified/expanded general rations, cash transfer/voucher programmes, microcredit initiatives, and/or blanket distribution of specialized foods for children < 2/5 years of age in MAM? Within each type of approach, what is the evidence-base to recommend the use of a specific food formulation?

Knowledge gaps and research needs:

Treatment

- Define response to treatment of children admitted on MUAC and clarify discharge percent weight gain.
- Document duration of treatment and duration of MAM episode from various contexts.
- Clarify spontaneous recovery of MAM cases from Michel Garenne dataset².
- Continue defining nutritional requirements of MAM cases.
- Define appetite test for MAM cases.
- Define nutritional, microbiological, chemical etc. specifications for foods aimed at treating MAM.

Programme

- Measure effectiveness (outcomes, impact, coverage, etc.) and efficacy (physiological, clinical, etc.) of new products filling MAM specifications in various contexts.
- Measure effectiveness of 'non food' approaches in preventing and treating MAM in contexts where MAM determinants are not food related.
- What is the most effective way to target cash transfer programmes in order to have an impact on MAM? Cash transfer programmes may be a part of poverty reduction, social protection programmes or emergency responses.
- What specific types of cash transfer programmes contribute to food and nutritional status in children under 5 years?
- What is the most effective approach to monitor the impact of cash impact on the nutritional status of children under 5 years?

HIV

- Do HIV-infected MAM children need a different food to recover from MAM compared with HIV-negative MAM children?
- Do HIV-infected mothers need a different food to recover from MAM compared with HIV-negative mothers?
- What would be the ideal timing to start anti-retroviral treatment (ARVs) in HIV-infected children with MAM (and SAM) in the absence of other signs requiring ARV treatment?
- Could the identification and treatment of diarrhoea pathogens on admission improve treatment of MAM in HIV-infected children (faster recovery, higher weight gain, etc.)?

Working Group C: Considerations to address in MAM in infants <6 months

Consensus statements:

- Prevention of malnutrition in infants <6 months is intimately linked to infant feeding management. Exclusive breastfeeding is the norm for infants <6 months. Informed interventions at population

² Michel Garenne (Institut Pasteur & IRD, Paris) presented data on the estimation of duration of episodes of moderate acute malnutrition using multi-state life tables, which allow the conversion of population based data into cohort estimates based only on transition rates.

and individual level should be taken to restore and protect this norm. Infants with no access to breastmilk are especially vulnerable and need early identification and appropriate support.

2. The survival and well being of the infant <6 months is intimately linked to the nutritional, medical and psychosocial well being of the mother. Any intervention that targets infants<6 months needs to consider and intervene to support the mother and the child as one unit providing support to both.
3. It is recommended that 'children under 5 years' should be used to refer to the full age range 0-59 m. The age range 6-59m (or 6m – <5 years) should be used when infants<6 months are not in consideration.
4. There is an urgent need for a multi-disciplinary initiative to formulate strategy to address the management of acute malnutrition in infants < 6 months as part of MAM and identify common ground, gaps and way forward. This should include, for example, the Baby Friendly Initiative (BFI), IMCI, growth groups, UNICEF community based support and Essential Nutrition Actions.
5. A key gap area is how to define and identify moderate acute malnutrition in infants <6 months, and how this should inform treatment.
6. Further investigation on the MAM burden of infants <6 months by country is needed urgently, that includes longitudinal data and investigation of underlying causes in different contexts.
7. More detailed investigation of the underlying factors (such as feeding practices, clinical conditions, psychosocial, contextual) of malnutrition in infants <6 months is needed to inform the management of acute malnutrition in this age group.
8. More research is urgently needed to help in identifying infants <6 months at high risk of mortality. For example, early studies indicate that MUAC may aid in this regard for infants between 2 and <6 months old.
9. Any statements on MAM should explicitly refer to infants<6 months in terms of guidance and/or key considerations and gaps in knowledge base.
10. Potentially better practices/complementary initiatives to improve management of MAM in infants <6 months that should be coupled with operational research are:
 - Any admissions of infants<6 months to MAM programmes should be documented.
 - Admission and discharge indicators for infants < 6 months should include breastfeeding status on admission and on discharge.
 - A single measurement of weight should not be used to classify an infant as malnourished; assessment should always be accompanied with clinical and feeding assessment and ideally with serial weight measurement.
 - MAM infants <6 months and infants < 6 months of mothers admitted to programmes should be enrolled in growth monitoring (weight gain).
 - The IYCF guidance in CMAM training³ should be used to strengthen the IYCF component of community services, including SFPs.
 - IFE Module 2⁴ should be used to strengthen individual level assessment and support at facility and of community support/referral services, e.g. stabilisation centres, breastfeeding 'corner's/tents.
 - Where infants are < 45cm (the bottom limit for WHO-GS weight-for-length charts) then clinical assessment, level of development and feeding status should be used to decide on admission and treatment.
 - It is essential to identify and build the capacity and enable linkages of key people at community level who can support mothers, such as traditional birth attendants or peer counsellors.
 - Where appropriate, infants <6 months should be included in nutrition surveys to determine programme coverage and burden of disease. This has implications for equipment and training needs, and capacity to manage cases identified.
 - Integrated support for optimal IYCF in acute malnutrition treatment for all children <2 years is needed, in both community and facility based care. This will strengthen staff capacity to manage infants <6m as well as benefit older children.
 - For infants < 6 months with access to breastmilk, case management should aim to restore exclusive breastfeeding. Breastfeeding statuses on admission and on discharge are essential outcome measures.

Questions for evidence-based review:

1. Do anthropometric criteria for MAM in children >6 months apply equally to infants < 6 months?
2. How should infants <67cm but >6 months be managed?

Knowledge gaps and research needs:

1. For infants with no access to breastmilk, the feeding option that poses the least risk in a given individual context must be established. Research is needed to investigate how to achieve this in programmes in resource limited settings.
2. There is no evidence on the safety, effectiveness and tolerance of ready to use foods (RUF) in MAM infants< 6 months. Review of current experiences is needed urgently.
3. The impact of support to IYCF in CMAM.
4. There are different possibilities to adapt current training content such as on the use of growth standards coupled with breast-feeding counselling, IYCF counselling, community care of the newborn, IYCF in CMAM, at field level and in different contexts.
5. Breastfeeding assessment tools (see MAMI Project Report⁵) in field setting for individual level assessment ('appetite test').
6. How to manage infants >6 months that are <67cm – should they be treated as older or younger infants?



A young woman feeds her niece with rice fortified with multiple micronutrient powder

7. Field tests of WHO growth velocity tables in the context of infants <6 months that are moderately malnourished, to investigate expected weight gain by age in treatment.
8. Studies are needed to explore which psychosocial support activities for different settings are most effective.
9. Interpretation of 2006 WHO Growth Standards growth charts by health workers.

³ Integration of IYCF support into CMAM. October 2009. Nutrition, Policy, Practice, ENN, IFE Core Group, Global Nutrition Cluster. <http://www.enonline.net/resources/722>

⁴ Module 2 Infant feeding in emergencies. For health and nutrition workers in emergency situations, Version 1.1, December 2007. <http://www.enonline.net/resources/4>

⁵ Chapter 7. Breastfeeding assessment tools. MAMI Project. Technical Review: Current evidence, policies, practices & programme outcomes. Jan 2010. <http://www.enonline.net/resources/741>

Working Group D: Improving monitoring and evaluation of programmes

Consensus statements:

Background

1. Nutrition programmes aim to reduce the prevalence of malnutrition at the population level and to maximize benefits to the individual child. This can only be achieved by high-quality programmes with good coverage. Monitoring and evaluation is essential and should evaluate both quality and coverage of programmes.
2. Active screening for moderate wasting in children is a crucial aspect of quality programmes.
3. Coverage should be assessed by community-based surveys including nutritional assessments.
4. Programmes that offer good quality services at scale have well trained staff in sufficient numbers at all levels (including planning and implementation) who are adequately supervised and retrained. This includes checking the quality of anthropometric measures (including regular calibration of instruments), counselling, as well as adequacy and amount of food or non-food interventions provided. Supervisors should analyse programme data and use it proactively to make good decisions.



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5. The same principles of quality services apply also to projections, procurement, and supply chain management.
6. Breastfeeding support and dietary counselling that are nutritionally sound are an integral part of successful nutrition programmes. The adequacy of dietary counselling should be checked against the adequacy of the diet through the use of food composition tables.
7. If food supplements are used, these should provide nutrients that are missing in the diet and have prior demonstrated effect on nutritional recovery.
8. If non-food based approaches are used, the impact on nutritional recovery must be ensured.
9. These objectives can be achieved through either individual or population-based nutritional interventions.

Monitoring and Evaluation:

10. The objective of monitoring and evaluation is to improve programmes and to inform decision makers to adapt policies and ultimately to maximise the programme's benefits to the child.
11. Clearly defined indicators are important for both facility- and population-based monitoring.
12. *Facility-based monitoring indicators:* The number of children in different exit categories should be monitored using the following categories: cured, died, defaulter, transferred, relapsed, and non-cured. Clear definition and implementation of admission and discharge criteria are important. Mistakes related to admission and discharge need special attention. Average weight gain, possibly MUAC gain, and median length of stay in the programme are the core indicators of response to treatment. The expected average weight gain will be context specific, i.e. it is related to the mean WHZ of the population. Another important indicator is the proportion of children who fail to respond within one month (at most) and who are referred for medical evaluation in a timely manner. The change in HAZ is an optional indicator for routine programme contexts. These performance indicators should be interpreted by taking into account the prevalence of HIV and tuberculosis infection, especially with regard to relapse and non-responders.
13. *Population based monitoring indicators:* Such programmes should consider the percentage of children who were screened for wasting. In addition, these programmes need to monitor the coverage of the programme, i.e. the proportion of malnourished children who receive treatment.
14. *Combined facility based and population-based monitoring indicators:* A combined indicator of facility- and population-based performance is the change in prevalence of malnutrition. This should be assessed by surveys conducted during the mid-point or latter half of the lean season. Other indicators, such as those related to procurement and supply management, also apply to both levels.

Knowledge gaps and research needs:

1. Develop community-based survey techniques to measure programme coverage with regard to coverage of screening as well as treatment.
2. Examine new and feasible reporting tools (e.g. Rapid SMS) to strengthen monitoring and evaluation in a timely manner.
3. Assess the usefulness of MUAC as an indicator for treatment response in settings with different levels of wasting.
4. Develop tools that can improve reliability of anthropometric measures (e.g. better scales, length/height boards, more appropriate MUAC tapes)
5. Develop and pilot the use of linear programming in the formulation of dietary recommendations for moderately wasted children.

Working group E. Stunting

Consensus statements:

1. Stunting in young children is an outcome of a complex set of circumstances and determinants, including ante-natal, intrauterine and post-natal nutritional deficits. Significant reductions in stunting can be achieved through a comprehensive set of interventions that effectively link management and prevention, and address underlying determinants. These not only prevent stunting but lead to improvement in human potential (improved motor and cognitive development, reduced risk of non-communicable diseases, and improved educational attainment, productivity and income).
2. A window of opportunity exists during the prenatal period and the first two years of life to prevent stunting and achieve optimal development. A large percentage of stunting appears to be due to poor maternal nutrition resulting in low birth weight (LBW) newborns, as well as normal birth weight infants that are at greater risk for stunting. Women's and adolescent nutrition has been neglected in recent years. Women's and adolescent girls' nutrition should be revisited in order to break the inter-generational cycle of growth retardation and its consequences.
3. Stunting is a proxy indicator for longer term nutritional deprivation that results not only in linear growth retardation but also gives rise to a series of functional deficits, including loss of psychomotor and cognitive skills with lifelong functional consequences.
4. Stunting should be defined not only in terms of height-for-age but it should encompass aspects such as growth velocity and incremental growth in length or height.
5. To prevent and manage stunting effectively a broad integrated

package of strategies and interventions is required. Three critical dimensions include social and behavioural change, food-based approaches (including fortified products) and care for infectious diseases and malnutrition.

6. There is evidence that specific foods, including breastmilk, and nutrients will promote linear growth. The inclusion of animal source foods in children's diets is particularly appropriate because these foods contain significant amounts of micronutrients, especially zinc, iron, fat, vitamin B 12, riboflavin and vitamin A. There is some evidence that milk promotes linear growth.
7. Population-based approaches are needed in combination with individual targeting to prevent and manage deficits in linear growth, however, this is context specific. Regular nutritional surveillance is needed to detect a potential problem of growth faltering and monitor change. This could be used in combination with active case detection and referral.
8. An agreed upon set of effective strategies and interventions exists. However, access to these delivery platforms (health infrastructure, supply chains, health worker capacity) is weak in many settings, especially where the problem of stunting is greatest. Delivering effective behaviour change interventions is more complex than delivering vitamin A capsules and well trained staff in adequate numbers are required.

Research questions based on knowledge gaps:

1. What proportion of stunting will be prevented through management of SAM and MAM?
2. What key nutrition and medical interventions for pregnant women will prevent intrauterine growth retardation and prenatal programming for stunting? What is the timing of these interventions during pregnancy that will result in the most cost-effective impact?
3. While a set of interventions to prevent stunting is available, there is currently little knowledge about the best set of options in different settings. Also the most cost-effective timing of interventions for maximum impact needs to be researched. The development and refining of evidence-based decision making tools for programme managers is recommended to guide the type and timing of interventions in different contexts.
4. What is the specific profile of macro and micronutrients (and specific foods, e.g. milk) needed to improve and maintain adequate linear growth? The development of a strategic short-term operational research agenda is recommended and the identification of ongoing research and gaps.
5. What are appropriate indicators and assessment tools to identify children at risk of linear growth retardation? What is currently done, what are the gaps and what complementary measures are needed? A background study/literature review is recommended as well as the identification of gaps, convening of a technical advisory group (TAG) and identification of gaps for operations research.
6. Currently there is little guidance for field programme personnel to formulate and recommend the best possible diets based on locally available foods and determine the nutrient gaps that may need to be addressed through fortified food products (including micronutrient powders). The development of an easy to use linear programming tool is recommended to enable field-based nutrition staff and programme managers to formulate good diets and identify the determinants where the limitations/gaps are.
7. Intrauterine growth retardation is likely to be (at least partly) reversible through appropriate care and nutrition. Information is needed on the best maternal interventions and their timing during pregnancy. A back-ground study/literature review is recommended as well as the identification of gaps, convening of TAG and identification of gaps for operations research.
8. Information on the most cost-effective (and DALYs⁶) set of interventions and their timing during the first 24 months can prevent and manage stunting. Also, what are the options after 24 months? Under what conditions can catch-up growth occur?
9. How to strengthen delivery platforms for effective interventions to prevent stunting. Lessons learning from other countries successful in reducing stunting is recommended (e.g. Thailand, Vietnam, Brazil) and investment in delivery science operational research (quality assurance, quality improvement).

Progress 2010 to 2011

Following the 2010 consultation, work has been implemented on guideline development and research.

Guideline development

Based on the discussions and consensus statements from MM1 and

MM2, the following areas were identified for guideline development:

1. Detection of children with acute malnutrition
 - a. Coverage of screening for acute malnutrition.
 - b. Efficacy of screening
2. Health system in the prevention and management of undernutrition
3. Effectiveness and safety of a food supplement formulated along the proposed technical specifications for children with MAM
4. Population vs. individual targeting of nutritional programmes for children with MAM
5. Discharge from programmes
6. Essential nutrition actions for children with MAM
7. Cash transfer or other non-food based interventions for children with MAM

These questions were further discussed and reviewed by the WHO Steering Committee for Nutrition Guidelines Development and formatted into the Population, Interventions, Control and Outcome (PICO) framework. The questions and PICO tables were sent to key external experts and stakeholders for comments through the WHO Micronutrients Mailing List, the Standing Committee of Nutrition (SCN) mailing list and also shared with the IASC Nutrition Cluster. Additionally, an open 'Call for Public Comments' was posted on the WHO website. Feedback was reviewed and the questions were modified accordingly.

The WHO Nutrition Guidance Expert Advisory Group (NUGAG) was entrusted to develop the recommendations. The NUGAG Sub-Group on Nutrition in the Life Course and Undernutrition met in Geneva from 2 to 4 June 2010. Following the ranking of outcomes and critical questions to be addressed in the guideline development, the Nutrition in the Life Course Unit started working with the Institute for Child Health IRCCS Burlo Garofolo, Unit of Research on Health Services and International Health, Trieste, Italy, to map the existing reviews and to carry out systematic reviews on the questions.

NUGAG met in March 2011 to review the evidence and made recommendations on updating guidelines on SAM and on developing guidelines on the programmatic aspects of the management of MAM. These recommendations will be finalised in the next NUGAG meeting in November 2011 and examined by the WHO Guideline Review Committee for final approval.

Principles and recommendations on the specifications for food supplements used in the dietary management of MAM have been developed and are being published.

Coordinated research

The MM1 and MM2 meetings also concluded that knowledge gaps need to be identified and that coordinated research to address them should be promoted. This would involve harmonising research protocols, documenting and making available all relevant information in a single knowledge management system, promoting and moderating discussions and regularly updating relevant information.

Supported by WHO and partners, the UN Standing Committee on Nutrition (UNSCN) has established an e-based web portal to attempt to fulfil this function. The objective of the SCN portal on research as a follow up of MM1 and MM2 is to share information and to provide a discussion forum on protocols for operational research with the aim of harmonising research and reducing duplication of efforts. Information from the discussions and posted research studies can feed into the process of the development of recommendations by WHO and its partners.

The expected outputs are improved research methodology and its adaptation according to different outcomes and settings, a repository which contains all relevant documents and information on previous and ongoing research studies, and a list of terms to define and unify their use (definitions, specifications of different products etc).

Visit the UNSCN portal at:

http://www.unscn.org/en/nut-working/moderate_malnutrition/mam.php.

The report of the MM2 consultation can be accessed at the following link:

http://www.who.int/nutrition/topics/moderatemalnutrition_consultation_programmaticaspects_MM_report.pdf

⁶ Disability adjusted life years

Farmers association level consultation at Chuko, Southern Nations, Nationalities and Peoples (SNNPR) province, Ethiopia, August 2009

2011 Edition of the Sphere Handbook Humanitarian Charter and Minimum Standards in Humanitarian Response

By Susan Thurstans, Paul Turnbull, Devrig Velly, and Walter Middleton

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The authors gratefully acknowledge Aninia Nadig and Ali Maclaine for reviewing the article.

This article describes the main provisions and updates to the minimum standards in food security and nutrition in the 2011 edition of the Sphere handbook.

The Sphere Project and its Handbook are well known for introducing considerations of quality and accountability to humanitarian action. The handbook has become one of the most widely recognised tools for improving humanitarian response. The success of the Handbook reflects the fact that Sphere is responsive to the needs of people responding to and affected by disasters and has proved to be a relevant and 'living' document. The first 2000 edition, a revision of the first pilot edition from 1998, was again revised for 2004. Since 2004, a number of technical changes have occurred and new cross-cutting issues have evolved.

For the 2011 revision, a consultative process similar to that undertaken for the 2004 edition was adopted. The consultation process has enabled involvement of those responding to disasters as well as attempting to engage those affected, and has worked closely with the cluster approach and other relevant national and regional networks.

The process was led by a group of individual who acted as focal points, each of whom invited a group of experts to form core working advisory groups comprised of non-governmental organisations (NGOs), academic institutions, United Nations (UN) agencies, donors and

independent consultants. Four focal point persons led the food chapter with three working groups, one for nutrition, one for food aid and one for food security.

This article sets out to provide full transparency to the process through the documentation and justification of technical changes to the 2011 version of the Sphere Handbook chapter on Food Security and Nutrition (referred to hereafter as 'Food chapter'). It highlights some of the larger changes that have been made and the evidence and process on which these decisions have been based.

Summary of sector changes

The Humanitarian Reform process, launched in 2005, aims 'to enhance humanitarian response capacity, predictability, accountability and partnership'. The similarity with Sphere's aim is striking, and Sphere has already worked closely with the clusters most relevant to Sphere. The cluster approach, one of the pillars of the reform process, has resulted in the advent of a strong international coordination body, particularly for nutrition, while a global food security cluster has recently been established which includes food assistance. The cluster approach is responsible for the development of standardised response recommendations, development

of tools to assist in humanitarian response, and the coordination of response both on the ground and at international level.

Over recent years, the scale and significance of hunger and poverty has become ever more apparent and has resulted in a renewed focus on hunger. Increasingly large-scale complex emergencies in the context of a global financial crisis, dramatic spikes in 2008 in basic food prices, and increasingly protracted crises have all called for increased recognition of poverty as a significant underlying cause of undernutrition and the importance of striving towards achieving Millennium Development Goal 1, reduction of poverty and hunger.

Setting the scene

The introduction sets the scene for some of the changes within the chapter. The Humanitarian Charter sets out a set of principles that should govern humanitarian action and asserts the right of disaster-affected populations to life with dignity, protection and assistance. This Charter has been completely rewritten for the new edition to offer clearer language and strengthened linkage to the standards. To reflect this change, more detail on the obligations of states concerning the right to food (to "respect", "protect and "fulfil" access to food) have been

included. The obligations on states includes that "In the case of disasters, states should provide food to those in need or may request international assistance if their own resources do not suffice. They should also facilitate safe and unimpeded access for international assistance." Additional text is included drawing from the Committee on Food Security's 'Voluntary guidelines to support the progressive realisation of the right to adequate food in the context of national food security', which was not available for the 2004 Handbook.

The introduction also strengthens some definitions, for example, the effects of pre-existing chronic undernutrition is recognised, the definition of 'food security' has been elaborated to describe availability, access, and utilisation, the definition of 'livelihoods' has been revised, as has the definition of 'malnutrition'. This section also recognises that good food security and nutrition disaster response is achieved through better preparedness.

A revised chapter structure

Given the changes within the sector, and in response to consultation feedback, the authors have tried to ensure the chapter reflects and therefore promotes a more integrated approach to the prevention and treatment of malnutrition and sustaining of livelihoods in emergencies. Central to this is the conceptual framework for undernutrition (see Figure 1). All aspects of the chapter and indeed many other areas covered in the three other technical chapters (Water, sanitation and hygiene promotion, Shelter, settlement and non-food items, and Health action) lie within the conceptual framework. Given this, the framework was brought forward within the chapter and used as a pillar on which the chapter is based, to promote coordination and integrated means of responding to crises.

The framework as it appears in the new chapter is itself a product of the consultation process. The draft framework was formulated based on a comparison of three different versions (Lancet, World Food Programme (WFP), Action Contre la Faim (ACF)). The authors spent time discussing the overlapping themes within the different versions and how these fit within the context and scope of Sphere. The revised Sphere Handbook gives poverty a central role as an underlying cause, adding to the previous three underlying causes (inadequate household food security, inadequate maternal and child care, insufficient services and unhealthy environment). This reinforces food and livelihoods as primary causes of malnutrition. It also highlights the relevance of the framework to mothers as well as children and details the short and long term consequences of undernutrition.

Assessment and analysis

The assessment standards in the 2011 Handbook edition have been written to try and encourage joint assessment at the initial stages of an emergency with all sectors, and consideration of integrated in-depth assessments where appropriate. Integration or overlap of food security and nutrition assessments is strongly encouraged within the chapter. Both food security and nutrition assessment standards refer to integrated rapid assessments under the Core Standards and support global efforts to improve assessment and information management for humanitarian action¹. The tool contributes to a larger multi-cluster IASC-led effort to harmonise emergency assessment to lead to a broader understanding of the context and needs rather than a focus on individual organisational concerns.

Stronger references to the food security pillars have been included. This has resulted in more

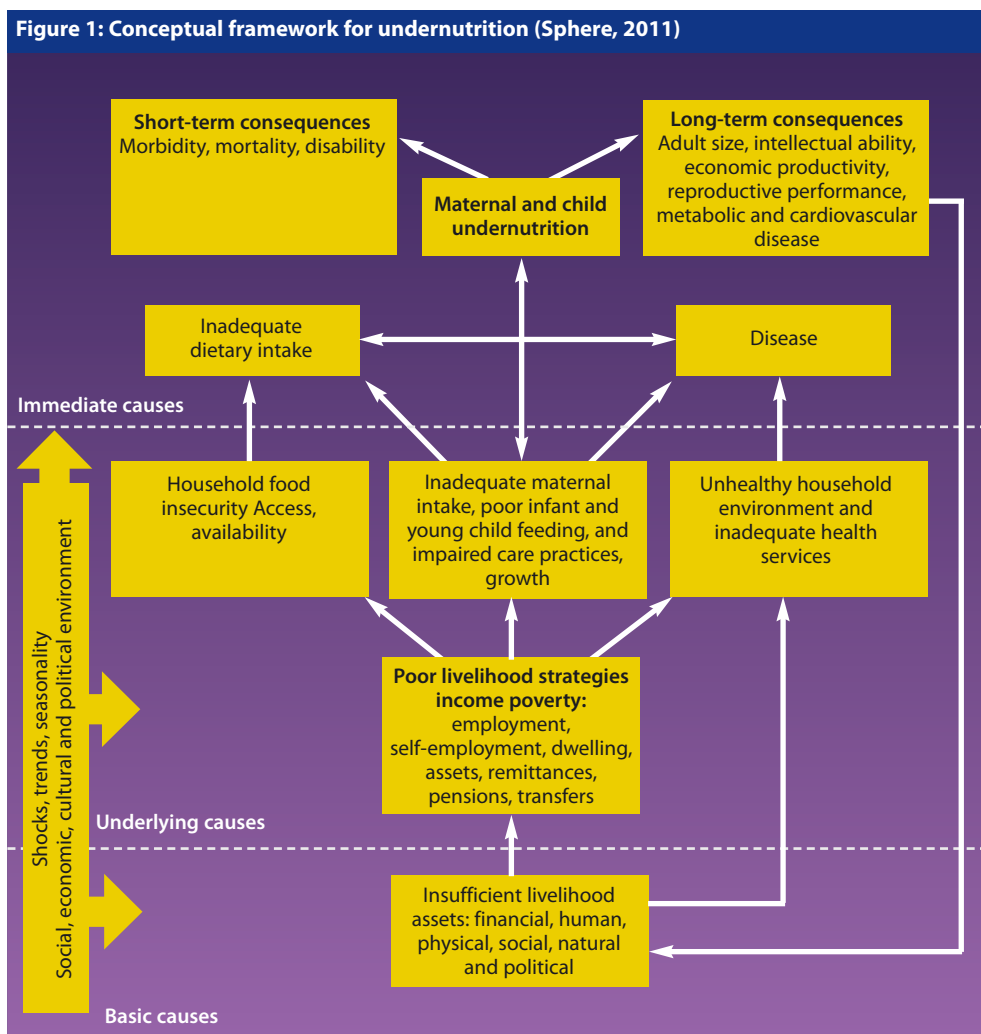
emphasis on local 'systems' and market analysis as key elements to assess, as well as a better focus on food consumption indicators and coping strategies. Meaningful and practicable indicators of food diversity have been developed since the 2004 edition of the Sphere Handbook and subsequently added in this revised version (indicators such as the household dietary diversity score, household food insecurity access scale or the food consumption score). The 2011 Handbook edition integrates some updates of essential tools such as the Coping Strategy Index (CSI) revised in 2008. References to the integrated food security phase classification (IPC) have also been included (see box 1).

Under nutrition assessment, the 2011 version emphasises the importance of assessments beyond anthropometric surveys, and refers to the causal framework as a basis of assessing both the extent of and underlying causes of undernutrition. Reference is made to surveys assessing infant and young child feeding practices, micronutrient deficiencies and links are encouraged with other sector assessments, particularly food security and livelihood, water and sanitation and health.

When covering anthropometric surveys, following recommendations during the Handbook revision process (from both consultations and the core working group), reference has been made to the SMART (Standardized Monitoring and Assessment of Relief and Transitions) method, an internationally recognised standardised method for anthropometric and mortality surveys (see box 1 for more information on SMART).

¹ United Nations Inter-Agency Standing Committee (UN IASC), Health Cluster, Nutrition Cluster, WASH Cluster
² Source: SCUUK SCUS IPC information sheet

Figure 1: Conceptual framework for undernutrition (Sphere, 2011)



Box 1: Integrated food security phase classification (IPC)

Integrated food security phase classification (IPC)

The IPC² is an interagency approach being rolled out by an international partnership of agencies which includes Care, Oxfam, Save the Children, the European Commission (EC) joint research centre, FEWS NET, FAO and WFP. It provides a common classification system which defines the severity of a situation according to pre-defined phases from 'generally food secure' to 'famine/humanitarian catastrophe', based upon a wide range of indicators of the impact of a hazard event on human health and welfare (e.g. mortality rate, nutritional status).

SMART (Standardized Monitoring and Assessment of Relief and Transitions)

The SMART method is an improved survey method based on the two most vital and basic public health indicators to assess the severity of a humanitarian crisis - nutrition and mortality. The nutrition component is based on the nutritional status of children under 5 as this is closely linked to risk of mortality and can be used to draw conclusions on the whole population based on the assumption that children aged 6-59 months are the most vulnerable group in the society. Mortality is assessed as this is the most critical indicator of a population's improving or deteriorating health status and is the kind of information to which donors and relief agencies most readily respond.

The introduction of the WHO growth standards in April 2006 represented a significant move forward in the understanding and measurement of global child malnutrition. Reference has been made throughout the food chapter to these standards as recommended in consultations and by the core working group and the nutrition cluster assessment working group. The 2011 Handbook edition also recommends the inclusion of the measurement of mid-upper arm circumference (MUAC) of children under 5 years within anthropometric surveys for reporting prevalence of acute and chronic undernutrition and in rapid screening assessments.

In relation to interpreting levels of malnutrition, the Sphere Handbook has maintained its position on not classifying the severity of undernutrition prevalence rates in a population based on thresholds. It encourages consideration of the scale of crises related to other factors, such as population numbers affected. Though useful, rates can belie the actual magnitude of a crisis if the area of assessment is densely populated and has other risk factors. Likewise thresholds do not consider sudden changes in comparison to baseline indicators, in particular when levels do not exceed 10%³. This position is supported by the IASC humanitarian response review which concluded that there is no agreed system for estimating the severity of a crisis and the impact of humanitarian response overall. Consequently there is no set of benchmarks to which the humanitarian community can be held accountable.

New infant and young child feeding standards

Despite evidence showing that sub-optimal breastfeeding, especially non-exclusive breastfeeding in the first 6 months of life, results in 1.4 million deaths and 10% of the disease burden in children under 5 years,⁴ the interventions to address infant and young child feeding are often not prioritised during rapid onset emergencies. Careful attention to infant and young child feeding (IYCF) and support for good practice can save lives.

Two new standards on IYCF have been introduced following recommendations from country consultations (particularly from India), the Infant and Young Child Feeding in Emergencies Core Group (IFE Core Group), the Working Group on IYCF Indicators and others, together with experiences from recent emergencies, notably in Myanmar, Philippines and Haiti. The new IYCF standards draw upon the 2004 version of the handbook, the International Code of Marketing of Breastmilk Substitutes and subsequent relevant resolutions (the Code), the Operational Guidance on Infant and Young Child Feeding in Emergencies (2007), and the evidence base and experiences upon which these documents have been developed.

IYCF guidelines and recommendations have undergone many changes since the initial publication of a set of indicators for IYCF in 1991. The new IYCF standards consider the protective and supportive elements of policy and legislation, coordination, communication, as well as the basic and technical IYCF interventions (skilled breastfeeding assistance, complementary feeding support, management of artificial feeding) that should be considered in response. The needs of breastfed and non-



The provincial consultation in Awasa, Ethiopia in August 2009

P. Turnball, Ethiopia, 2009

breastfed infants, the importance of maternal nutrition and health, and the challenges of the HIV context are included.

Simple, valid and reliable indicators are crucial to track progress and guide investment to improve nutrition and health during the first two years of life. Indicators that assess breastfeeding are useful to monitor trends, develop and evaluate programmes and for advocacy. A set of core and optional IYCF indicators have been developed by the Working Group on Infant and Young Child Feeding Indicators at the global consensus meeting in 2007⁵. These indicators have been worked into the new Sphere Handbook.

Appropriate complementary feeding following 6 full months of exclusive breastfeeding plays a pivotal role in the prevention of malnutrition and contribution to child survival. The new indicators and guidance notes for complementary feeding reflect the movement within the international community to prioritise access to safe complementary foods and to enable safe complementary feeding. The Sphere guidance reflects the more recent development and piloting of lipid based nutrition supplements that may have a role in some contexts to support nutritional intake in children during the complementary feeding period. For example, they may be provided through blanket distributions to certain target groups such as children between the age of 6 months and 2, 3 or 5 years, depending on objectives, in populations acutely unable to meet the nutritional requirements for these age groups. Strong reference is also made to the new cash and voucher standards. Evidence on the benefits of two programmes in Nicaragua and Mexico showing consistent results from large-scale conditional cash transfer programmes effect on growth, as also found with food supplementation⁶. These programmes combined cash transfers and nutritional education and one also included a supplementary food fortified with multiple micronutrients. Data from a Save the Children programme⁷ in Swaziland provides striking evidence of the beneficial impacts of emergency drought response cash transfers on children's nutrition and food security status, evidenced by monitoring of dietary diversity.

Management of acute malnutrition and micronutrient deficiencies

As reflected in the title of this section, the content covers the management of acute malnutrition that includes prevention as well as treatment. The management of moderate acute malnutrition (MAM) is currently undergoing significant changes following a retrospective study in 2008⁸ analysing outcomes of 82 targeted supplementary feeding programmes (SFP) implemented by 16 agencies in Africa, Asia and Central America. The study highlighted the lack of consensus in objectives of SFPs. Whilst some recommendations or questions from this work are not yet at a stage advanced enough to be included in Sphere, some of the outcomes of this work are clear and the revised chapter reflects this. Most significantly, the consideration of blanket supplementary feeding as an approach to addressing MAM has been included within the guidance notes.

The 2008 SFP review highlighted that in the 2004 edition of the Sphere Handbook there were no specific programme outcome indicators for 'transfer rate' (to therapeutic feeding centre (TFC) or to hospital), or for 'non responders' (other patients that are discharged without having reached target criteria). As a consequence, organisations that reported SFP performance following Sphere recommendations did not account for these patients during monitoring and evaluation. In other words, a SFP could send 50% of its patients to a TFC

³ ACF

⁴ Black et al, 2008, Maternal and child undernutrition 1. Maternal and child undernutrition: global and regional exposures and health consequences. www.thelancet.com, series, January 17

⁵ Working Group on Infant and Young Child Feeding Indicators (2007). Indicators for assessing infant and young child feeding practices. Conclusions of a consensus meeting held 6-8 November 2007 in Washington D.C., USA

⁶ Bhutta, Z. A., T. Ahmed, R. Black, S. Cousens, K. Dewey, E. Guigliani, B. Haider, B. Kirkwood, S. Morris, H. Sachdev, and M. Shekar. 2008. What Works? Interventions for maternal and child undernutrition and survival. *The Lancet* 371: 1-24.

⁷ Stephen Devereux, Paul Jere, 2008. Choice, Dignity and Empowerment Cash and Food Transfers in Swaziland An evaluation of Save the Children's Emergency Drought Response, 2007/08

⁸ Navarro-Colorado C, Mason F, and Shoham J (2008). Measuring the effectiveness of supplementary feeding programmes in emergencies, Humanitarian Practice Network paper, no. 63

Box 2: Community-based Management of Acute Malnutrition (CMAM)

The community-based approach involves timely detection of SAM in communities and provision of a ready to use therapeutic food (RUTF) for those classified as without medical complications. For those children with medical complications, facility-based management can precede community treatment in order to treat initial complications, stabilise the child's condition and regain a child's appetite.

because they are losing weight, yet still meet Sphere standards. Therefore, in the revised 2011 edition of the Sphere Handbook, 'non-response' has been included as an indicator, although no benchmark currently exists. Recommendations to record and monitor the number of children whose condition deteriorates to severe acute malnutrition (SAM) have been included.

Recommendations have also been included in the management of MAM section to separate 'follow-up' patients (those discharged from treatment for severe acute malnutrition and admitted to SFP), who already meet the target weight for height when they are admitted, from others. This is to prevent the overestimation of the recovery rate of the SFP programme; it is not correct to consider that such 'SAM' patients were 'recovered' at the end of the SFP follow-up period. An inaccuracy in the representativeness of outcome data will have negative consequences on programming.

The management of severe acute malnutrition (SAM) has also undergone significant changes, a key development has been the roll out of Community-based Management of Acute Malnutrition (CMAM) (see Box 2). Until 2003/04, treatment for SAM was largely restricted to inpatient facilities limiting coverage and impact. New evidence now shows that large numbers of children presenting with uncomplicated SAM can be treated within a community therefore eradicating the need for hospital admission in this group⁹. The revised Sphere Handbook recommends community-based management of malnutrition¹⁰ as the preferred method with wide support from the Sphere consultations.

There is a lack of agreed outcome indicators and benchmarks related to the treatment approach for severe acute malnutrition in use. Though some recommendations exist, there is not yet international agreement on adapted cut-offs for separate programmes. Therefore separate inpatient and outpatient indicators have not been listed, but rather the indicators refer to the treatment process as a whole.

There still remains a lack of an evidence base or established practice in addressing acute malnutrition in infants 0-6 months of age. Based on evidence from the Management of Acute Malnutrition in Infants (MAMI)¹¹ project and wide support from consultations, this is highlighted throughout the Food chapter. It alerts the humanitarian community that with the introduction of 2007 WHO standards for the classification of weight-for-height z-scores, there will be an increase in the number of infants < 6 months identified with SAM. Though indicators for performance focus largely on children aged 6-59 months, consideration of infants < 6 months is vital and programmes should adapt

Box 3: 2007 WHO Growth Standards

Between 1997 and 2003, WHO undertook the Multicentre Growth Reference Study (MGRS). This combined a longitudinal follow-up of children from birth to 24 months of age and a cross-sectional survey of children aged 18-71 months. Primary growth data and related information were gathered from 8,440 healthy breastfed infants and young children from diverse ethnic backgrounds and cultural settings (Brazil, Ghana, India, Norway, Oman and the USA). The study was designed to produce a representative standard by selecting healthy children living under conditions likely to favour the achievement of their full genetic growth potential. This supported the notion that given the same environmental conditions, growth potential is independent of ethnic origin and therefore, these standards can apply in any country. As of late 2008, 75 countries had officially adopted, or partially adopted, the new WHO standards.

as necessary to meet their needs. This may have resource and skills base implications. The authors hope the introduction of the new IYCF standards will increase the recognition amongst governments and the humanitarian community of IYCF as a life-saving intervention and therefore also contribute to the prevention and early treatment of acute malnutrition in infants and young children.

The revised standard for the management of micronutrient deficiencies has adopted a more proactive position to micronutrient deficiencies. In other words, rather than describing solely the treatment of micronutrient deficiencies, there is a larger focus on prevention¹². Within the appendices there is increased information on the public health implications/thresholds with regard to the number of cases with clinical signs of deficiency.

Defining malnutrition

The management of SAM has also been influenced by the rollout of the 2007 WHO Growth Standards (see Box 3). Studies indicate that the implementation of the new standards using the same cut-offs has little effect on the overall prevalence of global acute malnutrition (wasting and/or oedema) or moderate acute malnutrition but results in a significant increase in the prevalence of SAM (severe wasting and/or oedema), particularly in infants.^{13,14,15} The 2011 edition of the Sphere Handbook adopts the WHO standards, which has implications for admission and discharge criteria for therapeutic and supplementary feeding programmes. Weight-for-height Z-score using the WHO standards for children 6-59 months, rather than percentage of the median, is now recommended to be used as admission and discharge criteria to therapeutic and supplementary feeding programmes.

Following wide support, the 2011 edition of the Sphere Handbook also includes mid upper arm circumference (MUAC) as admission criteria for programmes treating acute malnutrition. Due to a shortage of data to determine which discharge criteria should be applied using MUAC, it has only been included as admission criteria. Guidance for assessing undernutrition in children and adolescents has also been updated to reflect revised WHO recommendations.

Food security*General food security*

The General food security minimum standard is now stronger due to its new position in the Handbook, overarching the three subsequent minimum standards: food transfers, cash and vouchers, and livelihoods.

Prioritising life-saving responses remains the 'raison d'être' of this standard. Ensuring adequate food consumption is the most common objective in acute food insecurity. The most efficient transfer (in-kind, cash and/or a combination of both) is introduced here and linked with new references to market analysis (EMMA¹⁶, MIFIRA¹⁷). Good practice standards, guidelines and evaluations all emphasise the importance of including markets in preparedness, emergency situations and response analysis. However, in practice, emergency practitioners have often overlooked the potential and actual role of markets in emergency and early recovery responses. This may be due to uncertainty on how to understand or work with traders and other market actors in an emergency setting, and unfamiliarity with the private sector.

Food transfers

The new food transfers standards reflect updates for developments in general nutrition requirements (which are now included in this section), appropriateness and acceptability, food quality and safety, supply chain management, targeting and distribution and food use. These standards link closely to the Core Standards and Protection Principles and promote active participation of beneficiaries, support to dignity and consultation and involvement of local groups including vulnerable persons (see Box 4 for an example).

Cash and voucher transfers

The new cash and voucher standard is the product of a fruitful collaboration and consistent involvement throughout the consultation and drafting periods of the cash learning partnership (CaLP). Originating in the will to gather lessons learnt from the tsunami emergency response in 2005, the CaLP is today composed of Oxfam GB, the British Red Cross,

⁹ WHO, WFP, SCN and UNICEF, (2007). Community based management of severe acute malnutrition. A joint statement.

¹⁰ Including mobilisation and inpatient treatment for children with complications.

¹¹ IASC, ACF, UCL, ENN (2010). Management of acute malnutrition in infants (MAMI) project. Technical Review: Current evidence, policies, practices and programme outcomes.

¹² Personal communication with Andre Briend.

¹³ Myatt M & Duffield A (2007) Assessing the impact of the introduction of the WHO growth standards on the measured prevalence of acute malnutrition and the number of children eligible for admission to emergency feeding programmes. Background paper.

¹⁴ de Onis M & al (2006) Comparison of the World Health Organization (WHO) Child Growth Standards and the National Center for Health Statistics/WHO international growth reference: implications for child health programmes. Public Health Nutrition 9: 942-947

¹⁵ Seal A & Kerac M (2007) Operational implications of using the 2006 World Health Organisation growth standards in nutrition programmes: secondary data analysis. British Medical Journal. Doi:10.1136

¹⁶ EMMA is the Emergency Market Mapping and Analysis Toolkit. It has been designed to assist front-line humanitarian staff in sudden-onset emergencies better to understand and make use of market systems within the first few weeks of the emergency and the early days of the response.

¹⁷ The Market Information and Food Insecurity Response Analysis (MIFIRA) tool is a framework to evaluate the feasibility of supplementing food aid with cash or vouchers. MIFIRA is organised around two primary questions. First, are local markets functioning well? Secondly, if markets are not functioning well enough to supply aid, is there sufficient food available nearby to meet the shortfall?

Part of the nutrition, food aid, and food security consultation in Addis Ababa, Ethiopia in 2009



Box 4: An example of food transfers standard in action

A food transfer should meet the following criteria:

- (i) targeting criteria must be based on thorough analysis of vulnerability
- (ii) targeting mechanisms are agreed among the disaster-affected population
- (iii) there should be relevant alternative distribution models for people with reduced mobility
- (iv) recipients should not have to walk more than 10 kilometres to the distribution site, i.e. no more than a four-hour walk
- (v) ration cards, banners and/or signposts specifying the food rations during distributions should be used
- (vi) specific measures to counter gender-based violence at distribution points, and
- (vii) a complaints mechanism should be established for the registration process.

Save the Children UK, Action Contre la Faim and the Norwegian Refugee Council. In 2010, the CaLP partnered with the International Federation of the Red Cross and Red Crescent Societies (IFRC) to expand its level of activities.

While cash and vouchers can potentially be used for other sectoral interventions (WASH, Shelter and Non-Food Items, Health), CaLP advised that most of the experience in cash and voucher transfers has been for food assistance. The standards developed should therefore be included in the 'food' chapter of the Sphere Handbook.

There is growing recognition and interest in the humanitarian sector to use cash and voucher mechanisms where appropriate to improve programme effectiveness, dignity and choice for beneficiaries and to stimulate local economies and markets.

Experience of humanitarian agencies and donors in responding to the needs of people affected by large scale disasters such as the Asian tsunami (2004) and Pakistan earthquake (2005) highlighted the need for enhancing capacity on cash transfer programming, consolidating learning and coordination of cash transfer responses. This is captured in a study conducted by the Overseas Development Institute (ODI) in 2005. "Agencies could have made more use of cash in many sectors such as emergency food and non-food assistance, unconditional cash grants soon after the disaster, assistance with providing shelter (assistance with rent, help for host families, or providing cash for building and repair direct to beneficiaries), and supporting livelihoods recovery (with cash provided for asset purchase and/or to cover start-up and initial running costs). Moreover, the tsunami experience and learning from it has highlighted many ways in which cash transfers could be more effective if designed and implemented differently".

The inclusion of a minimum standard on the use of cash and vouchers in the new Sphere handbook is also a clear indication of a growing recognition of the role that cash and vouchers can play in delivering humanitarian action that is effective, efficient and most importantly, improves the choice and dignity of disaster affected populations.

Livelihoods

Livelihoods are the means by which households obtain and maintain access to the

resources necessary to ensure their immediate and long-term survival. These resources include financial capital (such as cash, credit, savings), as well as physical (houses, machinery), natural (land, water), human (labour, skills), social (networks, norms) and political (influence, policy) capital. Households use these assets to increase their ability to withstand shocks and to manage risks that threaten their life.

Key to those who produce food is whether they have access to land that can support production and whether they have the means to continue to farm. Key to those who need income to get their food is whether they have access to employment, markets and services. For people affected by disasters, the preservation, recovery and development of the resources necessary for their food security and future livelihoods should be a priority.

Whilst food transfers remains the main way of meeting basic food needs when disasters happen, agencies have increasingly implemented a range of food security and livelihoods programmes to help meet basic needs and reduce risks. These have included interventions that reduce expenditure, such as fuel-efficient stoves and grinding mills, and vouchers or grants to increase access to a range of goods or services, such as vouchers for milling or non-food items, cash for work for road rehabilitation or solid-waste disposal, and grants for basic needs or livelihood recovery.

The new Sphere Handbook includes updated standards on primary production, income and employment; and access to markets. In addition to food security and livelihoods assessment checklists, a seed security assessment checklist has been added.

The 2011 edition of the Sphere Handbook includes references to new material to support the primary production such as the Livestock Emergency Guideline and Standards (LEGS)¹⁸ and the Seed system Security assessment.

Revised references

The appendix of references from the food chapter in the 2004 Handbook has been updated with a 'References and further reading section' including sources and further reading on assessment, IYCF, food security interventions, general emergency nutrition manuals, vulnerable people, management of acute malnutrition, and micronutrient deficiencies.

Expected consequences of the revised food chapter for practitioners

The active engagement of the three core working groups (expert advisory groups formed of actors from NGOs, UN agencies, donor agencies and academic institutions), peer advisory groups (such as cluster working groups) and the global humanitarian community working in food security and nutrition has resulted in a widely participative process. The approach taken and the successful coordination between nutrition, food aid and food security authors ensures an evidence-based chapter which addresses both the prevention and treatment levels of response to undernutrition in disaster settings. The authors hope that the revised chapter will support the planning and implementation of integrated programmes to address the prevention and treatment of undernutrition, as represented in the conceptual framework, through better preparedness, integrated assessment, and quality interventions that meet the minimum standards outlined.

The impact of the revised food chapter is expected to improve humanitarian response meeting the minimum nutrition needs of disaster-affected populations, ensuring that they maintain their dignity, through holding humanitarian actors, including donors, to account to the revised Sphere minimum standards. Taking into account wider humanitarian reform and the cluster approach, the revised Sphere Handbook will directly facilitate the Nutrition and Food Security Clusters to achieve their mandate at global and national levels, and will also contribute to work of the Logistics Cluster. It will serve as the ultimate set of shared standards of a broadened food security and nutrition partnership group, supporting strengthened system-wide preparedness and technical capacity to respond to humanitarian emergencies.

The Sphere Handbook 2011 is available at <http://www.sphereproject.org>

¹⁸ LEGS is a set of international standards for improving the quality of livestock programmes in humanitarian disasters based on rights. It focuses on regions prone to repeated or large-scale disasters – rapid onset, slow onset, complex. It enables humanitarian actors to design and implement projects which help to protect and/or rebuild livestock assets. A LEGS application to become a companion module to Sphere is due to be finalised in 2011.

Summary of Global Nutrition Cluster meeting

By the Global Nutrition Cluster Coordination Team

The Global Nutrition Cluster (GNC), under the umbrella of the Interagency Standing Committee (IASC), is committed to fulfilling three areas of responsibility which are standards and policy setting, support to surge capacity, and operational support. Key to fulfilling these responsibilities is sharing information and engaging partners in order to enhance the capacity to respond to nutrition in emergencies. Since 2006, the GNC has undertaken face-to-face meetings to review cluster progress and collaboratively identify priorities for the following year.

The fifth annual meeting of the GNC took place in Nairobi, Kenya from 23 to 25 March, 2011. The meeting brought together 66 participants and resource persons from 39 partner agencies, in addition to nine country cluster coordinators (from Somalia, North Sudan, South Sudan, Afghanistan, Haiti, Niger, Zimbabwe, Kenya and Chad). The participants included independent resource persons as well as representatives from United Nations (UN) organizations (FAO, UNICEF, UNHCR, WFP, SCN/WHO), government (CDC), international non-governmental organisations and partnerships (ACF France and Canada, CARE, Concern, ENN, Helen Keller International, IMC, NutritionWorks, ICRC, Merlin, MSF Holland, Save the Children UK and US, Valid International, World Vision International), academic institutions (Institute of Child Health-University College London), donors (ECHO, DFID) and independent cluster members.

The objectives of the meeting were to review cluster achievements since the last GNC meeting (July 2010), review the strategic priorities and structural issues of the GNC, share technical updates, strengthen linkages between country, regional and global level in defining priorities and revise the annual GNC work-plan.

Day 1 of the meeting broadly reviewed the current status of GNC activities and working documents (the GNC Coordination Team (GNC CT) work plan, budget, GNC Strategic Framework, and GNC Standard Operating Procedures). This was followed by presentations of achievements and challenges from the field in recent emergencies and concluded with a review of the content and the proposed development process of the Nutrition Cluster Handbook.

Key points emerging were:

- The GNC Strategic Framework that was revised at the last GNC meeting in July 2010 will be updated in order to reflect more fully direct support from the GNC to country level clusters, strengthening emergency response, and ensuring that outputs are time bound.
- The GNC Standard Operating Procedures will be revised based on feedback from the discussion, in particular to reflect updated internal structure, administrative processes, and linkages with other technical bodies working in nutrition in emergencies (NiE).
- The ECHO supported capacity development component of GNC work focuses on four levels of training (regional level, Nutrition Cluster Coordinators (NCCs), cluster partners and senior management) in NiE and the cluster approach. Collaboration with other relevant capacity development initiatives will be pursued in order to strengthen this work.
- Presentations of nutrition cluster implementation from the field (South Sudan, the cholera component of the nutrition response in Haiti, Pakistan and Zimbabwe) demonstrated that the cluster approach has contributed to some

improvements in responding to nutrition emergencies. At the same time, there are gaps in technical and operational level guidance to be addressed within the IASC, across clusters, and within technical bodies working in NiE. Similarly, while great strides have been taken to mainstream the cluster function into the cluster lead agency, there are still areas that need to be strengthened and which will be taken forward through strategic advocacy.

- The Nutrition Cluster Handbook contents and development process were broadly endorsed. The development will be facilitated through the coming months in order to ensure complementarity with messaging in other cluster handbooks, the latest global guidance, and practical examples from the field.

Day 2 provided brief updates on technical issues in NiE and technical bodies that are leading developments in these areas. This included Infant and Young Child Feeding in Emergencies and the work of the IFE Core Group, the work of the Community Based Management of Acute Malnutrition (CMAM) ad hoc Group and results of the CMAM mapping, decision-making trees for nutritional products used in the Management of Moderate Acute Malnutrition (MAM), and supplies used in nutrition emergencies. These presentations were followed by discussions around strategic partnerships with complementary initiatives for NiE (the Food Security Cluster (FSC), Health and Nutrition Tracking Service (HNTS), and Scaling Up Nutrition (SUN) movement) in order to define more clearly working relationships between the GNC and these initiatives. The afternoon focused on key issues in nutrition cluster coordination structures in the context of scale and timeframe of emergency and humanitarian financing.

Key points emerging were:

- Aims, and activities of IFE Core Group, CMAM ad hoc group, HNTS, FSC, and SUN were presented and critical and complementary areas of work in guidance, preparedness, and response were highlighted. Formal working relationships and systematic engagement by the GNC across technical bodies, as well as with the REACH initiative, will be further defined through consultation and will be formalised in the revised SOP. Similarly, the draft working principles between the FSC (to be formally launched in May 2011, including the merging of the Agriculture cluster) and the GNC, will be updated to reflect a more operational mechanism for engagement at global and country level.
- Due to the rapid expansion of CMAM since UN endorsement in 2007 and due to the need for accountability, UNICEF and Valid International completed a global mapping of UNICEF supported CMAM during 2010¹ to take stock of implementation. Results highlighted key areas for future work related to developing a global information system, measuring service delivery and coverage, and promoting capacity development.
- Products used in the management of MAM have increased, though this has not kept pace with formal guidance on the use of products. Several initiatives are working to address this gap (e.g. SUN, NUGAG²/WHO, WFP, and UNHCR). A MAM Task force of 10 member agencies was formed in 2011 to harmonise technical consensus. A standardised decision tree for emergency nutrition programmes was presented and discussed with a view that this decision-making tool would be further developed through the Task Force.
- Purchase of nutrition products have significantly

increased over the past decade, however challenges in procurement remain in relation to standards, specifications and suppliers. It was proposed and accepted to initiate a time bound ad hoc Group further to define and address these issues.

- Staffing structures required for nutrition cluster coordination and estimated annual costings were developed by the GNC CT to enable UNICEF as cluster lead agency realistically to mainstream these costs. These structures were discussed and updated taking into account operational advantages and disadvantages. Similarly, the NCC role in humanitarian financing processes was discussed. Feedback will be taken to the CLA, IASC, and donors by the GNC CT, in addition to other issues raised related to recruitment and retention of cluster coordinator capacity.

Day 3 began with an update from UNSCN, followed by group work to develop components of the GNC work plan. Broad outlines of the work plans were presented by each of the Working Groups and ad hoc Groups, while NCCs that did not make formal presentations shared their priority areas for action. The meeting ended with defining the broad way forward.

Key points emerging were:

- Key areas of collaboration between the UNSCN and GNC include hosting and dissemination of information, and providing fora for discussion and development of technical guidance. There are a number of outstanding questions related to governance of the UNSCN that need to be resolved before definitive working relationships with the GNC can be refined and finalised. It was agreed that there is currently a gap in terms of fora for discussion of technical issues around nutrition in emergencies, and there was broad consensus that the GNC should write an open letter to the UNSCN to reinstate the NiE Working Group.
- Several issues were raised around the identity of the GNC, which will be addressed through a time bound ad hoc Group. This will include refinement of terminology for the GNC (GNC CT, GNC Core Group, NCCs, and additional resource persons) as well as clear categorisation of GNC activities to ensure appropriate leadership and acknowledgement of all inputs. An interim style guide, including logo, will also be developed in order to ensure that outputs produced by the GNC are recognisable as such.
- One area of GNC activity that was highlighted for strengthening is information and knowledge management, in order to improve documentation and lesson learning in areas where guidance is limited, such as phasing in and phasing out of the nutrition cluster approach. The GNC will develop a strategy to address this through existing channels as well as in terms of developing additional mechanisms.

Four broad steps were outlined in the way forward, beginning with documentation and dissemination of the meeting discussions. Second, the initial outlines of the work plans will be more fully developed by the GNC CT and chairs of the working groups and ad hoc groups. Third, a fundraising strategy will be developed between the GNC CT and chairs of the working groups and ad hoc groups in order to ensure that resources are available at the right time and in the right form so that the activities can be accomplished. Finally, the GNC CT will review and strengthen activities to support moving forward with the funded activities.

Full documentation of the meeting, including the meeting report, agenda, participants and presentations can be found at:

<http://onerresponse.info/GlobalClusters/Nutrition/Pages/Global%20Cluster%20Meetings.aspx>

¹ See summary of the CMAM Mapping in this issue of Field Exchange

² Nutrition Guidance Expert Advisory Group

Harmonised Training Package: Version 2 nears completion



The Harmonised Training Package (HTP) is a resource package of 21 modules containing technical information, training exercises and a resource list on nutrition in emergencies. It is designed to aid course development and individual learning. The HTP is recognised by the Global Nutrition Cluster (GNC) and its member agencies as a key resource.

HTP Version 1 (2008) was developed in a GNC initiative, led by NutritionWorks in collaboration with the GNC core team and member agencies and involving individual, agency and academic experts. The HTP Version 2 update (2011) was undertaken in ENN/NutritionWorks collaboration as a contribution to the GNC effort, to reflect the latest NiE technical developments. The same editorial process and stakeholder involvement was used. HTP Version 2.0 funded by the US Office for Disaster Assistance (OFDA) to the ENN.

See below for the list of version 2 modules now available (August 2011). All 21 modules will be available by September 2011. Each module is available in word and a print friendly pdf version.

Version 2 HTP modules now available

Section 1: Introduction and concepts

- Module 1: Introduction to nutrition in emergencies
- Module 2: The humanitarian system: roles, responsibilities and coordination
- Module 3: Understanding malnutrition
- Module 4: Micronutrient malnutrition
- Module 5: Causes of malnutrition

Section 2: Nutrition needs assessment and analysis

- Module 6: Measuring malnutrition: individual assessment
- Module 7: Measuring malnutrition: population assessment
- Module 8: Health assessment and the link with nutrition

- Module 9: Food security assessment and the link with nutrition
- Module 10: Nutrition information and surveillance systems

Section 3: Interventions to prevent and treat malnutrition

- Module 11: General food distribution
- Module 12: Management of moderate acute malnutrition
- Module 13: Management of severe acute malnutrition
- Module 14: Micronutrient interventions
- Module 15: Health interventions
- Module 16: Livelihoods interventions
- Module 17: *Infant and young child feeding (due end of August 2011)*
- Module 18: HIV / AIDS and nutrition
- Module 19: Working with communities in emergencies

Section 4: Monitoring, evaluation and accountability

- Module 20: Monitoring and evaluation
- Module 21: Humanitarian standards and accountability

The HTP modules and the associated resources are hosted at the UN Standing Committee on Nutrition website, http://www.unscn.org/en/gnc_http/ The modules are also available in the ENN online library, www.ennonline.net/resources

For more information on the HTP update, contact Carmel Dolan, Senior Partner at NutritionWorks, email: cmadolan@aol.com

HTP version 2 CDs will be produced by the ENN in September. If you would like to receive copies (we welcome bulk CD requests) and if you have any suggestions on how and where to target the HTP modules, contact Marie McGrath, ENN: marie@ennonline.net

FANTA2 produces CMAM Costing Tool (2011)

The CMAM Costing Tool (CMAM Costing Tool Workbook) is a Microsoft Excel-based application that estimates the costs of implementing CMAM at the national, sub-national, and district levels. The Costing Tool calculates the inputs and financial resources required to establish, maintain, or expand CMAM services. This information helps managers determine whether their plans for CMAM are financially feasible, identify the resources needed, and formulate an effective implementation plan. The Costing Tool can also support the promotion and management of CMAM services. Government or NGO stakeholders in a country or region where acute malnutrition is prevalent can use the CMAM Costing Tool to plan for implementation of specific CMAM components and forecast the resources required.

Costing Tool users enter a modest amount of key country-specific data, such as statistics on malnutrition, distances between key administration facilities, and prices of goods. The Costing Tool automatically processes these and other data that are preloaded in the Costing Tool to calculate resource requirements and

costs of implementing CMAM for a geographic region and time specified by the user.

Accompanying the CMAM Costing Tool Workbook are three additional files: a User's Guide, a case study workbook and a completed exercise. The User's Guide explains the scope and limitations of the Tool, outlines how the different worksheets are related, identifies which worksheets and cells require data from the user and explains how to obtain the data to be entered, describes the assumptions underlying the calculations, provides guidance on how to interpret the results, and includes a sample exercise to give the user a guided opportunity to practice using the CMAM Costing Tool with actual data for one district. The Case Study provides an opportunity to view a completed CMAM Costing Tool Workbook using data from an actual situation. The corrected exercise allows the user to see how the User's Guide exercise should have been completed.

Note that this version of the CMAM Costing Tool (February 2011) is limited to dealing with the management of severe acute malnutrition. Download the files at:



http://www.fantaproject.org/publications/CMAM_costing_tool.shtml

The Excel workbooks were created with Microsoft Excel 2007. To open the files in earlier versions of Excel, please visit the Microsoft website to download the Compatibility Pack at <http://www.microsoft.com>

Support for the costing tool was provided by USAID's Bureau for Democracy, Conflict and Humanitarian Assistance's Office of U.S. Foreign Disaster Assistance (OFDA) and Bureau for Global Health's Office of Health, Infectious Diseases, and Nutrition.

FANTA2 welcome comments and suggestions to improve on the tool. Please send your comments to fanta2@aed.org.

Mothers and caregivers taking part in an MNP demonstration session during acceptability tests in a refugee camp in Algeria



Melody Tondeur/UNHCR, Algeria, 2009

toring and evaluating programmes, using the specific special nutritional products, to reduce micronutrient deficiencies and malnutrition in refugee populations. These stages should ideally be conducted in chronological order, although some stages are inter-related and complement one another (see Figure 1).

Stage one

Stage one is intended to aid readers in defining the nutritional needs present in the population of interest, namely children 6 – 59 months. Three main indicators are suggested for use in the assessment of nutritional problems and what FSPs may be considered as possible options. These are the prevalence of global acute malnutrition (weight-for-height <-2 Z-scores and/or oedema), anaemia (haemoglobin concentration <11.0 g/dl) and stunting (height-for-age <-2 Z-scores). In order to classify the severity of the nutrition situation, the guidance advises that prevalence estimates should be gathered for the suggested indicators from the latest cross-sectional surveys conducted in the camp(s), whilst also considering any contextual information that may have influenced the survey results. Where there is no recent survey data available or indicators are missing, priority should be to carry out a baseline nutrition survey, although other options are suggested in case this is not possible. A simplified classification table has been provided (based on WHO criteria) which categorises indicators as low, medium, and high. High levels of one or more of these indicators suggest that an FSP intervention may be appropriate, depending on the outcomes of subsequent stages. Coordination and involvement of all relevant actors (e.g. donors, government, non-government organisations (NGOs), WFP, and other partners) should also begin at this stage.

Stage two

The purpose of stage two is to aid in the selection of a potential FSP intervention for any serious nutritional problems identified and defined in stage one. In addition to fortified blended foods (FBFs), the FSPs considered in this guidance include only MNPs and specific LNS products designed for the prevention of malnutrition. A decision tool containing eight scenarios has been developed to guide the identification of potential FSP interventions for children aged 6-59 months, depending on the context. Each scenario depicts a potential camp context presenting with high prevalence estimates of one or more of each of the nutritional problems previously identified i.e. global acute malnutrition, anaemia, or stunting. Recommendations are given to select the scenario which best reflects the camp(s) situation, and then to consider the possible intervention options that are listed.

UNHCR Operational Guidance for use of special nutritional products

This article summarises UNHCR’s ‘Operational Guidance on the Use of Special Nutritional Products to Reduce Micronutrient Deficiencies and Malnutrition in Refugee Populations’. It is one of the outputs of the Anaemia Control, Prevention and Reduction Project, a collaborative work between the UNHCR and ENN.

Micronutrient malnutrition and under-nutrition are now widely recognised as priority areas during emergency responses and protracted refugee operations. During 2009, UNHCR commenced implementation of a strategy that aims to achieve a reduction in anaemia and other micronutrient deficiencies/undernutrition, thereby enhancing growth, development and health in refugee populations across their global operations. The approach involves the use, amongst other interventions, of food supplementation products (FSP) including micronutrient powders (MNP) and lipid-based nutrient supplements (LNS).

Project activities were initiated in seven countries during 2009, together with the World Food Programme (WFP) and other partners, and will continue to expand to additional countries during 2011 and beyond. During the initial expansion phase of the project, UNHCR identified the urgent need to improve the assessment of micronutrient, acute, and chronic malnutrition, as well as the design of programmes for their control and reduction in both emergency and protracted situations. However, as many of the FSP products and approaches being adopted are still relatively new there was also a need for continued technical support for assessments, setting up and maintaining intervention programmes, monitoring and evaluation systems, and mainstreaming best practice.

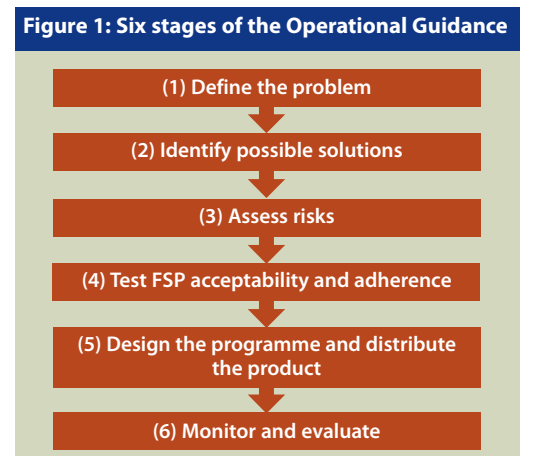
The Operational Guidance (OG) has been developed by an ENN Team in coordination with UNHCR to meet this need and to help country staff deal with the challenges involved in designing programmes using new FSPs.

Development of the Operational Guidance

The OG builds on existing frameworks (e.g. WFP/Sight and Life 10 minutes to learn about nutrition programming, 2008) as well as standard selective feeding guidelines (UNHCR/WFP Selective Feeding Guidelines, 2009). Whilst these existing frameworks and guidelines provide useful guidance that is widely applicable, the OG deals with a new set of FSPs, including MNP and LNS products that are currently being used, or considered for use in UNHCR operations.

It is aimed at UNHCR health and nutrition field staff and implementing partners and its scope extends to UNHCR operations during 2011-2013. The focus of the OG is on children aged 6-59 months but can easily be adapted to other age groups, including women and adolescent girls. The interventions it describes are not intended for use alone, but to complement additional programmes for this age group as well as the general population.

The OG contains six stages, covering the key components of planning, implementing, moni-



Peoples-uni: public health capacity building through online education

By Keir Philip and Dick Heller

The provision of emergency nutritional interventions, as with any emergency interventions, begs the question: when the humanitarian workers leave, how can sustainability be achieved? Education is at the heart of sustainable health care provision. An educated workforce is one that can provide appropriate, adaptable and up to date approaches. However, accessing such education in low and middle income countries (LMIC) can be difficult. Many barriers to access exist, for example, individuals may not be able to get to universities, pay the fees, or take time off work. The issue is how to overcome these barriers, to ensure that the staff working in LMICs, both in the long and short term, can access the education needed to do their jobs.

The development of an educational initiative built around free and open access materials has the potential to overcome many of these barriers. *The People's Open Access Educational Initiative* ('Peoples-uni') is doing just that. The concept is relatively simple – to utilise online open-access resources, combined with highly qualified volunteer staff, to provide low-cost, high quality, fully accredited Public Health Education.

The underpinning aims and objectives of the initiative are:

- Provide capacity building in Public Health for those working in low-to middle-income countries who would otherwise not be able to access such education, via internet based e-learning.
- Utilise a 'social model' of capacity building, with volunteer academic and support staff and Open Educational Resources available through the internet, using a collaborative approach and modern information and communication technology.
- Offer education at the 'train the trainers' level, equivalent to that of a Masters degree, for those with prior educational and occupational experience.
- The education will meet identified competencies, which help with the evidence based practice of Public Health. It is action oriented, to assist in tackling major health problems facing the populations in which the students work.
- Create an educational portfolio leading to a Certificate and Diploma in Public Health based on being shown to have met the competencies identified in four or eight of the course modules respectively, and an upgrade to the Masters of Public Health based on further work.

Peoples-uni is accredited by the UK Royal Society for Public Health and students now will be able to gain academic awards from Manchester Metropolitan University from their studies with Peoples-uni. By successful completion of course modules, students can gain a Certificate, Diploma, or even a Masters (MPH). The cost of the course is kept to a minimum through the use of volunteer course facilitators (though all highly qualified educationalists and Public Health Practitioners), using open-access resources and the charity status of the project. This allows the Peoples-uni to charge only £30 per module, making it possible to achieve an MPH for around £300. To further facilitate access to education, the course uses asynchronous discussions, is run online over two-week periods, and individuals are able to access course reading materials and contribute in their own time. This reduces some of the time scale barriers imposed by conventional 'face to face' education.

Examples of modules that may be relevant especially to Field Exchange readership include the Public Health Nutrition module, which has been running since 2009, and the Disaster Management and Emergency Planning module launched at the start in 2008.

Each semester the student intake has grown, with very positive feedback. The intention is to continue this growth in student intake, while refining and improving the modules. If you would like to contribute to the development or delivery of modules, please get in contact. There are many ways to get involved with the Peoples-uni, whether as a student or staff, and the team are very keen to develop partnerships with other organisations who share our aims for capacity building.

Visit www.peoples-uni.org for more details on potential opportunities, and feel free to contact Dick Heller at rfheller@peoples-uni.org or Keir Philip at kejphilip@gmail.com.



Mothers and caregivers taking part in an MNP demonstration session during acceptability tests in a refugee camp in Algeria

Stage three

The objective of stage three is to *identify any risks and precautions* that need to be considered before commencing a particular FSP intervention. These risks may include, but are not limited to: adverse effects on other programmes, excessive micronutrient consumption, adverse effects on feeding practices and health including potential for breastmilk displacement, delays in importing and obtaining permission for product use, deterioration of stock, and environmental impact. Suggested solutions are provided for dealing with each of these potential risks that the assessment may highlight.

Stage four

Stage four is designed to *test the acceptability* of the selected FSP to the potential beneficiaries, and their adherence to the recommended dosage. A standard protocol tool is provided for use. The acceptability test includes distribution of the FSP to a group of participants for a minimum of three weeks. Among others, data on local eating habits, cultural beliefs, health knowledge, and acceptability and use of the product is collected through qualitative and quantitative methods, at baseline, midline and end-line, through focus group discussions (FGDs), key informant (KI) interviews, household interviews and direct observation. Crosschecking and interpretation of data collected from these activities will help to inform the decision about whether the product is acceptable to the community and therefore whether to proceed with the selected intervention. It can also guide the design of appropriate, context specific educational campaigns, distribution mechanisms and packaging, and other important programming elements.

Stage five

Stage five is intended to deal with the key considerations for *designing and implementing an effective FSP intervention* and how this might best be done, considering the risk assessment and acceptability test results. Coordination of all actors needs to be ensured by this stage. Further considerations include: logistical components such as product order, storage and stock management, the frequency and duration of product use depending on target group needs and context, training of health workers and staff so that they are familiar with use of the FSP, design of a context specific communication and education campaign, potential distribution channels/distribution. Relevant tools are provided to aid with both standardisation of training and effective community mobilisation.

Stage six

Finally, as with any programme, strong *monitoring and evaluation* (M&E) should accompany any FSP intervention, particularly due to the new nature of the products being used, and this is documented in stage six. Minimum reporting requirements are provided which need to be adapted depending on individual programming requirements and the products used.

Next Steps

A launch workshop is being held in July 2011 in which training on the use of the OG will be provided to UNHCR and WFP health and nutrition staff, and in which current experiences of using these products and approaches will be shared. Lessons learnt from the use of this OG will be used in future revisions. Future updates to the OG will be uploaded as and when necessary to ensure the current version reflects the latest developments in product availability and use in this rapidly changing area of nutrition.

For more information, contact Caroline Wilkinson or Allison Oman, email: HQPNI@unhcr.org

Once finalised (August 2011), the Operational Guidance will be available at: <http://www.unhcr.org/pages/49c3646cec.html>

Update on Scaling up Nutrition (SUN) and the '1000 Day' movements

By Tom Arnold and David Beckmann



WFP/Shezad Norrani, Bangladesh, 2009

Tom Arnold is CEO of Concern Worldwide and David Beckmann is President of Bread for the World.

Recognised globally as non-governmental organisations (NGOs) committed to the eradication of hunger and actively engaged in the development and roll-out of the Scaling Up Nutrition (SUN) Movement, Bread for the World and Concern Worldwide participated in the September 2010 *1,000 Days: Change a Life, Change the Future Call to Action event*. This joint U.S.- Irish government initiative drew attention to the irreversible impact of maternal and child undernutrition during the critical 1,000 day window of opportunity, from pregnancy to the age of two years, and also saw the launch of the SUN Roadmap. The 1000 Days partnership marked the beginning of 1,000 days of concerted action and focus on undernutrition in the 1,000 days between September 2010 and June 2013.

As panelists at the *1,000 Days* meeting, Bread for the World and Concern Worldwide committed to hosting a follow up meeting nine months later, in June 2011, to strengthen the voice of civil society in the global effort to scale up nutrition and to sustain political commitment and energy to address maternal and child undernutrition.

What is SUN?

The 2008 food price crisis propelled food and nutrition security toward the top of the global political agenda. This year also marked the publication of an influential series on maternal and child undernutrition in the British medical journal *The Lancet*. The five-part series drew attention to the scientific evidence on how undernutrition contributes both to infant and child mortality, and to the long-term irreversible effects on the development of children. The series underscored the critical importance of nutrition from pregnancy through a child's second birthday, the so-called 'window of opportunity'. A series of high impact and cost effective interventions were identified. Consequently, governments around the world, donors, and multilateral institutions began to reassess their food and agriculture policies and programmes with priority to the most vulnerable. This renewed focus gave rise to the SUN movement.

The 1,000 Days partnership supports the SUN movement and its principles by drawing attention to and galvanizing action during the critical 1,000-day 'window of opportunity' and by helping to identify and meet measurable benchmarks in improving maternal and child nutrition.

The SUN Road Map envisages three to five years of *intensive effort for SUN*, which draws on sustained commitment of a broad range of stakeholders at local, national, regional and international levels. The SUN movement is a collective effort to support governments as they invest in policies and actions to improve maternal and child nutrition from conception until a child reaches the age of two years. SUN is not a new institution, initiative, or financial mechanism, but serves as a catalyst for joint work and to bring organisations across sectors together to support national plans to scale up nutrition interventions. The aim is to achieve this by helping ensure that financial and technical resources are accessible, coordinated, predictable, and ready to go to scale.

The SUN movement recognises that successful, sustainable efforts to improve nutrition must be anchored at the national level, with national-level actors 'owning' and leading tailored efforts to address undernutrition. The SUN movement is built on the engagement of countries affected by a high burden of undernutrition. National-level leadership coordinates both national and international efforts through coordination of national multi-stakeholder platforms, participation/input into the global SUN Transition Team and Country Partner Reference Group (please see below). The SUN movement commits to aligning financial and technical support with these country plans.

A number of developing countries have already begun to scale up actions on nutrition at the national level, and are known as 'early riser' countries. These include Bangladesh, Burkina Faso, Ethiopia, Ghana, Guatemala, Lao PDR, Malawi, Mali, Mauritania, Nepal, Niger, Peru, Senegal, Tanzania, Uganda, Zambia and Zimbabwe.

The foundation for the *SUN movement* is the *SUN Framework*¹. Finalised in April 2010, it outlines the core priorities, elements, and actions necessary to reduce malnutrition. From these, countries can build and tailor their national plans. *The SUN Roadmap*² transforms the *Framework* into action by identifying principles and strategies for increasing support to countries as they scale up nutrition efforts across a range of sectors. The *SUN Roadmap* encourages a coordinated approach among national leaders and stakeholders to harmonize actions and make the overall effort more effective.

Priority nutrition interventions

The SUN movement supports government's implementation of nutrition, in particular focusing on 13 evidence-based direct nutrition interventions, and supporting the prioritisation of nutrition and gender-sensitive approaches to policies in sectors such as agriculture, social protection, health and water and sanitation.

The 13 direct nutrition interventions fall into three general areas of investment:

- **Behaviour change interventions** that include promotion of breastfeeding, appropriate complementary feeding practices (but excluding provision of food), and good hygiene, specifically hand washing.
- **Micronutrient and de-worming interventions** that provide a range of supplements for children under the age of five years, pregnant women and the general population
- **Complementary and therapeutic feeding interventions** that consist of provision of vitamin- and mineral-fortified and/or -enhanced complementary foods for the prevention and treatment of moderate malnutrition among children 6–23 months of age.³

SUN recognises that sustainable progress in nutrition requires looking beyond 'traditional' nutrition activities. Because the effects of undernutrition reach across sectors, efforts to improve nutrition should also engage multiple sectors, for example, by:

- Bundling direct nutrition interventions with services or actions from other sectors at the time these are delivered.
- Incorporating nutrition from the beginning of a development effort by assessing potential nutrition impacts as part of the planning phase.
- Including nutrition indicators in the list of desirable outcomes of a range of projects and policies.

Some notable achievements have been made in several of the 'early riser' countries. For example, Malawi is developing and rolling-out a wide range of key SUN interventions including:

- Micro-nutrient supplementation and fortification

¹ <http://siteresources.worldbank.org/NUTRITION/Resources/281846-1131636806329/PolicyBriefNutrition.pdf>

² http://un-foodsecurity.org/sites/default/files/SUNRoadMap_English.pdf

³ Susan Horton, Meera Shaker, Christine McDonald, Ajay Mahal, Jana Brooks Krystene. *Scaling Up Nutrition: what will it cost?*, 2009

- Behaviour change interventions such as the development of infant and young child feeding counselling cards, child health days and consumer education
- Promotion of optimal pre- and post-natal nutrition
- Capacity building in nutrition and therapeutic feeding.

In addition, nutrition policy and strategy plans are to be reviewed in August 2011 and a Nutrition Act is to be finalised in 2011. Malawi is planning a national launch of the SUN movement for the end of July 2011 which will be called *1,000 Special Days*, to focus attention on stunting. The national launch will be followed by launches in all four regions and it is anticipated that the movement will have reached all households within six months. In addition to the national launch, Malawi will hold a technical workshop to share experiences with the other early riser countries.

Resources necessary to scale up nutrition

Nutrition must be prioritised and funded at the international, national, and local levels. Success of programmes will require commitment and support first and foremost by developing country governments. The cost of scaling up the 13 direct nutrition interventions outlined above is estimated to be at least U.S. \$11.8 billion annually⁴. It is estimated that households will contribute \$1.5 billion of this. SUN's recommendations may sometimes require a shift in approach and alignment of existing resources rather than new programming and funding, for example in relation to nutrition sensitive approaches to development efforts. As country plans are developed, stakeholders engaged in the SUN movement will work with country officials to determine how to best align resources and programmes behind these plans.

Who supports SUN?

SUN is an open global movement that brings together broad constituencies of all interested stakeholders in a partnership through which collective efforts are harmonized in support of country plans to improve nutritional outcomes. In country actions are being supported by a 12 member provisional SUN Transition Team chaired by the Special Representative of the UN Secretary General for Food Security and Nutrition, David Nabarro. This is composed of cross-sector, multi-partner leaders from developing and developed countries, non-governmental organizations (NGOs), the private sector, academia, and the United Nations system.

The SUN Transition Team is informed by two reference groups: an Country Partner Reference Group, with representatives from countries now working to scale up nutrition, and a U.N. Reference Group. The Transition Team provides guidance to six task forces that provide the technical expertise and tools to support efforts to scale up nutrition at the national level. These task forces include: national capacity building, advocacy and communications, civil society mobilization, donor coordination, private sector engagement, and monitoring and evaluation. Each task force focuses on specific key elements, building a foundation for SUN by mobilising the support of stakeholders, developing useful resources, and ensuring SUN sustainability in these areas. The task forces focus is on developing in-country capabilities, strengthening the engagement

of civil society, of development partners, and of the private sector, monitoring progress, and supporting effective communications and advocacy activities.

At the national level, 'early riser countries' appoint a high level Government Focal Point and establish multi-stakeholder and sectoral platforms to ensure effective and coordinated efforts. These platforms work to identify gaps and prioritize actions through regular mapping and stocktaking of on-going food and nutrition security interventions.

1,000 Days/SUN movement meeting June, 2011

A follow-up meeting of 1,000 Days/SUN stakeholders was hosted by Concern Worldwide and Bread for the World on 13th June 2011 in Washington DC⁵. Attended by more than 170 international organizations representing international NGO's, early riser civil society and government representatives, donors and academia, it aimed to build on the political momentum behind 1,000 Days. It highlighted the progress made nine months after the launch, as well as some of the challenges to scaling up efforts and implementing proposed solutions, such as mobilizing resources, building capacity, and developing champions and strong leadership on nutrition.

One of the examples of progress shared was that of Zambia. In Zambia, the National Food and Nutrition Commission (NFNC), under the authority of the Ministry of Health, has been appointed by Government as the focal point for SUN. Essential nutrition actions are being promoted such as Infant and Young Child Feeding, micronutrient control, and crop and dietary diversification. In February 2011 a high level food and nutrition forum 'Accelerating Nutrition Actions' was convened. The importance of scaling up nutrition within the window of opportunity has been incorporated into the draft National Food and Nutrition Strategic Plan 2011-2015. Efforts to establish a multi-stakeholder forum have been accelerated with meetings held between key government ministries, various committees and technical working groups are in place and a mapping exercise for SUN has been initiated. In addition, the Ministry of Agriculture and Cooperatives (MACO) are reviewing their operational guidelines to make them more nutrition sensitive.

The meeting's keynote speakers are an indication of the high level of international commitment to SUN and 1,000 Days. They included Maria Otero, U.S. Under Secretary of State for Democracy and Global Affairs; Kevin Farrell, Irish Hunger Envoy; David Nabarro, Special Representative of the U.N. Secretary-General for Food Security and Nutrition; and Robert B. Zoellick, President of the World Bank. In addition, Hillary Rodham Clinton, U.S. Secretary of State; Andrew Mitchell, U.K. Secretary of State for International Development; and Melinda French Gates, Co-Chair of the Bill & Melinda Gates Foundation, prepared video addresses to the participants.

The morning session included a moderated panel discussion featuring representatives from partner nations and civil society groups. The afternoon session consisted of four concurrent working groups which focused on advocacy and communications, capacity-building, implementation of SUN at the country level, and

linkages with other sectors, such as health, agriculture, and education. The working groups were a central and fundamental part of the meeting since they set aside time for participants to share their experiences and convey their perspectives on a variety of issues as SUN progresses. Some of the key themes that cut across the working groups included the importance of a multi-stakeholder effort at the country level, engaging civil society and the private sector, the need for training at all levels of government, especially on how to coordinate and program across sectors, strengthening local capacity and institutions, and continuing to build the evidence base for nutrition programming.

Participants discussed a proposed joint declaration urging national governments to prioritise maternal and child nutrition in their development plans and calling on both national governments and the international community to make more financial resources available for early nutrition. The declaration will also be used as an advocacy tool to raise awareness and engage other civil society partners in the SUN movement, particularly in the run-up to the September 2011 U.N. General Assembly and the 2011 G-20 summit in November.

Civil society organizations from SUNs 'early riser' countries met again on June 14th to work with SUN's task force on civil society to strategise and plan the actions needed to advance SUN at the country level. The civil society meeting challenged the group to galvanise action and hold stakeholders accountable. Stories of success, learning and challenges were shared by the 'early riser' countries with much discussion on the means to mobilise civil society around the issue of nutrition and raise awareness among the public. Each country delegation spent time identifying priority actions and needs. There was a strong sense of commitment to translate the global momentum to action at national and local levels.

Over the next few years, sustaining political commitment, building capacity and coordination will be crucial for scale up of nutrition interventions. The main investors in efforts to scale up nutrition must be the governments of the countries facing the most severe undernutrition problems. The support from other key stakeholders is crucial to their success. Though many high-level global and national champions are speaking passionately, this work still lacks adequate resources, and this must be redressed. The global community and national governments must build on existing momentum by learning from and multiplying the good initiatives that have already emerged at the country level. Documentation of best practices and their scale-up, as well as the implementation and application of these lessons learned, are critical. Those working on SUN issues must also collectively hold one another to high standards. Tackling, and ultimately eradicating undernutrition, will require all stakeholders joining together and playing their part. We know what needs to be done, and the time to act is now.

For more information, please visit:

www.thousanddays.org and
http://www.unscn.org/en/scaling_up_nutrition_sun/sun-road-map.php

⁴ Susan Horton, Meera Shaker, Christine McDonald, Ajay Mahal, Jana Brooks Krystene. Scaling Up Nutrition: what will it cost? 2009.

⁵ www.bread.org/meeting

New sachet/carton sizes for F75 and F100 therapeutic milks

Substantial changes have been made to the sachet sizes for F-75 and F-100 therapeutic milk as well as to the carton sizes.

Therapeutic milks F-75 and F-100 are used in in-patient centres for the treatment of children with severe acute malnutrition (SAM). The introduction of Ready to Use Therapeutic Food (RUTF) has allowed the majority of children to be treated at the household level. As a result, treatment with therapeutic milk is now recommended only for children with complications who need hospitalization.

F-75 and F-100 contain milk, sugar, oil, minerals and vitamins and are supplied as powders in sachets. Previously, these needed to be reconstituted before use by adding 2 litres of boiled water to the content of each sachet, producing thereafter about 2.4 litres of liquid milk. Reconstituted milk needs to be consumed immediately or used within 24 hours if stored in a refrigerator. Now that most of the children with SAM are treated in out-patient centres with RUTF, the quantity of milk reconstituted was wasted. To try to prevent wastage, suppliers added scoops to sachets to prepare smaller volumes of milk. But this created an additional risk of preparing wrongly diluted milk when an incorrect amount of water was added to scoop-measured powder.

To resolve these problems, UNICEF initiated discussion in 2010 between UNICEF Programme Division, Supply Division, Regional Offices, its implementing partners, nutritionists working in in-patient centres, and suppliers, and concluded that the sachet sizes should be reduced. It was agreed that the optimal volume of the milk should be about 500 ml. Hence it was decided to reduce the sachet sizes by 75 per cent. New sachets will be reconstituted by adding 500ml of boiled cooled water which will result in 600 ml of liquid milk. No scoop will be provided.

Carton sizes have also been adjusted to reflect the higher demand for F-75 and lower demand for F-100. The F-75 carton could previously produce 48 litres of F-75 milk; this has now been increased to 72 litres. The F-100 carton could previously produce 72 litres, but will now produce 54 litres. For details see table below.

The new milks can be ordered from suppliers directly or through UNICEF Supply Division. Product specifications are available in the UNICEF Supply catalogue accessible here: <http://www.supply.unicef.dk/catalogue/>. The products can be found in Section 03 Nutrition/Therapeutic food

The price of the F-75 and F-100 as calculated per litre has increased slightly because of the higher volume of packaging material needed for the new sachet sizes. However this will be offset by the saving on wastage of milk.

The product composition has not changed and the nutritional values calculated per 100g of product remain unchanged. The product shelf life remains 24 months.

UNICEF Supply Division has inspected the manufacturing facilities and approved the following sources of F-75 and F-100:

- Challenge Dairy Products Inc in USA
- MSI GmbH in Germany
- Nutriset SAS in France

The composition of the products from these manufactures is identical and the products are therefore interchangeable.

It is important to note that should anybody need F-75 and F-100 in old sachets producing 2.4 litres of milk these could be still ordered from Challenge Dairy Products Inc in USA.

For more information, contact: Jan Komrska, email: jkomrska@unicef.org, Nutrition Unit, UNICEF Supply Division



	F-75		F-100	
	Old	New	Old	New
Sachet size (grams)	410	102.5	456	114
Volume of water to be added (litres)	2	0.5	0.5	0.5
Volume of milk produced by 1 sachet (litres)	2.4	0.6	2.4	0.6
Number of sachet per carton	20	120	30	90
Net weight of the carton (kg)	8.2	12.3	13.7	10.3
Volume of milk produced by 1 carton (litres)	48	72	72	54

Draft Guidelines for the Marketing of Ready to Use Supplemental Foods for Children

In the absence of guidelines to govern the marketing of ready to use supplemental foods (RUSFs), members of the UNSCN NGO/CSO constituency drafted a guidance to specifically address this in 2010. The basis and content of the draft guidance were shared on en-net (www.en-net.org.uk) in April 2011 to seek further opinion and an open invitation to make substantial comment in Field Exchange was issued. Two comments were submitted to the ENN that are included here, along with a response to both from Ted Greiner on behalf of the draft guidance signatories. We appreciate that the issues raised below are the 'tip of the iceberg', and that there are many more stakeholders that will have a position. We hope, however, that the constructive exchange of opinion that is shared here will kick start a process that will result in authoritative guidance for practitioners as well as for the private sector. We welcome further contributions from our readers on this issue, both to Field Exchange and on en-net (www.en-net.org.uk) (eds)

Context and source of draft guidelines

Draft Guidelines for the Marketing of Ready to Use Supplemental Foods for Children have been developed over a period of two years by members of the United Nations System Standing Committee on Nutrition (SCN) NGO/CSO constituency with assistance from others. This process included a series of meetings held on the occasion of the 2009 International Conference on Nutrition in Bangkok

Ready to use supplemental foods (RUSFs) are receiving increasing attention by agencies working to alleviate problems of malnutrition. One reason for this is the fact that water does not need to be added to these foods, reducing their risk of contamination. However, the potential benefit may not be as great as expected. Due to their low water content and high renal solute load, RUSFs actually increase the child's need for safe water compared to diets based on foods cooked with water, where heating automatically eliminates its pathogens, at least when the food is consumed soon after cooking.

RUSFs should represent only a small proportion of any child's diet and be used for a relatively short period of time to provide some missing nutrients. Indeed, the very need for RUSFs in a given location should be seen by governments and donors as an indication that nutritious foods are likely to be out of reach of many families, and also that breastfeeding patterns are likely not to be optimal. Thus, in such situations, the provision of RUSFs should not be a stand-alone approach but combined with measures to protect and support breastfeeding, complementary feeding and household food security.

We do not believe that RUSFs for children should be marketed to the general public. Nor do we believe that either these foods or Ready to Use Therapeutic Foods (RUTFs) should be used in programs for prevention, rather than treatment, of malnutrition. However, commercial marketing of these foods is already being studied and discussed by manufacturers and other interested parties. It is therefore necessary to take steps to prevent the kind of unethical marketing that has been widespread for breast milk substitutes. While RUSF may not be intended by manufacturers to replace breastmilk, we know that there are risks of them being marketed and widely used in ways that do displace breast milk.

We propose that UN agencies with mandates to generate international normative guidelines to achieve good nutrition and health for infants and children, in particular Codex Alimentarius, continue the process of refining and obtaining widespread agreement on food marketing guidelines.

The following members of the drafting group have consented to the use of their names as supporters of these guidelines: Hanifa Bachou, Geoffrey Cannon, Wenche Barth Eide, Alke Friedrichs, Catherine Geissler, Ted Greiner, Irmgard Jordan, Silvia Kaufmann, George Kent, Peggy Koniz-Booher, Harriet Kuhnlein, Michael Krawinkel, Michael Latham, Irene Lausberg, Pamela Morrison, Chris Mulford, Veronika Scherbaum, Claudio Schuftan, and Carol Williams.

Ted Greiner, Chair
Non-governmental Organisation/Civil Society Organisation Constituency
United Nations System Standing Committee on Nutrition
October 27, 2010

DRAFT Guidelines for the Marketing of Ready-to-Use Supplemental Foods for Children

October 27, 2010

Article 1. Aim of the Guidelines

The aim of these Guidelines is to contribute to the optimal nutrition for infants and young children, in part by the protection and support of breastfeeding, and safe, timely and nutritionally adequate complementary feeding and by ensuring the proper use of Ready to Use Supplemental Foods (RUSFs), when these are necessary, and by eliminating inappropriate marketing and distribution methods. These Guidelines are written as an adjunct to the existing International Code of Marketing of Breast-milk Substitutes and relevant WHA resolutions^a, and also the Global Strategy for Infant and Young Child Feeding^b.

Article 2. Scope of the Guidelines

These Guidelines apply to the provision, use, marketing, and practices related thereto, of RUSFs. They also apply to Ready-to-Use Therapeutic Foods (RUTFs) whenever they are used for any purpose other than the treatment of severe acute malnutrition (SAM) under competent, independent medical supervision. They also apply to RUSF's quality and availability, and to information concerning their use. These guidelines may be seen as an adjunct to any developed within the Codex Alimentarius system to standardise the ingredients, labelling, and processing methods used in the manufacture of these products.

These guidelines do not cover non-food-based micro- or multi-nutrient powders used as home fortificants. They also do not cover complementary foods as defined below.

Article 3. Definitions

Ready to Use Supplemental Foods (RUSFs) are foods that are fortified with micronutrients as a remedy for malnutrition and can be consumed without cooking or the addition of water. They include:

- Ready-to-use products such as pastes, compressed bars, and biscuits
- Food-based home fortificants such as lipid-based nutrient supplements typically containing milk powder, high-quality vegetable oil, peanut-paste, sugar, and added nutrients.

They possess qualities that allow their distribution and use in low-income settings at ambient temperatures even in hot climates without undue loss of nutrients. They are fortified such that a substantial proportion of the child's requirements of a wide range of nutrients are provided from eating a relatively small quantity. Unlike RUTFs, RUSFs are not specifically designed for use in treatment of severe acute malnutrition (SAM).

Complementary foods, whether based on customary family foods or commercially manufactured complementary foods tend to be bulkier than RUSFs. Although they may

sometimes be fortified, they usually supply a smaller amount of fewer nutrients in a single meal. Many complementary foods need to be cooked.

Unlike complementary foods, RUSFs are not a necessary part of the diet of older infants and young children. Where perceived or used as a breast-milk substitute, they should be covered under the existing International Code of Marketing for Breast-Milk Substitutes and subsequent relevant WHA Resolutions.

Other definitions applicable to these Guidelines are identical with those in the International Code of Marketing of Breast-milk Substitutes.

Article 4. Information and education

4.1 Governments have the responsibility to ensure that objective and consistent information on infant and young child feeding, particularly breastfeeding, is provided to families and those involved in the field of infant and young child nutrition. This responsibility should cover the planning, provision, design and dissemination of information, or its control.

4.2 Informational and educational materials, whether written, audio, or visual, dealing with the feeding of infants and intended to reach pregnant women and mothers of infants and young children, should include clear information on all the following points: (a) the importance of early initiation and exclusive breastfeeding for the first six months of life and the importance of maintaining breastfeeding, usually up to and beyond 24 months; (b) the importance of providing adequate complementary foods to children beginning at 6 months of age; and (c) where needed, the proper use of Ready to Use Foods. When such materials contain information about the use of RUSFs, they should include the financial implications of its use and the fact that the nutrients contained in RUSFs can be obtained from natural foods. Such materials should not use any pictures or text which may idealize the use of RUSFs. RUSFs should not be promoted based on their eliminating the need for clean water for older infants and young children. To the contrary, the specific requirement for additional safe water (boiled or treated) should be noted in all instructions.

4.3 Any RUSFs needed for the small number of infants and young children likely to require them in health care facilities should be made available through the normal procurement channels and not through free or subsidised supplies from manufacturers or their agents.

4.4 All actors dealing with RUSFs should avoid implying that their use should be the norm or should in any way replace recommended patterns of breastfeeding and complementary feeding.

Article 5. The general public and mothers

5.1 There should be no advertising or other form of promotion to the general public of RUSFs.

5.2 Manufacturers and distributors should not provide samples of RUSFs, directly or indirectly, to pregnant women, mothers or members of their families.

5.3 In conformity with paragraphs 1 and 2 of this Article, there should be no point-of-sale advertising, giving of samples, or any other promotion device to induce sales directly to the consumer at the retail level, such as special displays, discount coupons, premiums, special sales, loss-leaders and tie-in sales, for RUSFs. This provision should not restrict the establishment of pricing policies and practices intended to provide products at lower prices on a long-term basis.

5.4 Manufacturers and distributors should not distribute to pregnant women or mothers of infants and young children or their families, any gifts of articles or utensils which may promote the use of RUSFs.

5.5 Marketing personnel, in their business capacity, should not seek direct or indirect contact of any kind with pregnant women or with mothers, parents and caregivers of infants and young children.

Article 6. Health care systems

6.1 Health authorities should take appropriate measures to support and protect breastfeeding and promote these Guidelines, and should give appropriate information and advice to health workers in regard to their responsibilities, including the information specified in Article 4.2.

6.2 No facility of a health care system should be used for the purpose of promoting RUSFs. These Guidelines do not, however, preclude the dissemination of information to health professionals as provided in Article 7.2.

6.3 Facilities of health care systems should not be used for the display of RUSFs, for placards or posters concerning such products, or for the distribution of material provided by a manufacturer or distributor.

6.4 The use by the health care system of 'professional service representatives', 'mothercraft nurses' or similar personnel, provided or paid for by manufacturers or distributors, should not be permitted.

6.5 Feeding with RUSFs should be demonstrated only by independent health workers, or other community workers if necessary and not by commercial representatives or others working directly or indirectly for companies producing a

^a http://www.who.int/nutrition/publications/code_english.pdf

^b <http://www.who.int/nutrition/publications/infantfeeding/9241562218/en/index.html>

RUSF. The demonstration should only be to the mothers or family members of children who these health workers deem need to use these foods.

6.6 Donations or temporary low-price sales to health care institutions of supplies or samples of RUSFs, may not be made by manufacturers or their agents.

6.7 Health authorities are advised to exert utmost care in allowing any funding for any purposes from commercial enterprises, including ensuring that conflicts of interest and unintentional 'endorsement by association' are avoided. Financial support for health professionals working for infant health should not create a conflict of interest.

6.8 There should be no infant or young child food industry involvement in infant nutrition programme implementation or policy formulation.

Article 7. Health workers

7.1 Health workers should be fully trained to support and protect early, exclusive and sustained breastfeeding and adequate complementary feeding; and those who are concerned in particular with maternal and infant nutrition should make themselves familiar with their responsibilities under these Guidelines, including the information specified in Article 4.2.

7.2 Information provided by manufacturers and distributors to health professionals regarding RUSFs should be restricted to scientific and factual matters and such information should not imply or create a belief that RUSF or any other food is equivalent or superior to breastfeeding. It should also include the information specified in Article 4.2.

7.3. No financial or material inducements to promote RUSFs should be offered by manufacturers or distributors to health workers or members of their families, nor should these be accepted by health workers or members of their families.

7.4 Samples of RUSF, or of equipment or utensils for their preparation or use, should not be provided by manufacturers or their agents to health workers except when necessary for the purpose of professional evaluation or research at the institutional level. RUSF should be used in a well thought out program designed to meet specific needs only for as long as those needs exist and thus health workers should not give samples of RUSF to pregnant women, mothers of infants and young children, or members of their families.

7.5 Manufacturers and distributors of RUSF should disclose to the institution to which a recipient health worker is affiliated any contribution made to him or on his behalf for fellowships, study tours, research grants, attendance at professional conferences, or the like. Similar disclosures should be made by the recipient.

Article 8. Manufacturers and Distributors and persons they employ

8.1 In systems of sales incentives for

marketing personnel, the volume of sales of RUSFs should not be included in the calculation of bonuses, nor should quotas be set specifically for sales of these products. This should not be understood to prevent the payment of bonuses based on the overall sales by a company of other products marketed by it.

8.2 Personnel employed in marketing of RUSF should not, as part of their job responsibilities, perform educational functions in relation to pregnant women or mothers of infants and young children.

Article 9. Labelling

9.1 Labels should be designed to provide the necessary information about the appropriate use of the product, and so as not to discourage breastfeeding or the use of traditional complementary foods.

9.2 Manufacturers and distributors of RUSFs should ensure that all packaging has a clear, conspicuous, and easily readable and understandable message printed on it, or on a label which cannot readily become separated from it, in an appropriate local language, which includes all the following points: (a) the words "Important Notice" or their equivalent; (b) a statement of the importance of breastfeeding exclusively up to six months and then continuing breastfeeding with appropriate complementary foods up to and beyond two years; (c) a statement that the product should be used only on the advice of a health worker as to the need for its use and the proper method of use. Where packages are too small, the information can be printed on a separate page attached to the package.

Neither the container nor the label should have pictures of infants, nor should they have other pictures, text or claims which may idealize the use of RUSFs or encourage use too early or inappropriate use. They may, however, have graphics for easy identification of the product as a Ready to Use Food and for illustrating methods of use. Inserts giving additional information about the product and its proper use, subject to the above conditions, may be included in the package or retail unit. Additional labelling requirements may be made in accordance with the legislation of the country in which the product is distributed.

The labelling of all RUSF products shall meet the applicable standards of the Codex Alimentarius Commission.

9.3 RUSFs which do not fully meet all the nutritional requirements of an older infant or young child should carry on the label a warning that the unmodified product should not be their sole source of nourishment.

9.4 The label of RUSFs should also state all the following points: (a) the ingredients used; (b) the composition/analysis of the product; (c) the storage conditions required; and (d) the batch number and the date before which the product is to be

consumed, taking into account the climatic and storage conditions of the country concerned.

9.5 RUSF products should not make idealized claims or nutrition and health claims as stated in WHA Resolution 63:1:4 except where specifically provided for, in relevant Codex Alimentarius standards or national legislation.

Article 10. Quality

10.1 The quality of products is an essential element for the protection of the health of infants and therefore should be of a high recognized standard.

10.2 RUSFs should, when sold or otherwise distributed, meet applicable standards recommended by the Alimentarius Commission and also the Guidelines of Hygienic Practice for Foods for Infants and Children.

Article 11. Implementation and monitoring

11.1 Governments should take action to give effect to the provisions of these Guidelines, as appropriate to their social and legislative framework, including the adoption of national legislation, regulations or other suitable measures. National policies and measures, including laws and regulations, which are adopted accordingly, should be publicly stated, and should apply on the same basis to all those involved in the manufacture and distribution of RUSFs.

11.2 Responsibility for monitoring the application of these Guidelines lies with governments acting individually and collectively. The manufacturers and distributors of RUSFs, and appropriate nongovernmental organizations, professional groups, and consumer organizations should collaborate with governments to this end.

11.3 Independently of any other measures taken for implementation of these Guidelines, manufacturers and all distributors of RUSFs should regard themselves as responsible for monitoring their marketing practices according to the principles, aims and provisions of these Guidelines and the International Code and subsequent relevant WHA resolutions, and for taking steps to ensure that their conduct at every level conforms to them.

11.4 Nongovernmental organisations, professional groups, institutions and individuals concerned should have the responsibility of drawing the attention of manufacturers or distributors to activities which are incompatible with the principles, aims, and provisions of these Guidelines, so that appropriate action can be taken. The appropriate governmental authority should also be informed.

11.5 Manufacturers and primary distributors of RUSFs should apprise each member of their marketing personnel of the Guidelines and of their responsibilities under it.

Comment from Arimond et al

The Draft Guidelines for the Marketing of Ready-to-Use Supplemental Foods for Children aim to contribute to optimal nutrition for infants and young children. We share that aim, but do not agree with some of the implications of the Draft Guidelines.

We agree that public health practitioners and others need guidance to avoid confusion about appropriate uses for a number of newer products.

We believe that ideally, such guidance should be developed by international health authorities, using a transparent, inclusive, and evidence-based process.

We also strongly agree that support, protection and promotion of optimal breastfeeding are urgent and continuing public health priorities in both emergency and non-emergency contexts. Further, we support policies and programmatic efforts that aim to diversify diets using locally available nutrient-dense foods.

We diverge from the authors of the Draft Guidelines on several issues around the role and potential benefits of low-dose lipid-based nutrient supplements (LNS) used for home fortification of infant diets.

'Low-dose LNS' provide a relatively low dose of energy (calories) but a full range of vitamins, minerals, and essential fatty acids, many of which are often deficient in infant diets. The Draft Guidelines state that the nutrients in LNS "can be obtained from natural foods", but even with diverse diets including animal-source foods it is difficult to meet some micronutrient needs, particularly for infants 6-11 months of age.¹ For this reason, fortified products have been developed for this age group. Such products are commonly given in many developed countries, where they have contributed to reductions in the prevalence of iron deficiency during infancy.

We note that the Draft Guidelines do not suggest regulation of marketing for cereal-based complementary foods, whether fortified or not. They also do not suggest regulation of marketing of many snacks commonly purchased for infants, even by poor families. In effect, and without offering evidence, the Draft

Guidelines single out LNS as uniquely dangerous to infant diets.

To date there is no evidence that low-dose LNS are harmful to breastfeeding compared to cereal-based fortified complementary foods; there is evidence for no impact on breastfeeding.^{2,3,4,5} There is no basis for regulating LNS differently from cereal-based complementary foods or, indeed, the many snack foods and other foods marketed for children. Regulation of health and nutrition claims for all foods and home fortificants can and should be addressed. The other key issue not covered by the Draft Guidelines is the potential benefit of consumption of LNS. Several studies have suggested benefits related to linear growth and infant development.^{6,7,8,9}

However, unlike the situation with RUTF used in treatment of acute malnutrition, the evidence base for the benefits of LNS is thin and evolving. We and others are currently working to answer a number of questions about LNS, including:

- What is the impact on infant growth and development? Can early, promising studies be replicated?
- What is the lowest calorie dose that can deliver benefits for growth and development?
- Are the impacts sustained? What is the cost of delivering LNS via different channels?
- Are LNS more beneficial than micronutrient powders?
- Which method of home fortification is most acceptable to mothers and their children?
- In what contexts do the benefits of LNS outweigh costs?

Until these questions are resolved, use of LNS in programmes should be governed by considerations such as cost, accessibility, and acceptability. Programmes that deliver LNS can and should be designed to include strong promotion, support and protection of breastfeeding, and context-specific activities to support dietary diversification.¹⁰

As for marketing outside of programmatic channels, singling out LNS for regulation as

indicated in the Draft Guidelines would be likely to stifle private sector investment, which in turn would have implications for supplies not only to retail markets, but also to programmes. This would reduce opportunities for low-income households to find affordable means to enrich the diets of infants currently consuming unfortified, nutrient-poor porridges and snacks.

While we have focused on our differences here, we would like to affirm that they are greatly outnumbered by our areas of agreement and common ground. We look forward to continued dialogue.

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André Briend, Department of International Health, University of Tampere, Finland

¹ WHO/PAHO. Guiding principles for complementary feeding of the breastfed child. Washington, DC, Pan American Health Organization, 2003.

² Galpin L, et al. Breast milk intake is not reduced more by the introduction of energy dense complementary food than by typical infant porridge. *J Nutr.* 2007 Jul;137(7):1828-33.

³ Flax VL, et al. Feeding patterns of underweight children in rural Malawi given supplementary fortified spread at home. *Matern Child Nutr.* 2008 Jan;4(1):65-73.

⁴ Flax VL, et al. Feeding patterns and behaviors during home supplementation of underweight Malawian children with lipid-based nutrient supplements or corn-soy blend. *Appetite.* 2010 Jun;54(3):504-11. Epub 2010 Feb 11.

⁵ Owino VO, et al. Breast-milk intake of 9-10-month-old rural infants given a ready-to-use complementary food in South Kivu, Democratic Republic of Congo. *Am J Clin Nutr.* 2011 Mar 30. [Epub ahead of print]

⁶ Adu-Afarwuah S, et al. Randomized comparison of 3 types of micronutrient supplements for home fortification of complementary foods in Ghana: effects on growth and motor development. *Am J Clin Nutr.* 2007;86:412-20.

⁷ Adu-Afarwuah S, et al. Home fortification of complementary foods with micronutrient supplements is well accepted and has positive effects on infant iron status in Ghana. *Am J Clin Nutr.* 2008 Apr;87(4):929-38.

⁸ Phuka JC, et al. Complementary feeding with fortified spread and incidence of severe stunting in 6- to 18-month-old rural Malawians. *Arch Pediatr Adolesc Med.* 2008 Jul;162(7):619-26.

⁹ Phuka JC, et al. Postintervention growth of Malawian children who received 12-month dietary complementation with a lipid-based nutrient supplement or maize-soy flour. *Am J Clin Nutr.* 2009 Jan;89(1):382-90. Epub 2008 Dec 3.

¹⁰ Paul KH et al. Complementary feeding messages that target cultural barriers enhance both the use of lipid-based nutrient supplements and underlying feeding practices to improve infant diets in rural Zimbabwe. *Matern Child Nutr.* Article first published online: 4 Aug 2010.

Comment from IBFAN

IBFAN (International Baby Food Action Network) contributed to the development of the Draft Guidelines for the Marketing of Ready-to-Use Supplemental Foods for Children and supports the safeguards contained. However, because they are limited in scope, IBFAN was not a signatory. We feel strongly that the scope should be wider to include all fortified complementary food products for older infants and young children. This is in conformity with World Health Assembly Resolution 63.23 (2010) which calls for an end to the inappropriate promotion of foods for infants and young children. The narrow scope introduces the risk of industry disregarding its responsibility for full compliance with WHA Resolution 63.23.

Breastfeeding support together with nutrition education and counselling on the best way to prepare family foods as complementary foods, free from commercial influence, can both prevent malnutrition and promote optimal

growth and development. A central value of human relationships and cultures is a family's skill to feed itself and include its younger members in food sharing¹. Thus while IBFAN accepts that the fortification of foods in certain situations may be useful, inappropriate marketing of fortified complementary foods may undermine 6 months of exclusive breastfeeding and sustained breastfeeding for 2 years or beyond, recommended by WHO. It may also have a detrimental impact on the availability and use of culturally suitable and sustainable family foods. The current practice of promoting such foods to 'prevent malnutrition', dressed up as an act of Corporate Social Responsibility, is particularly questionable.

We advocate that governments regulate the marketing of fortified foods and that all promotional health and nutrition claims on all foods for infants and young children be forbidden. Promotional claims, even if accompanied by messages promoting breastfeeding, can distort

parents' perceptions of the nutritional value of products. Labels should always carry full and frank information about ingredients. IBFAN is working to this end at the Codex Alimentarius and other international fora.

We take this opportunity to express our concern about the Guidelines prepared by GAIN entitled 'Using the Code of Marketing of Breastmilk Substitutes to Guide the Marketing of Complementary Foods to Protect Optimal Infant Feeding Practices'², shared during the en-net discussion around the draft guidance³. These were prepared in March 2010, before the May 2010 WHA Resolution (63.23). The GAIN guidelines do not adequately address inappropriate marketing such as promotional claims

¹ :What is complementary feeding? A philosophical reflection to help a policy process. Discussion paper developed for the International Baby Food Action Network, by Gabrielle Palmer, September 2009. http://www.ibfan.org/Gay_Palmer.html

² Available at <http://www.enonline.net/resources/769>

³ View at <http://www.en-net.org.uk/question/409.aspx>

and baby pictures. In fact, the examples given in the GAIN guidelines (on pages 28 and 29) are typical promotional claims: “Yummy cereal aids in your baby’s healthy growth and development” and “Super supplement.”

Finally, IBFAN is working on guidelines for the marketing of fortified complementary foods. These aim to protect optimal and sustainable infant and young child nutrition and we plan to make them available on the IBFAN website in late 2011.

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Rebecca Norton,
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Maryse Arendt,
Initiatio Liewesenfank

Response

We are pleased to receive comments from Arimond et al who have done such important research related to infant health, including on LNS, and from IBFAN with their longstanding experience in Code implementation. Arimond et al state that health and nutrition claims for all foods and home fortificants should be regulated - a much broader issue than the one our guidelines dealt with, but something we very much agree with. Indeed, without free reign to make health and nutritional claims about their products, we suspect that promotional expenses for RUSFs would hardly pay off. We also agree that “ideally, such guidance should be developed by international health authorities, using a transparent, inclusive, and evidence-based process.” Indeed, it is our hope that the publications of these draft guidelines by Field Exchange will encourage WHO, which has already expressed interest in the guidelines, to itself take up work on this. Below are some specific responses to their commentary:

1. IBFAN believes that the scope of the guidelines should be expanded to include fortified complementary foods and Arimond et al further assume that the authors of the RUSF Guidelines (which they rightly assume would include LNS) are singling out RUSFs as “uniquely dangerous” because the marketing of snacks and complementary foods are not included in the scope of these guidelines. That is not the case.

To the contrary, we would support any efforts to regulate inappropriate marketing of those products as food for infants. However, those foods have been in existence for a long time - there has been plenty of time to achieve this. Snacks would be exceedingly difficult to define in such guidelines. The most effective approach would thus probably be, as India and some other countries have done, simply banning all advertising and other marketing approaches of any foods for children under two years of age, for example. Then, of course, RUSFs would be included and no separate guidelines would be needed.

Complementary foods are by definition aimed at infants and young children. They have been inappropriately marketed for well over a century. WHO noted already over a decade ago that “when perceived or used as breast-milk substitutes” (as they often are, particularly in countries where they are commonly over-diluted and fed by bottle), a national government could include them by brand name in local laws governing the marketing of breast milk substitutes. In addition, guidelines for the marketing of complementary foods have in fact already been developed for GAIN¹. Adding them to the RUSF guidelines would have thus been somewhat duplicative, as well

as greatly increasing the complexity of obtaining widespread agreement on them. We are pleased to note that IBFAN will be issuing guidelines for fortified complementary foods in the near future.

We have been particularly motivated by the fact that RUSFs are new products and not yet marketed commercially in most countries. For once, would it not be wise to regulate the marketing of products aimed at infants BEFORE abuses are documented, the mass media sensationalises it, and local jobs and vested interests are created based on perhaps inappropriate marketing and use of these products?

2. The guidelines are hardly the place to review the literature on the benefits of LNS, something we do not dispute. Infant formula is also beneficial in its place. The very idea of regulating the marketing of infant formula was controversial originally but the need for it is almost universally agreed on nowadays. In stating their support for the protection of breastfeeding, we would assume that this includes Arimond et al?

3. When efforts to regulate the marketing of infant formula began, that industry made dire predictions about the impact of said regulation on a wide range of business and economic factors, none of which came to pass. Indeed, the infant formula market continues growing rapidly, especially in emerging markets². Its growth in the poorest markets probably has been delayed, as more ethical marketing strategies avoided damaging the breastfeeding culture in these countries. But all these marketing regulations have done, and all the regulation of marketing of RUSFs would aim to do, is to level the playing field at a higher level of ethics. Otherwise, the companies with the dirtiest marketing strategies are likely to be the ones that make the most money. Larger companies like Nestle have often said that by adopting more ethical marketing approaches they have lost market share in many countries but nowadays they say they welcome regulation that levels the playing field.

We would like to point out that, in reviewing experience implementing the International Code in 1991, WHO found that those countries which did not outlaw advertising, but rather attempted to restrict it to some kind of “acceptable” wording, regretted doing so. It simply proved to be too difficult, contentious, time-consuming and expensive to engage the private sector in endless discussions and negotiations about exactly what wording was acceptable and what wording was not.

4. It is indeed likely, as Arimond et al imply, that in the short run, widespread commercial sales

of RUSFs would generate economies of scale that would in turn make programmatic use of the products lower in cost. But without marketing guidelines in place, is it not likely that much of these sales would be harmful? For example excessive hyping of these products would likely encourage consumers who cannot afford them to buy quantities too small to be beneficial for health, yet large enough to reduce how much money they have available to spend on their normal diets? We have often seen this kind of harm being done for example when nutritionists too strongly promote the use of expensive animal foods in low-income settings. Would it really be so risky to slow down the commercial growth of these products by restricting them to ethical marketing approaches?

It is just such a narrowness of focus (in this case, accepting potentially harmful private sector approaches to benefit public sector use of the product), the well-known “magic bullet” approach, that those working more broadly with public health object to, as they so often see the harmful side effects.

5. I agree with Arimond et al that we share much common ground, and look forward to their continued engagement with us. They do not discuss details of the wording of the guidelines, which is intentionally quite strong. But we hope that they will do so, and that reasonable compromises can be reached which nevertheless achieve the objectives of banning unethical marketing practices. Those who know the history of the Code of Marketing of Breast-milk Substitutes will recall that strong pressure from Ted Kennedy was required to get WHO to work on that Code. We hope we can arrive at an agreed position that will allow Arimond et al to join us in encouraging WHO to shoulder its responsibility in developing and promoting the use of such guidelines. If this can include fortified complementary foods, so much the better. In the meantime, we hope that this attention to the existing draft guidelines from ENN and Field Exchange will assist in spreading awareness of the need to avoid marketing of RUSFs to the general public.

Ted Greiner, Professor,
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On behalf of the signatories of the draft Guidelines

Detailed comments on the draft guidance are welcome and can be sent directly to Ted Greiner at tedgreiner@yahoo.com

¹ Available at <http://www.enonline.net/resources/769>

² <http://www.ubicconsulting.com/template/fs/documents/Nutraceuticals/Ingredients-in-the-world-infant-formula-market.pdf>

A village shop

Cash supported income generation activities in Southern Sudan

By Emily Sloane and Silke Pietzsch



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Field Article

Many ACF Food Security and Livelihood team members have contributed to the overall success of the IGA project and its implementation. ACF USA would like to extend its sincere thanks to Mulugeta Handino (former ACF Food Security and Livelihoods Programme Manager and later Food Security and Livelihoods (FSL) Coordinator in Southern Sudan) for his creative thinking and approach to design and implement the programme. Additionally, Charles Lagu and John Bosco Wale, both ACF FSL Programme Officers, ensured the implementation of the day to day activities of the programme.

Southern Sudan has been greatly affected by decades of civil war and rebel movements. Even though the situation has improved since the signing of the Comprehensive Peace Agreement in 2005, parts of the country continue to experience episodes of mainly localised insecurity. This has led to marked population displacement and a disruption of livelihoods and markets. In addition, recurrent natural disasters, like floods and dry spells, continue to contribute to the fragility of people's water, nutrition, food and livelihood security. Although overall conditions seem to be improving, high prevalence rates of severe and global acute malnutrition remain a major cause for concern (see Table 1).

Action Contre la Faim (ACF) has been working in Southern Sudan since 1985, and since 2002 in Warrap, initially responding to

emergency and immediate needs of the population during the war. From 2005, ACF USA began also to focus on the recovery process and recurring seasonal emergency needs of the local population. ACF USA implements an integrated and multi-sectoral approach that links nutrition, food security and livelihoods, and water and sanitation activities to support the complex needs and underlying causes of malnutrition. Seasonal variations in malnutrition rates are significant, suggesting that food insecurity may be a contributing and underlying factor. Minimum levels of malnutrition all year around are high and are mainly influenced by water and sanitation problems and inappropriate child care practices.

Given that household food security in Southern Sudan is jeopardised by recurring difficulties in access to and availability of food, ACF USA implemented a project in 2008 to promote income generating activities (IGA) and small scale businesses in Twic and

Gogrial West Counties of Warrap State. The project was funded by ECHO (European Community Humanitarian Aid Office). The main objectives of the project were to contribute to the reduction and prevention of acute malnutrition (see Table 1 for acute malnutrition prevalence rates 2003 – 2010 for both counties). The IGAs and small businesses promoted in this project, and the associated transfer of business and management skills, were intended to help households create sustainable income that would support access to food and stabilise livelihoods in the long term.

Project description

During the lead time to securing ECHO funding, the ACF USA Food Security and Livelihoods (FSL) team initiated the market feasibility study, to identify feasible activities, services and market gaps, and to support the selection and identification of the IGAs. The survey and data collation took 6-8 weeks.

	2003	2004	2005	2006	2007	2008	2009	2010
Twic								
GAM %	33.1	21.3	30.7	28.7	25.4	22.6	22.8	24.1
SAM %	5.2	3.6	4.9	3.1	1.9	1.6	2.8	4.3
Gogrial West								
GAM %	23	25.2	-	23.9	19	14.5	20.1	20
SAM %	3.6	3.8	-	4.2	0.9	1.7	2.4	2.7

Source: These figures are from a mixture of Goal, ACF and MICS surveys

Families of children at risk of malnutrition were targeted as potential beneficiaries for the project.

The preparation work began in March 2008, with the signed ECHO funded project effective in May/June. The programme was presented and introduced to the local authorities, community leaders and the SSRRC¹ who were requested to provide a list of 600 potential beneficiaries, according to the targeting criteria. Criteria included households with children involved in ACF USA's Outpatient Therapeutic Feeding Programmes (OTPs), vulnerable households made up of internally displaced people (IDPs) or returnees, and vulnerable host population households. A two day general informational training for these households was held in both Gogrial West and Twic Counties. The training covered the ACF food security and global malnutrition strategy, along with the rationale behind and purpose of IGAs and their correlation with food security and reduction of malnutrition. In addition, the basics of how to run a small business and the basic principles of IGAs were discussed. Interested persons were invited to form groups and develop simple business plans, from which 77 groups were selected (see Table 2 for suggested businesses). These represented 301 households in Twic and Gogrial West Counties, in Warrap State. Of the final beneficiaries, 63% were women and 38.5% were OTP beneficiary families.

ACF USA chose to use cash to support the IGA groups and households. During the market survey, it was assessed whether all materials needed to carry out proposed businesses were available locally. Additionally, given the diversity of the planned business activities and of the necessary equipment, the total transfer was not expected to have an inflationary impact on the market.² Potential programme participants were consulted on the security situation and confirmed that they were not afraid that distribution of cash would lead to insecurity. Hence, cash grants totalling 300 Sudanese pounds (SDG) (106 Euros)³ per group member were dispersed in two instalments. Due to the absence of a banking system, the cash was distributed in envelopes by ACFUSA. Between instalments, a first round of post distribution

monitoring was implemented, to follow up on groups' expenditure, and ensure it complied with the business plan and was socially acceptable. A small number of especially promising and well performing groups received a third round of grants of an additional 150 SDG (53 Euros) per group member, after additional follow up.

Regular monitoring activities throughout the implementation period ensured that the money was being used appropriately. This allowed ACF USA staff to provide ongoing technical support to households and groups as they developed their businesses. At the end of the ECHO funded programme (March 2009), the businesses were still under development and an evaluation would have been premature. Progress was therefore reviewed in October 2009 and again in August-September 2010⁴.

Evaluation of the project

The results of the baseline survey in March 2009, ongoing programme monitoring activities and the final evaluation process completed in September 2010, have contributed to the overall evaluation of the IGA project. There have been two main components of the evaluation: the final follow up survey, which focused largely on quantitative data, and focus group discussions and interviews, which focused more on qualitative information from the beneficiaries and involved groups and stakeholders. Baseline and follow-up surveys provided insight into trends in income, expenditures, mid upper arm circumference (MUAC) measures, coping strategies and food security status of project participants. No control group was included in the monitoring activities but the project was evaluated according to OECD⁵ Development Assistance Committee (DAC) evaluation criteria.^{6,7}

The project activities and measurable indicators were based on two hypotheses:

Hypothesis 1: Promotion of income generation can actively contribute to an improved nutritional status measured through the proxy indicators of household dietary diversity, food consumption and expenditure on food.

Hypothesis 2: Promotion of IGAs through cash grants ensures that appropriate equipment is acquired and improves ownership through active decision making.

Key findings of the evaluation and lessons learnt

Since January 2009, average household income among project beneficiaries increased by 32% in Warrap State. Average earnings from participants' small businesses also grew by 25-30% throughout the state (see Figure 1). It appears that gains in revenue from agriculture and livestock, rather than business, were mostly responsible for the higher incomes. However, IGA earnings most likely facilitated investment in agriculture and livestock, and hence had an indirect but important role in the improved livelihoods of beneficiary households.

Household Expenditure

Patterns of household expenditure did not change dramatically between 2009 and 2010 (see Figure 2). Beneficiaries in 2010 were paying a slightly larger percentage of their income on medicine, school and food. As incomes were higher on average by 2010, many were able to spend substantially more on these necessities than in early 2009.

Household Dietary Diversity Score

The Household Dietary Diversity Score (HDDS) attempts to capture the quality of diet by counting the number of different food groups which have been consumed in the household in the past day. The data for 2009 and 2010 shows there were fewer instances of 'poor' and 'fair' diets throughout Warrap State in 2010. However, there was a significant reduction in 'good' diets with the greatest diversity in Twic County. This may have been seasonally influenced, given the timing of the final survey. Nonetheless, the vast majority of respondents had 'medium' or 'good' HDDS scores, which is a positive finding, especially in the context of Southern Sudan.

MUAC

Overall, 94% of beneficiaries reported that their household food security has improved since early 2009. This claim is supported by MUAC⁸ data, which indicated a marked improvement in the nutritional status of beneficiaries' children. Over half (54%) of children in Warrap State had MUAC measurements of 135 mm or above in Sept 2010, indicating that they were well nourished (as compared to 24% at the time of the baseline). Meanwhile, just 3% of children in Twic had a MUAC of 110 mm or less in 2010, indicating severe malnutrition (no baseline available). Given the seasonality and the fact that the final follow up survey took place at the height of the hungry season, when a decline in nutritional status is usual, these results are especially interesting and heartening.

All OTP mothers who were targeted as beneficiaries of the IGAs confirmed in discussion groups that their children had not been readmitted to the OTPs since they started their respective businesses. This might reflect seasonal impacts (food security and disease patterns), but may also reflect the observed impact of greater income allowing improved access to nutritious foods.

Coping Strategy Index

The Coping Strategy Index (CSI) is a standard tool for assessing the relative food security of a given household. Since the CSI was not included in the baseline, a modified version was used in the follow-up. This included questions about the period prior to the IGA project, in addition to current behaviour patterns. The potential scores within this adapted CSI⁹ ranged from 35 (most food insecure) to 0 (least food insecure). The data

Table 2: Businesses in Gogrial West and Twic Counties suggested during Business Plan Development

Product-related business	Service-related business
General store	Restaurant
Food stuff/petty trade	*Bar
Clothing	Tea shop
Household supplies	*Lodge
Tools (agricultural & household)	Repairs
*Brewery/local alcohol	Transport
Bakery	Tailoring
Butchery	Beauty salon
Fish market	Livestock auction
*Tobacco	Communications
*Firewood selling	Photocopy shop
Grass selling	
Flour mill	

* Services that were not accepted by ACF USA as feasible or acceptable businesses for this programme.

¹ SSRRC: Southern Sudan Relief and Rehabilitation Commission, is a body established by OCHA, IOM and the Government of South Sudan (GoSS), responsible for establishing linkages and coordination of humanitarian action at a local level.

² Standard market monitoring during the project implementation did not show any inflation of commodity prices.

³ Exchange rate during the programme implementation was 1 EUR = 2.83 SDG

⁴ The final follow up survey in September 2010 took place at the height of the hungry season, which might have biased some results as this is the most food scarce time of the year.

⁵ Organisation for Economic Co-operation and Development

⁶ OECD DAC criteria for evaluation are appropriateness, coverage, coherence and coordination, efficiency, cost effectiveness, sustainability, accountability and transparency, flexibility. <http://www.oecd.org>

⁷ Please see the full evaluation report for more details and results of the DAC criteria. See contacts at end of the article.

⁸ Although ACF in Southern Sudan has recently changed its MUAC standards to the new WHO standards, this report will follow the old MUAC guidelines in order to facilitate comparison with the baseline data. Unfortunately, no data were available from the baseline in Twic County

suggested a general improvement in food security among beneficiary households throughout Warrap State since the start of the IGA project. The average CSI score in GWC dropped from 10.9 to 8.9 between 2009 and 2010, while in Twic the reported change was more dramatic, from 17.2 to 12.2 (See Figure 4).

Hunger Levels Ranking

This component of the follow-up evaluation asked respondents to rank their households' hunger at different points during the IGA project, including before the project began, one month after receiving the first grant, one year after the grant and the present day. Although the data are subjective and relied on recall, the general trend seems to suggest that almost all households are less hungry than they were in late 2008, and that the food security situation has improved considerably. Again, these data are impressive when one considers that information was gathered at the peak of the hunger season in Southern Sudan.

Implementation

Targeting

Targeting criteria for the intervention were based on ACF-USA's experience in Southern Sudan and the understanding that returnees, IDPs and the local host population are among the most vulnerable members of the population. The idea of targeting mothers/caregivers of malnourished children (as identified in the Outpatient Therapeutic Feeding Programme) was a deliberate effort to directly link and integrate food security and livelihood activities with ACF-USA's nutrition programming. Although the SSRRC provided an expedient means to mobilise and gain access to the community, reliance on SSRRC during the targeting process may have compromised ACF-USA's independence and neutrality as there may have been some political influence over choices of beneficiaries. Additional time and resources would have been required to implement a fair and equitable community based targeting process within the project timeframe.

Due to the human, financial and/or physical assets necessary to successfully establish and manage an IGA, the most vulnerable members of the population may struggle with this type of project more than beneficiaries who are slightly better off. They are particularly vulnerable towards the beginning of the project, before their businesses are producing net income, and when faced with small or large-scale shocks. The project could have included some type of safety net for these people, perhaps facilitating access to their basic household needs during the first few months of their businesses' development. Besides socio-economic and nutrition targeting criteria, motivation should be

accorded top priority in the selection of beneficiaries for IGA projects. Motivation was seen as critical in terms of ownership and sustainability in the latter stages of IGA implementation. Efforts to inspire and encourage this were redoubled at various steps during the project cycle, e.g. at trainings, while drawing up business plans, and when issuing instalments of cash transfer.

Preparation of the business plan could have posed a major obstacle to participation, given the low literacy rates in rural Southern Sudan. This proved easily overcome as the majority of the groups had someone to help articulate their business plan. Many stated this helped them think through the process, planning and investment required for their business to succeed.

Training is a powerful tool for building up the capacity of both staff and beneficiaries. Sufficient resources should be devoted to ensuring that training is relevant to beneficiaries' needs and effectively presented. The specific needs of those with no prior business experience must be taken into account when planning trainings on business management

Timeframe

The initial allocated timeframe (12 months under the ECHO contract) was not sufficient to fully implement the programme. The market feasibility study was completed before the ECHO contract was signed and before the implementation officially began. It was important to allow at least six months after the project end before undertaking an evaluation to ensure that IGAs could mature and develop to a measurable extent. Hence, 12 months is a feasible timeframe for mobilisation and start up of an IGA intervention, providing the 12 months can be fully used. However, a final follow-up evaluation should always be conducted after an additional six to twelve months. On this basis, the optimal timeframe for an IGA programme is 18-24 months.

Cash transfer

The distribution of cash rather than in-kind support was designed to foster flexibility, choice and decision making among beneficiaries. Splitting the cash transfer into two instalments proved an effective means of risk management and motivating IGA groups to spend money appropriately.

Cost effectiveness is measured by cost per beneficiary. In the initial proposal, an overall amount of 78,300 euro¹⁰ was allocated to the ACF USA IGA programme in Warrap State. According to the initial

Figure 1: Average income of IGA beneficiaries, Warrap State

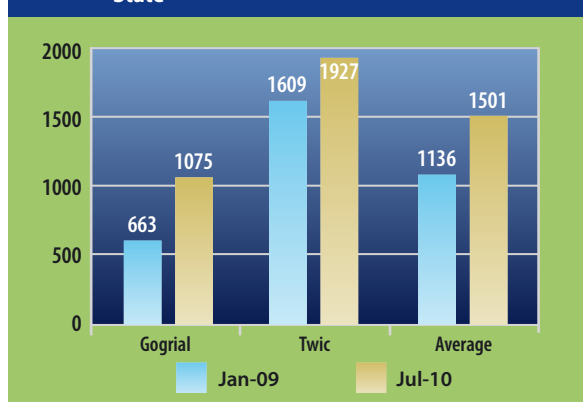


Figure 2: Average household expenditures of IGA beneficiaries, Warrap State

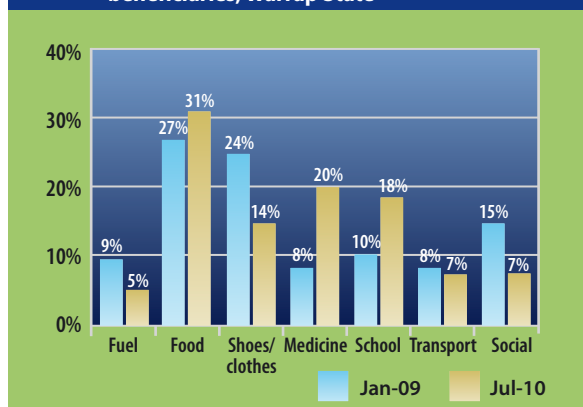
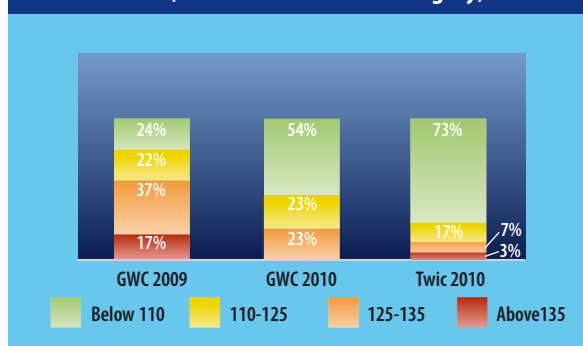


Table 3: Household Dietary Diversity Score (HDDS), 2009 and 2010

	County	1-3 HDDS (Poor)	4-6 HDDS (Fair)	7-9 HDDS (Medium)	10-12 HDDS (Good)
Mar-09	GWC	1.9%	38.5%	51.9%	7.7%
	Twic	0%	36.4%	31.8%	31.8%
Average		0.9%	37.4%	41.8%	19.7%
Aug-10	GWC	0%	17.9%	75%	7.1%
	Twic	0%	43.5%	43.5%	13%
Average		0%	31%	59%	10%

Figure 3: MUAC (mm) amongst IGA households, Warrap State (% of children in each category)



⁹ During the survey, some confusion about one element of the CSI was observed ("limiting intake by adults so that small children can eat"; the most serious type of coping strategy, according to the standard CSI template). Since it is customary for adults in Warrap State to serve small children first, this might have biased the responses. The results of this particular element of the survey have not been incorporated into the final CSI score analysis.





Emily Sloane, S Sudan, 2009

A tea shop

Figure 4: Average Coping Strategy Index scores, Warrap State

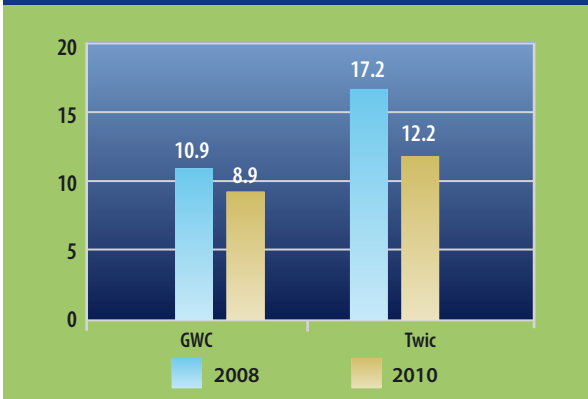
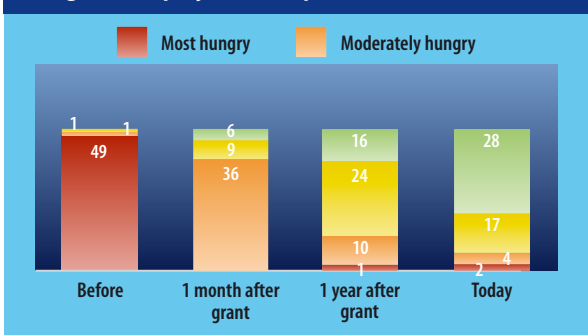


Figure 5: Self-reported hunger amongst beneficiaries during the IGA project, Warrap State (n=51)



Emily Sloane, S Sudan, 2009

A mat making business

budget allocation, the per-participant cost (based on 301 participants) would be 260.13 euro. As each cash grant was 106 euro, 154.13 euro were earmarked to effect the transfer and programme implementation, i.e. support costs made up 59 % of the allocated budget. This apparent imbalance should be judged within a project context of extensive capacity building and other preparations needed to launch this programme over a wide geographic area in the logistically challenging environment of post-conflict Southern Sudan.

The amount of income created compared to the investment made is also a measure of cost effectiveness of a programme. As the follow-up survey clearly shows, both overall and small business-related incomes of project beneficiaries increased considerably during the course of the project. The average business owner earned 362 SDG in GWC and 562 SDG in Twic in July 2010. Using a conservative extrapolation and accounting for income fluctuations based on monthly earnings of 100 SDG for the first eight months, 200 SDG for the next six months and 300 SDG for the final six months of the programme, this provides for a total income of 3800 SDG, or 1233.37 Euros, per IGA. This translates into a substantial return on investment of 374%.

It was not possible to compare the cost effectiveness of an equipment/in-kind intervention with a cash transfer intervention. Such a calculation would need to take account of the flexibility and psychosocial impact of the two interventions. There is little doubt that a cash transfer programme provides for more dignity than an in-kind transfer programme.

The exact number of active IGAs is unknown, since the follow-up survey focused on a sample only. However 80% of the survey's respondents were still in business in September 2010. The 'group element' of this project seems extremely positive with respect to sustainability and inter-group support and coordination, e.g. setting up rotational savings programmes, relieving others of workload during family emergencies, division of labour, sharing technical experiences. A few groups had diversified into more profitable activities (e.g. from tea shops to restaurants). Others had expanded to encompass more goods and services, with different group members responsible for separate aspects of the business (e.g. one member running a

tea shop, while two managing an adjacent restaurant).

On reflection, this experience has shown how 'time is money'. The sooner a population can get back to an active and productive life with freedom and dignity, the better and more cost effective the intervention. Programmes with a significant psycho-social impact that boost dignity and self value may ultimately be the most cost effective type of intervention, regardless of agency expenditures on mobilisation, training, support, verification and follow-up.

Key recommendations

IGAs should continue to be promoted as a measure to support household food security and contribute to the prevention of malnutrition. It is important to ensure that market feasibility studies and sufficient time for identification, mobilisation and training of the community are given to improve IGA ownership and sustainability and allow for maturation of the various businesses. Key proxy indicators should be monitored in a timely and comprehensive manner.

Planning should ensure that businesses whose profits are dependent on seasonal factors are given time to develop before that season begins. Projects should also be planned so that procurement of necessary materials can take place when prices are relatively low.

Steps should be taken to maximise the rates of success of IGA programme beneficiaries. This may mean modifying targeting criteria to ensure that beneficiaries have the capacity and assets necessary to facilitate some resilience to shocks. It may also require building some kind of safety net into the project design to support particularly vulnerable households in meeting basic needs during the early phases of IGA development.

It is important to factor in additional trainings for IGA members into the planning of future IGA projects, so that needs that arise throughout the project can be addressed. Providing training on profit management, marketing and conflict resolution should be considered.

Generally speaking, the people of Warrap State are ready, willing and able to embark on IGA projects. Non-governmental organisation (NGO)-supported small business development efforts, supported by cash transfers, can succeed in Southern Sudan, despite the numerous contextual challenges (e.g. limited infrastructure, low education levels and localised instability). Over the long term, cash-grant supported IGA programmes can be extremely cost effective interventions to contribute to the fight against malnutrition, and the longer term development of both beneficiary households and the broader society.

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¹⁰ This included all costs associated with the programme – not just the cash grants.

WFP evaluation of emergency operation in Sudan

Summary of evaluation¹

Fasher-Kabkabiya and Kutum-Fasher, Dafur

WFP/Diego Fernandez, Dafur, 2007

The World Food Programme (WFP) recently published an evaluation of their general food distribution programme (GFD) in Darfur in 2009 as part of emergency operation (EMOP) 10760. The overarching goal of the EMOP is to save lives, reduce food insecurity and restore livelihoods of conflict-affected and vulnerable populations in Sudan. WFP has been aiding the whole conflict-affected population in Darfur since 2003. In 2009, the programme targeted 6.2 million beneficiaries, of whom 3.8 million were GFD recipients in Darfur. Darfur is a difficult context in which to work. Even in the best of times it is food insecure, with a history of famines and chronic malnutrition in some areas. Security for international staff has steadily worsened since 2004. Aid agencies are the target for criminals stealing cars or since March 2009, kidnapping international staff for ransom. Added to these problems are difficult logistics, leading to high operating costs.

Overview and strategy of the operation

The EMOP was the largest of six WFP operations in Sudan in 2009. The remaining five operations comprised the country programme and four special operations, three of which were relevant to Darfur (one wholly concentrated on Darfur). WFP revised the EMOP three times during 2009. The first revision saw a reduced budget due to lower food and transport prices. The second revision was a minor administrative revision, and the third revision increased the caseload in the south.

The EMOP had a total budget of US\$868.7 million for the year. It included several food distribution methods, the most important of which was GFD. WFP planned to distribute 443.8 thousand MT (metric tonnes) in Darfur by GFD, 84 percent of all the GFD planned in the EMOP.

After the Government of Sudan expelled some of WFP's most important cooperating partners in March 2009, WFP developed special operation (SO) 10845 to augment the operational capacity of WFP and partners. This SO was intended to cover the extra costs arising because of the expulsions and to increase the number of locations where WFP staff could work, while continuing to comply with the United Nations (UN) security rules.

Evolution and differences in needs

When the Darfur operation began in 2003, all those in the affected population were in need of food aid. Over time, the affected population developed alternative livelihoods. In many cases, these livelihoods are inadequate to support families on their own, are maladapted in that they damage other livelihoods or are unsustainable, and are contingent on good security locally.

The pattern of alternative livelihoods means there are big variations in need across the affected population. However, the affected population strongly opposes any targeting at the household level. There appear to be several reasons for this. First, the community recognise the fragility of many of the current livelihoods. Second, providing aid to some and not to others would threaten social cohesion. Third, the community confuse entitlement to food with their conflict-affected status.

Even with the low quality of many alternative livelihoods, these are better than the livelihoods that some of the poorest previously had in the rural areas. Coupled with increasing years in a more urban environment, even if there were peace, a significant proportion (interviewees estimate from 15 percent to 50 percent) of the internally displaced persons (IDP) population would not return to their rural homes. Permanent returns to villages have been minimal, but there is a growing pattern of temporary returns for the agricultural season.

WFP has reacted to the variation in need and the difficulties of targeting different levels of need within the population categories by reducing the overall ration. The Darfur Food Security Monitoring System (DFSMS) set up by WFP in 2009 has provided excellent data on food security. This has shown that reducing the ration has had no major negative impact on food security in the monitored sites.

Evaluation results

WFP reached 96 percent of the number of beneficiaries specified in the EMOP. This was a significant achievement given the difficulties of operating in Darfur.

WFP distributed 83 percent of the planned GFD tonnage. However, as the EMOP was only 73 percent funded, this tonnage represents 107

percent of the funded tonnage. WFP managed to reach almost all of the beneficiaries with only 83 percent of the planned tonnage by distributing rations that were less than planned in the EMOP. Initially (from 1 January 2009) WFP reduced the ration to a 70 percent ration for, as food security data showed a positive picture following the 'good' 2008 harvest (with as much as 25 percent of the pre-conflict yield in south Darfur). The ration was subsequently reduced again in November 2009 due to resource constraints to 60 per cent EMOP ration. Factors such as milling losses, milling costs, transport costs, and taxes to sheiks at some locations reduced this notional 60 per cent EMOP ration to one providing less than half the food requirements. The need for recipients to sell some food to pay for soap, education, or other goods and services reduced the notional value of the ration even further.

WFP varied the numbers of beneficiaries and the ration composition throughout the year in response to the seasonal pattern of need (with rations for resident populations during the hunger gap) and vulnerability assessments.

While WFP had planned changes to the programme in 2009, including the greater use of non-GFD mechanisms to target assistance better, this was derailed by the need to respond to the expulsion of cooperating partners in March 2009. However WFP maintained, and in some cases increased, key non-GFD mechanisms including Food for Education (FFE), Supplementary Feeding Programmes (SFP), and Blanket SFP (BSFP). A major achievement in 2009 was the introduction of the Darfur Food Security Monitoring System (DFSMS).

Attaining objectives

WFP's assistance has not reduced the Crude Mortality Rate (CMR) or the global acute malnutrition (GAM) prevalence, but has helped to prevent them from rising in the face of sub-optimal alternative livelihoods.

The introduction of the DFSMS dramatically improved food security monitoring in 2009,

¹ WFP (2010). Sudan EMOP 10760.0. Food Assistance to Populations Affected by Conflict. An Operations Evaluation. July 2010. Draft 1.82 commissioned by Office of Evaluation. Measuring results, sharing lessons. Prepared by John Cosgrave, Hugh Goyder and Anne Marie Hoogendoorn. Report No: OE/2010/011

effectively replacing an annual survey with a series of four surveys. The DFSMS showed that WFP assistance was an important source of food for the affected population. WFP assistance means that the affected population in general, and IDPs in particular, have not been forced to engage in livelihood strategies that pose greater risks than those they currently use.

Factors explaining results

In addition to the constraints imposed by the security situation, the UN security rules impose further constraints. The kidnapping threat is focused on international staff only, but UN security rules make no distinction between national staff and international staff. The security threat to national staff depends on their origin and on what part of Darfur they are working in, but UN security rules take no account of these factors.

Some WFP assistance is traded by beneficiaries to fund school fees and other costs, or because local varieties are preferred. Those with multiple ration cards also sell their surplus. The impact of these sales has been to stabilise food prices in Darfur. Thus the EMOP indirectly supports the access of non-targeted groups, such as the urban poor, to food. WFP also piloted milling vouchers in north Darfur. These are an excellent initiative as they are a far more cost effective way of meeting milling costs than having beneficiaries sell or barter part of their food to meet these costs.

WFP is constrained by the limited number and capacity of cooperating partners in Darfur. The relatively small number of non-governmental organisations (NGOs) working in Darfur, in comparison to the overall humanitarian needs, means that WFP has relatively little choice in selecting partners. The difficulties of working in Darfur mean that cooperating partners have difficulty in attracting appropriately qualified staff.

Even before the expulsions, WFP had begun work on an improved management information system to make better use of monitoring data and to address, among other issues, problems with partner performance. Engaging in direct distribution made WFP even more aware of the capacity problems of partners, and WFP has instituted a special project to support developing this capacity.

WFP had planned to expand significantly non-GFD modalities in 2009, but was overtaken by the expulsions. The security situation was very tense prior to the expulsions, so there was no space for other modalities. Special assistance for the most vulnerable was expanded through BSFP, but this was constrained by capacity. However, non-GFD modalities generally need more management capacity than GFDs, and such modalities normally serve far fewer beneficiaries than GFD. WFP has supported what few permanent returnees there have been, but these are very few in number.

Cooperating partners generally praised WFP as a good partner, but said that partnership "goes out the window" when WFP is negotiating the Field Level Agreements (FLAs) with partners. They complained that WFP negotiated very aggressively, and that the existing FLAs represented an unfair sharing of financial risks between WFP and its cooperating partners. WFP engaged in direct distribution in those areas where it could not find a partner

willing to manage the distribution at a reasonable cost. However, direct distribution had a high opportunity cost for WFP, as staff engaged in direct distribution did not have the time to follow up on new projects that might have used other modalities.

There are two types of inclusion errors in the distribution lists in Darfur. The first are those who should not be on the lists as they are not bona-fide members of the affected population. The second are those who have strong alternative livelihoods and do not need WFP assistance. WFP is planning further research in 2010 that will investigate the links between livelihoods and household food security.

The current distribution lists have remained largely unchanged since late 2005. With a few exceptions, the distribution lists do not include children born since late 2005 and new arrivals since late 2005. The lists are thought to include quite a number of individuals who are either double registered, or are not entitled to food assistance. However, sheiks are strongly opposed to re-registration. WFP has conducted one re-registration exercise at a small camp in west Darfur but could only do so by not distributing food in the camp for three months. WFP deemed this a wholly appropriate course of action, as inflated ration lists are an obstacle to proper targeting.

Sudan is expensive, and Darfur especially so. Local transport, storage, and handling costs are high in Darfur, as are direct support costs - largely the costs of maintaining a WFP presence. Direct support costs are high because of the costs of meeting the UN security rules. However, despite the cost, there is good evidence from the DFSMS that without WFP assistance, there would have been a food crisis in Darfur.

Conclusions

GFD continued to be appropriate in the context of 2009. Although affected communities have developed a range of new livelihoods, many of these are fragile or poorly adapted and are, in most but not all cases, far inferior to the communities' pre-conflict livelihoods.

Although it would have been ideal to have moved more to self-targeting modalities like Food for Work (FFW) and targeted food within communities, this was not a realistic option in 2009.

The biggest issue facing the programme is the growing disconnect between needs and assistance. This is driven by the growing obsolescence of the five-year old distribution lists and the development of alternative livelihoods within the affected community. The distribution lists are the responsibility of the International Organisation for Migration (IOM) rather than WFP directly.

WFP has successfully addressed these problems in the short-term by adjusting rations to reflect overall need. The DFSMS provides WFP with good information on the food security situation at the monitored sites, which demonstrated that the reduced rations had no major negative consequences in nutritional or food security terms in 2009.

The alternative livelihoods established by the affected community in Darfur are fragile and are often predicated on improved security. The failure to reach an effective political settle-

ment in Darfur means that the need for WFP assistance for the broader community is likely to continue.

The reliance on GFD is historical as there was no other option at the start of the operation in 2003/2004. GFD offers a lower overall implementing cost per MT, and requires less skill from cooperating partners than do other modalities. However the disadvantage of GFD is that it is untargeted.

The food deficit in Darfur is still so large that it would be impossible to meet this through other modalities with the current cooperating partner's capacity. However it is still possible to gradually introduce other modalities. WFP will only be able to completely move from GFD to other modalities when the overall food deficit declines.

WFP's operation in Darfur is one of the most expensive WFP operations in the world. WFP began a concerted campaign in late 2009 to drive down the overall cost per MT. Again, earlier action was constrained by the expulsion of cooperating partners.

Milling vouchers represent a more efficient way of having families meet their milling costs than by selling part of their food ration.

WFP has also successfully put contractors and cooperating partner under very strong pressure to reduce their costs. Partners have not always been transparent about their true costs, but direct implementation by WFP has given WFP a very accurate picture of such costs. However, such hard negotiation with cooperating partners raises questions about the meaning of partnership.

Overall the team concluded that WFP has done a good job in Darfur in the face of very difficult circumstances.

Recommendations

The team has made eight recommendations based on the findings of the evaluation:

- WFP Sudan should continue with GFD in Darfur for 2010.
- In the face of the inability to target GFD effectively within communities, WFP Sudan should continue to reduce the GFD ration level so that all food modalities combined match the overall community need for external food assistance.
- WFP Sudan should extend the DFSMS to provide managers with good information on the impact of ration changes on different locations.
- WFP Sudan should move away from a single ration for all beneficiaries of a single category, to a menu of rations that are allocated to a category in a single location based on food security information.
- WFP Sudan should consider introducing a targeted ration, especially for vulnerable cases.
- WFP Sudan should continue working with IOM to rationalise the distribution lists, and should suspend distributions at sites where the community refuses to accept re-registration.
- WFP Sudan should try to avoid direct distribution if at all possible. This may involve developing cooperating partner capacity for sites where no acceptable distribution partner has yet been found.
- WFP globally needs to look at a mechanism for negotiating costs with partners that better reflect partnership.

A child enrolled in the SAM treatment programme



The new role of Nigerien medical NGOs in treating SAM

By Dr Maidaji Oumarou, Dr Malam Issa Kanta, and Guillaume Le Duc

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Niger has been affected by a persistent nutritional crisis, as documented over the past five years, with rates of severe acute malnutrition (SAM) consistently above critical thresholds (see Figure 1). Child and infant mortality remains extremely high at 160 per 1,000 persons¹. The response by the government of Niger (GoN), international non-governmental organisations (INGOs) and United Nations (UN) agencies has dramatically increased since 2005. In 2010, a record number of 330,448² children were treated for SAM in Niger, an estimated 20% of the total amount of children treated for SAM worldwide in 2010.

Two relatively new phenomena relating to SAM management have emerged in Niger: new prevention strategies with massive distribution of ready-to-use supplementary food (RUSF), and the emergence of Nigerien medical NGOs as significant partners in treating SAM. This article focuses on this second development in particular, with regard to two medical Nigerien NGOs, BEFEN (Bien Etre de la Femme et de l'Enfant au Niger) and FORSANI (Forum Santé Niger), the only national organizations providing medical treatment for both uncomplicated and complicated SAM. This article shares their programme results, challenges they face and discusses their potential role in addressing the endemic nutritional crisis in Niger.

Nutritional situation in Niger

With a population of 15.2 million people³, Niger is ranked 167 out of 169 on the 2010 United Nations Human Development Index. It is one of the poorest countries in the world, with more than 69% of the population living on less than \$1 per day. Niger consists of arid and semi-arid zones. Niger is a malnutrition hotspot. It faces an enduring nutritional crisis and food insecurity, with relatively stable SAM and global acute malnutrition (GAM) rates but yearly seasonal peaks (GAM) during the hunger gap (see Figure 1). In 2010, the peak of admissions was reached in week 34 (Aug 23– Aug 29). During that week, 11,768 children suffering from SAM were treated in Niger (1,427 in intensive therapeutic feeding centres (ITFC) and 10,341 in ambulatory therapeutic feeding centres (ATFC)).⁴

The impact of malnutrition on mortality is significant. In June 2010, the under-five mortality rate was estimated at 1.22 deaths/10,000/day (fluctuating from 0.29 in Tahoua Region to 2.05 in Zinder Region)⁵. There is a disconnection between food insecurity and the nutritional situation in several regions, i.e. food security does not always equate with nutritional security. Even when the harvest is deemed 'good', large parts of the under-five population remain vulnerable to severe acute malnutrition.

Home grown capacity to treat SAM

Since 2005, treatment capacity for SAM has dramatically increased in Niger, predominantly through the introduction of a community-based approach to the management of malnutrition. The GoN integrated this approach into the national protocol in 2005. That year, an estimated 84,000 children were treated for SAM (based on NCHS references, 1977). By 2010, this had risen to more than 330,000 (WHO growth standards, 2005) according to data from the Ministry of Health and UNICEF⁷. One should note that this comparison is skewed given the transition from NCHS 1977 to the WHO 2005 growth standards. A look at the number of operational feeding centres provides an idea of the increase in treatment capacity: in 2010, 48 ITFC (of which 30 were supported by 15 NGOs) and 775 ATFC were operational⁸.

But as treatment capacity increased, another evolution – little known to professionals not operating in Niger – took place: the emergence of two Nigerien organisations,

¹ Source: UNICEF 2009

² Source: Nutrition Cluster, scaling up week 52

³ Source: INS Niger 2010

⁴ Source: "Weekly Scaling Up Table", UNICEF, 2010.

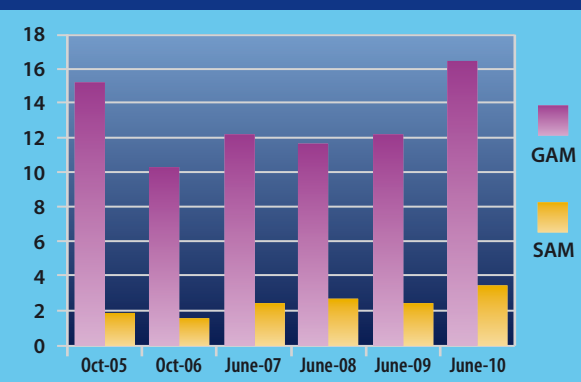
⁵ Source: National Nutritional Surveys 2005, 2006, 2007, 2008, 2009, 2010 INS, UNICEF

⁶ Source: National Nutritional Survey 2010, INS, UNICEF

⁷ Source: Niger Nutrition Cluster, lead by The MoH and UNICEF. 2010.

⁸ Source: UNICEF

Figure 1: GAM and SAM in children below 5 years of age in Niger from October 2005 to June 2010⁵



Source: National Nutritional Surveys, Niger, INS, UNICEF.
 Note: While comparing data in this table it should be noted that the surveys were conducted at different times (June and October) i.e. before and after the hunger gap. No data are available for more direct comparison. Data from 2005-2007, based on NCHS references; 2008-2010 based on WHO Growth Standards.

Table 1: Evolution of BEFEN and ALIMA operational capacity (2009 and 2010)

	2009	2010
Number of ATFC	7	15
ITFC bed capacity	45	100
ATFC admissions	4,587	22,517
ITFC admissions	321	2,069

ATFC: Ambulatory TFC; ITFC: Intensive TFCs

Table 2: Key programme indicators for ATFC and ITFC, BEFEN & ALIMA

ATFC		
	2009	2010
Cure rate	86.4%	82.7%
Lost to follow up rate	5.5%	8.5%
Mortality rate	1.55%	1.6%
Average weight gain (g/day)	8.9	10.5
Average length of stay (days)	31.1	23.4
ITFC		
Mortality rate	5.8%	5.5%
Average weight gain (g/day)	19.8	23
Average length of stay (days)	11.6	11

FORSANI and BEFEN, with significant capacities in treating SAM. BEFEN and FORSANI treated over 23,000 and 20,000 SAM children respectively in 2010. This amounts to 14% of the total amount of SAM cases treated in Niger in 2010. Programme outcomes were comparable to those achieved by INGOs. Both NGOs have partnered with INGOs to achieve this. BEFEN developed its project in partnership with the Paris-based medical NGO ALIMA (The Alliance for International Medical Action) and with Médecins Sans Frontières Switzerland (MSF-CH). ALIMA is an international medical NGO founded in 2009 in France, whose philosophy is strongly built on two axes: the development of operational partnerships with national medical organisations, and research leading to medical innovation. FORSANI partnered with Médecins Sans Frontières France (MSF-F).

Evolution of BEFEN and FORSANI and programme outcomes

The evolution of FORSANI and BEFEN has followed a similar pattern, outlined below.

BEFEN

Created in 2002 by a group of Nigerien doctors, sociologists, and teachers, BEFEN is a medical NGO working for the well being of Nigerien mothers and children. From 2002 to 2009, the BEFEN project was grossly underfunded, relying mostly on donations from its members. BEFEN's members nevertheless provided free consultations in Niamey to vulnerable populations. During the 2005 nutritional crisis, several members of BEFEN were recruited by INGOs, including MSF and Epicentre. Yet it was only later in 2009 that BEFEN and ALIMA developed a partnership with MSF-CH to implement a joint project to treat children 5 years of age and under affected by SAM and malaria in Mirriah district in southwest Niger. This joint project was initially funded by the European Commission's Humanitarian Office (ECHO), MSF-CH, and UNICEF. In 2010, the NGO GOAL also began funding the project.

Project description and programme outcomes

Mirriah is one of the most populated districts of Niger with over 1,000,000 inhabitants (GoN data). Located in the Zinder region some 900 kilometres west of Niamey, the Mirriah health district has 36 integrated health centres (Centres de Santé Intégrés or CSI) and one district hospital. Mirriah experiences some of the highest rates of SAM recorded in Niger. According to a study conducted prior to the hunger gap in June 2010 by the National Institute for Statistics of Niger (INS) and UNICEF, the prevalence of GAM⁹ was 17.8% in children under 5 and 22.9% in children under 3 years of age. The prevalence of SAM¹⁰ was 3.6% in children under 5 and 5.3% in children under 3 years.

The project began in July 2009. From July to December 2009, BEFEN and ALIMA operated seven ATFCs based in CSIs and one 45-bed ITFC based in the Mirriah district hospital (see Table 1). A total of

4,587 children were treated in ATFC and 321 children were hospitalised. In 2010, the project expanded to 15 ATFC and the capacity of the ITFC increased to 100 beds to treat 22,517 children requiring ambulatory care and 2,069 in the ITFC. A review of programme outcomes demonstrates that they fall well within targeted norms (see Table 2).

FORSANI

FORSANI was created in 2004 by a group of medical doctors who were confronted by the challenge of providing medical care in public hospitals in Niger, at a time when care for children and pregnant women was not free of charge. They decided to develop a system for providing medical care directly to vulnerable populations who had no access to care. In 2004, FORSANI set up a project, 'Medical Assistance to the Niamey Foster home'. This pilot project was financed by FORSANI members through donations and membership fees. After this project, and largely due to lack of funding, members had to work for other organisations, mostly within the different MSF sections operating in Niger.

In 2008, MSF-France was forced to suspend its activities in the Maradi region. Aware of the impact this decision would have on the health of children, members of the board of FORSANI decided to intervene in the Madarounfa district. The population of Madarounfa district was estimated to be over 400,000 (GoN data). The health district had nine CSI and one district hospital in 2009. In late 2008, FORSANI began by working with the district health authorities to improve the treatment of SAM in three ATFC and in the ITFC located in the district hospital. In 2010, FORSANI launched two new projects funded by MSF-France, ECHO, and UNICEF. The first project was located within the city of Maradi and aimed to support the ITFC within the regional hospital (CHR) and two ATFC within urban CSI. The second project was a blanket feeding distribution of RUSF (PlumpyDoz®) to 33,000 children under 2 years in Madarounfa district over a five month period. According to internal reports, the coverage was close to 75%. The expansion in FORSANI's operational capacity is reflected in Table 3. Key programme indicators (Table 4) show an improvement in performance to meet international standards. In the words of Pr Nikki Blackwell, Medical Director of ALIMA, "This shows that Nigerien medical NGOs can deliver results comparable to that of international medical NGOs".

Key factors of success: innovative partnerships in nutritional emergencies

Given the volume of literature on partnerships between international and national NGOs, our purpose here is not to argue that a new model has been found, but rather to describe the strengths and weaknesses of these two partnerships.

⁹ weight/height < -2 z-score and/or oedema
¹⁰ weight/height < -3 z-score and/or oedema



Alima, Niger, 2010

HR

The first critical factor in partnerships between international and national agencies is the quality of senior staff. The management teams of BEFEN and FORSANI comprise experienced medical professionals. For example, the project coordinator for FORSANI was a medical doctor who worked for three years as MSF national staff, his position ranged from field doctor during the 2005 nutritional crisis, to the director of the 300 bed ITFC managed by MSF France in Maradi in 2008. The BEFEN management team also comprises senior managers who have worked with various international medical NGOs in Niger. By joining forces, they profit from years of pooled experience. The president of BEFEN is one of the few vascular surgeons in the country, while the country director was part of the medical coordination team for MSF-Belgium.

An integrated partnership with shared operational responsibility

“Without the operational partnership with ALIMA, it would have been virtually impossible for BEFEN to set up such an ambitious project in Mirriah”, said BEFEN president, Dr. Laminou Kollé.

The partnerships between FORSANI and MSF-France, and between BEFEN, ALIMA, and MSF – CH, are fully integrated on the operational level. The Nigerien and INGO together define the objectives of the project, validate the budget and establish the procedures that ensure monitoring and evaluation. Joint assessments are routinely conducted to ensure quality of medical care, adequacy of means to implement the programme and financial transparency. A set of common management tools, medical protocols, and reporting frameworks are jointly designed and used. The partnership effectively means sharing responsibility for the outcomes of the project. When a gap is identified, either organisation may step in to provide support.

The ALIMA-BEFEN project was managed with limited but carefully selected international staff support. “Because we are mostly doctors, we lacked certain administration and logistics skills within our NGO,” said Dr Maidaji Oumari, country director for BEFEN. “For us, accountability to our partners and donors is vital if we want to continue running the project. We cannot take any risks.”

Adapting to the context: quality of integration with MoH and local population

One of the advantages of an national NGO is its knowledge of the context. Members of FORSANI and BEFEN have lived, studied and worked in Niger. They have a deep understanding of the challenges their country faces, as well as the inevitable delay in the evolution of health services over a long period of time. Their capacity to deal and negotiate with authorities is also critical. Authorities can react differently when dealing with a Nigerien NGO as opposed to an international agency. This local knowledge also extends to an understanding of acceptability of the programme within the local

population and has an important impact on the dialogue between patients and their caregivers.

Access to funding

Thanks to these partnerships, FORSANI and BEFEN have been able to benefit from international funding, largely from ECHO and UNICEF. The budget has allowed these national NGOs to mobilise sufficient resources to provide quality medical care. The growth in staff levels and budget are reflected in Tables 5 and 6 and Figure 2 (staffing only).

Future challenges and opportunities for scaling up nutrition in Niger

While the narrative above shows considerable successes for FORSANI and BEFEN in providing treatment of SAM on a significant scale, many challenges remain.

First, FORSANI and BEFEN have had to confront the limitations of implementing treatment of SAM. Despite the fact that a record number of children were treated in 2010, child mortality remains high in Niger. Clearly, treating SAM is a necessary but not sufficient response to lowering childhood mortality in Niger. A major cause of under-5 mortality in this region is malaria, which is why both NGOs also run malaria treatment programmes.

Future programme efforts must concentrate on the delivery of decentralised ‘bundles’ of care to families and communities at village level. This should address predominant diseases, ensure prompt access to treatment, facilitate adherence to treatment and include acute malnutrition management. Rapid treatment of acute infectious illnesses may prevent children progressing to an episode of SAM.

Treating SAM, however efficiently, means focusing only on the most severe form of acute malnutrition. Logically, treating children with moderate malnutrition, or indeed preventing malnutrition from occurring, is another important strategy in tackling mortality in young children. This was the basis for a RUSF blanket distribution by FORSANI of 33,000 children from 6 to 23 month of age in 2010 in Madarounfa district. While the distribution started late in the year (July), preliminary results indicate that the impact on mortality was important.

Table 3: Evolution of FORSANI operational capacity (2008 to 2010)

	2008	2009	2010
Number of ATFC	3	3	6
ITFC bed capacity	50	100	180
ATFC Admissions	974	12,639	20,693
ITFC admissions	165	2,417	4,546
Number of children who received distribution of RUSF	-	-	33,200

Table 4: Key programme indicators for ATFC and ITFC, FORSANI

	2008	2009	2010
Cure rate	75%	90.90%	91%
Lost to follow up rate	13.50%	4.30%	4%
ATFC mortality rate	11.40%	3.20%	2.70%
Average length of stay (days)	37	33	28
Hospital mortality rate	21.90%	12.20%	9%

Table 5: Staffing levels and budget, BEFEN

	2008	2009**
Average number of staff	28	96
Budget*	265,000 Eur	1,719,00 Eur

*These figures do not include in-kind donations including RUTF and systematic treatment provided by UNICEF through the MoH, and food for caregivers provided by WFP.

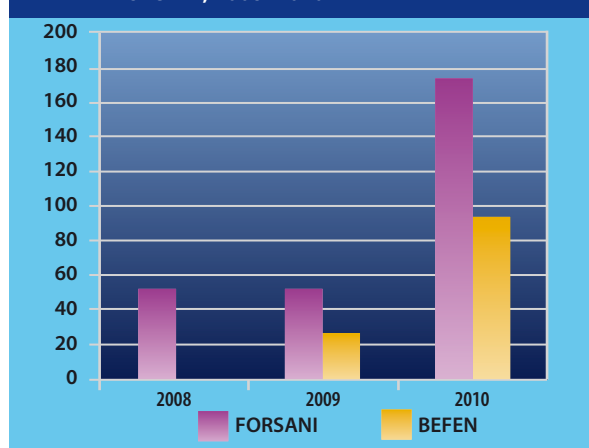
**For 2010, ECHO, UNICEF, GOAL

Table 6: Staffing levels and budget, FORSANI

	2008	2009**	2010
Average number of staff	17	51	176
Budget	145,000Eur	904,000Eur	2,897,000Eur*

*These figures do not include in-kind donations including RUTF and systematic treatment provided by UNICEF through the MoH, and food for caregivers provided by WFP.

Figure 2: Evolution of staffing level, BEFEN and FORSANI, 2008 -2010



The development of qualified human resources in Niger is also a limiting factor. FORSANI and BEFEN identified this issue early on and initiated a training programme in partnership with the Niamey Medical School in 2010. This course provided both in-class training and on the ground experiences for 30 young medical doctors. Relationships between the medical and nursing schools in Niamey and both international and national NGOs should be strengthened. This could lead to accrediting time spent working in the treatment programmes towards specialist training.

FORSANI and BEFEN face a number of obstacles to access funding. To our knowledge, there are only limited funds currently available for national medical NGOs working on nutrition in Niger. The only way both organisations have been able to secure funding for their current programmes has been through partnerships with international NGOs. These partnerships provide more than funding, as described above. However, the lack of access to direct funding severely constrains the independence of Nigerien NGOs operating in the sphere of child health and nutrition. Moreover, these funds are drawn from emergency response budgets, mainly through ECHO and UNICEF. While it is true that Niger has, and continues, to face acute nutritional crises that require emergency funding, longer term funding is also needed to allow for more strategic and potentially more sustainable programme impact. Currently, it is impossible for FORSANI and BEFEN to develop innovative, sustainable plans to reduce child mortality in Niger, despite well-documented evidence that such programmes require a minimum commitment of 5 years.

A transition from emergency-based 'reactive' funding to longer term 'proactive' funding for child health and nutrition programmes in Niger is urgently required. In our opinion, this should focus specifically on including Nigerien NGOs with proven track records at the centre of the operational framework. The role and support of the Ministry of Health of Niger would be essential to this framework.

A development programme is foreseeable – it would tackle child mortality and malnutrition with multilateral funding channelled through the MoH and with Nigerien NGOs as implementing operational partners. One initiative, the Scaling Up Nutrition (SUN) movement, could provide a platform and a strategy where civil society organisations such as BEFEN and FORSANI can partner with the government of Niger to tackle the challenge of reducing malnutrition in high burden countries.

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Agency Profile

Name:	Nairobi Nuts Group (NNG)
Email:	nairobinutsgroup@yahoo.com
Year formed:	April 2008
Organiser:	Filippo Dibari
Members:	69



Filippo Dibari

Interview by Carmel Dolan, ENN

In March 2011, the ENN interviewed Filippo Dibari and Grainne Moloney of the Nairobi Nuts Group (via skype call) and followed this up with an interview with Grainne and other members in Nairobi during the annual Global Nutrition Cluster meeting.

The Nairobi Nuts Group (NNG) was formed in February 2008. It began as a small gathering of nutrition and related professionals and friends based in Kenya who wanted to share and discuss research, policy and programme experiences in a totally informal way. When the group members first came together, they were just 5 or 6 people who met in a café in Nairobi once a month. As Grainne recalled, the "word soon got out" about the small café group meetings and more and more people wanted to join in. To cater for the expanding group, meetings were held in the evenings at a member's house, and this is how the group meets today.

One would be forgiven for asking why the Kenyan nutrition fraternity would feel a need to participate in yet more meetings when, very often, their daily work schedule involves attending so many meetings? The key reason is that the NNG offers a totally informal way for colleagues and friends to meet and discuss challenging nutrition related research and field experiences in an open and non-partisan setting. The meetings fill a gap in allowing members to discuss openly contentious issues or programming challenges, which more formal technical meetings often don't provide. The meetings also provide an opportunity for those who have recently attended interesting high level technical meetings to share the findings and products with the larger group and to discuss what the implications are for the east Africa region. Added to this, the meetings provide a much enjoyed social forum for colleagues and friends to spend time together outside of work.

Kenya is possibly unique in having a particularly large number of international nutritionists based in Nairobi and the surrounding provinces. Such a critical mass of nutrition professionals offers a rich source of information and insights for those working in Kenya and for those who may be visiting Kenya. A key feature of the NNG meetings is that, whenever possible, visitors to Nairobi are invited as guest speakers to present informally and discuss their work. Recently, for example, staff from Tufts University, UCL-ICHD, USAID and Nutriset have all presented research and programming developments to the group. This interaction and information sharing would often not be possible for many of the members who remain in country, or for their invited guests to get informal feedback and discussion about their work. Many of these high level speakers are now members of the NNG mailing list!

The NNG does not have or need a budget to function. The meetings are hosted by members in their homes on a voluntary rota basis. Members are invited to bring food and drink so that, once the business end of the evening is completed, the group can enjoy a meal together. Projectors for presentations are borrowed, there are no joining fees, everyone who is interested can join and there is no bureaucracy. Members communicate via a (free) yahoo account which Filippo set up in a "matter of minutes" and which requires minimal servicing. The NNG is, by anyone's definition, sustainable!

The development of the NNG, from a group of five or six individuals to a growing membership of nearly 70, has been a very positive surprise to the 'founding members' and although they are far too modest to take any credit for this, their energy has undoubtedly enabled the group's formation and continuation.

The essence of the NNG hasn't changed over the past three years - it remains a totally informal and welcoming group committed to sharing information and discussing issues of concern. It has, however, grown from being a small group of international (largely European) nutritionists to a larger group also comprising Kenyan nutritionists and with members from other countries.

The Group's Yahoo facility allows members to share information and communicate continuously. Technical reports, field articles and job adverts are frequently shared and meet the needs of those whose reasons for being a group member may be simply to be part of a network, for technical updates or to engage actively in the meetings and discussions.

Asked what they felt the main achievements of the NNG were, Filippo and Grainne stated that the group is a "very good way of informally solving problems". For example, cognizant of past election related violence, the group has discussed the lessons learnt vis a vis urban food security monitoring, nutrition-related impacts, the potential problems that could arise if electoral violence re-emerges in future elections in 2012 and the need for adequate preparedness. In addition, the benefit of a group such as the NNG is the free agenda for meetings - the open discussions this engenders amongst peers and friends fills an important gap for the nutrition community in Kenya. As a key founding member who is leaving Kenya, Filippo said that the group has been a 'pure joy' to be involved in and will be one of his best memories of his time there. He also feels that he leaves with the confidence that no one person is pivotal to the group and in this sense, the group will continue to meet and endure (even if his cooking will be hard to replace)!

Seasonal Trends in Pastoral Malnutrition in Somalia



A woman in search of water

FSNAU, Somalia, Oct, 2008

rainfall seasons - namely the Gu (long rains, April to June) and *Deyr* (short rains, October to December) seasons. This results in an integrated analysis of the situation communicated cartographically (in map form). Information on the latest food security and nutrition situation is shared with stakeholders via the FSNAU website (www.fsnau.org), meetings and presentations and through technical publications such as the Food Security and Nutrition Briefs, Nutrition Updates and Technical reports. Analysis from routine nutrition surveillance activities guides FSNAU in identifying potential areas for further research to better understand the main underlying causes of malnutrition, in order to advocate for appropriate response in Somalia.

Milk, migration and malnutrition

The main livelihood systems in Somalia are pastoral, agro-pastoral and riverine, which rely on adequate rainfall. Given 20 years of conflict, these systems are highly vulnerable to shocks, such as consecutive seasons of rain failure, drought, floods and inflation. These have a direct impact on the food security and nutrition situation of the population. The population in Somalia is faced with a chronic nutrition crisis, with global acute malnutrition rates (GAM) in most parts exceeding the emergency threshold of 15%.

One of the main contributing causes of malnutrition in Somalia is co-morbidity. However, it has been observed among the pastoral population especially, that when access to milk is reduced, acute malnutrition rates in that population tend to increase. Rates recover when milk access is increased. This is attributed to the fact that pastoral populations mainly rely on the consumption and sale of animals and animal products such as milk for subsistence and commercial purposes. Milk, the predominant food among the pastoral population, is a good source of high quality protein and micronutrients and an important contributor to the total energy intake of individuals. Consequently, increasing the intake of milk is protective against acute malnutrition as well as stunting in young children¹. Studies conducted amongst other pastoral populations in Eastern Africa have noted the important contribution that livestock milk makes to the energy and nutrient requirements of pastoral populations, especially children. This observed relationship between seasonality and acute malnutrition rates among the pastoral population prompted FSNAU to conduct detailed analysis to understand the main influencing factors affecting malnutrition in different seasons.

In a normal dry season, pastoralists migrate within their region in search of pasture and water as they await the seasonal rains. During this normal migration, the entire household will migrate together. Hence all the household members will continue to benefit directly from livestock products. In situations where the area has experienced consecutive seasons of rainfall failure resulting in scarcity of water and inadequate pasture, pastoral populations cope through abnormal migration out of their region. Abnormal migration is an extreme coping strategy and often results in families splitting up so that the women and young children are left behind with a few lactating or weak animals. Meanwhile, the adult men and adolescent boys move great distances to areas outside their region in search of water and pasture for their

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The Food Security and Nutrition Analysis Unit (FSNAU) is a project managed by the Food and Agriculture Organization of the United Nations (UN-FAO). The overall purpose of the project is to ensure a broad range of stakeholders have access to timely and accurate food security, nutrition and livelihood information for improved emergency response and development planning. This empowers communities, agencies and authorities in Somalia, as well as the international aid community, to respond appropriately in a country that has suffered nearly two decades of political instability. FSNAU activities

FSNAU's activities primarily revolve around continuous monitoring through data collection and analysis of relevant food security, nutrition and livelihood information, in addition to applied research on underlying causes of chronic food and nutrition insecurity. Information is collected by a team of FSNAU professionals, strategically located all over Somalia, who process it through an integrated database and information management system. In addition to food security assessments, FSNAU conducts continuous nutrition surveillance at livelihood level through the collection and analysis of data from nutrition assessments, health information systems (105 mother and child healthcare centres are monitored throughout the country) and targeted feeding centre statistics. Furthermore, reliable and relevant population information such as disease outbreaks, child care and feeding practices (dietary diversity, meal frequency, breastfeeding, etc), vaccination status, public health indicators and civil insecurity data are also collected and analysed for a clear understanding of causal factors affecting the nutrition situation of the population.

Nutrition assessments and analysis are conducted biannually succeeding the two main



A woman milking a goat

FSNAU, Somalia, June, 2009

livestock. This splitting up of families negatively impacts the food security and nutrition situation of the household. The vulnerable groups left behind consequently experience reduced access to food, milk and animal products and the income associated with livestock migration. Household food consumption decreases with reduced income from the sales of milk and animal products that are normally used to supplement food and buy non-food items. Furthermore, with the limited milk available, market prices for milk rise.

This reduced consumption of milk and household income directly impacts on the nutritional status of the children, as has been observed in the presented case of the West Golis/Guban pastoralists.

The case of West Golis/Guban pastoralist population

The pastoral livelihood zone of West Golis/Guban (goat, camel and sheep rearing) encompass the coastal plains and highlands of north-west Somalia. FSNAU conducted two repeat nutrition assessments among the West Golis/Guban pastoral population. The first took place during the drought in the Deyr '08/09 season (October 2008), and the second during a rainy season Gu '09 (June 2009).

Both assessments used probability proportionate to size sampling methodologies. The results were compared to observe the main factors affecting acute malnutrition during both seasons. Specifically, GAM and SAM rates, dietary diversity, morbidity pattern, meal consumption, milk consumption and milk prices recorded in two seasons were compared (see Table 1 for summary of main findings).

Deyr 2008

Prior to the Deyr 2008/09, animals from the West Golis/Guban livelihood zone had abnor-

mally out migrated southwards to Awdal and Galbeed regions, due to four consecutive seasons of poor rainfall. In addition, an outbreak of livestock disease resulted in high deaths of sheep and goat, reducing livestock holdings. The overall impact was a reduction in household food access to, and consumption of, milk. The nutrition survey conducted in October 2008 indicated a global acute malnutrition rate of 22.3% and a severe acute malnutrition rate of 6.6 %, indicating a *Very Critical*² nutrition situation. The proportion of households that reported consuming milk everyday was only 33%, moreover the cost of milk was high, with 1 litre of milk costing 3,500 Somaliland shillings (\$0.6) at the local markets. The overall household dietary diversity was *Critical*³, with 23.6% of the households assessed consuming less than 4 food groups in a day, whilst the proportion of households consuming at least three meals a day was less than half of the population (47.7%). In addition to the precarious food security situation negatively impacting on the nutritional status of the vulnerable pastoral population, the proportion of children assessed who had suffered from diarrhoea in October 2008 was high at 28.6%. During periods of water scarcity, the population consume unsafe water predisposing them to diarrhoea and further risk of acute malnutrition.

Gu 2009

Fortunately, the Gu 2009 rainy season was normal. The area received adequate rainfall that increased water and pasture availability, and prompted the migration of livestock back to the area. Additionally, livestock from other areas, namely Shiniile bordering zone five of Ethiopia and Djibouti, also migrated to the West Golis/Guban livelihood zones. This resulted in improved household availability and consumption of milk and animal products. The nutrition survey conducted during this rainy season in June 2009 indicated a marked improvement in the nutritional status of the population, with a global acute malnutrition rate of 13.3%, and a severe acute malnutrition rate of 2.5 %, indicating a serious nutrition situation. Household milk consumption had significantly increased, with 60.4% of the households reported to be consuming milk. The price of milk in the local markets had also decreased with a litre of milk being sold at 1,500 SL shillings. The overall dietary diversity also improved in the wet season with only 13.5% of the households reportedly consuming less than 4 food groups a day. The proportion of households consuming at least three meals a day also increased to 67.7%. Furthermore, water availability and

access improved in the area, with resultant decline in the incidence of reported diarrhoea, compared to the Deyr '08/09.

Milk consumption and acute malnutrition prevalence

During the drought period, analysis shows that children from households where milk was not consumed were about one and half times (RR= 1.36, CI:1.14-1.64) more likely to be acutely malnourished. Results also indicate that a significantly higher proportion (p= ≤0.000) of households consumed milk during the wet season compared to the drought period. Milk prices were also significantly higher during the drought compared to the wet season when milk is available on the market, the prices are lower and more households are able to access milk. This situation is reversed during the drought when lack of income and reduced food supply increases prices in the market, leading to a less diversified diet. When livestock migrate in the normal manner, milk is available more readily, at household level and at the market. Milk prices were lower during the wet season. Furthermore, households were able to sell animals and animal products (such as milk) at a good price because their body condition was good. Therefore they were able to access income to purchase food. During the drought, food prices were generally higher, coupled with lowered income from the reduced livestock and milk sales. Furthermore, there was an increased proportion of households adopting coping strategies, e.g. reliance on social support from relatives and borrowing of food. The data demonstrates clearly that the increased consumption and availability of milk to the household during the dry season does affect the nutritional well being of household members.

Morbidity

Analysis also revealed that the morbidity rates reported during the drought were higher than those reported in the wet season. Diarrhoea was the most reported disease and a major factor aggravating high acute malnutrition rates among the children assessed. The total morbidity reported in the drought season was 37.4% compared to 16.2% reported during the wet season. Diarrhoea remained the main illness in both periods, although a significantly lower proportion of children suffered from diarrhoea

¹ Milk Matters. A Literature review for the Pastoralist Health and Nutrition Initiative. Mark Myatt et al, November 2008
² FSNAU Framework for Estimating the Nutrition Situation, Draft 7 August 2010
³ If proportion of households consuming <4 food groups is 25-40% - FSNAU Framework for Estimating the Nutrition Situation,

Figure 1: Comparing GAM rates, household milk consumption and milk prices of the Deyr 08/09 and the Gu 09

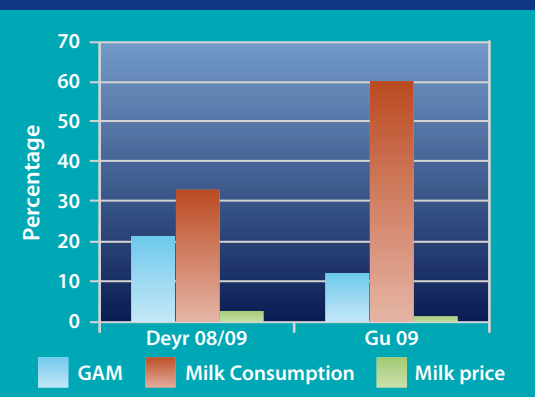


Table 1: Summary of findings, 2008 v 2009

	October 2008		June 2009	
	n	%	n	%
Number of children assessed	535	100	772	100
Number of households assessed	331	100	480	100
Global Acute Malnutrition (WHZ <-2 or oedema)	119	22.3 (17.2-28)	103	13.3 (10.4-16.9)
Severe acute malnutrition (WHZ <-3 or oedema)	35	6.6 (4.4-9.7)	19	2.5 (1.5-3.9)
Total morbidity	200	37.4 (25.7-49.0)	125	16.2 (13.7-19.0)
Diarrhoea	153	28.6 (19.2-38.0)	83	10.8 (8.7-13.2)
Proportion of households consuming fewer than four food groups	78	23.6 (14.2-33.0)	65	13.5 (10.7-17.0)
Proportion of household consuming milk	111	33.5 (23.1-43.9)	290	60.4 (55.9-64.9)
Mean number of food groups consumed by households	4.8 ± 1.03		5.2 ± 1.06	
Mean number of meals consumed by households	2.4 ± 0.6		2.7 ± 0.8	

during the wet season (10.8%) compared to the dry season (28.6%). This could be attributed to the fact that during the wet season, there is water available in the usual water catchments, reducing the risk of children consuming contaminated water. Furthermore, during droughts, women have to travel long distances in search of water for domestic uses, reducing the standard of childcare and feeding practices, as young children are often left in the care of their slightly older siblings or very elderly relatives. The improvement in the morbidity rate in the wet season was therefore due to availability of water, improved nutrition status and its impact on immunity against diseases. In addition, when the Very Critical nutrition situation was reported in the Deyr '08/09, it prompted humanitarian interventions in the area. UNICEF, Ministry of Health, World Vision and SRCS implemented selective feeding and health programmes which mitigated the poor nutrition situation in the livelihood Zone. Child Health Days were also conducted in the region. This included activities such as immunisation, vitamin A supplementation, deworming and screening of children.

Conclusions

The case of West Golis/Guban is a clear illustration that milk availability and consumption has a very significant influence on the nutritional status and well being of the pastoralist population. It also demonstrates the natural ability of a pastoral population to recover from non cumulative shocks if appropriate responses are made in a timely manner. In addition to the more immediate nutrition and health interventions conducted, it is important to incorporate programmes that decrease the population's vulnerability to natural shocks. Programmes that highlight and address the issues related to the welfare of women, especially in situations where families have been split up during periods of abnormal migration, are crucial. Livestock and water intervention activities are also key, e.g. vaccination of livestock, destocking during the drought periods and restocking after drought, provision of livestock feeds and water through water trucking, rehabilitation of boreholes, shallow wells and seasonal water catchments, and provision of water storage containers for storing water safely. There is also a need to promote food processing and preservation techniques. Households can be taught how to prepare cheese and ghee and how to preserve meat, with high nutritional value, which can be consumed during lean times. The promotion of consumption of other foods such as fish is also important, for example in the case of West Golis, which is on the coast. Fish are high in nutritive value and are rarely consumed by the population because of cultural beliefs and attitudes. Rangeland and herd management programmes are also beneficial to households to ensure sufficient pasture during drought periods and enable optimisation of animal productivity.

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A breastfeeding mother who received support in the baby tent

Save the Children's IYCF programme and linkages to Protection, Food Security and Livelihoods in Haiti

By Lucia Pantella

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This article reflects the views and perspectives of the author as independent researcher from Save the Children, as a hosting organisation.

The Haiti earthquake of January 12th 2010 made headline news worldwide given the extent of damage and of loss of life, as well as the profound impact on already vulnerable children and families. While the exact number of deaths and injuries caused by the earthquake may never be known, the Government estimates that 222,750 people (2% of the population) were killed and 300,572 were injured¹. The majority of the 3 million people affected by the disaster were concentrated in Port-au-Prince, which suffered the main burden of human loss and destruction.

Pre-crisis child nutrition situation in Haiti and separated children

Although Haiti's infant mortality rate had significantly declined from 105/1000 in 1990 to 60/1000 live births in 2006, prevailing figures in 2010 were still unacceptably high. A nutritional survey in 2009 found low rates of acute malnutrition (less than 5%), yet 23% of Haitian children suffered from chronic malnutrition. Micronutrient deficiencies, such as anaemia, iodine and vitamin A deficiency affect a large number of children and women, causing a range of cognitive and physical problems. A relatively high low birth weight rate (25%) was also a concern, as was HIV prevalence (despite low prevalence rates)².

Pre-earthquake Demographic Health Survey (DHS) data reflected low exclusive breastfeeding (EBF) rates for children under 6 months – only 40.6% of infants under 6 months were exclusively breastfed, while in Port-au-Prince the rate was even lower (21.7%)³. Mixed feeding⁴ was common in infants under 6 months. According to the DHS (2006), orphans and vulnerable children represented 20% of the 4.3 million children in the country, of whom 4.3% were 0-24 months⁵. The same survey revealed that children aged 12-24 months were slightly more underweight (low weight for age) than children 24-59 months of age, but the difference in undernutrition prevalence was much greater in urban (ratio of 1.39) compared to rural areas (1.06).

Whereas the majority of orphans and separated children in Haiti lived with extended families, a considerable number were hosted in residential care centres (orphanages). At the time of the earthquake, most of these were not registered under the IBESR (Institut du Bien Etre Social et de Recherche), which is the governmental agency in charge of child

¹ IASC (Inter-Agency Standing Committee), 2010. 6 Months Report. Response to the Humanitarian Crisis in Haiti Following the 12 January Earthquake. Achievements, Challenges and Lessons Being Learnt. Draft 2. Unpublished.

² According to Unicef, 1.9% of adults (15-49 years) in Haiti live with HIV/AIDS (Source: UNICEF. http://www.unicef.org/infobycountry/haiti_statistics.html)

³ EMMUS, 2006. Enquête Mortalité, Morbidité et Utilisation des Services, Haïti, 2005-2006. Calverton, Maryland, USA. Ministère de la Santé Publique et de la Population, Institut Haïtien de l'Enfance et Macro International Inc.

⁴ Combines breastfeeding with artificial feeding or other kinds of food such as bean puree, banana flour, maize porridge and dry skimmed milk

⁵ Ibidem



The mother of an artificially fed infant received infant formula supplies

Lucia Pantelli/SCUK, Haiti, 2010



A focus group discussion with mothers

Lucia Pantelli/SCUK, Haiti, 2010

protection in Haiti. These have been described as ghost institutions, where little is known about the identity of hosted children and the quality of care provided. The total number of institutionalised children in Haiti was still unknown at the time of the earthquake, with estimates suggesting around 50,000 children hosted in almost 450 centres, half of which were located in the Port-au-Prince metropolitan area. Despite being called 'orphanages', the majority of the hosted children living in residential care centres had at least one parent alive⁶.

Save the Children's (SC) initial emergency response

In response to the vast needs of the people affected by the earthquake, SC scaled up and mounted one of its largest emergency programmes to date. It involved six sectors: Child Protection, Education, Health and Nutrition, Water, Sanitation & Hygiene (WASH), Shelter and Food Security and Livelihoods (FSL). Targeting 800,000 people, 70 international and 815 national staff were involved in the delivery of relief interventions at the peak of the SC response (May 2010).

SC's early infant and young child feeding (IYCF) response

The vulnerability of infants and young children related to IYCF practices was a key concern in the Haiti post-crisis situation, given the poor short term availability and access to food, increased risks of waterborne diseases, death of mothers and extreme psychosocial trauma impacting on IYCF and care practices. Therefore, SC's nutrition emergency response was considered one of the key areas for life saving intervention and included four main components:

- Protection, promotion and support of optimal IYCF practices through breast-feeding counselling and nutrition education in the Points de Conseil en Nutrition pour Bébé (PCNB) or 'baby-tents', and artificial feeding management. This included the targeted provision of Ready-to-Use-Infant-Formula (RUIF), mass sensitisation campaign promoting exclusive breastfeeding and warning of the danger of breastmilk substitute (BMS) use, and efforts to control unsolicited BMS donations through radio messages and a media campaign.
- Treatment of moderate and severe acute malnutrition for children under 5 years and mothers through the community based management of acute malnutrition (CMAM) approach
- Blanket Supplementary Feeding Programme (BSFP) to prevent deterioration in the nutrition situation amongst the most vulnerable
- Prevention of micronutrient deficiencies through micronutrient supplementation.

SC's IYCF intervention was based on the Operational Guidance on Infant and Young Child Feeding in Emergencies (Ops Guidance on IFE)⁷. It was fully integrated in the nutrition programme, which in turn was part of the wider Health and Nutrition Response. An IYCF adviser was appointed to coordinate the intervention and a considerable amount of resources were made available to support the Ministry of Health (MoH) in developing national guidelines on the 'baby-tents' (nutrition contact points where IYCF support was delivered), in partnership with the Nutrition Cluster members at country level.

During the month of February 2010, SC's IYCF programme scaled up rapidly and 15 baby-tents were set-up in different municipalities of Port au Prince metropolitan areas. (See Box 1 for an outline of baby tent activities). IYCF activities also

took place in Leogane commune and in the SE Department of the Country, including Jacmel.

SC's Family Tracing and Reunification (FTR) Programme

Considering the scale of the disaster and the pre-existing large number of separated children, SC set up a Family Tracing and Reunification (FTR) programme in partnership with other agencies of the Child Protection sub-cluster. SC was nominated as the coordinating body for the Separated Children Working Group in collaboration with UNICEF. The aims of the group were to identify separated children, register them in a database, reunite those children whose families could be traced and were willing to take them back, and provide interim care for the others.

Research objectives and methods

The aim of the study was to investigate the impact of SC's IYCF response to the earthquake in Port au Prince and to identify linkages that resulted with child protection and FSL sectors, in order to better address the needs of the youngest children affected by the earthquake.

The research team was composed of an independent Master Research Student at the Liverpool School of Tropical Medicine supported by the SC UK Emergency Nutrition Adviser, the Haiti IYCF adviser and a Haitian translator.

The field research was conducted in May and June 2010 focusing on the emergency response of SC in Port-au-Prince metropolitan area. Data were collected in ten internally displaced people (IDP) camps and informal sites where health and nutrition interventions were run. Residential care centres and stabilisation centres were also visited and the researcher attended regularly coordination meetings at the United Nations (UN) Logistic base.

Qualitative methods were used to collect primary information. These included 51 semi-structured interviews, four focus group discussions, non-participant and participant observations and gathering life stories. Survey-based secondary data and monitoring reports were extensively used to collect quantitative data and triangulate information.

Nutritional Risks and SC's IYCF Response: did it work?

Exclusive breastfeeding status

Despite access to counselling, one quarter (24%) of newborn infants' mothers attending the baby-tents were reluctant to exclusively breastfeed. While this compares favourably to a pre-emergency exclusive breastfeeding rate of 40.6%, a higher rate was anticipated. Mothers stated that the insufficiency of their own diet prevented them from producing enough good quality milk. While research demonstrates that dietary insufficiency rarely affects the amount or quality of breastmilk that a woman produces, this maternal perception represents a powerful barrier to enabling a life-saving intervention for newborns. Moreover, there was a general belief that all emotions pass through the breastmilk, and that stress makes milk dry-up. After the earthquake, this belief fuelled concerns amongst health and nutrition agencies and the MoH that there may be a reduction in the already low level of breastfeeding.

In general, the majority of mothers reported that employment was not a major determinant of

⁶ Source: Interviews with Residential Care Centres staff. PaP, May/June 2010

⁷ Version 2,1, 2007. <http://www.enonline.net/resources/6> and addendum (2010): <http://www.enonline.net/pool/files/ife/insert-operational-guidance-6-3-2-addendum-2010-final.pdf>

Box 1: Activities conducted in the PCNB/baby-tents

- PCNB/baby tent activities included: Breastfeeding promotion through radio broadcasting, leafleting, community events and celebrations (e.g. Mother's Day)
- Individual and group counselling to promote exclusive breastfeeding and continued breastfeeding
- Assessment and skilled support for mothers with problems breastfeeding
- Community outreach activities to find cases needing referral
- Home visits for children enrolled in the programme
- Nutrition education sessions on adequate complementary feeding
- Individual level assessment for artificial feeding support and where indicated, provision of RUIF supplies, with associated support and follow up
- Serial weight measures of non breastfed infants 0-12 months of age
- Serial weight measures of breastfed infants over 6 months of age

reduced duration of EBF. In fact, most of the women living in the camps belong to the lowest socio-economic groups and were either unemployed, or involved in informal markets and petty trade activities. Mothers who wanted to continue breastfeeding had a number of options, e.g. petty trading closer to their dwelling, working flexible hours, or bringing their infants to the workplace. Manual expression and storage of breastmilk was not a practical option for most mothers due to the requirement for refrigeration facilities.

Discussions with breastfeeding mothers suggested that the increase in the prices of food and of infant formula post earthquake and the reduction of income as a result of the earthquake made mothers more receptive to behaviour change messages encouraging exclusive breastfeeding. For many women, exclusive breastfeeding was a coping strategy after the earthquake to feed their children. The breastfeeding support offered in the baby-tents was highly valued by the majority of mothers living in the camps.

The challenges of complementary feeding (CF)

Ensuring adequate CF for children between 6 and 24 months was perceived as a major challenge for mothers and caregivers attending the baby tents. Putting into practice the advice received during the nutrition education sessions regarding appropriate food to introduce during the CF period and the methods of preparation was not always easy and feasible. Caregivers were particularly constrained by the post-earthquake deterioration in living conditions and facilities for food preparation, and the lack of appropriate complementary food in the relief effort. Buying fresh vegetables, fruits and meat was a challenge for many mothers living in the camps.

Priorities for the cluster led nutrition emergency response in Haiti included a blanket supplementary feeding programme (BSFP) to 12,000 children less than 5 years of age and to pregnant and lactating women (PLW). The programme was designed to prevent deterioration in the nutritional status of mothers and children in the aftermath of the earthquake and to prevent a rise in acute malnutrition. However, the BSFP could only start in April 2010 for administrative/supply reasons. Children from 6 to 35 months received one sachet of a high energy Ready-to-Use-Supplementary Food (RUSF)⁸ per day for 90 days, while children from 36 to 59 months and PLW received rations of Corn Soy Blend (CSB), oil and sugar.

Although the RUSF is designed to treat moderate acute malnutrition, in Haiti it was used partly to compensate for the inadequate complementary feeding support. According to SC staff, in many cases the aim of the BSFP was not fully understood by the beneficiaries, who complained about the reduced amount of food distributed compared to the normal round of general food distribution which they had received only for the first three months after the earthquake. BSFP rations were also shared among members of the family, reducing the nutritional benefits to children and PLW.

Artificial feeding management

The most innovative nutritional intervention in the Haiti emergency was the management of artificial feeding at scale that included RUIF as

an emergency BMS. RUIF is a BMS that is already constituted and does not require the addition of water. It is therefore potentially less risky in an emergency environment, but is not a guarantee of safety and requires careful targeting and management. RUIF was chosen due to inadequate conditions (especially hygiene), resources (including water) and controls to manage powdered infant formula (PIF) supplies at household level. Labelling was tightly controlled in order to avoid any marketing which may affect the messages promoting breastfeeding, and to ensure Code adherence. In Haiti, the RUIF was supplied to and distributed by Nutrition Cluster partners following compulsory staff training through the PCNB/baby tents, according to the National Directives developed following the emergency, See Box 2 for criteria for RUIF use in Haiti.

There was also a risk that without a clear BMS provider, primary caregivers would have been encouraged to use artificial infant formula and other BMS supplies arriving through unsolicited donations. To tackle the latter, the Nutrition Cluster worked intensively on advocacy to minimise the risks of any artificial feeding through handling BMS donations and supplies, but also monitoring and intervening in case of identification of inappropriate use of BMS by the cluster members. SC was designated by the nutrition cluster members to manage the RUIF in Haiti.

The nutritional risks of separated children

Separated children less than 24 months were considered more at nutritional risk because they were not breastfed. However breastfeeding counsellors and nutritionists working in the PCNB/baby-tents also raised concerns about the capacity of the extended family to provide adequate care to fostered children, especially infants. There were reports of a number of defaulting cases (children not attending the programme for at least one week period) among orphaned children enrolled in the artificial feeding programme and receiving RUIF supplies. In one of the stabilisation centres, a key informant reported that they regularly treated cases of abandoned children who were severely malnourished.

Nutritional risks in residential care centres

Residential care centres posed a challenge for the nutrition sector in terms of conducting nutritional screening to refer malnourished children for appropriate treatment and management of artificial feeding (including RUIF supply) to non-breastfed infants. Assessment findings and staff observations from visits revealed that IYCF practices in residential care centres were sub-optimal and risks of malnutrition high. Moreover according to a post-earthquake rapid assessment conducted by CRS, WASH facilities in centres were reported to be inadequate in 63% of cases⁹.

Shortly after the earthquake, one agency, supported by UNICEF and WFP, intervened in the orphanages, providing RUSF for children from 6 to 35 months and high energy biscuits for children from 36 month to 15 years. However, infants under 6 months were not targeted with the RUIF. A rapid nutrition assessment in those centres based on a purposive sample of 1,000 children between 6 and 59 months, revealed that the proportion of acutely malnourished children was around 6%, includ-



A can of ready to use infant formula

ing 1.5% with severe malnutrition. This reflects that after the earthquake, residential care centres faced nutritional problems and could not guarantee adequate levels of nutritional support for their resident children. UNICEF also reported cases of malnutrition in the orphanages and the need for infant formula for babies less than 12 months.

Four months after the earthquake, MoH representatives expressed frustration regarding lack of prompt nutrition assistance in these centres and insisted that nutrition cluster members and the IBESR¹⁰ establish an intervention with urgency. However, there were significant challenges to such an intervention with reservations particularly about the risks of inappropriate use of RUIF without systematic monitoring mechanisms in place. In the aftermath of the earthquake, the number of infants in the orphanages was very volatile, as was the number of orphanages. Since most of them were not registered under the IBESR they were, in effect, *ghost* institutions, where little was known about the identity of hosted children and the quality of care provided. There were concerns that supplying RUIF to these centres would encourage mothers and caregivers to abandon their infants there. This fear prevented the Nutrition Cluster from intervening to supply RUIF. Moreover, issues related to registration of children, inaccuracy of information on the case-load, infants being adopted, and difficulties with coordination between agencies and sectors were significant obstacles to extending the artificial feeding intervention to residential care centres.

⁸ Supplementary Plumpy

⁹ CRS (Christian Relief Service), 2010. *Haiti Protection Assessment Report*, Unpublished

¹⁰ Institut du Bien Etre Social et de Recherche), which is the governmental agency in charge of child protection in Haiti

Box 2: Criteria for receiving RUIF in Haiti following the earthquake

- a) Infants under 12 months of age that have no possibility of being breastfed
- b) Criteria for temporary or longer term use of RUIF:
 - Mother absent or dead
 - very ill mother,
 - relactating mother until lactation is re-established
 - Infants of mothers who are HIV infected and who had chosen not to breastfeed and where social and economic criteria are in place to support replacement feeding
 - infant rejected or abandoned by mother
 - mother who was artificially feeding her infant prior to the emergency, including replacement feeding in the context of HIV
 - rape victim not wishing to breastfeed



Lucie Pantella/SCUK, Haiti, 2010

Cross-sectoral linkages in SC's emergency response

The importance of integrated programming is a key strategic principle of SC's interventions. The research considered the Emergency Standard Operating Procedures (ESOPs) developed by the SC UK Office which provides a number of recommendations for potential cross-sectoral linkages. Four areas for multi-sectoral programming which could enhance the effectiveness of the IYCF response in Port-au-Prince, were identified:

1. Multi-programming catchments areas
2. FSL support for PLW
3. Referral system for separated children
4. Intervention in residential care centres

The degree to which these linkages were made in Haiti was explored in this study.

Multi-programming catchment areas

Despite an attempt to conduct a multi-sectoral assessment at the beginning of the response, decisions about programme location activities were made separately by each SC sector and were informed by the gaps left by other organisations. This resulted in geographic dispersion and fragmentation of SC activities in the metropolitan area, reducing the potential for integration and the possibility of offering multiple services to affected people, while referral systems with other agencies from different clusters were not in place.

A strategic decision to integrate health and nutrition in Port-au-Prince was made at the very beginning of the response, which linked the mobile health clinics to PCNBs/baby-tents. This played an important role in reaching a large number of mothers and caregivers.

Programming FSL support for mothers and caregivers

SC's FSL recovery strategy for the first phase of the emergency included a nutritional component, providing vouchers for complementary foods (food aid) and cash transfers for vulnerable households, with a particular focus on households headed by PLW. However, the strategy was not implemented in Port-au-Prince, since it would have required a high level of integration and coordination among the sectors that was not possible in the aftermath of the earthquake. Moreover, there were issues of practicability related to time and logistics constraints (including the identification of appropriate suppliers), and scale-ability due the large number of affected people in densely populated areas. Thus, linking a nutrition intervention and a FSL intervention was postponed to the second phase of the response. This involved FSL support targeting children affected by severe and moderate acute malnutrition but did not include direct interventions to support optimal IYCF practices for mothers.

Referral system for separated children

Although FTR and IYCF target groups partly overlapped (i.e., separated/orphaned children under 12 months), there was no system for information exchange between the two programmes. On the one hand, data about the age of separated children registered in the FTR database were not stratified by month (recommended in the Operational Guidance on IFE), while in the baby-tents, breastfeeding counselors collected information only on children separated from their mothers, but not those separated from other family members. This limited the possibility of setting-up a referral system between the two sectors. Moreover, training for child protection staff regarding the needs, risks and appropriate responses to the nutritional needs of separated children of different breastfeeding ages was limited. Lack of awareness of the existence of the artificial feeding programme for children under 12 months who could not be breastfed, meant FTR officers did not refer any child to the baby-tents. Conversely, in none of the 10 baby-tents of Port-au-Prince visited by the researcher were nutrition staff aware of SC child protection work, despite the baby tent staff daily contact with orphans and separated children. SC's staff considered difficulties related to lack of time and the need to scale-up the initial response quickly to be the main reasons for the failed linkages.

Intervention in Residential Care Centres

As part of the inter-agency FTR emergency response programme, SC participated in an initiative to register all children in residential care centres and trace the families of those who had been separated after the earthquake. However, a number of difficulties with caregivers were encountered in the registration and reunification process. Interviewed FTR personnel reported that some caregivers were reluctant to take the child back because they did not have enough means to provide adequate food for them. Also, it was hoped that a nutritional intervention would facilitate the child protection intervention in the residential care centres by overcoming the resistance of the caregivers to collaborating with the family reunification programme. However, lack of timely needs assessment data, poor coordination between institutional and non-governmental actors (IBESR and MoH, and nutrition and child protection clusters) and the absence of an operational strategy for an IYCF intervention in the orphanages meant this did not happen.

Suggestions for programme design in future emergency responses

The response to the Haiti earthquake demonstrates considerable progress in addressing the

needs of infants in an emergency. Resources and knowledge were applied from previous IFE responses, such as in Myanmar, Lebanon and the Philippines. In spite of the major difficulties encountered by the humanitarian system, there were strong coordinated efforts to implement the Operational Guidance on IFE and to intervene quickly to protect and support optimal IYCF in this risky context. It is possible that the nutritional survey conducted in the months of May-June 2010, which revealed low levels of global acute malnutrition in children amongst both the displaced and non displaced communities, with no significant changes compared to the pre-earthquake situation¹¹ was in part due to the success of the IYCF response.

However, the extreme nature of the Haiti emergency, in terms of mortality, level of destruction, logistic challenges, chaos and the pre-existing high number of orphaned and separated children had profound implications for the IYCF response. The research suggests that many of the IYCF limitations experienced in families and reflected in programmes could have been overcome by developing multi-sectoral programming, especially with child protection and FSL both at the organisation and cluster levels.

Based upon previous experience of SC¹² and through the analysis of SC's IYCF programme in Haiti, the researcher identified three main areas where lessons can be drawn on for SC and in general for the sector for improving the effectiveness of the nutrition response in future emergencies. Key lessons identified are:

Meeting basic needs of pregnant and lactating mothers

Promoting exclusive breastfeeding for infants less than 6 months and advising on adequate CF, without concurrently providing access to accompanying measures such as food aid, shelter and WASH, reduced the acceptability and feasibility of the services provided in the baby tents, thus limiting the impact of the IYCF intervention.

A timely BSFP could have achieved a greater impact (soon after a disaster) if there had been an adequate communication strategy which clearly specified the target and the purpose of the intervention both to eligible and non-eligible recipients.

Other support interventions such as food distribution, fresh food vouchers or conditional cash transfers (CCTs) need to be considered and integrated with the IYCF programme.

For cash based interventions, the level of conditionality (for example, provision of cash upon attendance at exclusive breastfeeding promotion sessions), the delivery and monitoring mechanisms, the link to income generating activities, and feasibility and scale are issues to be considered while planning the intervention. Also, if any FSL intervention for PLW is implemented, it should be implemented in conjunction with nutrition education messages to enhance the sustainability of behaviour changes.

Supporting small-business activities for breastfeeding mothers of children over 6

¹¹ MoH, (Haiti Ministry of Health), 2010. Rapport Final Enquête Nutritionnelle Anthropométrique, Enfants de 6 à 59 mois, République d'Haiti, May- June, 2010. Unpublished.

¹² SC UK (Save the Children UK) 2008a. A Review of Save the Children's Cyclone Nargis (Myanmar) Infant Feeding in Emergencies response: September 15th-26th 2008. Unpublished.

months through grants and micro-loans could be a programmatic option to support the IYCF technical intervention. The feasibility of manual expression of milk should be explored in contexts where storage is possible; some mothers in Haiti were practising breastmilk expression although on a small scale.

Cash-based support programmes for caregivers of maternal orphans need to include elements that minimise risks of exploitation by opportunist foster caregivers. This could be achieved by establishing a system to identify those families who are genuinely willing to take care of children and need support. Monitoring of these interventions also require the strong participation of the community through community based child protection committees who are responsible for identifying suitable foster carers (in partnership with Child Protection and FTR officers).

Addressing the nutritional needs of separated children and children in residential care

Assessment of artificial feeding need at population level including the estimation of caseload for BMS supplies should be conducted in collaboration with FTR programmes, and by establishing systems for exchange of information at the very beginning of the emergency response. To inform this process, registration of separated children by FTR working groups (both in the community and in residential care centres) should seek to distinguish children <6 months, 6-<12 months, 12-<24 months and children aged 24-<59 months (2-5 years), in order to identify the size of potential beneficiary groups.

In situations of emergency and distress, lack of nutritional support for parents and caregivers often contributes to family separation and neglect. Creating synergies through effective referral systems with the child protection and FSL sector could improve coverage and impact of the IYCF intervention, as well as reduce risks of family separation and promote family reunification.

Nutritional and health care intervention strategies for residential care centres need to be developed, while minimising the risk of proactively supported centre-based solutions rather than community based mechanisms for separated children. In this regard, the Operational Guidance on IFE policy guidance should include recommendations on IYCF interventions in residential care centres.

Improve the organisational capacity to promote cross-sectoral integration

Integrated programming demands strong leadership and clear guidance from the initial stage of the emergency response, through facilitating systematic multi-sectoral assessments based on a holistic understanding of children's needs and adoption of strategic decisions.

Multi-sectoral rapid assessment teams comprising people with different skills for example in child protection, health and nutrition, may facilitate the identification of vulnerable groups. FTR officers need to be involved in home visits and follow-up for motherless and separated children who require artificial feeding support as these children may also be exposed to higher risks of abuse, neglect and exploitation.

The strategic choice of integrating health and nutrition from the very beginning of the response through linking mobile clinics to baby-tents,

facilitated the rapid scaling-up of the nutrition intervention including the IYCF component. In contrast, lack of referral system between FTR and IYCF programmes did not allow for addressing interlinked needs of separated children.

Conclusions and recommendations

This researcher's findings demonstrated that the complementary sectoral strengths of nutrition with child protection and FSL sectors were not maximised and the emergency response targeting the youngest children was weakened as a result. The importance of pursuing integrated programming from the very beginning of the relief operation should become a key strategic principle, not only for organisations working in multiple sectors such as SC, but also for the whole cluster system to ensure coordinated and effective response. The researcher



makes a number of recommendations to those involved in coordinating and implementing direct and allied programming related to IYCF in emergencies, and those working in related policy and resource development:

There is a need to advocate at both national and global cluster level for a prompt and systematic exchange of information and collaboration between the Separated Children Working Group (Child Protection sub-cluster) and IYCF Working Group (Nutrition cluster) to set-up effective referral mechanisms, especially for children under 24 months of age among all partners. It is important to ensure that information on FTR services (such as the call centre for separated children) is disseminated at the nutrition cluster level and that information on IYCF services (including artificial feeding management cases) is disseminated to child-protection sub-cluster actors. UNICEF, as the cluster lead agency for the GNC and responsible agency for child protection, is well placed to enable information consolidation and exchange. At the same time, agencies that work both in the nutrition and CP sectors can support this process through development of internal tools and mechanisms. This is arguably best achieved through emergency preparedness.

The FTR Standard Operating Procedures at organisation and cluster level should include a

specific reference to the nutritional needs of children under 24 months and that the data on accompanied and unaccompanied infants and young children under two years are stratified by age (0-<6 months, 6-<12 months, 12-<23 months, 24-<60 months) to inform programming. Multi-sectoral joint assessment would enable a more holistic perspective.

FSL interventions should have a clear nutrition objective to support IYCF interventions, targeting specifically PLW and children under 2 years. This should be emphasised in future update of the Operational Guidance on IFE and specified in relevant FSL policy guidance.

The Early Recovery/Livelihood cluster should include PLW and families fostering separated children in FSL support programmes. These activities need to be realised in partnership with nutrition and child protection actors, to ensure appropriate targeting mechanisms and consistent communication messages, reducing risks of exploitation.

The provisions of the Operational Guidance on IFE should be reflected in revisions of the Interagency Emergency Child Protection Assessment Toolkit¹³, including a specific focus on residential care centres.

A rapid assessment tool to assess the nutritional needs of infants and young children in residential care is needed. The institutional care capacity maps (tools of Interagency Emergency Child Protection Assessment Toolkit) needs to specify that the presence of children under 24 months in residential care centres be referred to the designated IYCF coordinating agency/relevant working group at country level. The evaluation questionnaire for residential care centres developed by the Child Protection sub-cluster should be revised in cooperation with nutrition actors to collect relevant information on IYCF.

Interventions in residential care centres to manage artificial feeding and to support adequate complementary feeding need a specific well planned strategy and may require:

- Provision of a BMS on a regular basis (closely monitored)
- Nutrition education for caregivers (including coaching and training)
- Nutritional surveillance (that could be linked with a vaccination campaign)
- Family tracing for non orphaned children and nutritional support for re-united children
- Referral to services outside the institutions, through establishing referral mechanisms.

Finally, it is essential to engage in donor advocacy for multi-sector funding mechanisms, (e.g. Flash appeals and Consolidated Appeal Process) both at the organisational and cluster level, to facilitate multi-sectoral integrated programming to protect, promote and support optimal and timely IYCF responses.

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Weblinks to Global Clusters

Global Nutrition Cluster: <http://onerresponse.info/GlobalClusters/Nutrition>

Protection Cluster: <http://onerresponse.info/GlobalClusters/Protection/>

Child Protection Working Group (CPWG):

<http://onerresponse.info/GlobalClusters/Protection/CP/>

¹³ <http://onerresponse.info/GlobalClusters/Protection/CP/Pages/Resources.aspx>.

People in aid



Participants of the Nutrition in Emergencies course, held September 2010 in Beirut as part of the NIE regional training project

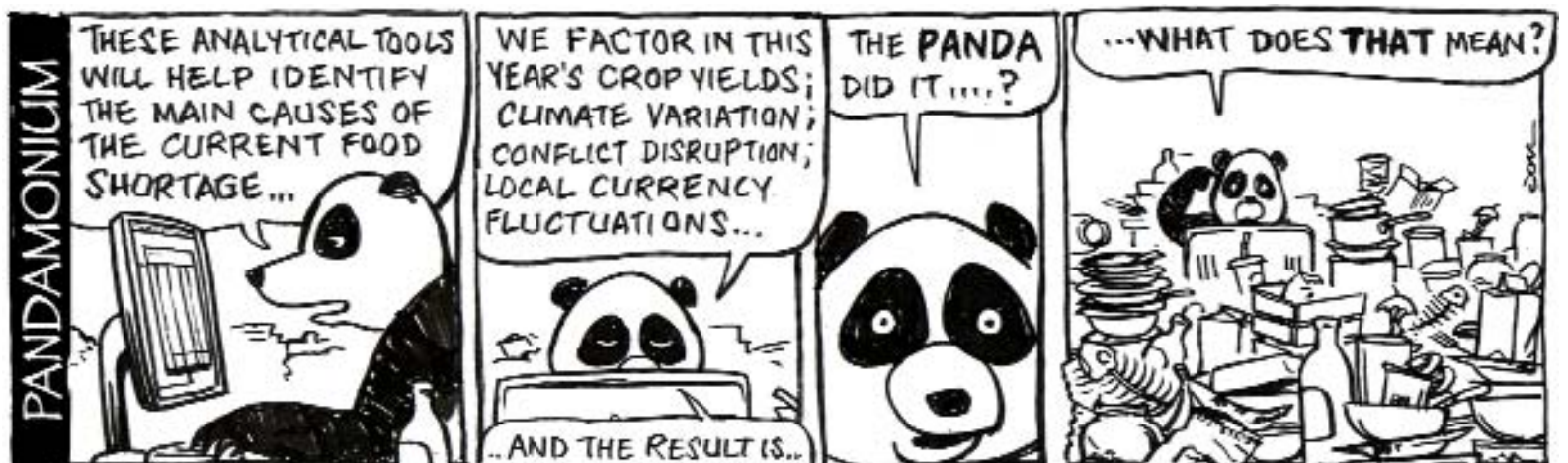


Participants of the Nutrition in Emergencies course, held January 2011, in Uganda as part of the NIE regional training project



Participants of the first Professional Short in Nutrition in Emergencies course, held 23rd May to 2nd June in Thailand as part of the NIE regional training project

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Invite to submit material to Field Exchange

Many people underestimate the value of their individual field experiences and how sharing them can benefit others working in the field. At ENN, we are keen to broaden the scope of individuals and agencies that contribute material for publication and to continue to reflect current field activities and experiences in emergency nutrition.

Many of the articles you see in Field Exchange begin as a few lines in an email or an idea shared with us. Sometimes they exist as an internal report that hasn't been shared outside an agency. The editorial team at Field Exchange can support you in write-up and help shape your article for publication.

To get started, just drop us a line. Ideally, send us (in less than 500 words) your ideas for an article for Field Exchange, and any supporting material, e.g. an agency report. Tell us why you think your field article would be of particular interest to Field Exchange readers. If you know of others who you think should

contribute, pass this on – especially to government staff and local NGOs who are underrepresented in our coverage.

Send this and your contact details to:

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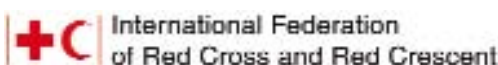
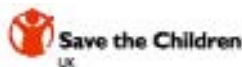
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WFP/Pia Skjelstad, Sudan, 2010.
Women with fuel efficient stoves developed in a WFP initiative in Sudan.

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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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