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From the Editor

Al the field articles in this issue come from either AAH or ACF staff. Two pieces deal with programmes targeted at the severely malnourished. Thierry Muriele writes about the success of a Home Based Treatment regime in Kabul where the social and cultural attitudes to women made it very difficult for them to attend therapeutic feeding centres. Programme staff therefore chose to implement a HBC regime which led to a considerable improvement in default rates. Carlos Navarro writes about a trial of RUTF (BP100) in a TFC setting in Sierra Leone comparing outcome with F100. The results show equivalent success in terms of weight gain for the RUTF product. The two other field articles deal with programmes in former Soviet Union countries - Tajikistan and Azerbaijan. Carmello Gallardo describes AAH efforts to implement Income Generating Activities (IGAs) for vulnerable groups in Azerbaijan following collapse of the Soviet Union and low level war in the region. She describes how AAH implemented a combination of short and long-term IGAs to bolster food security, each with varying degrees of flexibility, risk and profitability. The adopted strategy was similar to holding a mixed investment portfolio to maximise gain but minimise risk. Toby Porteous writes about the limited success of the land reform process in Tajikistan. The land reform programme aimed to provide farmers with their own small farms on which to grow foods/crops of their choice. However, it appears that only 3.5% of households surveyed had moved away from large collective farms. Reasons given for the limited success included lack of knowledge of new land rights and how to apply for land, pressure to grow certain crops like cotton, refusal of applications and indebtedness leading to the need to grow crops on large collective farms. Recommendations included, training for farmers on land laws and rights, instituting mechanisms for legal redress, assumption of debt by government, and the need for monitoring the land reform process.

This issue of Field Exchange also has a broad range of research and review summaries. Much of this material is novel and a valuable contribution to the literature. Work on the impact of a fortified spread supplement amongst Sarahawi refugees shows how in contrast to conventional wisdom a fortified supplement can significantly contribute to catch-up growth up until 6 years of age. Claudine Prudhon from the NCIS in Geneva submitted a study based on nutrition surveys received by the NCIS. The piece highlights the difficulty of accounting for oedema in surveys. She argues that Epi Info 6 is not sufficiently ‘user friendly’ with regard to accounting for oedema so that almost one third of surveys which used this software for analysis miscalculated prevalence of malnutrition. A review by HPG of the changing role of food aid policy in protracted crises highlights how the increasing number of protracted crises in the world poses significant intellectual and institutional challenges especially as more development agencies start to programme in these settings.

This issue also summaries a series of reviews on complex emergencies carried recently in the LANCET. While these reviews identify gaps and challenges (many of which have already been identified in the literature) they contain few practical ideas as to how to advance knowledge or move debate forward.

Finally, there is a research piece describing a recent MSF mortality survey in Darfur. This study raises a critical issue which as yet is not being fully acknowledged or addressed by actors in the emergency food and nutrition sector. The concluding paragraph of this piece states that ‘The high mortality and family separation amount to demographic catastrophe’. However, ‘proof of genocide would require documentation of intent by perpetrators’.

This is a revealing observation and one that should raise concern amongst health professionals. While the aid world has struggled for years with definitions or cut-offs marking end points, e.g. what is a food emergency or famine, it is clear that little effort has been made amongst emergency food and nutrition specialists to define genocide. This is surprising given that starvation whether by omission or commission is often a central strategy of those intent on genocide. Arguably, arriving at consensus over a definition of genocide is a more important definitional quest than has been ongoing for famine, as consensus will inevitably contribute to more timely political pressure for action as and when these events occur. Definitional clarity is surely something for which public nutritionists must begin to advocate. Events in Darfur and before this, Rwanda, might have unfurled in a far more positive manner had there been greater consensus and clarity about what constitutes genocide. In a world where the natural law of politics is ‘not to act’ unless there is significant political pressure, it is vital that technicians do all within their power to remove ambiguity and sharpen focus on the processes and end points that define genocide so that political pressure can be mobilised. Apart from witnessing (testimonio) and providing hard data on levels of malnutrition, its causes, and related mortality, this is probably the greatest contribution that public nutritionists can make to prevent future genocide.

We hope you enjoy this issue of Field Exchange

Jeremy Shoham (editor)
Land Reform in Tajikistan

By Obie C. Porteous

The implementation of effective land reform has been one of the biggest challenges faced by the Republic of Tajikistan since its independence from the Soviet Union in 1991. During the Soviet period, the country’s sparse agricultural land was organized into state farms (kolkhozes) and collective farms (sovkhozes). Both types of farm were large (typically more than 1,000 hectares) and were kept under the close supervision of the state, which set production plans and received monthly reports on their operations. Beyond its role as economic entity and place of employment, the kolkhoz/sovkhoz was a principal unit of social organization in rural Tajikistan. Each family in the area was given a house with an adjacent household plot for growing food for household consumption. In return, the family was expected to work on the large farm.

Starting in 1996, as the country emerged from its prolonged civil war, the government slowly began to try to break up these large state and collective farms into smaller, more efficient private farms. A series of laws were passed that aimed to reorganize the kolkhozes/sovkhozes (which by this time had entered a state of profound financial crisis) into “dehkan” (private) farms. To date, kolkhozes/sovkhozes that are designated for seed production, livestock breeding, and research are to be kept under the control of the state, but all others are scheduled to be converted into dehkan farms by 2005.

Action Against Hunger (AAH) has been implementing nutrition, health, water/sanitation, and food security programs in Khatlon oblast since 1999. Khatlon is the largest of the four regions of Tajikistan in terms of population, with approximately 2,280,700 people as of January 2003. During the civil war, the region experienced some of the fiercest fighting, and much of its infrastructure was destroyed. AAH’s annual nutrition surveys persistently find high rates of both acute and chronic malnutrition in Khatlon.

An AAH study sought to assess the impact of the land reforms at the local level in Khatlon. Five representative districts in the oblast were selected: Bokhtar, Kabodian, Kolkhozabad, Pyanj, and Shaartuz (see Figure 1). These five districts are home to 616,100 people, approximately 30% of the population of Khatlon and 10% of the population of Tajikistan. The goal was to select districts that were at different stages of the land reform process and that had implemented the land reforms in a variety of ways.

In the first phase of the study, the researcher visited each of the 31 jamoats in these five districts. Meetings were first held with one of the three ranking officials of the jamoat – the chief, the deputy chief, and the administrator. Following this meeting, if time permitted, interviews were conducted with the chairmen, accountants, and economists of the jamoats’ farms.

In the second phase of the study, the researcher visited each of the 31 jamoats in these five districts. Meetings were first held with one of the three ranking officials of the jamoat – the chief, the deputy chief, and the administrator. Following this meeting, if time permitted, interviews were conducted with the chairmen, accountants, and economists of the jamoats’ farms.

In the third phase of the study, 10 villages were randomly selected in each of the five districts. A team of AAH monitors used a household questionnaire to interview 20 households in each village. The questionnaire was designed to assess the access to land of households, in addition to their knowledge of the land reforms, the freedom they have in managing their farms, the costs of taxes and documentation, the levels of credit use, etc. In addition, the monitors were given a list of

1 The jamoat is the smallest administrative unit of the post-Soviet system. Each district had five to seven jamoats. The 31 jamoats ranged in size from 6,940 people in three villages (Obshoron jamoat, Shaartuz district) to 42,000 people in 27 villages (Zargar jamoat, Bokhtar district).
additional questions, which they asked a few households in each village in longer interviews. In total, the household questionnaire was used to interview 1000 households in 50 villages.

**Land Reform on Paper**

According to the Khatlon Oblast Land Committee, 185 kolkhozes/sovkhozes had been reorganized into 686 dehkan farms in Khatlon by January 2003. In addition, there were 4,171 small dehkan farms that had been formed by individual application to the hukumat, for a total of 4,857 dehkan farms in the oblast. On paper, the land reforms appear to be proceeding smoothly. In January 2003, in addition, there were 4,171 small dehkan farms that had been formed by individual application to the hukumat, for a total of 4,857 dehkan farms in the oblast. On paper, the land reforms appear to be proceeding smoothly and successfully.

**Access to Land**

During the household interviews, AAH encountered five principal types of land:

- **Household plots**
  The vast majority (99.3%) of interviewed households had household plots. The average size of the household plot was 14.6 sots (0.146 Ha).

- **Presidential land**
  Overall, 70.0% of interviewed households had presidential land. The average size of the presidential land was 11.5 sots (0.115 Ha). This land was allocated by presidential decrees in 1995 and 1997 in an effort to improve the food security situation of the population.

- **Rented land**
  A total of 6.8% of interviewed households had rented land. The average size of the rented land was 1.31 Ha, and it ranged in size from 0.1 to 5 Ha. This land is rented from a large farm, either a kolkhoz/sovkhoz or a dehkan farm.

- **Dehkan farms**
  Only 3.5% of interviewed households had their own dehkan farm. The average size of these dehkan farms was 17.2 Ha, and they ranged in size from 1.48 to 124 Ha.

- **Kolkhoz/Sovkhoz**
  Some state and collective farms are still operating.

**Dehkan Farms in Practice**

AAH encountered several distinct types of dehkan farm during the fieldwork for this study. Most of the land in Khatlon is now contained in collective dehkan farms. In order to meet its privatization targets, the government has often converted kolkhozes/sovkhozes directly into dehkan farms. Many collective dehkan farms have over 1,000 hectares of land and several thousand members. Typically, the chief of the kolkhoz/sovkhoz is ‘elected’ as the chief of the new dehkan farm, and the administration remains the same. A land certificate is issued in the chief’s name with a map of the farm and a list of all of the members who work on the farm. The members are allocated shares of the farm on paper and are supposed to be given membership certificates. Of the dehkan farm workers that AAH interviewed, only 5.6% had received these certificates, and most of the farms said that they were still being prepared. Most of the workers on the farm remained unaware of the changes and 64.3% of interviewed households thought that they were still working for a kolkhoz/sovkhoz.

More changes have occurred for independent dehkan farms. These farms are typically small (less than 30 hectares) and are run by an individual, a family, or a group of families. They were formed through the initiative of individual farmers, rather than by the reorganisation plan of the state.

Independent dehkan farms are now increasingly being supplemented by a third form - the association of dehkan farms. An association consists of a group of small dehkan farms under a single association management. The association management typically provides its farms with seeds, fertilizer, fuel, and machinery. At the end of the year, it is responsible for selling the harvest and takes a certain percentage (2-10%) of the profits. Associations of dehkan farms vary in the autonomy that they allow their member farms.

**Current Situation in the districts**

The five selected districts have implemented the land reforms in different ways. They vary significantly in both the progress they have made in reorganizing their kolkhozes/sovkhozes, and the relative prevalence of the different kinds of dehkan farms in the areas where restructuring has already taken place.

For example, in Bokhtar district, the land reforms have had the least effect on the situation of the population. The five kolkhozes/sovkhozes in Bokhtar, Navbaho, Orizom, Sarvati Istiqol, and Zargar jamoats have been reorganized into twelve large associative dehkan farms. Rented land is more common in Bokhtar than in other districts.

In contrast, in Pyanj district, there are two kolkhozes/sovkhozes for livestock breeding and seed production and ten associations of dehkan farms in the district. More effort has been made to educate farmers about the land reforms, and the level of knowledge is much higher than in other districts.

The ultimate effect of the land reforms in these districts has been to rearrange a group of large agricultural enterprises (kolkhozes and sovkhozes) into another group of large agricultural enterprises (collective dehkan farms and associations of dehkan farms). The new forms are slightly smaller and have more documentation, but not much else has changed.

**Freedom of choice**

For each type of land, interviewed households were asked, “Can your household decide which crops to grow on this land?” For dehkan farms, the results were quite striking, where of the 35 households with dehkan farms, none (0/35) said that they were free to choose what crops to grow. This contrasted with other land types, where 97% of households (989/993), 91% of presidential land households (635/700), and 50% of rented land households (34/68) felt free to choose. When asked to identify who decides what crops are grown on their land, households with dehkan farms cited the government (54.8%), the association management (25.8%), or both (19.4%). AAH found that freedom of choice was inversely proportional to cotton production. On those types of land where cotton is grown (dehkan farms and about half of rented land), farmers are not free to choose what crops to grow. Interviews with local officials clarified the reason for this relationship. For cotton, a government production plan is still in place throughout Khatlon. At the beginning of the year, each district hukumat is given a cotton production target (in tons) from the oblast hukumat. It then distributes this plan among its dehkan farms and kolkhozes/sovkhozes according to a district-wide rate.

**The financial sector**

The financial autonomy of new dehkan farms is seriously constrained by the large debts that they have inherited from the former kolkhozes/sovkhozes. Under the Soviet system, farms might owe debts to the government if they were unable to cover the costs of their water, electricity, etc. Starting in the mid-1990s, however, a new form of debt emerged as both kolkhozes/sovkhozes and dehkan farms began working with private investors, known as futures companies, who offered to prefinance cotton production. A farm would take a certain amount of seeds, fertilizer, fuel, and other inputs on credit from these companies at the beginning of the year, on the understanding that it would pay back the credit with its cotton harvest at the end of the year.

If the value of the cotton harvest fell short of the value of the inputs taken on credit, the farm would have a debt to the investors that would roll over to the following year. For most of the farms in Khatlon, this latter situation prevailed, and the debts accumulated quickly. Most local
officials and farm managers attribute the growth of the debts to the political instability of the civil war period, when the cotton harvest was low because the machinery was not available, and the crops were destroyed. Another contributory factor was the low price of cotton on the international market during these years.

According to estimations of the International Monetary Fund, the debts in the agricultural sector total $125 million dollars for the country as a whole. The government does not have the means to pay off these debts - this sum is approximately half their entire annual budget. Instead, they have decided to distribute the debts to the new dehkan farms based on their size in hectares. In many cases, these debts exceed $1,000 dollars per hectare.

Individual farms vary greatly in the amount of debt they owe, depending on how heavily they were affected by the war and how well they have been managed in recent years. In general, though, the vast majority of kolkhozes/sovkhozes and dehkan farms in the selected districts are deeply in debt. Dehkan farms are finding it difficult to pay off these debts not only because of their large size, but also because of the nature of the credit agreements. The debts are not due at once to the creditor, but rather are part of a chain of financial intermediaries that connect the districts of Khatlon to the international cotton market. There are two principal problems that this investment structure causes for new dehkan farmers: first, it is almost impossible to pay off their inherited debts and establish financial independence. First, each link in the chain has its own interest rate, so the debt servicing payments are quite high. The total amount of debt that dehkan farms end up owing on their past debts is typically between 32 and 35 per cent. Second, each link in the chain has an effective monopoly on prefinancing. As long as a farm remains in debt, it has to keep working with these investors.

Because of their monopoly on credit, local investors are able to engage in a number of shady practices to maximise their profits. The biggest complaint of farms is that the local investors usually charge double or triple the market price for inputs. Moreover, because the farms have to ultimately charge double or triple the market price for their products, the local investors are able to engage in a number of shady practices. The second group of households know how to apply for a dehkan farm, those who do know how to apply but have not applied, and those who have applied but were refused. The first, and largest, group of households are those who know that they will have to pay back the debts on their land by lack of knowledge. The second group of households identified are aware of the laws and their rights but have decided not to apply for land because of the perceived financial inviability of dehkan farms. The average reported cost to apply for land was 147.4 somoni, or almost $50 dollars - more than five times the average annual salary of a farm worker (29.7 somoni/year).

In order to supplement their income, workers are often forced to work on large farms for little or no salary, and actively pursue income-generating opportunities outside of the agricultural sector (e.g. labour migration) to supplement their income. The average reported salary of a farm worker was 29.7 somoni/year. Once farmers receive a dehkan farm, they know that they will have to pay back the debts on the land and grow cotton for the government and the local investors. Farmers also see that small dehkan farms are having difficulties in finding inputs. The third group of households know how to apply for a dehkan farm and have decided that they want to do so, but their applications have been refused. Of the 1,000 interviewed households, 35 had dehkan farms but an almost equal number (32) had applied for land and been refused. Although some hukumat and jamoat officials have tried their best to get land into the hands of the people, others have been less eager to do so. Small, independent dehkan farms are not so easy to control, and many feel that a successful dehkan farm system will gradually erode their power and authority.

Programme and policy recommendations

Based on the findings of this study, AAH has compiled a list of recommendations for the government, donors, international organisations, and other key players. These include the follow:

- Training for farmers on the land laws and their rights
- The State Land Committee, with the support of the European Commission, is in the process of preparing a public awareness campaign to increase the general knowledge of the land reforms. In future, this project and others will hopefully enable many more farmers to apply for and receive their own dehkan farms.
- Mechanisms for legal redress
- Farmers need to have access to legal services and an effective court system so that they can defend their rights if these are being violated. Legal centres and free consultation services for farmers, funded perhaps by foreign donors, could be an important first step in this direction.
- Reconsideration of the government production plan
- Dehkan farms will not be truly private until they are free to choose what crops to grow on their land. Giving farmers more freedom will ultimately benefit both themselves and the government.
- Assumption of debts by the government
- The government could offer to assume responsibility for debts on the understanding that new dehkan farms would have five to ten years to pay them off and that no interest would be charged. The International Monetary Fund, Asian Development Bank, and World Bank are currently working on finding a solution to the debt problem.
- Access to credit in the form of money
- Once farms are free from debts they may need to have some alternative to the current chain of investors.
- Further monitoring of the land reform process
- There is a need for greater cooperation among international organisations and support from donors to help create a nationwide land reform monitoring network.

Table 1: Reasons why more people have not taken land?

<table>
<thead>
<tr>
<th>Reason</th>
<th>Number of Households</th>
</tr>
</thead>
<tbody>
<tr>
<td>3.2% - Have applied but were refused</td>
<td>4.9%</td>
</tr>
<tr>
<td>92.2% - Do not know how to apply</td>
<td></td>
</tr>
</tbody>
</table>

The cotton picking season typically runs from September to late November or early December. The typical payment for cotton picking is 6-10 dirham per kilogram.
A team of researchers recently investigated the effect of an SFP on malnourished children in Guinea-Bissau who were returning to their homes after having been displaced within the country because of war in 1998-99.

From June 1998 to May 1999, Guinea-Bissau experienced an armed conflict. There were several periods of fighting which were most intense in the capital. By the end of 1998, 196,000 persons were internally displaced and 6,600 had left the country. By the end of 1999, 265,000 IDPs had returned, and out of 7,010 refugees who had left the country, 5,300 had returned. The Bandim Health Project (BHP) maintains a longitudinal demographic surveillance system in four suburbs of Bissau covering around 16% of the capital’s population. During the war BHP took responsibility for humanitarian aid activities providing medicine and distributing food to IDPs. Supplementary feeding and medical treatment of undernourished children below five years of age started on 1st September 1998 at the health center in the BHP area and continued until March 2000. Children who were observed by field assistants to have a MUAC < 130mm were referred to the Bandim Health Centre where all children had MUAC, weight and height measured and were examined by a Guinean physician. Medical conditions were treated, and all malnourished children received dietary supplementation. Medicine and supplementary feeding were provided for seven days, and care-takers were instructed to return in one week for the children to be re-examined and receive supplementary feeding for another week. This was continued until the children recovered (MUAC > or = to 130mm). The care-taker of each child was supplied with micronutrient tablets and flour mix in an amount corresponding to 6500-8700 kJ/day. Leftovers could be given to other children in the family.

The effect of the war on the nutritional status of children aged 6-59 months who were present in Bissau sometime from September 1998 to June 1999 was evaluated by comparing the mortality and the prevalence of malnutrition with the values expected had the war not occurred and by comparing the severity of malnutrition in malnourished children before and during the war.

The degree of malnutrition did not increase during the war. The prevalence of malnutrition increased with the start of the war but then decreased. The mortality of malnourished children did not increase during the war. The severity of malnutrition among the malnourished children did not increase. Seventy four percent of those, 1% died, 67% recovered and 32% abandoned treatment. Compliance was 89%. The median time to recovery was 48 days. Better compliance was associated with shorter time to recovery.

The authors recognized that the findings may be biased by changes in the cultural and socioeconomic background of the populations before children were born. Furthermore, it was impossible to separate out the impact of other interventions and the warfare itself - the study was too small to control for all possible confounders. However, the different analyses indicated a beneficial effect of the SFP. Thus, the authors asserted that the home-based SFP probably prevented nutritional deterioration during the war in Guinea-Bissau.

Micronutrients Supplementation Can Redress Stunting up to Six Years of Age

Research was conducted between May 1998 and January 1999 at Saharawi refugee camps near the town of Tindouf in south west Algeria. After political changes during the 1970s, the Saharawi people fled their homeland in the western Sahara Desert, and for more than 25 years they have lived in one of the most inhospitable desert regions of the world in what can be defined as a permanent state of emergency. The basic food basket for the population consists of wheat flour, rice, lentils, sugar, oil, canned fish, canned meat, DSM, tea and yeast. Access to additional food items is limited, and few families can afford to supplement their rations with fresh produce.

A 1997 survey among Saharawi children aged <5 years indicated that 46% were stunted, 10% were wasted, and 70% were anemic. Multiple micronutrient deficiencies are often the basic cause of stunting and anemia. No generally accepted recommendations for micronutrient intakes for recovery from stunting are available.

The objective of the research was to assess the effect of a highly nutrient-dense spread fortified with vitamins and minerals, with or without anti-parasitic metronidazole treatment, in correcting retarded linear growth and reducing anemia in stunted children.

Saharawi refugee children (n=374) aged 3-6 years with initial height-for-age z scores <-2 were assigned to one of five control groups: fortified spread (FS), fortified spread plus metronidazole (FS+M), unfortified spread (US), unfortified spread plus metronidazole (US+M) or control. Supervised supplementation was given daily for 6 months. Weight, height, knee-heel length, hemoglobin indexes, parasitic infections, and morbidity were assessed at 0, 3 and 6 months.

Linear growth of children fed FS was 30% faster at three months than in US and control groups, after which height-for-age z scores increased only slightly in the FS group and remained unchanged in other groups. No additional benefits from metronidazole were observed. Increase in hemoglobin concentrations in the FS group at 6 months was twofold that in the US and control groups ( p< 0.0001), and anemia was reduced by nearly 90%.

FS and not US induces catch-up growth in stunted children whose diets are poor in micronutrients. A key finding was that catch-up growth was achieved in children up to 6 years of age in contrast to the widely held belief that catch-up growth after the age of 3 years is unlikely for children with a history of growth faltering. An innovative aspect of this study is the use of energy-dense high-fat spread that allows delivery of high amounts of multiple micronutrients to high-risk groups. The spread is far more appealing to subjects than are the pharmaceutical preparations commonly distributed in most supplementation trials. It presents several advantages such as palatability, bacteriologic safety, protection against vitamin oxidation, and prolonged shelf-life. Convenience is perhaps the greatest advantage because FS comes in the form of a ready-to-eat snack food with no preparation required.

Clearly more studies are needed to confirm the efficacy of multiple micronutrient-fortified foods, including fat-based spreads and other novel approaches, in fighting the stunting syndrome among refugee populations before public health and nutrition policies about micronutrient supplementation among refugees are changed.

However, the trial does provide support for delivering multiple micronutrients to reverse stunting and reduce anemia in children up to age 6 years. Indeed even a 3 month supplementation course could produce a sizable health effect and this is a public health measure that can be sustained in most situations.

A recent review of public nutrition in complex emergencies has been published in the LANCET. The paper is based on the personal bibliographic databases of the authors combined with a search of published work using MEDLINE, FirstSearch, Web of Science, JSTOR, ScienceDirect, and Ingenta. The paper defines public nutrition as a broad-based, problem-solving approach to addressing malnutrition in complex emergencies that combines analysis of nutritional risk and vulnerability with action-oriented strategies, including policies, programmes, and capacity development.

The paper focuses on six broad areas: nutritional assessment, distribution of a general food ration, prevention and treatment of moderate malnutrition, treatment of severe malnutrition in children and adults, prevention and treatment of micronutrient deficiency diseases and nutritional support for at-risk groups including infants, pregnant and lactating women, elderly people and people living with HIV. The paper concludes that learning and documenting good practice from previous emergencies, the promotion of good practice in current emergencies and adherence to international standards and guidelines have contributed to establishing the field of public nutrition. However, many practical challenges reduce the effectiveness of nutritional interventions in complex emergencies and important research and programmatic questions remain.

Many gaps, challenges and constraints are highlighted in the paper. These include the need for:

- A modified survey methodology for surveys amongst pastoral and other dispersed populations.
- Further standardisation for the assessment of severe malnutrition in children and treatment of moderate malnutrition, adolescent and adult nutritional status.
- Implementing a range of food security interventions that enable people to meet their food needs and which address and prevent malnutrition.
- Effective, integrated and feasible nutrition interventions for people living with HIV.
- Further development of guidelines for small-scale fortification interventions at community level.
- Understanding the impact of supplementary feeding programmes at the population and community level especially in the context of inadequate household food security and in relation to alternative interventions.
- Strategies for integration into longer-term health facility services and policies.
- Mechanisms and processes that facilitate policies to be applied in practice.


The authors assert that key policy issues remain - in particular the ad hoc designation of lead agencies for coordinating non-refugee humanitarian activities and the lack of capacity of these agencies to deal with the burden. There are also still major challenges in ensuring adoption and implementation of minimum standards of response in spite of the Sphere project.

In order to improve outcomes, the authors argue that the skills of health and nutrition professionals working in complex emergencies need to be broadened and reinforced. Also, focus on the requirements and limitations of national health and nutrition systems needs to increase so that the skills of relief workers match the needs of major emergencies. Most of all, if gains in health and nutrition during emergencies are to be sustained, graduates need to understand the importance of capacity building of national staff and institutions.


The paper highlights the lessons in relation to specific emergencies and responses. These were: Goma, Zaire, 1994; DRC 1999-2000; Southern Sudan 1998; Kosovo, 1999; Ethiopia, 2000; and Afghanistan, 2001-3.

The main conclusion of the paper was that the public health and clinical response to diseases of acute epidemic potential has improved, especially in camps. Case-fatality rates for severely malnourished children have plummeted because of better protocols and products. Renewed focus is required on the major causes of death in conflict-affected societies - particularly acute respiratory infections, diarrhoea, malaria, measles, neonatal causes and malnutrition outside camps and often across regions and even political boundaries. In emergencies in sub-Saharan Africa, particularly southern Africa, HIV/AIDS is also an important cause of morbidity and mortality. Stronger coordination, increased accountability and a more strategic positioning of non-governmental organisations and UN agencies are crucial to achieving lower maternal and child morbidity and mortality rates in complex emergencies and therefore for reaching the UN’s Millennium Development Goals.

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The main conclusion of the paper was that the public health and clinical response to diseases of acute epidemic potential has improved, especially in camps. Case-fatality rates for severely malnourished children have plummeted because of better protocols and products. Renewed focus is required on the major causes of death in conflict-affected societies - particularly acute respiratory infections, diarrhoea, malaria, measles, neonatal causes and malnutrition outside camps and often across regions and even political boundaries. In emergencies in sub-Saharan Africa, particularly southern Africa, HIV/AIDS is also an important cause of morbidity and mortality. Stronger coordination, increased accountability and a more strategic positioning of non-governmental organisations and UN agencies are crucial to achieving lower maternal and child morbidity and mortality rates in complex emergencies and therefore for reaching the UN’s Millennium Development Goals.

The authors assert that key policy issues remain - in particular the ad hoc designation of lead agencies for coordinating non-refugee humanitarian activities and the lack of capacity of these agencies to deal with the burden. There are also still major challenges in ensuring adoption and implementation of minimum standards of response in spite of the Sphere project.

In order to improve outcomes, the authors argue that the skills of health and nutrition professionals working in complex emergencies need to be broadened and reinforced. Also, focus on the requirements and limitations of national health and nutrition systems needs to increase so that the skills of relief workers match the needs of major emergencies. Most of all, if gains in health and nutrition during emergencies are to be sustained, graduates need to understand the importance of capacity building of national staff and institutions.

Since the beginning of the nineties, software has been developed to facilitate the calculation of anthropometric indices and prevalence of malnutrition, i.e. Epi-Info 5 and Epinut 2, developed by the Center for Disease Control. The software has since been updated and currently the most widely used software for the analysis of nutrition surveys is Epi-Info 6, which includes an updated version of Epinut (Dean AG et al).

The system on the Nutrition Information in Crisis Situations (NICS) of the UN Standing Committee on Nutrition has received hundreds of nutrition survey reports from NGOs and UN agencies over the past ten years. However, calculation of the prevalence of acute malnutrition and the classification of children according to the presence of oedema and the weight-for-height index has been incorrect in some of these surveys.

Two hundred and ninety six reports of nutrition surveys conducted by UN and international NGOs between 1993 and 2004 in 17 countries received by NICS have recently been further analysed. The distribution of children surveyed according to their weight-height and presence of oedema was provided in 155 of the 296 survey reports analysed (52.4%). Out of these 155 survey reports, 149 (96.1%) were correctly calculated, i.e. oedematous children were considered severely malnourished and were not included in the distribution of the weight-for-height index (in reference to table 2: a + b + c + d = n), whilst six (3.1%) were incorrectly calculated. Of the 155 survey reports which provide the table of distribution, 30 did not state the software used for the analysis (19%). One hundred and eight surveys (70%) were analysed using Epi-Info 5 and Epi-Info 2 and 17 surveys (11%) were analysed using Epi-Info 6. The six surveys where the distribution of the children according to their nutrition status was incorrectly calculated had been analysed using Epi-Info 6. This means that of the 17 surveys analysed using Epi-Info 6, 6 (35%) were wrongly analysed, whilst all the surveys analysed with Epi5/Epinut 2 were correctly analysed.

In all the six surveys with miscalculations, oedematous children were counted twice in the table of the distribution of nutrition status: once as oedematous children and once in the distribution of the weight-for-height index (in reference to table 1: b + c + d = n and a + b + c + d = n + a).

In calculating prevalence of malnutrition, three surveys accounted for oedematous children twice. The other three surveys did not take oedematous children into account as severely malnourished, but considered them only according to their weight-height status.

These errors of calculation may be explained by the fact that whilst the older version of Epinut (Epinut 2 used with Epi-Info 5) automatically classifies children with oedema as severely malnourished and excludes them from the analysis of the weight-height index, Epinut in Epi-Info 6 does not. With Epinut in Epi-Info 6 it is necessary to go to an option menu and click a box for the oedematous children to be excluded from the analysis of the weight-for-height index.

Epinut 2 also automatically gives the prevalence and 95% confidence intervals of global and severe acute malnutrition, taking into account oedematous children as severely malnourished. In contrast, with the Epinut version of Epi-Info 6, if there are some oedematous children in the survey, users need to calculate the prevalence of acute malnutrition according to the weight-for-height index and the presence of oedema, and to go through a cumbersome manipulation of creating new variables in order to calculate the 95% confidence intervals.

### Table 1: Classification of children according to the weight-for-height index and oedema

<table>
<thead>
<tr>
<th>Number of children surveyed</th>
<th>Number of oedematous children</th>
<th>Number of children with a weight-for-height &lt;- 2 Z-scores, excluding oedematous children</th>
<th>Number of children with a weight-for-height &gt;= -2 Z-scores &amp; &lt; -3 Z-scores, excluding oedematous children</th>
<th>Number of children with a weight-for-height &gt;= -3 Z-scores, excluding oedematous children</th>
</tr>
</thead>
<tbody>
<tr>
<td>n = a + b + c + d</td>
<td>b</td>
<td>c</td>
<td>d</td>
<td></td>
</tr>
</tbody>
</table>

### Box 1: Calculation of the prevalence of malnutrition

- **Prevalence of severe acute malnutrition** = \( \frac{a + b}{n} \)
- **Prevalence of moderate acute malnutrition** = \( \frac{c}{n} \)
- **Prevalence of (global) acute malnutrition** = \( \frac{a + b + c}{n} \)

### Table 2: Recalculation of the prevalence of malnutrition

<table>
<thead>
<tr>
<th>Number of children</th>
<th>Number of children with oedema</th>
<th>Proportion of children with oedema &lt; -2 Z-scores</th>
<th>Prevalence from the survey report</th>
<th>Prevalence from the survey report</th>
<th>Prevalence from the survey report</th>
<th>Recalculated prevalence</th>
</tr>
</thead>
<tbody>
<tr>
<td>1^1 870</td>
<td>11</td>
<td>2</td>
<td>17.2</td>
<td>17.0</td>
<td>4.5</td>
<td>4.2-4.5^1</td>
</tr>
<tr>
<td>2^2 874</td>
<td>24</td>
<td>10</td>
<td>15.6</td>
<td>14.4</td>
<td>5.1</td>
<td>4.0-5.1^2</td>
</tr>
<tr>
<td>3^3 892</td>
<td>24</td>
<td>3</td>
<td>9.7</td>
<td>9.5</td>
<td>3.7</td>
<td>3.3-3.7^3</td>
</tr>
<tr>
<td>4^4 768</td>
<td>6</td>
<td>?</td>
<td>1.8</td>
<td>1.8-2.6^6</td>
<td>0.4</td>
<td>0.8-1.2^6</td>
</tr>
<tr>
<td>5^5 419</td>
<td>9</td>
<td>?</td>
<td>3.1</td>
<td>3.1-5.2^6</td>
<td>0.6</td>
<td>2.1-2.6^6</td>
</tr>
<tr>
<td>6^6 778</td>
<td>3</td>
<td>?</td>
<td>5.1</td>
<td>5.1-5.5^6</td>
<td>0.9</td>
<td>0.9-1.3^5</td>
</tr>
</tbody>
</table>

1^1 Surveys where oedema were counted twice
2^2 Surveys where oedematous children were not taken into account as severely malnourished children
3^3 The lower figure is drawn from the hypothesis that all the oedematous children have a weight-height < -2 Z-scores; the upper figure is drawn from the hypothesis that none of the oedematous children have a weight-height index < -2 Z-scores
4^4 The lower figure is drawn from the hypothesis that all the oedematous children (in the limitation of the total number of severely malnourished children) have a weight-height < -3 Z-scores; the upper figure is drawn from the hypothesis that none of the oedematous children have a weight-height index < -3 Z-scores

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**Unpublished paper**

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**Prevalence of Acute Malnutrition in Surveys with Oedematous Children**

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**Miscalculation of the Prevalence of Acute Malnutrition in Surveys with Oedematous Children**
Based on the sample of survey reports, prevalence of acute malnutrition was recalculate (table 2). For the three surveys where oedematous children had been double-counted, recalculated prevalence was lower than the prevalence given in the reports. The more oedematous children in the survey and the higher the proportion of oedematous children having a weight-height index less than 2 Z-scores, the greater the difference between prevalence of malnutrition calculated in the report and the recalculated prevalence.

For the three surveys where oedematous children were not classified as severely malnourished, the prevalence of severe acute malnutrition was significantly under-estimated in the survey reports.

Verification of the calculation of the prevalence of malnutrition was only possible for half of the 296 surveys which were conducted in 17 countries and made available to NICS over the last ten years. While only 17 of these were analysed using Epi-info 6, it is worrying that about one third of these surveys reported incorrect calculations.

In this study, miscalculations of the prevalence of malnutrition did not lead to results which were substantially different from the actual prevalence. However, the prevalence of severe malnutrition was significantly incorrect in three surveys and the greater the proportion of oedematous children in a survey the greater the miscalculation.

This study highlights the fact that the analysis of nutrition surveys may be challenging and that action is needed to improve the process, such as the dissemination of existing guidelines and the development of training material and of user-friendly software.

A manual on “data processing and analysis of nutrition surveys using Epi-Info 6” was edited by Save the Children in August 2003 (SC, 2003). Workers involved in the analysis of nutrition surveys are encouraged to use this manual or alternatively, to use the older version of Epi-Info (Epi-Info 5/Epinut 2), although this version is no longer available on the internet.

Epinut in Epi-info 6 should be updated, and any updates of existing software and development of new software to analyse nutrition surveys should be made as user-friendly as possible particularly with regard to accounting for oedematous children as severely malnourished.

References

For further information contact: Claudine Prudhon at prudhona@who.int

A recent HPG research briefing paper provides an overview of the changing role of aid policy in protracted crises. It starts with the premise that there has been a significant shift in the ‘linking relief and development’ over the past decade and that there has been an expansion of interest by the development community in these environments which presents both opportunities and challenges for humanitarian action. On the one hand greater attention and resources may go to supporting the basic welfare needs of populations living in difficult environment who have historically not received a proportionate level of aid. On the other hand, as the aid landscape in crisis countries becomes increasingly crowded, it may be difficult (particularly for belligerents) to distinguish between the different forms of aid and security being offered by the international community.

The researchers argue that there is evidence suggesting that a shift in the policy environment has resulted in increased spending and activity by development aid actors in countries undergoing protracted crisis. The research looked at a group of 16 countries experiencing protracted crises in Africa, Asia, the Caucasus and Latin America and the Caribbean. In 2002, these 16 countries received $6.3 bn of ODA, the highest level they had ever received. In late 2003 the World Bank had over 80 projects totalling $5.5bn in 13 conflict-affected countries. This is nearly equivalent to the entire official humanitarian aid budget for 2001. The EU has disbursed high levels of development funds over the past decade in countries such as Afghanistan, Angola and Somalia. Commitments made at the Financing for Development conference in Mexico in 2002 together with programmes such as the Global Fund for AIDS, TB and Malaria mean that global development aid budgets could continue to grow significantly in those countries that are the primary concern of the humanitarian community.

The study states that “while acknowledging that there is little formally articulated policy, let alone consistently implemented approaches it is possible to identify some important implications arising out of the global trends in international aid in these new environments”.

• Countries around the world are experiencing very diverse forms of protracted crisis and aid responses differ significantly between countries and over time. The emergence of debates regarding aid to ‘poorly performing’ countries has the potential to influence how aid resources are managed in these situations. However these debates remain at an early stage.

• There is scope for much greater understanding across the humanitarian and development communities regarding the determinants and management of crises and how these impact on populations and societies. Incentives and the appropriate skills for developmental staff working in these difficult environments remain poor. Reviewing the incentives, career structure and skills mix would appear to be a common priority for both the relief and the development community.

• The trend towards deeper engagement by the development community in situations of protracted crisis is likely to continue. In situations other than those where there is a process of ‘post-conflict transition’, the predominant form of aid is likely to remain grants, rather than loans; issues such as public debt will remain highly prioritised, rather than programmatic, in form. In other words aid engagement will remain ‘relief-like’. However there is the potential for new actors, in particular the World Bank, to play an increasingly assertive role in the coordination of this aid, and in effect to serve a quasi-sovereign role in ‘governing’ resource mobilisation and disbursement and prioritising service delivery for welfare provision.

• While the utilisation of non-state actors has enabled significant increases in the capacity of the international community to disburse funds quickly, major questions remain regarding how aid and whether these mechanisms will link to efforts to re-establish state capacity for the financing and management of public services. Despite the increasing prevalence of weak state capacity and legitimacy, there remains significant resistance to addressing these problems strategically and systematically.

• There is considerable variation in what is feasible. The parameters of aid engagement are influenced by a range of bureaucratic and structural issues, as well as by ‘higher’ politics. How humanitarian actors seek to engage with their developmental colleagues in responding to the securityisation of aid, and in providing aid in high-risk environments will be important.

1 HPG (2004): Beyond the continuum. An overview of the changing role of aid policy in protracted crises. HPG Research Briefing, number 16, July 2004
A recent article in the Lancet reported on the findings of a mortality survey in West Darfur, Sudan for the period 2003-4 conducted by MSF who were one of the first INGOs to obtain an authorisation to work in Darfur. The present conflict in Darfur began in earnest in February 2003 with the emergence of two anti-government rebel groups. The ensuing anti-rebel offensive led by pro-government Janjaweed militia and Sudanese army units, resulted in the displacement of more than one million people within Darfur itself, and the flight of about 188,000 to neighbouring Chad up until August 2004. Until this survey there had been no systematically gathered epidemiological evidence of mortality.

The MSF led retrospective cluster survey was conducted between April and June 2004 and involved 215,400 internally displaced people in four sites of West Darfur (Zalingei, Murnei, Niertiti, El Geneina). Mortality recall periods covered both the pre-displacement and post-displacement periods in Zalingei, Murnei and Niertiti, but not in El Geneina. Heads of households provided dates, and places of deaths and described the family structure.

Before arrival at displacement sites, mortality rates (expressed as deaths per 10,000 per day) were 5.9 (95% CI 2.2-14.9) in Zalingei, 9.3 (6.4-14.0) in Murnei, and 7.3 (3.2-15.7) in Niertiti. Violence caused 68%-93% of these deaths. People who were killed were mostly adult men (relative risk 29.1-117.9 compared with children younger than 15 years), but included women and children. Most households fled because of direct village attacks. In camps, mortality rates fell but remained above the emergency benchmark, with a peak of 5.6 in El Geneina. Violence persisted even after displacement. MSF data from health centres in camps suggest a high incidence of shootings, beatings and rapes. Age and sex pyramids of surviving populations were skewed, with a deficit in men.

Surveys such as these have important and well described limitations. When mortality rates are high entire households may disappear (survival bias) leading to underestimates. Recall bias is difficult to measure but when retrospective periods are long, as in the Murnei and Zalingei surveys, less recent deaths may be under-reported. However, traumatic events may be reported as having occurred more recently than actually leading to an overestimate of recent mortality.

The study team concluded that the findings did not in themselves substantiate claims that events in Darfur amount to genocide, not least because this would require demonstration of such an intent on the part of the perpetrators, which is clearly beyond the scope of an epidemiological survey. Nonetheless, the authors believe that in the four sites surveyed, high mortality and family separations amount to a demographic catastrophe. The study authors also state that in the scheme of African armed conflicts West Darfur’s case seems exceptional because of the overwhelming contribution of violence to mortality, resulting in crude mortality rates that were actually higher than mortality rates among children younger than 5 years.

In June 2003, 16 OECD - Development Assistance Committee (DAC) donor governments gathered at an unprecedented meeting in Stockholm. The meeting established the foundations for good donorship in the humanitarian arena. Donor governments committed to a common set of objectives for humanitarian action, a definition of humanitarian action for further development by the OECD-DAC, and a set of general principles for good donorship. They also agreed areas of good practice in humanitarian response. The meeting established an implementation plan, and an implementation group (IG) to oversee the changes, was formed in Geneva. The main strands of the GHD implementation plan are as follows:

- Donors to identify at least one crisis subject to a Consolidated Appeal (CAP) to which the Principles and Good Practice will be applied.
- Donors to invite the OECD-DAC to consider ways to strengthen the peer review process to include humanitarian action.
- Donors to explore the possibility of harmonising the reporting requirements and management demands placed on implementing humanitarian organisations.
- Donors (with the UN and OECD-DAC) to agree a comprehensive common definition of official humanitarian assistance (OHA) for reporting and statistical purposes.
- Donors to promote the wider use of the Principles and Good Practice, and to invite all interested donors to participate in the follow-up of the implementation plan.

The review found that very few donor governments had developed specific action plans or frameworks to implement their GHD commitments. Thirteen donors had drafted, or were drafting, new or revised humanitarian policy frameworks. However, only three had specific legislation relating to humanitarian action. Some donors had institutionalised humanitarian principles into their policy statements, though many of these moves predate Stockholm and therefore do not reflect the commitments made to GHD.

The HPG review discusses findings with regard to shared definition of humanitarian action, formalising and communicating GHD commitments, GHD principles and policy, operationalising the Good Practice commitments and measuring progress. The review found that the majority of stakeholders would prefer a more concerted and determined effort to implement the current agenda, rather than an expanded agenda.

The review culminates with a series of recommendations aimed at inter-governmental and domestic level. For example, at inter-governmental level it is recommended to consider tabling the GHD principles and practice in the OECD-DAC so that the document can be formally institutionalised and advanced amongst all OECD-DAC donor governments and through a broader DAC policy mechanism. At domestic level there is a recommendation for agencies to take advantage of the opportunity GHD provides, become more confident in their practice and begin to think carefully about top-level strategies to ensure that the benefits of GHD begin to become meaningful at field level, particularly for the beneficiaries the initiative is ultimately intended to serve. A debate in a forum such as the IASC on the elements of good partnership is suggested.


The ENN have recently completed a review with funding from CIDA of the published evidence for the impact and cost-effectiveness of 6 key humanitarian interventions commonly implemented in emergencies (general rations, supplementary feeding, therapeutic feeding, measles vaccination, vitamin A supplementation and bednet distributions). The overall aims of the review were to identify gaps in the literature and develop methodologies and institutional mechanisms for filling these gaps.

The review has focused on a narrow definition of impact - it is measured as a change in population nutrition prevalence or mortality rates due to an intervention.

A hierarchy of study types is generally recognised in clinical medicine with the randomised control trial considered to be the 'gold standard' method providing the highest level of evidence. Observational studies and case-series data provide the weakest level of evidence. Given the practical difficulties of conducting an RCT in an emergency situation this report uses a framework (adapted from Habicht et al., 1999) with which to assess the strength of the different studies reviewed. All types of economic evaluation information were included in the review.

Standard methods to collate and appraise the literature for a systematic review were employed. The method involved (i) a search of the 5 most relevant databases, (ii) a secondary reference search, (iii) a hand search of the main journals, and (iv) expert advice on the literature. The quality of each study was assessed using standard critical appraisal techniques.

The most important finding of the review is that very few studies assessing the impact of any of the interventions in an emergency context have been published. There is virtually no publicly available information on the cost-effectiveness of different nutrition-related interventions commonly implemented in emergencies.

The number of published impact and economic evaluation studies undertaken in emergencies located by the search are shown below.

A limited number of studies assessed the impact of GFD and SFP in emergencies, however the majority of these were observational and do not provide very plausible evidence of impact. The evidence base for TFPs is somewhat stronger. The lack of published impact and cost-effectiveness information - particularly in relation to emergency feeding and food security support programmes is of enormous concern. There are key areas of uncertainty regarding both the utility of certain types of intervention, e.g. SFP or GFD versus cash transfer, and over issues of design within programme types, e.g. community versus administrative targeting in general ration programmes. There are also rapidly emerging new types of programming at the interface of HIV and nutrition for which impact and cost information is urgently needed. This lack of impact and cost-effectiveness information militates against cross-sectoral comparison of interventions in relation to nutrition and mortality impact.

There are a number of understandable reasons for the dearth of published information, e.g. the ethical difficulties of undertaking research in emergencies and the fact that there are far fewer epidemiologists involved in emergency feeding than in more medically oriented interventions like measles vaccination. However, one overarching key factor is the absence of an agency with responsibility for taking an overview of the effectiveness of different types of intervention and intervention design. This lack of corporate accountability has allowed the institutional status quo to prevail. Thus agencies which have built up expertise and mandates around certain types of intervention (or intervention design) will continue to practice these in emergencies without serious examination or challenge.

This review argues that one way to address the gap in information on impact and cost-effectiveness is to make greater use of the so called 'grey literature' (unpublished information held mainly by implementing agencies which may be in a variety of forms, e.g. project reports, annual audits, monitoring forms, etc.). Greater standardisation of agency reporting will enhance capacity to use this type of information. However, it is also probable that much of this grey literature could be used retrospectively to answer a number of questions. The review discusses how to increase access to, and use of, the grey literature. In conjunction with this, specialised impact studies could also be commissioned to address key questions. The review examines how these studies may be carried out for each of the 6 interventions by identifying the most morally feasible and methodologically robust approach.

The review also explores the gap in information on costs of interventions and methodologies for obtaining such information. It is recognised that this is not a straightforward discipline and that methodologies need to be developed, and reporting standardised.

Given the multiplicity of stakeholders and (vested interests) in this sector the review argues the case for creation of an independent body (or international research/implementing agency partnerships) with responsibility for increasing information on impact and cost-effectiveness in this sector. Without establishing such a body it is likely that little will change. This body would take responsibility for identifying key gaps in knowledge regarding impact and cost-effectiveness. It will develop and co-ordinate mechanisms for making greater use of the grey literature and promoting impact studies. The agency would also have an advocacy role where emerging evidence indicates a need for change in implementation practice.

In the event that there is insufficient support for establishing such a body a more piecemeal and potentially realisable alternative may be for donors (individually or as a group) to take more responsibility and fund/help establish research/implementing agency partnerships which aim to address specific questions in particular programme areas where impact and cost-effectiveness information are urgently needed.

For more information contact: J. Shoham at jshoham@easynet.co.uk

<table>
<thead>
<tr>
<th>Type of intervention</th>
<th>Impact assessment</th>
<th>Economic evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>General ration distribution (GFD)</td>
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</tr>
<tr>
<td>Supplementary feeding programme (SFP)</td>
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<td>1</td>
</tr>
<tr>
<td>Therapeutic feeding programme (TFP)</td>
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<tr>
<td>Vitamin A supplementation</td>
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<td>0</td>
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<tr>
<td>Bednets programmes</td>
<td>0</td>
<td>1(^{1})</td>
</tr>
<tr>
<td>Measles immunisation programme</td>
<td>0</td>
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</tbody>
</table>


\(^{3}\) The economic evaluation of bednets was a cost-effectiveness study which included a measure of impact so this study could be classified in either column.
Field Article

Food, Economic and Social Security in Azerbaijan

By Carmelo Gallardo and Ana Estela González, Action Against Hunger, Madrid.

Movement of IDP’s and Refugees in the South Caucasus

Carmelo Gallardo holds a Spanish Economy Science degree and is currently in charge of the Food Security Department in ACF Madrid for Southern Caucasus Countries (Georgia, Armenia and Azerbaijan). He has worked in Africa (Somalia, Burundi, RD Congo and Ivory Coast), Central America (Guatemala) and Asia (Philippines) with Action Against Hunger and FAO.

Ana Estela González is a Salvadoran agronomist. From September 2003 to January 2004, she worked as a technical consultant for Action Against Hunger in a Project in Agjabedi and Beylagan districts in the Republic of Azerbaijan. She is now working for GTZ (German Technical Cooperation) in Salvador.

The collapse of the Soviet Union in 1991 paralysed the economy leading to widespread unemployment in the region, including Azerbaijan. The population, which were used to government support and subsidy, suddenly discovered that they had to fend for themselves. At the same time, local conflicts started in the South Caucasus Region (Abkhazia-Georgia and Nagorno-Karabakh regions between Armenia and Azerbaijan) (see map). These conflicts have persisted to this day, in the sense that the situation can now best be described as ‘no peace, no war’.

Since 1994, Action Against Hunger (AAH) has been trying to respond to the immediate and long term needs of vulnerable families affected by both the war and dislocation of ex USSR republics. The initial strategy was to provide urgent assistance to those families directly affected by the war: in particular, exceptionally vulnerable families (elderly persons, families with disabled members, families headed by women), Internally Displaced Population (IDPs) and refugees.

AAH’s activities have now evolved into more rehabilitation and development oriented programming specifically implementing Income Generating Activities to address the needs of the large number of families suffering food shortage (both IDPs and local inhabitants). These families are able to work but lack the means to become productive due to lack of any development agency assistance.

This article comprises internal reflections and continuous lesson learning from AAH programming in South Caucasus. It focuses on our project in Azerbaijan which is funded by the Swiss Development Cooperation (SDC), and shows how AAH has recently worked with several beneficiaries groups to develop a set of multiple activities in order to generate more stable incomes.

Context

With the exception of infant mortality rates, the Azerbaijan context is similar to that throughout the region. Due to the Soviet system, inhabitants have high levels of literacy, relatively high life expectancy, good access to education for men and women, and a modern health care system. However, socio-economic indicators have dramatically declined since political independence. Poverty is the most acute problem for people who, only a decade ago, lived in relative prosperity. Over half of the region’s population live below the poverty line. The economic collapse has also restricted the state’s ability to fulfill key functions, and as a result, both health care and education systems have deteriorated.

AAH activities in the Azerbaijan Republic are base in Agjabedi and Beylagan districts. Both are located in the Kura-Araz lowland. Both areas are suffering economic crisis, reflected in bankruptcies of Kolkhozes (collective farms) and Sovkhozes (state farms), factories and companies. The situation has been exacerbated by the arrival of thousands of families escaping from the Nagorno-Karabakh conflict, who are living all around the region in towns, camps, private houses or public buildings.

Principle of activities

AAH programming began as donations to families in 2001/2002, distributing the inputs required for cotton planting in the first year and wheat in the second year. This has evolved into the provision of loans/advances to groups of families (mixed groups of residents and IDPs), where each group has to return in cash the value of the initial inputs supplied by AAH. This type of support is based on a revolving fund principle, which may be represented as:

Donor ➤ AAH ➤ Beneficiary group ➤ AAH ➤ New beneficiary group ➤ AAH ➤

A Revolving Fund principle means that groups have to be much more effective at making a profit. They must generate enough money to cover their own basic needs and return the advance. Thus, AAH have needed to conduct business and legal training at the outset of these income generating activities. It has proved very important to explain to people how to identify profitable activities, how to work as a team and how to write up and implement business plans. Income Generation Activities are a new concept for most people, who are continuing to learn how to take decisions and assume responsibilities.

Technical and financial planning

The Azerbaijani beneficiaries are not merely recipients of aid. In collaboration with AAH, they have worked as co-authors devising the best combination of agricultural activities in terms of profit, risk, technical knowledge, and local capacity.

AAH and beneficiaries have approached the task sequentially as follows:

<table>
<thead>
<tr>
<th>General Indicators, South Caucasus (Human Development report, UNDP, 2003)</th>
</tr>
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<tbody>
<tr>
<td><strong>Georgia</strong></td>
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<td><strong>General Data</strong></td>
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<td>Population (millions)</td>
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<td>Annual population growth rate (%)</td>
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<tr>
<td>Urban population (%)</td>
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<tr>
<td>Human Development index</td>
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<tr>
<td><strong>Socio economic data</strong></td>
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<tr>
<td>GDP per capita (5 annuals)</td>
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<tr>
<td>GDP growth rate</td>
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<tr>
<td>Public Health Expenditure (% GDP)</td>
</tr>
<tr>
<td>Public Education Expenditure (% GDP)</td>
</tr>
<tr>
<td>Adult literacy &gt;15 years (%)</td>
</tr>
<tr>
<td><strong>Health Data</strong></td>
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<tr>
<td>Life expectancy (years)</td>
</tr>
<tr>
<td>Infant Mortality (x 1000)</td>
</tr>
<tr>
<td>Access to essential drugs (%)</td>
</tr>
<tr>
<td>Access to water (%)</td>
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<tr>
<td>Access to sanitation services (%)</td>
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Table 1 Advantages of animal and vegetable based activities

<table>
<thead>
<tr>
<th>Animals</th>
<th>Vegetables</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Livestock activity is very common in this region</td>
<td>• Healthy food option</td>
</tr>
<tr>
<td>• Limited risk (certain market)</td>
<td>• Good price</td>
</tr>
<tr>
<td>• Have knowledge of caring for animals</td>
<td>• Short term crop</td>
</tr>
<tr>
<td>• Increase the number of animals (investment)</td>
<td>• For sale and food for family</td>
</tr>
<tr>
<td>e.g. milk, cheese and butter to sell or to give to the members of the group</td>
<td>• Small space to cultivate</td>
</tr>
<tr>
<td>• Could sell the animals at any time (flexibility)</td>
<td>• More profit than others in a short time</td>
</tr>
<tr>
<td>• Easy to feed in summer (graze from the municipality land)</td>
<td>• Marketed all the time</td>
</tr>
<tr>
<td>• Greater productivity from smaller area</td>
<td>• Many kinds of crops</td>
</tr>
</tbody>
</table>

Table 2 Profitability of proposed activities, in descending order

<table>
<thead>
<tr>
<th>Activity</th>
<th>Period to produce benefit (months)</th>
<th>Annual profit in percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>One box bee*</td>
<td>12</td>
<td>328 %</td>
</tr>
<tr>
<td>Tomato</td>
<td>5</td>
<td>297 %</td>
</tr>
<tr>
<td>Onion (autumn)</td>
<td>7</td>
<td>267 %</td>
</tr>
<tr>
<td>Watermelon</td>
<td>5</td>
<td>171 %</td>
</tr>
<tr>
<td>Onion (spring)</td>
<td>5</td>
<td>167 %</td>
</tr>
<tr>
<td>Cotton</td>
<td>8</td>
<td>161 %</td>
</tr>
<tr>
<td>Garlic</td>
<td>8</td>
<td>157 %</td>
</tr>
<tr>
<td>Sugar beet</td>
<td>7</td>
<td>152 %</td>
</tr>
<tr>
<td>Cabbage</td>
<td>5</td>
<td>146 %</td>
</tr>
<tr>
<td>Corn</td>
<td>5</td>
<td>145 %</td>
</tr>
<tr>
<td>Poultry</td>
<td>3</td>
<td>103 %</td>
</tr>
<tr>
<td>Potato</td>
<td>8</td>
<td>79 %</td>
</tr>
<tr>
<td>Wheat</td>
<td>9</td>
<td>83 %</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>24</td>
<td>81 %</td>
</tr>
<tr>
<td>Cow (income after 2 years)</td>
<td>24</td>
<td>65 %</td>
</tr>
<tr>
<td>Ewe (income after 2 years)</td>
<td>24</td>
<td>49 %</td>
</tr>
<tr>
<td>One ram</td>
<td>4</td>
<td>41 %</td>
</tr>
<tr>
<td>Turkey</td>
<td>3</td>
<td>32 %</td>
</tr>
<tr>
<td>One bull</td>
<td>4</td>
<td>17 %</td>
</tr>
<tr>
<td>Barley</td>
<td>9</td>
<td>16 %</td>
</tr>
</tbody>
</table>

*For example, for each $100.00 invested in a bee-hive the activity will generate approximately $328.75 net income after 12 months. This is based on an average production of a 30 kg honey/box, subtracting the $100.00 investment.
Humanitarian Aspects of The Indian Ocean Catastrophe

The Humanitarian Policy Group has produced a briefing note covering some of the humanitarian aspects of the Indian Ocean catastrophe. It provides a series of links to relevant papers, websites and other sources, including research conducted by ODI. This can be found at http://www.odi.org.uk/hpg/index.html. These are preliminary reflections only and there are plans to produce a revised version when the facts and issues become clearer. Also on the HPG site is a short note by Paul Harvey on the potential use of cash and vouchers in situations of this kind.


Inter-Agency Meeting on Community Therapeutic Care

FANTA, SC US and Concern hosted an inter-agency meeting on Community Therapeutic Care between February 28th and March 2nd, 2005 in Washington. The main aims of the meeting were to:

i) Identify issues and challenges in implementation, integration and scaling up.
ii) Discuss mechanisms to ensure quality control of CTC implementation.
iii) Documentation (in a synthesis report) of issues and challenges in CTC implementation.
iv) Establish a mechanism for improved, cross organizational capacity building and training.

Key findings of the meeting will be highlighted in Field Exchange 26 and a full report of the meeting will be prepared by the ENN and made available in the coming months.

Cuba

According to a news piece in the LANCET, the ‘41-year battle of spite between Cuba and the USA has intensified’. In July 2004, restrictions on travel and remittances from the USA were tightened, and US firms were fined for unauthorised export of medicines.

The US embargo on Cuba has frequently been modified in response to domestic electoral interests. So in the US election year, it is hardly surprising that once again political expediency rather than humanitarian imperatives are driving US policies. Worryingly, there has also been a scaling up of talk in the USA about regime change – by transition rather than succession – in Cuba. In January 2004, the University of Miami and the US Agency for International Development convened a seminar on ‘Humanitarian Aid for a Cuba Transition’. Here US government representatives suggested the use of health and nutrition assistance as a means to effect regime change. Attendees were exhorted to learn from the Coalition Provisional Authority actions in Iraq to prepare for a post-Castro Cuba – specific lessons were not detailed.

Some attendees denounced the use of humanitarian assistance to divide and destabilise a post-Castro Cuba, pointing out that it would jeopardise the chance for peaceful change and rob Cubans of sovereignty in deciding their future. Although, long a shining jewel in Cuba’s crown, the country’s impressive health cannot go on forever. Political instability would only place further stress on a system that is already struggling. Cuba’s remarkable health record, even during the economic crisis of the 1990s, has always frustrated the US administration.

The article concludes by saying that ‘In the event of a humanitarian crisis, funds from family overseas and high education and health standards would help protect Cubans from large rises in mortality rates. Those who suffer the most will, as in the 1990s, be the elderly who could become the quiet deaths in a society heavily focused on protecting the young’.

Breastfeeding: Practice and Policy Course 2005

A course on ‘Breastfeeding: Practice and Policy Course 2005: Capacity Building on Infant and Young Child Feeding’ is to be held between the 13th June - 8th July 2005 at the Centre for International Child Health (CICH), Institute of Child Health and Great Ormond Street Hospital for Children, University College London (UCL). The course will be held in collaboration with the World Health Organisation (Department of Adolescent and Child Health) and UNICEF (Nutrition Section).

The course is now also available as 2 separate two week modules.
• Part 2. Breastfeeding and Beyond: Addressing Challenges to Optimal Infant and Young Child Feeding, 27th June - 8th July.

Courses can be taken as Certificate Courses, or to earn Msc/ Diploma credits under CICH’s ‘Taster Programme’. For more information contact: The Breastfeeding Course, Centre for International Child Health, Institute of Child Health, 30 Guilford St, London WC1 1EH. Fax: +44 171 404 2062 email - bfeed@ich.ucl.ac.uk, or visit www.ich.ucl.ac.uk/cich under Teaching Breastfeeding course web pages:

Email: bfeed@ich.ucl.ac.uk
Tel: 44 (0)20 7905 2122
London, WC1N 1EH
Institute of Child Health, 30 Guilford St, London, WC1N 1EH. Fax+44 171 404 2062 email - bfeed@ich.ucl.ac.uk, or visit www.ich.ucl.ac.uk/cich under teaching programme.

Carol Williams: Course Director
Breastfeeding: Practice and Policy Course Centre for International Child Health Institute of Child Health, 30 Guilford St, London, WC1N 1EH
Tel: 44 (020) 7905 2122
Fax: 44 (020) 7404 2062
email: bfeed@ich.ucl.ac.uk

Breastfeeding course web pages: www.ich.ucl.ac.uk/cich under Teaching Programme

Direct address: carol@carowill.freewire.co.uk, or cwilliams@ich.ucl.ac.uk

Emergency Nutrition Assessment Guidelines for field workers

S

C UK have just produced a new publication entitled ‘Emergency Nutrition Assessment – Guidelines for field workers’. These guidelines offer straightforward, step-by-step guidance on how to carry out a nutrition assessment.

Emergency Nutrition Assessment starts by looking at how to assess potential causes of malnutrition in emergencies. This is followed by practical guidance on how to conduct field surveys on the prevalence of malnutrition and the rate of mortality among under-fives; and how to interpret the findings and present your recommendations. A separate section looks at how to measure feeding programme coverage.

Software tools for use in designing and analysing findings are included on an accompanying CD-Rom, which also contains key supporting texts on nutrition assessment.

(Emergency Nutrition Assessment is available for sale from NBN International Tel: 01752 202301, email orders@nbninternational.com or go to www.savechildren.org.uk/publications)

Catastrophes & Conflict Forum

A meeting will be held on ‘Famine’ as part of the Catastrophes & Conflict Forum at the Royal Society of Medicine in London. The date for the event is the 15th June at 6.00 pm. Topics will include ‘Malnutrition, media and myths’, ‘Beyond the feeding centre’ and ‘Issues in food aid’. Book on-line at http://www.rsm.ac.uk/catastrophes or contact Lulu Ho mailto:catastrophes@rsm.ac.uk tel +44 (0)20 7290 2987, fax +44 (0)20 7290 2989

Letters

Nomenclature used in programs for tackling malnutrition

Dear Editor,

The following terms, inter alia, have been used in describing programs/centres.

CTC Community Therapeutic Care
TFC Therapeutic Feeding Centre
TPF Therapeutic Feeding Program
NRU Nutrition rehabilitation unit
NRC Nutrition rehabilitation centre
SNU Special Nutrition Unit
HT Home treatment (of severe malnutrition)
OPT Out-Patient Therapy (for severe malnutrition)
AC Ambulatory care (for severe malnutrition)
SC Stabilisation centre
P1C Phase 1 centre
DCC Day care centre
RDCC Residential Day care centre
SFC Supplementary Feeding Centre
SFP Supplementary Feeding Programme

The fact that there is such a myriad of terms poses difficulties.

1) It is very confusing especially for those not actively involved in the field.
2) Many of the terms are being used incorrectly (not in the way the originator of the terms intended). For example CTC is frequently used as a synonym for out patient/home treatment of severe malnutrition.
3) Many of the terms are in fact descriptors for the same, or nearly the same, activity. They have been given different names by different organisations. To many readers this leads to the impression that the activity is different or new when in fact this is a minor “variation on a theme”.

Community Therapeutic Care.

CTC, according to Collins, S (the originator of the term) – is a holistic concept of an integrated program that includes many other elements. Indeed almost every activity that leads to a good “Nutrition Program” seems to be included under this rubric. Thus, it includes a minimum of:

1) residential care for selected severely malnourished,
2) outpatient management of eligible children with severe malnutrition,
3) supplementary feeding program,
4) active case finding/community screening,
5) active community involvement, mobilisation, etc., However it also includes, among others,
6) integration with existing food security programs, demonstration gardens, diversification of local crops,
7) local manufacture of therapeutic products (RUTF),
8) mother-to-mother and Hearth type programs,
9) integration with local public health programs.

The term knows no bounds: it is a utopian all-embracing program that includes everything that may impact upon the nutritional status of the population. Indeed, the inclusion of “therapeutic” in this context is confusing and inappropriate – what Collins describes is a “Holistic Nutrition Program”. Many use the term CTC and home
treatment programs as interchangeable terms. This is not the case.

What Collins further proposes is that there is a logical order in which the various activities and interventions should proceed if few programs exist. He has deliberately chosen this order to give some relief/treatment to as many children as possible rather than very good treatment to some (possibly few) and no treatment to others (possibly many). There is merit in this approach; it emphasises active case finding in the community and uses the coverage of a program as one of the primary indicators of success. However, this emphasis, which I believe to be correct, is perfectly compatible with traditional forms of management, particularly where many severely malnourished patients are managed as outpatients at home either initially or as soon as their condition and home circumstances allow.

The priorities often involve context specific judgements to be made. Complex or sudden emergencies, particularly those that involve population movement are unlikely to pose the same priorities as stable development environments with no security threats, where traditional livelihoods are ongoing and yet there are malnourished children. Indeed, usually the order in which the elements are instituted are determined pragmatically by what resources are available, what programs are agreed and understood by local authorities, by the expertise and mandates of the agencies involved and, in particular, by the wishes of the donors.

Nearly everyone is agreed that the order in which “relief” should be given is:
1) food to keep people alive (general ration, food for work, etc).
2) prevention of deterioration of moderately malnourished children (SFP etc).
3) programs for the severely malnourished.

Thus, the many should get before the moderately few, who should get before the few. Unfortunately, the few (severely malnourished) are high profile in terms of visual/ political impact and are relatively cheap programs (per person input is relatively high but the population served is small, so that the overall cost is much less than providing food for a large section of the population).

Collins, quite rightly, argues that many programs have a low coverage and that this is critical for having a high impact in tackling the magnitude of the problem. He argues, again correctly, that there should be greatly increased geographical outreach of the programs and increased community participation in the treatment of severe and moderate malnutrition. The other element is the emphasis upon integration of emergency and development programs, the integration of programs for moderate and severe malnutrition, and the recognition by those who run development programs that they should integrate the management of malnutrition into their overall plans and evaluations. I do not think that there is any one who disagrees with these points. These are goals of us all. The question is how best to bring them about in practical terms.

Nevertheless, CTC as described by Collins is the catch-term for ALL best-practice nutrition-interventions in both emergency and development contexts and their active integration with all community, health and other development programs. Of course this is what everyone has always wanted – well run nutrition and health services. However, if this is the case, then the term Community Therapeutic Care is not appropriate – as much of the program is not “Therapeutic”. It would perhaps be better – and it has been much more restrictive in the definition of CTC to include only those activities aimed at finding and treating severely malnourished children. Of course “community Therapeutic Care” could equally refer to the management of malaria, diarrhoea, RTI etc in the community. Further more, the term “care” has a parallel meaning which is increasingly deviating from the layperson’s concept of care. However, the term CTC has been defined in such a way that to restrict its use at this stage would simply add to the confusion.

Severe Malnutrition.
Traditionally severe malnutrition has been managed in a unit within a hospital, if there is a functional 24h residential care from admission (including those very few children who have not worked in these centres perceive that this is always the case. The “types of TFC/TFU/SNU are generally as follows:
1) Full 24h residential care from admission until discharge (traditional TFC).
2) Residential day-care centres. In these centres the staff give care during the working week, and often at weekends, not at night. The patients can stay in the centre at night (if there is insecurity or a long way to travel etc), or return to their residence as they desire.
3) A non-residential day-care centre. In this type of centres the patients come to the centre each day and return home at night. This is often managed in a similar way to the DOTS program for TB, where the patients distant from the centre “lodge” with relatives or friends close to the centre.
4) More recently, TFC’s have run either 24h or residential Day care for most of the children when they first present, when they reach the phase 2 of treatment they either stay in the centre for phase 2, progresses to day-care and have usually low numbers of patients, or in a purpose built unit /centre if there are sufficient patients to overwhelm local medical services. These are called, respectively, a SNU or TFU and a TFC respectively.

There are various protocols and organisation that are implemented in these structures. The units have no other function than to treat severe malnutrition. The centres/units do not necessarily run 24h residential care from admission and receive many patients. Basically, it is argued that many who have not worked in these centres perceive that this is always the case.

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The new nomenclature is unnecessary, confusing and has led some government officials to question whether the management that occurs in such centres agrees with international or national guidelines for the management of severe malnutrition. Equally a TFP (therapeutic feeding program) easily accommodates all the modalities of treatment of severe malnutrition that have been used – including home treatment / outpatient treatment. It is perfectly compatible with decentralisation to provide care close to the patient home and integration with SFP.

Much of the reason for the increased coverage of the so-called CTC programs is the community screening/active case finding. This should be part of every program irrespective of where those that are identified as having severe malnutrition are treated. Unfortunately, such active case finding in the community is rarely part of a therapeutic program for severe malnutrition. Agencies and donors should always include this activity in their proposals and programs.

Mike Golden

Dear Editor

The huge increased impact of selective feeding interventions since the introduction of CTC (see ENN Special Supplement 2 and HPN #48) demonstrates clearly the effectiveness of this new model of selective feeding (see HPN #48 and ENN Special Supplement 2). The new nomenclature is important to clearly define the different elements of CTC and to distinguish CTC from other less effective intervention models.

Steve Collins (Valid International)
Dear Editor

The widespread application of CTC (Community-based Therapeutic Care) in emergencies and stable situations raises the question of the availability of Ready to Use Therapeutic Food (1) (2). This relatively new development in the treatment of severe malnutrition makes it necessary to consider strategies for ensuring sustainable availability of plumpy’nut. When, in 1996, NUTRISSET designed plumpy’nut in partnership with the IRD (French Institute of Research for the Development), our objective was to provide NGOs with a practical and nutritionally equivalent alternative to F100 that could be eaten by a child on their own, without preparation and without any health risk, and that could be used at home (3). Several clinical trials and studies conducted with plumpy’nut show that its nutritional impact is at least equivalent to F100 therapeutic milk (4).

When Valid International started developing the CTC concept, the compatibility between plumpy’nut and this new type of intervention seemed natural. It became the first RUTF used in CTC programmes.

Plumpy’nut was also designed with local production in mind. NUTRISSET elected to use raw materials which were available in most developing countries (via local markets or via donors like the World Food Programme), using transferable and relatively inexpensive technology and equipment. The first local production trial was conducted in Burkina Faso in 1997. Various other routes were then explored. We conducted and/or participated in various pilot studies with local production, (Concern worldwide, Valid international, St Louis Children Hospital, MSF, Dakar University, Caritas, etc.).

The cost of plumpy’nut is mainly comprised of the raw materials used. Although we believe that milk products are preferable for optimal recovery of children from severe malnutrition, we have also developed cheaper formulae for the nutritional management of moderate acute malnutrition, people living with HIV / AIDS etc. These new plumpy’nut-related alternative products are already available and can be locally produced, using the same technology and the same equipment.

Facts and figures show that the practical and nutritional advantages of a solid spread food are increasingly being acknowledged. In order to reach as many acutely malnourished people as possible, we think it is preferable to build on the acceptability and efficiency of plumpy’nut.

Statement

NUTRISSET’s strategy with regard to Plumpy’nut is to strengthen the capacity of local producers to manufacture the product. From the results of various experiences we have now developed two basic approaches which can be used to bring this about. Underlying these approaches is an ethical position which we will strongly adhere to, i.e.

- Assurance of the quality of the local product.
- Professional ethics of the local partner in dealings with the humanitarian world.

- Awareness of, and adherence to, the appropriate use of locally available plumpy’nut.
- A strong commitment by the producer to make plumpy’nut available.

Beyond a simple technology transfer, those local producers must be independent, yet federated. This is why we advocate and support the establishment of a network of franchised producers.

We advocate 2 manufacturing options that should be adapted to the field situation.

First option: Production by an NGO.

This option will be suitable for programmes with needs below 50 tons of plumpy’nut per year.

NUTRISSET will provide the NGO with the special preparation (including the mineral and vitamin premix), as well as a production guide. Technical support, training modules and stock management tools, will also be available to the NGO on request. Under this option, the NGO is solely responsible for the quality of the finished product and for the proper use of the plumpy’nut. If the guide is followed properly, production poses no major problem. This simple option makes it possible for plumpy’nut to be accessible to any small-scale nutritional programme or to any humanitarian or social stakeholder.

Second option: Production for sale in the context of a network of franchised manufacturers.

This option will suit countries where needs for plumpy’nut are structurally higher. The franchising system offered by NUTRISSET is based on the transfer of NUTRISSET ‘know-how’ to a local independent producer (known as franchised producer).

This know-how includes the manufacturing process, quality assurance, quality control, specifications of raw materials, the management tools (stocks, etc.), the communication policy and the charter for good commercial practice, the use of the patent licence and of the registered trade name. The transfer of know-how is effected via training sessions organised in France at our production site. By making a commitment to respect and follow protocols, the producer enters the franchise network. The setting-up and running of the franchised network will be financed by the sale of the special plumpy’nut preparation to the franchised parties.

Proposed services

NUTRISSET have developed a specially adapted quality system, based on the HACCP guidelines. We implement it individually with each franchised producer, taking into account specific circumstances and constraints. In this way we are able to validate, and if necessary improve, the quality of the plumpy’nut manufactured by these producers.

Quality starts with the selection of raw materials and suppliers, who receive strict specifications requiring batch traceability. For instance, peanut suppliers must make a commitment to follow good practice in the growing and the storage of their product, and to accept spot checking and product analysis.

The producers will also be supplied with a ‘production-management-by-batch software package’, with traceability of the ingredients and of the finished product. Reference laboratories have been selected for each producer and routine analyses are conducted for each batch of plumpy’nut produced.

The products manufactured within the framework of this franchised network will bear the name of plumpy’nut or of plumpy’nut associated with a local name (e.g. Chipepe Plumpy’nut” manufactured by PPB in Malawi).

The network of franchised producers

The group of franchised producers will form a network through which they will be able to share their experience and carry out communal actions aimed at optimising the system (e.g. aflatoxin analysis network, etc.). This network will communicate through an internet forum, and various meetings and gatherings will be organised. An appointed committee comprising network representatives will also be formed. The relationship between NUTRISSET and the network will be managed by this committee, which will also ensure that basic principles are adopted and followed. The committee will also co-opt new producers.

To date, 3 producers have entered this venture with Nutriset: the NGO “PPB” (Project Peanut Butter) in Blantyre, Malawi, a company called “STA” (Société de Transformation des Aliments) in Niamey, Niger, and a company called “Jongea” in Lubumbashi, DRC. Plumpy’nut is already available from these three producers, and we are open to new applications from other potential producers.

Michel Lescanne
Founder, Chairman and Managing Director of Nutriset

For more information, please contact:
Adeline, Nutriset, BP 35, 76 770 France, nutriset@nutriset.fr
Liyaka Nchilamwela (liyaka_elly@hotmail.com) for PPB,
Fastchima Cissé (sta@intnet.net) for STA, and Mrs Kabwe (kabwesabwa@wanadoo.fr) for Jongea.

References:

(1) Introduction, of the Special Supplement Series of Field Exchange, « Community-based Therapeutic Care », November 2004. 4-5.
(3) Briend A. « Treatment of Severe Malnutrition with a Therapeutic Spread » Field Exchange, 1997; No 2 p 15
(5) Nutriset is a private, independent company. In 2004 NUTISET employed 35 staff and had a 10 million euros turnover. 20% of staff are dedicated to R&D and the R&D budget is 5% of turnover.
Home Based Treatment of Severe Malnutrition in Kabul

By Muriele Therry

Muriele Therry studied ethnology at Masters level. After two missions with ACF, one year in Sakhalin as food security officer and 6 months in Afghanistan as Home Treatment officer, she is waiting for a new post with ACF.

Arzo is taking the plumpy nut for her last day of treatment. She recovered completely.

Action Contre la Faim (ACF) has been working in Afghanistan since 1995. The nutrition programme in Kabul includes three therapeutic feeding centres (TFC) within paediatric hospitals in the city, and a network of smaller TFCs providing care close to the population. ACF works mainly with a population of young children and infants and their caregivers. Owing to the high rate of defaulting from this centre-based TFC programme, the option of Home Treatment (HT) was introduced in February 2004 to provide a more flexible alternative. Understanding the cultural context has been central to how the programme has developed, and its success.

Cultural context

HT is suitable in the Afghan cultural context, where women have difficulty accessing services outside of the home, as it allows a reduction of the length of stay outside the house. It may even be the only acceptable option for some mothers. This can be largely explained by the societal perception of women and their role.

The familial sphere: Within the household, there is a strict division of roles. A woman must carry out her assigned household duties or she comes under pressure from the family to do so. As the only person responsible for her children, social rules dictate that a mother shouldn’t leave them with other members of the family. Many different families may live in close confinement, and leaving the children alone can create a lot of problems within the compound, and provokes harsh criticism from the other women of the family and the neighbours. Maintaining good relationships within the compounds is a social preoccupation, which may in some cases lead to extreme choices whereby the health of the child is compromised.

The perception of the child as part of a larger unit and not an individual person, also explains the behaviour preventing a mother from going to the TFC. Children assure the future of the parents and a sick child, even if he is near death, is not considered a priority compared to other roles such as caring for healthy children and the remainder of the family.

The spatial sphere: Women occupy the inside or private sphere, while men have the outside and public space. In some neighbourhoods, a woman going to the TFC everyday may encounter security problems from ‘soldiers’ who order her to return home. She may therefore, depend on a mother-in-law to be chaperoned outside. Due to a lack of understanding regarding the treatment for severe malnutrition and its duration, neighbours may criticise a woman for “wasting her time” and the husband may order his wife to stay at home. The shorter length of stay with HT may alleviate (although not completely solve) some of these difficulties.

The social sphere: The socio-familial links go beyond the interest of the individual. In Afghan culture, continuity of the relationship with relatives must be maintained through physical presence and help given during key family events (births, weddings, funerals, religious ceremonies or sickness). Women cannot escape these responsibilities. In the TFC, these commitments have led to absences. However with HT, mothers have expressed their satisfaction that these responsi-
Economic considerations are another important factor for HT. Often the mother works from home to generate income (teaching, making handicrafts, sewing, preparing food for sale by the parents). This disappears when the mother is in the TFC. Furthermore, treatment at home saves daily transport costs to and from the TFC.

The same reasons (the pressure on the woman) can also lead to a refusal to take part in HT by some caregivers who prefer the TFC option. However, the rate of refusal remains low (6% of the mothers who were offered HT). Furthermore, the approach established by the psychosocial team (see later) allows the personal constraints of caregivers to be taken into account. This highlights the importance of giving treatment choice to caregivers.

**Programme experience in HT**

Twelve per cent of the children to whom RUTF was offered failed to gain weight or refused to eat RUTF during the initial three day trial and were not included in HT. For the remainder, after seven months of implementation (Feb – Aug 2004), the HT indicators (see tables 1 and 2) show a positive effect of the programme on defaulting and overall acceptance within the Kabul socio-cultural context.

**Management of defaulters**

While most of the caregivers in this situation returned to the TFC after discussion with the mother and/or the family, five caregivers (25% of the total having to return to the HT) defaulted and refused to come back. Since the defaulting took place after the request to return, modifications were made to the initial protocol. The first change was made to the criteria of weight gain. If the child had gained weight, even less than 5g/kg/day, or has a stable weight, then treatment could continue at home. The decision was subject to medical criteria and to a satisfactory appetite for the RUTF (based on observation in the TFC and discussions). If the child had lost weight, then he must stay in the TFC.

The second modification was to give another weekly ration of RUTF, even when the child should really be readmitted to the TFC. However this was only considered when the mother (family) still wanted to return to the TFC, and was the exception rather than the rule.

An additional reason for the introduction of more flexibility was that weight loss seems more often due to some ‘common’ condition, such as a cold, slight fever or diarrhoea, rather than a child refusing to eat RUTF, or sharing of RUTF amongst the family.

**Utility of home visits**

The home visits were perceived positively by both the caregiver and the family, while improving the effect of HT. Firstly, the visits encouraged the mother to give the RUTF properly. The main problems observed at home were that the mother didn’t give enough water with RUTF, the child refused to return to the RUTF, and was the exception rather than the rule. Secondly, HT allowed for involvement of all the family members in decision-making regarding the treatment. This is an important matter in a socio-cultural context where the mother lives with her in-laws and is not the one taking the decisions. The ACF presence encouraged attention to the treatment, e.g. the other family members were able to encourage and guide the mother (to give enough water, to improve hygiene, to complete the treatment, to help her during the feeding). The home visit also supported the mother’s views when the family didn’t want her to pursue the treatment correctly (in one case a grandmother did not want the mother to give three sachets of Plumpy’nut a day, because it was ‘hot food’ (see section on perceptions), but finally accepted after explanation by the team).

It appears that one home visit during the first week is enough to ensure adequate practices at home. Furthermore, the home visits also represented a heavy workload for staff so that the necessity of a home visit remains subject to the decision of the team. This is based on behaviour of the mother, socio-cultural situation, and knowledge they have gleaned from the close contact established during the psychosocial activities.

A home visit is also useful for discussions with the family when the child has lost weight and should return to the TFC. It allows discussion with the whole family. In these cases, repeated home visits may be necessary. The home visit also increases awareness of the HT option within the community.

**Perception of Plumpy’nut® in Afghanistan**

Peanut based foods are not common in Afghanistan and children are not used to them. This may explain why the majority don’t eat Plumpy’nut (PN) well or with enthusiasm on the first day of introduction. After a day or so, they get used to it and if there is no medical problem or poor appetite, they really appreciate it.

Plumpy’nut is considered more as a medicine than food and the education reinforces this point. The mothers mentioned that it was similar to medicine in that the child does not eat it easily on the first day. Mothers argue that if the child gains weight with the Plumpy’nut this “proves” it is medicine. Due to this medical perception, the sharing of the product among other children was not common, although it did occur in some families. The sharing tends to occur due to other family members who don’t value or consider the opinion of the mother (at least two cases of sharing were confirmed).

According to the popular classification of food in Afghan culture, Plumpy’nut, due to the nut content, is defined as a ‘hot’ or ‘strong’ food. ‘Hot foods’, warm the body and may provoke disease (in particular during the hot season), such as stomach ache, fever or jaundice, and skin rashes. ‘Strong foods’ include ‘expensive’ protein or vitamin rich foods such as meat or eggs. These foods are considered to cause stomach ache in children. However, it seems these perceptions have not interfered with the use of Plumpy’nut because it is considered to be a medicine and in the TFC, the mothers mentioned that it doesn’t cause any damage and can help the recovery of children. These perceptions are to be kept in mind however, during the education sessions as some mothers/families may refuse or incorrectly use the Plumpy’nut.

**Flexibility and facilities with RUTF**

Treatment with RUTF is appreciated since the child doesn’t have to prepare the meal specifically for the malnourished child. Furthermore, the packaging allows it to be carried with the child so that the feeding can continue even if the child is not at home. However there are limitations of Plumpy’nut. Children don’t eat it all at once and one sachet can last all morning. When the mother is in a rush, this can be an inconvenience and the mothers will not always take all the sachets (one sachet per day). The home visit also supported the Plumpy’nut (PN) well or with enthusiasm on the first day of introduction. After a day or so, they get used to it and if there is no medical problem or poor appetite, they really appreciate it.

**Effect of HT on defaulting**

A key reason for implementing HT in Afghanistan was the high rate of defaulting in the TFC. These first months in Kabul showed that HT doesn’t completely eradicate defaulting (10% of children admitted to HT defaulted). This can be partially explained by the limits of HT itself, namely the medical and age criteria restricting inclusion, coupled with the mandatory stay in the TFC in phase I and transition. Among all the children older than 12 months, there was a degree of defaulting during these phases, highlighting that even this shorter stay is unachievable for some families.

---

### Table 1  Home treatment in the day care centres (Feb - Aug, 2004)

<table>
<thead>
<tr>
<th>Description</th>
<th>2003 (Full centre treatment no HT option)</th>
<th>2004 (Full centre treatment with HT option)</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of admissions to HT</td>
<td>n</td>
<td></td>
</tr>
<tr>
<td>Total returns to HT</td>
<td>51</td>
<td>175</td>
</tr>
<tr>
<td>Total admissions to HT*</td>
<td>402</td>
<td>825</td>
</tr>
<tr>
<td>Number of children to whom HT has been proposed</td>
<td>126</td>
<td></td>
</tr>
<tr>
<td>Number of defaulters</td>
<td>8</td>
<td></td>
</tr>
<tr>
<td>Number of caregivers who refused HT</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Plumpy’nut received</td>
<td>0</td>
<td>102</td>
</tr>
<tr>
<td>PN</td>
<td>51</td>
<td></td>
</tr>
<tr>
<td>Deaths</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>Transfers to hospital (TFC or paediatric ward)</td>
<td>37</td>
<td></td>
</tr>
<tr>
<td>Others**</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total exit from HT</td>
<td>65</td>
<td></td>
</tr>
<tr>
<td>Register at the end of the month</td>
<td>37</td>
<td></td>
</tr>
</tbody>
</table>

**Table 2  Average weight gain and length of stay in daycare (DC) and home treatment (HT) in Kabul**

<table>
<thead>
<tr>
<th>Description</th>
<th>DC</th>
<th>HT</th>
<th>DC-HT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight gain (g/kg/d)</td>
<td>9.7</td>
<td>9.4</td>
<td>9.7</td>
</tr>
<tr>
<td>Length of stay (days)</td>
<td>10.7</td>
<td>26</td>
<td>36.7</td>
</tr>
</tbody>
</table>

**Table 3  Comparison of indicators for centre-based versus home based treatment**

<table>
<thead>
<tr>
<th>Description</th>
<th>2003</th>
<th>2004</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight Gain (g/kg/day)</td>
<td>12.1</td>
<td>11.6</td>
</tr>
<tr>
<td>Length of Stay (days)</td>
<td>24</td>
<td>36</td>
</tr>
</tbody>
</table>
Field Article

When the default rate for children aged more than one year is compared, the advantage of HT is more clearly seen. Over a period of three months (March to May 2004), 60% of the children not included in HT became defaulters, compared to 20% of the children included in HT. Other noted advantages were that some children would probably have defaulted in Phase II – on the day of admission to the TFC, some mothers accepted enrolment simply because HT was proposed. Also, some children would probably have more chance of recovery if the stay is too long. Involvement of the family is a way to ensure better compliance and this can be strengthened through the home visits and the psychosocial support.

This experience in Kabul shows the importance of taking the social contexts into account in designing sound nutrition programming. Setting up a HT programme provides added flexibility and improves programme effectiveness. However, the advantages do not automatically apply to all caregivers so that individual follow-up and the alternative treatment options allow the choice to be taken by women according to their familial/psychological context. A child will probably have more chance of recovery if the mother is in an environment that suits her best.

SCUK conducted a study using the household economy approach (HEA) in late October 2001 in Mchinji district, which suggested that the population were in serious stress. The assessment and verification revealed that 65% of households were suffering from a serious lack of food. Production was down by 40% and terms of trade indicated that between January and October 2001 the cost of a kilogram of maize had increased by 340%. Nutrition surveys were conducted in Mchinji and Salima districts in December 2001. These indicated a deteriorating nutritional status prior to the official hunger gap period with GAM 11.8% and 9.3% and SAM 3.8% and 4.8% in Mchinji and Salima respectively. The rates of severe acute malnutrition were particularly high.

SCUK General Food Distribution Response: In November 2001 SCUK started advocating for emergency assistance for Malawi. A proposal was submitted to DFID for a two-month food distribution for Mchinji District and it was eventually funded in February 2002. The initial planned response was a two-month general ration distribution in Mchinji District, which was later changed to a one-month distribution. It was planned to distribute to 60% of the population targeting around 400 villages. On registration of villages and beneficiaries the population increased substantially therefore a decision was made to target 50% of the population instead. Distribution commenced in early March. A total of around 45,000 households received a 50kg bag of maize and around 41,000 children received a 10kg bag of Likuni Phala. Village relief committees were set up and community targeting completed.

Follow up nutritional surveys were conducted in March 2002, which indicated that the nutritional status of the under-five children had deteriorated substantially particularly in Salima: GAM increased from 9.3% to 19% (see table 1 below). Over a ten-week period the malnutrition rate had doubled.

This led to a further two-month food distribution funded by DFID planned for May/June targeting 45% of the population. A blanket supplementary food (Likuni Phala) was included as part of the general ration - increasing the ration size to 20kgs per household assuming that there were at least two individuals either under five or pregnant/lactating women.

The second distribution was planned for May/June when the main staple had already been harvested. A no cost extension was agreed to this programme by DFID until end of December 2002 as by this time other players were also distributing some food. By June 2002 the JEFAP (Joint Emergency Food Aid Programme) had also kicked in with distributions. JEFAP consisted of a consortium of NGOs with Care International the lead agency, and the UN (mainly WFP) importing and distributing food countrywide.

The nutritional status was improving with GAM in Salima down from 19% in March 2002 to 8.1% in June 2002, and in Mchinji it had reduced from 12.5% in March to 5.6% in June. There was a further significant reduction in malnutrition rates in September 2002.

The 2001 harvest in Malawi was particularly poor and it was recognised by June/July that there would be a substantial maize deficit. Furthermore the grain reserve had been sold off, and the money from this reserve was ‘missing’.


Mothers and children awaiting assessment in Malawi

Evaluation

Table and graph indicate the improvement in the nutritional status. The general ration did not contribute to this as the...
Survey had been completed prior to the food distributions.

- The inclusion of Likuni Phala as a blanket supplemenation to targets. Over 40,000 beneficiaries was an appropriate choice given the lack of technical and logistical capacity within the MOHP and SCUK to implement targeted supplementary feeding quickly.
- At country level weight for age, a tool for admissions and discharges and numbers in the different centres in Salima from September 2002 to January 2003 were poor. The figures do not tally indicating poor data collection. The records were substantially better in Salima than in Mchini.

There are some better statistics from May to August 2003 in both Salima and Mchini. From the Co-Guard report it appeared that coverage in Salima district was 20-32%, cure rates less than 20% and default rates 70-80%. In Mchini coverage was higher at around 60%, cure rates around 55% and default rates approximately 30%. These are well below Sphere minimum standards.

With the limited data it is not possible to know overall recovery, length of stay or what weight gains were achieved. It appears that SCUK stopped the SFP in Jan/Feb 2003, as records are only available up until May 2003 under Co-Guard. It is difficult to understand why the SFP was stopped or not functioning properly during this period as this was the ‘hunger gap’ and there appeared to be funding through the DEC.

Staffing levels was most likely the main constraint. Although there was an international nutritionist during most of the programme period, this person supported two districts and was also involved in national guidelines, technical meetings etc. National technical staff were not recruited until late 2002 up to May 2003. Once these staff were recruited record keeping and reporting certainly improved.

In August/September 2002 a consortium was established with 10 NGO’s to co-ordinate and support supplementary feeding programmes. There was an extension to Co-Guard in the form of Co-Guard Two for a further period. However SCUK pulled out of the consortium on the main grounds that the SFP focus was changing to a community based approach, which would be different from what was been implemented under the Malawian Nutrition Guidelines. SCUK used some of its final funding from the DEC to support SFP during the hunger gap Jan-March 2004. This was done through the provision of food to the NRUs and distributions.

Results and Conclusions of Supplementary Feeding Programme:
- It is extremely difficult to evaluate the SFP intervention, as there is a complete lack of concrete data.
- A main problem was lack of recruitment of qualified staff while lack of other resources such as vehicles and equipment may also have been a problem. It is also possible that the general food aid programme took priority.
- Management was weak.
- Training in the new guidelines, although in draft form in August 2002, did not really take place until May /June the following year when nutrition staff were recruited.
- Visits to supplementary feeding centres at the end of the programme showed that there was general adherence to guidelines. The SFP was extended so that staff trained in the guidelines and data collection would continue and gain experience in this new approach. Although not a particularly logical reason for extending an emergency programme it appeared to build capacity and will have a positive impact on future emergency responses.
- In general there was a lack of planning and exit strategy.

Therapeutic Feeding Programmes:
- SCUK provided technical and resource support to the NRUs. Again, there were little gains from the therapeutic feeding programme apart from records of numbers of admissions and discharges over the period of 2002-2003 in a number of NRUs (Mchini at Kapiri Hospital, Kocheria and Mchini hospitals). These three hospitals were visited during this evaluation and staff involved in treatment of malnutrition interviewed. There was some resistance to drug protocols and feeding schedules. The Multi charts for documenting daily activities were also being used. Staff were very positive about the new guidelines. They felt that cure rates and recovery time had improved substantially. In general, children were in phase 1 for 3-4 days. In Kapiri it was felt that the burden of HIV/AIDS was affecting treatment. With increasing numbers of children HIV positive this would make it much easier to treat malnutrition. It was much easier to make up feeds as there was no need to cook the milk. This was particularly useful overnight. The results were similar when Mua and Salima Hospitals were visited in Salima district.

Results and comments on Treatment of Severe Malnutrition:
- In general there were very positive outcome for the treatment of severe malnutrition, with adherence to appropriate admission criteria, medical and feeding regimes. This was an enormous achievement.
- Staffing levels had improved in some of the NRUs/pediatric units and the treatment of severe malnutrition has been highlighted.
- Although all medical staff were present and there was still some divide between the nutrition and medical rehabilitation, the divide had substantially lessened.
- The Malawian draft guidelines on treatments of severe malnutrition needs to be incorporated into training at nursing and medical schools.
- In general all the NRUs and paediatric units in hospitals supported the guidelines in theory as well, some better than others. Space is often the biggest constraint particularly during the ‘hunger gap’ when numbers of admissions increase substantially particularly where the NRUs/paediatric units are in the ‘hunger gap’.
- The intervention has been integrated within the MOHP and is therefore more sustainable although resource support in the form of drugs and the specialised milk may be an issue in the future.

Summary conclusions:
- Over the two-year period the guidelines for treatment of severe malnutrition have been implemented in around fifty NRUs and in 2003 approximately 10,000 children were treated. The severe malnourished patients treatment standards do not quite reach those of SPHERE there has been a vast improvement in cure and mortality rates and number of defaulters. SCUK has been one of the players involved in these nutrition gains.
- SCUK were successful in the general ration distribution and were ahead of most other implementing partners in this area and implementing this intervention. However the supplementary feeding programme was far less successful. This may have been mainly due to not gearing up adequately with technical staff.

For further information contact; Frances Mason at; F.Mason@savethechildren.org.uk
This article describes the main findings of a clinical trial by ACF in Sierra Leone, which compares the use of solid RUTF (BP100) with the standard F100 treatment, during the rehabilitation phase of a TFC.

Different modalities of home-based treatment of severe malnutrition are currently being developed in the field of nutrition in emergencies. A cornerstone of these new strategies is the use of a Ready to Use Therapeutic Food (RUTF), based on the specifications of F100. Since these RUTFs do not contain water, they are not liable to bacterial contamination. They can be stored and consumed at home without previous preparation.

Two commercially marketed RUTFs are currently being produced and used in the field, a peanut paste-based product (Plumpy’nut) and a solid biscuit (BP100) (see box 1). Several studies have looked at the use of peanut paste RUTF for the recovery of severe malnutrition in therapeutic feeding centres (TFCs) and in home-based programmes. There is less information available on the use of solid RUTF in TFCs or at the community level. This study was designed to provide information on the use of solid RUTF in the recovery of severe malnutrition in children.

The specific objectives of this study were to compare the energy intakes of solid RUTF and F100, as well as water intakes, in children during the recovery phase of treatment of severe malnutrition. We also present a comparison of the weight gain of children on a diet containing solid RUTF and F100, compared with the standard diet of F100 alone.

Methods

The study was implemented in a TFC run by Action Contre la Faim in Freetown, Sierra Leone, between April and June 2001. The population being assisted in the TFC were displaced and resident people. All patients were of low socio-economic status and most were displaced by the war. The care-taker of each child was asked for consent to participate. None refused. The study was approved by Sierra Leone’s Ministry of Public Health and Action Contre la Faim’s Scientific Committee.

All non-breastfed children, aged between 12 and 59 months and approaching the end of transition phase of standard treatment (see Box 2), were eligible for the study. On the second and last day of transition phase, the child was assessed for inclusion by a qualified nurse. Exclusion criteria included suspicion of tuberculosis (cough of more than 4 weeks), severe kwashiorkor (oedema above the knees), severe illness (i.e. measles) or persistence of vomiting or diarrhoea. Following informed consent from the care-taker, the patient was randomised to the mixed-diet group (Box 3) or the F100-only groups (Box 2).

All meals in both groups were supervised by ACF staff. Explanation was given to care-takers as to how to feed their child, and support was available from staff during the meals. In order to ensure that children would eat on the basis of appetite (ad libitum), an extra quantity of milk or biscuit was offered when the child finished the meal, until the child spontaneously refused any more. The children were asked to drink F100 milk from a cup. RUTF biscuits were taken directly (with the hand) or crumbled on a plate and eaten with a spoon. All patients were given a cup with water to drink during and after the meal. Mothers were instructed to encourage the child to drink.

Outcome measurements

All patients were weighed, had their oedema assessed and received a medical examination every second day (more often if the child presented with a specific complaint). Each child in the mixed-diet and the F100-only groups was selected on day 6 of the rehabilitation phase for measurement of energy and water intake. Energy intake was calculated from the quantities eaten by the child during each meal. The quantity of water drunk by the child was also measured. Due to curfew and security reasons, the meals taken by the children at night could not be measured. Therefore, 4 meals per patient were measured on a single day for each patient. Recovery was assessed by monitoring weight and oedema. The child was discharged when oedema was completely resolved and weight-for-height was above 85% of the median of NCHS reference

Clinical Trial of BP100 vs F100 Milk for Rehabilitation of Severe Malnutrition

By Carlos Navarro-Colorado and Stéphanie Laquière

Carlos Navarro-Colorado is a medical doctor, with a MSc in Public Health (Nutrition). He has worked in the fields of Public Health and Nutrition in France, as well as with Action Contre la Faim in Sierra Leone and Liberia. She is currently teaching Nutrition at graduate level in Marseille (France).

Stéphanie Laquière is a Dietician, with a MSc in Public Health (Nutrition). She has worked in the fields of Public Health and Nutrition in France, as well as with Action Contre la Faim in Sierra Leone and Liberia. She is currently teaching Nutrition at graduate level in Marseille (France).

We want to acknowledge ACF field staff in Sierra Leone for their support and effective work.

1 Produced by Nutriset, France
2 Produced by Compagnie des Produits Naturels,

Box 1 Solid RUTF

The RUTF studied in this trial is a biscuit (BP100) presented in bars of 300 kcal (57 grams) (Compact, Bergen, Norway). The bar has an equivalent vitamin and mineral composition to F100, but is based on cooked wheat rather than milk. The product is given during the Rehabilitation phase ad libitum at a minimum of 200 kcal/kg/day. It can be diluted in hot water to prepare a porridge (dilution of one bar in 200 ml of boiled water) but cannot be stored once diluted in water.

Box 2 Standard treatment in TFC (F100-only group)

Patients were admitted to the TFC if they presented with severe malnutrition (weight-for-height below 70% of the median of NCHS reference data or bilateral oedema suggestive of kwashiorkor). The standard treatment started with stabilisation phase, comprising of dietary treatment with F75 milk (80 kcal/kg/day in 8 feeds), plus systematic antibiotics, and treatment of acute conditions (i.e. hypoglycaemia, hypothermia) until recovery of appetite. This phase lasted 4 days on average. The patient would then stay for two days in the transition phase with the same dosage of F100 milk. Finally, during the rehabilitation phase, F100 milk was given ad libitum, at a minimum of 200 kcal/kg/day for six meals. One meal of 300 ml of CSB porridge (380 kcal) was also provided.

Box 3 Rehabilitation study diet (mixed-diet group)

Admission criteria and treatment in Phase I and Transition Phase were as standard (Box 2).

During the first 3 days of the Rehabilitation phase, patients in the study group received a standard diet, with one of the meals replaced by the equivalent quantity (in kcal) of BP100. From day 4 of treatment, the patient received six alternate meals of F100 and BP100. The order of the meals was altered each day to avoid potential bias related to the timing of the meals. As in the control group, total energy intake was aimed to provide a minimum of 200 kcal/kg/day. They also received the CSB porridge in the same quantity and at the same time as the control group.
Table 1  Baseline characteristics of subjects on admission

<table>
<thead>
<tr>
<th></th>
<th>Control group (F100 only) (n = 26)</th>
<th>Study group (Mixed diet) (n = 25)</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>mean (sd)</td>
<td>mean (sd)</td>
<td></td>
</tr>
<tr>
<td>Age (months)</td>
<td>26.5 (11.6)</td>
<td>21.8, 31.2</td>
<td>0.2958</td>
</tr>
<tr>
<td>WHZ*</td>
<td>-3.1 (0.58)</td>
<td>-3.3, -2.8</td>
<td>0.0740</td>
</tr>
<tr>
<td>HAZ**</td>
<td>-2.7 (1.46)</td>
<td>-3.3, -2.1</td>
<td>0.3697</td>
</tr>
<tr>
<td>Height (cm)</td>
<td>78.1 (7.87)</td>
<td>74.9, 81.2</td>
<td>0.1328</td>
</tr>
<tr>
<td>Weight (kg)</td>
<td>7.5 (1.68)</td>
<td>6.9, 8.2</td>
<td>0.0472</td>
</tr>
<tr>
<td>n %</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oedema</td>
<td>15 (58)</td>
<td>15 (60)</td>
<td></td>
</tr>
<tr>
<td>Gender</td>
<td>13 / 13</td>
<td>14 / 11</td>
<td></td>
</tr>
</tbody>
</table>

* WHZ = Weight for Height in Z-scores of the NCHS reference population
** HAZ = Height for Age in Z-scores of the NCHS reference population

Table 2  Energy intake and water intake per meal in the mixed-diet group (25 children, 4 meals per child)*

<table>
<thead>
<tr>
<th></th>
<th>F100-only group</th>
<th>Mixed-diet group</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>mean (sd)</td>
<td>95 % CI</td>
</tr>
<tr>
<td></td>
<td>Energy Intake (kcal/kg/meal)</td>
<td>Water Intake (total)*</td>
<td>(ml/kg/meal)</td>
</tr>
<tr>
<td>F100 meals</td>
<td>50</td>
<td>39.2 (10.39)</td>
<td>36.28, 42.17</td>
</tr>
<tr>
<td>BP100 meals</td>
<td>50</td>
<td>60.9 (32.10)</td>
<td>52.83, 70.09</td>
</tr>
</tbody>
</table>

* For F100 meals, this quantity includes the water diluted for the preparation of the diluted milk consumed by the child (calculated from the total intake) and the water taken directly from the cup.

Table 3  Weight gain in the F100-only and mixed-diet groups*

<table>
<thead>
<tr>
<th></th>
<th>F100-only group</th>
<th>Mixed-diet group</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>n</td>
<td>mean (sd)</td>
<td>95 % CI</td>
</tr>
<tr>
<td>All children</td>
<td>24</td>
<td>9.3 (2.9)</td>
<td>8.1-10.6</td>
</tr>
<tr>
<td>By age group:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12-23m</td>
<td>11</td>
<td>9.4 (3.5)</td>
<td>7.1-11.6</td>
</tr>
<tr>
<td>24-60m</td>
<td>13</td>
<td>9.2 (2.6)</td>
<td>7.6-10.8</td>
</tr>
</tbody>
</table>

* Only patients that completed the rehabilitation phase are included on this table (see results section for explanation)

The same procedures were carried out with the quantities of water taken during and after the meal. In addition, we calculated the weight gain for all patients, from minimal to maximum weight, and compared the mixed-diet and F100-only groups with an unmatched t-test.

Results

Seventy-eight non-breast fed children, aged between 12 and 59 months, were considered for inclusion in the study. Figure 1 summarises the selection of patients for the trial and the two analyses performed on them. Eighteen patients were excluded for medical reasons, 10 boys and 8 girls, with an average age of 29.5 months (sd. 1.8). Table 1 presents a baseline description of the characteristics of the children on the day of admission. Data was available for energy intake analysis of 26 children in the F100-only group and 25 children in the mixed-diet group. Energy intake was not measured in four other children in the F100-only group due to loss to follow up, while four in the mixed-diet group completed treatment before the day of measurement of energy intake and one defaulted from the centre.

Energy intake: comparison of meals in the mixed-diet group.

The mean energy intake of children in the F100-only group and 25 children in the mixed-diet group. Energy intake was not measured in four other children in the F100-only group due to loss to follow up, while four in the mixed-diet group completed treatment before the day of measurement of energy intake and one defaulted from the centre.

Comparison of the mixed-diet group and the F100-only group.

Among children aged 12-24 months the difference in energy intake between meals is smaller than in older children, this difference is still in the same range as the average and significant (data not shown).

Water intake: comparison of meals in the mixed-diet group.

The water intake during the meals is higher with F100 than with BP100 (table 2). The mean difference in total water intake up until 45 minutes after the meal (including water used for diluting the milk) is 22.8 ml (sd 19.8; 95% CI 17.8, 27.8; p< 0.0001). Again, the order of the meals or the age-group of the child did not affect this difference. Total water intake in the F100-only group was 42.4 ml (sd 12.6). Water intake in the F100-only group was not significantly different from water intake in the F100 meals of the mixed diet group (mean difference, 0.67 ml; se 2.3; t-test p 0.37).

Comparison of the mixed-diet group and the F100-only group.

Table 3 presents the results of treatment in terms of weight gain, comparing children in the F100-only and the mixed-diet groups, and showing the effect of age on the response to treatment. Presence of oedema on admission or gender did not affect the rate of weight change in either of the two groups.

The duration of the Rehabilitation phase until discharge was similar for patients completing treatment in the mixed-diet and the F100-only group.
Field Article

In the F100-only group, rehabilitation took an average 24.8 days (sd 10.3; 95% CI 20.5, 29.2) and in the mixed-diet group, 24.7 days (8.8; 20.4, 28.9) (t-test for the difference, p = 0.9493).

Eighty percent of patients had enough weight gain to recover completely. Among those that didn’t recover, nine cases defaulted from the centre. Seven of the nine children that defaulted did so despite a positive weight gain (i.e. above 5g/kg/day on average). Defaulting rates were similar in both groups (4 children in the control group and 5 in the study group). Defaulting rates in TFCs are often high, particularly during planting and harvest seasons in rural populations. Comparison of mortality rate among the patients in the TFC of the study is below mortality rates expected in TFC programmes according to all guidelines.

Discussion

In this study, children showed a preference for the biscuit form of RUTF without reducing intake of the milk product (F100). The high energy intakes obtained in the mixed-diet group translate into average weight gains above those obtained with F100 alone in the F100-only group (which are, themselves, above the minimum weight gain expected in this phase of treatment). These results are in accordance with a similar study on Plummy’nut implemented by ACF (ref 1).

A limitation of the study was that it was impossible to measure the total energy intake for a full 24 hours. Using the information from the meals measured, and extrapolating to the whole day, the total daily energy is estimated at 289 kcal/kg in the F100-only group and 353 kcal/kg in the mixed-diet group. These levels are well above the needs of patients during the rehabilitation phase.

The range of energy intakes with RUTF is much wider than that of F100 (figure 2). While this applies mainly to the highest intakes of the product, it is due to the fact that F100 is diluted solely to a solid or paste meal. This phenomenon needs to be taken into account in selecting patients for treatment at home, to ensure that all the children sent home for rehabilitation are in good enough health to ensure appropriate intakes of the RUTF. Surveillance and information systems should be in place in all home-based programmes to ensure prompt reaction if the energy intake of the child is not sufficient. This, in turn, should help to refine the criteria for the selection of children who can be treated at home.

Water intake during the RUTF meals was well below that in the F100 meals. In part, this is due to the fact that F100 is diluted with water and the child takes it in a passive way. As our patients in the mixed-diet group were receiving alternate meals of the two products, they could compensate for the low water intakes of the RUTFs meals with the water taken with the milk. No conclusive statements on the water intake of the RUTF, if it was taken alone, can be made from these data. A study is needed in the future on RUTF (in a TFC or in a home-based protocol) to assess the risk of inadequate water intake. Both peanut based RUTF and RUTF biscuits contain no water and should always be provided with water in order to ensure absorption and avoid dehydration.

Children on the mixed diet of RUTF and F100 do gain weight faster than those on the standard diet. However, the rate of weight gain is sufficient for a proper recovery in both groups, and the mix of F100 and RUTF in the same diet is not intended for operational practice. Use of RUTFs in younger children (in particular below 12 months) needs further study before field implementation.

This study shows that solid RUTF is well accepted and can be used in the rehabilitation of severe malnutrition in the TFC and at home. There should be further studies of the use of RUTF-only diets in home based treatment, including measurements of energy and water intakes. However, suitability of RUTF is only one of the many factors that may affect the success or failure of a home based programme for the treatment of severe malnutrition in emergency situations.

For further information, contact Carlos Navarro-Colorado, C. Socio-anthropologist, 1980 for the IDP camps. The first really professional and protocolised selective feeding programmes were probably implemented in Somalia in the late 1980s and early 1990s.

Saskia identified a number of key learning points in MSF’s nutrition programme’s history. The large number of severely malnourished adults during the Somalia civil war (1991/2) were a real shock to the agency and forced them to think through a new set of nutritional protocols for adults. A year later in Liberia and Sierra Leone MSF H were forced to implement large SFPs and TFPs in open situations. These programmes “really honed MSF staff professional and management skills”. The 1998 famine in southern Sudan led to the realisation that perhaps MSF were too focused on individuals at the cost of the family and that MSF needed to consider “larger amounts of food aid programming”, i.e. blanket SFPs and GFDs. The experience taught them that waiting for advocacy to work may not always be a good strategy, i.e. WFP may not come up with the food in time. Saskia also remembered Wau in southern Sudan in 1998 as the occasion when MSF had to come to grips with the issue of adult nutrition. The technical expertise of Andre Briand, Mike Golden and Steve Collins were instrumental in dealing with the problem. During the Afghanistan crisis, MSF learned that nutrition surveys based on MUAC measurements cannot be used as an advocacy tool.
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Email .............. office@amsterdam.msf.org
Year formed ....... 1984
Staff (2003) ....... 188
Overseas .......... 795
National staff ....... 4150
Annual budget
(2003) ............ 74.3 million Euros

Air drop damaged grain sacks

Air drop damaged grain sacks

MSF feeding programme

MSF, 2003

and that outsiders expect more nutrition and health linkages in pro-
gramming. Also, the blanket supplementary feeding strategy as a stop-
gap measure needs to be reviewed as general ration food aid cannot
always be relied upon, i.e. it is out of MSF’s control.

According to Saskia the work of Briand, Golden, Collins and
Wartherlow has shaped much of MSFs thinking in the nutrition field
while initiatives like NGO-nut and Field Exchange have also been vital
for lesson learning.

A critical issue for MSF has been the tension around general ration
provision. The lack of control over GFDs with implications for the suc-
cess of SFPs and TFPs has fuelled much internal discussion. The three
main MSF sections have disagreed about this. MSF H have always been
reluctant to get into large scale food aid in the belief that they would not
have the capacity to do a good job preferring instead to focus on assess-
ment and advocacy. MSF France on the other hand set up a unit specifi-
cally to implement GFDs. However, the few experiences of MSF France
did not turn out well. Saskia identified the lack of expertise and capaci-
ty on the food security side, i.e. inability to undertake detailed food
security assessments, administer GFDs or other food security interven-
tions, as a major weakness of MSF Holland. “Implementation of family
rations for children in feeding centres was a compromise for MSF and an
easier type of programme to handle”.

Current thinking within MSF H is that there is a need to strengthen
medical / nutritional programmatic linkages and that the technical back-
up for this is weak. Key areas are AIDS/TB, Kalazar and milk pro-
gramming. MSF plan to develop the nutritional and curative side of
treatment in tandem. A lot more can be done with nutrients during treat-
ment of HIV and TB while drugs for malaria will work more effectively
with well nourished children. MSF UK are currently supporting them
in their efforts to develop nutritional protocols alongside anti-malarial
combination therapy. MSF are developing nutritional protocols as they
go. In a Kalazar programme in Wau MSF applied TFC protocols with
severely malnourished adults (Kalazar leads to substantial wasting). It
worked well amongst this pastoral population who were used to con-
suming milk while in Ethiopia the same approach was not so successful.
The emerging view in MSF is that normal or slightly modified diets
respecting local habits should be used for this type of programming.

Saskia stated that while MSF are an emergency organisation they do
work in long-term crisis situations like southern Sudan. “Is this still an
emergency?” she asked. Also, as a medical agency MSF are now mov-

ting towards viewing HIV/AIDS endemic areas as emergency affected.

While MSF sections work closely together in developing policies and
 approaches through meetings and discussion their operations ap-

date. Saskia reckons that there are substantial differences between MSF
France and MSF Holland. For example, MSF France employ a large
number of doctors and nurses so that their programmes are essentially
curative, while MSF Holland has a more ‘public health’ approach. In
terms of agency culture “the Dutch are more formal in meetings (a bit
like the English) - they want action points”. “The French are more emo-
tional, are reactive and always find a solution. They just jump in and
work it out as they go while the Dutch tend to be more cautious, analyti-
cal and less vocal. There are pros and cons with both approaches”.

A unique feature of the MSF organisation is that 50% of funding comes
from the public with 50% from major donors. Public money, although
dwindling of late, is raised through the lottery and churches, etc. This allows a lot of autonomy and the ability to start a programme
when MSF wants to start it. This is one of the reasons why MSF is often
the first to arrive in an emergency. However, the common misconception
that MSF “goes it alone” is not really fair as MSF nearly always work with
appropriate government ministries. Another feature of MSF is that
humanitarian values are at its core and that it is decidedly non-political.
MSF will not denounce parties unless humanitarian interventions are
being compromised. Advocacy is based on ‘temoinage’ or witnessing

Agency Profile

A critical issue for MSF has been the tension around general ration provision. The lack of control over GFDs with implications for the success of SFPs and TFPs has fuelled much internal discussion. The three main MSF sections have disagreed about this. MSF H have always been reluctant to get into large scale food aid in the belief that they would not have the capacity to do a good job preferring instead to focus on assessment and advocacy. MSF France on the other hand set up a unit specifically to implement GFDs. However, the few experiences of MSF France did not turn out well. Saskia identified the lack of expertise and capacity on the food security side, i.e. inability to undertake detailed food security assessments, administer GFDs or other food security interventions, as a major weakness of MSF Holland. “Implementation of family rations for children in feeding centres was a compromise for MSF and an easier type of programme to handle”.

Current thinking within MSF H is that there is a need to strengthen medical / nutritional programmatic linkages and that the technical backup for this is weak. Key areas are AIDS/TB, Kalazar and milk programming. MSF plan to develop the nutritional and curative side of treatment in tandem. A lot more can be done with nutrients during treatment of HIV and TB while drugs for malaria will work more effectively with well nourished children. MSF UK are currently supporting them in their efforts to develop nutritional protocols alongside anti-malarial combination therapy. MSF are developing nutritional protocols as they go. In a Kalazar programme in Wau MSF applied TFC protocols with severely malnourished adults (Kalazar leads to substantial wasting). It worked well amongst this pastoral population who were used to consuming milk while in Ethiopia the same approach was not so successful. The emerging view in MSF is that normal or slightly modified diets respecting local habits should be used for this type of programming.

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People in Aid

UNHCR health, nutrition and HIV/AIDS coordinator annual meeting held in Addis, 2004.

The lunchtime MUAC meeting

Mark Manary (Malawi college of Medicine), Ellen Piwoz (SARA Project, AED) and Caroline Tanner (FANTA)

CTC meeting in progress, Washington DC.

Njogu Patterson and Laurie Bruns playing a community education game on HIV/AIDS

Community-Based Therapeutic Care,
Inter-agency meeting,
February 28 - March 2, 2005 Washington D.C

Mark Myatt (Institute of Ophthalmology) discusses with Kate Golden (concern Worldwide)

Tanya Khara (VALID International) and Hassan Taifour (SC UK)
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 ex-change of field level experiences is central to ENN activities.