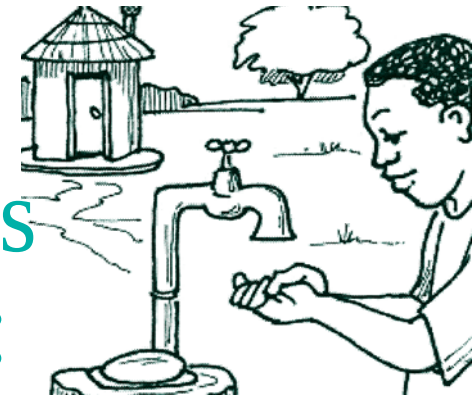
J. SHERMAN[1]



# From nutrition needs to classroom lessons: can we make a difference?

**Jane Sherman** teaches language and linguistics, trains teachers and writes training materials. She has worked as a consultant with FAO on training in project formulation and management, training evaluation and nutrition education.

In order to tackle nutritional needs through primary education, the Government of Zambia, in collaboration with FAO, set up the "Nutrition Education in Primary Schools" (NEPS) Project.[2] Parallel with a larger project, "Improving Household Food Security and Nutrition",[3] it targeted the fishing and farming communities in the Luapula Valley in the north of Zambia (see Callens and Phiri, 1998). Working through the Ministry of Education, within the Basic Education Sub-Sector Investment Programme (BESSIP), the project's task was to analyse the nutritional status of primary school-children and their current education in nutrition. The outcome of this analysis would provide the basis for developing teaching materials for primary education, piloting them in local schools, revising them and making them available for wider use. The hope was, in the words of the project coordinator, to make a difference to children's nutritional status in Luapula. I would like to describe, from an educationist's perspective, the project's experience of the process rather than the product: that is, the generic difficulties of taking an immediate social and practical problem and trying to tackle it through the primary education system.

## Situation and scope for action

A statistical survey carried out in Luapula confirmed the existence of major nutritional problems in the community. Micronutrient deficiencies were widespread: 50 percent of young children (under five years of age) had mild-to-moderate deficiency of serum retinol (vitamin A deficiency) and 76 percent suffered from anaemia, while 60 percent of adults suffered from mild-to-moderate deficiency of serum retinol and 65 percent from anaemia (FAO, 2000a). Nearly 60 percent of infants and toddlers were

1 Mukelebai Songiso, the project coordinator, who was to have co-authored this article, died while still supervising the production of the NEPS teaching materials. As senior school inspector in the Ministry of Education he had many responsibilities and we can only be grateful that he was able to give so much of his time and attention, with such commitment and interest, to this enterprise. His death is a very great loss to Zambian education and to this project in particular.

2 Technical Cooperation Project TCP/ZAM/8923.

3 Project GCP/ZAM/052/BEL.

found to be stunted and these children may continue to be smaller than healthy children as a result of insufficient and poor-quality food, poor hygiene and sanitation, lack of clean water, parasites, malaria and diarrhoea during their school years.

The situation analysis of school-children found that one meal a day, sometimes two, was the norm (FAO, 2000b). Children did not generally take snacks to school and there were no school meals. There was a general lack of variety in the diet and household food security was a major issue, with many foods not available for large parts of the year. A 24-hour dietary recall study, carried out in the dry season, revealed that the only foods children had eaten the day before were cassava, fish and groundnuts.

A large proportion of children were not in school; there were high absenteeism and drop-out rates, especially for girls. School conditions were poor and there were shortages of teaching staff. Teachers' salaries were low and their accommodation was often poor. Few teachers had training in nutrition education. Resources were scarce and the school water supply and sanitation were generally inadequate. Most schools had gardens or "production units", but these were seldom associated with nutrition education; instead, children were often seen simply as a labour force.

What scope was there for education in this situation? A lot of good dietary advice is already given, heard and respected in Luapula, but cannot be followed because of material or social constraints. Women say, for example, that they would like to feed their children more often but do not have enough food, money or time to cook as they are in the fields all day (FAO, 2000c). In such circumstances it seems shameful as well as useless to urge the benefits of three meals a day.

Yet some improvements do not require much time, money or labour. Luapula families do not give much importance to safe drinking water and only about 8 percent of them have a safe source of water. Much sickness could be prevented by sterilizing water and encouraging children to wash their hands more often; the cost of the chlorine or fuel for boiling is likely to be recouped at the family level in health and productivity.

A dietary study of knowledge, attitudes and practices (KAP) (FAO, 2000c) revealed that malnutrition was not generally recognized as a disease, except in acute cases, and the idea of a good diet preventing illness was not widespread. Dietary variety was not a priority, and some readily available healthy foods were undervalued. Fruits and vegetables were often perceived as "food for the poor"; vegetable oil and red palm oil (the richest vegetable source of vitamin A) were not highly valued; beans and peas (valuable alternatives to animal foods as sources of protein) were rarely mentioned as "good food" and some were not even recognized as edible. There was a healthy tradition of eating green leafy vegetables with oil or groundnuts, which makes the beta-carotene available to the body, but no similar habit of eating vitamin C-containing fruit with the meal, which could increase the availability of iron and help to reduce anaemia. Yet fruit is widely available in Luapula and every house has its mango tree. There seemed to be room for education to make its mark.

## Institutional issues

Introducing nutrition education, however, means more than looking at nutritional needs, and coming into a national education system from outside requires particular caution. Established procedures demand institutional knowledge that is not always available to independent projects. Moreover, nutrition education is a special case. It is often not a recognized school subject and thus not on the established agenda for curriculum discussion and negotiation. In the highly competitive struggle for timetable space, it risks losing integrity and impact. It therefore needs a more assertive voice to speak for it.

In terms of national recognition, the project was lucky to make as much headway as it did. The project coordinator was a senior inspector of the Ministry of Education, with an infallible sense of what was possible and a brisk approach to getting it done. The project team brought essential inside information and systemic knowledge (for example, up-to-date data on Zambian nutrition, the criteria for making teaching materials acceptable to the Ministry) and advised on essential steps that had not been foreseen in project activities (for example, official procedures for approving learning objectives). Happily, too, the project team was able to take part in the Zambian primary curriculum review process. This involvement raised the profile of nutrition education in Zambia and carved out more dedicated space for it in the official curriculum.

## Pedagogical issues

Translating needs into teaching materials is not a simple process. We (the project team) discussed and agreed a principled approach, but trying to apply these principles turned what looked like a straightforward educational exercise into an extensive experiment. Challenges arose as a result of our preconceived ideas of education and learning, from cultural expectations, from established curricula and patterns of nutrition education, and from ideas of the role of the school in the community.

### The materials

The materials (a pupil's book and accompanying teacher's notes) were to consist of a short series of lessons at three grade levels, dealing at each level with the outstanding issues of protein-energy malnutrition, vitamin A deficiency and iron-deficiency anaemia. To these, we added hygiene, diarrhoeal diseases and malaria, which were clearly essential elements in the complex cycle of infection and nutrition.

For the pupil's book a simple lesson format was adopted: one or two activities

(often a question to discuss) accompanied by related illustration, an "Ask yourself" question, a "Remember" message and homework. "Ask yourself" was a self-check on personal knowledge, attitudes or behaviour – a private record kept by each pupil in his or her exercise book. The "Remember" box summarized the main message of the lesson and was used to recall it. The homework called on pupils to find out about foods, discuss diet with their families, keep food diaries, and similar activities – sometimes as a follow-up and sometimes in preparation for the next lesson.

An important function of the materials was also to train teachers in nutrition. The teacher's notes therefore gave background information for each lesson: explaining the relevant situation in Zambia, expanding on the technical information and suggesting strategies to deal with potential learning difficulties. This information was followed by suggestions for introducing each lesson and carrying out the activities. There was also an optional "Event track" with ideas for displays, presentations and shows that could be used to publicize pupils' learning on open days and at other events. The materials for each grade also included a learning evaluation sheet containing questions for before-and-after focus group discussions with pupils.

## The curriculum concept

The curriculum concept adopted by the project extends to nutrition education the World Health Organization (WHO) concept of the health-promoting school (WHO, 1998). This assumes that health and diet are, above all, a way of life, learned in all the contexts of a child's life. To be effective, nutrition education must therefore tackle at least three "curriculum areas": the classroom, the school environment, and the family and community. Some of the approaches flowing from this tripartite curriculum are:

- an emphasis on behaviour and attitudes as well as knowledge, and an educational approach that will promote these;
- exploration of the school environment and its practices, including, for example, the school garden, school meals, school sanitation and hygiene, health and nutrition interventions in the school, and teachers' own experience and attitudes;
- exploration of food and nutrition practices, beliefs and expertise in the community;
- establishing dialogue, discussion and collaboration with families.

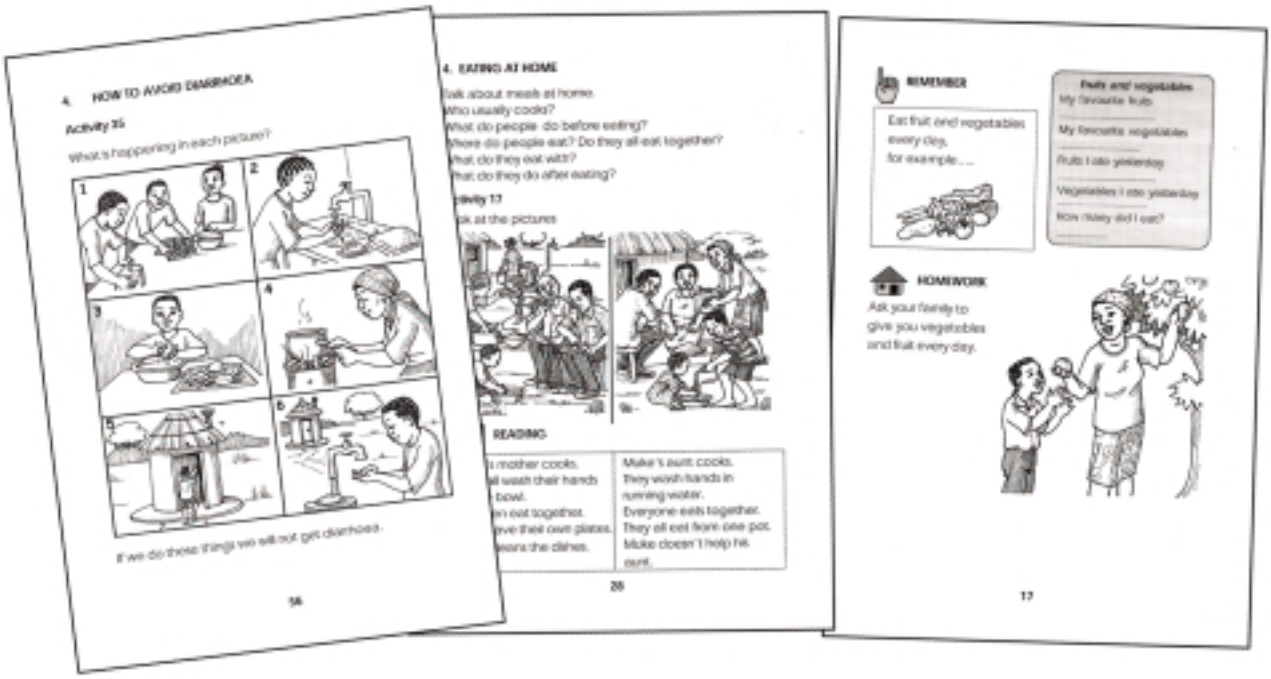
We wanted to accommodate these principles as far as possible in the materials. The most far-reaching assumption was that "lifestyle learning" necessarily involved behaviour and attitudes in addition to knowledge and understanding. "Knowing" about bacteria, for example, must extend to practical awareness of the dangers of food contamination from hands, air and flies; establishing automatic routines such as washing hands and covering food; and more conscious life skills such as reminding younger children to do these things and explaining why they are necessary. Whereas community education has long recognized the limited value of a one-sided knowledge approach (see Valyasevi and Attig, 1994), scholastic learning has traditionally concentrated on knowledge at the expense of other kinds of learning targets, and these values have become deeply entrenched in curriculum content and in the methodology and evaluation of learning. Nutrition education cannot limit itself in this way, especially when it is concerned with specific needs – it must get to grips with real life.

Living up to this approach in developing the materials was challenging. Establishing learning targets, involving families, formulating objectives, planning lesson sequences, situating them in the curriculum – all went through an evolution towards this more holistic life-based model of learning.

## Exploring the ground

Concern with people's beliefs and behaviour means that the curriculum process must include finding out what people already do and think, so that learning can "start from where the learners are". Nutrition education, in particular, starts with the least blank of slates. By the time children reach school, their consciousness is imprinted with behaviour patterns, tastes, values and ideas about food and diet. Almost any exploration of such beliefs and practices reshapes the learning agenda. For

**Introducing nutrition education means more than looking at nutritional needs... To be effective, nutrition education must tackle the classroom, the school environment, and the family and community**




example, we found that drinking water is frequently contaminated by dirty hands carrying uncovered containers; as a result, one of our objectives was that children learn to fetch and carry water properly. Luapula people value large expensive fish more than the very small ones (*chisense* and *kapenta*), which are cheaper and nutritionally richer because they are eaten whole; we therefore promoted the message "Eat small fish".

The KAP study provided this kind of information on attitudes to nutrition in the Luapula Valley (FAO, 2000c), and other reports provided valuable insights on seasonal shortages and food practices (FAO, 2002; FAO, 1994). However, there was never enough information. This enquiry should continue in classrooms and homes, so that dialogue continuously reveals the true learning needs. Because few educators, learners or families recognize the need for this kind of exploration, we built it into the teaching materials. Teachers were expected to ask and to listen, not just to tell; children were expected to find out and report back. We hoped that this interaction would open up a genuine dialogue through which information would flow into the school as well as out of it.

## Involving the family

Family backing for the teaching programme was essential, because nutrition is mainly learned and practised in the home. We proposed that parents should be consulted beforehand on the content of the lessons, involved through demonstrations and displays of classwork, and invited to comment after each lesson series. The main channel for family involvement, however, was homework. After each lesson pupils were expected to consult or question family members, say or show what they had learned or discuss dietary messages. In general, families were treated as expert informants, but sometimes children were also expected to make requests or suggestions at home, or to change their own behaviour – for example, by asking for food to take to school, suggesting fruit after meals, washing their hands in running water. Such direct attempts to promote change can be a sensitive issue. Questions that came constantly to mind were:

- Is the proposed change feasible? Is it easy to do? Can families afford it?
- How will this affect relationships between schools and families? Will it be seen as presumptuous of children to suggest changes, or as intrusion by the school in family affairs?
- Might some suggestions in themselves give offence? Do they clash with cultural expectations? For example, can schools ask boys to help with cooking or cleaning at home? (A project on gender equity in schools [ZIS-UNICEF, 2000] has found this to be a struggle.)

## Formulating objectives

In spite of the project's goal of promoting change in behaviour and attitudes, our first learning objectives overwhelmingly reflected the "knowledge" stance, as was revealed by the operational verbs used. The original "food" objectives for grade 2 (seven/eight-year olds), for example, included ten starting with "mention/state/name/explain" (e.g. mention foods that help you grow), four starting with "recognize" (e.g. recognize the value of variety), and only two action objectives (e.g. "take measures to eat breakfast").

There are, of course, problems with formulating classroom learning objectives for attitudes (which cannot by their nature be compulsory), awareness (which is hard to measure) and behaviour outside the school (which can only be encouraged, not required). What could we realistically say we were expecting children to learn? to actually *eat* a variety of foods? to *take measures to* eat a variety of foods? to *demonstrate how to* eat a variety of foods? or to *explain the value of* a variety of foods? This question was not resolved, but as the materials were recast, the range widened, and the final objectives achieved more diversity and more purchase on real life. For example, the grade 4 objectives for food and diet

included six aiming at knowledge (e.g. identify foods as members of food groups), two aiming at attitudes (e.g. show you value fruits and vegetables), four discourse competences (e.g. discuss purchases with vendors), four specific behaviours (e.g. improve a meal by adding what is missing) and six that led directly to particular behaviour (e.g. say how to increase the energy in a meal).

Many of the early "knowledge" objectives were also verbal, requiring pupils to "mention/state/name/explain", and appeared to favour individuals who were confident talkers. One reason was that the Zambian Curriculum Development Centre required performance verbs in its objectives rather than unverifiable targets such as "know", "understand", "appreciate"; another was the traditional scholastic assumption that knowledge can only be learned and demonstrated in words. This had a stultifying effect on some lessons, which became essentially repeat-after-me exercises. This is particularly dangerous when learning is to be applied outside the school in the way people eat, and not just parroted in class or reproduced in exams.

The way to avoid this trap was to interpret verbs such as "explain" and "state" more liberally as "show you know", so as to include perceiving, showing, selecting and discriminating, and as far as possible to reproduce real-life circumstances. For example, children could show their understanding of food contamination by role-playing flies and cockroaches, walking through diagrams on the classroom floor, pointing out danger spots in the physical environment or approving and disapproving mimed actions in preparing food – as well as explaining why things should be done in a certain way.

In this action perspective, verbal accomplishments became learning targets in their own right. For example, conceptual learning is also vocabulary learning – diet, well-balanced meals, energy, root vegetables are all concepts that children have to be able to handle accurately and confidently in speech. Many speech events are nutrition education targets, including conversations and transactions with parents, siblings, vendors and neighbours. Reading is a learning target when "reading comprehension" means not just decoding words but translating them into action or discussion in one's daily life.

## Learning sequences/course structures

Balancing knowledge and behaviour also leads to choices in course design. Aiming mainly at knowledge gives a "topic" syllabus or theory orientation, while aiming at behaviour leads to a "task" syllabus or practice orientation. Clearly, theory and practice must feed each other, but one or the other will dictate the main scope and sequence of the learning, depending on whether we are more interested in covering the subject or in solving practical problems.

This choice underlay our developing response to the prevailing schemata of nutrition education that we called on when building our lesson sequences; indeed the progress of our materials seemed to be a paradigm of the evolution of nutrition education. There seemed to be several well-trodden tracks into talking about better eating, for example:

a) medical treatment (e.g. these are the symptoms of vitamin A deficiency and this is how you treat it);
b) particular foods and what they give us (e.g. eat liver – it is rich in vitamin A);
c) the particular kinds of food we eat (e.g. eat more vegetables);
d) the nutrients in foods and what they do for us (e.g. you need vitamin A every day to keep you healthy – it's good for eyes, skin, hair as well. You can find it in …);
e) meals and diet (e.g. have dark green leafy vegetables with your cassava and cook them with oil or groundnuts);
f) food security (e.g. preserve green leafy vegetables for the dry season; make mango jam).

Any of these could sponsor a series of lessons aimed at improving diet, but which was the best path to "making a difference"? Many early lesson drafts, probably inspired by the medical/statistical input from nutritionists, health experts and reference sources, were clinical and sickness-based. The first upheaval was to turn around this deficit/curative outlook to become a more positive/preventive one with more popular appeal (see Parlato, Fishman and Green, 1994). This led into the classic agendas for nutrition education – specific foods, food groups and nutrients – but these too were not entirely satisfactory. Although it was certainly part of the project's mandate to develop knowledge of particular local foods and to introduce the idea of nutrients, all these structuring devices produced very fragmentary dietary messages: "Eat these foods for growth/protein, and these [many of them the same foods] for energy, and these [again, many the same] for health/vitamins." Our lessons seemed to be getting through only partially to people what they needed to do because we were thinking of nutrients where people normally think of foods, and of foods where people normally think of meals.

In the end, we gave more weight to the practical and behaviour-oriented approaches through meals, diet and food security, responding to questions such as: "What do we eat every day? Do we eat a lot of different foods? How about these foods? They are very good for you; they keep you healthy. Do you like them? Are they expensive? Are they hard to grow? Can we eat them more? How do we cook them? Can we eat them in the dry season too? Can we preserve them?" This produced very specific dietary messages that related directly to children's own knowledge and experience. However, a task sequence of this kind did not automatically allow for the building of a knowledge base. We therefore did not abandon the classic emphases on particular foods, food groups and nutrients, but developed them in parallel

to reinforce the dietary messages. The result was a hybrid.

### Fitting into the curriculum

These choices posed the question of how needs-based nutrition education, with its behaviour orientation, can fit into a normal school curriculum. This emerged clearly when we first mapped the identified learning priorities onto a nutrition education curriculum chart provided with a planning guide developed by FAO (FAO, forthcoming). The priorities were easy to locate on the topic-based chart, but did not match it, being both narrower and more eclectic. For example, learning how to enhance diets with vitamin A involved finding out which foods are rich in vitamin A, what these foods do for you, which ones are most commonly eaten, which ones are most liked, how much they cost, how they can be preserved, how to eat more of them, how to combine them and cook them. This selection covered only a fragment of the chart's broad topic "Nutrients, their functions and sources", but drew on many other topics across the board, including "Food preferences", "Eating habits", "Food, nutrition and personal health", "Food security", "Shopping", "Food preservation" and "Meal preparation", which were all programmed to be taught separately and were listed in separate columns.

Most primary school curricula are topic-based. Nutrition, with its own vast body of knowledge, will be no exception. How can needs-based, behaviour-oriented modules be integrated?

### Learning approaches

We wanted the lessons to draw as much as possible on children's own experience, observations, beliefs and feelings; allow plenty of discussion and participation; encourage activity, both physical and mental; allow for enquiry and speculation; appeal to all the faculties and reach outside the classroom. This was partly due to our commitment to a general progressive approach, which was shared by the local teacher training college in Mansa, but also to the conviction that nutrition education that aims to "make a difference" calls for a whole-person high-impact style.

The question was how far such an approach would appeal to Luapula teachers, schools, children or parents and fit the prevailing classroom culture. It did not come naturally to some of the materials' writers, and many lessons fell into the rhetorical pattern of "knowledge transmission" – a monologue sustained by the teacher and the text, with children's activity reduced to supplying "right answers" on demand. Was this what schools expected? If the teacher's established role was prescriptive and authoritarian, then a more liberal approach would lack authority. Moreover, new approaches could make teachers uncomfortable and lessons ineffective. What the materials seemed to need was an "ecological" methodology sensitive to the environment, which would allow teachers room to move. Some strategies we adopted were:

- encouraging teachers to talk about their own experiences;
- using a variety of established activities – e.g. pupils reading aloud or writing on the board;
- keeping the pupil's book fairly conventional in content, and leaving most of the action suggestions to the teacher's notes;
- suggesting that teachers adapt activities to their own teaching styles, and provide alternative activities – e.g. role-play *or* reading aloud, demonstration *or* explanation;
- making extra activities optional.

## Conclusion

We have focused only on the institutional and pedagogical challenges posed by translating nutrition needs into teaching materials through the education system. This has left us with more questions than answers:

- Can nutrition education make headway in the education system without institutional representation – that is, without recognition as an official school subject?
- Should nutrition education be integrated with health education?
- How far should nutrition education be grounded in local experience?
- Can schools extend their relationship with families into a good partnership for nutrition education? Will teachers and families take kindly to learning that explores and sometimes challenges established practices in both home and classroom?
- Are teachers prepared to learn as well as to teach and to measure their own success by changes in attitudes and behaviour?
- How do we reconcile and balance knowledge and behaviour targets in lessons, lesson sequences and the overall curriculum?

The immediate question is what will happen to the project materials in the classroom and how children, schools and families will respond to them. Can they "make a difference"? The answer, in the short term, awaits the evaluation of the field-testing, which will be looking at children's behaviour, the quality of their understanding before and after the lessons, the reactions of schools and the effect on families. The products of the NEPS project should soon become part of a wider community education campaign in a new Luapula project, Luapula Food Security, Nutrition Action and Communication project (LFSNAC)[4] – and will contribute to their impact assessment.

[4] Project GCP/ZAM/059/BEL.

# bibliography


**Callens, K. & Phiri, E.C.** 1998. Household food security in the Luapula Valley, Zambia. *Food, Nutrition and Agriculture*, 22: 22–29

**FAO. 2000a.** *Analysis of data collected in Luapula Province, Zambia by the Tropical Diseases Research Centre (TRDC) and the Food Health and Nutrition Information System (FHANIS), a project prepared at the request of FAO/ESNP for Project GCP/ZAM/052/BEL, "Improving Household Food Security and Nutrition in the Luapula Valley, Zambia"*. Prepared by DASC. Rome.

**FAO. 2000b.** *Situation analysis on school health and nutrition in Mwense, Nchelenge and Chienge districts, Luapula Provice, Zambia*. Prepared by Phoebe Bwembya for FAO and the Ministry of Education, Government of Zambia, for Project TCP/ZAM/8923. Rome.

**FAO. 2000c.** *Knowledge, attitudes, perceptions and practices: a study on nutrition (children under five years and pregnant and lactating women) in the project "Improving Household Food Security and Nutrition in the Luapula Valley, Zambia", Project GCP/ZAM/052/BEL*. Prepared by Gabriele Goetz, Nutrition Consultant, in collaboration with Freddie Mubanga and Beatrice Kawana, National Food and Nutrition Commission (NFNC), Zambia.

**FAO.** 1994**.** *Notes on integrating nutrition in primary school subjects*. Project TCP/ZAM/2356. Rome.

**FAO,** 2002. *Oil palm cultivation and processing in view of improving household food security and nutrition – preparation for the Belgian Survival Fund Assistance, Nutrition Education component, TCP/ZAM/2802*. Prepared by Charity Dirorimwe, Nutrition Consultant. Rome.

**FAO.** 1995. *Smallholder oil palm production, processing and nutrition education, TCP/ZAM/2356.* Terminal statement prepared for the Government of Zambia by FAO, Rome.

**FAO** (forthcoming). *The nutrition education curriculum planning guide*. Rome.

**Parlato, M.B., Fishman, C. & Green, C.** 1994. Improving nutrition behaviour through social marketing. *Food, Nutrition and Agriculture* 10: 2–8.

**Valyasetvi, A. & Attig, G. 1994.** Nutrition communication in South and East Asia – experiences and lessons learned. *Food, Nutrition and Agriculture,* 10: 25–30.

**WHO. 1998.** *WHO's global school health initiative - health-promoting schools*. WHO Information Series on School Health, Document 4. Geneva.

**ZIS (Zambia Information Services)–UNICEF.** 2000. *Born a girl*. Video produced, in collaboration with the Zambian Ministry of Education, for the Zambian Project for the Advancement of Girls' Education.

summary | résumé | resumen

## From nutrition needs to classroom lessons: can we make a difference?

In order to tackle undernutrition through education, the Government of Zambia, in collaboration with FAO, set up the Nutrition Education in Primary Schools (NEPS) project in the fishing and farming communities of the Luapula Valley. Before the development of teaching materials began, analyses were undertaken to assess the nutritional status of primary school children and the current situation in the schools.

Children in these communities were found to be suffering from the effects of insufficient and poor-quality food, poor hygiene and sanitation, lack of clean water, parasites, malaria and diarrhoea during their school years. Meals were limited, diets lacked variety and household food security was a major issue. Attendance at school was poor and schools lacked teachers and resources. Dietary advice that was already available could not be followed because of heavy material or social constraints.

Introducing new pedagogical concepts and promoting nutrition in such an environment are challenges. Yet some improvements do not require much time, money or labour and there are areas where education could have a positive impact. This article describes the process of addressing an immediate social and practical problem through the primary education system. It explains how strategies to address nutritional needs were transformed into curriculum and teaching materials to be used by the existing education system.

## Des besoins nutritionnels aux salles de classe: peut-on jouer un rôle décisif?

Pour remédier à la sous-alimentation par l'éducation, le Gouvernement de la Zambie, en collaboration avec la FAO, a créé le projet Sensibilisation à la nutrition dans les écoles primaires au profit des communautés de pêcheurs et d'agriculteurs de la vallée du Luapula. Avant la mise au point du matériel didactique, des analyses ont été effectuées pour évaluer l'état nutritionnel des élèves des écoles primaires et la situation dans les écoles.

Les résultats ont montré que, dans ces communautés, les enfants souffraient, pendant leur scolarité, de l'insuffisance et de la mauvaise qualité de la nourriture, du manque d'hygiène et d'installations sanitaires, de l'absence d'eau propre, de parasites, du paludisme et de diarrhée. Les repas étaient limités, les régimes alimentaires manquaient de variété et la sécurité alimentaire des ménages constituait un problème majeur. Le taux de fréquentation des écoles était faible et les écoles manquaient d'enseignants et de ressources. Les conseils diététiques disponibles ne pouvaient pas être respectés en raison de graves contraintes de nature matérielle ou sociale.

Dans ce type d'environnement, l'introduction de nouveaux concepts pédagogiques et la promotion de la nutrition relèvent du défi. Et pourtant, certaines améliorations n'exigent pas tellement de temps, d'argent ou de main-d'œuvre et, dans certains domaines, l'éducation pourrait porter ses fruits. Le présent article décrit comment faire face à un problème social et concret pressant, grâce au système d'enseignement primaire. Il montre comment des stratégies axées sur les besoins nutritionnels ont été intégrées aux programmes scolaires et au matériel didactique utilisés dans le système éducatif actuel.

## De las necesidades nutricionales a las clases: ¿se puede lograr un cambio?

Con objeto de hacer frente a la subnutrición a través de la educación, el Gobierno de Zambia, en colaboración con la FAO, estableció el Proyecto de educación nutricional en escuelas primarias en las comunidades pesqueras y agrícolas del valle de Luapula. Antes de empezar a elaborar materiales para la enseñanza, se realizaron análisis a fin de evaluar la situación nutricional de los alumnos de las escuelas primarias y la situación existente en las escuelas.

Se observó que durante la etapa escolar los niños de estas comunidades padecían las consecuencias de una alimentación inadecuada y de baja calidad, una higiene y unas instalaciones sanitarias insuficientes, la falta de

agua potable, parásitos, malaria y diarrea. Las comidas eran escasas, la dieta poco variada, y la seguridad alimentaria de los hogares constituía un problema importante. La asistencia a las escuelas era baja, y éstas disponían de pocos profesores y recursos. El asesoramiento disponible en materia de alimentación no se podía seguir debido a serias dificultades materiales o sociales.

En tales condiciones, la introducción de nuevos conceptos pedagógicos y la promoción de la nutrición constituyen un desafío. No obstante, algunas mejoras no requieren mucho tiempo, dinero o trabajo; además, en algunas zonas la educación podría tener consecuencias positivas. En este artículo se describe el modo de abordar un problema social apremiante y concreto mediante el sistema de la enseñanza primaria. Se explica, además, cómo las estrategias destinadas a abordar las necesidades nutricionales se han transformado en programas y materiales de enseñanza con objeto de que se empleen en el sistema educativo existente.