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## FOOD, NUTRITION AND AGRICULTURE

## ALIMENTATION, NUTRITION ET AGRICULTURE

## ALIMENTACIÓN, NUTRICIÓN Y AGRICULTURA

25<sup>1999</sup>



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# Editorial

## The challenges ahead

Those working to improve the nutritional well-being and living conditions of the poor in the developing world are confronted with numerous challenges. Rapid population growth, unplanned urbanization, the HIV/AIDS pandemic and complex emergencies present some of the most difficult problems of our time. In this issue of *Food, Nutrition and Agriculture*, authors provide assessments of these critical problems, explain why they are significant constraints to development and suggest some strategies to improve the situation.

In the first article, an overview of the current situation with respect to nutrition and food security is presented and authors call for the acceleration of efforts to alleviate malnutrition, eradicate poverty and expand and diversify agricultural development. In the second article, attention is drawn to the AIDS epidemic and its devastating effects on rural households. Actions to be taken within the agricultural sector are suggested to assist communities in coping with the short- and long-term consequences of this tragedy. In the article that follows, the United Nations' efforts to stabilize the humanitarian crisis in the Sudan and to aid the victims of this longstanding conflict are described.

Turning to other factors that can influence development, an author explains the measures countries should take to improve the quality and safety of their food exports. Finally, two articles illustrate FAO activities that serve to disseminate essential nutrition and food composition data.

This *Food, Nutrition and Agriculture* will be the last issued under my direction of the FAO Food and Nutrition Division. I am retiring after 40 years of professional work with FAO and the United States Food and Drug Administration (USFDA). My work with USFDA allowed me and my family to live in California, Texas and Washington, DC. FAO provided the chance to live in Saudi Arabia, Zambia and Italy and to visit 70 countries to promote improvements in food quality, safety and nutrition.

Along the way I had the opportunity to serve as Secretary to the FAO/World Health Organization (WHO) Codex Alimentarius Commission and to promote improved food control and consumer protection, as well as improved food trade at the global level. I also headed a team of FAO experts in preparing for and holding the FAO/WHO-sponsored International Conference on Nutrition (ICN) in December 1992. The ICN World Declaration and Plan of Action on Nutrition was unanimously adopted by the ICN delegations from 159 member countries and the European Economic Communities. Since then, we have worked to implement the goals established in 1992. ICN truly brought nutritional improvement to the attention of the world, and the 1996 World Food Summit fully re-endorsed the ICN goals.

The work, which was started by FAO over 55 years ago to end hunger and malnutrition, has not yet been completed, although much progress has been made. It has been very enjoyable and most challenging to be a part of this effort. I look forward to continuing this work with all of you over the coming years to achieve these goals.

**John R. Lupien,**  
Director  
Food and Nutrition Division



## Les défis à venir

Les personnes qui œuvrent pour le bien-être nutritionnel et l'amélioration des conditions de vie des pauvres dans le monde en développement sont confrontées à de multiples défis. La croissance démographique rapide, l'urbanisation non planifiée, la pandémie de VIH/SIDA et les situations d'urgence complexes sont parmi les problèmes les plus difficiles de notre temps. Dans ce numéro d'*Alimentation, nutrition et agriculture*, les auteurs présentent des évaluations de ces problèmes critiques, expliquent pourquoi ils sont des obstacles majeurs au développement et proposent des stratégies pour améliorer la situation.

On trouvera tout d'abord, un panorama de la situation actuelle en ce qui concerne la nutrition et la sécurité alimentaire, et les auteurs demandent que les efforts soient identifiés pour lutter contre la malnutrition, éradiquer la pauvreté et élargir et diversifier le développement agricole. L'attention est ensuite appelée sur l'épidémie de SIDA et ses effets dévastateurs sur les ménages ruraux.

Des mesures à prendre dans le secteur agricole sont proposées pour aider les communautés à faire face aux conséquences à court et à long termes de cette tragédie. Dans l'article qui suit, on décrit les efforts des Nations Unies pour stabiliser la crise humanitaire au Soudan et aider les victimes de ce conflit de longue date.

S'agissant des autres facteurs pouvant influencer le développement, un auteur explique les mesures que les pays devraient prendre pour améliorer la qualité et la salubrité de leurs exportations des produits alimentaires. Enfin, deux articles illustrent les activités que déploie la FAO pour diffuser les données essentielles sur la nutrition et la composition des denrées alimentaires.

Ce numéro d'*Alimentation, nutrition et agriculture* sera le dernier publié sous ma direction à la Division de l'alimentation et de la nutrition de la FAO. Je prends ma retraite après 40 ans d'une carrière professionnelle auprès de la FAO et de la Food and Drug Administration des États-Unis. Mes activités au service de la Food and Drug Administration m'ont permis, avec ma famille, de vivre en Californie, au Texas et à Washington. La FAO, quant à elle, m'a donné la possibilité de vivre en Arabie saoudite, en Zambie et en Italie, de visiter 70 pays et de promouvoir des améliorations de la qualité et de la salubrité des denrées alimentaires et de la nutrition.

Chemin faisant, j'ai eu l'occasion de faire office de secrétaire de la Commission FAO/OMS du Codex Alimentarius et de promouvoir l'amélioration des contrôles alimentaires et de la protection des consommateurs, ainsi que l'amélioration des échanges de denrées alimentaires au niveau mondial. J'ai aussi dirigé une équipe d'experts FAO chargés de préparer et d'organiser, en décembre 1992, une conférence internationale sur la nutrition sous le patronage de la FAO et de l'OMS. La Déclaration mondiale de la Conférence internationale sur la nutrition (CIN) et le Plan d'action ont été adoptés à l'unanimité par les délégations de 159 États Membres à la CIN et par la Communauté économique européenne. Depuis lors, nous avons œuvré pour atteindre les objectifs fixés en 1992. La CIN a porté à l'attention du monde la question de l'amélioration de la nutrition et le Sommet mondial de l'alimentation en 1996 a pleinement souscrit aux objectifs de la CIN.

Les travaux, commencés par la FAO il y a plus de 55 ans pour mettre un terme à la faim et à la malnutrition, ne sont pas encore achevés, mais de grands progrès ont été réalisés. Il a été extrêmement agréable et tout à fait stimulant d'en faire partie. J'espère pouvoir continuer à œuvrer dans ce sens avec vous tous dans les prochaines années afin que ces objectifs deviennent réalité.

**John R. Lupien,**

Directeur

Division de l'alimentation et de la nutrition



### Los retos que han de afrontarse

Quienes trabajan para mejorar el bienestar nutricional y las condiciones de vida de la población pobre del mundo en desarrollo se enfrentan con numerosos retos. Algunos de los problemas más difíciles de nuestro tiempo son el rápido crecimiento de la población, la urbanización no planificada, la pandemia del VIH/SIDA y las emergencias complejas. En este número de *Alimentación, Nutrición y Agricultura*, los autores proporcionan evaluaciones de estos problemas críticos, explican por qué suponen limitaciones importantes para el desarrollo y sugieren algunas estrategias para mejorar la situación.

En primer lugar, se presenta un panorama de la situación actual en lo relativo a la nutrición y a la seguridad alimentaria; los autores piden que se potencien los esfuerzos encaminados a paliar la desnutrición, erradicar la pobreza y extender y diversificar el desarrollo agrícola. Luego, se llama la atención acerca de la epidemia del SIDA y sus efectos devastadores en los hogares rurales. Se sugieren las medidas que han de adoptarse en el sector agrícola a fin de ayudar a las comunidades a hacer frente a las consecuencias de esta tragedia a plazos corto y largo. En el artículo siguiente, se describen los esfuerzos realizados por las Naciones Unidas para estabilizar la crisis humanitaria en Sudán y para ayudar a las víctimas en este conflicto que dura desde hace años.

Refiriéndose a otros factores que pueden influir en el desarrollo, un autor explica las medidas que deben tomar los países a fin de mejorar la calidad y la inocuidad de sus exportaciones alimentarias. Por último, en dos artículos se ilustran las actividades de la FAO, que sirven para difundir los datos esenciales sobre nutrición y composición de los alimentos.

Este número de *Alimentación, Nutrición y Agricultura* será el último publicado en mi calidad de Director de la Dirección de Alimentación y Nutrición de la FAO. Me jubilo después de 40 años de servicios profesionales en la FAO y en la Food and Drug Administration de los Estados Unidos. Mi labor en la mencionada Administración nos permitió a mí y a mi familia vivir en California, Texas y Washington, D.C. La FAO me dio la oportunidad de vivir en Arabia Saudita, Zambia e Italia, así como de visitar 70 países para promover mejoras en la calidad e inocuidad de los alimentos y la nutrición.

A lo largo de mi carrera, tuve la oportunidad de prestar servicios como Secretario en la Comisión FAO/OMS del Codex Alimentarius y promover un mejor control de los alimentos y la protección del consumidor, así como un mejoramiento del comercio de alimentos a escala mundial. También dirigí un equipo de expertos de la FAO en la preparación y la celebración, en diciembre de 1992, de la Conferencia Internacional sobre Nutrición (CIN), patrocinada por la FAO/OMS. En ella, las delegaciones de 159 Estados Miembros y de la Comunidad Económica Europea aprobaron por unanimidad la Declaración Mundial sobre la Nutrición y el Plan de Acción para la Nutrición. Desde entonces, trabajamos para alcanzar los objetivos fijados en 1992. La CIN logró verdaderamente señalar a la atención mundial la necesidad de mejorar la nutrición, y la Cumbre Mundial sobre la Alimentación de 1996 refrendó totalmente los objetivos de la CIN.

Aunque se han realizado muchos progresos, todavía no se ha concluido la labor emprendida por la FAO hace 55 años para acabar con el hambre y la desnutrición. Ha sido muy grato aceptar el desafío de contribuir a ese esfuerzo. Espero poder continuar esta labor con todos ustedes durante los años venideros, a fin de lograr los objetivos fijados. ♦

**John R. Lupien**

Director

Dirección de Alimentación y Nutrición

# Assessing prospects for improving food security and nutrition

**J.R. Lupien and V. Menza**

John R. Lupien is the Director of the FAO Food and Nutrition Division. Valeria Menza is a Nutrition Officer in the Nutrition Planning, Assessment and Evaluation Service of that division.

In 1999, the official UN estimate for the world population exceeded 6 billion people. Within the first 25 years of the twenty-first century, the world's population will increase by another nearly 2 billion people. Virtually all of that increase will occur in the developing countries. The population will become increasingly urban, with the number of urban dwellers surpassing rural dwellers for the first time in history. Not only will the total demand for food be greater than it has ever been, but the nature of that demand will be different. In many countries, changes have been taking place in dietary habits, as well as in methods of food production, processing and marketing, while international trade in raw commodities and processed foods has also grown substantially.

The increases in world population and urbanization are critical issues in terms of food availability, access to food and nutritional well-being; more people will require more food, more goods, more services and more employment opportunities. With a projected world population of 7.8 billion people by the year 2025, there is considerable concern about our ability to provide for this number of human beings, and to meet their changing demands, in an adequate and sustainable way.

Throughout the second half of the twentieth century, remarkable progress has been made in increasing the quantity and quality of global food supplies and in improving the nutritional status of populations. Yet, one out of five people in the developing countries are unable to meet their basic daily nutritional needs for a healthy and active life. Millions more are exposed to contaminated food and water. Access to sufficient supplies of a variety of safe, good-quality foods is a serious problem in many countries, even where food supplies are adequate at the national level. If progress in meeting the food needs and food demands of the world population continues at the current rate, more than 600 million people will still be undernourished and food insecure in the first quarter of the new millennium.

What needs to be done to accelerate progress and to create the necessary conditions in which all people can secure their right to food and be well nourished in a dignified and sustainable manner? Clearly, the solution depends on the

effective preparation, implementation and coordination of a wide range of agricultural, development and trade policies. These policies must be complemented with initiatives in education, sanitation and health care. Particular attention must be given to the development of and investment in agriculture, so that countries can produce sufficient food to feed their populations, or generate enough income to purchase food on the world market.

## CURRENT WORLD SITUATION

Today, 790 million people in the developing world are chronically undernourished (FAO, 1999a). During seasonal food shortages and in times of famine and social unrest, this number increases. Nearly 13 million children under five years of age die every year from preventable diseases and infections such as measles, diarrhoea, malaria and pneumonia, or from some combination of these. According to some estimates, malnutrition is a factor in one-third of these cases (UNICEF, 1998) (see Table 1).

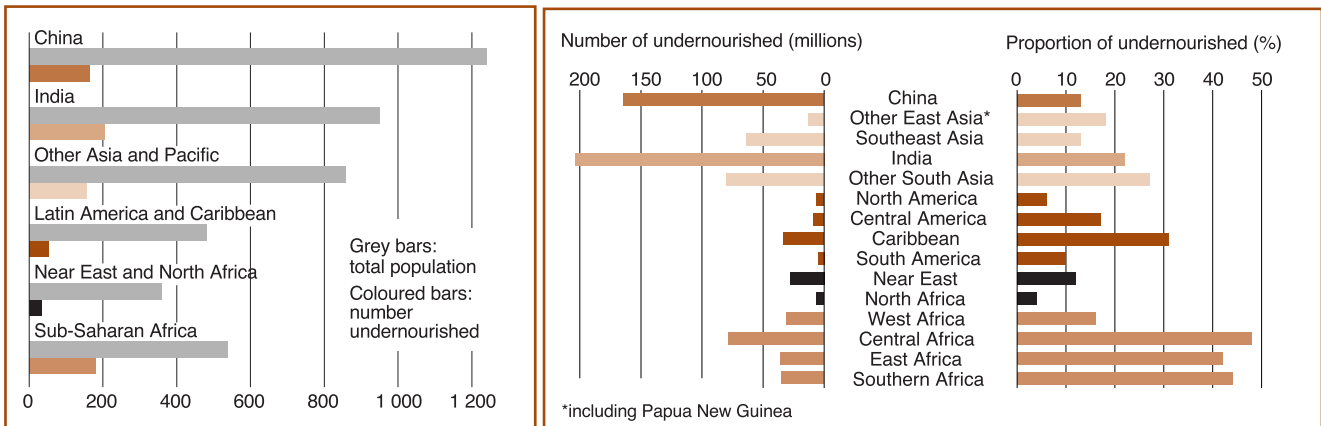
The overwhelming majority of undernourished people live in Asia and the Pacific (see Figures 1 and 2). This region, which is home to 70 percent of the total population of the developing world, accounts for almost two-thirds (526 million) of the undernourished people. India, alone, has 204 million undernourished people, and the South Asia subregion accounts for more than one-third (284 million) of the world total. Another 30 percent (240 million) live in Southeast and East Asia where, for example, more than 164 million of China's 1.2 billion people are undernourished. In other

**TABLE 1**  
Global situation: major nutrition problems

<b>30%</b> of children under five years of age are underweight
<b>199 million</b> children suffer from protein energy malnutrition
<b>40 million</b> people suffer from vitamin A deficiency
<b>2 billion</b> people are affected by or at risk from iodine deficiency disorders
<b>2 billion</b> people are affected by or at risk from iron deficiency anaemia

Sources: UNDP, 1999; World Bank, 1997.





1  
**Total population and number of undernourished, by region, 1995-1997 (millions)**

2  
**Number of undernourished by prevalence category and by region, 1995-1997**

regions, almost one-quarter of the world's undernourished are in sub-Saharan Africa, which is the region with the highest proportion of its population undernourished. The situation is especially severe in Central, East and southern Africa, where 44 percent of the total population are undernourished (FAO, 1999a).

Malnutrition, in the form of deficiencies of iron, iodine and vitamin A, continues to cause severe illness or death for millions of people worldwide. Many of the most severe health consequences of these three leading micronutrient deficiencies, such as mental retardation and cretinism (iodine deficiency), physical growth retardation and impaired reproductive functions (iron deficiency), and childhood blindness (vitamin A deficiency), could be greatly alleviated by ensuring adequate food supplies and varied diets that provide essential vitamins and minerals. In many developing countries, as much as 50 percent of the population may be affected by such deficiencies. Various other micronutrient deficiencies, caused by lack of zinc, selenium and other trace elements, affect large numbers of people in some parts of the world. Outbreaks of classical deficiency diseases – beriberi, pellagra and scurvy – still occur in refugee camps and among other deprived populations, and rickets affects significant numbers of children (UNICEF, 1998).

At the same time, diet-related non-communicable diseases – such as obesity, cardiovascular diseases and some forms of cancer – are emerging increasingly as public health problems in the industrialized, as well as the developing, countries.

**Food supplies.** Recent data (1994-1996) indicate that dietary energy supplies (DES) in 17 countries are grossly insufficient (less than 2 000 kcal per person per day), and in another 37 countries the energy supply is quite low (average of 2 000 to 2 299 kcal per person per day). As it is not possible for a

population to meet its basic energy needs from such limited food supplies, hunger and malnutrition are inevitable among many of the people living in these countries. In another 37 countries, the food supply is marginal (2 300 to 2 599 kcal per person per day), indicating very tenuous food security (FAOSTAT). A country's DES is calculated on the basis of data that track the supply and utilization of food within that country and is an estimate of the average daily energy available per person for human consumption from the total food supply during a given period.

Food supply data also indicate a "rich-poor" gap, in both the variety and the overall availability of food. There are significant differences among countries, with the more affluent having a more varied and balanced diet in terms of both macro- and micronutrients. Among the least developed countries, the overall average DES is 2 060 kcal, with three-quarters of that (75 percent) coming from carbohydrates. Among the industrialized countries, DES averages 3 340 kcal

## FOOD EMERGENCIES

Food emergencies persist throughout the world, mainly as a result of adverse weather, civil strife and chronic economic problems. Currently, 37 countries face food emergencies of varying degrees, with an increasing number of people requiring food assistance. The latest estimates put cereal food aid shipments in 1998/99 at 9.5 million tonnes, 3 million tonnes above last year, and the highest level since 1993/94 (FAO, 1999b). The situation is particularly serious in sub-Saharan Africa, where severe food supply difficulties are faced continually. Recurrent drought and, in some cases, ongoing civil unrest regularly depress food availability from already unacceptably low levels. The continued civil strife in a number of countries has not only curtailed domestic food production, but has also led to internal displacement and refugees and has hampered efforts to provide relief to those people who are most affected.

per person, just over half (52 percent) of which comes from carbohydrates (FAOSTAT).

Recent FAO assessments indicate that world agricultural production, including both crops and livestock, is slowing down. Among the developing countries as a whole, 1997 agricultural production experienced the lowest increase since 1979, and barely kept pace with population growth. The sharpest declines were in the Near East and North Africa region and sub-Saharan Africa.

In the developed countries, overall agricultural output slowed in 1997, following an expansion in 1996. The most pronounced decline was in the European Union (FAO, 1998). For 1999, world cereal production is not expected to be able to meet anticipated consumption requirements, and global stocks will have to be drawn down (FAO, 1999b).

**Changing food patterns and nutrition problems.** Income, population movements, education, preferences and lifestyles have a profound effect on dietary patterns. Throughout the world, major shifts are occurring, even in the consumption of basic staples, towards more diversified diets. Milk and livestock products, fruits and vegetables and processed foods are in increasing demand. The demand for meat in developing countries is growing and is expected to rise rapidly, although from very low consumption levels. This will stretch the capacity of existing production and distribution systems, but will provide income growth opportunities as well (Delgado *et al.*, 1999).

In addition to problems in food supply, access to such basic services as education, health facilities, sanitation, clean water, safe housing and jobs – all of which affect health, nutritional status and food security – is seriously limited for millions of people around the world (see Table 2). In developing countries, nearly one in three adults is illiterate, with women comprising nearly two-thirds of the total. Today, one-quarter of the world's people live in severe poverty, and that number is increasing; 1.3 billion people live on less than US\$1 a day. The poorest nations' populations have become increasingly poor and food insecure.

#### RECENT PROGRESS

This sobering picture of the current situation should not obscure the significant achievements that have been made throughout the twentieth century in the areas of food supplies, nutrition, health and access to basic social services. Many countries, despite the persistence of poverty and underdevelopment, have been remarkably successful in alleviating hunger and malnutrition. Today, the world's population is better fed and healthier, lives longer and is better educated than it was 25 years ago.

**TABLE 2**  
Global situation: undernutrition, basic services and poverty

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<b>800 million</b> people lack adequate access to food
<b>158 million</b> children under five years of age are malnourished
<b>800 million</b> people lack adequate access to health services
<b>1.2 billion</b> people lack access to safe water
<b>2 billion</b> people lack sanitation facilities
<b>1 billion</b> people lack adequate shelter
<b>842 million</b> adults are illiterate
<b>1.3 billion</b> people live below the poverty line

---

Sources: UNDP, 1999; World Bank, 1997.

Globally, the number of undernourished people has declined, from approximately 920 million in 1970, while the world's population has grown by 2 billion over the same period. The proportion of chronically undernourished in developing countries has declined from more than one-third (36 percent) in 1970 to just under one-fifth (19 percent) in 1996 (FAO, 1999a). Child mortality rates have fallen by roughly 50 percent in the last 50 years. Infant mortality rates and, to a lesser extent, maternal mortality rates have also declined in many countries.

Life expectancy in most developing countries is increasing rapidly, mainly as a result of fewer early deaths from infectious diseases. (A dramatic exception to this is seen in the African countries with the highest incidences of AIDS, where the average life expectancy at birth in 1995-2000 is estimated to be ten years less than it would have been in the absence of AIDS.) Between 1960 and 1992, life expectancy increased by 12 years, from 53.2 to 65.6 years. Within the first quarter of the twenty-first century, it is projected that it will increase in developed countries to 75.4 years for men and 81.7 years for women, and in developing countries to 69.4 and 73.3 years for men and women, respectively (UNDP, 1999; UN, 1998; World Bank, 1997).

Poverty, the primary cause of hunger and malnutrition, has been drastically reduced. The number of literate adults has tripled, from approximately 1 billion in 1960 to over 2.7 billion today, while the proportion of children attending primary school has risen to more than three-quarters. The proportion of rural families without access to a safe water supply has fallen from nine-tenths to about one-quarter. In developing countries, about 80 percent of people now have access to health services (although in sub-Saharan Africa 50 percent do not).

Today, world per caput food supplies for direct human consumption are 18 percent above what they were 30 years ago. By the end of the 1980s, roughly 60 percent of the

world's population was living in countries that had more than 2 600 kcal of energy available per person per day. By 1995-1997, global energy supplies had risen to a daily average of 2 761 kcal per person, up from 2 300 kcal per person in the 1960s (FAO, 1998).

#### FUTURE PROSPECTS

While these encouraging trends are expected to continue, it is not clear that they will occur at rates sufficient to improve the conditions of today's population and to provide adequately for the future population. Over the next decades, population growth will continue to contribute to increased demand for food, adding about 80 million people annually – 97 percent of whom will be in the regions that currently have the lowest levels of per caput daily energy supplies (UN, 1998). More than 200 cities will have over 1 million inhabitants, and 26 megacities will have populations of more than 10 million (UN, 1994). This urbanization will lead to changes in the types of food demanded, in addition to affecting overall supply and distribution patterns. Prospects for global economic growth appear to be favourable, but poverty – which currently afflicts at least 3 billion people – will remain entrenched in many countries, and may increase in some. Gross disparities in income and economic growth exist within and among countries.

Currently, the rate of progress in reducing the number of undernourished is at an average of about 8 million people per year. At this pace, an estimated 628 million people will still be food insecure and undernourished in the year 2015 (FAO, 1999a). In some parts of the world, the number of undernourished people will grow. One person in three in sub-Saharan Africa and one in eight in South Asia will be undernourished. Clearly, the pace is too slow and the progress too uneven to achieve the 1996 World Food Summit's goal of reducing the total number of undernourished to 420 million by the year 2015. At least a doubling of the current average reduction – to about 20 million people per year – is required to meet that target.

#### STRATEGIES FOR IMPROVEMENT

While ever increasing food supplies are needed to meet the demand created by a growing population, the problems of hunger and malnutrition will not be reduced without lessening the underlying impediments to adequate access to food for all individuals. Poverty, social inequality and lack of education are the primary causes of hunger and malnutrition. Poor and disadvantaged households are the most affected by malnutrition, and poor health related to malnutrition compounds their situation by further reducing already meagre resources and earning capacities, thus increasing their social

and economic problems and, in turn, contributing to further declines in future human, economic and social development.

Prospects for improving the food and nutrition situation in developing countries are likely to depend on the potential of those countries for raising incomes, reducing poverty and improving overall social and economic conditions. Without social and economic programmes to alleviate poverty, society will continue to be caught in a vicious cycle of undernutrition and underdevelopment.

At the World Food Summit, governments and international organizations arrived at a consensus on key strategies for improving food security and nutritional status. They identified the major factors in world food security – constraints on food production, population growth, urbanization rates, changing dietary patterns, conflict and instability, government policy and limited investment in agriculture and research – and agreed to make concerted efforts in each and all of these critical areas (FAO, 1996).

What is needed for improved nutritional well-being and sustainable food security? Better agricultural and farming systems are needed, along with the prevention of food losses and the improvement of food processing and marketing systems. Feeding the world's urban populations will require the coordinated interaction of food producers, transporters, market operators and retail sellers, including stores, street sellers and open-air markets. In addition, every country will need to develop integrated systems that promote and successfully utilize nutrition research, dietetics and nutrition education at all levels, with the broader considerations of production, processing, distribution and access for all.

In most developed countries, and for many middle- and upper-income people in developing countries, the major nutrition problems are related to overconsumption of food, poor dietary patterns and unbalanced diets. In these countries, improving health and nutritional well-being will require the promotion of changes in dietary habits and lifestyles through sound and effective information and education. The challenge among these populations will be to devise policies and programmes in agriculture, education and health that will promote better nutritional status and prevent diet-related non-communicable diseases.

Agricultural policies must be oriented towards the effective and sustainable development of better food supplies, including the production, processing, distribution and effective marketing of all elements of an adequate and nutritionally balanced diet. Health policies must give specific attention to preventive activities, such as immunization, care for vulnerable groups and the effective treatment of diarrhoeal diseases. Both agricultural and health policies must stress the assurance of adequate food quality and safety throughout every segment of



the food chain, from the point of production, through harvesting, storage, processing, preservation and marketing with shared responsibility among primary producers, food handlers and consumers. Educational policies must ensure adequate basic education for all and include appropriate elements of nutrition education in elementary and secondary schools and for the mass media. Overall development policies must ensure adequate access to good-quality and safe foods at affordable prices.

#### CONCLUSIONS

Over the coming century, there is no reason for us not to have a world free from hunger – a world in which each and every person can be assured of access at all times to the food needed to lead a healthy, active life. There are difficulties and obstacles, but they are not insurmountable. At the global level, the world already produces enough food to feed the people who inhabit it today, and it can produce more. Both the science and the technology exist to produce safe and good-quality foods. The major factors in ensuring world food security are understood and a global commitment and consensus have been reached on key strategies for improving world food supplies and food security for all populations. However, it is likely that hunger and malnutrition, and their devastating consequences on humanity, will continue in the foreseeable future unless deliberate action is taken to ensure an enabling political, social and economic environment; eradicate poverty and inequality; pursue sustainable food, agricultural and rural development policies; ensure that food, agricultural trade and overall trade policies foster food security; meet emergency food requirements in ways that encourage recovery, rehabilitation and development; and promote investment in agriculture and rural development.

Enormous efforts will be needed in all sectors to provide for and protect the welfare and human dignity of the 9 billion people projected for the year 2050. It is a challenge and an obligation for all of us to take the necessary steps to ensure the fundamental right of each and every one of them to be free from hunger. ♦

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### Assessing prospects for improving food security and nutrition

Within the next 25 years, the world's population will increase to nearly 8 billion people. All of that increase will occur in the developing countries. The total demand for food will be greater than ever, and the nature of that demand will be different because of changing lifestyles, urbanization and rising incomes. In spite of remarkable progress in reducing malnutrition and increasing food production, one-fifth of the people in developing countries are unable to meet their basic daily nutritional needs. If current trends continue, more than 600 million people will still be undernourished and food insecure in the first quarter of the new millennium.

Clearly, the pace is too slow and the progress too uneven to achieve the 1996 World Food Summit goal of reducing the total number of undernourished to 420 million by the year 2015. At least a doubling of the current average reduction – to about 20 million people per year – is required to meet that target. Deliberate action is needed to ensure an enabling political, social and economic environment; eradicate poverty and inequality; pursue sustainable food, agricultural and rural development policies; ensure that food, agricultural trade and overall trade policies foster food security; meet emergency food requirements in ways that encourage recovery, rehabilitation and development; and promote investment in agriculture and rural development. It is a challenge and an obligation for all of us to take the necessary steps to ensure the fundamental right of each and every one of the world's people to be free from hunger.

### Évaluation des perspectives d'amélioration de la sécurité alimentaire et de la nutrition

Dans les 25 prochaines années, la population mondiale atteindra près de 8 milliards d'habitants. La totalité de cette augmentation aura lieu dans les pays en développement. La demande totale de produits alimentaires sera plus importante que jamais et la nature celle-ci sera différente à cause de l'évolution des styles de vie, de l'urbanisation et de l'augmentation des revenus. Malgré un progrès remarquable dans la réduction de la malnutrition et l'augmentation de la production vivrière, une personne sur cinq dans les pays en développement n'est pas en mesure de satisfaire chaque jour ses besoins nutritionnels de base. Si les tendances actuelles se poursuivent, plus de 600 millions de personnes seront encore sous-alimentées et connaîtront l'insécurité alimentaire dans le premier quart du nouveau millénaire.

Manifestement, les progrès sont trop lents et trop inégalement répartis pour atteindre l'objectif du Sommet mondial de l'alimentation en 1996 qui est de ramener à 420 millions le nombre total des personnes sous-alimentées d'ici à 2015. Il faudrait au moins doubler le rythme moyen actuel de réduction – et donc le porter à 20 millions de personnes par an – pour atteindre cet objectif. Des interventions volontaires sont nécessaires pour assurer un environnement politique, social et économique propice; supprimer la pauvreté et l'inégalité; appliquer des politiques alimentaires, agricoles et de développement rural durables; assurer que les politiques alimentaires, du commerce agricole et du commerce en général favorisent la sécurité alimentaire; satisfaire les besoins alimentaires d'urgence de manière à encourager la relève, la reconstruction et le développement; et promouvoir des investissements dans l'agriculture et le développement rural. C'est un défi et une obligation pour nous tous de prendre les mesures nécessaires afin de garantir le droit fondamental de chacun d'être à l'abri de la faim.

### Evaluación de las posibilidades de mejorar la seguridad alimentaria y la nutrición

En los próximos 25 años, la población mundial aumentará en unos 8 000 millones de personas. Todo ese incremento tendrá lugar en los países en desarrollo. Habrá una demanda total de alimentos sin precedentes y su índole será diferente, a causa del cambio en los modos de vida, la urbanización y el aumento de los ingresos. A pesar del notable progreso realizado en la disminución de la desnutrición y en el incremento de la producción de alimentos, de cada cinco personas que viven en los países en desarrollo, una no puede satisfacer sus necesidades nutricionales básicas diarias. Si continúan las tendencias actuales, en los primeros 25 años del nuevo milenio, habrá aún más de 600 millones de personas afectadas por la desnutrición y la inseguridad alimentaria.

Es evidente que se progresa lentamente y de forma desigual hacia el logro del objetivo de reducir el número total de personas desnutridas a 420 millones para el año 2015, establecido por la Cumbre Mundial sobre la Alimentación en 1996. A fin de alcanzar ese objetivo, se necesita, como mínimo, duplicar el

promedio actual de reducción de esta cifra haciendo que disminuya en unos 20 millones de personas por año. Hace falta adoptar medidas encaminadas expresamente a garantizar un contexto político, social y económico favorable; erradicar la pobreza y la desigualdad; aplicar políticas de desarrollo alimentario, agrícola y rural sostenible; garantizar que las políticas comerciales generales y las relativas al comercio de productos alimentarios y agrícolas fomenten la seguridad alimentaria; satisfacer las necesidades urgentes de alimentos de modo que se aliente la recuperación, la rehabilitación y el desarrollo, y promover la inversión en la agricultura y el desarrollo rural. Constituye un reto y una obligación para todas las personas tomar las medidas necesarias para garantizar el derecho fundamental a no padecer hambre. ♦

# AIDS and agriculture in Africa: can agricultural policy make a difference?

**J. du Guerny**

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**H**uman immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is frequently perceived as an individual health problem or as an epidemic with effects on morbidity or mortality, health care and costs. From such a perspective, the "AIDS epidemic" emerges as a series of more or less clearly defined epidemics, each with characteristics of the subsystem in which it occurs and, together, forming a pandemic. Traditionally, such epidemics have tended to be identified with particular population groups, and have been distinguished as heterosexual, intravenous drug use (IDU), homosexual or based on blood transfusion. These aspects are very important, but they are not the only possible dimensions of the epidemic (see Box 1).

## FAO AND HIV/AIDS

As recognition of the impact of HIV/AIDS on agriculture and food security is growing, the working relations between FAO and the Joint United Nations Programme on AIDS (UNAIDS) are developing and a Cooperation Framework between the two organizations, focusing on their respective areas of comparative strength, was signed in July 1999.

## UNAIDS partnership

UNAIDS was established in 1995. It is an innovative joint venture within the UN family of organizations. The global mission of UNAIDS, as the main advocate for worldwide action against HIV/AIDS, is to lead, strengthen and support an expanded response to the epidemic. This response has four goals:

- to prevent the spread of HIV;
- to provide care and support for those infected and affected by the disease;
- to reduce the vulnerability of individuals and communities to HIV/AIDS;
- to alleviate the socio-economic and human impact of the epidemic.

UNAIDS is guided by a programme coordinating board with representatives of 22 governments from all geographic regions and the UNAIDS cosponsors: the United Nations Children's Fund (UNICEF), the United Nations Development

## BOX 1

### ESTIMATING AND MONITORING HIV/AIDS PREVALENCE

For many countries, no data on the prevalence of HIV are published; for many others studies are unevenly distributed. There is a tendency for prevalence to be monitored in large urban centres, but such centres often comprise a minority of a nation's population. The true extent of HIV could only be estimated with a diverse set of urban and rural samples. There is no reason to believe that the relationship between urban and rural prevalences will be in any way fixed in terms of place and time, so extrapolation from urban prevalence to rural prevalence and then to national prevalence should be done with extreme care.

Despite these problems, global HIV surveillance has, because of ethical, financial and logistic constraints, had to concentrate on sentinel surveillance of convenience samples. To understand changes in incidence and prevalence within a population, detailed stratification of that population by age, sex, education, socio-economic status and geography can help identify particular patterns of change within population subgroups which may not emerge when only a general sample of the population is taken. Such stratification into groups makes studies more difficult to carry out because samples need to be large enough to permit accurate detection of changes in particular subgroups.

*Source:* Extracted from UNAIDS, 1999b.

Programme (UNDP), the United Nations Population Fund (UNFPA), the United Nations International Drug Control Programme (UNDCP), the United Nations Educational, Scientific and Cultural Organization (UNESCO), the World Health Organization (WHO) and the World Bank. In addition, an Inter-Agency Advisory Group (IAAG), composed of the cosponsors and other UN bodies and organizations (including FAO), also provides advice to UNAIDS (UNAIDS, 1999a).

## FAO's approach

FAO has conducted a number of analyses which have concentrated on the impact of the pandemic on agricultural production and household food security (see Box 2). These FAO studies focused on the development dimension of HIV/AIDS using a system approach; the farm household and/or the

commercial farm are viewed as systems that form a good basis for studies of agricultural development and food security.

Each of the two systems is of a different nature. Thus, the farm household system can be considered as forming the first level, which is embedded within the second-level higher farming system, itself defined by its climate, soil, etc. Such systems should be seen as providing an environment that can influence, rather than determine, the behaviour of their members, in particular in terms of vulnerability and/or resistance to external shocks.

The characteristics and vulnerability of this two-tiered system are embedded in the culture of the community concerned and interrelate with the demographic strategies and behaviour of household members, whether these involve rural-urban migration (e.g. temporary during agricultural slack seasons or more permanent owing to drought) or sexual behaviour (ranging from the demand for children to vulnerability to casual or commercial sex). The resulting possible infections by HIV, sickness and death from AIDS have an impact on agricultural production and food security.

This article highlights some of the effects of the HIV/AIDS pandemic on farm households and discusses some policy issues from the perspective of agriculture. The focus is on sub-Saharan Africa, where the epidemic has spread rapidly over the past 15 years (see Figure 1).

#### IMPACT ON FARM HOUSEHOLDS

The farm household is a complex system dependent on human capital and remittances (see Figure 2). The household interacts with the production unit. However, nowadays there are also interactions with off-farm units, especially in urban areas, and these are included in the system. HIV/AIDS depletes both the human capital base, through reducing the availability of labour skills and time, and the capital available through remittances or savings, which may disappear or be diverted to cover costs related to sickness and death.

The resulting impacts of these effects have been found in the FAO studies to take a number of forms (FAO, 1995; FAO, 1997). The following factors can be observed in various combinations and degrees and the list is not exhaustive.

#### Impact on agricultural production

**Reduction in area of land under cultivation.** Land is often allocated by community authorities to families on the basis of their size. The sickness and death of an adult can result in the inability of the household to cultivate all the land at its disposal. Tending for the sick can take a considerable amount of time, which is no longer available for agriculture. Thus, more remote fields tend to be left fallow and the total output of the agricultural unit consequently declines.

#### BOX 2

##### SELECTED FAO DOCUMENTS ON HIV/AIDS, PUBLISHED SINCE 1994

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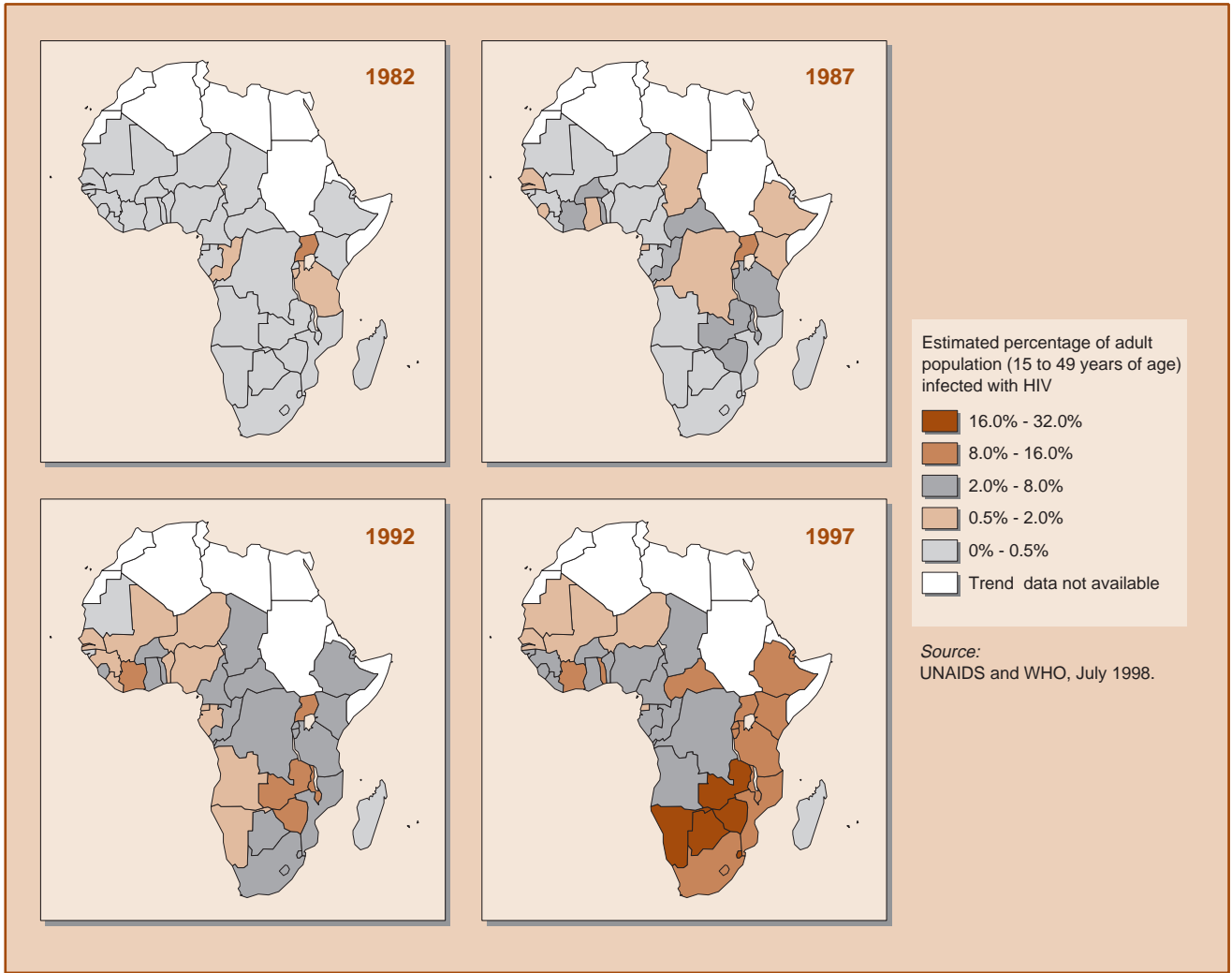
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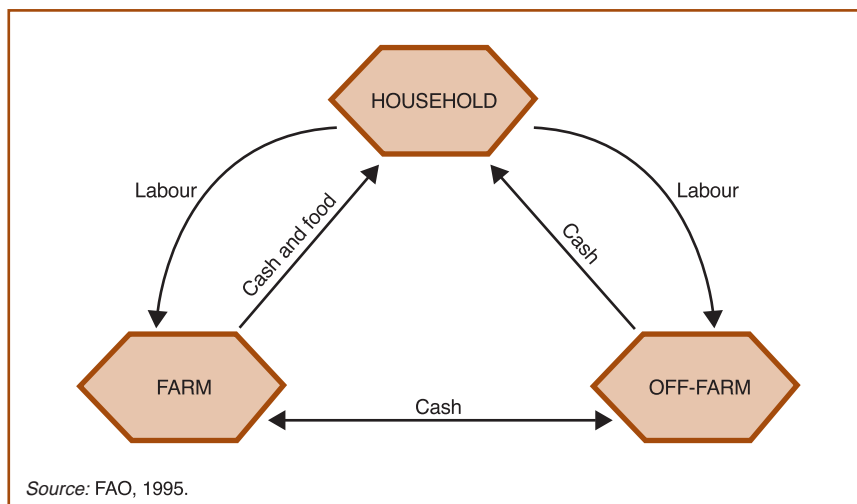
\* Publications marked with an asterisk are available on the Internet at: [www.undp.org/popin/fao/faohome.htm](http://www.undp.org/popin/fao/faohome.htm)  
Also available in printed form (limited number).

**Declining yields.** These are less immediately visible but important and are caused by a variety of factors, in addition to the ones mentioned above, including delays or poor timing in such essential farming operations as tillage,





1  
 Spread of HIV in sub-Saharan Africa, 1982-1997



2  
 A farm household system

planting and weeding. Delays occur because of sickness or dependency on outside labour which is not always available when needed (e.g. relatives who assist through solidarity first care for their own fields). It also seems that the fertility of the soil is affected negatively owing to the priority given to immediate survival concerns over longer-term land conservation measures.

***Decline in crop variety and changes in cropping patterns.***

Cash crops are often abandoned owing to the inability to maintain enough labour for both cash and subsistence crops. Switching from labour-intensive crops, to less labour-intensive ones, is observed. This could have an impact on the nutritional quality of the diet.

***Decline in livestock production.*** Livestock serves multiple functions, and also frequently represents a form of savings. The medical costs incurred by those affected by HIV/AIDS often require the sale, gift or sacrifice of livestock as payment for traditional forms of medicine.

***Loss of agricultural skills.*** In many areas, the usual way for children to learn the required agricultural skills is by working with their parents. Given the AIDS pandemic, this is often no longer possible and, owing to the gender division of labour and knowledge, the surviving parent is not always able to transfer the skills of the deceased one.

**Impact on food security**

As is clear from the preceding points, a decline in the quality and quantity of food can often be expected. The incidence of stunting increases among orphans, and the food consumption of all surviving household members often declines when an adult dies. As well as these effects, which are owing to the loss of labour, household food security can also be reduced through an increase in the number of mouths to feed arising from the fostering of children or the hosting and caring for sick relatives.

**Other impacts**

HIV/AIDS, as is known, undermines households over time through diverting labour and resources to care. Households end up with their resources depleted and disinvestments in the production unit. The process is often compounded by the clustering of infected people within certain households owing to interspouse infection and/or mother-to-child transmission. The household's coping mechanisms also involve trade-offs between resolving immediate problems and the longer-term future. It is in such a context that the future education of children can be mortgaged and sacrificed to immediate

concerns. When such a phenomenon occurs on a large scale, it can have negative human and socio-economic consequences for national development.

Migration is another issue that is often overlooked. When infected migrants return to their home areas, not only is the flow of remittances stopped and caring costs incurred, but there can also be a shift of the burden from the relatively better-off areas that migrants are returning from towards the poorer regions they originally came from and, therefore, a widening in socio-economic gaps among geographic areas.

**POLICY CONSIDERATIONS**

The sickness and death of members of a farm household system, whatever the cause – from malaria or cholera, for example – represent shocks to the system. Their impact depends on the resilience of the system and its coping strategies. Epidemics – and disease generally – disproportionately affect the weakest in society (infants and the elderly, or the poorest in the community) and coping strategies have been established over centuries (e.g. replacement of dead children, levirate and countless forms of kin and community solidarity). What makes the HIV/AIDS pandemic unique is, *inter alia*, the scale of resource depletion it produces when the prevalence levels are high. In the case of HIV/AIDS, the sick and dead are generally found in the most active age groups, and many traditional coping mechanisms, which made good sense within the context in which they were originally developed, are less effective than normally observed, or are even counterproductive, for example, the practice of “widow cleansing”.

In view of the facts that demographic behaviour can be influenced by what happens to the farm household within the farming system and that both of these units can suffer from the impact of the HIV/AIDS pandemic, the issue of the vulnerability of this two-tiered system could be important. As an illustration, three levels (low, medium and high) can be used to measure the vulnerability of the farm households and farming systems to the impact of HIV/AIDS.

		Farming system vulnerability		
		Low	Medium	High
Farm household system vulnerability	Low			
	Medium			
	High			

3

**Analytical tool to assess vulnerability to HIV/AIDS**

A farm household, depending on its demographic characteristics and assets, can absorb more or less well the various implications of AIDS-related sickness and death; for example, a wealthy household can hire casual labour. In a similar manner, a farming system centred on commercial crops or subsistence agriculture and comprising the individual farm households is, itself, more or less vulnerable to drought, cold, etc. The combined vulnerabilities can be analysed simply, as shown in Figure 3.

### Agricultural policies

Although agricultural policies are not designed with the HIV/AIDS epidemics in mind, they can have indirect effects through increasing or reducing the vulnerability of the farm household (e.g. through the price of fertilizers) and/or the farming system (e.g. through the price of coffee). By explicitly taking the HIV/AIDS factor into account, agricultural policies would attempt not only to achieve their usual objectives (increase in yield, commercial crop outputs, etc.), but also to reduce one or both types of vulnerability and move from the higher (High x High in the Table) combinations towards the lower ones (optimally Low x Low).

A word of caution is necessary. Vulnerability reduction focuses on the background environment in which risk behaviour takes place. It influences the risk, but does not eliminate it. Policies to reduce vulnerability do not replace policies to reduce risk, but should create positive synergies.

In such a context, the following questions can be raised with the aim of reducing vulnerability to the pandemic:

- Can agricultural policies have a significant impact either on the spread and level of the HIV/AIDS pandemic or on mitigating its impacts?
- If yes, should national agricultural policies and programmes be used to combat the pandemic actively?
- If yes, what policy instruments would be effective in the field of agriculture?

Such questions have not yet really been explored, and it is understandable that a sectoral ministry might be reluctant to involve itself in an area that it would feel ill-equipped to deal with and that could be defined as coming under the exclusive authority of the Ministry of Health. It should be clear that no one is proposing that a Ministry of Agriculture be transformed into a health one, but there might be some measures, policies and programmes in its normal sphere of competence that could contribute to the national effort in combating the pandemic.

The first question would need to be studied systematically, but it seems likely that the answer would be positive and that the agriculture sector can play a role in modifying the environment in which the pandemic takes place, thereby also

modifying some of the factors that influence its course and impact. There is also a need for policies to protect rural institutions from losing their staff and their skills.

The second question can only be answered by the countries concerned, but international organizations also play a role as facilitators in defining possible issues for consideration and in exploring the terms and consequences of the debate.

As to the third question, it can be observed that the agriculture sector already has several instruments at its disposal (Maetz, 1998). These can be classified as market-related, resource base-related and institution-related. It should be highlighted that these are macro- and not microlevel tools, which means that they can have a more generic impact on vulnerability.

Market-related instruments include minimum wages, interest rates and floor/ceiling prices, among many others. A number of these could be relevant. For example, a minimum wage or floor price for a product can guarantee a minimum income to a poor household which, in turn, would lead to migration taking place under better circumstances and conditions.

Resource base-related instruments, such as infrastructure facilities for storage or development of human capital through training, could also reduce vulnerability. The storage of crops so that sales could be better timed in relation to market changes would have a favourable impact on the income of rural households and reduce seasonal vulnerability between crops. Training and the provision of survival skills are essential for orphans in order to protect them from exploitation and abuse. It is conceivable that, at the same time, there may be opportunities to introduce positive changes in agricultural techniques.

Institution-related instruments, such as promoting the participation of stakeholders in decision-making or improving legislation on property rights, could reinforce existing efforts through empowerment processes which could, in turn, have positive spin-off effects on the pandemic. Farming partnerships with the private sector, whether they be commercial or non-profit, would be an essential dimension here.

### CONCLUSIONS

The agriculture and health sectors need to become aware not only of the pandemic's impact on production, food security and institutions, but also of the existing policy and programme tools that could be effective in reducing the vulnerability of rural populations to HIV/AIDS. However, this is still uncharted territory which needs to be systematically explored in order to identify the most effective policy and programme instruments available to the agriculture sector in this area. Policy-makers have to decide that, in the face of the present and potential damage of the pandemic, it is worth

making the effort of mobilizing the agricultural institutions, both public and private, in an effective manner. ♦

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**AIDS and agriculture in Africa: can agricultural policy make a difference?**

While there are many dimensions to the AIDS pandemic, FAO has focused on the impact of the disease on agricultural production and household food security. This article presents a framework for analysing the problems and highlights key effects on farm households and larger production units. HIV/AIDS depletes both human resources and capital, leading to a reduction in land area cultivated, changes in crop patterns and declines in yields. Reduction in the formal and informal training of children and changing migration patterns can have negative consequences for development.

Agricultural policies attempt to influence yields, commercial crop outputs, etc. Whether such policies can affect the spread and level of the HIV/AIDS pandemic or mitigate its impact have not been explored. The agriculture and health sectors need to become aware of the impact of the pandemic on production, food security and institutions. They also need to recognize that there already exist a number of policy and programme tools that could be effective in reducing the vulnerability of rural populations to HIV/AIDS. At this stage, the most effective policy and programme instruments available need to be explored systematically. Efforts to mobilize agricultural institutions, both public and private, are worthwhile in the face of the present and potential damage of the pandemic. Reducing vulnerability influences the risks, but does not eliminate them. Policies to reduce vulnerability would not replace risk reduction ones, but should create positive synergies.

**Le SIDA en Afrique: la politique agricole peut-elle apporter une aide?**

La pandémie de SIDA revêt de multiples aspects et la FAO a centré son attention sur les conséquences de cette maladie pour la production agricole et la sécurité alimentaire des ménages. Ce document présente un cadre pour l'analyse des problèmes et décrit leurs principaux effets sur les ménages et exploitations agricoles. Le VIH/SIDA épuise les ressources humaines et financières, ce qui entraîne une réduction des superficies cultivées, des modifications des pratiques culturelles et des baisses de rendement. La réduction de la formation scolaire et non scolaire des enfants et l'évolution des schémas de migration peuvent avoir des conséquences négatives sur le développement.

Les politiques agricoles s'efforcent d'influer sur les rendements, la production des cultures commerciales, etc. On ne s'est pas encore demandé si ces politiques peuvent affecter la diffusion et l'intensité de la pandémie VIH/SIDA ou, au contraire, en atténuer l'impact. Les secteurs de l'agriculture et de la santé doivent se sensibiliser davantage aux effets de la pandémie sur la production, la sécurité alimentaire et les institutions. Ils doivent aussi reconnaître qu'il existe un certain nombre d'outils liés aux politiques et programmes qui pourraient être utilisés pour réduire la vulnérabilité des populations rurales en matière de VIH/SIDA. À ce stade, il convient d'étudier de manière plus systématique les instruments disponibles liés aux politiques et programmes qui seraient le plus efficaces. Des efforts visant à mobiliser les institutions agricoles, tant publiques que privées, sont justifiés face aux dégâts actuels et potentiels de cette pandémie. La réduction de la vulnérabilité a une influence sur les risques, mais ne les élimine pas. Des politiques visant à réduire la vulnérabilité ne remplaceraient pas les politiques visant à réduire les risques, mais elles pourraient créer des synergies positives.

**El SIDA en África: ¿pueden obtenerse mejoras mediante las políticas agrarias?**

Aunque hay muchos aspectos en la pandemia del SIDA, la FAO ha centrado su atención en la repercusión de la enfermedad en la producción agrícola y en la seguridad alimentaria familiar. En este artículo se presenta un marco para analizar los problemas y se destacan los efectos esenciales en los hogares agrícolas y otras unidades de producción más grandes. El VIH/SIDA agota tanto los recursos humanos como el capital, lo que causa la reducción de la tierra cultivada, cambios en los sistemas de cultivo y la disminución de la producción. La reducción de la capacitación formal e informal de los niños y la variación de las pautas migratorias pueden tener consecuencias negativas para el desarrollo.

Las políticas agrarias intentan influir en los rendimientos y la producción de los cultivos comerciales. Aún no se ha analizado si tales políticas pueden influir en la propagación y el nivel de la pandemia, o paliar su impacto. Es menester que en los sectores agrario y sanitario se tome conciencia de las repercusiones que tiene la pandemia en la producción, en la seguridad alimentaria y en las instituciones.



También se ha de reconocer que hay distintos instrumentos de políticas y programas que podrían ser eficaces en la reducción de la vulnerabilidad de la población rural. En esta etapa, han de examinarse sistemáticamente los instrumentos de política y de programas más eficaces de que se dispone. Vale la pena realizar esfuerzos para movilizar a las instituciones agrícolas, tanto públicas como privadas, habida cuenta de los daños actuales y potenciales de la pandemia. La reducción de la vulnerabilidad influye en los riesgos, pero no los elimina. Las políticas encaminadas a mitigar la vulnerabilidad no podrán sustituir a las de reducción de riesgos, pero habrán de crearse sinergias positivas. ♦

# HIV/AIDS and nutrition: helping families and communities to cope

F. Egal and A. Valstar

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**A**lthough human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is recognized predominantly as a health problem, the epidemic has multiple social and economic dimensions and implications since it affects adults in their most productive years of life. A health approach alone is not sufficient to prevent the spread of the disease or to mitigate its impact on both individuals and society. The spread of HIV/AIDS has become a major constraint to development in affected areas and must, therefore, become a major consideration in the programme planning of governments and agencies. The detrimental impact of the HIV/AIDS epidemic on nutrition and household food security in affected areas requires attention, and strategies to address these problems should be incorporated in programme planning.

The interaction between HIV/AIDS and nutrition can basically be seen from two perspectives:

- the *biological* perspective, which is the association between nutritional status and risk of infection, as well as the relationship of nutritional status and the evolution of the disease;
- the *socio-economic* perspective, which considers the consequences of the disease for the food and nutrition situation of affected households and communities through lack of food, insufficient care and lack of time to ensure hygiene.

## HIV/AIDS AND NUTRITIONAL STATUS

Biologically, there are multiple relations between HIV/AIDS and nutritional status. Research shows that the chance of infection with the HIV virus might be reduced in individuals who have good nutritional status, with micronutrients and, especially, vitamin A playing significant roles (ACC/SCN, 1998a). At the same time, the onset of the disease and even death might be delayed in well-nourished HIV-positive individuals (ACC/SCN, 1998a).

Because the virus damages the immune system, AIDS patients are vulnerable to multiple infections. A diet rich in protein, energy and micronutrients, especially vitamin A, contributes to resistance to opportunistic infections in AIDS patients (Friis,

1998). Higher nutrient intakes are required when the patient suffers from a secondary disease. When diarrhoea occurs, extra liquids are required to restore the balance.

In these vulnerable individuals, the prevention of food-borne illnesses is extremely important as these would further increase the patients' needs and, at the same time, reduce their absorption of nutrients. Hygienic food handling and access to safe foods are, therefore, imperative.

The discussion of whether or not breastfeeding by HIV-positive mothers should be encouraged is still ongoing: mother-to-child transmission (or vertical transmission) of the virus through breastfeeding has been observed, the risk of such transmission being higher among mothers with AIDS than among HIV-positive mothers (Preble, 1998). In a recent study, exclusive breastfeeding appeared to protect against the transmission of HIV, with a higher risk in partial breastfeeding (Coutsoudis, 1999). Infants of mothers who have an adequate vitamin A status might have a reduced risk of vertical transmission (Friis, 1998). Given the many advantages of breastfeeding and the risks commonly associated with the use of breastmilk substitutes, one clear recommendation on breastfeeding by HIV-positive mothers cannot be made for all developing countries. This comparison of the risks of HIV/AIDS transmission from nursing mothers with the risks of bottle-feeding has led to the development of different national policies. The World Health Organization (WHO), the United Nations Children's Fund (UNICEF) and the Joint United Nations Programme on AIDS (UNAIDS) support the right of HIV-infected women to choose safe alternatives to breastfeeding, based on full information (ACC/SCN, 1998b).

## IMPACT OF HIV/AIDS ON HOUSEHOLD FOOD SECURITY AND NUTRITION

HIV/AIDS has a detrimental impact on household food security and nutrition in endemic areas. Household food security is defined as the ability of the household to secure, either from its own production or through purchases, adequate food to meet the dietary needs of its members so that they can lead a healthy and active life.



*A grandmother sells milk to care for her 17 orphaned grandchildren*

In HIV/AIDS-affected households, problems start as soon as the first adult becomes sick. This results in increased spending for health care, decreased ability to carry out work and higher demands on time for care. Children might be forced to discontinue their schooling as the household needs their help and can no longer afford the school expenses. Eventually the AIDS patient dies, additional expenditures are made for the funeral and the productive capacity of the household is permanently reduced. Socio-cultural practices may further aggravate the problems of the household, for example, when the surviving spouse cannot maintain access to the property of the deceased.

In the next stage the patient's partner may become sick, problems increase and accumulate and the downward spiral accelerates. The household may find itself without cash reserves; often it becomes indebted and is forced to sell livestock and other productive resources. Traditional solidarity systems may wear out, and the family may progressively slide into destitution. Eventually, the household is reduced to elderly people and children. Essential skills are lost to the family and the community as active adults die.

Households affected by AIDS are at risk nutritionally: access to food is difficult; demand for care soars, together with time constraints; and it becomes increasingly difficult to preserve health.

The Figure shows a visualization model of the impact of

HIV/AIDS on the food and nutrition situation of a household. The model can facilitate the identification of interventions likely to prevent or address specific constraints in a given situation.

The impact of the epidemic on food and agriculture is clearly related to people's livelihoods and will vary according to the different ecological zones, farming systems and stage of the epidemic. It may result in a shift from cash crops to less labour-intensive food crops, to more basic and less varied food production or to a reduction of productivity and cash income with corresponding adverse effects on household food security (FAO, 1995). Research carried out in Uganda showed that food insecurity and malnutrition (rather than medical treatment and drugs) were foremost among the immediate problems faced by female-headed AIDS-affected households (Topouzis and Hemrich, 1996). This further aggravates the situation, as good nutrition is of great importance to the victims of the AIDS epidemic as well as to children and pregnant and lactating women.

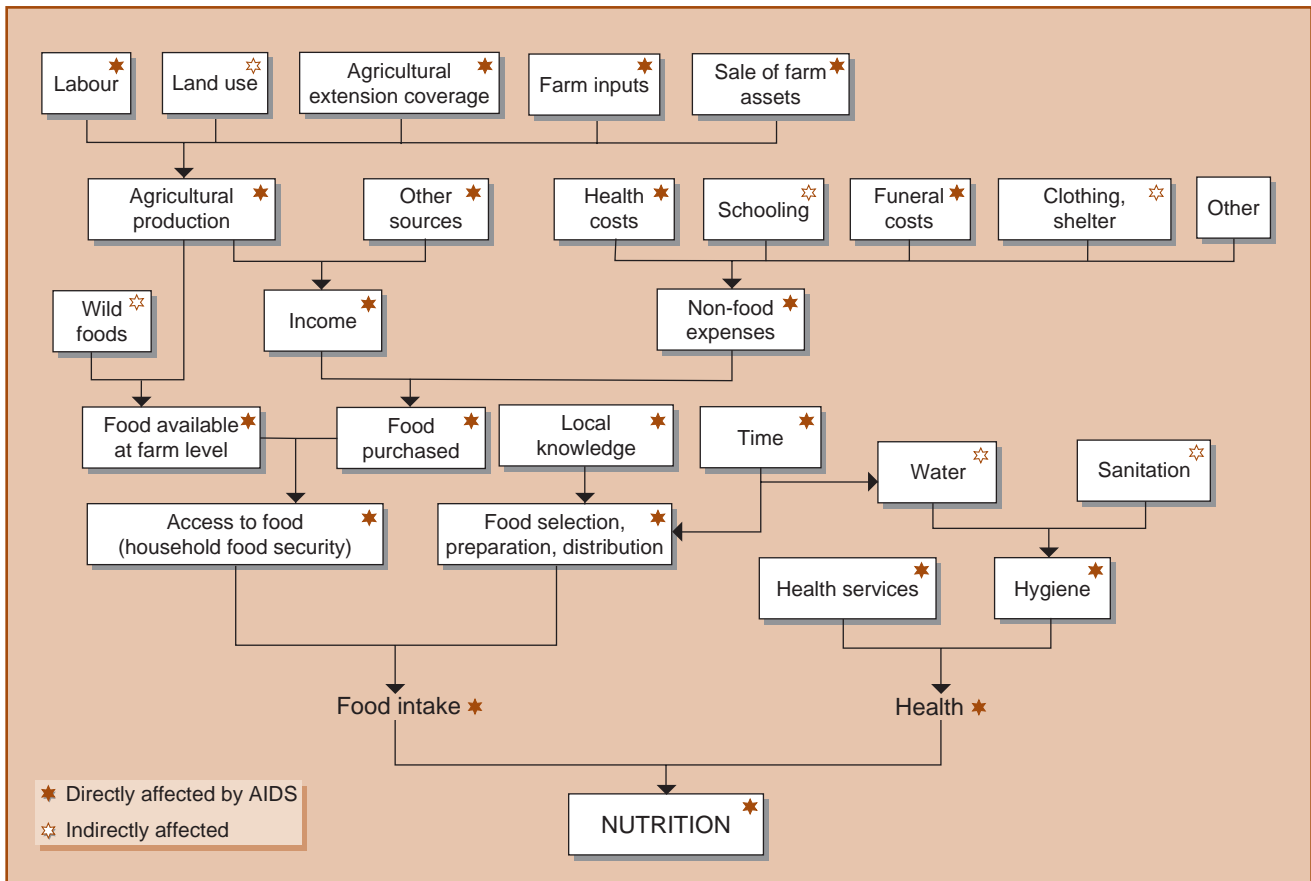
#### IMPACT ON SERVICES AND INSTITUTIONS

The epidemic takes a heavy toll on national development staff. The health, education and agriculture extension services usually provided to the population will be disrupted as the staff operating these activities become ill and die. Provision of care to sick family members, attendance at funerals and observation of mourning times further reduce the staff's productive time. In Uganda, this has led to an informal reduction of the length of the working week (Topouzis, 1998). This disruption in services further aggravates the local situation and undermines households' capacity to cope with the illness.

#### HIV/AIDS ISSUES IN NUTRITION AND AGRICULTURAL DEVELOPMENT STRATEGIES

The HIV/AIDS epidemic and strategies for mitigating its impact are often not given specific attention by rural development workers and/or agriculture project staff. This frequently leads to further marginalization and destitution of affected households.

With an estimated 16 000 new infections per day, worldwide, and the rapid decreases in life expectancy in the most affected countries, the AIDS epidemic should be a primary focus of development assistance in affected countries (ACC/SCN, 1998a). For organizations working in agriculture, the natural entry point to mitigate the impact of the epidemic is through improving household food security. Knowledge of the local dynamics among HIV/AIDS, food insecurity and malnutrition, including households' coping strategies (to offset labour shortages, decline in income, etc.) will allow projects



**A model to help visualize the impact of HIV/AIDS on household food security and nutrition**

to identify and design activities according to existing needs and constraints and help to mitigate the impact of the epidemic.

#### Targeting affected households

Projects operating in HIV/AIDS endemic areas do not always reach the households struck by the epidemic. In such areas, HIV/AIDS-affected households should systematically be included in the target groups of household food security and nutrition projects. These projects need to be able to identify where the most affected communities are located and which households are living with HIV/AIDS. Project activities should not obstruct the provision of care to the sick, infants and young children, including orphans, and special activities might need to be developed to support these. Training and support for youth will be essential to the survival of the household as a whole.

#### Raising awareness of field staff

In many countries, HIV/AIDS is not openly discussed. Raising awareness among field staff about the disease and prevention methods is the first step to be taken. Before HIV/AIDS considerations can be addressed, staff need to be trained to



**The young and the elderly manage alone when AIDS strikes a family**

understand the impact of HIV/AIDS on food security and the specific constraints suffered by affected households. Field staff from all technical and institutional backgrounds need to be trained on how to identify affected households and help them to find solutions to the constraints they face.

#### Developing strategies with the communities

The participatory nutrition approach promoted by FAO's Food and Nutrition Division includes the joint development of local household food and nutrition strategies by the different stakeholders. In HIV/AIDS-affected areas, organizing local planning and training workshops to discuss local food security and nutrition problems among various local groups and institutions would help identify possible interventions that could mitigate the negative impact of the epidemic.

Participatory appraisal of the impact of HIV/AIDS on food security in a given community can help identify affected households and clarify local dynamics among HIV/AIDS, food insecurity and malnutrition, including households' coping strategies.

Strategies to improve the coping mechanisms of affected households might include activities aimed at:

- reorienting food production to facilitate access to a nutritious diet;
- seeking alternative income-generating opportunities;
- decreasing people's workload through labour-saving technologies and improving access to labour and resources through gender sensitization and the promotion of more gender-balanced extension approaches;
- improving community organization for the exchange of labour;
- developing community-based care strategies for patients and small children, including orphans;
- encouraging HIV-positive and sick patients to teach their skills and knowledge to others and assisting households to plan for the future;
- developing appropriate communication strategies to prevent the marginalization of affected households and helping the community to deal with the epidemic.

#### Nutrition education

All field staff, in particular agricultural extension workers, should be informed of the beneficial impact of good nutritional status, both on the prevention of HIV infection and on the course of the disease, so that they can provide advice to families and reorient their own activities accordingly. Nutrition education and communication strategies in the affected areas should include appropriate dietary recommendations for individuals suffering from the disease, taking into account local food sources and production systems.

#### WHAT AIDS MEANS TO A FAMILY

In the Luapula Valley of Zambia, the Kasuba family has always made a living through subsistence food production. Now that the 42-year-old mother is sick with AIDS, the family is going through a very difficult period. Since she was the person who grew beans and groundnuts, these foods have disappeared from the family's diet. Since she was responsible for planting, weeding, harvesting, storage and processing of food, the other family members have had to find new ways to obtain food. They cannot earn money so they work for other people in exchange for food, barter some of it to obtain other food items and beg meals from other homes. In order to pay for traditional medicines and to transport the patient from one herbalist to the other, they have progressively had to sell livestock, seeds, tools, clothes and cooking utensils.

Ms Kasuba used to process the food and carry out most domestic activities. Now her husband and children have had to take over the tasks of fetching water and fuelwood and they are also spending a lot of time caring for her. As a result, they only cook once a day, usually preparing a meal of *nshima* from cassava flour with cassava leaf sauce. There is very little diversity in their diet as Ms Kasuba was the one who knew how to mix different foods. The older children have stopped going to school and try to take care of the younger ones. There is no money to pay for visits to the health centre.

*Source:* G. Simuyemba and E. Phiri, Empowerment Officer and National Project Coordinator, respectively, for the project Improving Household Food Security and Nutrition in the Luapula Valley, Zambia, personal communication.

Collaboration with local male and female leaders (e.g. traditional and religious leaders) needs to be sought.

#### Transfer of knowledge and skills

The training of staff and community members and the timely transfer of essential skills are needed to mitigate the destructive impact on households and institutions. If required, and where possible, individuals who already suffer from the disease should be involved in this process.

#### CONCLUSIONS

Since nutrition requires an integrated approach to household food security, health and care, it forms a logical entry point for assisting affected communities in coping with the epidemic. Several key points should be considered:

- Appropriate nutrition education is required as well as the transfer of knowledge and skills to prevent their loss to the household and the wider community.
- Participatory techniques are fundamental in the development of a comprehensive understanding of the specific constraints that HIV/AIDS-affected communities are facing, as well as in the design of adequate responses.



- Since behavioural change is needed for effective prevention and mitigation of the epidemic, and since HIV/AIDS issues are highly sensitive, the development of appropriate communication strategies is crucial.
- The inclusion of HIV/AIDS considerations into agricultural and nutrition strategies is a relatively new field. Cross-sectoral and interinstitutional collaboration is required to develop appropriate strategies through operation research and documentation and the evaluation of experiences. ♦

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**HIV/AIDS and nutrition: helping families and communities to cope**

Although human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) is viewed primarily as a health problem, a health approach alone is not sufficient to prevent the spread of the disease and mitigate its impact on both individuals and society. Commonly, rural development workers have not given attention to HIV/AIDS, leading to marginalization and destitution of affected households. With an estimated 16 000 new infections per day worldwide, the AIDS epidemic should be a primary focus of development assistance in affected countries.

The interaction between HIV/AIDS and nutrition can be seen from biological and socio-economic perspectives. Biologically, there are multiple relations between HIV/AIDS and nutritional status: good nutritional status might reduce the chances of infection or extend the lives of patients. Improving nutrition requires an integrated approach to household food security, health and care.

In communities affected by HIV/AIDS, nutrition education and the timely transfer of knowledge and skills to prevent their loss to the household and the wider community are required. Participatory techniques are essential to forming an understanding of the specific constraints HIV/AIDS-affected communities are facing and to designing adequate responses. Since HIV/AIDS issues are highly sensitive and require behavioural change, appropriate communication strategies are crucial.

The inclusion of HIV/AIDS considerations into agricultural and nutrition strategies is relatively new; cross-sectoral and interinstitutional collaboration is required in order to develop appropriate strategies, through operation research and documentation and evaluation of experiences.

**VIH/SIDA et nutrition: aider les familles et les communautés à faire front**

Le VIH/SIDA (virus de l'immunodéficience humaine/syndrome d'immunodéficience acquise) est considéré avant tout comme un problème de santé, mais l'approche sanitaire à elle seule n'est pas suffisante pour empêcher la diffusion de la maladie et atténuer ses effets sur l'individu et sur la société. En général, les agents de développement rural n'ont pas prêté beaucoup d'attention au VIH/SIDA, ce qui a entraîné la marginalisation et la paupérisation des ménages touchés. Si l'on estime qu'il y a chaque jour 16 000 nouveaux cas dans le monde, l'épidémie de SIDA devrait être une préoccupation essentielle de l'aide au développement dans les pays touchés.

Les interactions entre le VIH/SIDA et la nutrition sont manifestes des points de vue biologiques et socioéconomiques. Sur le plan biologique, il y a de multiples relations entre le VIH/SIDA et l'état nutritionnel: un bon état nutritionnel peut réduire les chances d'infection et prolonger la vie des patients. L'amélioration de la nutrition suppose une démarche intégrée visant la sécurité alimentaire, la santé et les soins à l'intention des ménages. Dans les communautés affectées par le VIH/SIDA, l'éducation nutritionnelle et le transfert rapide des connaissances et des compétences sont nécessaires pour éviter leur disparition, aux niveaux des ménages et de la communauté en général. Les techniques participatives sont essentielles pour développer une compréhension des obstacles spécifiques que connaissent les communautés touchées par le VIH/SIDA, et il faut mettre au point des réponses adéquates. Comme les questions de VIH/SIDA sont extrêmement délicates et requièrent un changement des comportements, des stratégies de communication appropriées sont indispensables. L'inclusion de considérations liées au VIH/SIDA dans les stratégies agricoles et nutritionnelles est relativement nouvelle: une collaboration intersectorielle et interinstitutionnelle s'impose pour élaborer des stratégies appropriées, basées sur la recherche opérationnelle, une documentation approfondie et l'évaluation des expériences.

**VIH/SIDA y nutrición: ayuda a las familias y a las comunidades para afrontar el problema**

Aunque se considera que el VIH/SIDA (virus de la inmunodeficiencia humana/síndrome de la inmunodeficiencia adquirida) es un problema esencialmente sanitario, no basta un mero enfoque sanitario para prevenir la propagación de la enfermedad y paliar sus repercusiones tanto en los individuos como en la sociedad. Generalmente, el personal de desarrollo rural no ha prestado atención al VIH/SIDA, lo cual ha provocado la marginalización y la caída en la indigencia de los hogares afectados. Teniendo en cuenta que se producen cada día en el mundo unos 16 000 nuevos casos de infección, la asistencia para el desarrollo debería centrarse principalmente en la epidemia del SIDA en los países afectados.

La interacción entre el VIH/SIDA y la nutrición puede considerarse desde las perspectivas biológica y socioeconómica. Desde la perspectiva biológica hay múltiples relaciones entre el VIH/SIDA y el estado nutricional: un buen estado nutricional podría reducir las oportunidades de infección o alargar la vida de los pacientes. Para mejorar la nutrición se requiere un enfoque integrado de seguridad alimentaria familiar, salud y atención sanitaria.

En las comunidades afectadas por el VIH/SIDA, es menester fomentar la educación nutricional y la oportuna transferencia de conocimientos teóricos y prácticos, a fin de evitar su pérdida en las familias y en las comunidades. Las técnicas de participación son fundamentales para ayudar a comprender las limitaciones específicas con que tropiezan las comunidades afectadas por el VIH/SIDA, así como para aportar las respuestas adecuadas. Dado que las cuestiones relativas al VIH/SIDA son muy delicadas y requieren cambios en el comportamiento, es de crucial importancia aplicar estrategias apropiadas de comunicación.

La inclusión de consideraciones relativas al VIH/SIDA en las estrategias para la agricultura y la nutrición es relativamente nueva: se necesita la colaboración multisectorial e interinstitucional para desarrollar estrategias apropiadas, mediante investigaciones prácticas y una documentación y evaluación pormenorizadas de las experiencias. ♦

# Coping with chronic complex emergencies: Bahr al-Ghazal, southern Sudan

**B. Thompson**

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**S**outhern Sudan has been affected by war for three of the last four decades; it is the region of one of the world's longest unresolved conflicts. More than 1 million people are estimated to have died since 1983, and 4 million have been displaced by fighting and famine. The humanitarian assistance that has been provided by Operation Lifeline Sudan (OLS) (see Box) since the crisis of 1989 was severely disrupted in 1998 by fighting and insecurity, and the overall situation deteriorated, especially in the region of Bahr al-Ghazal. Here, insecurity and the attendant famine were the most severe since 1988, but by October 1998 the humanitarian situation had begun to improve.

In November 1998, OLS requested that FAO send a team of food security and nutrition specialists to the Sudan to make recommendations for emergency programming. Innovative approaches were identified to help stabilize the humanitarian crisis and to ensure that the most vulnerable people were on the way to re-establishing their livelihoods. The focus was on programmes in household food security, food and nutrition, water and sanitation and non-food relief items. Special attention was given to community rehabilitation and preventive actions to mitigate and/or prevent future crises.

## BAHR AL-GHAZAL

The diversified climate and agro-ecosystems of Bahr al-Ghazal, in southern Sudan, include floodplains, riverbanks and the upper laterite plateau and make for a potentially food-secure area. Each area has its own production cycle, where crop cultivation, fishing and livestock rearing are practised. The major cereal grown is sorghum, while maize, millet and rice are minor crops in some areas. The importance of cereals in the diet varies greatly with agro-ecological zone. Livestock, used mainly as a source of milk and some meat, are important in the diet; groundnut, cassava, fish and wild foods also feature. The complementarity of these systems is the basis of very sophisticated barter and trade mechanisms, a crucial

component of risk management. Although highly resilient to climatic hazards, these systems have been damaged by years of war and uncertainty and, when an additional shock occurs, coping mechanisms are strained and people become more vulnerable. This was the situation in Bahr al-Ghazal in 1998.

## The emergency

Despite relatively favourable agrometeorological conditions, in 1998 Bahr al-Ghazal was the site of one of the worst famines in recent history. The situation deteriorated rapidly following attack on the government-held town of Wau in early 1998. More than 100 000 people fled from the initial fighting and from the subsequent organized massacre of Dinka tribespeople that followed. This had disastrous spillover effects for the region's estimated 2.1 million population. Local food supplies were inadequate and the government-imposed ban on relief flights at that time prevented the delivery of food. The normal support systems of kinship and community obligations soon became exhausted and the crisis quickly turned into disaster. The World Food Programme (WFP) launched an emergency operation to provide food assistance to war- and drought-affected populations in both northern (government-held) and southern (rebel-held) sectors.

*April 1998.* Large numbers of people began to arrive in

## OPERATION LIFELINE SUDAN

Operation Lifeline Sudan (OLS) is a consortium of United Nations agencies and non-governmental organizations (NGOs) working with the people of southern Sudan, whose survival, protection and development are jeopardized by the complex emergency and extreme poverty. OLS was set up in 1989 following a devastating famine in southern Sudan – the result of drought and civil war which killed 250 000 people. Its mandate was to deliver humanitarian assistance to all civilians in need. Since that time, 360 000 tonnes of food aid have been sent to 4.7 million victims of war and drought in southern Sudan. In 1998, OLS was reaching 4 million people with essential relief and rehabilitation services and supplies, including food, basic health care, emergency relief and shelter, safe water, measures to improve household food security and basic education. As a result of poor infrastructure there is often little alternative but to provide assistance, where it is most needed, by air. Current costs for this air bridge are estimated at US\$1 million a day.

<sup>1</sup> This article is adapted from the mission report: *The Sudan – Programme Design Consultancy Operation Lifeline Sudan (OLS) 11 to 30 November 1998* by F. Grunewald, Team Leader; B. Thompson, FAO Nutritionist; and J. Breen, FAO/UNICEF Agronomist and Food Security Specialist.

Wau as a result of the famine and the appalling security situation in the countryside. Many people who had initially fled Wau returned in a desperate condition. Others, from rural areas of northern and eastern Bahr al-Ghazal, were forced to come to the town in search of food. People struggled on foot to reach the feeding centres, many already too weak to be saved. Families were not able to feed the old, the infirm and the weaker of their children. In July and August, between 50 and 100 people were reported to be dying daily and malnutrition rates of 25, 50 and 70 percent were observed among residents, returnees and internally displaced persons (IDPs), respectively. The IDPs who were crowded in the centre of the town were destitute and likely to remain dependent on food aid and relief for some time. Most agencies were ill-prepared for this influx and, although feeding centres were set up, mortality rates continued to be very high. Marasmus was the most common form of severe malnutrition. The incidence of anaemia was high, owing to dietary deficiency which was exacerbated by malaria and intestinal parasites such as hookworm. Goitre was endemic, especially in the northern towns of Raga and Aweil.

In the southern sector, distribution points and feeding centres were established in response to the extremely high rates of malnutrition. In many cases, malnutrition seriously affected both children and adults, indicating prolonged and serious food shortages. The situation for IDPs who congregated in densely crowded, newly settled areas, such as Ajiep, was especially disastrous, owing to the combination of nutritional, sanitation and medical problems.

*June 1998.* After a ceasefire was declared in June 1998, the distribution of food aid and other items to the needy increased. Although the general food supply improved, the situation in families varied according to what they could harvest and their coping capacities. Some displaced farmers were able to graze livestock after the rains, collect wild foods and return to their homesteads to plant, if they had seeds. As a result, the health and nutrition situation in many areas improved significantly. However, because of continuing insecurity, most households avoided long-term production activities as they sought to avert or minimize risk. For example, cultivation of land rarely extended beyond a 20- to 30-m radius from the house, as farmers were not confident that they would be able to harvest and keep their crops because of looting and pillaging. In addition, acquiring food, seeds and tools was difficult as shortfalls could not be compensated by normal trade and exchange mechanisms, which had broken down.

*November 1998.* The nutritional status of all groups in both the northern and southern sectors had improved significantly, with the numbers of beneficiaries of the supplementary

feeding centres (SFCs) and therapeutic feeding centres (TFCs) declining as discharges exceeded new admissions. However, the prevalence of malnutrition and rates of mortality remained unacceptably high, especially among IDPs. Malnutrition continued to be a major cause of death in hospitals and in the community. Adults and children with acute malnutrition were being treated in the feeding centres. The fact that many adults met the criteria for inclusion in the feeding programmes indicated that the food security problems that triggered the crisis were still present.

In November 1998, it was forecast that overall agricultural production in southern Sudan would be substantially higher than the previous year's harvest because of better rains and a season free from pests and diseases. In spite of this projected increase, Bahr al-Ghazal was expected to be deficient in cereals by about 55 000 tonnes, mainly because of a reduction in planting as a result of fighting and insecurity. Normally, there is a hungry period from April until September, but the situation was far worse than in previous years.

*Post-acute phase.* Throughout this crisis OLS concentrated on stabilizing populations, lowering mortality through food assistance and nutrition programmes, and preventing outbreaks of disease. Although mortality rates began to drop by late August, assistance was still needed, and OLS sought to design better programmes to respond to this phase of the famine.

The availability and access to food varied by location and among population groups. In some areas the recent harvest of cereals such as sorghum and maize, although poor, when combined with the seasonal availability of a variety of wild foods, had led to a noticeable improvement in the nutritional situation of many families. For those with livestock, the improved forage had fattened cattle, with benefits to milk consumption and nutrition. In various areas of southern Sudan, seed and tool distribution and veterinary programmes had been highly instrumental in re-establishing agricultural production. However, of great concern was the fact that in many areas populations were being maintained on the brink of survival with barely sufficient food and services to avoid the onset or recurrence of an acute nutritional emergency. It is clear that the post-acute phase of the emergency may also be the pre-acute phase of another crisis.

#### WAR AND HUMANITARIAN ASSISTANCE

The war, and associated pillage, is the primary cause of the famine and an overwhelming obstacle to the efforts of the international community to provide relief assistance or to support recovery. Famine is not only the result of the conflict but is also a means by which the war is carried out. Clearly, without genuine peace and a programme strategy that encourages reconciliation, humanitarian efforts to save lives



and protect livelihoods will only provide a temporary solution. As part of such a strategy, training courses on the UN Declaration on Human Rights should be provided as a priority.

Unfortunately, peace remains unlikely because of the north-south confrontation and the south-south interfactional, intertribal and intratribal fighting. In addition, many uncontrolled armed groups continue the war for selfish motives and to derive whatever benefits they can from it. There is a real risk of continued displacement of households as a result either of a flare-up of the fighting or of marauding and looting by militias. As the situation is already fragile and dependent on the ability to cultivate, harvest and trade, the nutritional conditions would deteriorate rapidly in the event of a flare-up in fighting. There is a strong possibility that there would be, once again, large numbers of people requiring emergency food assistance, including admission into the supplementary and therapeutic feeding programmes. The capacity to respond and adapt to changing needs is essential.

#### Resilience and risk

Resilience, the capacity to resist and absorb shock, can be viewed at the individual, family and community levels, as well as from the levels of the regions, aid programmes and institutional set-up. After the acute phase of the famine, there was the need to enhance resilience of the people who had been affected. In addition, ways were sought for avoiding further humanitarian catastrophe before a famine.

Climatic hazards, outbreaks of crop pests and diseases, erratic military and random breaches of law and order and the deterioration of roads and airstrips are features of daily life throughout Bahr al-Ghazal. These risks drastically affect both short- and medium-term household food security. Consequently, risk is the most important single obstacle to any operation in southern Sudan, and particularly to any asset-building programme.

Because of the multitude and magnitude of risks, the situation has moved, and continues to move, from one disaster to another, with crises of varying intensity and duration. In this context, sustainable recovery will not be a quick process. If fighting were reduced, the considerable resilience and coping capacity of the people of southern Sudan would go a long way to making them less dependent on external aid.

#### RECOMMENDATIONS

A number of practical measures to increase the capacity of agencies, institutions and staff to deal with the management of this complex emergency situation were recommended. The aim was to raise the level of alertness and disaster preparedness and ensure proper support to both life-saving and livelihood-

protecting activities, with a focus on increasing the population's resilience to disaster. Some of the recommendations focused on:

- improving data quality;
- strengthening preparedness and timely response;
- improving operational coordination arrangements;
- making food management more effective, both in the targeting of food aid and in the operation of feeding programmes, with an emphasis on quality assurance;
- strengthening household food security through efforts to diversify survival mechanisms and operational research.

#### Improving data quality

In order to increase the credibility of assessments, which is essential for maintaining strong donor support and timely response, improvement in data quality was recommended. A simple yet comprehensive information management system was needed, which would be operated by a specific interagency neutral mechanism to ensure its transparency and objectivity. The system could draw on the work of WFP's Vulnerability Mapping Unit (VAM) and Food Economy Analysis Unit (FEAU).

#### Strengthening preparedness and timely response

As early warning systems are only as good as the timely and appropriate responses they elicit, the elaboration of a set of contingency plans to respond to the changing situation was recommended. The pre-stocking of supplies in safe areas and pre-positioning of items closer to the areas of distribution would be helpful. The staff in existing feeding centres need to be trained to cope with sudden influxes of people and to be capable of rapid expansion if the need arises. The quality of the working and living conditions of staff greatly affects the level of preparedness as well as the quality and efficiency of programme implementation and both need to be improved urgently.

#### Improving coordination

To achieve quality programming, greater cohesiveness and coherence of approach among agencies is required. The relationships between UN/OLS agencies, non-governmental organizations (NGOs) and national/local administrations were different in the northern and southern sectors. Improvements in operational coordination would ensure coherence of standards and codes of practice between the two sectors. Joint priorities should be set for programmes, along with technical guidance for their design.

#### Effective food management

Safeguarding the livelihoods of those in distress must include,

as a priority, the building up of the nutritional status of individuals so that they can cope with the oncoming hungry season. It also serves to increase the resilience of the vulnerable to withstand further shocks and stressful situations. As part of such a nutrition programme, the distribution of a variety of good-quality, nutritious food rations and the operation of well-targeted feeding programmes for those undernourished or at risk are essential.

#### Targeting food rations

Reports of widespread and severe malnutrition in certain areas long after the commencement of food aid delivery led to suspicions that people were not receiving their rightful share. The high numbers of malnourished children returning to the feeding centres a few weeks after discharge also indicated that food security at the family level was not always being achieved. However, in many cases the “dilution” of the food ration was the result of voluntary decisions by beneficiaries to share food with others on the basis of kinship ties and traditional community obligations rather than by force and coercion. Family relationships and social obligations traditionally spread risks and serve as a communal coping mechanism for those who may become food insecure in the future. In this context, the targeting of food supplies to the most vulnerable and the policing of any such system to ensure that these groups directly benefit from it present particular difficulties. Priority should be given to ensuring that the food reaches those who need it most – the vulnerable and the physically affected – and the following approaches were suggested:

- Linkages between the general food distribution and the feeding centres, health clinics and outreach programme should be strengthened by extending the system for the identification and targeting of the most vulnerable through specialized structures, including health centres and feeding programmes to all areas. Special three-month ration cards could be provided to feeding centre and health personnel for issue to malnourished households.
- Where practical, food rations of a size and composition sufficient to share with all household members should be channelled to those most in need through medical facilities, including feeding centres.
- The bulk of the rations should continue to be channelled through traditional social structures, the chief system and the existing village distribution committees set up with OLS support, but an effective monitoring and reporting system that would allow intervention in cases of need should also be established.
- Women-only groups for receiving food should be set up. WFP-FEAU trains food monitors to calculate food deficits,

assess food needs and conduct post-distribution monitoring and evaluation. Monitoring of the quality and quantity of food consumed by families should be particularly supported.

On many occasions, supply problems meant that the full ration could not be delivered, in particular vegetable oil and pulses were lacking. Urgent steps needed to be taken to ensure that a complete and nutritionally balanced food basket was provided. To ensure that the food supplied was of acceptable quality, an efficient food quality control mechanism was needed, with feedback to the supplier if quality fell below acceptable standards.

The length of time required for distributing the food rations to IDPs was excessively long, taking four days every two weeks. Measuring the amount of grain according to family size was time-consuming for aid workers and exhausting for beneficiaries. Pre-packaging an average family ration to be given directly to the woman of the household has been undertaken successfully in other UN emergency operations, and the mission suggested that this be explored.

A nutrition survey was undertaken of the residents of Wau and remedial measures were introduced for vulnerable households, including admission into feeding programmes and inclusion in the general food distribution. For IDPs who had been relocated, looting at night was a major problem and authorities were asked to step up security in the camp.

#### Improving feeding programmes

Nutritional recovery is a crucial factor for both pre- and post-crisis management. In this respect, great achievements were made under extremely difficult conditions in the course of the 1998 emergency.

Yet some centres were not performing well. Initially, the numbers of beneficiaries exceeded capacity and, as a result, standard operating procedures and treatment protocols were abandoned. Steps should be taken to maintain standards, with adequate monitoring and supervision, better reporting and feedback procedures and greater presence of OLS staff in the field. Bodyweights should be recorded adequately for monitoring purposes.

Generally, improvements were needed in the quality of care given and the level of attention provided by local and international staff. Standard operating procedures and protocols should be agreed upon in the areas of community-based nutrition improvement, including feeding centre treatment protocols, in-service training, education and outreach. Additional recommendations were suggested for increasing the quality and effectiveness of the feeding programmes including:

- ensuring that the supplementary feeding centres are

supplementing existing household food supplies and not replacing them, and monitoring the nutritional adequacy and balance of the ration at the household level;

- establishing criteria for entry and discharge, which would allow comparisons to be made between centres;
- limiting the time spent by affected families waiting for services so that it is as short as possible – it is unacceptable for poorly nourished mothers with thin and miserable children to wait for hours in the sun for entry into feeding centres;
- closer monitoring of the consumption of food in the feeding centres by those for whom it is intended – this is related to the capacity of staff, in terms of both numbers and level of training;
- closer monitoring of the nutritional status of adults and children, including verification of weight charts to identify inappropriate rates of individual weight gain;
- incorporating a strong education component into all feeding centre programmes for the malnourished and their caretakers – this requires the development of a package of educational support materials on health, hygiene and nutrition issues – and developing better-quality in-service training for feeding centre staff.

#### Strengthening household food security

Strengthening household food security through efforts to diversify survival mechanisms simultaneously reduces pre-crisis vulnerability and crisis impact, and is an important element in dealing with the post-acute phase of emergencies. Many of the mission's recommendations support existing survival strategies and can be implemented even in the highly volatile situation in southern Sudan. Such efforts call for participatory community-based approaches, together with technical support from the specialized agencies. Only the essential elements of the proposals are mentioned in this article.

#### Trade

Support needs to be given to the resumption of the economy. Although asset-stripping is part of the war, and accumulation of goods or wealth in a specific site could make marketplaces attractive targets to looters of all kinds, small markets for formal trade, local exchanges or barter, which exist in most areas, should be encouraged. Bahr al-Ghazal is a crop-deficit area, but there are pockets where local surpluses are produced.

Trade with surplus areas should be encouraged and, for this purpose, the state and security of the road should be improved. Seed of local crop varieties should be bought for cash to stimulate the cash economy, obtained by barter or

exchanged for food aid grain at attractive prices to encourage production.

#### Livestock

Bahr al-Ghazal is a major producer of livestock, and trade in livestock could be eased by: training of staff in livestock marketing and through study tours to markets in Uganda and Kenya; establishing a veterinary laboratory near the border to certify freedom from notifiable diseases such as rinderpest; publishing regional price information to ensure that farmers receive a fair price for their stock; and monitoring taxation rates and reducing corruption.

The OLS Livestock Sector Programme has trained more than 600 Community Animal Health Workers (CAHWs) in the southern sector, and a further 400 in the northern sector of Bahr al-Ghazal. These achievements should be extended through further development of cost-recovery mechanisms, improved availability of drugs and veterinary medicines, including possible selling by pharmacies, and encouragement and training of able CAHWs, veterinary practitioners and private traders. Breeding, feeding, forage production and range management skills should be further supported and encouraged.

#### Crop production and diversification

Every effort should be made to encourage farmers to replant crops as a means of recovery. More ploughing with oxen would increase the cultivated area, and improved soil preparation techniques would facilitate water penetration and storage, leading to increased yields.

Much of Bahr al-Ghazal depends on cereals, largely sorghum, with a little maize, millet or groundnut. Cowpea and sesame are grown on some farms. Cassava and sweet potato flourish around Wau, and planting material for these crops should be made available to all parts of Bahr al-Ghazal, together with a concerted extension campaign. Cassava and sweet potato are far higher yielding than cereals, and also more drought-resistant. These crops, especially cassava, could generate seasonal surpluses for processing into dried products that would find a ready market and obtain a higher price than sorghum. Education is needed on the use of cassava leaves as part of a balanced diet. The combination of short- and long-season sorghum and millet varieties, supported by cassava, sweet potato and various local and exotic vegetables, would insure people against hunger and offer opportunities to create surpluses in fresh and processed forms.

#### Seeds

The lack of seed was farmers' main complaint. The region is short of certified seed, and even when seed is available, often

at inflated prices, it was not always suitable for the various microclimates and environments of southern Sudan. Clearly, the best way to supply seed to farmers is to produce it locally, giving farmers a chance to produce for a guaranteed market at a good price. Local seeds have to be collected, inventoried and multiplied while they still exist. NGOs have been involved in the local production and marketing of seeds in Tambura and Yambio for more than five years, and their efforts should be supported and further expanded.

#### Tools

Some of the tools provided as aid did not fully meet local needs. For example, imported mallodas (push-hoes) have been extensively modified by blacksmiths to suit local demand. Providing local blacksmiths with the raw materials to make tools according to local design would be preferable. Improved technologies for metalworking should also be taught, and basic equipment such as anvils should be provided on a cost-recovery basis. However, tools that can be produced more cost-effectively in a factory should be imported. Where possible, farmers should be provided with tools of the highest quality. Quality and acceptability, not only price, should determine selection of the tools supplied.

#### Food processing and post-harvest loss reduction

The processing of cassava and sweet potato is well known in the Wau area; it could be extended to other centres in Bahr al-Ghazal and elsewhere in southern Sudan. The processing of fruits, many of which go to waste during years of abundant harvest, could be encouraged. Cheese-making is not practised in Bahr al-Ghazal, but it could be demonstrated by cheese-makers from Um-Rwaba, the main cheese-making centre of the Sudan. There is impressive scope for fishery activities, including processing which could shorten the hungry period and improve opportunities for trade and income generation.

In southern Sudan, storage structures are often unsuitable and inefficient in preventing post-harvest losses to rats, weevils and other pests. The use of rat-proof storage structures made from local materials could be encouraged. The use of neem as a locally available insect repellent could be introduced, as it is impractical to use commercial stored insecticides in remote areas.

#### Income-generating projects

In many parts of southern Sudan, the economy is at a virtual standstill. In order to improve people's livelihoods, the development of income-generating projects should be fostered, including fish processing, tailoring/making of mosquito nets, processing of cassava and sweet potato, beekeeping and woodcarving, while transport of the finished products to

market should be facilitated. One possible project could be the production of prosthetic aids to meet the demand of the large number of amputees.

#### Adopting a participatory community-based approach

Projects and activities should be community-based, with the communities working together to prioritize their own problems and devise community strategies to solve them. This requires training in the approach, to enable field staff to plan coherent and lasting programmes in consultation with local communities and implementing partners. To encourage the development of good working relationships at the community level, staff should remain in the field for an appropriate amount of time. Technical support is available in the different programme areas from specialized agencies of the UN system and others.

#### AFTERMATH

Since this report was written, there has been a general improvement in the food and agriculture situation owing to favourable weather conditions. Relative peace in many locations has resulted in continuing improvements in food and nutrition with a decline in the numbers requiring admissions to feeding centres. However, food shortages continue to be experienced by many households in many locations mainly because of the continuing civil unrest. The disruption to agricultural production and the resultant loss of assets and access to markets has left thousands of people still in urgent need of assistance. Security remains particularly serious in the IDP camps in Wau, where rape and killings continue, and in those areas where cattle-raiders are abducting villagers. The capricious nature of the food and nutrition situation argues for the mission's recommendations to be fully implemented without delay. ♦

Coping with chronic complex emergencies: Bahr al-Ghazal, southern Sudan

One of the world's longest unresolved conflicts is taking place in the southern Sudan region. It is estimated that more than 1 million people have died since 1983, and 4 million have been displaced by fighting and famine.

In November 1998, the UN's Operation Lifeline Sudan (OLS) requested an FAO mission to the Sudan to recommend emergency programming after the Bahr al-Ghazal famine. The FAO team analysed the situation and reviewed the appropriateness of the OLS emergency response. The team identified innovative approaches for OLS that would stabilize the humanitarian crisis and ensure that the most vulnerable groups could re-establish their livelihoods. Programmes focused on household food security, food and nutrition, water and sanitation and non-food relief items. Recommendations for cost-effective and practical improvements to the current operation were made with the aim of improving the appropriateness and quality of programme delivery, coverage and targeting to the most vulnerable groups. Special attention was given to community rehabilitation and preventive actions to mitigate and/or prevent future crises. The observations of the mission team are described in this article. Some of the general findings and recommendations are relevant for the management of other post-acute emergency situations.

Faire face aux situations d'urgence complexes et chroniques: Bahr al-Ghazal, Soudan méridional

L'un des plus longs conflits non résolus du monde se déroule dans le sud du Soudan. On estime que plus d'un million de personnes sont mortes depuis 1983 et que 4 millions d'habitants ont été déplacés par les combats et la famine. En novembre 1998, l'«Opération survie au Soudan» des Nations Unies a demandé l'envoi sur place d'une mission FAO en vue de la programmation de l'aide d'urgence après la famine de Bahr al-Ghazal. La mission FAO a analysé la situation et examiné l'opportunité de la réponse «Opération survie au Soudan». Elle a identifié des démarches novatrices pour cette opération, qui permettraient de stabiliser la crise humanitaire et d'assurer que les groupes les plus vulnérables reprennent une vie normale. Les programmes étaient centrés sur la sécurité alimentaire des ménages, l'alimentation et la nutrition, l'eau et l'assainissement et les secours non alimentaires. Des recommandations, visant des améliorations rentables et pratiques de l'opération en cours, ont été faites concernant l'adéquation et la qualité de la livraison, de la couverture et du ciblage du programme destiné aux groupes les plus vulnérables. Une attention particulière a été accordée au relèvement des communautés et aux mesures préventives permettant d'atténuer et/ou d'empêcher de nouvelles crises. Les observations de la mission sont décrites dans cet article. Un certain nombre de conclusions et recommandations générales sont pertinentes pour la gestion d'autres situations d'urgence, passé la période la plus difficile.

Respuesta a emergencias crónicas complejas: Bahr al-Ghazal, Sudán meridional

En la región meridional de Sudán tiene lugar uno de los conflictos sin solucionar más largos del mundo: se calcula que, desde 1983, ha muerto más de un millón de personas y que hay cuatro millones de desplazados a causa de los combates y del hambre.

En noviembre de 1998, tras el período de hambre padecido en Bahr al-Ghazal, la Operación Supervivencia en el Sudán (OSS) de las Naciones Unidas pidió a la FAO que enviara una misión al Sudán para que recomendara una programación de emergencia. El equipo de la FAO analizó la situación y examinó si era adecuada la respuesta de emergencia de la OSS. El equipo identificó para la OSS modos innovadores mediante los cuales se podría estabilizar la crisis de índole humanitaria y garantizar que los grupos de personas más vulnerables puedan recuperar sus medios de vida normales.

Los programas se centran en la seguridad alimentaria en el hogar, los alimentos y la nutrición, el agua y el saneamiento, y los socorros no alimentarios. En cuanto a la operación actual, se hicieron recomendaciones para obtener mejoras tanto en la eficacia en función de los costos como en la práctica, con la finalidad de asegurar una mayor pertinencia y calidad en la ejecución de los programas, su cobertura y selectividad con respecto a los grupos más vulnerables. Se prestó especial atención a la rehabilitación de comunidades y a las acciones preventivas, a fin de paliar y prevenir crisis futuras. En este artículo se describen las observaciones del equipo que realizó la misión. Algunas de sus conclusiones generales y recomendaciones son útiles para afrontar otras situaciones posteriores a graves emergencias. ♦



# Problemas relativos a la calidad e inocuidad de los alimentos y su repercusión en el comercio

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Según la Organización Mundial de la Salud (OMS, 1998b), la frecuencia de los casos de enfermedades causadas por alimentos mal conservados o contaminados podría ser entre 300 y 350 veces mayor de lo que los informes indicaban hasta ahora. Esta mayor frecuencia, vinculada directamente a los problemas sanitarios más importantes que amenazan a la población mundial, tiene un impacto comercial considerable, ya que la globalización, la intensificación de los intercambios de productos y los desplazamientos de las personas son responsables en no escasa medida de la propagación y agravación de las enfermedades, del aumento del número de brotes infecciosos y de la complejidad de las patologías.

Los cambios en los estilos de vida, que son una de las consecuencias del nuevo orden económico mundial, y las distintas prácticas de alimentación, compras, preparación y almacenamiento de los productos alimenticios están obligando a las autoridades a asumir posiciones más rigurosas en cuanto al control de la calidad e inocuidad de los alimentos. La mayor severidad de las normas y el aumento de las acciones de inspección indican que la situación de los productos alimenticios, tanto en los mercados nacionales como en los internacionales, debe ser objeto de esfuerzos sostenidos para lograr que todos los países cuenten con sistemas efectivos de control de calidad e inocuidad. Es preciso que se establezcan acuerdos de reconocimiento mutuo y de equivalencia en beneficio de un intercambio comercial más fácil de productos cuyo consumo dé mayores garantías de seguridad.

Sin embargo, la presencia constante en los mercados mundiales de productos de mala calidad y contaminados, y el consiguiente aumento de los rechazos, se traduce en graves daños para el desarrollo económico de los países. Los rechazos no solo afectan a un producto o a un conjunto de productos, sino a importantes cantidades de diferentes tipos de productos provenientes de países en los que se han identificado malas prácticas higiénicas o de manejo y conservación. Los importadores suelen partir del supuesto de que cualquier falla en el proceso de elaboración de un determinado producto perjudica a los demás o crea riesgos en ellos. En algunos casos, el rechazo se puede extender a los productos provenientes de toda una región en la cual se comparten aguas o suelos contaminados con sustancias agroquímicas.

Dado que las prácticas productivas o las condiciones imperantes en diversas zonas pueden ser muy similares, el afán de reducir los costos del manejo selectivo de los riesgos se traduce en mayores dificultades para distinguir los productos seguros de los peligrosos. Aumentan en todo caso considerablemente los costos de inspección y vigilancia en las aduanas de entrada de los países importadores.

La solución no reside en el cierre de las fronteras ni en la multiplicación de los sistemas de vigilancia, con el objeto de hacer que el ingreso de las mercancías sea más selectivo, sino en adoptar estrategias correctivas que incidan en todas las fases del proceso de producción. Tales estrategias deberían a la vez ser flexibles y aplicarse de acuerdo con los problemas y los recursos de cada país; no depender del uso de tecnologías sofisticadas ni requerir grandes inversiones en equipos y en capacitación de operarios.

## LA SITUACIÓN ACTUAL Y EL FUTURO

Actualmente se considera que los alimentos son la mayor fuente de exposición a riesgos por la presencia de agentes patógenos, tanto químicos como biológicos, que afectan sin distinción el nivel de desarrollo de los países.

De los aproximadamente 1 500 millones de casos de diarrea que ocurren anualmente en el mundo, se estima que el 70 por ciento son el resultado directo de la contaminación química o biológica que presentan algunos de los alimentos que se comercializan (OMS, 1998a). La incidencia de enfermedades infecciosas como la salmonelosis, la campilobacteriosis y las infecciones causadas por *Escherichia coli* 0157:H7 asociadas a la contaminación de los alimentos está aumentando en los países industrializados. Los estudios de la OMS indican que, en esos países, entre el 5 y el 10 por ciento de la población se ve afectada anualmente por las mencionadas patologías. Cada año, los siete principales patógenos que suelen encontrarse en los alimentos (*Campylobacter jejuni*, *Clostridium perfringens*, *E. coli* 0157:H7, *Listeria monocytogenes*, *Salmonella*, *Staphylococcus aureus* y *Toxoplasmodium gondii*), causan solo en los Estados Unidos entre 3,3 y 12,3 millones de casos de infección, provocando pérdidas económicas anuales que oscilan entre 6,5 y 34,9 miles de millones de dólares EE.UU. (OMS, 1997b).

**Europa.** En Europa, los brotes de infección por alimentos contaminados con *Salmonella* pasaron de 594 en 1990 a 732 en 1992: los huevos y la carne son los alimentos que más frecuentemente causan la propagación de la enfermedad. En Alemania, por ejemplo, alrededor de 1 000 casos de salmonelosis se asociaron con el consumo de paprika. El polvo de paprika fue responsable del mayor brote infeccioso por especias contaminadas documentado (OMS, 1997b).

**Asia y el Pacífico.** La región del Foro de Cooperación Económica de Asia y el Pacífico no ha estado exenta de estas dificultades. En Japón, la salmonelosis se ha convertido en un problema recurrente, que se explica en parte por los cambios en la dieta y el incremento de las importaciones de alimentos. En Australia, se informó de un aumento de la incidencia de enfermedades causadas por la presencia de *Campylobacter* y *Salmonella* en los alimentos, y de una disminución de los casos asociados a *Shigella* y *Yersinia*, que son el resultado de las acciones de control de alimentos así como de la capacitación y de la inculcación de hábitos de higiene en la población en general, pero sobre todo en quienes manipulan los alimentos. Una situación parecida se observa en Nueva Zelandia, donde además de los programas de capacitación y educación se han reforzado los sistemas de vigilancia y control de calidad e inocuidad de los alimentos, tanto de producción nacional como importados.

**Estados Unidos y el Canadá.** En los Estados Unidos y el Canadá, la salmonelosis es el problema alimentario principal, y su incidencia anual es de 40 000 y 9 000 casos respectivamente. Los huevos se han convertido, desde hace 15 años, en el agente contaminante más importante. *E. coli* 0157:H7 está adquiriendo relevancia en ambos países, ya que se ha encontrado no solo en la carne seca, sino inclusive en vegetales, leche y jugos de fruta como el de manzana.

**América Latina.** Según el comunicado de prensa OMS/58 de agosto de 1999, el episodio de cólera que se registró en América Latina en 1991 afectó entre ese año y 1994 a 1 061 188 personas provocando 9 989 muertes en el conjunto de dicha región. Causó además pérdidas económicas cuantiosas: en Perú, en 1991, se estimaron en 700 millones de dólares las pérdidas debidas a las menores exportaciones de productos pesqueros; pero hay que considerar también la reducción en productividad, el menor número de personas provenientes del extranjero que visitaron ese país y la consiguiente merma de los ingresos derivados del turismo, así como otras pérdidas ocasionadas por la destrucción de alimentos y demás productos contaminados.

## PRINCIPALES PROBLEMAS

Según el Informe anual de 1997 de la Organización Mundial de Comercio, el valor total del comercio mundial de alimentos fue, en 1996, de alrededor de 460 mil millones de dólares, cifra un 19 por ciento superior a la correspondiente a 1995 (OMC, 1997). En 1997, en las regiones de América del Norte, Asia y el Pacífico y América Latina se concentró el 47,1 por ciento de las exportaciones y el 39 por ciento de las importaciones de alimentos; en 1987, en cambio, las tres cuartas partes del comercio mundial de alimentos se habían realizado entre países desarrollados. Entre 1990 y 1996, las exportaciones de alimentos de los principales países exportadores (Estados Unidos y Canadá; Australia, China y Tailandia; Argentina y Brasil) de las tres regiones aumentaron en un promedio del 9 por ciento.

En Malasia, las exportaciones de frutas frescas y hortalizas aumentaron entre 1992 y 1996 en un 31 por ciento; y en México, en el mismo período, dichas exportaciones aumentaron en un 73 por ciento. En Chile, el incremento de las exportaciones de frutas frescas, frutas en conserva, jugos de frutas, hortalizas frescas y pescado fresco fue del 40 por ciento. En Brasil, el aumento de las exportaciones de jugos, frutas frescas, hortalizas y especias alcanzó el 28 por ciento. Un caso diferente es el de Tailandia, país cuyas exportaciones de hortalizas disminuyeron casi un 50 por ciento entre 1992 y 1995, aunque las exportaciones de los demás productos alimenticios registraron un crecimiento continuado.

Entre 1987 y 1992, los casos de infecciones por microorganismos provocadas por el consumo de alimentos contaminados fueron el 79 por ciento de los casos notificados. El Comité de Sanidad de los Alimentos del Congreso de los Estados Unidos ha manifestado, desde 1996, su preocupación por el aumento de estas enfermedades y señaló que los riesgos serán aún mayores en los próximos años.

Debido a una baja tasa de crecimiento demográfico, en los países desarrollados la población adulta tiende a aumentar. Hay en la actualidad 380 millones de personas de 65 o más años de edad, y se prevé que para el año 2020 el crecimiento de ese segmento de la población será del 82 por ciento, es decir que habrá 690 millones de personas de 65 o más años de edad (OMS, 1997a). En estos países se observará, en los próximos años, un cambio de hábitos de alimentación: se consumirán predominantemente frutas y hortalizas frescas.

Los contaminantes químicos y microbiológicos continúan estando presentes en los alimentos que son objeto de comercio internacional. A pesar de que no se cuenta con registros sistemáticos de las causas que originan la mayor parte de los rechazos de productos que no cumplen con las normas de calidad, el Estudio mundial sobre los mayores contaminantes que afectan el comercio internacional de alimentos, llevado a

cabo en 1990 por la FAO con el patrocinio del Gobierno de Finlandia, indica que los contaminantes más frecuentemente encontrados en los alimentos son los siguientes (Fein, Lin y Levy, 1995; OMS, 1998a):

- microorganismos como *Salmonella*, *Listeria* y *Shigella*; residuos de plaguicidas, fertilizantes y medicamentos veterinarios;
- contaminantes del ambiente como metales pesados e hidrocarburos;
- aditivos alimentarios como bióxido de azufre y colorantes, que pueden causar reacciones en individuos susceptibles;
- basuras y materias extrañas como pelos de roedores y fragmentos de insectos.

Estos tipos de contaminación son, en muchos casos, el resultado de problemas ambientales más generales de contaminación; de la falta de una infraestructura sanitaria y de una higiene adecuadas; de la carencia de buenas prácticas de manejo y cuidado de los alimentos; y del empleo de sistemas de riego, fertilización, recolección, transporte y almacenamiento que se traducen en altos riesgos para el consumidor. Con el propósito de proteger el valor de sus exportaciones y cuidar sus mercados, algunos países vigilan estrictamente la calidad de sus productos de exportación o establecen, a fin de evitar rechazos, acuerdos en virtud de los cuales los importadores ponen en práctica mecanismos de control de calidad.

Algunos países con una larga tradición de exportaciones agroalimentarias han establecido sistemas de control que comprenden leyes, reglamentos y normas rigurosos, y mecanismos de inspección, análisis y certificación externos mediante los cuales los propios productores velan por la calidad e inocuidad de sus productos, y aplican medidas correctivas que pueden llegar hasta la destrucción de las cosechas cuando se comprueba que no se han respetado las normas que regulan el empleo de sustancias químicas, o que los límites de aplicación de tales sustancias se han sobrepasado debido a malas prácticas de manejo.

En otros países existen sistemas de inspección y análisis obligatorios de todos los embarques de productos de exportación, aunque en muchas ocasiones no se presta la misma atención a los productos importados que a los productos que son producidos localmente para consumo interno. No se evita por consiguiente la exportación de productos destinados al mercado nacional que han recibido menores cuidados, o que los productos que ingresan al país puedan provocar daños o riesgos por estar contaminados.

Cuando se trata de identificar las fuentes de información sobre los rechazos y las retenciones de productos, se constata que la mayoría de los países están más preocupados por el

registro de sus exportaciones que por la calidad de sus importaciones; y que es difícil encontrar registros publicados de mercaderías rechazadas o los resultados de los análisis de los productos importados, debido a que se prefiere no dar a conocer estos datos.

Aun cuando la autoridad encargada de los controles sanitarios es la agencia nacional de salud o de agricultura, los mecanismos administrativos de control funcionan de modo tal que los certificados de conformidad son competencia del Ministerio de Aduanas, y que las mencionadas autoridades no conserven los protocolos sobre los resultados de los análisis de las muestras y los destinos finales de los lotes. Por esta razón, una información completa relativa a los intercambios internacionales de alimentos, los porcentajes reales de lotes rechazados debido al incumplimiento de las normas de calidad e inocuidad, el valor monetario de tales rechazos, los destinos finales de los productos en cuestión, y la frecuencia de las sanciones aplicadas, tanto durante los últimos años como la de las que puedan imponerse en el futuro, podrá difícilmente ser conocida con exactitud.

A pesar de que es sabido que las insuficiencias sanitarias de los alimentos son en la actualidad el mayor problema de salud pública, muchas autoridades que tienen bajo su responsabilidad el control de la calidad e inocuidad de los alimentos aún no comprenden claramente cuál es el impacto de este problema en el desarrollo económico y social.

#### INICIATIVAS DE ALGUNOS PAÍSES

En los últimos años diferentes países han planteado iniciativas nacionales o regionales para modernizar, reforzar o mejorar sus sistemas de control de calidad e inocuidad de los alimentos.

En 1990, Australia puso en marcha un programa de control de las importaciones de alimentos, confiando la responsabilidad de su aplicación al Servicio Australiano de Inspección y Cuarentena. En el pasado, esta labor era competencia del Programa de control de exportaciones de alimentos, pero ante la creciente preocupación de la comunidad por la calidad e inocuidad de los alimentos y el aumento en el mundo de episodios de enfermedades alimentarias, se decidió crear un servicio especializado.

En 1996, el Ministerio de Salud del Canadá estableció el Organismo Canadiense de Inspección de los Alimentos, que se especializa en problemas de nutrición y de inocuidad de los alimentos. También se propusieron diversas modificaciones a la legislación de los alimentos para hacer frente a los nuevos problemas de contaminación. El plan denominado «Nutrición para la salud» es una agenda para la acción que contiene dos principios claves:

- dar mayor claridad y ampliar la difusión del etiquetado de los productos alimenticios; e intensificar la educación

del público con el fin de fomentar prácticas de alimentación más saludables;

- asegurar que las políticas relativas a la producción y preparación de alimentos, a los nutrientes y a la comercialización promuevan una alimentación más sana.

El plan comprende cinco tipos de actuaciones:

- *Actualización de normas y regulaciones.* Evaluación de riesgos y de costos/beneficios teniendo en cuenta que los impactos de la aplicación de normas y regulaciones en la competitividad de las empresas deben ser mínimos, que su implementación sea factible y que los métodos de evaluación sean eficaces.
- *Evaluación de riesgos.* La evaluación de riesgos asociados al consumo de alimentos es una de las responsabilidades fundamentales del Ministerio de Salud del Canadá; se dará, por consiguiente, igual importancia a los estudios sobre los efectos positivos de las dietas y a la comunicación a los consumidores de los resultados de dichos estudios.
- *Vigilancia y supervisión.* El plan forma parte del Sistema integrado de salud pública, el cual incluye otros sectores interesados del Ministerio de Salud a nivel de los servicios federales, de las provincias y de los territorios. El plan está orientado a la vigilancia de la contaminación microbiológica por patógenos, a los alimentos alergénicos y a la resistencia a antibióticos.
- *Nutrición.* En este campo se incluyen estudios sobre el valor nutritivo de los alimentos, los riesgos asociados a las dietas y las enfermedades crónicas, y estudios sobre hábitos y prácticas de alimentación.
- *Investigación.* Los trabajos de investigación tienen como objeto los métodos inmunoquímicos de detección de alérgenos, los métodos de control de microorganismos y la evaluación de dietas potencialmente causantes de afecciones crónicas (el Canadá es pionero en las investigaciones sobre los alimentos diabetógenos).

Mediante este plan, el Canadá espera limitar el ingreso al país y el consumo de productos que ponen en riesgo la salud de la población, mejorar el sistema nacional de producción de alimentos, disminuir los rechazos de sus productos de exportación, ganar acceso a nuevos mercados y facilitar su propio comercio internacional de alimentos.

El 2 de octubre de 1997, el Presidente de los Estados Unidos hizo público un memorándum dirigido a los Secretarios de Salud y de Agricultura de ese país, cuyo objeto es una iniciativa relativa a la inocuidad de las frutas y hortalizas de producción nacional para consumo interno. La iniciativa se enmarca en un conjunto de acciones conocidas con el nombre de «De la granja a la mesa», que presentan un modelo de control y análisis integral del cultivo, producción,

fabricación, elaboración, manejo, transporte, almacenamiento, distribución y comercialización de los alimentos. Se pone de relieve el aumento de la ingesta de frutas y hortalizas en los Estados Unidos y los altos porcentajes de las importaciones: el 38 por ciento para las frutas y el 12 por ciento para las hortalizas en 1997; el documento también menciona las estrategias que orientan las relaciones comerciales tanto interiores como con otros países.

En el ámbito de la producción nacional, se propone trabajar durante un año en coordinación con los productores para formular directivas sobre buenas prácticas agrícolas, de manejo y de elaboración de productos a base de frutas y hortalizas; y formular una norma específica de inocuidad respecto a estos productos.

En el ámbito de la reglamentación de las importaciones, se contempla aumentar considerablemente el presupuesto de la Administración de Alimentos y Medicamentos (FDA), y poner en vigor una nueva legislación que amplía las facultades de inspección de este organismo autorizándolo incluso a impedir la importación de productos provenientes de países cuyos sistemas de control de calidad e inocuidad no ofrecen el mismo nivel de protección que el que se aplica a los productos producidos en los Estados Unidos, o que no cumplan con la legislación estadounidense. La Protección del Ambiente y el Departamento del Trabajo deberán mantener estrechas relaciones para implementar estas medidas. La iniciativa también comprende actividades de educación, investigación y vigilancia de los riesgos para la salud, así como la actualización de otras legislaciones y sistemas de inspección y control que no se habían modificado en 90 años.

Estas disposiciones harán que muchos productos que actualmente se venden en los Estados Unidos sean sometidos a un control más estricto a su ingreso en el país, y que aumenten los rechazos de mercaderías. Por su parte, los países interesados en exportar a los Estados Unidos harán inversiones mayores para evitar que sus productos sean eliminados de ese mercado. Sin embargo, algunos productores no estarán en condiciones de cumplir con los requisitos contenidos en la iniciativa, y buscarán otros mercados cuyas exigencias no sean tan estrictas. En todo caso, es de prever que las mencionadas reglamentaciones tengan un efecto importante en el mercado mundial de alimentos.

El Acuerdo de reconocimiento mutuo sobre la evaluación de la conformidad de alimentos y productos alimenticios entre los países de la Cooperación Económica para Asia y el Pacífico es un mecanismo voluntario diseñado para facilitar el comercio entre los países de esa región que reduce al mínimo los controles de inspección de alimentos en los puntos de entrada de las importaciones, sobre la base de las seguridades que proporciona una evaluación y certificación de



conformidad previa a la exportación, otorgada a través de los sistemas de inspección y certificación oficiales u oficialmente reconocidos en el país exportador.

El acuerdo está estructurado en dos niveles. Un primer nivel general comprende todos los sectores y productos como un sistema de referencia, y persigue estimular la confianza entre los países mediante una más estrecha cooperación técnica. Un segundo nivel comprende acuerdos sectoriales específicos para determinados productos o sectores de la producción.

El acuerdo se sustenta en el respeto de la soberanía de los países, que conservan la facultad de revisar en sus respectivos mercados los productos importados y eventualmente proceder a su detención si se encuentran violaciones a los términos de las certificaciones expedidas. Los términos del acuerdo están en concordancia con los compromisos, derechos y responsabilidades de los acuerdos de la Ronda Uruguay, y todas las referencias técnicas y normativas se basan en los textos del Codex Alimentarius, al que se reconoce como foro adecuado para la discusión e integración de normas internacionales de alimentos.

El acuerdo incluye también un apartado sobre intercambio de información que menciona las condiciones de las obligaciones de notificación de la Organización Mundial de Comercio para las nuevas normas y regulaciones, y el uso de los procedimientos de intercambio de información en situaciones de emergencia de alimentos, establecidos por el Comité del Codex Alimentarius en 1995 a través del Sistema de inspección y certificación de importaciones y exportaciones.

En los últimos años, en países de América Latina, Asia y el Pacífico, se han llevado a cabo diversas labores de modernización y fortalecimiento de los sistemas de control de calidad e inocuidad de alimentos que han tomado en cuenta el carácter de exportadores agropecuarios tradicionales a mercados de reconocida exigencia de muchos de los países de estas regiones. Los nuevos enfoques buscan sobre todo un fundamento común de apoyo técnico en las guías y procedimientos del Codex Alimentarius, que facilitan los intercambios comerciales sobre la base de la armonización, la mutua confianza y el reconocimiento de las realidades y necesidades técnicas y estructurales de los países.

## CONCLUSIONES

Los problemas relacionados con la protección del consumidor, la facilitación del comercio y la calidad e inocuidad de los alimentos son importantes y no pueden ser soslayados. Su solución debe ser obra de todos los interesados: productores, exportadores, comerciantes, consumidores, universidades y centros de investigación, así como de la cooperación entre los

países. Es necesario contar con normas internacionalmente aceptadas que definan claramente las bases sobre las cuales se negocian equitativamente las transacciones comerciales, y que aseguren condiciones suficientes para la protección de la salud de los consumidores, en cualquier mercado en que se adquieran los productos. Para alcanzar este objetivo se deben considerar tanto las características de los productos y el proceso de producción, como los hábitos y prácticas de los consumidores.

Es necesario mejorar los sistemas de vigilancia y supervisión con mecanismos adecuados a las necesidades y recursos de que se dispone en cada país, con el fin de apoyar la modernización y transformación de la producción y comercialización. Se ha de promover una mayor participación en las acciones de cooperación técnica entre los países, con la ayuda de organizaciones internacionales como la FAO que apoyan y llevan a cabo acciones para facilitar una transferencia tecnológica que se adecua a las realidades y necesidades de cada región.

Los consumidores han de conocer los cuidados que requieren los alimentos y los riesgos que para la salud representan ciertos hábitos y costumbres alimentarios. Se debe promover sobre todo su participación con las autoridades en las tareas de normalización y vigilancia de la calidad e inocuidad de los alimentos.

Finalmente, la presión comercial de un mercado no deberá sea utilizada para poner barreras técnicas que impidan el libre intercambio de los productos. Es necesaria una mayor participación de los socios comerciales y las autoridades, y el fortalecimiento de los mecanismos de consenso en el ámbito del Codex Alimentarius, a fin de que las soluciones que se plantean en los documentos técnicos y las normas sean aceptadas y aplicadas por todos y no se apoyen en la defensa de intereses económicos o de mercado.

## RECOMENDACIONES

Con el objeto de atenuar los problemas relacionados con la calidad e inocuidad de los alimentos en el comercio nacional e internacional, se recomienda a los países:

- apoyar mayormente las acciones de control de calidad e inocuidad de los alimentos desde la etapa inicial de producción, con hincapié en determinados productos de exportación que son frecuentemente rechazados;
- fortalecer, en el ámbito nacional, los sistemas de control de calidad e inocuidad de los alimentos, conformándose a las guías, documentos técnicos y normas del Codex Alimentarius;
- intensificar los programas de promoción y difusión de las actividades de los comités nacionales del Codex Alimentarius, con el fin facilitar la adopción de las



recomendaciones de dicha entidad por todos los sectores interesados;

- participar en los programas de apoyo técnico regionales, tanto para homologar prácticas como para desarrollar estrategias conjuntas destinadas a enfrentar contingencias (por ejemplo, mediante la cooperación técnica entre países en desarrollo);
- intensificar su participación en los trabajos del Codex Alimentarius, con el fin de incorporar en las agendas de los comités del Codex sus propias prioridades y necesidades;
- reforzar los sistemas de notificación de situaciones de emergencia alimentaria, de acuerdo con las propuestas aprobadas por el Codex Alimentarius. ♦

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**Problemas relativos a la calidad e inocuidad de los alimentos y su repercusión en el comercio**

La presencia constante en los mercados mundiales de productos de mala calidad y contaminados, y el consiguiente aumento de los rechazos de dichos productos, se traduce en graves daños para el desarrollo económico de los países. La contaminación de los alimentos es, en muchos casos, el resultado de problemas ambientales más generales de contaminación; de la falta de una infraestructura sanitaria y de una higiene adecuadas; de la ausencia de buenas prácticas de manejo y cuidado de los alimentos; y del empleo de sistemas de riego, fertilización, recolección, transporte y almacenamiento que se traducen en altos riesgos para el consumidor.

La mayor severidad de las normas y el aumento de las acciones de inspección indican que la situación de los productos alimenticios, tanto en los mercados nacionales como en los internacionales, debe ser objeto de esfuerzos sostenidos para lograr que todos los países cuenten con sistemas efectivos de control de calidad e inocuidad. Es preciso que se establezcan acuerdos de reconocimiento mutuo y de homologación en beneficio de un intercambio comercial más fácil de productos cuyo consumo dé mayores garantías de seguridad.

Con el objeto de atenuar los problemas relacionados con la calidad e inocuidad de los alimentos en el comercio nacional e internacional, se recomienda que los países den mayor apoyo a las acciones de control a lo largo de la cadena de producción, desde la etapa inicial hasta el consumo; que refuercen, sobre la base de una evaluación de los riesgos, los controles de los productos de importación; que los sistemas de control se ajusten a las disposiciones contenidas en las guías, documentos técnicos y normas del Codex Alimentarius; que se promueva la difusión de las actividades de los comités nacionales del Codex Alimentarius con el fin de facilitar la adopción de las recomendaciones de esta entidad, y que para ello se estimule la participación de todos los sectores interesados; que los países participen en los programas de apoyo técnico regionales, tanto para homologar las prácticas de intercambio comercial como para desarrollar estrategias conjuntas destinadas a enfrentar contingencias; y que se refuercen los sistemas de información de situaciones de emergencia alimentaria de acuerdo con las propuestas aprobadas por la Comisión del Codex Alimentarius.

**Food quality and safety problems and their effects on trade**

The continuing existence of contaminated, substandard and unsafe food, and the more frequent rejection of food products on world markets could seriously jeopardize national economic development. In many cases, the problem arises from more general environmental inadequacies such as pollution, lack of sanitary infrastructure, absence of a tradition of hygiene and good food handling and management practices, and the use of systems of irrigation, fertilization, harvesting, transport and storage that carry high risks to food products.

The tightening of regulations and the increase in inspections indicate a national and international food market situation that calls for a greater effort if all countries are to have effective food quality and safety control systems, which would facilitate recognition and mutual equivalence agreements and, thus, benefit trade.

To mitigate emerging problems in national and international trade, countries should step up their control of food quality and safety throughout the production chain, from source to consumer. They should reinforce their control programmes of import products through risk assessment; strengthen their systems of food control at the national level, using Codex Alimentarius guidelines, technical documents and regulations; increase their programmes to promote their National Codex Committees so that their activities are more widely known and their recommendations are more easily adopted, and so that all associated sectors are involved; participate in technical support programmes in their region in order to standardize practices and develop collective strategies to deal with contingencies; and establish or reinforce emergency food situation information systems in accordance with proposals adopted by the Codex Alimentarius Commission.

**Problèmes relatifs à la qualité et à l'innocuité des aliments et leurs répercussions sur le commerce**

L'existence d'aliments contaminés, de mauvaise qualité et non salubres, et l'augmentation des rejets de produits sur les marchés mondiaux risquent, si ces problèmes persistent, de compromettre sérieusement le développement économique des pays. Dans de nombreux cas, cette situation résulte de problèmes plus généraux comme la pollution de l'environnement, le manque d'infrastructures sanitaires, l'absence d'une culture de l'hygiène et de bonnes pratiques de manutention et de conservation des aliments, l'utilisation de systèmes d'irrigation, de fertilisation, de collecte, de transport et d'entreposage qui créent des risques élevés pour ces produits, etc.

Le durcissement des normes et l'augmentation des mesures d'inspection montrent bien que la situation des produits sur les marchés tant nationaux qu'internationaux justifie des mesures énergiques pour que tous les pays disposent de systèmes efficaces de contrôle de la qualité et de la salubrité des aliments, ce qui permettrait de conclure des accords de reconnaissance et d'équivalence mutuelle, et donc de faciliter les échanges commerciaux.

Afin d'atténuer les problèmes émergents liés à la qualité et à la salubrité des produits alimentaires entrant dans le commerce national et international, il est proposé que les pays intensifient leur appui aux mesures de suivi des problèmes de qualité et de salubrité de ces produits tout au long de la chaîne de production, depuis le point de production jusqu'à la consommation. Il est souhaitable qu'ils renforcent les programmes de contrôle des produits importés sur la base de l'évaluation des risques; qu'ils renforcent les systèmes de contrôle de la qualité et de la salubrité des aliments au niveau national en utilisant les directives, documents techniques et normes du Codex Alimentarius; qu'ils intensifient les programmes de promotion et de diffusion des activités des Comités nationaux du Codex, afin d'élargir leurs connaissances, de faciliter l'adoption des recommandations et de favoriser la participation de tous les secteurs intéressés; qu'ils participent aux programmes d'appui technique dans la région pour homologuer leurs pratiques et développer des stratégies conjointes pour faire face aux situations d'urgence; et qu'ils créent ou qu'ils renforcent les systèmes d'information sur les situations d'urgence alimentaire, conformément à la proposition déjà approuvée au sein de la Commission du Codex Alimentarius. ♦

# Aperçus nutritionnels par pays de la FAO: le Niger

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La Division de l'alimentation et de la nutrition de la FAO reçoit de fréquentes demandes d'information qui résument la situation alimentaire et nutritionnelle dans les pays en développement. Depuis leur parution, ces Aperçus nutritionnels par pays (ANP) préparés par la division sont très demandés par des organisations internationales et non gouvernementales, des universités, des institutions de recherche et des particuliers. En fait, il existe un intérêt croissant pour les systèmes d'information sur le suivi de la situation alimentaire et nutritionnelle. Le Sommet mondial de l'alimentation en 1996 a encore renforcé cet intérêt. Le besoin d'information récente et standardisée augmente chez les utilisateurs, qui sont de plus en plus nombreux, ayant un accès direct aux réseaux informatisés internationaux. Les ANP sont un outil qui permet de connaître et de suivre les progrès réalisés dans les pays pour atteindre la sécurité alimentaire et le bien-être nutritionnel.

## CARACTÉRISTIQUES

L'objectif des ANP est de fournir des résumés analytiques concis qui décrivent la situation alimentaire et nutritionnelle par pays avec des statistiques de base sur les facteurs liés à l'alimentation. L'information est présentée de la façon la plus simple possible et insiste sur les tendances et les différences au niveau sous-national lorsque celles-ci sont disponibles.

Les ANP présentent des données statistiques comparables et cohérentes selon un format standard. Ce format prédéfini présente un jeu établi de graphiques, de tableaux et de cartes accompagnés d'un texte simple.

### Présentation générale

- géographie
- population
- niveau de développement: pauvreté, éducation et santé
- production agricole, utilisation des sols et sécurité alimentaire
- économie

### Situation alimentaire et nutritionnelle

- évolution des besoins et des disponibilités en énergie
- évolution des disponibilités alimentaires

- consommation alimentaire
- données anthropométriques
- carences en micronutriments

Les ANP présentent les résultats récents les plus importants ainsi que les problèmes existants en essayant d'identifier au mieux les zones nutritionnellement désavantagées du pays.

## RÉALISATION DES APERÇUS NUTRITIONNELS PAR PAYS

- Pour présenter une information standardisée et régulièrement mise à jour, la première épreuve de l'aperçu est réalisée selon un processus en partie automatisé à partir des banques de données que l'on peut consulter au siège de la FAO.
- Les données concernant la production agricole, le commerce et les disponibilités alimentaires proviennent de FAOSTAT, la banque de données du Centre mondial d'information agricole de la FAO (WAICENT) (<http://apps.fao.org>).
- La première épreuve de l'aperçu est ensuite revue et complétée par un correspondant du pays ou par une institution nationale. C'est une des étapes essentielles de la confection des aperçus car elle permet dans un premier temps d'obtenir une information qui est difficile à trouver (telle que les rapports d'enquête non publiés), parce qu'elle facilite ensuite le processus ultérieur de mise à jour. Il arrive cependant que pour certains pays les aperçus soient entièrement préparés au siège de la FAO.
- La collaboration avec les institutions nationales pour préparer les aperçus permet d'établir des liens avec l'établissement du Système d'information et de cartographie sur l'insécurité alimentaire et la vulnérabilité de la FAO (SICIAV) mis en place après le Sommet mondial de l'alimentation.
- Cette activité aidera non seulement les institutions nationales à identifier les données manquantes des bases d'information et à générer les données nécessaires au niveau subnational, mais elle les encouragera aussi à promouvoir l'utilisation des informations qui existent à des fins de planification.
- Le format des ANP permet une actualisation permanente des données.

## UNE PRÉSENTATION NOUVELLE DES APERÇUS NUTRITIONNELS PAR PAYS

- Depuis 1986, le Service de la planification, de l'analyse et de l'évaluation nutritionnelles (ESNA) de la Division de l'alimentation et de la nutrition a préparé les ANP de 116 pays. La disponibilité d'information nouvelle due à l'évolution rapide des technologies informatiques a conduit ESNA à développer une nouvelle présentation de ces ANP: ils donnent l'information essentielle à partir d'un texte accompagné de tableaux, de graphiques, de diagrammes circulaires, d'histogrammes et de cartes. Le lecteur dispose ainsi d'un aperçu rapide des principales caractéristiques de la situation alimentaire et nutritionnelle du pays.
- La cartographie nutritionnelle est un nouvel élément des ANP qui présente de façon attractive la situation alimentaire et nutritionnelle des pays. Elle permet de combiner des informations nutritionnelles, telles que le statut anthropométrique et les carences en micronutriments des populations, avec les informations d'autres secteurs expliquant cette situation, comme la pauvreté, l'état de santé, l'hygiène alimentaire, l'éducation, donnant ainsi une vue d'ensemble de la distribution géographique des groupes vulnérables au niveau sous-national. L'information présentée sur les ressources alimentaires, associée à l'analyse de la relation existant entre la consommation alimentaire et l'état nutritionnel des populations dans les différentes zones, facilitera l'établissement des politiques à mettre en oeuvre. Elle devrait aussi permettre de faire face aux problèmes les plus importants et de surveiller les activités mises en place pour réduire la gravité de ces problèmes.
- Le mode de préparation des ANP est facilité par l'établissement conjoint d'une banque de données sur la nutrition et de systèmes de suivi sur la nutrition au niveau subnational.
- Les ANP sont distribués par le service d'analyse et de planification de la Division de l'alimentation et de la nutrition et progressivement sur les sites WEB FAO régionaux afin de permettre un accès direct par Internet. De même, des contacts sont établis avec un pays lorsque ce dernier estime qu'il est important de diffuser sur Internet certaines informations complémentaires.

Ci-après figure à titre d'exemple la partie de l'ANP du Niger portant sur la situation alimentaire et nutritionnelle de ce pays, accompagnée du tableau 2 fournissant les statistiques générales du pays.

## LA SITUATION ALIMENTAIRE ET NUTRITIONNELLE DU NIGER

### Évolution des besoins et des disponibilités en énergie.

L'effectif total de la population du Niger a augmenté de plus de deux fois et demie entre 1965 et 1995 et on pense qu'il augmentera également d'ici l'an 2025 (tableau 1). La croissance de ses besoins énergétiques, qui suit les mêmes tendances, concerne en fait surtout le milieu rural. En effet, contrairement aux pays sahéliens voisins, on estime que la proportion de la population rurale du Niger augmentera plus que la population urbaine dans les années à venir.

De 1965 à 1995, les disponibilités alimentaires exprimées en énergie (DEA) ont considérablement augmenté et sont passées de 1 840 à plus de 2 140 kcal par personne et par jour. Par contre, les besoins énergétiques moyens par personne et par jour ont sensiblement baissé au cours de la même période (tableau 1). La satisfaction des besoins énergétiques s'est donc améliorée au cours de ces 30 dernières années, notamment si la distribution de ces disponibilités est restée identique ou est devenue plus égalitaire. La FAO estimait que 37 pour cent de la population était encore sous-alimentée en 1990-1992 alors que ce pourcentage était de 48 pour cent en 1969-1971 (FAO/SMA, 1996).

De 1965 à 1995, l'augmentation des besoins énergétiques de la population totale a été de 146 pour cent alors que celle des disponibilités a été de plus de 191 pour cent. En dehors des bonnes années de récolte, les tendances des Disponibilités énergétiques alimentaires (DEA) ont été cependant inférieures à celles des besoins de la population nigérienne. La satisfaction des besoins énergétiques au cours de la période 1995-2025 continuera à imposer au pays des efforts importants: l'accroissement total prévu des besoins de la population atteint plus de 150 pour cent, ce qui représente un taux d'accroissement annuel de 3,1 pour cent.

Au Niger, au cours des 30 dernières années, les DEA par personne et par jour ont relativement peu évolué

**TABLEAU 1**  
Population totale, taux d'urbanisation, besoins énergétiques et disponibilités énergétiques alimentaires (DEA) par personne et par jour en 1965, 1995 et 2025.

Année	1965	1995	2025
Population totale (milliers)	3 660	9 151	22 385
Taux d'urbanisation (%)	6,8	18,2	35,6
Besoins énergétiques par personne (kcal/jour) <sup>a</sup>	2 142	2 107	2 165
DEA par personne (kcal/jour) <sup>a</sup>	1 840	2 140	—

<sup>a</sup>Moyenne calculée sur trois ans pour 1964-1966 et 1993-1995.

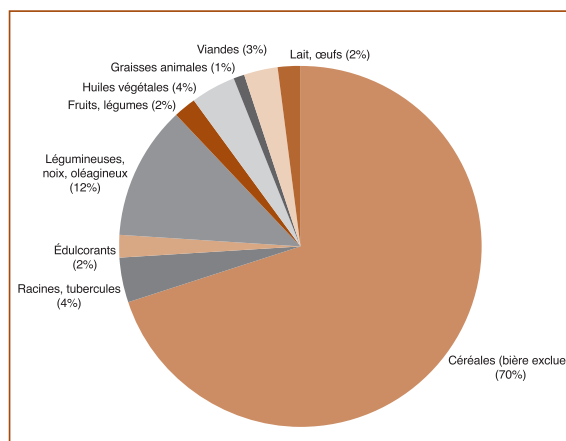
Source: FAOSTAT.



**TABEAU 2**  
**Statistiques générales du Niger**

Indicateur (§)	Année	Unité de mesure	Niger
<b>A. Terres à usage agricole</b>			
1. Terres agricoles	1995	ha par habitant	1,633
2. Terres arables et cultures permanentes	1995	ha par habitant	0,546
<b>B. Cheptel</b>			
1. Bovins	1993-1995	milliers	1 951
2. Ovins/caprins	1993-1995	milliers	9 218
3. Porcins	1993-1995	milliers	39
4. Volaille	1993-1995	millions	20
<b>C. Population</b>			
1. Population totale	1996	milliers	9 465
2. 0-5 ans	1996	% population totale	23,8
3. 6-17 ans	1996	% population totale	31,1
4. 18-59 ans	1996	% population totale	41,1
5. >=60 ans	1996	% population totale	4,0
6. Population rurale	1996	% population totale	81,8
7. Taux de croissance, total	1995-2000	% population totale	3,3
8. Taux de croissance, rural	1995-2000	% population rurale	2,7
9. Projection population totale en 2025	2025	milliers	22 385
10. Population agricole	1995	% population totale	89,4
11. Densité de la population	1995	par km <sup>2</sup>	7,2
<b>D. Niveau de développement</b>			
1. PIB par habitant, méthode Atlas	1995	\$ EU courants	220
2. Indice de développement humain	1994	min.[0] – max.[1]	0,206
3. Incidence de pauvreté, total	1991	% de la population rurale	28
4. Incidence de pauvreté, rurale	...	% de la population	...
5. Espérance de vie à la naissance	1994	années	47,1
6. Mortalité infanto-juvénile	1995	par 1 000 naissances	320
<b>E. Commerce produits alimentaires</b>			
1. Importations alimentaires	1993-1995	% importations totales	19,4
2. Exportations alimentaires	1993-1995	% exportations totales	16,0
3. Aide alimentaire en céréales	1993-1995	% importations céréalières	28,5
<b>F. Indice de production alimentaire</b>			
1. Indice total de production	1993-1995	1989-91=100	118,3
2. Indice de production par personne	1993-1995	1989-91=100	103,5
<b>G. Disponibilités alimentaires</b>			
1. <b>Disponibilités énergétiques alimentaires (DEA)</b>	1993-1995	kcal/personne/jour	<b>2 140</b>
2. <b>Protéines</b>	1993-1995	g/personne/jour	<b>62</b>
% provenant de:			
3. Produits végétaux	1993-1995	% protéines	85,8
4. Produits animaux	1993-1995	% protéines	14,2
5. <b>Apport énergétique des:</b>			
6. Protéines	1993-1995	% DEA	11,8
7. Lipides	1993-1995	% DEA	12,2
<b>H. Insuffisance alimentaire</b>			
1. Effectif de personnes sous-alimentées	1990-1995	millions	2,9
2. Pourcentage de sous-alimentés	1990-1995	% du total	37

**Pourcentage de l'énergie  
provenant des principaux  
groupes d'aliments**



... = données non disponibles. § = cf. références pour les sources de données employées. Les notes techniques relatives aux définitions sont disponibles sur demande auprès de la FAO.

contrairement à d'autres pays du Sahel comme le Mali et le Burkina Faso où l'impact des cycles répétés de sécheresse et de famine a été plus marqué. Les DEA ont augmenté de 16 pour cent depuis les années 1964-1966, mais demeurent toujours assez faibles: autour des 2 100 kcal par personne et par jour (figure 1). La structure de l'apport énergétique a relativement peu évolué au cours de cette période. La constance de l'apport en lipides (13 pour cent des DEA) n'évolue pas vers une amélioration. Une meilleure compréhension de ces tendances peut être obtenue à partir d'une analyse plus approfondie des disponibilités au niveau des principaux groupes alimentaires.

#### Évolution des disponibilités alimentaires

*Quantités.* Les céréales constituent la base de l'alimentation au Niger (figure 2). En dehors des chutes de production céréalière liées aux périodes de sécheresse, leurs disponibilités sont en moyenne de l'ordre de 210-220 kg par personne et par an. Parmi les autres groupes d'aliments, on note une baisse relativement importante (50 pour cent) des produits laitiers ainsi que des racines et des tubercules, tandis que les légumineuses et les légumes ont augmenté.

*Énergie.* Les céréales fournissent plus de 70 pour cent de l'énergie (figure 3). On observe en outre que les légumineuses et les oléagineux ont doublé dans leur apport énergétique: ils sont passés de 7 pour cent à 14 pour cent entre 1964-1966 et 1979-1981 et atteignent, à la suite des mauvaises récoltes de 1984-1985, 12 pour cent en 1993-1995. Les huiles végétales ont également doublé, bien qu'elles ne représentent que 4 pour cent des DEA. Parmi les groupes qui ont fortement diminué, on trouve les racines et les tubercules et, de façon plus significative, les produits animaux comme la viande et les produits laitiers. Ces changements se sont traduits par une augmentation sensible de la part des produits végétaux dans l'énergie totale (90 pour cent en 1964-1966 contre 95 pour cent en 1993-1995), et en particulier dans leurs apports en lipides et en protéines (les protéines d'origine végétale sont passées de 74 pour cent à 86 pour cent du total sur la même période).

#### *Principales importations et exportations alimentaires.*

Contrairement à la constance relative des DEA, ces 30 dernières années, au Niger, la proportion concernant les importations alimentaires n'a cessé d'augmenter au cours de cette même période (figure 4). Elles sont passées de 10 pour cent à 20 pour cent de l'énergie entre 1964-1966 et 1993-1995. Lors des sécheresses des années 1974 et 1985, celles-ci atteignent près de 27 pour cent de l'énergie disponible, et plus de la moitié provenait de l'aide alimentaire. Parmi les produits importés, les céréales (notamment le blé et le riz) sont au premier rang, suivies des huiles végétales et des sucres.

Les exportations de produits alimentaires ont connu une évolution opposée à celle des importations (figure 5). L'arachide et les produits dérivés, qui jusqu'en 1973 occupaient une place fondamentale dans le commerce extérieur, ont par la suite diminué en raison des sécheresses et de la non-incidentation des pouvoirs publics à la culture de l'arachide (MFP, 1991).

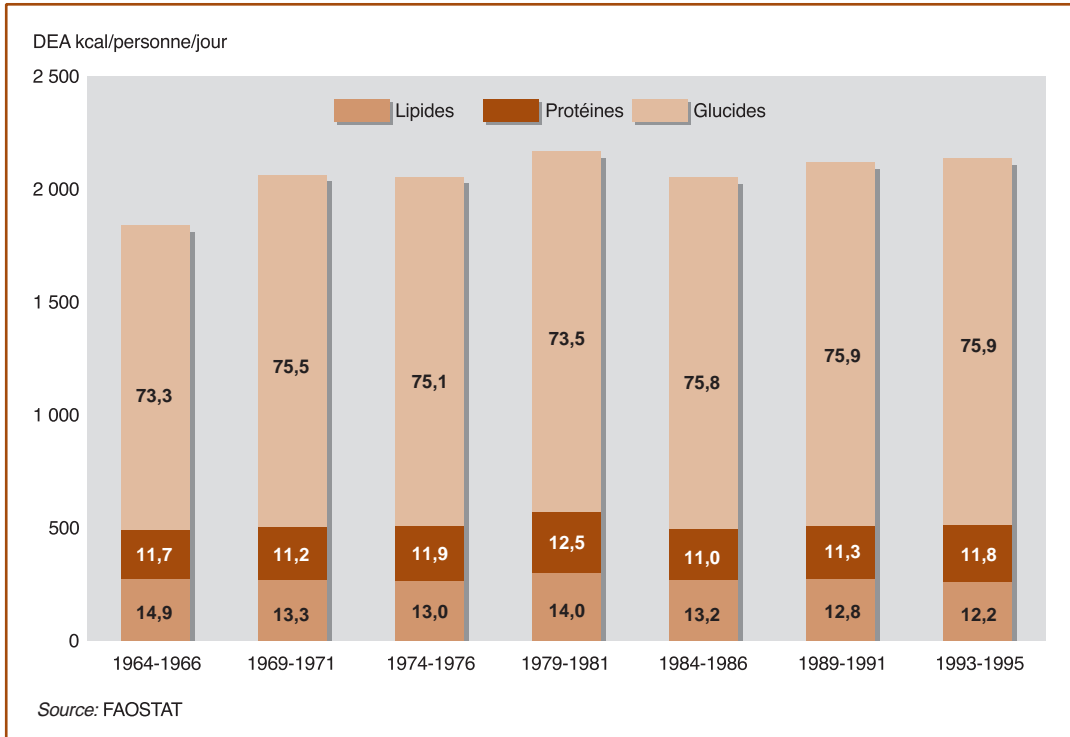
#### Consommation alimentaire

Les données de consommation alimentaire proviennent de l'enquête Budget et consommation effectuée en 1989-1990 pour la phase urbaine et en 1992-1993 pour la phase rurale. Les analyses de cette enquête ont été publiées dans trois rapports (EBC, 1994; FAO, 1995a; FAO 1995b). Le rapport FAO (1995a) offre l'analyse la plus complète au plan de la consommation alimentaire et des apports nutritionnels. Les divergences qui ont éventuellement été constatées peuvent s'expliquer par le fait que les groupes d'aliments y étaient classés différemment par rapport aux données publiées précédemment.

Les céréales traditionnelles, le mil et le sorgho, constituent la base du régime alimentaire des Nigériens et apportent l'essentiel de l'énergie (près des trois quarts) et des protéines (figure 6). Les légumineuses et/ou les oléagineux sont surtout utilisés pour la préparation des sauces. Les fruits et les légumes sont consommés exclusivement de façon saisonnière. La consommation de viande intéresse principalement les villes, et celle du poisson n'est significative qu'autour du fleuve Niger, du lac Tchad et des rivières. Le lait et le sucre sont consommés de manière variable en fonction des habitudes alimentaires, de la disponibilité de ces denrées et des revenus des consommateurs. L'huile n'est consommée en quantité importante qu'en milieu urbain. Les structures de consommation alimentaire diffèrent néanmoins considérablement selon le milieu de résidence et les ethnies.

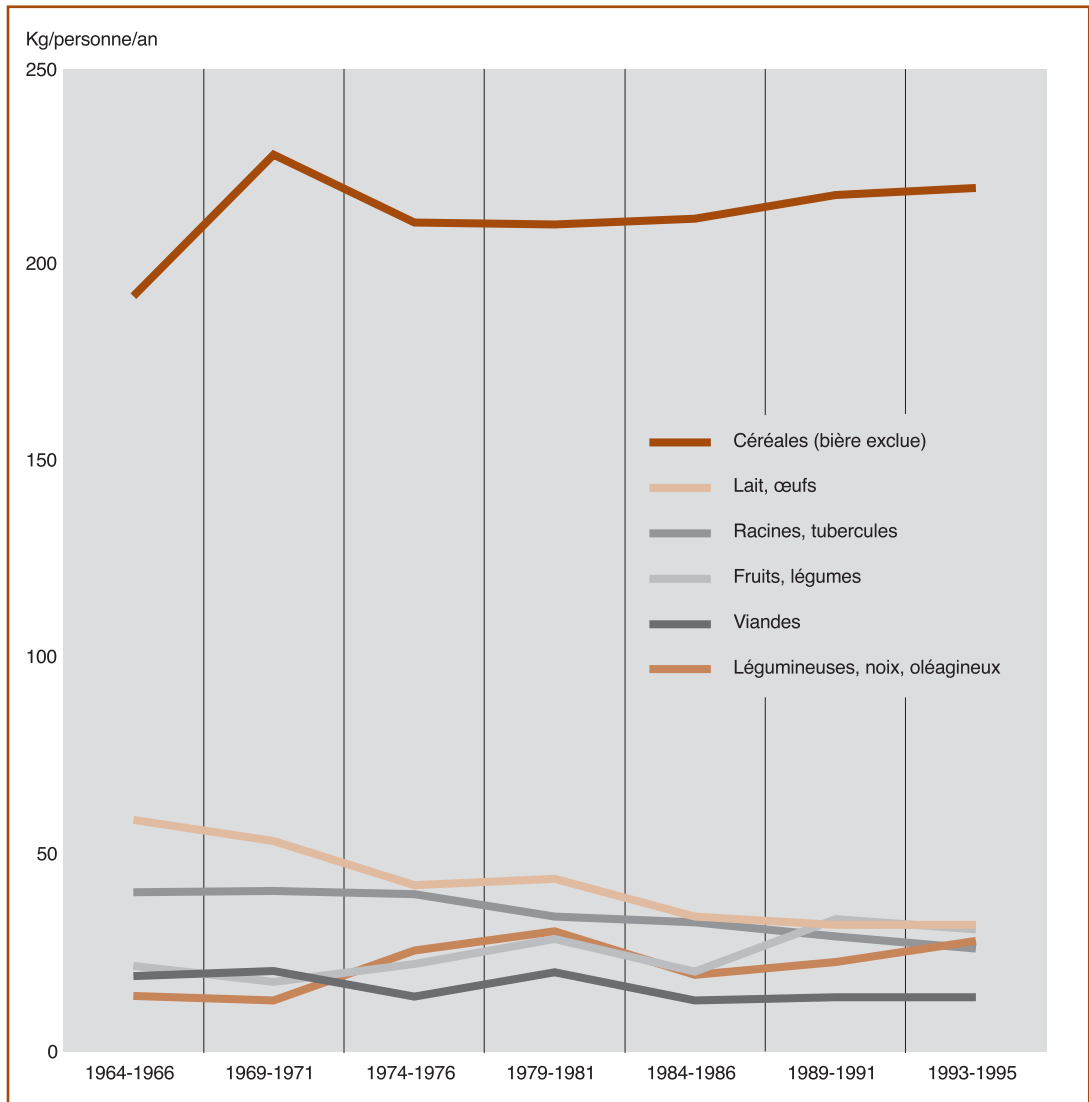
Les résultats de l'enquête EBC laissent apparaître des apports énergétiques journaliers de l'ordre de 2 400 kcal par personne chez les urbains et de plus de 3 000 kcal par personne chez les ruraux (tableau 3). Ces chiffres semblent être dans l'ensemble relativement élevés, notamment en ce qui concerne le milieu rural. Il faut toutefois signaler que ce type d'enquête budget-consommation estime les données de consommation à partir de la dépense alimentaire des ménages et que celles-ci ne sont pas aussi représentatives et complètes que celles que l'on obtient par la pesée des aliments effectivement consommés par les membres d'un ménage.

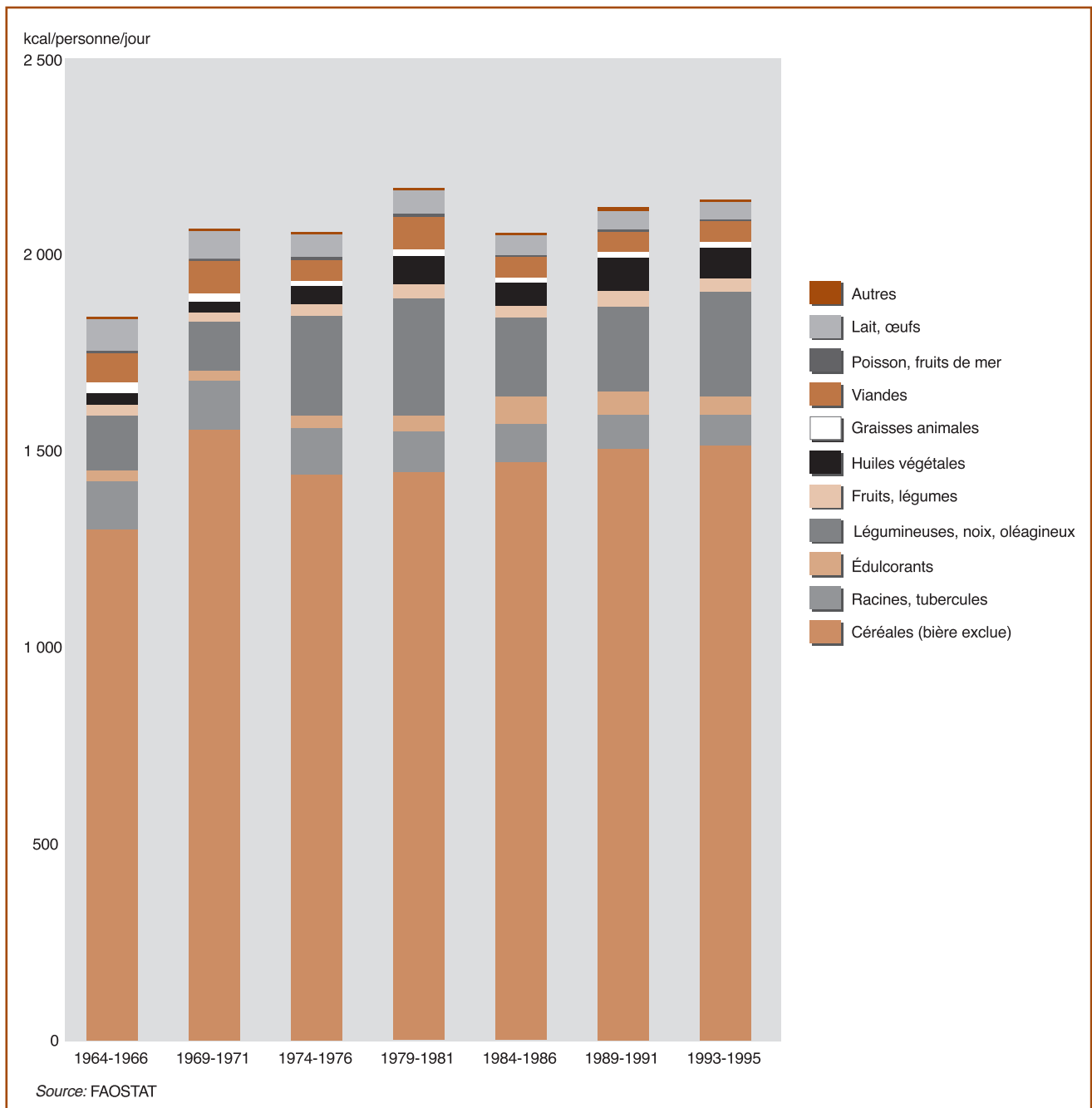
Chez les ruraux sédentaires du sud, les habitudes alimentaires sont influencées par les modèles de production et le régime alimentaire (mil et niébé) est basé sur une agriculture de subsistance. Les quantités consommées subissent des variations considérables en fonction des conditions



**1**  
*Évolution des disponibilités énergétiques alimentaires et pourcentage provenant des protéines, lipides et glucides*

**2**  
*Disponibilités des principaux groupes d'aliments (en kg/personne/an)  
Évolution de 1964-1966 à 1993-1995*





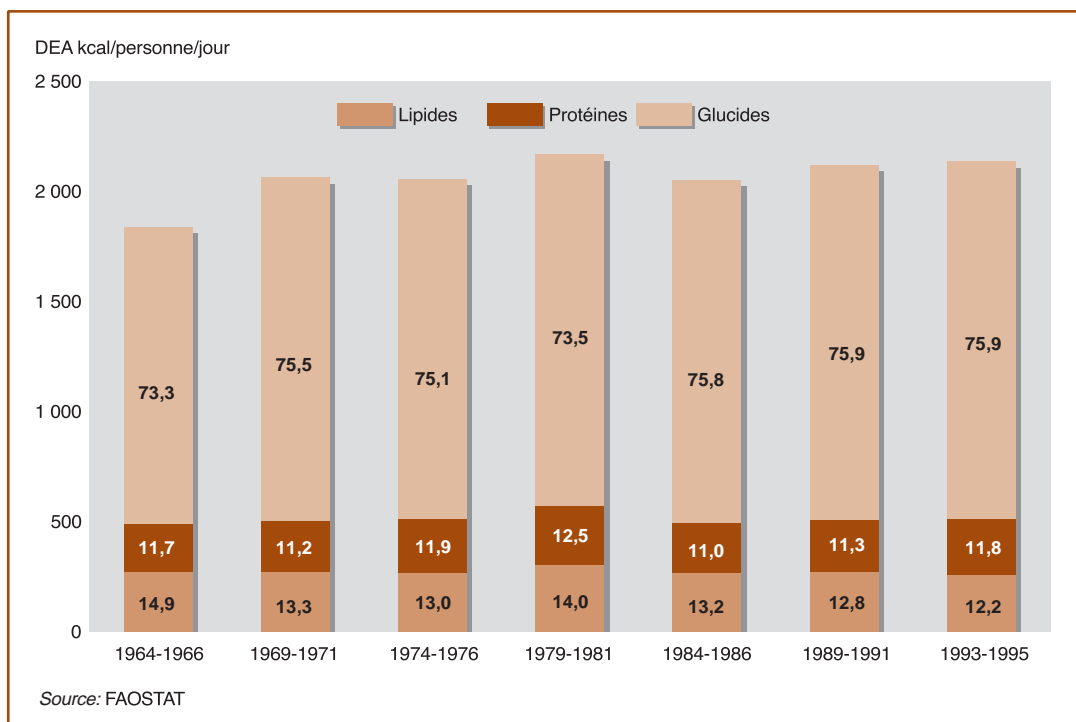
### 3 Disponibilités énergétiques des principaux aliments Évolution de 1964-1966 à 1993-1995

agroclimatiques. On peut observer dans certains cas des restrictions volontaires dans les quantités consommées lors de la période de transition entre celle de l'abondance (récolte) et celle de la soudure. Pour les départements comme Agadez, qui sont déficitaires à plus de 90 pour cent sur le plan céréalier, le modèle de consommation dépend fondamentalement du marché et des conditions d'accès aux denrées alimentaires.

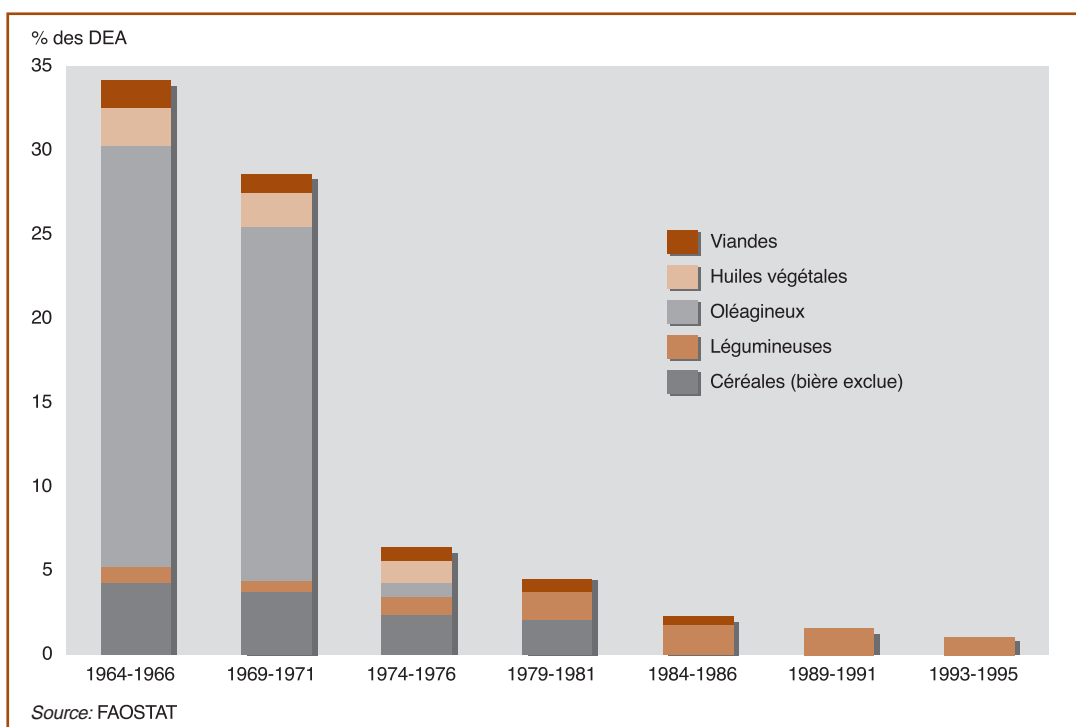
L'alimentation des éleveurs nomades touaregs et peuls est à base de lait et de mil. Leur consommation respective varie

selon la saison: on consomme surtout le premier lorsque la saison est humide et le second au cours de la saison sèche. Il est important de remarquer qu'à la suite des sécheresses de 1972-1975 et 1984-1985, de nombreux nomades se sont sédentarisés et ont adopté le mode alimentaire des ruraux sédentaires.

En milieu urbain, et plus particulièrement à Niamey, le modèle de consommation alimentaire s'est fortement modifié au cours des 20 dernières années (CILSS, 1991). La consommation du riz a connu une augmentation croissante. Elle est aujourd'hui estimée à 40 kg par personne et par an (plus d'un tiers des céréales consommées à Niamey), alors qu'en milieu rural elle est de 5,6 kg. En outre, les repas pris



4  
Pourcentage  
des importations  
dans les disponibilités  
énergétiques  
alimentaires  
Évolution de 1964-  
1966 à 1993-1995



5  
Exportations  
exprimées en  
pourcentage des  
disponibilités  
énergétiques  
alimentaires –  
Évolution de 1964-  
1966 à 1993-1995

hors des ménages représentent près de 10 pour cent de l'apport énergétique. Le modèle alimentaire urbain est plus diversifié: on consomme d'avantage de légumes, de fruits, de viande, d'huiles et de matières grasses qu'en milieu rural. L'apport en énergie des huiles et/ou des graisses s'élève à 7 pour cent de l'énergie du régime alimentaire, alors qu'il n'est que de 2 pour cent dans le milieu rural.

Les pratiques alimentaires des enfants ne sont pas bonnes au Niger et constituent, avec la morbidité, l'un des facteurs

déterminants de l'état nutritionnel des enfants (EDS, 1992). Bien que l'allaitement soit très répandu et qu'il soit prolongé en moyenne jusqu'à 20 mois, il n'est pas en général exclusif: avant l'âge de six mois, 1 pour cent seulement des enfants sont uniquement nourris au sein. À noter que l'Organisation mondiale de la santé (OMS) recommande l'allaitement exclusif jusqu'à 4 à 6 mois. Ce comportement peut avoir un effet néfaste sur la santé de l'enfant, d'une part parce qu'il ne reçoit pas dans les 24 heures qui suivent sa naissance le



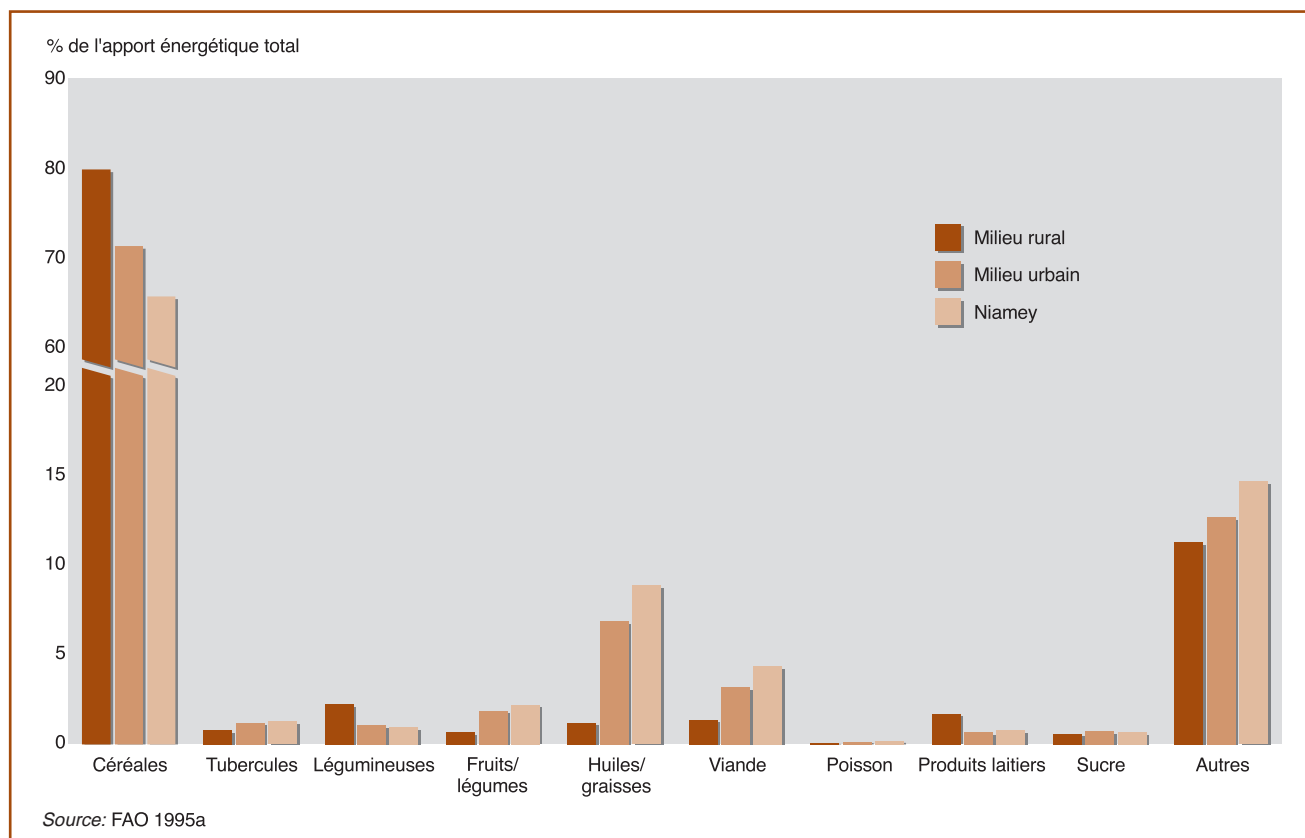
**TABLEAU 3**  
**Enquêtes de consommation alimentaire**

Source/ Année de l'enquête	Lieu	Échantillon			Consommation alimentaire moyenne									
		Nombre	Sexe	Âge	Principaux groupes d'aliments (kg/personne/an)									
				Céréales	Tubercules	Légumi- neuses	Fruits/ Légumes	Huiles/ Graisses	Viande	Poisson	Produits laitiers	Sucre	Autres	
FAO, 1995a	<b>National</b>	3896	M/F	tous										
1989-1990	Milieu Rural	2024	"	"	289	5	8	9	2	6	0	30	2 ...	
1992-1993	Milieu Urbain	1872	"	"	233	10	3	26	64	15	1	11	2 ...	
<i>Département:</i>														
	Agadez (rur.)	...	"	"	177	3	6	12	6	11	0	19	9 ...	
	Diffa (rur.)	...	"	"	322	1	3	13	4	6	0	18	5 ...	
	Dosso (rur.)	...	"	"	309	1	14	9	1	3	1	23	2 ...	
	Maradi (rur.)	...	"	"	272	0	11	7	1	8	0	25	2 ...	
	Tillabéri (rur.)	...	"	"	262	0	2	6	2	4	1	18	1 ...	
	Tahoua (rur.)	...	"	"	317	0	11	8	1	11	0	73	3 ...	
	Zinder (rur.)	...	"	"	299	1	7	12	2	6	0	18	2 ...	
	Niamey (urb.)	450	"	"	181	10	3	30	38	19	2	9	4 ...	
				Apports nutritionnels (par personne par jour)										
				Énergie (kcal)	Protéines (%)	Lipides (g)	Protéines (g)	%Protéines Produits animaux	Lipides (g)	% Lipides Produits animaux				
FAO, 1995a	<b>National</b>	...	M/F	tous										
1989-1990	Milieu rural	...	"	"	3 050	9,0	14,4	69	...	49			...	
1992-1993	Milieu urbain	...	"	"	2 430	...	...	...	...	...			...	
<i>Département:</i>														
	Agadez (rur.)	...	"	"	2 100	8,4	18,9	44	...	44			...	
	Diffa (rur.)	...	"	"	3 250	7,9	14,0	64	...	51			...	
	Dosso (rur.)	...	"	"	3 030	9,0	13,9	69	...	47			...	
	Maradi (rur.)	...	"	"	3 190	9,4	16,2	75	...	57			...	
	Tillabéri (rur.)	...	"	"	2 530	8,4	13,6	53	...	38			...	
	Tahoua (rur.)	...	"	"	3 440	9,4	14,1	81	...	54			...	
	Zinder (rur.)	...	"	"	3 030	8,8	14,0	67	...	47			...	
	Niamey (urb.)	...	"	"	2 260	...	...	...	...	...			...	
				Pourcentage de l'apport énergétique provenant des:										
				Céréales	Tubercules	Légumi- neuses	Fruits/ Légumes	Huiles/ Graisses	Viande	Poisson	Produits laitiers	Sucre	Autres	
FAO, 1995a	<b>National</b>	...	M/F	tous										
1989-1990	Milieu rural	...	"	"	80,0	0,8	2,3	0,7	1,2	1,4	0,04	1,7	0,6 11,3	
1992-1993	Milieu urbain	...	"	"	71,5	1,2	1,1	1,9	6,9	3,2	0,1	0,7	0,74 12,7	
<i>Département:</i>														
	Agadez (rur.)	...			70,7	0,7	2,9	1,2	7,9	3,1	...	2,0	4,7 6,8	
	Diffa (rur.)	...			84,5	0,5	1,0	0,9	3,4	1,3	0,1	1,0	1,8 5,5	
	Dosso (rur.)	...			83,5	1,5	4,9	0,7	0,6	0,7	0,08	1,3	0,4 6,3	
	Maradi (rur.)	...			71,8	0,6	2,4	0,8	0,9	1,6	0,01	1,4	0,5 20,0	
	Tillabéri (rur.)	...			86,1	0,4	0,6	0,6	1,7	1,0	0,09	1,2	0,3 8,0	
	Tahoua (rur.)	...			77,4	0,9	2,4	0,5	0,9	2,1	0,00	3,6	0,7 11,5	
	Zinder (rur.)	...			82,7	0,7	1,9	1,0	1,6	1,2	0,00	1,0	0,6 9,3	
	Niamey (urb.)	...			65,8	1,3	1,0	2,2	8,9	4,4	0,2	0,8	0,7 14,7	

Notes: ... = données non disponibles. Les équivalents énergétiques sont calculés à partir des coefficients d'Atwater suivants: 4 pour les protéines et 9 pour les lipides.

colostrum contenant les anticorps de la mère et, d'autre part, parce qu'on lui donne divers liquides qui l'exposent à des agents pathogènes qui augmentent le risque de contracter des maladies infectieuses. Du point de vue régional, les différences sont considérables: par exemple, dans le sud-est, à Maradi et Zinder/Diffa, les proportions d'enfants allaités dès le premier

jour qui suit la naissance sont très faibles (respectivement 10 et 13 pour cent) si on les compare au reste du pays (Tillabéri 50 pour cent, Dosso 40 pour cent, Tahoua/Agadez 29 pour cent). L'une des causes principales de cette situation provient de la forte influence, dans ces régions, des pratiques haoussa traditionnelles, dans lesquelles le colostrum est considéré



**6**  
**Consommation alimentaire selon la résidence, 1989-1990**  
**et 1992-1993**  
**(Pourcentage des principaux groupes d'aliments dans l'apport en énergie)**

**TABLEAU 4a**  
**Données anthropométriques sur les enfants**

Source/Lieu Année de l'enquête	Échantillon			Pourcentage de malnutrition						
	Nombre	Sexe	Âge	Insuffisance pondérale % Poids/Taille		Retard de croissance % Taille/Âge		Émaciation % Poids/Taille		Surpoids % Poids/Âge
				< -3ET <sup>1</sup>	< -2ET <sup>1</sup>	< -3ET <sup>1</sup>	< -2ET <sup>1</sup>	< -3ET <sup>1</sup>	< -2ET <sup>1</sup>	> +2ET <sup>1</sup>
EDS/OMS, 1992 <b>National</b>	4 052	M/F	0-5	15,0	42,6	18,7	39,5	2,6	15,0	1,1
<i>Par âge :</i>										
	634	"	0-0,49	1,4	6,7	1,2	7,4	1,5	5,3	2,5
	549	"	0,50-0,99	11,3	37,9	7,9	22,2	3,3	19,4	1,4
	832	"	1	24,8	64,9	21,3	49,4	7,0	32,9	1,0
	784	"	2	24,5	55,9	27,8	52,7	1,1	12,9	0,2
	662	"	3	13,5	43,4	29,1	53,4	0,8	8,3	1,3
	591	"	4	8,4	35,6	20,4	42,9	1,1	6,6	0,3
<i>Région:</i>										
Agadez	111		0-5	8,4	40,9	12,4	35,2	3,6	16,1	1,7
Diffa	89		"	19,2	43,3	26,6	37,8	5,3	20,9	3,2
Dosso	647	"	"	10,9	38,2	13,6	35,4	1,0	11,6	0,5
Maradi	706	"	"	23,1	52,2	25,5	49,0	3,7	17,0	0,9
Niamey	259	"	"	5,0	24,1	4,9	20,0	1,5	11,4	1,6
Tahoua	807	"	"	13,7	42,7	21,9	41,9	2,6	12,8	1,5
Tillabéri	721	"	"	13,7	41,6	12,2	33,4	2,4	18,3	0,6
Zinder	711	"	"	17,7	44,9	24,9	45,3	3,3	15,7	1,3
<i>Résidence:</i>										
Urbain	754	"	"	6,5	30,7	9,1	26,9	1,9	11,8	1,2
Rural	3 298	"	"	17,0	45,4	20,9	42,4	2,8	15,8	1,1

<sup>1</sup> ET = écart type

**TABLEAU 4b**  
Données anthropométriques sur les adultes

Source/Année de l'enquête	Lieu	Échantillon			Pourcentage de malnutrition							
		Nombre	Sexe	Âge (ans)	Indice de masse corporelle (kg/m <sup>2</sup> )			Déficience énergétique chronique % d'IMC		Surpoids % d'IMC	Obésité % d'IMC	
					moyenne ET <sup>1</sup> médiane		<=16,0	16,1-17,0	<18,5	26,0-28,9	>29,0	
EDS, 1992	<b>National</b>	3,434	F	15-49	20,8	3,1	...	2,1	...	18,8	3,8	1,9
<b>1992</b>	<i>Résidence:</i>											
	Urbain	549	"	"	22,8	...	...	...	...	12,3	...	...
	Rural	2,712	"	"	20,4	...	...	...	...	20,6	...	...
	<i>Région:</i>											
	Dosso	508	"	"	20,7	...	...	...	...	14,8	...	...
	Maradi	622	"	"	20,6	...	...	...	...	18,9	...	...
	Tahoua/Agadez	744	"	"	20,7	...	...	...	...	19,4	...	...
	Tillabéri	630	"	"	20,9	...	...	...	...	19,0	...	...
	Zinder/Diffa	664	"	"	20,0	...	...	...	...	27,0	...	...
	Niamey	193	"	"	24,1	...	...	...	...	6,0	...	...
					moyenne ET <sup>1</sup> médiane		<=16,0	>16,0-17,0	>17,0-18,5	>25,0-30,0	>30,0	
FAO, 1995a	<b>National</b>	...	M/F	18-60	...	...	...	3,9	6,1	16,8	3,3	0,3
<b>EBC 1992-1993</b>	<i>Département:</i>											
	Agadez	...	"	"	...	...	...	8,4	9,7	24,0	6,7	1,3
	Diffa	...	"	"	...	...	...	5,1	8,5	21,4	2,0	0,4
	Dosso	...	"	"	...	...	...	3,8	6,5	16,5	3,0	0,1
	Maradi	...	"	"	...	...	...	2,4	5,7	15,5	1,9	0,1
	Tahoua	...	"	"	...	...	...	3,5	3,2	13,1	4,7	0,2
	Tillabéri	...	"	"	...	...	...	2,9	6,0	17,3	5,6	0,8
	Zinder	...	"	"	...	...	...	6,1	8,2	20,0	1,5	0,1
					% d'IMC <=18,5			% d'IMC >25,0				
	<i>Département:</i>						adultes	hommes	femmes	adultes	hommes	femmes
	Agadez	...	"	"	...	...	42,1	49,8	32,1	8,0	7,8	8,2
	Diffa	...	"	"	...	...	35,0	29,1	44,9	2,4	2,2	2,7
	Dosso	...	"	"	...	...	26,8	26,4	27,1	3,1	1,1	5,4
	Maradi	...	"	"	...	...	23,6	22,8	24,9	2,0	2,4	1,5
	Tahoua	...	"	"	...	...	19,8	17,5	23,0	4,9	4,5	5,5
	Tillabéri	...	"	"	...	...	26,2	27,3	24,5	6,4	3,7	10,2
	Zinder	...	"	"	...	...	34,3	30,1	40,6	1,6	0,8	2,7
	TOTAL	...	"	"	...	...	26,8	25,4	28,7	3,6	2,6	5,0

Note: ... = données non disponibles. ET = écart type.

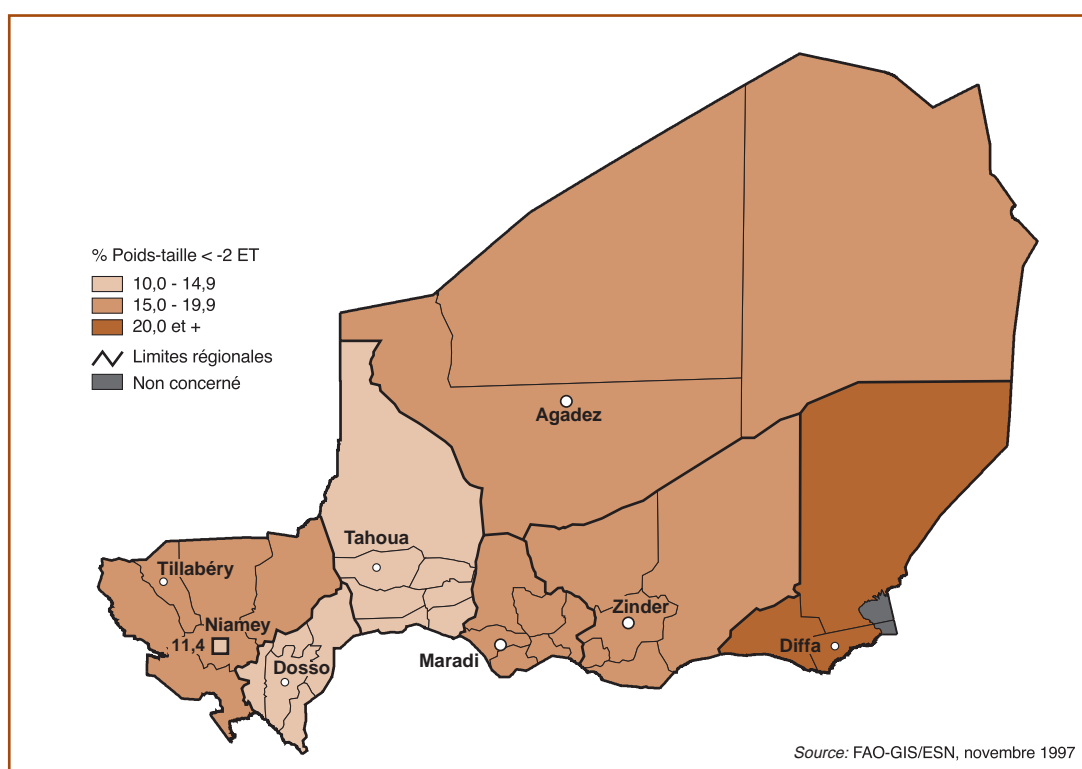
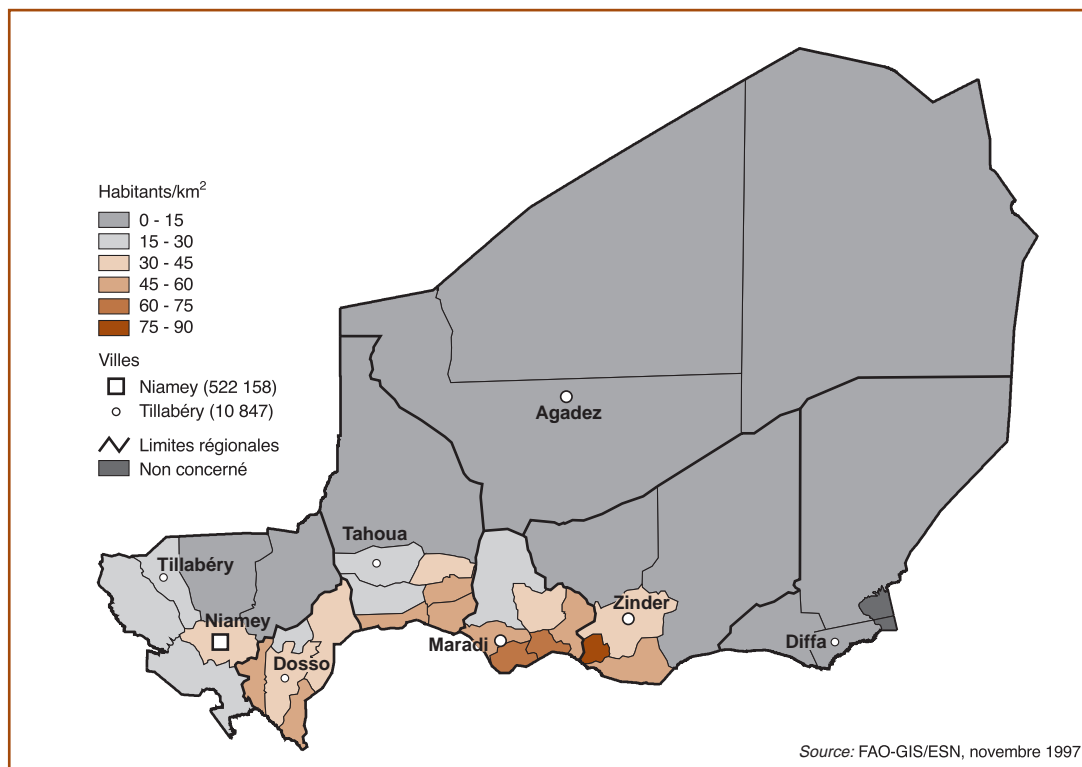
comme mauvais. L'enfant est nourri pendant cette période à base d'eau, de tisanes traditionnelles et de lait de vache.

### Données anthropométriques

Au Niger, les problèmes nutritionnels sont nombreux et la situation est particulièrement inquiétante pour les enfants. D'après la dernière enquête représentative effectuée au niveau national, la malnutrition infantile est répartie dans tout le pays (EDS, 1992). L'état nutritionnel des enfants de moins de cinq ans est critique: 15 pour cent sont émaciés, 40 pour cent sont atteints de retard de croissance (dont près de la moitié sont dans des conditions sévères) et 40 pour cent souffrent d'insuffisance pondérale (tableau 4a). Ces taux de malnutrition sont très élevés et sont largement supérieurs aux seuils

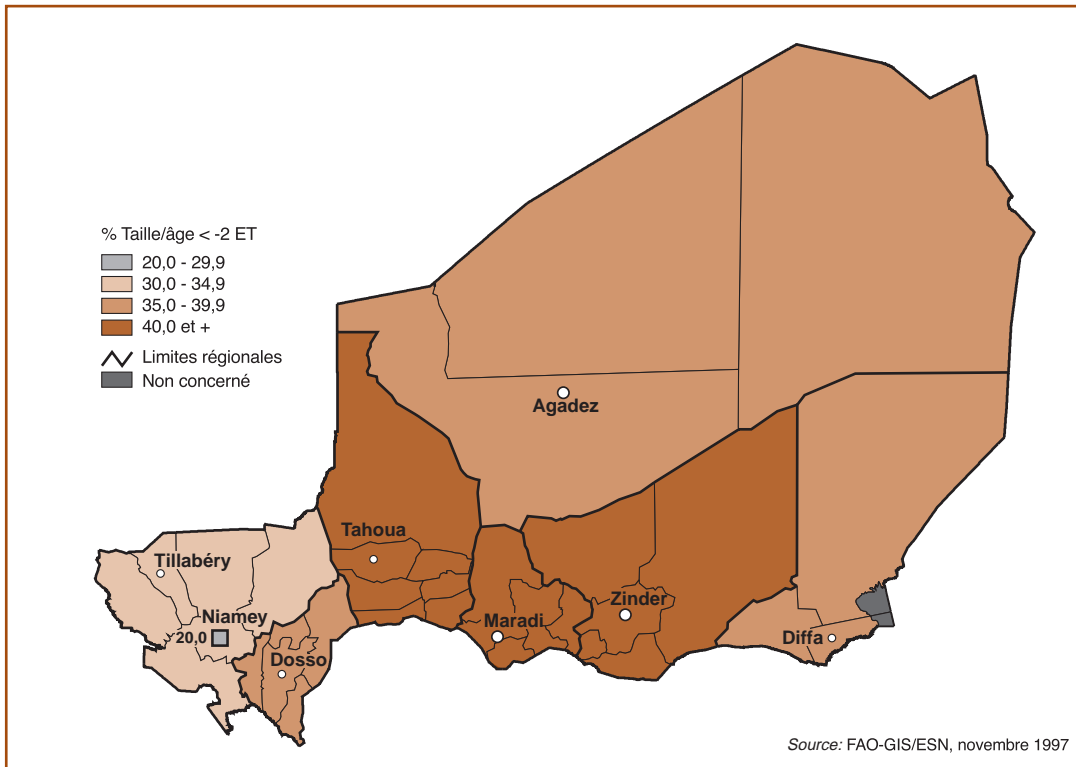
maximums, établis par l'OMS, qui considère une population comme étant «gravement touchée». Cette situation est d'autant plus inquiétante qu'elle semble ne pas s'être améliorée au cours de ces 10 dernières années.

La malnutrition infantile est répartie de façon inégale dans le pays; elle atteint davantage le milieu rural que le milieu urbain (tableau 4a) et touche certains départements plus fortement que d'autres (figures 8 et 9). Compte tenu des trois indicateurs anthropométriques, la situation la plus grave apparaît à Maradi, puis à Zinder/Diffa (respectivement 18 pour cent et 17 pour cent d'émaciation; 43 pour cent et 38 pour cent de retard de croissance et 49 pour cent et 37 pour cent d'insuffisance pondérale). C'est d'ailleurs dans ces régions, et en particulier à Maradi, que les indicateurs de

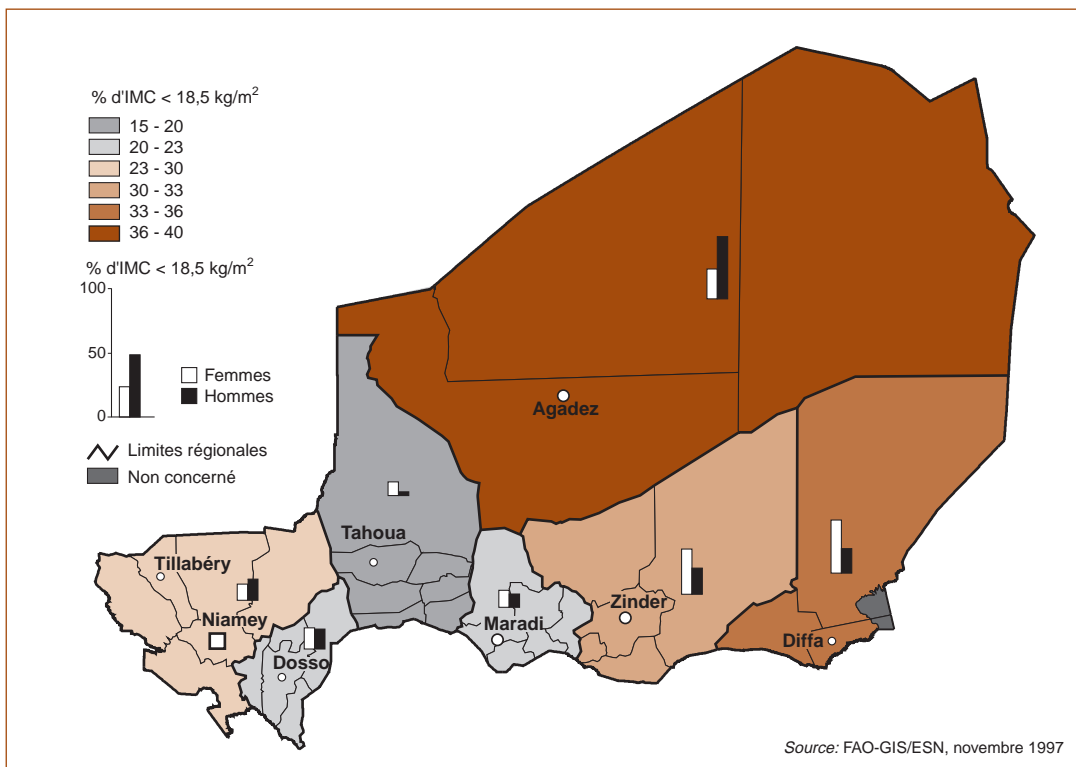


santé sont les plus mauvais du pays: la morbidité et la mortalité infanto-juvénile (391 pour mille à Maradi) sont très élevées, et les taux de couverture sanitaire et vaccinale sont parmi les plus faibles du Niger. On constate par contre que Tillabéri souffre d'avantage d'un problème de sous-nutrition aiguë (19 pour cent d'émaciation contre 24 pour cent de retard de croissance). La situation nutritionnelle la meilleure se

trouve à Niamey, puis à Dosso. Il y a par contre peu de différences régionales en ce qui concerne le faible poids à la naissance (<2 500 g), indicateur qui reflète l'état nutritionnel de la mère et qui est reconnu comme un facteur de risque pour l'enfant (EDS, 1992). Cependant, cet indicateur doit être interprété avec une certaine précaution car les soins prénatals et l'assistance à l'accouchement par des professionnels de santé



**9**  
**Prévalence de retard de croissance (taille/âge) des enfants de moins de cinq ans, par région**



**10**  
**Taux d'indice de masse corporelle inférieur à 18,5 des adultes de 18 à 60 ans par département (totaux et comparaison hommes/femmes par histogrammes)**

en milieu rural sont considérablement inférieurs à ceux qui sont donnés en milieu urbain.

Les données anthropométriques des adultes proviennent de la phase rurale de l'enquête Budget et consommation du Niger effectuée en 1992-1993 (tableau 4b). Dans l'ensemble, près de 27 pour cent des adultes au Niger ont un Indice de masse

corporelle (IMC) inférieur à 18,5 kg/m<sup>2</sup> et peuvent être considérés comme présentant une déficience énergétique chronique. Cependant, la situation nutritionnelle est très contrastée au niveau des sexes et au niveau des départements où celle-ci est presque à l'opposé de celle des enfants (figure 11). Maradi est le département ayant le moins de problèmes,



11  
Taux de cécité  
nocturne des enfants  
de moins de cinq ans  
par département

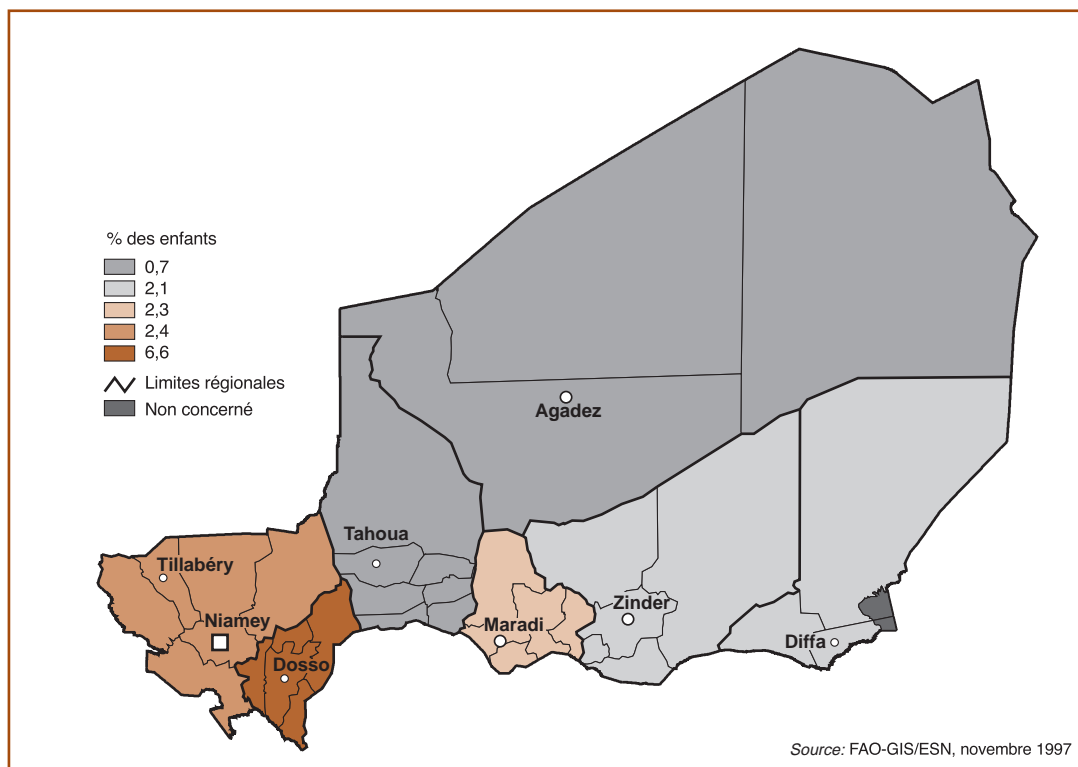


TABLEAU 5  
Enquêtes sur les carences en micronutriments

Source/Année de l'enquête	Carence	Lieu	Échantillon			Pourcentage
			Nombre	Sexe	Âge (ans)	
FAO 1995a 1994	<b>Goitre visible</b>	<b>National</b>	...	M/F	10-15	5,8
		<i>Département:</i>				
		Dosso	...	"	"	10,1
		Tahoua	...	"	"	9,1
		Maradi	...	"	"	7,7
		Tillabéri	...	"	"	4,2
		Zinder	...	"	"	2,5
		Niamey	...	"	"	1,0
		Diffa	...	...	...	...
Agadez	...	...	...	...		
FAO 1995a	<b>Avitaminose</b>	<b>National</b>	...	M/F	24-59 mois	2,6
EDS 1992	Cécité crépusculaire	<i>Département:</i>				
		Dosso	...	"	"	6,6
		Tillabéri	...	"	"	2,4
		Maradi	...	"	"	2,3
		Zinder	...	"	"	2,1
		Diffa	...	"	"	2,1
		Tahoua	...	"	"	0,7
		Agadez	...	"	"	0,7
	<b>Anémie</b>	...	...	...	...	

Note: ... = données non disponibles.

alors qu'Agadez enregistre les taux les plus élevés d'IMC: <18,5 (50 pour cent des hommes et 32 pour cent des femmes), mais on y trouve aussi des taux relativement élevés d'adultes en surpoids (IMC>25,0). À noter, parmi les autres départements où l'état nutritionnel des adultes est inquiétant (IMC<18,5), Diffa (35 pour cent), et Zinder (34 pour cent).

#### Carences en micronutriments

Certains problèmes liés aux carences en vitamines et en oligoéléments demeurent préoccupants au Niger et touchent l'ensemble du pays (tableau 5).

Les troubles dus à la carence en iode (TDCI) constituent un problème majeur de santé publique. L'enquête nationale menée en milieu scolaire en 1994 fait état d'un taux de 38,5 pour cent de goitre total et de 5,8 pour cent de goitre visible (données non encore publiées). Le faible taux d'iode dans les sols est sans doute la cause principale du goitre au Niger. Les prévalences les plus élevées se trouvent dans les départements de Dosso (10 pour cent), de Tahoua (9 pour cent), et de Maradi (8 pour cent). On observe aussi çà et là des foyers dans la région du fleuve Niger et tout le long de la frontière nigéro-nigériane.

La cécité crépusculaire (héméralopie) chez les enfants en âge préscolaire permet d'évaluer les conséquences du déficit en vitamine A. L'enquête EDS de 1992 est la seule fournissant des données au niveau national. À 24-59 mois, 2,6 pour cent des enfants souffrent d'une carence en vitamine A évaluée à partir de la cécité crépusculaire. Le département de Dosso (6,6 pour cent) est le plus gravement atteint par cette carence (figure 11). Sur les sept départements que compte le Niger, cinq dépassent le seuil de 1 pour cent retenu par l'OMS pour déclarer qu'il existe un problème de santé publique (EDS, 1992). Des projets de lutte contre cette carence sont actuellement en cours dans certains districts des zones les plus touchées.

Bien que les données soient rares, la prévalence des anémies nutritionnelles varie du tiers à plus de 50 pour cent et affecte surtout les enfants en bas âge, les femmes enceintes et les femmes allaitantes (EDS, 1992). D'autre part, les données sur la consommation alimentaire au Niger laissent entrevoir un régime pauvre en fer: une faible biodisponibilité du fer due à une forte consommation de céréales et à une faible consommation de produits d'origine animale habituellement riches en fer hémique. ◆

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### Aperçus nutritionnels par pays de la FAO: le Niger

La Division de l'alimentation et de la nutrition de la FAO reçoit de fréquentes demandes d'information sur la situation alimentaire et nutritionnelle dans les pays en développement. Pour répondre à cette demande la Division prépare des Aperçus nutritionnels par pays (ANP) depuis 1986. Ces ANP sont principalement utilisés par des organisations internationales, bilatérales et non gouvernementales, des universités, des institutions de recherche et des particuliers s'intéressant aux pays en développement. Il existe en réalité un intérêt croissant pour les systèmes d'information sur le suivi de la situation alimentaire et nutritionnelle; en 1996, le Sommet mondial de l'alimentation a encore renforcé cet intérêt. Le besoin d'information récente et standardisée augmente chez les utilisateurs, de plus en plus nombreux, ayant un accès direct aux réseaux informatisés internationaux. Les ANP constituent un outil permettant de connaître et de suivre les progrès réalisés pour atteindre la sécurité alimentaire et le bien-être nutritionnel dans les différents pays. Depuis 1998, ils sont préparés selon un nouveau format mieux adapté à l'actuelle demande des utilisateurs.

L'objectif des ANP est de fournir des résumés analytiques concis décrivant la situation alimentaire et nutritionnelle par pays avec des statistiques de base sur les facteurs liés à l'alimentation. L'information est présentée de la façon la plus simple possible et insiste sur les tendances et les différences au niveau sous-national lorsque celles-ci sont disponibles. Les ANP présentent des données statistiques comparables et cohérentes selon un format standard. Ce format prédéfini présente un ensemble de graphiques, de tableaux et de cartes accompagnés de textes simples sur les sections suivantes: une présentation générale: géographie; population; niveau de développement (pauvreté, éducation et santé); production agricole, utilisation des terres et sécurité alimentaire; et économie; et situation alimentaire et nutritionnelle: évolution des besoins et des disponibilités énergétiques; évolution de la disponibilité des aliments; consommation alimentaire; données anthropométriques; et carences en micronutriments.

Les ANP présentent les résultats récents les plus importants, ainsi que les problèmes qui existent dans le pays, en essayant d'identifier au mieux les zones nutritionnellement désavantagées de ce dernier. Depuis 1986, le Service de la planification, de l'analyse et de l'évaluation nutritionnelles de la Division de l'alimentation et de la nutrition a préparé les ANP de 116 pays et plus de 30 ont déjà été réalisés selon le nouveau format.

La situation alimentaire et nutritionnelle de l'ANP du Niger est présentée à titre d'exemple pour que le lecteur appréhende la partie la plus importante des aperçus nutritionnels par pays de la FAO.

### Nutrition country profiles with an example from the Niger

The Food and Nutrition Division of FAO receives frequent requests for information on the food and nutrition situation in developing countries, in response to which it has produced Nutrition Country Profiles (NCPs) since 1986. These NCPs are used, above all, by international, bilateral and non-governmental organizations, universities, research institutes and people who are interested in developing countries. There is, in fact, a growing interest (which has been further consolidated by the World Food Summit of 1996) in information systems that monitor the food and nutrition situation, and there is a growing need for up-to-date standardized information among the burgeoning number of users who have direct access to international computer networks. The NCPs report and track progress towards food security and nutritional well-being in individual countries. Since 1998, they have been prepared according to a new format that is better suited to current user demand.

The aim of the NCPs is to provide concise analytical summaries of national food and nutrition situations, together with base data on related factors. The information is disaggregated as far as possible, with an emphasis on trends and differences at the subnational level, where such data are available. The NCPs provide comparable and coherent statistical data using a standard format of graphs, tables, maps and brief texts related to: a general presentation: geography; population; level of development (poverty, education and health); agricultural production, land use and food security; and economy; and the food and nutrition situation: changing patterns of energy needs and supplies; evolution of food availability; food consumption; anthropometric data; and micronutrient deficiencies.

The NCPs report on the most significant recent results and outline the problems that exist in the country, where possible identifying its nutritionally deprived areas. Since 1986, the Nutrition Planning, Assessment

and Evaluation Service of the Food and Nutrition Division has produced NCPs for 116 countries, with over 30 already in the new format.

The section on the food and nutrition situation presented in the NCP for the Niger is reproduced to inform the reader of the most important part of the FAO NCPs.

### Perfiles nutricionales de los países: el ejemplo del Níger

La Dirección de Alimentación y Nutrición de la FAO suele recibir solicitudes de información acerca de la situación alimentaria y nutricional en los países en desarrollo. A fin de responder a esta demanda, la dirección elabora, desde 1986, Perfiles nutricionales de los países (PNP). Utilizan estos PNP, sobre todo, organizaciones internacionales, bilaterales y no gubernamentales, universidades, instituciones de investigación, así como personas privadas en los países en desarrollo. De hecho, hay un creciente interés en los sistemas de información sobre el seguimiento de la situación alimentaria y nutricional, y la última Cumbre Mundial sobre la Alimentación, celebrada en 1996, potenció aún más ese interés. Entre los usuarios –cada vez más numerosos– que tienen acceso directo a las redes informatizadas internacionales aumenta la necesidad de disponer de información reciente y uniformada. Los PNP son un instrumento que permite conocer y seguir los progresos realizados para lograr la seguridad alimentaria y el bienestar nutricional en los países. Desde 1998, se preparan con un nuevo formato, mejor adaptado a la demanda actual de los usuarios.

El objetivo de los PNP es proporcionar resúmenes analíticos concisos, en los que se describe la situación alimentaria y nutricional de los países con estadísticas de base sobre los factores relacionados con la alimentación. La información se presenta de la manera más desglosada posible, insistiendo en las tendencias y en las diferencias a nivel regional, cuando se tienen los datos pertinentes. Los PNP presentan datos estadísticos comparables y coherentes, según un formato estándar. Este formato se define según un conjunto de gráficos, cuadros y mapas, que van acompañados de un texto sencillo sobre las siguientes secciones: una presentación general: geografía, población, nivel de desarrollo (pobreza, educación y sanidad), producción agrícola, utilización de suelos y seguridad alimentaria, economía; la situación alimentaria y nutricional: evolución de las necesidades y de las disponibilidades de energía, evolución de las disponibilidades de alimentos, consumo alimentario, datos antropométricos, carencias en micronutrientes.

Los PNP presentan los resultados recientes más importantes y los problemas existentes en el país, procurando identificar lo mejor posible las zonas desaventajadas del país desde el punto de vista nutricional. Desde 1986, el Servicio de Planificación, Estimación y Evaluación de la Nutrición de la Dirección de Alimentación y Nutrición ha preparado los PNP de 116 países y más de 30 se han realizado ya según el nuevo formato.

Se presenta como ejemplo el capítulo sobre la situación alimentaria y nutricional del PNP de Níger para que el lector pueda captar mejor cuál es la parte más importante de los perfiles nutricionales de los países preparados por la FAO. ♦

# Dream, Dare, Do: Girl Guides and Girl Scouts learn ways to improve nutrition

C. Collett-White and L. David

Charlotte Collett-White is Acting Head of Communications and Luke David is Communications Secretary of the World Association of Girl Guides and Girl Scouts, London.

**D**ream, Dare, Do – this was the theme of the World Association of Girl Guides and Girl Scouts (WAGGGS) 30th World Conference, held in Dublin, Ireland, in July 1999. It is also the maxim by which Girl Guides and Girl Scouts from around the world live. At the end of the World Conference, Irish Guides from the Council of Irish Guiding Associations were invited to present their dreams to more than 400 delegates from more than 120 countries. One of the young women's dreams was that there should be no more hunger in the world.

Girl Guides and Girl Scouts throughout the world are daring to make the dream of eradicating hunger a reality. There are groups in over 27 countries working on a total of 37 projects on food and nutrition. During the conference, representatives from many more of the 140 countries within WAGGGS were eager to speak to Mr Zohrab Malek of FAO's Food and Nutrition Division about their plans to start, or develop, their own food and nutrition projects.

A workshop addressed the issue of how non-governmental organizations (NGOs) can work more effectively with FAO, and how grassroots organizations can benefit from the Organization's knowledge, resources and expertise.

The FAO/WAGGGS partnership has been successful because it relies on the involvement and commitment of Girl Guides and Girl Scouts themselves. Young people from every part of the world have taken the concept to their own communities. Girl Guides and Girl Scouts are encouraged to participate actively in projects that assist their communities to eat more healthful, more nutritious and safer diets. The projects play a dual role in helping both the community and the girls' self-development. Girl Guides and Girl Scouts learn about food and nutrition issues themselves, and then teach what they have learned to their communities. The young women also learn about education and training techniques, leadership and life skills.

Many food and nutrition projects are considered for the FAO/WAGGGS Nutrition Award. The Uganda Girl Guides Association received the latest of these awards on World Food Day 1999, the theme of which was Youth Against Hunger.

In the following accounts the girls describe their projects and how working on them has improved their own lives.

## UGANDA GIRL GUIDES ASSOCIATION – THE NUTRITION GUIDE

This project aims at improving eating habits by training peer educators on proper feeding for health and producing traditional recipe books. Training, including practical cookery lessons, will be given to Girl Guides and traditional Ugandan recipes will be practised and documented. The Association also plans to run a Guide bakery. The project has enabled the Ugandan Girl Guides to expand their international friendship by working in partnership with the Norwegian Guide and Scout Association, the Guide Association of the United Kingdom, the Girl Guides of Canada and the Forum for Women in Development. These partnerships have made the food and nutrition project possible.

Zoë Kobusingye is a Ugandan Girl Guide involved in the award winning project:

I am Zoë Kobusingye. I am 18 years old and a member of the First Young Leaders' Company of the Uganda Girl Guides Association. The First Young Leaders' Company started on the FAO nutrition project late in 1998, whereby we did lots of new things such as learning new recipes that are easy to prepare and yet nutritious. During the lessons I learned traditional recipes where the local foods are used. For example, in the western part of Uganda, Shabwe, many recipes are made from milk and are very rich in proteins. From the northern part of Uganda a main meal course of pasted meat and millet bread was made which is rich in carbohydrates, iron, protein and vitamins. Green vegetables were prepared using groundnut paste and local salt from Teso, which is in the eastern part of Uganda. I also learned about the famous *luwombo*, which is food that has been steamed without altering its nutritional values. We have compiled these and many other recipes into a small recipe book.

I also participated in this year's Thinking Day<sup>1</sup> celebration, where we launched our National Nutrition Guide Initiative. I taught the Brownie Flock, Junior Guides and the Rangers Unit that I run about nutrition and various local recipes. These recipes were presented to the patients of our main antenatal referral clinic in Mulago. The

<sup>1</sup> Thinking Day is a celebration of the joint birthdays of Lord and Lady Baden-Powell, the founders of the Scout and Guide movements.





**Ugandan Girl Guides**

food values in these different recipes were explained to the patients, making it clear that the foods are affordable and locally available. This project has taught me that nutrition can be improved without a lot of fuss by using our daily foods that are locally available and yet affordable. It has also taught me all about the importance of a balanced diet, well-prepared food that is both nutritious and healthy to pregnant mothers, infants and others. I hope we, as the Girl Guides, will continue to contribute towards the eradication of heart disease in Uganda.

#### **THE GUIDE ASSOCIATION OF THE UNITED KINGDOM**

The food and nutrition challenge project aims at raising awareness of food security and issues relating to health and nutrition within the community. Participation in the FAO/WAGGGS Nutrition Award was run as a competition in the United Kingdom. To qualify for a Nutrition Award medal, each Guide group should be working on, or have successfully completed, an outstanding project that addresses either food and nutrition education or food and nutrition improvement. Many units around the United Kingdom have already organized activities that involve food as part of their weekly programme.

The new initiative has the potential to build on these activities and to enable girls to become aware of the importance of issues related to food and nutrition worldwide. In April 1998, the FAO/WAGGGS Award was publicized in the United Kingdom's *Guiding* magazine and a promotional

flyer was circulated. One issue of the magazine included 19 pages of activities relating to food and nutrition, as well as the information that launched the competition officially. Participation badges and certificates were prepared and given to everyone taking part in the initiative.

Katherine Blair is a Brownie (young Girl Guide) with the United Kingdom Guides, and she is working on one of the food and nutrition projects:

For the health and nutrition theme we did the Brownie logo out of coloured rice, a collage using food wrappers. We also visited an old people's day centre, did a survey on their diet, planted strawberries and made marzipan fruits for Mothers' Day. We visited a supermarket and looked for fat-free goods.

With other Brownies, I went to our World Camp at Foxlease for the final judging. We had a great day meeting Guides from other countries and joining in some of the activities. The winners were a Rainbow Pack and a Guide Pack, but over all it was fun!

#### **THE GIRL GUIDES ASSOCIATION OF NEW ZEALAND**

"Wipeout" was the name given to the Girl Guides Association of New Zealand's challenge to all sections, timed to coincide with World Food Day on 16 October 1997. The project explored methods of safe food handling, including preparation, reheating and storage of various types of food. The project, carried out by Guides aged from five to 18 years, looked at the consequences of unsafe handling, including unwashed hands, unclean work areas and equipment.

Experiences ranged from preparing safe nourishing food to growing bacteria from washed and unwashed hands under the guidance of a pathologist. The project received the FAO/WAGGGS Award medal in 1998.

Sarah-Jane (aged 14) and Kelly (aged 11) are both Girl Guides in New Zealand and have both worked on the Wipeout project:

For the nutrition programme, Guides New Zealand chose the topic of safe food handling. The challenge was called "Wipeout". We do not really have many people who do not have food, but food storage can be a problem. Our Unit enjoyed working on this challenge. We were able to visit a home and pulled everything out of the refrigerator. We then put it all back in, making sure that it was safe. We did not know before that raw meat and cooked meat should not be stored in the fridge on the same shelf. We learned to wash tea-towels after every use, rather than leaving them for three or four days. We also looked on the Internet to find out about food poisoning.

We visited a fast food restaurant that sells chicken and chips. We had to put on white hats over our hair and we went into the kitchen. We found out that they have strict rules about washing hands and how long the food can be kept after it is cooked. Often it has to be dumped if there are not many customers. A lot of care is taken when handling food, such as wearing gloves. This was a great challenge which we enjoyed and learned heaps from.

#### GIRL SCOUTS OF THE UNITED STATES OF AMERICA

Girl Scouts in the United States have integrated food, nutrition, agriculture, health and fitness into all of their Girl Scout programmes at all age levels.

Randi is a Girl Scout who has just started at university. She is the Chairperson of the Senior Girl Scout Planning Board and has earned the Gold Award (the highest recognition for Girl Scouts in the United States). Randi attended the In the Pink: Breast Cancer Awareness Leadership Institute, which dealt with issues of nutrition and breast cancer in women:

Breast cancer is one of those topics that few people choose to discuss, and almost as few discuss the benefits of healthy eating in relation to their daily life and future health. Recently, I enjoyed the opportunity to participate in the In the Pink: Breast Cancer Awareness Leadership Institute offered by the M.D. Anderson Cancer Center in partnership with San Jacinto Girl Scout Council. As well as discussing the need for five to nine fruits and vegetables a day, the nutritionist explained that simply organizing your eating and making a conscious effort to include a variety of foods in your diet will make a difference in your overall health.

Since attending In the Pink, I have readily recognized the important role that a balanced diet plays in maintaining the high-energy level that my busy lifestyle demands. I also feel empowered to share information with my peers regarding new links found

between nutrition and cancer prevention. While some of the tips may appear trivial to healthy individuals, the difference good nutrition can make becomes impressive when current cancer patients encourage others to make every possible effort to prevent cancer.

#### FEDERAÇÃO DAS BANDEIRANTES DO BRASIL

The Recycling Food project took place in Barrio Belem Velho, where the majority of the inhabitants are marginalized, unemployed and economically deprived. The project comprised a group of ten women (mothers and housewives) who were trained through practical courses in nutrition and "alternative nutrition" – recycling food that is normally discarded as waste. Following the training, they acted as trainers themselves within the community. A leaflet was produced containing recipes and alternative cooking methods.

The Federação das Bandeirantes do Brasil received the FAO/WAGGGS Nutrition Award for their Using Food Wisely project.

Marcelino Silveira is a Ranger with the Guaianás in the Dr David Gusmão District of the Federação das Bandeirantes do Brasil. Marcelino participated in the Recycling Food project:

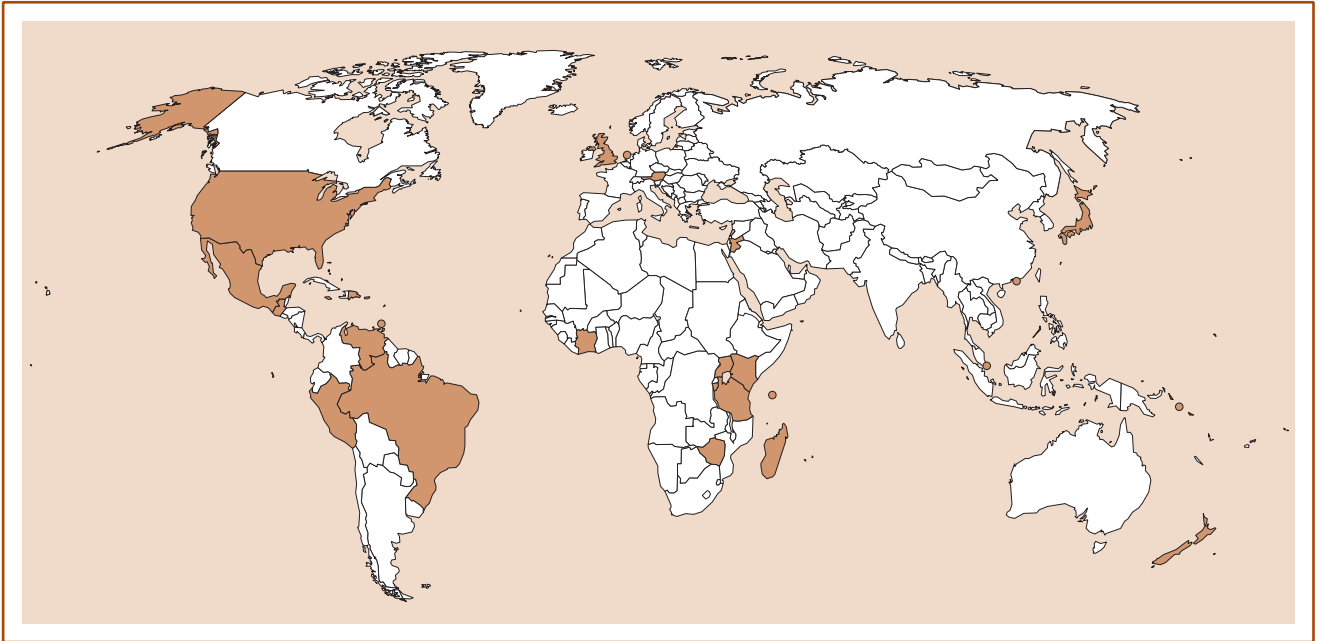
The community service carried out in an underprivileged community in the city of Porto Alegre was extremely important for the progress and development of my Group. It was also fundamental for my own personal growth. During the activities, I realized how it was important to work with a community and to teach the mothers food recycling techniques. The women showed interest in learning the skills and agreed that it is vital to know how to feed their children by means of fully utilizing fruit, greens and vegetables as well as peels, stems and leaves where vitamins are concentrated – so necessary for their development. I felt very happy when we completed our project in this community, because the children stopped us and asked when we would return. I think they understood that our work with their mothers was very important for their health and growth.

#### UNITED REPUBLIC OF TANZANIA GIRL GUIDES ASSOCIATION

The Tanzanian Girl Guides' project aims at reviving the health of malnourished children, preventing deaths of children from malnutrition and sensitizing mothers to the importance of using available products for nutritious food. The Association renovated and equipped the ward's kitchen, trained mothers on how to prepare nutritious foods and taught mothers about the preservation of farm products.

Tausi Abdallah is a Ranger in Kibasila Street Ranger Company and is working on the project:

In community development work we decided to combine Tanzanites, Viangaza packs, Guide companies, young leaders, Rangers and Cadets. This makes a group of 34 members called 16 Kibasila Street Guide group.



### **WAGGGS' food and nutrition projects around the world**

Our group learned about the theme Building World Citizenship from the *WAGGGS World Bureau* magazine. Of the six topics (education, environment, peace, health, food and nutrition, and culture and heritage), our group selected the topic on food and nutrition since we are aware that some of the children in our country, aged five to ten years, die every year owing to malnutrition. In order to eradicate malnutrition, my group decided to find its source and causes and solutions to be taken to prevent it. Fortunately, we came up with the idea of making nutritious porridge and distributing it to the children who are suffering from malnutrition. These children came from three main districts of Dar es Salaam region – Ilala, Kinondoni and Temeke.

### **WAGGGS' FOOD AND NUTRITION PROJECTS WORLDWIDE**

Food and nutrition are issues that affect everyone worldwide. Girl Guides and Girl Scouts throughout the world come up

with project ideas that are relevant to their own countries and their own communities. The map shows WAGGGS' food and nutrition projects around the world:

- **Asia and the Pacific:** Hong Kong, Japan, New Zealand, Singapore, Solomon Islands.
- **Europe:** Austria, United Kingdom.
- **Latin America and the Caribbean:** Aruba, Brazil, Dominican Republic, Guatemala, Mexico, Peru, Trinidad and Tobago, Venezuela.
- **Near East and North Africa:** Jordan, Lebanon.
- **North America:** Canada, United States.
- **Sub-Saharan Africa:** Burundi, Kenya, Madagascar, Mauritius, Nigeria, Uganda, United Republic of Tanzania, Zimbabwe. ♦

**Dream, Dare, Do: Girl Guides and Girl Scouts learn ways to improve nutrition**

Dream, Dare, Do was the theme of the World Association of Girl Guides and Girl Scouts (WAGGGS) 30th World Conference, held in Dublin, Ireland in July 1999. It is the maxim by which Girl Guides and Girl Scouts from around the world live. One dream is that there should be no more hunger in the world. Girl Guides and Girl Scouts in 27 countries are daring to make the dream of eradicating hunger a reality.

Young people from every part of the world bring ideas for improving nutrition to their own communities. Girl Guides and Girl Scouts are encouraged to participate actively in projects that assist their communities to eat more healthful, more nutritious and safer diets. The projects play a dual role in helping both the community and the girls' self-development. Girl Guides and Girl Scouts learn about food and nutrition issues themselves, and then teach what they have learned to their communities. The young women also learn about education and training techniques, leadership and life skills. Many food and nutrition projects are considered for the annual FAO/WAGGGS Nutrition Award. In this article, girls describe their projects and how working on them has improved their own lives.

**Rêver, oser, agir – Les guides et les éclaireuses apprennent à améliorer la nutrition**

«Rêver, oser, agir» était le thème de la 30<sup>e</sup> Conférence mondiale de l'Association mondiale des guides et des éclaireuses (AMGE) qui s'est tenue à Dublin (Irlande) en juillet 1999. C'est la maxime qui règle la vie des guides et des éclaireuses dans le monde. Le rêve serait de faire disparaître la faim dans le monde. Les guides et les éclaireuses de 35 pays osent agir pour que ce rêve devienne une réalité.

Les jeunes du monde entier se rassemblent pour proposer des idées afin d'améliorer la nutrition dans leurs communautés d'origine. Les guides et les éclaireuses sont encouragées à participer activement à des projets qui aident leurs communautés à adopter une alimentation plus saine, plus nourrissante et plus sûre. Les projets jouent un double rôle en aidant la communauté et en contribuant au développement autonome des jeunes filles. Les guides et les éclaireuses s'informent elles-mêmes sur les questions d'alimentation et de nutrition et, à leur tour, elles peuvent en faire bénéficier leurs communautés. Les jeunes femmes acquièrent aussi des connaissances sur les techniques d'éducation et de formation, elles apprennent à assumer un rôle d'animatrice et se préparent à la vie active. De nombreux projets relatifs à l'alimentation et à la nutrition sont examinés en vue du Prix annuel FAO/AMGE de la nutrition. Dans cet article, les jeunes femmes décrivent leurs projets et expliquent comment ce travail leur permet d'améliorer leur vie.

**Soñar, atreverse, actuar: las guías scouts aprenden a mejorar la nutrición**

«Soñar, atreverse, actuar» fue el tema de la 30<sup>a</sup> Conferencia Mundial de la Asociación Mundial de Guías Scouts (AMGS), que tuvo lugar en Dublin (Irlanda), en julio de 1999. Representa también el lema que rige la vida de las guías scouts en todo el mundo. Uno de los sueños es que ya no debería haber hambre en el mundo y las guías scouts de 27 países se atreven a hacer realidad el sueño de la erradicación del hambre.

Las jóvenes de todos los lugares del mundo aportan ideas para mejorar la nutrición en la propia comunidad. Se alienta a las guías scouts a participar activamente en proyectos mediante los cuales se ayuda a sus comunidades a tener regímenes alimenticios más saludables, nutritivos e inoocuos. Los proyectos tienen la doble finalidad de ayudar a la comunidad y contribuir al desarrollo personal de las jóvenes. Las guías scouts adquieren ellas mismas conocimientos acerca de las cuestiones de la alimentación y la nutrición, para luego transmitirlos a sus comunidades. Aprenden también técnicas de educación y formación, y adquieren dotes de liderazgo y conocimientos prácticos para la vida. Hay muchos proyectos relativos a la alimentación y la nutrición que se tienen en consideración para el premio anual FAO/AMGS. En este artículo, las chicas describen sus proyectos y cómo han mejorado sus vidas desde que trabajan en ellos. ♦



## Third International Food Data Conference

Everywhere we look we find food composition data: nutrition facts on food labels; fats, vitamins and minerals highlighted on television commercials; and newspaper and magazine articles about fantastic nutrients in our foods. Although this information is prepared for consumers, there is very serious science behind it. The scientists responsible for the information met at FAO headquarters in Rome, Italy for the Third International Food Data Conference, held from 5 to 7 July 1999. Back to Basics was the conference's theme. Approximately 250 scientists from more than 54 countries attended the conference. Their aims were to discuss basic technical and scientific issues in analysing foods and in preparing the information for multiple purposes and users. Researchers, clinicians, health and agriculture policy-makers, food industry personnel and consumers are among the users of the data.

The conference was organized by FAO in cooperation with the European Cooperation and Research Action on Food Consumption and Composition Data (COST Action 99/ EUROFOODS), the United Nations University (UNU), the International Union of Nutritional Sciences (IUNS) and the Italian National Institute of Nutrition, Rome. FAO will publish a brief report on the conference, and its conclusions and recommendations, in English, French, Spanish, Arabic and Chinese. More information about food composition can be found on the FAO Internet site: [www.fao.org/infoods](http://www.fao.org/infoods).

**Barbara Burlingame**

*Senior Officer in the Nutrition Planning, Assessment and Evaluation Service of FAO's Food and Nutrition Division*

## BOOKS LIVRES LIBROS

### Can the poor influence policy? Participatory poverty assessment in the developing world

C.M. Robb. 1998. Directions in Development – The World Bank. 128 pp.

In the wake of the 1990 World Development Report on Poverty, poverty studies have become of critical importance to the World Bank as poverty reduction was declared as its core purpose. Since the mid-1990s, it has made increasing use of participatory techniques in its poverty assessment work at the country level. This publication reviews the work accomplished and synthesizes the lessons learned in three main topics: the understanding of poverty, the influence of participatory poverty assessments (PPAs) on policy, and the capacity building of institutions that should play a role in poverty alleviation. The author then summarizes emerging good practice and discusses the complementarity of PPAs with traditional socio-economic surveys.

If most of the findings of these assessments come as no surprise to readers familiar with community development and participatory approaches, the fact that these findings are being given appropriate attention by professionals from a predominantly macroeconomic and financial background is, in itself, a major breakthrough. This publication will therefore contribute to strengthening the legitimacy of participatory approaches. The lessons learned in conducting such exercises are consistent with those emerging from similar processes around the world. Not surprisingly, the findings also confirm the importance of household food security and nutrition issues in poverty alleviation. The style reads easily and the conclusions are presented in a professional and user-friendly way.

This book should constitute a useful reference to development institutions working in Albania, Argentina, Armenia, Azerbaijan, Benin, Brazil, Burundi, Cameroon, Costa Rica, Ecuador, Equatorial Guinea, Gabon, Georgia, Ghana, Guatemala, Kenya, Lesotho, Madagascar, Mali, Mexico, Mozambique, the Niger, Nigeria, Pakistan, the Republic of Moldova, Rwanda, South Africa, Swaziland, Togo, Uganda, Ukraine, the United Republic of Tanzania and Zambia. It is indeed essential to ensure synergy of activities in this area and the policy dialogue initiated by the World Bank in these countries (which has itself in most cases built upon previous work by other organizations) should be used as a basis for further activities at the country level.

**Florence Egal**

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