

Household food security and nutrition in agricultural relief and rehabilitation programmes¹

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In recent years the number of people affected by natural and human-caused emergencies has grown dramatically, from approximately 44 million in the mid-1980s to estimates of more than 175 million in 1993 (FAO, 1996a). Most crises in the 1990s have been brought about by civil conflict or war. Little is spared or protected in these situations; lives are lost, property is destroyed and hundreds of thousands of people are displaced. As a result of emergencies caused by conflicts and natural disasters, food security in a number of countries has deteriorated rapidly, especially in sub-Saharan Africa.

Severe disruption of food production and marketing systems is common during emergencies. Crop destruction and livestock deaths may result from natural events (drought, storms and floods as well as outbreaks of plant and animal pests and diseases), the devastation of war or a combination of events. Access to adequate food becomes difficult, and this hardship contributes to high rates of malnutrition. The provision of food, water, shelter, protection and medical care is essential for survival of refugees and internally displaced persons until the crisis is over and they can return to their homes or establish new ones. Actions are also needed to assist people who remain in their home communities during the crisis. Temporary food distribution and supplementary feeding for vulnerable groups and provision of agricultural inputs are common humanitarian interventions to help people cope when an emergency occurs.

This article focuses on the need for early efforts to foster recovery and promote sustainable development in rural areas. It stresses the importance of taking nutrition considerations into account in trying to ensure that households have secure access to food after a crisis occurs. It highlights the need to examine people's immediate food needs during an emergency and in the rehabilitation phase. As efforts are made to revitalize the local economy, the need to help rural populations meet their own

nutritional needs in the long term is highlighted. Various strategies carried out by FAO and other international agencies, governments and communities are discussed.

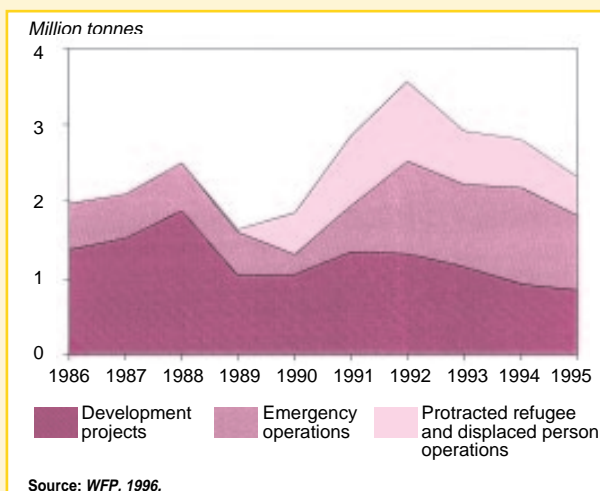
EMERGENCY VERSUS DEVELOPMENT AID

In a number of countries, especially those that have been affected by prolonged crises, a shift in the type of development assistance is taking place, with external relief assistance often becoming the dominant form of aid (see Box).

TRENDS IN EMERGENCY AND DEVELOPMENT ASSISTANCE

The international community and donor agencies have expressed concern that frequent and recurring emergency situations are making increasing demands on international development aid and are absorbing large amounts of resources that might otherwise be available for development purposes. For example, World Food Programme (WFP) emergency food assistance and aid for protracted refugee and displaced person operations rose dramatically between 1989 and 1992. In contrast to emergency aid, WFP food aid designated for development of agricultural and human resources (e.g. food-for-work, food reserves, maternal and child health centre and primary and secondary school feeding programmes) has decreased in importance (see Figure).

WFP shipments for development projects, emergency and protracted refugee operations and displaced person operations, 1986-1995



¹ This article is based partially on unpublished reports by Carol Williams on her field visits to Ethiopia and Mozambique. Ms Williams' contribution is warmly acknowledged.

Relief aid, however, is designed to alleviate the symptoms of food insecurity but not its causes. Such emergency assistance on its own cannot restore an area affected by famine or civil conflict to its previous situation, prevent future food insecurity or help communities in their path of development.

Prevention and preparedness measures and/or early mitigation strategies can alleviate the potentially devastating impact of natural or socio-political events if they are designed to establish mechanisms and build capacities to respond rapidly and effectively to such occurrences. Such efforts can help prevent natural disasters from turning into major emergencies (FAO, 1997). In countries that are prone to natural hazards, these strategies are part of development activities.

Even in regions with protracted conflicts there may be relatively peaceful periods which offer opportunities for development activities and conflict resolution. It must also be recognized that development activities that could help prevent food insecurity often face formidable obstacles, particularly in post-war situations, because in addition to human resources having been lost, infrastructure and institutions have been destroyed.

RELIEF – REHABILITATION – DEVELOPMENT

A gap has emerged between relief and development which has implications for the agencies that have traditionally been involved in either activity. The need for interventions that can bridge this gap and facilitate a faster transition from emergency response to sustainable development is compelling. Rehabilitation is gaining increasing recognition by FAO and other international agencies as an approach that

can help distressed communities move away from emergency relief and re-enter the development process; communities would pass through phases of rehabilitation and reconstruction to eventual sustainable recovery (Brigaldino, 1995).

It is widely appreciated that the type of assistance provided both during and after an emergency can have a major influence on the ability of households to recover and re-establish their independence. Rehabilitation assistance is geared towards bringing the need for relief to an end, allowing communities, governments and aid agencies to concentrate on reconstruction (FAO, 1997). All three processes – relief, rehabilitation and development – may take place simultaneously. The exact combination of activities depends on the situation of the country.

If emergency assistance is linked to development assistance, poverty and food insecurity can be reduced and the improvements in a population's nutritional status can be sustained. This linkage can significantly lessen the need for future emergency assistance, as communities are encouraged to build up their capacity to prepare for and deal with future disasters. For identification and implementation of appropriate rehabilitation interventions that will ensure that relief and development are properly linked, the involvement and commitment of the recipient communities will be required.

The Rome Declaration on World Food Security and World Food Summit Plan of Action, adopted in November 1996, have underlined the urgent need to link relief operations and development programmes (FAO, 1996b). Creating conditions in which households can meet their own basic

During rehabilitation, households regain their ability to meet their food needs



needs and sustain their nutritional well-being is a fundamental aspect of interventions carried out during the different phases of relief, rehabilitation and development programmes. Activities in the agriculture and food sector are key components in these programmes (see Box below).

NATURE OF EMERGENCIES

The precise nature and extent of an emergency determine the types of intervention to be carried out. An emergency may be sudden or gradual, short-lived or prolonged, natural or caused by human activities. Events may affect most of the population or may be limited to certain groups. The economic and social conditions of the country also determine the action to be taken.

Natural disasters may occur suddenly or may develop over a period of time, and relief and rehabilitation responses may vary accordingly. Be the onset slow (e.g. drought) or rapid (e.g. hurricane, earthquake), where resources and socio-economic conditions are fairly favourable, rehabilitation may be short-lived because households can quickly regain food security. If an emergency occurs in conditions of chronic food insecurity or a fragile environment, long-term assistance and a variety of interventions will be needed to support those people who are most affected, usually those who already lack resources and food-insecure groups.

ROLE OF FAO

FAO is the leading international agency for agricultural development. Raising the nutritional levels of all populations is a fundamental aspect of FAO's mandate. Although FAO is primarily a development agency, it is also an important provider of humanitarian assistance.

- To provide early warning of pending disasters and to minimize food insecurity and malnutrition following the outbreak of an emergency, FAO assesses the availability of crop and food supplies and the need for international food assistance through the Global Information and Early Warning System for Food and Agriculture.
- To assist countries in disaster prevention and preparedness programmes, FAO has created the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases.
- After the onset of an emergency, FAO's Special Relief Operations Service can bring relief assistance such as agricultural inputs, e.g. seeds, tools, fertilizer, veterinary vaccines and animals for restocking.
- FAO also provides expertise in planning for agricultural rehabilitation following a disaster.

Ensuring that nutritional and household food security considerations are integrated into activities and interventions for relief and rehabilitation is an important duty. During and after emergencies, FAO interventions are aimed at ensuring that households receive appropriate support to prevent deterioration in their ability to obtain food and to enable them to recover if their food situation has worsened. In addition, FAO acts to lessen the potentially adverse impact of future crises.

Disasters caused by human activities are more complicated to respond to because they often involve a range of factors including climatic and environmental stress, destruction of infrastructure, loss of human resources, large-scale migration and political instability.

GENERAL CONSIDERATIONS IN PROVIDING ASSISTANCE

In many emergencies, intervention strategies must involve diverse sectors, such as agriculture, health, community development, education and planning, so that activities will pertain to both relief and development. Availability of resources and services, targeting of vulnerable segments of the population and appropriate timing are critical.

Resources and services

The condition of infrastructure such as road and rail networks, the institutional capacity of local and national governments to implement rehabilitation measures and the participation of affected communities determine whether relief and rehabilitation assistance have a positive impact. Particularly following war, the recovery of the local economy is influenced by factors such as the reconstruction of networks, the revitalization of local markets and increasing access to these outlets for selling produce and livestock and raising household assets and off-farm employment. Access to services such as water and irrigation, agricultural extension and input supply is essential for restoring the productive capacity of the land. In addition, health, nutrition, water, sanitation and education services are vital for restoring the health and productive capacity of the people.

Targeting

Assistance must be appropriately targeted to ensure that the best use is made of scarce resources and that the most vulnerable individuals benefit. Food aid is usually targeted to those who are entirely destitute and to physiologically vulnerable groups such as the malnourished, infants, children, pregnant and lactating women, the elderly, orphans and the physically disabled.

Nutrition surveillance can serve as an important tool in targeting, since it not only identifies those individuals suffering from malnutrition, but may also provide relevant information about the effectiveness of the intervention by monitoring changes in the nutritional situation. In rehabilitation interventions where the aims are broad and the causes of household food insecurity are addressed, vulnerability is also defined according to socio-economic criteria. This distinction has important implications for



Relief is targeted to destitute families

designing interventions that are sensitive in meeting the particular needs of each group.

People who have sufficient assets such as animals, access to cash income and credit may be able to fend off hunger and starvation without compromising their future capacity for survival. Poor families often lack access to adequate food because they do not possess sufficient land, income or other resources to produce or purchase enough of the food needed for active and healthy lives. Agricultural interventions to improve household food security and nutrition, such as home gardening and crop diversification, should be designed for these vulnerable groups. A special focus on alleviating poverty and food insecurity can help speed and sustain their capacity to recover. People who have fled from conflict in rural areas and have temporarily settled in towns may also benefit from such programmes if suitable land and water are available and they are given the resources (e.g. seeds and tools) to grow food.

Timing

Whatever the intervention, correct timing is vital to prevent the loss of lives and the waste of scarce resources. It is essential that disaster preparedness and mitigation measures be implemented at the onset of an emergency (e.g. crop failure resulting from drought) so that households may be able to safeguard their productive assets and protect food security. For example, low-cost or subsidized cereals can be provided to farmers through the market, targeted food-for-work programmes or food distributions (including the distribution of supplementary foods to children and mothers) to alleviate the risks of hunger during the wait for

the next harvest season. Some examples of interventions that can protect household resources from depletion are income support programmes, including labour-intensive employment schemes; direct cash support; exchange of livestock for cash or food; and fodder distribution in pastoral communities.

If preventive or mitigation measures are not possible or are insufficient, households will attempt to cope with an emergency by selling livestock, eating seed and migrating in search of employment, and their food situation will become more precarious. These activities may erode their ability to produce or procure food in the future and undermine their chances for early recovery and rehabilitation.

After an emergency, when farmers have lost their crops and productive assets, agricultural interventions need to be organized. For example, seeds for drought-tolerant staple crops and vegetables, tools, and veterinary care and fodder for livestock and draught animals may be distributed.

The timely provision of take-home food relief rations and of supplementary feeding for vulnerable groups is critical in preventing malnutrition and large-scale migration and enabling people to retain their seed and livestock.

NUTRITION AND HOUSEHOLD FOOD SECURITY CONCERNS

Both during and after an emergency, access to adequate food, health and care may be severely constrained.

Households' nutritional status will be influenced not only by their access to an appropriate quantity and quality of food, but also by their access to wood or other fuel, clean water and food preparation equipment as well as time for

feeding infants and young children. Nutritional knowledge and cultural practices may influence the amount and the type of food that each person in the household receives. Lack of access to health care and sanitation as well as food also affects appetite, nutrient needs and the ability to absorb nutrients.

When people are re-establishing their homes and farms, they may continue to be vulnerable to malnutrition. Displaced people or refugees returning to their home countries rarely have sufficient cooking equipment, storage vessels and water vessels to prepare their meals. There may be problems with milling of cereals because of lack of grinding mills. Scarcity of cooking fuel can be an additional problem affecting refugees and local populations alike, as large areas around relief camps have been denuded of trees in the search for lumber and fuelwood.

The nutritional knowledge of household members is one of the factors influencing how they allocate their scarce food resources among themselves and may determine whether

NUTRITIONAL ADEQUACY OF RATIONS

Whether households are in refugee camps or receiving relief at home, food assistance may be the main source of nourishment during an emergency. After a crisis, many people still need relief rations to meet their food requirements until the first harvest.

The nutritional composition of the food provided in assistance programmes is critical. However, food aid and food security intervention programmes do not always ensure that a balanced diet is available to the needy. Food rations typically consist of cereals, oil and beans; they often contain inadequate amounts of energy and protein and lack variety.

It is important that relief rations cover energy needs for agricultural work and reconstruction. The rations should be based on appropriate average requirements for individuals undertaking such physical activities (James and Schofield, 1990). Lack of adequate and appropriate food during peak agricultural periods contributes to under-nutrition because energy requirements are high at this time. Low body weight among adults, as measured by body mass index (BMI), is highly correlated with periods of illness, low physical activity and reduced capacity to work.

Diets among food relief recipients are frequently deficient in essential micronutrients such as vitamins A and C, niacin and iron. There is considerable evidence that the poor nutritional quality of food rations was a factor in several outbreaks of scurvy in Ethiopia, Somalia and the Sudan and in pellagra affecting Mozambican refugees in Malawi during the 1980s (Toole, 1992).

The micronutrient composition of the diet influences disease resistance, growth and development of children and capacity to work, learn and play. Severe and prolonged lack of micronutrients can lead to irreversible damage; for example, vitamin A deficiency causes night blindness and eventual blinding xerophthalmia, and iodine deficiency during pregnancy or infancy leads to brain damage and mental retardation in children.

Anaemia resulting from low iron intakes is known to weaken adults and to reduce their work capacity. Women of child-bearing age have greater iron requirements; thus ensuring sufficient iron intakes is especially crucial for this segment of the population.

labouring adults or nutritionally vulnerable infants and children have priority in receiving food. The ability to prepare suitable meals with the foods available is affected by households' understanding of their food and nutritional needs. Nutrition education may be needed to enable refugee and returnee populations to make use of unfamiliar foods. Whether farmers give priority to growing more nutritionally appropriate crops in the immediate post-emergency period may also depend on their nutritional knowledge, along with the availability of appropriate seeds and other inputs. Agricultural extension services and nutrition educators can have an important role in diversifying the local food supply and diet.

INTERVENTIONS

Nutrition interventions are not limited to food provision and consumption matters; a wide range of activities can have an impact on food security and nutrition.

Assessment

Data on levels of malnutrition, micronutrient deficiencies, mortality, outbreaks of disease and threats to health should be collected. These data can be compared with data from normal years (if they are available) to determine whether there has been a significant change in acute malnutrition. An increase in levels of malnutrition of more than 10 to 20 percent is likely to be a result of food insecurity, especially if the increase occurs in the absence of a major disease epidemic and the change affects the entire population (Young and Jaspars, 1995).

Anthropometry. Expertise in the area of nutritional or anthropometric assessment is needed. Data on levels of malnutrition [i.e. percentages of wasting or stunting or mid-upper-arm circumference (MUAC) for children; body mass index (BMI) for adults] can serve as good indicators of the nutrition situation of the community and can identify the population groups that are most at risk of malnutrition. By itself, anthropometric information is difficult to interpret meaningfully; it should be analysed in conjunction with qualitative information to identify the causes of food insecurity and malnutrition. Furthermore, there is a need to coordinate and standardize the collection of data on household food security, health and nutrition to ensure comparability and accurate interpretation of results with a view to planning appropriate interventions and monitoring their impact.

Local food patterns. Information about the basic food system and how food is obtained (e.g. wage labour, household agriculture, food aid, bartering) should be gathered.

Knowledge of the seasonal cycle of activities and its effects on household food security and composition of the diet is important. It should be determined how and to what extent local food patterns are affected by the emergency situation. Persons familiar with the local conditions can provide valuable information about how households cope with food shortages (e.g. through changes in food acquisition behaviour such as gathering wild foods) and can identify the various sources of food available to people in different areas and agro-ecological environments. They can assess whether there are changes in meal patterns, types of food, frequency of feeding and patterns of breastfeeding. The constraints that women face in providing adequate care for their children can be identified.

Information about quality of the diet, food hygiene and safety and access to health services is essential for a comprehensive picture of the situation. Because adequate nutrition is of central importance to families and communities, especially in times of food scarcity, nutritionists are particularly well placed to assist the local planning authorities and to mobilize the local people in addressing their food, care and feeding problems. Nutritionists and others can obtain the views of community members regarding their immediate concerns and priorities and their own assessment of their current food situation. The views and priorities of different groups, including rich and poor farmers, nomads, casual labourers, artisans, fishermen and the urban poor as well as local or district authorities, should be considered. The comparative situation of male- and female-headed households should also be assessed. Based on these assessments, it can be determined whether various groups are at risk of food insecurity.

Planning and implementation

Nutrition considerations and objectives should be incorporated into relief and rehabilitation programmes from the start. Participatory assessment and planning approaches can be applied in planning interventions after emergencies. In planning agricultural interventions, household food security and nutritional needs should be addressed. For example, nutritionists can identify the need for food aid and food-for-work programmes in combination with agricultural rehabilitation. They can plan accompanying measures such as training and nutrition education for extension staff and affected populations, to include subjects such as food production, storage, processing and preparation of foods.

Agricultural relief interventions frequently include the distribution of seeds, tools, fertilizer, pesticides and draught animals. Nutritionists can recommend whether such distributions should include a general food ration as well. To make effective use of these agricultural inputs, households must have enough food to tide them over to the next harvest. As noted earlier, without the distribution of an adequate general ration, households may be forced to eat the seed, to sell the agricultural inputs to buy food or to labour on other people's farms or in food-for-work schemes at the expense of cultivating their own fields.

Crop choice. In seed distributions, priority is often given to the main staple crops, although pulses and vegetable seeds may be distributed as well. While the choice of crop is often determined by seed availability, the use of nutrition criteria can encourage a more diversified food supply that can meet the nutritional needs and consumption patterns of the



Strategies to cope with food shortages are discussed by community members

population. Foods to be promoted should include energy- and protein-rich foods (i.e. staple, oil and legume crops) and micronutrient-rich foods (e.g. vegetables and fruits).

Provision of vegetable seeds can encourage even households with limited access to land to cultivate mixed gardens around their homestead. Home gardens can make valuable contributions to the family food supply and income as well as providing a welcome complement to relief rations. Home gardening is especially beneficial when attention is given to raising small animals as well.

Cassava and sweet potatoes, which are often less favoured and underutilized, are gaining importance as safeguards against food insecurity in conflict and post-conflict situations. They are substituted for rice and maize, which are usually considered to be higher status foods. Roots and tubers are easy to grow, mature quickly and provide energy. Since they are kept underground, they are less vulnerable to destruction and raiding. However, where these foods are not customarily consumed or are considered to be inferior, people may lack the knowledge and skills to store, process and prepare them properly. Educating people about appropriate storage methods and proper processing for these crops and about their use in the preparation of tasty meals and snacks will be important if their full nutritional benefits are to be derived. In the long term, education about nutrition and proper food utilization will also prove beneficial in helping to contribute to food diversity and to reduce dependency on one staple crop.

Obstacles. Interventions may not reach all households in need. Households with very limited access to farmland or water may not be helped by distribution of staple seeds or animals. In post-drought conditions these are some of the most vulnerable households since lack of land or water will prevent them from embarking on agricultural production.

Cultural conditions can present problems for women-headed households if women lack tenure to land and are excluded from participating in community decision-making processes. In some societies male-headed households may have a tradition of sharing farm equipment and animals and exchanging labour, while women may not benefit from such arrangements. Special support may be needed to enable women to prepare their land and to produce food. Where possible, women should be encouraged to work in groups to take advantage of inputs and to share responsibilities and labour for food production and income generation. This strategy works well, particularly among populations with strong traditions of labour sharing. Groups also provide a measure of protection during conflict situations when women may feel threatened in leaving the safety of their home compounds to work alone in fields in peripheral areas.

Monitoring and evaluation

Monitoring and information systems should be integral parts of relief and rehabilitation programmes from the beginning. Based on the initial assessments discussed above,



Women may need special assistance to resume their agricultural activities

indicators of the food security and nutrition situation are identified to measure the effects of interventions. It is particularly important to monitor the changes that people experience over a long period and how they try to cope with the changing situations. Such monitoring will allow a better understanding of the overall progress of the assistance programme in a given location and will also facilitate timely adjustment of activities, if necessary.

Local communities should be involved in the monitoring process, as such participation can encourage the development of a close relationship between the community, the local government and aid agencies. Encouraging community participation in programme implementation and creating opportunities for reviewing and discussing the results of monitoring (quantitative and qualitative data) will contribute to local capacity building and increase the chances of sustaining the activities.

BUILDING CAPACITY

It may be necessary to strengthen the capacity of government and non-governmental organization (NGO) staff to assess household food security and nutrition problems, plan and implement relief and rehabilitation programmes and monitor and evaluate interventions. Information, guidance and training on these activities can be provided at the national and local levels. Field staff should be trained in aspects of food production, storage, processing and preservation pertaining to food security and nutrition.

Coordination of assistance

Development of a strong national capacity and a clear focal point for nutrition within government agencies will facilitate collaboration and coordination among agencies with regard to information exchange, guidance and training on food and nutrition. The resources thus disseminated will raise awareness among policy-makers and planners about issues and activities related to the food and nutrition situation of refugee, displaced and local populations. Coordination will be enhanced among government ministries (especially health and agriculture), donors and NGOs in planning and practical development of food and nutrition interventions in relief and rehabilitation programmes. Increased cooperation could allow harmonization of strategies and approaches and improved resource allocation. Only if household food security and nutrition become part of national policy on relief and rehabilitation can decision-makers expect their actions to lead to an improvement of the nutritional condition of emergency victims.

International community

There is a need for shared understanding of the aims and objectives of interventions among the various United Nations and government agencies and NGOs involved at the different stages of an emergency. Many emergencies, especially those identified as complex, require an international response that goes beyond the mandate or capacity of a single United Nations agency; this recognition has led to new policies to guide humanitarian assistance and to the establishment in 1992 of the Department of Humanitarian Affairs (DHA) at the United Nations Secretariat in New York to coordinate the UN system response to disasters (FAO, 1996c).

While emergencies often require an international response, it should be recognized that relief strategies that are based on a clear understanding of the needs and constraints of the local people who are affected by the emergency are more likely to evolve into appropriate long-term programmes and sustainable recovery. Through the rehabilitation and development of agriculture, livestock and fisheries as well as other employment- or income-generating programmes, nutrition situations and household food security can be enhanced and self-reliance can be restored. ♦

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Household food security and nutrition in agricultural relief and rehabilitation programmes

Natural and human-caused emergencies can cause rapid deterioration in food security and high rates of malnutrition. Relief aid cannot restore an area affected by famine to its previous situation or prevent future food insecurity; thus the need for early efforts to link relief, rehabilitation and sustainable development is compelling. Agricultural relief and rehabilitation activities should ensure access to food by vulnerable households and consider the nutritional needs of individuals.

During and after a crisis, food assistance may be a major source of nourishment. Nutritionists assess whether such aid is needed and ensure that the composition of the food provided is appropriate. Nutrition surveillance identifies individuals suffering from malnutrition and provides information for monitoring the impact of the emergency and the intervention. Nutrition education can enable families to use unfamiliar foods and influence the amount and the type of food that each person receives.

Information about local farming systems and socio-economic conditions is used to address the causes of household food insecurity. Along with seeds and tools, farmers should have knowledge of nutrition to aid in their choice of appropriate crops. Agricultural extensionists and nutrition educators can encourage diversification of the local food supply and diet. Through the rehabilitation and development of agriculture, livestock, fisheries and other employment- or income-generating programmes, nutrition situations and household food security can be enhanced and self-reliance can be restored.

Developing a strong national capacity and focal point for nutrition within government agencies facilitates collaboration and coordination among government ministries, donor agencies and non-governmental organizations (NGOs) and raises awareness among policy-makers and planners about the food and nutrition situation of refugee, displaced and local populations. Only if household food security and nutrition become part of the national relief and rehabilitation policy can decision-makers expect their actions to lead to an improvement of the nutritional condition of emergency victims.

Relief and rehabilitation strategies that are based on a clear understanding of the needs, constraints and priorities of the local people who are affected by the emergency are more likely to evolve into appropriate long-term programmes and sustainable recovery.

Sécurité alimentaire des ménages et nutrition dans les programmes de secours et de relance de l'agriculture

Les situations d'urgence, qu'elles soient d'origine naturelle ou humaine, peuvent déterminer une détérioration rapide de la sécurité alimentaire et des degrés de malnutrition élevés. L'aide de secours ne permet pas de rétablir la situation précédente dans une zone touchée par la famine, ni de conjurer tout risque d'insécurité alimentaire future, d'où l'obligation d'intervenir rapidement en établissant un lien entre secours, relance et développement durable. Les activités de secours et de relance de l'agriculture devraient assurer l'accès des ménages vulnérables à la nourriture et tenir compte des besoins nutritionnels de chacun.

Pendant et après une crise, l'aide alimentaire peut représenter une source importante de nourriture. C'est aux nutritionnistes qu'il revient d'évaluer si une telle aide est nécessaire et de veiller à ce que la composition des aliments soit appropriée. La surveillance nutritionnelle permet d'identifier les individus souffrant de malnutrition et d'obtenir les informations utiles pour surveiller les effets de la situation d'urgence et de l'intervention effectuée. L'éducation nutritionnelle peut permettre aux familles d'utiliser des aliments nouveaux et influencer sur la quantité et la nature des aliments destinés à chacun.

Les informations relatives aux conditions socioéconomiques et systèmes de culture locaux permettent de traiter les causes mêmes de l'insécurité alimentaire des ménages. Outre les semences et les outils nécessaires, il faudrait que les agriculteurs aient également quelques connaissances en matière de nutrition pour pouvoir opter pour des cultures appropriées. Les vulgarisateurs agricoles et les éducateurs nutritionnels peuvent promouvoir la diversification des disponibilités alimentaires et de l'alimentation locales. A travers la relance et le développement de l'agriculture, de l'élevage et des pêches, et des programmes générateurs d'emplois ou de revenus, il est possible d'améliorer la situation alimentaire et la sécurité alimentaire des ménages, et de restaurer la capacité d'autoapprovisionnement.

La création d'une capacité nationale renforcée, point de convergence des questions nutritionnelles au niveau gouvernemental, favorise la coopération et la coordination entre ministères, donateurs et ONG,

et rend les décideurs et les planificateurs plus sensibles à la situation alimentaire et nutritionnelle des réfugiés, des personnes déplacées et des populations locales. Ce n'est que si la sécurité alimentaire et la nutrition des ménages deviennent partie intégrante de la politique nationale de secours et de relance, que les décideurs pourront espérer que leurs efforts conduiront à une amélioration de l'état nutritionnel des victimes de situations d'urgence.

Il convient d'admettre que, lorsqu'elles reposent sur une bonne connaissance des besoins, des contraintes et des priorités des populations locales en situation d'urgence, les stratégies de secours et de relance ont plus de chances d'évoluer vers des programmes à long terme appropriés et une relance durable.

La nutrición y la seguridad alimentaria familiar en los programas de socorro y rehabilitación agrícolas

Las emergencias naturales o de origen humano pueden causar un rápido deterioro de la seguridad alimentaria y tasas altas de malnutrición. La ayuda de socorro no puede restablecer la situación anterior de una zona afectada por el hambre o impedir la inseguridad alimentaria en el futuro, por lo que hay una necesidad imperiosa de vincular desde el principio el socorro a la rehabilitación y el desarrollo sostenible. Las actividades de socorro y rehabilitación agrícolas deben asegurar el acceso de las familias vulnerables a los alimentos y tener en cuenta las necesidades nutricionales de cada persona. Durante una crisis y después de ella, la asistencia alimentaria puede ser una fuente importante de nutrición. Los nutricionistas evalúan si esta ayuda es necesaria y se aseguran de que la composición de los alimentos suministrados es apropiada. La vigilancia nutricional determina qué personas sufren malnutrición y proporciona información para estudiar los efectos de la emergencia y la intervención. La educación nutricional permite a las familias utilizar alimentos poco habituales e influye en la cantidad y el tipo de alimentos que recibe cada persona.

La información sobre los sistemas de cultivo y las condiciones socioeconómicas locales se utiliza para abordar las causas de la inseguridad alimentaria familiar. Junto con las semillas y herramientas, los agricultores adquieren conocimientos nutricionales para elegir los cultivos apropiados. Los agentes de extensión agrícola y de educación nutricional pueden fomentar la diversificación del suministro de alimentos y de la alimentación a nivel local. Gracias a la rehabilitación y al fomento de la agricultura, la ganadería y la pesca, así como a otros programas de generación de empleo e ingresos, es posible mejorar la situación nutricional y la seguridad alimentaria familiar y restablecer la autosuficiencia.

El fortalecimiento de la capacidad nacional y el establecimiento en los organismos gubernamentales de un centro de enlace en materia de nutrición facilitan la colaboración y coordinación entre ministerios, organismos donantes y ONG y hacen que los encargados de la formulación de políticas y la planificación adquieran mayor conciencia de la situación alimentaria y nutricional de los refugiados, las personas desplazadas y la población local. Sólo si la seguridad alimentaria y la nutrición de las familias se integran en las políticas nacionales de socorro y rehabilitación cabrá esperar que las decisiones adoptadas por los órganos responsables se traduzcan en una mejora del estado nutricional de las víctimas de situaciones de emergencia. Hay que reconocer que las estrategias de socorro y rehabilitación que se basan en una clara comprensión de las necesidades, limitaciones y prioridades de la población local afectada por la crisis tienen más probabilidades de culminar con el tiempo en una recuperación sostenible. ♦

FAO'S ENDEAVOURS IN EARLY WARNING AND RELIEF

EARLY WARNING SYSTEM ON FOOD AND AGRICULTURE

Policy-makers and relief agencies need the most up-to-date and accurate information available on all aspects of food supply and demand. FAO's Global Information and Early Warning System for Food and Agriculture (GIEWS) issues regular bulletins on food crop production and markets at the global level and situation reports on a regional and country-by-country basis. GIEWS warns of imminent food problems so that interventions can be planned and suffering avoided. To achieve this goal, the system:

- monitors food supply and demand in all countries of the world on a continuous basis;
- compiles and analyses information on global production, stocks, trade and food aid and monitors export prices and developments on main grain exchanges;
- reacts to human-made or natural disasters by sending rapid evaluation missions to the countries affected and issuing special alerts and special reports which are quickly disseminated to the international community;
- reports to the international community through its regular publications, one-off reports and Internet server;
- answers specific requests for information from governments, non-governmental organizations (NGOs), research institutions and individuals;
- develops new approaches for providing early warning.

While the system has global coverage, particular emphasis is placed on the countries and regions where food emergencies are most likely to occur. The system has also taken the lead in generating information on the food situation in the Commonwealth of Independent States (CIS) and eastern Europe.

Country-by-country monitoring allows GIEWS to gain an in-depth understanding of developments in global food markets. It also allows policy analysts to gain a subregional or regional perspective on food questions. GIEWS's country monitoring concentrates on a group of some 80 low-income food-deficit countries (LIFDCs). Food security in these countries is particularly vulnerable to crop failure or high international cereal prices.

GIEWS is operated by the Commodities and Trade Division of FAO. Its crop yield monitoring activities are supported by FAO's Environment and Natural Resources Service, which also processes and provides real-time satellite images through FAO's ARTEMIS (African Real-Time Environmental Monitoring using Imaging Satellites). Information on migratory pest movements and control operations is provided on a regular basis by the Emergency Centre for Locust Operations (ECLC) and the Emergency Prevention System for Transboundary Animal and Plant Pests and Diseases (EMPRES). The Food and Nutrition Division, the Special Relief Operations Service and the Policy Coordinating Service work closely with GIEWS. FAO-supported regional and national early warning and food information systems are planned and implemented by the Food Security and Agricultural Projects Analysis Service. FAO's regional, subregional and national offices facilitate the flow of information from governmental and intergovernmental authorities.

The World Food Programme (WFP) collaborates with GIEWS through periodic coordination meetings, joint missions, exchange of published information and daily informal and official contact. GIEWS also participates in interagency missions under the auspices of the United Nations Department of Humanitarian Affairs, which make sector-by-sector estimates of relief needs in disaster-affected countries. Most of the missions are dispatched to countries where natural or warfare-related disasters are known to have occurred, although regular missions are launched to some of the most food-insecure countries and subregions.

GIEWS is an open forum for the exchange of information on food security. Economic, political and agricultural information is received from a wide variety of official and unofficial sources. Since 1975, institutional links and information-sharing agreements have been forged with 113 governments, three regional organizations and 60 NGOs. Numerous international research institutes, news services and private-sector organizations also collaborate.

SPECIAL RELIEF OPERATIONS SERVICE

Since the early 1970s, FAO has designated a specific office to act as focal point for emergency interventions in agriculture and related sectors. The Special Relief Operations Service acts as FAO's front line in the Organization's disaster assistance efforts. It responds to requests for emergency assistance in the agricultural, livestock and fisheries sectors submitted by developing countries afflicted by exceptional natural calamities (such as drought, floods, cyclones or hurricanes, crop pest infestations or epidemic animal diseases) or human-made disasters (emergency situations caused by war, civil strife or political upheaval).

FAO emergency assistance covers a wide range of activities to rehabilitate disaster-stricken areas. The Special Relief Operations Service also assists developing countries in establishing preparedness and post-emergency measures. Activities include:

- assessment and monitoring of emergency requirements in the agro-economic and livestock sectors;
- mobilization and coordination of donor support;
- execution of urgent relief operations through the provision of agricultural inputs such as seeds, fertilizer and pesticides; agricultural equipment such as small tools, farm machinery, irrigation and fishery equipment; veterinary and feed supplies and breeding animals; and logistic facilities, including vehicles and spare parts, workshops and training courses.

The procurement of materials and implementation of projects begin shortly after the emergency has occurred. These activities are followed by early rehabilitation efforts. The early relief and rehabilitation operations can serve as entry points for improvement of farming practices and provide opportunities for planning the transition from emergency to development.

Emergency relief and rehabilitation projects are financed by contributions from governmental and non-governmental agencies, United Nations agencies and FAO's Technical Cooperation Programme. FAO headquarters staff collaborate with the United Nations Department of Humanitarian Affairs in obtaining funds and with the FAO Representatives within the countries in implementation of the projects. In 1996, FAO's Special Relief Operations Service provided emergency assistance in Africa, Asia, Central America and the Caribbean, Europe and the Near East.

LES EFFORTS DE LA FAO DANS LE DOMAINE DE L'ALERTE RAPIDE ET DU SECOURS

SYSTÈME D'ALERTE RAPIDE SUR L'ALIMENTATION ET L'AGRICULTURE

Les décideurs et les organismes de secours doivent pouvoir disposer des informations qui soient le plus à jour et précises possible sur tout ce qui concerne l'offre et la demande de produits alimentaires. Le Système mondial d'information et d'alerte rapide sur l'alimentation et l'agriculture (SMIAR) publie régulièrement des bulletins sur la production agricole et les marchés mondiaux, ainsi que des rapports de situation par région et par pays. Le Système avertit de l'imminence de problèmes alimentaires, ce qui permet de planifier les interventions et d'éviter bien des souffrances. Pour ce faire, le Système:

- étudie de façon suivie et ininterrompue l'offre et la demande de produits alimentaires dans tous les pays du monde;
- recueille et analyse les informations concernant la production mondiale, les stocks, les échanges et l'aide alimentaire, et observe les prix à l'exportation et les tendances des échanges des principales céréales;
- intervient en cas de catastrophe naturelle ou d'origine humaine, en envoyant une mission d'évaluation rapide dans le pays touché et en publiant un Rapport/Alerte spécial promptement distribué à la communauté internationale;
- informe la communauté internationale par le biais de ses publications périodiques, de ses rapports extraordinaires et de son serveur Internet;
- répond aux demandes spécifiques d'information provenant de gouvernements, d'organisations non gouvernementales (ONG), d'instituts de recherche et de particuliers;
- met au point de nouvelles stratégies en matière d'alerte rapide.

Bien qu'il ait une couverture mondiale, le Système met en particulier l'accent sur les pays et les régions les plus à risque de crise alimentaire. Il a également joué un rôle de premier plan dans la production d'informations sur la situation alimentaire dans la Communauté des Etats indépendants (CEI) et en Europe orientale.

Ce suivi pays par pays permet au SMIAR d'avoir une connaissance approfondie des nouvelles tendances des marchés alimentaires mondiaux. Il permet également aux responsables de l'analyse des politiques de considérer les questions alimentaires dans une perspective sous-régionale ou régionale. Le travail de suivi par pays effectué par le SMIAR se concentre sur un groupe de quelque 80 pays à faible revenu et à déficit vivrier (PFRDV). Dans ces pays, la sécurité alimentaire est particulièrement vulnérable, à la merci d'une mauvaise récolte ou d'une hausse des cours mondiaux des céréales.

Le SMIAR relève de la Division des produits et du commerce international de la FAO. Les activités de suivi du rendement des cultures sont financées par le Service de l'environnement et des ressources naturelles de la FAO, responsable également du traitement et de la fourniture en temps réel d'images-satellites par le biais du système ARTEMIS de la FAO (Observation en temps réel de l'environnement par satellite imageur en Afrique). Des informations sur les déplacements des ravageurs migrants et les opérations de lutte sont régulièrement fournies par le Centre d'intervention antiacridienne d'urgence (ECLC) et le Système de prévention et de réponse rapide contre les ravageurs et les maladies transfrontières des animaux et des plantes (EMPRES). La Division de l'alimentation et de la nutrition, le Bureau des opérations spéciales de secours et le Service de la coordination des politiques travaillent en collaboration étroite avec le SMIAR. Des systèmes nationaux et régionaux d'alerte rapide et d'information alimentaire, soutenus par la FAO, sont projetés et mis en application par le Service de la sécurité alimentaire et de l'analyse des projets agricoles. Les Bureaux régionaux, sous-régionaux et nationaux de la FAO facilitent le flux d'informations provenant des autorités gouvernementales et intergouvernementales.

Le Programme alimentaire mondial (PAM) collabore avec le SMIAR à travers des réunions de coordination périodiques, des missions conjointes,

l'échange des informations publiées et des contacts quotidiens informels et officiels. Le SMIAR participe également à des missions interinstitutions, sous les auspices du Département des Affaires humanitaires des Nations Unies, pour l'établissement d'estimations, secteur par secteur, des besoins de secours dans les pays sinistrés. Si la plupart des missions sont envoyées dans les pays victimes de catastrophes naturelles ou dévastées par la guerre, des missions ordinaires sont toutefois organisées également dans certains des pays et sous-régions où la situation d'insécurité alimentaire est particulièrement grave.

Le SMIAR est un forum ouvert à l'échange d'informations sur la sécurité alimentaire. Il recueille les informations à caractère économique, politique et agricole provenant de nombreuses sources officielles et officieuses. Depuis 1975, des liens institutionnels ont été noués et des accords d'échange d'informations passés avec 113 gouvernements, trois organisations régionales et 60 ONG. De nombreux instituts internationaux de recherche, services de presse et organisations du secteur privé offrent également leur collaboration.

BUREAU DES OPÉRATIONS SPÉCIALES DE SECOURS

Depuis le début des années 70, un bureau spécial fait office, au sein de la FAO, de centre de coordination pour les interventions de secours en agriculture et dans les secteurs connexes. Le Bureau des opérations spéciales de secours joue ainsi un rôle de première ligne dans les opérations d'aide en cas de catastrophe de l'Organisation. Il répond aux demandes d'aide d'urgence dans les secteurs de l'agriculture, de l'élevage et des pêches, que présentent les pays en développement frappés par des catastrophes naturelles exceptionnelles (sécheresse, inondations, cyclones ou ouragans, infestations de ravageurs ou épizooties) ou par des catastrophes d'origine humaine (dégâts dus à la guerre, aux troubles civils ou aux bouleversements politiques).

L'aide d'urgence de la FAO couvre une vaste gamme d'activités de remise en état des zones touchées. Le Bureau des opérations spéciales de secours aide également les pays en développement à préparer des mesures préventives ou postérieures à la crise. Les activités menées sont notamment les suivantes:

- évaluation et suivi des besoins d'urgence dans les secteurs agroéconomique et de l'élevage;
- mobilisation et coordination du soutien fourni par les donateurs;
- réalisation d'opérations de secours d'urgence à travers la fourniture d'intrants agricoles tels que semences, engrais et pesticides; d'équipements agricoles, à savoir petit outillage, machines agricoles, matériel d'irrigation et de pêche; de matériel vétérinaire, d'aliments pour animaux et d'animaux de reproduction; et d'installations logistiques, y compris véhicules et pièces détachées, ateliers et cours de formation.

L'achat des fournitures nécessaires et le démarrage des projets interviennent peu après la survenue de la situation d'urgence et ces activités sont suivies par des opérations rapides de remise en état. Ces opérations de secours et de remise en état rapides peuvent servir de points de départ pour l'amélioration des pratiques agricoles et constituer également l'occasion de commencer à préparer la transition entre la situation d'urgence et le développement.

Les projets de secours d'urgence et de relance sont financés par les contributions des organisations gouvernementales et non gouvernementales, les institutions des Nations Unies et le Programme de coopération technique de la FAO. Le personnel du siège travaille en coordination avec le Département des Affaires humanitaires des Nations Unies pour l'obtention des fonds nécessaires et avec les Représentants de la FAO dans les pays pour l'exécution des projets. En 1996, le Bureau des opérations spéciales de secours de la FAO a fourni une aide d'urgence en Afrique, en Asie, en Amérique centrale et dans les Caraïbes, en Europe et au Proche-Orient.

LABORES DE LA FAO EN MATERIA DE ALERTA Y SOCORRO

SISTEMA MUNDIAL DE INFORMACION Y ALERTA SOBRE LA ALIMENTACION Y LA AGRICULTURA

Los encargados de formular políticas y los organismos de socorro necesitan una información lo más actualizada y precisa que sea posible sobre todos los aspectos de la oferta y demanda de alimentos. El Sistema mundial de información y alerta sobre la alimentación y la agricultura (SMIA) publica periódicamente boletines sobre producción y mercados de alimentos en todo el mundo e informes sobre la situación en los distintos países y regiones. El SMIA señala problemas alimentarios inminentes, de manera que se puedan programar intervenciones y evitar sufrimientos. Para ello, el SMIA:

- vigila constantemente la oferta y demanda de alimentos en todos los países del mundo;
- compila y analiza información sobre producción, existencias, comercio y ayuda alimentaria en todo el mundo y vigila los precios de exportación y la evolución de las principales bolsas de cereales;
- reacciona ante las catástrofes naturales o de origen humano enviando misiones de evaluación rápida a los países afectados y publicando alertas e informes especiales que se distribuyen inmediatamente a la comunidad internacional;
- informa a la comunidad internacional a través de sus publicaciones periódicas, informes extraordinarios e Internet;
- responde a las peticiones concretas de información de gobiernos, organizaciones no gubernamentales, instituciones de investigación y particulares;
- elabora nuevos criterios para establecer sistemas de alerta.

Si bien el SMIA es de ámbito mundial, presta especial atención a los países y regiones donde hay más probabilidades de que ocurran emergencias alimentarias. Ha sido también el primero en generar información sobre la situación alimentaria en la Comunidad de Estados Independientes y en Europa oriental.

La vigilancia por países permite al SMIA adquirir un profundo conocimiento de la evolución de los mercados mundiales de alimentos. También permite a los analistas de políticas estudiar las cuestiones alimentarias desde una perspectiva subregional o regional. La vigilancia del SMIA se centra en un grupo de unos 80 países de bajos ingresos y con déficit de alimentos. La seguridad alimentaria en estos países es especialmente vulnerable a una mala cosecha o a una subida de los precios internacionales de los cereales.

El SMIA es administrado por la Dirección de Productos Básicos y Comercio de la FAO. Las actividades de vigilancia del rendimiento de los cultivos reciben el apoyo del Servicio del Medio Ambiente y los Recursos Naturales de la FAO, a través del Control del medio ambiente de África en tiempo real con imágenes de satélite (ARTEMIS). El Centro de operaciones de emergencia contra la langosta y el Sistema de prevención de emergencia (EMPRES) de plagas y enfermedades transfronterizas de los animales y las plantas suministran periódicamente información sobre movimientos de plagas migratorias y operaciones de lucha. La Dirección de Alimentación y Nutrición, la Oficina de Operaciones Especiales de Socorro y el Servicio de Coordinación de Políticas colaboran estrechamente con el SMIA. El Servicio de Seguridad Alimentaria y Análisis de Proyectos Agrícolas planifica y aplica sistemas regionales y nacionales de alerta e información alimentaria con el apoyo de la FAO. Las oficinas regionales, subregionales y nacionales de la FAO facilitan la circulación de información procedente de las autoridades gubernamentales e intergubernamentales.

El Programa mundial de alimentos (PMA) colabora con el SMIA a través de reuniones periódicas de coordinación, misiones conjuntas, intercambio de información publicada y contactos diarios oficiales y extraoficiales. El SMIA participa también en misiones entre

organismos, bajo los auspicios del Departamento de Asuntos Humanitarios de las Naciones Unidas, que efectúan estimaciones por sectores de las necesidades de socorro en los países afectados por catástrofes. La mayoría de las misiones se envían a países donde se tienen noticias de catástrofes naturales o relacionadas con la guerra, pero también se efectúan misiones periódicas en algunos de los países y subregiones más expuestos a la inseguridad alimentaria.

El SMIA constituye un foro abierto para el intercambio de información sobre la seguridad alimentaria. Se recibe información económica, política y agrícola de una gran variedad de fuentes oficiales y extraoficiales. Desde 1975, se han establecido vínculos institucionales y acuerdos sobre intercambio de información con 113 gobiernos, tres organizaciones regionales y 60 ONG. También colaboran con el SMIA numerosos institutos internacionales de investigación, servicios de noticias y organizaciones del sector privado.

OFICINA DE OPERACIONES ESPECIALES DE SOCORRO

A principios del decenio de 1970, la FAO creó una oficina especial para coordinar las intervenciones de urgencia en la agricultura y sectores afines. La Oficina de Operaciones Especiales de Socorro encabeza los esfuerzos de la Organización para prestar asistencia en casos de catástrofe. Responde a las peticiones de ayuda de urgencia en los sectores agropecuario y pesquero que presentan los países en desarrollo afectados por calamidades excepcionales (sequías, inundaciones, ciclones o huracanes, plagas agrícolas y epizootias), así como desastres de origen humano (situaciones de emergencia causadas por guerras, disturbios civiles o agitaciones políticas).

La asistencia de urgencia de la FAO abarca una gran variedad de actividades para rehabilitar las zonas devastadas. La Oficina de Operaciones Especiales de Socorro ayuda también a los países en desarrollo a establecer medidas de prevención y posteriores a la emergencia. Entre sus actividades se incluyen las siguientes:

- evaluación y vigilancia de necesidades urgentes en el sector de la economía agropecuaria;
- movilización y coordinación del apoyo de donantes;
- ejecución de operaciones urgentes de socorro mediante el suministro de insumos agrícolas como semillas, fertilizantes y plaguicidas; equipo agrícola como pequeñas herramientas, maquinaria agrícola y equipo de riego y de pesca; material veterinario, piensos y animales de cría; servicios logísticos, incluidos vehículos y piezas de repuesto, talleres y cursos de capacitación.

Las actividades de compra de materiales y formulación de proyectos se inician poco después de que se produzca la emergencia, y van seguidas de medidas iniciales de rehabilitación. Estas primeras operaciones de socorro pueden constituir puntos de partida para mejorar las prácticas agrícolas y empezar a programar la transición de la emergencia al desarrollo.

Los proyectos de socorro de urgencia y rehabilitación se financian con contribuciones de organizaciones gubernamentales y no gubernamentales, organismos de las Naciones Unidas y el Programa de cooperación técnica de la FAO. El personal de la Sede de la FAO coordina la recaudación de fondos con el Departamento de Asuntos Humanitarios de las Naciones Unidas y la ejecución de los proyectos con los representantes de la FAO en los países. En 1996, la Oficina de Operaciones Especiales de Socorro de la FAO proporcionó ayuda de emergencia a países de África, Asia, América Central y el Caribe, Europa y el Cercano Oriente.

Child nutrition and food security during armed conflicts¹

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As a result of armed conflicts in the past decade, an estimated 2 million children have been killed, three times as many have been seriously injured or permanently disabled, and countless others have witnessed or taken part in violent acts. Even greater numbers have died from malnutrition and disease during such crises. The destruction of food crops, water supplies, health services, families and communities takes a heavy toll on children. In 1995 alone, 30 major armed conflicts raged within different states around the world (Machel, 1996).

Concerned by the miserable plight and suffering of children during armed conflicts, the United Nations General Assembly, at its forty-eighth session in December 1993, requested that a comprehensive study be undertaken on the impact of armed conflict on children. The study was to include recommendations for the amelioration of this grave situation. FAO contributed to the effort by assessing the impact of armed conflicts on the nutritional status of children (FAO, 1996).

The FAO study took account of the broad causes of malnutrition such as inadequate household food security resulting from disruption of agriculture and food distribution systems and lack of access to food; poor health care and environmental sanitation; disruption of families and their caring practices; and socio-economic and nutritional vulnerability. Coping strategies employed by the households were also examined. The breakdown of the family unit was given particular attention, since this predicament most seriously impedes the provision of food, nutrition, health services and care to children. The FAO analysis was based on discussions with United Nations organizations and non-governmental organizations (NGOs), a review of the existing literature and field experiences in several African countries.

¹ This article is largely based on work carried out by Ms Jane MacAskill for FAO as part of the United Nations Study on the Impact of Armed Conflict on Children, and her experiences in the Sudan and Somalia. For the United Nations study she undertook field visits to Liberia and the southern part of the Sudan and participated in drafting the final report. Her contribution is highly appreciated.

IMPACT OF SOCIAL CONFLICTS

The nutritional situation before the conflict and the factors that cause malnutrition among children during peacetime – i.e. inadequate household food security, poor diet, insufficient health services, unsanitary environment and inadequate maternal and child care practices – are all accentuated and exacerbated during armed conflict. This is particularly true if the situation has turned into a “complex emergency”, defined by the United Nations as a humanitarian crisis in a country, region or society where there is a total or considerable breakdown of authority resulting from internal or external conflict. Complex emergency situations require an international response that goes beyond the mandate or capacity of any single agency or ongoing United Nations country programme.



During conflicts, mothers and children are especially susceptible to malnutrition

During emergencies many people are forced out of their homes. They often lose most of their possessions and face months and even years of misery. Some are temporarily dependent on international assistance for their protection and survival. Others may require food relief and assistance in obtaining resources to produce food for many years until the conflict has been resolved and the situation is conducive to a return to stable life where rehabilitation and development are possible. It should be recognized that in conflict situations those people who remain in their home areas may be as vulnerable to nutrition problems as those who have left; however, they may not receive as much international attention because many relief agencies are not mandated to assist them. Furthermore, the security situation may prevent relief agencies from reaching people to assist them.

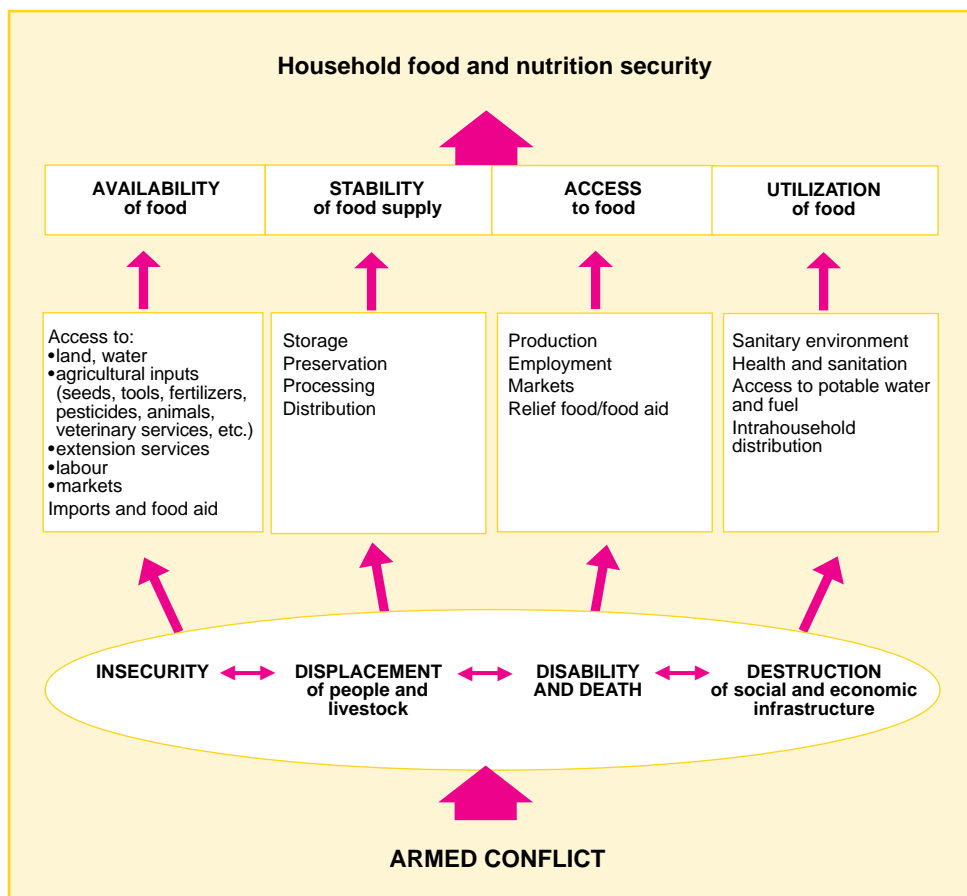
In addition, infrastructure, health and sanitation facilities are often damaged or destroyed. Communities' food resources are stressed since the capacity to ensure availability of food and people's access to it generally becomes highly uncertain. In particular, the recurrent displacement of families reduces people's ability to support themselves and increases the level of trauma and stress within the community. This instability may adversely affect care and feeding practices for children. Loss of parents and

other family members clearly affects children's access to food, shelter and support. Thus, armed conflicts bring forth a broad range of factors increasing children's vulnerability to malnutrition.

INSUFFICIENT HOUSEHOLD FOOD SECURITY

Household food security during armed conflict is affected by a combination of factors including decline of agricultural production because of physical insecurity; lack of agricultural inputs and extension services; destruction of food processing, storage and distribution systems as well as roads and markets; and loss of income coupled with rising prices. In rural areas, displacement or death of working family members, loss of draught animals, lack of food to provide adequate dietary energy for work and increasingly often the threat of land mines can prevent sufficient land from being cultivated and harvested. All of these factors affect both the quantity and quality of the food that is available to families (see Figure).

During conflicts the availability of staple foods and the variety of foods grown may be reduced. Families may face a lowering of income, which decreases the possibilities of buying additional food or improving production. In pastoral populations, conflict may lead to loss of access to pastures and water, resulting in loss of livestock, income and access



How armed conflict affects household food and nutrition security

THE IMPACT OF ARMED CONFLICT ON FOOD AND NUTRITION IN SOMALIA

Four years after the conflict in the Juba Valley in 1991 and the subsequent displacement of many people to cities such as Mogadishu and Kismayo and to refugee camps in northeastern Kenya, production levels for the main harvest in that area were still estimated to be 40 to 50 percent less than pre-war levels (FAO, 1996).

Upon their return to rural areas, families found their land overgrown with bushes which severely reduced the area that could be planted during the first planting season. Clearance of the land was time consuming and difficult, and access to seeds and tools was limited. The occasional periods of insecurity led to more cautious and restrictive planting strategies; farmers planted close to their villages for fear of being attacked. Agricultural infrastructure such as the flood control systems for control of the Juba River and irrigation systems in banana plantations as well as food processing equipment such as grinding mills had been destroyed, looted or damaged. Agricultural extension services, which in the past had been provided by the Ministry of Agriculture, were no longer available because the ministry's infrastructure was destroyed, services had collapsed and many agricultural extension workers had fled.

Meanwhile, the population of Mogadishu exceeded 1 million people by 1995. A nutrition survey conducted in June 1995 reported that moderate and severe malnutrition (wasting) had risen to 20 percent among the resident and displaced population groups, compared with 7.5 percent in 1993. No significant difference in nutritional status was found between the displaced and resident populations, since lack of employment and decreased access to income, the major contributors to the high rates of malnutrition, affected both groups (FAO, 1996).

Malnutrition in Mogadishu, Somalia

Agency	Year	Percent <80% WFH ^a	Sample size
United Nations Children's Fund (UNICEF)	1988	3.4	210
		2.4	210
		6.0	168
		5.0	210
Somalia Ministry of Health/Save the Children Fund – UK	1993	7.5	30 clusters of 30 families (1 per family)
Action Internationale contre la Faim (AICF)	1995	20.0	30 clusters of 30 children (displaced)
AICF	1995	20.4	30 clusters of 30 children (resident)

^a WFH: weight for height. Results in Z score only available for 1995 survey.

to food. Consequently, children's access to a diversified diet containing adequate levels of energy, protein, vitamins and minerals is seriously diminished (FAO, 1996). City dwellers and large concentrations of displaced persons may also be extremely vulnerable to such disruption in the food system and incomes and may become totally dependent on outside assistance.

COPING DURING CONFLICT

To assess the impact of armed conflicts on the nutritional situation of children, an understanding of survival strategies used by households in times of conflict is required. This involves comprehension of the major factors causing households to become vulnerable to food insecurity and malnutrition in conflict situations as well as of the coping mechanisms employed by people to overcome the crisis and the effects of these mechanisms on their children's lives.

When households are in danger of becoming food insecure, they employ various types of coping strategies to maintain their access to food and to protect their livelihoods during the crisis. They may collect wild foods, look for credit, sell their labour or reduce consumption. People's reactions depend mainly on their perception of the severity of the crisis and their economic and social position.

In deciding which options to employ, a household will carefully weigh the economic and social costs of each action, although during conflicts people may be forced to take greater risks more suddenly, since their first goal is to save lives. In addition, freedom of movement is often restricted because of insecurity, which limits access to foods. Collection of unfamiliar wild foods can be risky; many contain natural toxins, and when procedures for their preparation and utilization are unknown, their consumption may lead to toxicity and poisoning. Very often homes and farms are destroyed when people flee their home area, which makes it extremely difficult for them to re-establish normal lives when they are able to return to their home communities. In addition, many of the economic and social networks that households normally employ during times of crisis may be shattered in conflict situations; the community or even the family may no longer be available as a safety net. Thus the range of successful coping strategies is severely limited.

FLIGHT AND LOSS OF PROPERTY IN LIBERIA

When war spread throughout Liberia, people sometimes fled the violence for periods of two to three months by going into the bush. They survived by living mainly on cassava roots and palm cabbage with the greens of sweet potato or cassava. Palm butter and oil were scarce because the situation was too insecure to permit looking for palm nuts. Collection of products from the forest was not without risk: people died from eating unfamiliar poisonous mushrooms. Malnutrition became widespread in the area. Many children suffered from swelling (oedema), and adults were later affected as well. When these individuals were able to return to their homes they found that houses had been burnt and crops looted, which made it more difficult for them to re-establish their lives (FAO, 1996).

INSUFFICIENT HEALTH SERVICES AND UNHEALTHY ENVIRONMENT

Armed conflicts seriously affect health services and the environment. Health staff is reduced because of flight, death or conscription in the military. Health care infrastructure, medical supplies, equipment, sanitation and water supplies are often destroyed. Delivery of health services, especially preventive immunization and mother and child care, is obstructed. At the same time, displacements, war trauma and physical injuries increase people's needs for health services and medical care.

The almost complete absence of health services exacerbates the situation of families whose living conditions, food supply and consumption are inadequate; thus a vicious complex of malnutrition and poor resistance to infectious diseases is initiated. The risk of malnutrition and susceptibility to infection are further aggravated by large-scale population movements and concentration of people in transit camps. Overcrowding and lack of adequate sanitation and water supplies in camps can lead to rapid spread of disease.

Loss of basic household equipment increases the risk of unhygienic food preparation and storage and water contamination. For example, loss of mosquito nets and shoes during travel may increase the risk of malaria and hookworm infection, and loss of access to fuelwood affects the preparation of food, thus increasing the risk of food contamination. All of these factors have an adverse effect on the nutritional status of children.

IMPAIRED CARING CAPACITIES

Armed conflicts seriously disrupt the caring capacity of the community and the family, and especially that of mothers. This care is vital for the protection and nutritional well-being of children. Families seek the best way to cope with the crisis and often tend to emphasize protection of livelihoods, sometimes at the expense of time devoted to child care and feeding practices. With income diversification and longer searches for water, food and work, the amount of time devoted to children will decrease. Entire families or individual family members may be forced to migrate. Distress may result in prostitution by both women and the female children or, in extreme cases, in the selling and abandonment of children (Longhurst and Tomkins, 1995).

Mothers in particular tend to have little time to attend to caring activities, since in many cases the mother has to take a different role to protect her family. Frequently when the husband leaves because of war, becomes disabled or dies, the woman becomes the head of the household, taking on extra responsibilities in decision-making and in the provision of income and food. These added tasks leave little time for breastfeeding, for preparation of weaning foods or for looking after the health needs of the children. School-age children and adolescents are left to take care of themselves and thus become vulnerable to malnutrition and social vices such as violence, theft or prostitution.

In the aftermath of war, households, especially those headed by women, have more difficulty in performing



Young people suffer from food shortages and violence

certain tasks. Women often make up a large proportion of the population after a war. After a peace agreement was signed in Cambodia in 1992, it was estimated that two-thirds of the surviving adult population was female and up to 40 percent of the households were headed by women; in some areas this proportion was as high as 69 percent (FAO, 1994). The lack of adult labour, particularly that of males, affects the capacity of the family to engage in agricultural activities and to participate in public works programmes. This problem can be very acute for returnee households which may need to carry out heavy labour such as breaking land that has not been cultivated for many years.

Protecting the nutritional status of mothers during and after a conflict situation is essential for protecting the nutritional status of infants and children. After war, the exigencies of heavy labour in the reconstruction of homes and in agriculture to rebuild livelihoods, in addition to the demands of caring for the household, children and other family members, can have adverse consequences for women's health. In general, healthy adults are needed to provide sufficient care for children. Clearly, preserving the integrity of the family and supporting women's capacity to cope with difficult circumstances, particularly during the period of reconstruction and recovery, are crucial for the nutritional welfare of children.

RESPONSE MECHANISMS

The first aim in an emergency is to provide relief interventions in order to save lives. The common humanitarian response wherever there are high rates of malnutrition and acute food shortages is food relief, usually based on initial assessments of malnutrition and mortality in combination with information on food supplies in the country. Although there is a strong link between malnutrition and child mortality in armed conflict situations or famine, it is not only the severely malnourished who die (Young and Jaspars, 1995). Death often occurs because of a health crisis when populations are displaced and are exposed to an unhealthy, often overcrowded environment subject to increased levels of infectious diseases such as diarrhoea and measles. Therefore, in order to develop effective interventions, it is essential to collect data on nutritional status and mortality, including adequate information on possible causal factors such as household food insecurity, morbidity patterns or disturbed caring practices.

Experiences in Baidoa, Somalia in 1992 showed that rapid implementation of food relief programmes alone was largely insufficient to address the existing

malnutrition and mortality problems, since their main cause was not lack of food but diarrhoea and measles resulting from large population displacements into urban centres and camps. This particular situation called also for early interventions in the health sector such as measles vaccination, vitamin A distribution, sanitary measures and access to clean water. Unfortunately, these programmes became operational much later since the initial emphasis was on food relief only.

If malnutrition is related to poor access to food, relief measures tend to be limited to those addressing people's immediate needs, i.e. providing food aid. Two types of feeding programmes are commonly established when malnutrition rates are high: therapeutic feeding for severely malnourished children, and supplementary feeding (i.e. distribution of either cooked food or dry rations) aimed at treatment of moderate malnutrition. Both have their uses and limitations in effective treatment of malnourished children.

Feeding programmes are most effective, however, when they do not stand by themselves but are part of a relief or rehabilitation programme aimed at strengthening the resilience of households and rural economies. Organizing such programmes requires a broad understanding of how people usually obtain their food and how these means are affected by conflict.

USING FOOD AID IN THE SUDAN

In the southern part of the Sudan there has been a move towards utilizing food relief as a part of a wider strategy aimed at supporting community and household food security mechanisms. The assistance programme, which previously responded to crises with food relief, shifted its focus towards developing an understanding of how people survive, emphasizing household food security through support to livestock production, fishing, agriculture, health, education and capacity building. Food aid in this programme is used both as an emergency response for satisfying immediate food needs and as part of activities aimed at strengthening household food security for a long-term impact on health and nutrition.

The livestock programme has concentrated on rinderpest vaccination to protect herds and thus support people's income and livelihoods. The fishing programme has initially concentrated on the distribution of hooks and fishing lines; fish is now being transported to feeding programmes, hospitals and camps. The agricultural programme started with the distribution of seeds and tools, but it is at present also supporting local seed production, vegetable production to improve the quality of the diet and promotion of appropriate technologies for processing of farm produce and improved storage.

Food aid, as part of these activities, contributes to household food security in several ways: it provides an additional source of food, contributes to development of markets, reduces the displacement of people, enables the return of displaced persons and lessens intra-tribal tensions and looting (FAO, 1996).

In a conflict situation a number of factors can seriously impede operations in response to a food crisis in a country. The political and military situation is an important determinant of the success of relief operations. For example, in February and March 1997 civil conflict in eastern Zaire (now the Democratic Republic of the Congo) blocked food aid deliveries. Large parts of the area were inaccessible to humanitarian relief agencies because of insecurity and ongoing violence. Relief workers were denied access, and an unknown number of displaced Zairian (Congolese) people and refugees from Rwanda were thus left without any assistance. Logistical problems such as lack of transport (vehicles, aeroplanes), bad roads, poor weather conditions or lack of storage facilities may also hamper assistance. Finally, a narrow perception in which food shortage is seen as the only cause of malnutrition can lead to an overemphasis on food aid, to the exclusion of other types of intervention. Each of these factors, or a combination of them, can result in prevention or delay of the delivery of appropriate relief assistance to civilians, which will be detrimental for the malnourished children waiting for help.

CONCLUSIONS

Long-standing, ongoing conflicts may affect various regions and population groups in various ways and at different times, depending on how the conflicts evolve. Droughts and floods during a conflict may easily result in an even more acute emergency, since the disruption of government structure and infrastructure, dysfunction of support services and absence of control may all lead to lack of responses or ineffective reactions to address natural crises.

Current methods of assessment of the nutritional situation in conflict situations tend to emphasize collection of nutritional and mortality data, mainly to support short-term interventions. However, it is clear that more in-depth information on all aspects of malnutrition and food insecurity is indispensable.

To implement appropriate responses for improving the nutritional status of children, information is needed on how people cope during the different phases of a conflict, on health and care conditions and on the developments within the conflict. To estimate the impact of the interventions on the nutritional status of children, it is insufficient to measure only the number of malnourished children or the morbidity and mortality at a certain point in time; it is also important to measure the frequency with which children suffer from repeated episodes of malnutrition or disease.

Assessment of the nutritional situation in armed conflicts should be designed to bring out programme concerns in a clear manner to assist in the development of appropriate

responses to the nutritional needs of children living in these situations. Responses may include interventions supporting household food security and care and feeding practices, addressing potential long-term effects of undernutrition on child growth and development and confronting acute malnutrition. Moreover, as households are the most important entities in ensuring both the survival and nutritional welfare of children during armed conflicts, programmes to protect, promote and restore the nutritional status of children should be designed to maintain the integrity of households and to make them economically and socially viable.

Given the long-term nature of most conflict situations and assistance programmes implemented during times of conflict, these programmes should adopt a developmental approach: relief measures should be linked with rehabilitation and development objectives and activities, such as rehabilitation of agriculture, livestock and fisheries, to enhance local capacities to meet the community's food needs and to improve household food security. Many of the actions that are required to prevent people from becoming destitute are also fundamental to protecting the nutritional status of children in crisis situations. Apart from the provision of the inputs necessary for resuming, for example, agricultural production, a focus on using and strengthening local capacity and skills in all sectors is vital. Local organizations need to collaborate in decision-making, planning and implementation of programmes. It is very important that programmes be designed flexibly to take into consideration the impact of constant or recurring insecurity and violence on programme development. Programmes should be designed to take advantage of periods of calm and should aim at improving the capacity of the population to survive periods of crisis.

Of course, averting or stopping conflict will do more to help children and to prevent widespread acute malnutrition than any intervention implemented during armed conflict. Therefore, more efforts and resources should be concentrated on conflict resolution and on creating a climate of political will to create dialogue instead of fighting, both in countries suffering from armed conflict and in countries affected by internal violence that could eventually lead to armed conflict. The report on the impact of armed conflict presented to the United Nations General Assembly in November 1996 by Graça Machel underlines this necessity strongly by highlighting the terrible, often long-term or even irreversible consequences for children living in conflict situations (Machel, 1996). More efforts along these lines are crucial for a real improvement of today's world. ♦

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Child nutrition and food security during armed conflicts

In the past decade an estimated 2 million children were killed, 6 million were seriously injured or permanently disabled, and countless others witnessed or took part in armed conflicts. Even more children died from malnutrition and disease during such crises. Wars exacerbate the conditions leading to malnutrition such as inadequate household food security, poor diet, insufficient health services, unsanitary environment and inadequate maternal and child care.

Household food supplies become highly uncertain in conflict situations. Farms and rural assets and infrastructure are damaged; agricultural production falls because of lack of inputs and extension services; food processing, storage and distribution systems are destroyed; and incomes may decrease while prices rise. Displacement or death of rural people, lack of energy for work and the physical danger of working on the land prevent cultivation and harvesting of crops and use of pasture and water wells for livestock.

Health services give priority to war-related treatment; medical staff are lost; and health infrastructure, medical supplies and equipment are destroyed. The obstruction of services for children, such as preventive immunization, leads to poor resistance to infectious diseases. The risk of infection is aggravated by population movements and the concentration of people in refugee camps.

During conflicts, economic and social networks are shattered. To cope, people collect wild foods, look for credit, sell their labour and reduce consumption. When men leave, become disabled or die, women face heavy burdens of protecting the family and providing income and food, which may jeopardize their health. Mothers have little time for breastfeeding, preparing foods or providing care to children.

Effective interventions require information on nutritional status and mortality, household food insecurity, morbidity patterns and disturbed caring practices. Emergency feeding programmes should be part of a relief or rehabilitation programme aimed at strengthening the resilience of households and rural economies.

Long-term assistance programmes should be flexible and should adopt a developmental approach to enhance local capacities to meet the community's food needs. More efforts and resources should be concentrated on conflict resolution to prevent such situations from occurring.

Nutrition et sécurité alimentaire des enfants pendant les conflits armés

Selon les estimations, au cours de la dernière décennie, 2 millions d'enfants ont été tués, 6 millions gravement blessés ou mutilés de façon permanente, tandis qu'un nombre incalculable d'autres ont assisté ou même pris part à des conflits armés. Un nombre encore plus important d'enfants ont péri pendant ces crises, victimes de la malnutrition et des maladies. Les guerres aggravent considérablement les conditions qui déterminent la malnutrition, à savoir une sécurité alimentaire inadéquate au sein des ménages, une mauvaise alimentation, des services de santé insuffisants, un environnement malsain et des soins inadéquats aux mères et aux enfants.

En cas de conflit, les disponibilités alimentaires des ménages deviennent très incertaines du fait des dégâts aux biens et à l'infrastructure agricole et rurale, de l'effondrement de la production agricole par suite de l'absence d'intrants et de services de vulgarisation, de la destruction des systèmes de transformation des produits alimentaires, des installations de stockage et des systèmes de distribution, et du fléchissement des revenus accompagné d'une hausse des prix. Le déplacement ou le décès des populations rurales, l'absence de carburant pour les travaux et les risques physiques inhérents au travail de la terre entravent les opérations de culture et de récolte et empêchent l'utilisation des pâturages et des puits pour le bétail.

Les services de santé accordent la priorité au traitement des cas relatifs à la guerre; le personnel médical manque; et l'infrastructure sanitaire, les fournitures médicales et l'équipement sont anéantis. La fermeture de ces services, tels que les services d'immunisation préventive des enfants, détermine un affaiblissement de la résistance aux maladies infectieuses. Les risques d'infection sont multipliés par les déplacements de population et par les concentrations d'individus dans les camps de réfugiés.

Les conflits causent l'éclatement des réseaux économiques et sociaux. Pour y faire face, les populations ramassent des aliments sauvages, cherchent du crédit, vendent leurs bras et réduisent leur

consommation. Lorsque les hommes partent, lorsqu'ils sont mutilés ou qu'ils meurent, c'est aux femmes que revient la lourde tâche de protéger la famille et de se procurer des revenus et des aliments qui risquent de nuire à leur santé. Les mères ont peu de temps pour allaiter, préparer les aliments ou donner des soins à leurs enfants.

Pour des interventions efficaces, on a besoin d'informations sur l'état nutritionnel et la mortalité, sur l'insécurité alimentaire des ménages, sur les types de morbidité et sur les pratiques sanitaires perturbées. Des programmes d'alimentation d'urgence devraient faire partie intégrante de programmes de secours ou de relance qui renforcent la capacité de résistance des ménages et des économies rurales.

Les programmes d'aide à long terme devraient être souples et adopter une approche axée sur le développement pour renforcer les capacités locales de réponse aux besoins alimentaires de la communauté. Il convient de consacrer plus d'efforts et de ressources à la solution des conflits afin de conjurer l'apparition de ce type de situations.

La nutrición y la seguridad alimentaria infantiles durante los conflictos armados

En el último decenio se estima que 2 millones de niños murieron, 6 millones sufrieron heridas graves o discapacidad permanente, y muchos otros presenciaron conflictos armados o tomaron parte en ellos. Durante estas crisis, un número aún mayor de niños murieron de malnutrición y enfermedades. Las guerras agravan los factores que contribuyen a la malnutrición, como una seguridad alimentaria familiar insuficiente, una alimentación inadecuada, unos servicios sanitarios deficientes, un ambiente insalubre y una asistencia maternoinfantil insatisfactoria.

En situaciones de conflicto los suministros alimentarios de las familias se vuelven sumamente precarios: los bienes e infraestructuras agrícolas y rurales sufren daños, la producción agropecuaria disminuye a causa de la falta de insumos y de servicios de extensión, los sistemas de elaboración, almacenamiento y distribución de alimentos se destruyen y los ingresos bajan mientras que los precios suben. El desplazamiento o muerte de la población rural, su falta de energía para trabajar y el peligro físico a que se expone al trabajar la tierra impiden el cultivo y la recolección de las cosechas y la utilización de pastos y pozos de agua para el ganado.

Los servicios de salud dan prioridad al tratamiento de las secuelas de la guerra, el personal médico se dispersa, y la infraestructura sanitaria y los suministros y equipo médicos se destruyen. El deterioro de los servicios destinados a los niños, como por ejemplo la inmunización preventiva, hace que disminuya la resistencia a las enfermedades infecciosas. El riesgo de infección se ve agravado por los desplazamientos de la población y su concentración en campos de refugiados.

Durante los conflictos, las redes económicas y sociales se quiebran. Para sobrevivir, las personas recogen alimentos silvestres, tratan de conseguir créditos, venden su fuerza de trabajo y reducen el consumo. Cuando los hombres se ausentan, enferman o mueren, las mujeres, para proteger a la familia y obtener ingresos y alimentos, asumen pesadas cargas que pueden poner en peligro su salud. Las madres tienen poco tiempo para amamantar a sus hijos, prepararles alimentos o prestarles atención.

Una intervención eficaz exige información sobre el estado nutricional y la mortalidad, la inseguridad alimentaria familiar, las pautas de morbilidad o la alteración de las prácticas de asistencia. Es necesario integrar programas de alimentación urgente en los planes de socorro o rehabilitación destinados a aumentar la capacidad de recuperación de las familias y las economías rurales. Los programas de asistencia a largo plazo deben ser flexibles y adoptar un enfoque orientado al desarrollo que potencie la capacidad local para atender las necesidades alimentarias de la comunidad. Deberán destinarse más esfuerzos y recursos a resolver conflictos para evitar que se produzcan situaciones de esta índole. ♦

Le Comité international de la Croix-Rouge face aux problèmes de nutrition des victimes de la guerre

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Le Comité international de la Croix-Rouge (CICR) est une institution humanitaire indépendante. Le CICR joue le rôle d'intermédiaire neutre en cas de conflits armés et de troubles civils, et il s'efforce d'assurer, de sa propre initiative ou en se fondant sur les Conventions de Genève, protection et assistance aux victimes des conflits armés internationaux et non internationaux et des troubles et des tensions internes. Le CICR se donne pour mission de prévenir et d'alléger en toutes circonstances les souffrances des êtres humains et de protéger leur vie et leur santé.

Par conséquent, les problèmes nutritionnels des victimes de la guerre (le terme de guerre est pris ici dans son sens le plus large) intéressent le CICR au même titre que tout autre problème représentant un risque de souffrance, de morbidité, de mortalité et d'atteinte à l'être humain.

Depuis 1979, le CICR a été constamment engagé ici et là dans des actions d'assistance nutritionnelle, parfois de grande envergure, comme au Cambodge, en Thaïlande, en Éthiopie, en Somalie et au Rwanda, et, en 1982, il s'est doté d'une unité de nutrition. Celle-ci a été rattachée à ce qui était à l'époque la division médicale, les problèmes nutritionnels étant considérés comme des problèmes de santé qui, s'ils ne sont pas résolus, finissent par entraîner des problèmes d'ordre physiologique.

LES PROBLÈMES DE NUTRITION DES VICTIMES DE LA GUERRE

La guerre, qui vise par tous les moyens à affaiblir l'ennemi, porte atteinte à l'économie, à la population civile, aux infrastructures et à l'environnement et, par conséquent, peut avoir des effets néfastes sur tous les stades du système alimentaire de l'être humain, c'est-à-dire sur la production, la distribution, l'acquisition, la préparation, le partage, la consommation et l'utilisation biologique de la nourriture. Ces effets se traduisent par des problèmes divers correspondant à un déséquilibre entre un besoin à satisfaire et ce qui est nécessaire pour satisfaire ce besoin. Si rien n'est fait pour affronter ces problèmes, la malnutrition apparaîtra ou, si l'action est insuffisante, elle augmentera. Généralement, les crises nutritionnelles se développent selon un enchaînement de phénomènes entraînant des

conséquences graves. On assiste, en effet, à une agression sur les moyens de subsistance entraînant une mise en œuvre des mécanismes de résilience aboutissant à l'épuisement de ces derniers. Cet épuisement se traduit à son tour par une décapitalisation pour survivre qui entraîne un appauvrissement allant jusqu'au dénuement. C'est à ce stade-là que l'on assiste à la fois à une migration vers les sites de secours possibles et à un amaigrissement considérable. C'est alors que surgit la malnutrition sévère associée aux maladies transmissibles. Il va sans dire que ce dernier phénomène déclenche une augmentation épidémique de la mortalité.

Il appartient en principe aux autorités des populations sinistrées de prendre les mesures adéquates, mais si elles n'y parviennent pas ou ne veulent pas le faire, il faudra compter sur la solidarité internationale mise en œuvre par les organisations humanitaires, pour répondre à ce que l'on appelle communément l'état d'urgence. On se rend compte cependant qu'à chaque phénomène correspond une urgence à faire quelque chose, soit pour prévenir le phénomène, soit pour l'enrayer.

LA RÉPONSE DU CICR AUX PROBLÈMES DE NUTRITION DES VICTIMES DE LA GUERRE

Concept

Évaluation et critères d'intervention. Pour répondre aux problèmes de nutrition des victimes de la guerre, le CICR effectue une évaluation initiale de la situation dès qu'il a accès aux victimes, partant du principe que la guerre a toujours des effets néfastes sur la vie des populations qui la subissent, mais que ces effets peuvent se traduire par des problèmes très divers selon les cas. L'objectif de cette évaluation initiale est de définir les priorités d'intervention en fonction de l'ampleur du problème et de l'urgence qu'il y a à intervenir. Une fois les priorités définies, il s'agit de définir clairement le type et les modalités d'action; la population cible; le résultat escompté; le temps nécessaire pour parvenir à ce résultat; et les critères qui permettront de mettre un terme aux activités en question. C'est alors que le CICR s'engage sur le terrain.

Dans le domaine nutritionnel, comme dans tous les autres

domaines, le CICR intervient selon des critères précis. Tout d'abord, il faut que la population cible soit confrontée aux perturbations engendrées par la guerre et il faut qu'elle soit accessible. Ensuite, cette population doit présenter un caractère de vulnérabilité par rapport à ces perturbations, et sa situation doit revêtir un caractère d'urgence.

Vulnérabilité et urgence sont des termes qui, au CICR, évoquent la notion précise de vulnérabilité nutritionnelle. Cette vulnérabilité nutritionnelle est envisagée selon la réaction spécifique des différents groupes d'individus à la malnutrition: sont vulnérables les enfants en bas âge, les femmes enceintes et allaitantes, les vieillards et les malades. Cela est vrai dans toute société, abstraction faite de la vulnérabilité nutritionnelle spécifique à chaque société, qui risque d'entraîner dans certains groupes vulnérables traditionnels une malnutrition effective. Cette vulnérabilité, quant à elle, tient à la probabilité de voir se développer un problème au niveau du système alimentaire de la population, en fonction de la nature de l'agression. Par conséquent sont tout d'abord nutritionnellement vulnérables les communautés de familles qui par leur situation spécifique (géographique, économique, sociale, ethnique, culturelle ou politique) risquent de voir se développer des problèmes quelque part dans leur système alimentaire suite à une agression.

L'urgence, quant à elle, souligne la nécessité de faire rapidement quelque chose pour prévenir ou enrayer le phénomène néfaste auquel sont confrontées les victimes lorsque intervient le CICR. Une distinction doit tout de même être effectuée entre l'urgence à tenter de protéger la population vulnérable des agressions possibles contre leur système alimentaire, et l'urgence à assister la population lorsque la protection est sans effet ou lorsque les agressions se sont déjà produites en entraînant des conséquences néfastes. On pourrait jouer sur les mots en disant que protéger les victimes c'est les assister, assistance et protection étant deux concepts intrinsèques. Assistance prendra ici le sens de soutien aux victimes par interaction directe avec ces dernières.

L'urgence à protéger surgit dès l'ouverture des hostilités, ou même avant, dans un effort de diffusion des principes du Droit international humanitaire (DIH)¹ auprès des écoles et des casernes, afin d'imprégner d'un peu d'humanité la culture des futurs citoyens et, partant, des futurs militaires, ainsi que le comportement des militaires en exercice.

¹ Le DIH correspond aux quatre Conventions de Genève du 12 août 1949 et aux deux protocoles de 1977, additionnels aux Conventions de Genève du 12 août 1949.

L'urgence à assister naît dès que les moyens de subsistance des victimes de la guerre et leur autosuffisance à subvenir à leurs besoins nutritionnels sont menacés. Le terme d'autosuffisance revêt un sens bien précis: le besoin nutritionnel est un besoin renouvelable, puisqu'il faut manger chaque jour; par conséquent, pour consommer ce qui est nécessaire, il faut que les ressources donnant accès à la nourriture soient, elles aussi, renouvelables. L'éthique d'une institution qui prétend «prévenir et alléger en toutes circonstances les souffrances des hommes» ne lui permet pas d'attendre qu'apparaissent dénuement et malnutrition pour agir, car tous deux représentent des souffrances psychiques et physiques semblables à des tortures. Ne dit-on pas être torturé par la faim, par la soif, par les soucis? Par quelles affres passent ceux qui voient disparaître leurs moyens de subsistance et se demandent comment ils vont pouvoir nourrir leur famille?

Les activités de protection. Les activités de protection s'appuient sur les principes du DIH visant à convaincre les belligérants de ne pas commettre certains actes répréhensibles pouvant avoir un impact plus ou moins néfaste sur le système alimentaire de la population civile.

Les agressions sur le système alimentaire sont principalement de deux sortes:

- celles qui privent délibérément ou indirectement la population de ses propres ressources et de ses moyens d'adaptation, comme le déplacement de la population, la restriction des activités de production, la rupture des voies de communication, le pillage et la destruction des ressources;
- celles qui interdisent la mise en œuvre d'opérations visant à restaurer l'accès aux ressources alimentaires, comme les secours alimentaires, le transfert de ressources, la création d'emplois, etc.

Le DIH donne une réponse très claire à beaucoup de ces agressions (Comité international de la Croix-Rouge, 1977):

- Il est interdit d'utiliser contre les personnes civiles la famine comme méthode de combat.
- Il est interdit d'attaquer, de détruire, d'enlever ou de mettre hors d'usage des biens indispensables à la survie de la population civile.
- Le déplacement de populations civiles n'est autorisé que sous des conditions très précises.
- Les Hautes Parties contractantes ont le devoir d'accepter les actions de secours de caractère exclusivement humanitaire, non discriminatoire et impartial en faveur de la population civile, quand celle-ci vient à manquer de biens essentiels à sa survie.

Ces dispositions, de même que toutes celles qui, d'une manière générale, protègent la population civile contre les effets des hostilités, expriment le principe que les belligérants ne peuvent pas utiliser n'importe quel moyen pour réduire leur ennemi à leur merci. À l'égard de la population civile, le fondement de ces règles réside dans la distinction entre les membres des forces armées et les personnes civiles. On constate ainsi que si dans la guerre les agressions contre le système alimentaire des populations civiles sont souvent une réalité, elles ne sont heureusement pas acceptées comme une fatalité par la communauté internationale qui a traduit ce refus dans le DIH. Tout doit être mis en œuvre, même pendant les guerres, pour préserver l'autonomie de la population civile et, partant, sa dignité. Les dispositions du DIH concernant l'assistance aux personnes dans le besoin sont aussi un moyen important de renforcer le principe de protection des populations civiles: l'assistance est une contrepartie active de la protection et les deux concepts sont intrinsèques et complémentaires.

Cependant, au vu des famines meurtrières observées ces dernières années dans les situations de conflits armés, force est d'admettre que les principes cités ci-dessus ne sont que rarement mis en œuvre, notamment parce que les règles applicables ne sont pas respectées, ou alors parce que leur application peut entraîner des effets défavorables à ceux-là mêmes que le droit international humanitaire entend protéger. Ainsi, la famine comme méthode de combat contre les militaires n'est pas interdite, ce qui peut inciter ces derniers à attaquer et enlever des biens indispensables à la survie des civils.

Il n'en reste pas moins qu'un meilleur respect du DIH permettrait de réduire, voire d'éviter bien des causes de la famine. Il s'agit donc de le faire connaître le plus largement possible, et de convaincre chacun de le respecter.

Les activités d'assistance. Lorsque les activités de protection sont trop tardives ou inopérantes, ou ont un impact insuffisant, le CICR est confronté à l'urgence de porter assistance aux victimes. La définition des priorités d'action doit se faire avec une stratégie bien définie, c'est-à-dire que les composantes de l'intervention doivent être coordonnées et cohérentes pour répondre aux problèmes avec le maximum d'efficacité. En ce sens, il faut se méfier des symptômes qui ont tendance à pousser les organisations humanitaires dans l'action curative (très médiatique, il faut le dire), sans trop se soucier des problèmes sous-jacents et de leurs causes. La malnutrition prouve simplement que «quelque chose va mal» dans le processus alimentaire. C'est ce quelque chose qui représente la première priorité d'intervention et non pas la malnutrition. Ce quelque chose

peut être provoqué par des phénomènes divers – sécheresse, épidémie de rougeole, épidémie de diarrhée, spéculation économique ou actes de guerre –, et il n'est pas rare de voir tous ces phénomènes se produire simultanément. Par conséquent, une approche cohérente de l'assistance visera, autant que faire se peut, à s'en prendre avant tout à la cause du phénomène, puis à ses effets immédiats sur le processus alimentaire, et enfin au symptôme final qu'est la malnutrition. Par exemple, en admettant que cette dernière soit bien la conséquence confondue d'une sécheresse, d'épidémies de rougeole et de diarrhée, d'une spéculation économique sur le prix de vente au détail des céréales, ou d'actes de guerre restreignant le périmètre des activités agricoles, le CICR entreprendra les activités suivantes: pressions sur les autorités militaires pour qu'elles relâchent l'étau autour des victimes; distribution générale de nourriture pour satisfaire les besoins nutritionnels et pour contrer la spéculation; mesures d'assainissement de l'eau et du milieu pour combattre les diarrhées; et vaccination pour éviter de nouvelles épidémies. Ce sont ces activités qui permettront de lutter efficacement contre la malnutrition. Et il est alors clair que l'on établira des centres de nutrition thérapeutiques pour traiter la malnutrition existante. Il serait en revanche illusoire et éthiquement très discutable de traiter la malnutrition sans parallèlement effectuer une distribution générale de nourriture ni prendre des mesures d'assainissement de l'eau et du milieu.

L'exemple ci-dessus montre que l'intervention est guidée premièrement par l'urgence qu'il y a à contrôler, par tous les moyens nécessaires et envisageables, les facteurs qui finissent par déclencher un problème de santé, et ce en remontant le plus loin possible la chaîne de relations de cause à effet. Ces mesures de contrôle sont évidemment indispensables mais elles n'ont de logique que si elles se poursuivent conjointement avec des activités de réhabilitation économique qui permettent à la population de se passer de l'assistance. Cette réhabilitation doit se faire dans tous les domaines où l'agression s'est traduite par le fait que les besoins vitaux individuels n'ont pas été satisfaits. Pour ce qui est de la nutrition, l'aspect primordial est de faire en sorte que les victimes de la guerre retrouvent leur autonomie alimentaire. Dans la mesure du possible, le processus de réhabilitation commence dès le début de l'intervention – et ce dans le but de maintenir les ressources productives qui existent encore – et il peut se poursuivre après la cessation des hostilités jusqu'à ce que l'autonomie soit à nouveau assurée.

Le CICR a développé une réelle expertise dans la réhabilitation de l'agriculture et de l'élevage, en se dotant en 1987 d'une unité d'agronomie à laquelle sont rattachés des

vétérinaires. Les activités de réhabilitation incluent la distribution de semences et d'outils aratoires, les soins vétérinaires préventifs et curatifs, le soutien technique aux agriculteurs et éleveurs – assuré par des agronomes et des vétérinaires issus si possible de la population-cible – ainsi que des programmes encourageant la population à utiliser tous les moyens possibles de production et de conservation de la nourriture.

Cependant, lorsque les problèmes d'accès aux ressources alimentaires sont liés à la destruction des entreprises industrielles ou à la paralysie des circuits commerciaux, les capacités de réhabilitation sont quasi inexistantes. Cela est dû, d'une part, au fait que le soutien à l'industrie est politiquement hasardeux et financièrement exorbitant et, d'autre part, au fait que le CICR ne peut prétendre créer des forces de marché là où échouent les marchands locaux qui ont pourtant tout intérêt à ce que le marché fonctionne. Il est cependant possible de stimuler l'économie en faisant appel aux services locaux existants pour mettre en œuvre les activités d'assistance, et des projets sont actuellement à l'étude pour favoriser les activités artisanales urbaines et rurales, source d'emplois et de revenus.

En résumé, le CICR a développé une approche intégrée de l'assistance aux victimes de la guerre, approche visant à ce que l'intervention se fasse le plus en amont possible des relations de cause à effet qui entraînent tôt ou tard des souffrances humaines et des problèmes de santé publique (Perrin, 1995).

Aspects pratiques

Evolution des actions nutritionnelles du CICR. Le monde change, les crises varient et les connaissances et les mentalités évoluent. Depuis qu'il est régulièrement confronté à des problèmes nutritionnels, le CICR adapte son approche et ses techniques.

En ce qui concerne l'évolution de l'approche, dans les années 70, l'urgence nutritionnelle requérant une assistance humanitaire était définie par un taux de prévalence élevé de sous-alimentation et on s'efforçait avant tout de nourrir les affamés en leur dispensant des rations de base d'urgence insuffisantes et inadéquates. Dès le début des années 80, le Mouvement international de la Croix-Rouge a pris conscience du fait qu'une telle approche entraînait des souffrances inutiles, et, en 1985, à la suite d'une conférence d'experts du CICR et de la Ligue des Sociétés nationales de la Croix-Rouge et du Croissant-Rouge, une nouvelle politique nutritionnelle a été adoptée lors de la XXV^e Conférence internationale de la Croix-Rouge tenue en 1986. Cette politique nutritionnelle stipulait entre autres que, lors de besoins d'aide alimentaire, la Croix-Rouge devrait

assurer une ration de base suffisante et adéquate pour tous les membres de la famille et que cette ration devrait être calculée de façon à assurer à la population une activité et une croissance normales, avec une marge pour la récupération nutritionnelle. En outre, la ration devrait être complète et préparée dans le respect des habitudes alimentaires, ce qui veut dire que l'aide alimentaire devrait aussi se conformer à la politique des dons alimentaires qui complète la politique nutritionnelle.

Au cours des années 80, le CICR a systématisé les distributions de semences conjointement avec les secours alimentaires dans les zones rurales. L'idée au départ était que, pour un apport alimentaire donné, l'investissement logistique et financier était de 30 à 50 fois inférieur à la distribution de nourriture. Au-delà de ces considérations budgétaires nécessaires, on s'est aperçu que les programmes semences avaient une signification plus large: en ayant les moyens de prendre son destin en main, le bénéficiaire recouvre sa dignité perdue dans les files d'attente aux postes de distribution de nourriture; grâce au dialogue entre l'agronome et l'agriculteur, il y a renforcement de l'idée qu'il faut aller au-delà des secours alimentaires et promouvoir l'autosuffisance, si l'on veut avoir une chance d'en terminer le plus vite possible avec l'aide d'urgence; les réflexions sur l'autosuffisance et les moyens de la restaurer amènent à diversifier l'approche agronomique vers la médecine vétérinaire et finalement vers une approche économique globale de la situation des victimes de la guerre. Enfin, de l'accès à une ration de base suffisante on passe à l'accès aux activités économiques qui permettent aux gens de redevenir ou de rester indépendants quant à l'obtention de la nourriture.

Parallèlement, on s'aperçoit que la ration alimentaire n'est jamais intégralement consommée quand elle représente la seule source de revenu. Les organisations humanitaires y voient souvent de la tricherie de la part des bénéficiaires et elles penchent alors vers une réduction des rations, estimant que si les gens ne mangent pas tout, c'est qu'une partie de cette ration est superflue. C'est faire fi du sens commun qui devrait nous rappeler que l'être humain ne vit pas que de nourriture, et de certaines observations montrant que la part de budget alloué à la nourriture augmente alors que le budget diminue, mais ne représente jamais plus de quelque 80 pour cent de ce budget, même chez les plus pauvres (Lipton, 1982). Lorsque la ration alimentaire est la seule source de revenu, il est inévitable qu'elle serve partiellement de monnaie d'échange pour couvrir les besoins essentiels non alimentaires. On en déduit donc que pour maximiser l'utilisation nutritionnelle de la ration, il faut aussi pourvoir aux besoins essentiels non alimentaires: vêtements, abris,

ustensiles de cuisine et combustible. Un dialogue sérieux et suivi avec les bénéficiaires permet en général de saisir ce qu'il est important de faire, sans pour cela tomber dans l'excès. Depuis plusieurs années déjà, cette approche est systématiquement suivie par le CICR partout où cela est possible.

Pour ce qui est de l'évolution technique, assurer une ration de base suffisante signifie implicitement que l'on doit être capable de définir en premier lieu si les victimes de la guerre en ont besoin. Cela consiste à évaluer si leur accès aux ressources alimentaires est suffisant dans la durée. Pour ce faire, on pourrait utiliser d'emblée la méthode indirecte, toujours en vogue, consistant à mesurer l'état nutritionnel de la population et en déduire si l'assistance est nécessaire ou non, et ce, en fonction du taux de prévalence de la malnutrition. Cette méthode a recours à des techniques d'épidémiologie médicale; si elle est utilisée isolément, elle n'a aucun pouvoir d'anticipation et signifie qu'on arrive toujours trop tard. L'autre méthode consiste à évaluer en premier lieu et directement la capacité d'autosuffisance alimentaire et sa dynamique. Cela signifie que l'on enquête sur le processus économique de l'accès à la nourriture; on doit alors avoir recours à des techniques inspirées de l'évaluation rurale (McCracken, Pretty et Conway, 1988), où l'on recherche la convergence et la saturation de l'information. On peut alors corroborer les résultats de cette enquête avec une mesure de l'état nutritionnel. Cette façon de procéder exige que l'on prenne une certaine distance par rapport à l'aspect second de la nutrition qui est physiologique, pour se concentrer sur son aspect premier qui est économique. En effet, l'accès à la nourriture est la première étape cruciale du processus alimentaire répondant au besoin nutritionnel. L'échec à ce niveau entraîne assurément l'échec de tout ce qui est en aval. Les techniques d'enquête du CICR visent donc en premier lieu à évaluer ce qui influence l'état nutritionnel d'une population: accès à la nourriture, salubrité de l'eau et de l'environnement, santé publique, avant de se pencher sur l'état nutritionnel, utilisé avant tout comme indicateur de corroboration et d'étude d'impact. Les techniques d'évaluation d'accès aux ressources alimentaires sont participatives. Elles n'ont aucun sens sans l'implication active et massive de la population concernée. Elles permettent en fait de créer un véritable contact et une compréhension réciproque avec les éventuels bénéficiaires, contact totalement absent dans l'épidémiologie médicale où l'individu est avant tout un sujet d'observation.

Au niveau des aliments, la connaissance du rôle crucial et multiple des vitamines et des minéraux s'accroît régulièrement. Les travaux de Briend et de Golden ont permis de déterminer très clairement la gestion diététique

de la malnutrition grave chez l'enfant (Briend et Golden, 1997). On dispose aujourd'hui de formules alimentaires de «rattrapage nutritionnel» extrêmement efficaces, que le CICR utilise systématiquement depuis leur commercialisation pour le traitement de la malnutrition. Au niveau des rations de base, de grandes difficultés techniques restent encore à résoudre pour enrichir les denrées de base et arriver à fournir des rations équilibrées et complètes.

L'intervention nutritionnelle du CICR. En ce qui concerne la nutrition, le CICR dispose aujourd'hui d'une série d'outils d'intervention intégrés à l'ensemble des moyens qu'il met en œuvre lorsqu'il intervient en faveur des victimes de la guerre. Ces outils consistent en une intervention auprès des autorités et des belligérants sur la base des principes du DIH, l'effet recherché étant: la protection contre les actes hostiles mettant en jeu les moyens de subsistance; une réhabilitation et un soutien économique permettant de prévenir ou d'enrayer la décapitalisation et de promouvoir l'autosuffisance; des distributions générales de nourriture de base pour éradiquer la malnutrition; une augmentation de l'offre en nourriture afin d'en diminuer son prix de vente sur les marchés; donner le temps et la force de travail requis pour continuer ou reprendre les activités économiques; et, enfin, une nutrition thérapeutique pour prévenir la mortalité, traiter et enrayer la malnutrition. Ces outils représentent des filets de sécurité placés les uns derrière les autres et répondant aux niveaux d'urgence successifs, pour tenter d'éviter que les communautés puis les individus ne tombent de plus en plus bas. Les actions mises en œuvre dépendent évidemment du moment d'intervention du CICR dans le processus de crise, mais deux objectifs demeurent: le premier est de prévenir la chute vers un niveau plus bas ou de l'éviter, et le second est de faire remonter les victimes au niveau d'urgence supérieur. Toutefois, s'il est impossible, pour des raisons logistiques, d'assurer par les distributions générales de nourriture une ration de base suffisante, il ne sert à rien de mettre en place des centres de nutrition thérapeutique qui seront très vite débordés et qui n'offriront aucune issue au patient une fois qu'il aura récupéré.

Typologie des crises où le CICR intervient. La typologie des crises est à la mode. L'expérience montre cependant qu'il n'y a pas de crise type. La guerre frappe de façon très différente selon les modes de combat, les mobiles d'agression, la mentalité et le comportement des agresseurs et des agressés, le terrain, les facteurs climatiques, les modes de vie et de subsistance des populations victimes d'agressions. En outre, le moment où le CICR intervient au cours du développement de la crise et sa capacité d'accès aux

victimes modulent toute la stratégie d'action. Par conséquent, si les réponses que le CICR donne aux crises suivent l'approche conceptuelle énoncée ci-dessus, aucune intervention ne ressemble pour autant à une autre. De même qu'il n'y a pas de crise type, il n'y a pas non plus de réponse type ou de recette, comme l'illustrent les trois exemples ci-dessous, qui tous témoignent de la mise en œuvre de l'approche intégrée, spécifiquement à la situation affrontée:

Angola. En 1994, la ville de Ganda en Angola est quasiment assiégée depuis une année. La population commerçante a fui. Il ne reste plus qu'une garnison réduite et une population d'agriculteurs rassemblées dans les quartiers périphériques. Les mines et les attaques ont restreint le périmètre de sécurité aux abords immédiats de la ville, ne permettant aux paysans que de cultiver un lopin de terre incapable de leur assurer l'autosuffisance. La sécheresse prolongée durant la dernière campagne agricole a quasiment réduit la production à néant, rendant insignifiante la récolte de mars-avril. Le CICR arrive en mai et trouve une situation catastrophique où 40 à 50 pour cent des enfants en dessous de six ans sont gravement dénutris, où la mortalité par famine augmente rapidement et où pratiquement chaque famille compte un ou plusieurs membres gravement dénutris. Le CICR ne dispose à ce moment que d'un petit porteur pour approvisionner, par voie aérienne, une ville de 40 000 habitants, ne permettant de couvrir que le cinquième des besoins. Les transports aériens ne seront pas suffisants avant deux mois. Après discussion avec les autorités, les chefs traditionnels et la population, il est décidé d'ouvrir huit centres qui distribueront aux enfants gravement dénutris deux repas par jour à consommer sur place. Chaque centre alimentera 500 bénéficiaires et les repas consistent en un mélange de farine de maïs cuite à l'eau et d'une «sauce» faite de haricots, d'huile et de sel. L'apport journalier est de 1 900 kcal. De son côté, une infirmière établit un centre de nutrition thérapeutique pour 500 bénéficiaires exigeant des soins nutritionnels et médicaux très spécifiques pour survivre. En outre, un médecin assisté d'infirmiers locaux vaccine les enfants contre la rougeole et approvisionne en médicaments les postes de santé encore existants. De cette manière, et avec l'accord et le soutien actif de la population, il a été possible d'enrayer la malnutrition grave, de contrôler la mortalité et d'éviter le risque d'une épidémie grave. Après un à deux mois, les bénéficiaires des centres de distribution de repas pouvaient céder leur place à d'autres, tandis que se mettait en place une distribution générale de nourriture adéquate et que des discussions étaient en cours pour faire relâcher l'étau autour de la ville.

Soudan. Depuis 1986, dans le sud du Soudan peuplé essentiellement d'éleveurs de bovins dont beaucoup sont victimes de la guerre et de la sécheresse, le CICR s'est essayé, sans grand succès, aux distributions de nourriture apportée principalement par voie aérienne. Il a finalement opté pour le seul programme réellement viable: la vaccination à grande échelle de quelque cinq millions d'animaux pour les protéger contre les épizooties et préserver le bétail, principale ressource alimentaire de la population. Malheureusement, ces efforts ont été anéantis par une combinaison meurtrière d'actes de guerre et de sécheresse. Les troupeaux ont quasiment disparu de la zone concernée. Le CICR a alors mis en place un programme de distribution de semences, d'outils aratoires et de matériel de pêche pour aider les pasteurs à changer de mode de vie et à tirer parti des ressources qui leur restaient. En outre, dès le départ, le CICR a établi un réseau de dispensaires pour couvrir certaines régions totalement dépourvues de services sanitaires, ainsi qu'un système d'évacuation des blessés de guerre vers son hôpital chirurgical du Kenya.

Somalie. Au début de 1995, des populations déplacées à cause du conflit qui a ravagé la Somalie entre 1990 et 1992 retournent dans leurs villages d'origine, situés le long du cours inférieur de la rivière Juba. Ces gens, complètement démunis, doivent tout réentreprendre: relever les villages de leurs ruines, défricher et préparer les champs abandonnés depuis plus de trois ans, et réparer, avec des moyens de fortune, les digues qui contiennent les crues de la rivière. En outre, la malaria frappe durement cette population déjà affaiblie par les privations, les conditions de vie précaires dans les camps et un retour épuisant. Lorsque le CICR intervient en mars 1995, il est confronté à des problèmes de sécurité interdisant l'établissement d'une base permanente et contraignant à importer l'assistance du Kenya, par voie aérienne, avec de petits porteurs. Il est donc exclu d'envisager une assistance alimentaire adéquate. En accord avec la population, priorité est donnée à l'agriculture. Il s'agit, tout d'abord, de s'assurer que les paysans pourront préparer et semer leurs champs pour la principale campagne agricole de l'année se déroulant d'avril à août, afin de recouvrer leur autosuffisance alimentaire le plus rapidement possible. L'assistance consiste en semences de sorgho, de haricot et de sésame, et en outils aratoires. Elle ne se limite pas aux nouveaux arrivants mais, suite à l'évaluation menée par deux agronomes (un expatrié et un somalien), elle s'étend, selon les besoins, aux villages voisins déjà réinstallés. La solidarité étant très forte dans ces moments difficiles mais pas catastrophiques, ces villages procurent de la nourriture aux nouveaux arrivants. De cette

façon, les besoins nutritionnels de base, immédiats et futurs sont momentanément couverts.

La deuxième priorité consistera alors pour le CICR à installer et à faire fonctionner sur cette zone totalement dépourvue de services sanitaires deux dispensaires gérés par des infirmiers locaux, et à mettre en place un programme d'assistance nutritionnelle et médicale ambulatoire, ciblé sur les familles comptant des individus gravement dénutris. La concertation préalable avec la population est essentielle pour que cette mesure de ciblage soit comprise et acceptée et n'engendre pas d'effets pervers. Les êtres humains ne vivant pas que de nourriture, une distribution de biens non alimentaires est mise en œuvre, comprenant des ustensiles de cuisine, des bâches pour les huttes, des couvertures et des pièces d'étoffe pour confectionner des vêtements. En outre, des ingénieurs remettent en fonction les puits et les pompes à main pour assurer un accès suffisant à l'eau potable. Agronomes, nutritionnistes et infirmières surveillent à intervalles réguliers le déroulement du programme et l'évolution des cultures. Les pluies se révèlent rapidement insuffisantes. De plus, la crue inonde une partie des terres mises en culture le long de la rivière. Les réserves alimentaires s'épuisent et la récolte étant sérieusement compromise, aussi bien pour les populations nouvellement rentrées que pour celles déjà réinstallées, le CICR élargit son approche à toutes les victimes des inondations et de la sécheresse de la région. Il organise, d'une part, un programme de semence adéquat pour tirer parti des terres inondées au moment de la décrue, et il conduit, d'autre part, une enquête pour déterminer quels sont les villages requérant une aide alimentaire d'ici la prochaine récolte de janvier-février 1996. Les contraintes logistiques et de sécurité amènent le CICR à recourir à des achats de vivres en Somalie à partir de régions produisant des excédents commercialisés dans le secteur privé. Les employés somaliens du CICR sur place assurent le fonctionnement de tout le programme, depuis les appels d'offres jusqu'à la distribution aux bénéficiaires. La supervision expatriée est régulière mais elle n'est ni permanente ni directement visible.

Ce mode opératoire, dicté par les circonstances, n'est pas coutumier du CICR pour deux raisons: il est plus facile d'obtenir des dons en nature qu'en espèces, et il est plus facile de répondre d'une action d'assistance vis-à-vis des donateurs quand le personnel expatrié du CICR est responsable de toutes les étapes, de l'évaluation initiale à la distribution. Le CICR n'a pas organisé ce programme sans appréhension, l'assistance aux victimes de la famine de 1991 à 1993 ayant posé d'énormes difficultés de sécurité. Cependant le programme a fonctionné au-delà des

espérances, car il a misé sur les capacités locales: règles de commerce et de solidarité internes que tout le monde en Somalie comprend mieux et est beaucoup plus enclin à respecter que les modes opérationnels humanitaires occidentaux.

Force et faiblesse des interventions nutritionnelles. De manière générale, la force des interventions nutritionnelles réussies est de permettre à des êtres humains de vivre, avec un espoir pour leur avenir. C'est énorme pour les victimes de la guerre, et c'est beaucoup pour les institutions humanitaires et leurs donateurs. Cependant la réussite porte en soi sa faiblesse: montrer que l'on peut faire quelque chose pour diminuer les conséquences de la guerre, c'est souvent permettre que ne soient pas abordés plus directement les problèmes de la guerre. Avec leur rôle de pompier à qui il n'appartient pas d'empêcher les pyromanes de sévir, le CICR et d'autres organisations humanitaires rassurent et créent la bonne conscience.

Dans le même ordre d'idée, les interventions nutritionnelles humanitaires ont un sens lorsque la crise est passée, les victimes de la guerre qui ont bénéficié de l'assistance pouvant espérer objectivement recouvrer un mode de vie et des moyens de subsistance décents. Cependant, lorsque les problèmes donnant lieu à des conflits sont structurels: capacité de support de l'environnement insuffisante, compétition de plus en plus féroce à l'échelle planétaire pour la maîtrise de ressources limitées, rupture des grands équilibres écologiques, le rôle de pompier des organisations humanitaires devient non seulement dérisoire mais aussi franchement pervers, en donnant l'illusion qu'il y a solution là où seul un soulagement temporaire peut avoir lieu. De tels problèmes et de tels conflits requièrent des mesures dont la nature diffère totalement de celle de l'assistance humanitaire, cette dernière étant sans commune mesure avec la priorité vitale qu'il y a maintenant à protéger les ressources premières et durables de la planète: sa flore, sa faune, son eau, son sous-sol, ainsi que les équilibres écologiques nécessaires. Dans l'intérêt général, il est urgent de gérer sagement ces ressources, ce qui ne peut se faire qu'au-delà des intérêts particuliers des Etats et des groupes économiques privés transnationaux. La FAO, organisation onusienne s'occupant des matières premières essentielles à toute vie, et par conséquent à la vie humaine, n'a-t-elle pas un rôle fondamental à jouer à cet égard? Quant aux organisations humanitaires comme le CICR, qui sont mieux placées que quiconque pour observer les problèmes structurels de la planète sur le terrain, elles pourraient très bien collaborer à l'effort commun en partageant leur analyse de ces problèmes.

CONCLUSION

L'évolution et la multiplication des conflits au cours des 20 dernières années ont amené le CICR à répondre constamment, ici ou là, aux problèmes nutritionnels des victimes de la guerre. Il a développé une expertise dans ce domaine, intégrée à la méthodologie globale de l'approche des problèmes de santé publique au cours d'une guerre (Perrin, 1995).

La stratégie d'intervention est basée, d'une part, sur la relation existant entre le respect des principes du DIH et la prévention de la famine, ce qui se concrétise en activités de protection, et, d'autre part, sur une éthique disant que, lorsque l'assistance doit être mise en œuvre, il est insuffisant de maintenir les gens en vie, il faut également assumer la responsabilité de leur avenir en leur garantissant, directement ou indirectement, les moyens de subsistance et d'autosuffisance qui conditionnent cet avenir. Ces moyens dépendent cependant de ressources commençant à se faire rares à l'échelle planétaire. Face aux conflits que ces limites entraînent obligatoirement, le rôle

des organisations humanitaires devient dérisoire et des mesures de nature totalement différentes sont requises. ♦

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Le Comité international de la Croix-Rouge face aux problèmes de nutrition des victimes de la guerre

Le Comité international de la Croix-Rouge (CICR) joue le rôle d'intermédiaire neutre en cas de conflits armés et de troubles, et il s'efforce d'assurer — de sa propre initiative ou en se fondant sur les Conventions de Genève — protection et assistance aux victimes des conflits armés et des troubles et des tensions internes. Le CICR se donne pour mission de prévenir et d'alléger en toutes circonstances les souffrances des hommes; de protéger leur vie, leur santé et leur dignité; et, enfin, de lutter contre les maladies et améliorer le bien-être social.

La guerre a des effets néfastes sur tous les stades du système alimentaire de l'être humain, c'est-à-dire sur la production, la distribution, l'acquisition, la préparation, le partage, la consommation et l'utilisation biologique de la nourriture. L'évolution et la multiplication des conflits au cours des 20 dernières années ont amené le CICR à répondre de manière constante ici ou là aux problèmes d'ordre nutritionnel des victimes de la guerre. Il a développé une expertise dans ce domaine, intégrée à la méthodologie globale de l'approche des problèmes de santé publique dans la guerre.

Les activités de protection s'appuient sur les principes du Droit international humanitaire (DIH). L'urgence à assister surgit dès que les moyens de subsistance des victimes de la guerre sont mis en jeu et qu'il n'y a plus d'autosuffisance alimentaire. Le terme d'autosuffisance revêt un sens bien précis: le besoin nutritionnel est un besoin renouvelable, puisqu'il faut manger chaque jour; il faut donc que les ressources donnant accès à la nourriture soient, elles aussi, renouvelables. Dès qu'une population n'est plus autosuffisante, elle entame l'étape critique du processus de famine qui la conduit vers le dénuement et la malnutrition.

La malnutrition, qui représente la première priorité d'intervention, peut être provoquée par des phénomènes divers: sécheresse, épidémies de rougeole, épidémies de diarrhée, spéculation économique, actes de guerre, et il n'est pas rare de voir tous ces phénomènes se produire en même temps. Par conséquent, une approche cohérente de l'assistance visera, autant que faire se peut, à s'en prendre tout d'abord à la cause du phénomène, puis à ses effets immédiats sur le processus alimentaire et, enfin, au symptôme final qu'est la malnutrition.

Ces mesures sont indispensables mais elles n'ont de logique que si elles se poursuivent conjointement avec des activités de réhabilitation économique qui permettront à la population de se passer de l'assistance. Par rapport à la nutrition, l'aspect primordial est de faire en sorte que les victimes de la guerre retrouvent leur autonomie alimentaire. Le processus de réhabilitation commence dès le début de l'intervention, avec pour objectif de maintenir les ressources productives existantes, et il peut se poursuivre après la cessation des hostilités jusqu'à ce que l'autonomie soit à nouveau assurée.

Le CICR a systématisé les distributions de semences tout en dispensant les secours alimentaires dans les zones rurales. Au-delà de ces considérations budgétaires nécessaires, on s'est aperçu que les programmes semences avaient une signification plus large: en ayant les moyens de prendre son destin en main, le bénéficiaire recouvre sa dignité perdue dans les files d'attente aux postes de distribution de nourriture; il faut aller au-delà des secours alimentaires et promouvoir l'autosuffisance si l'on veut avoir une chance d'en terminer le plus vite possible avec l'aide d'urgence. De l'accès à une ration de base suffisante on passe à l'accès aux activités économiques qui permettent aux gens de redevenir ou de rester indépendants quant à l'obtention de la nourriture.

Ce type d'assistance dépend cependant des ressources de la planète qui commencent à se raréfier et cela crée forcément des conflits. Face à ces conflits, le rôle des organisations humanitaires devient dérisoire et des mesures de nature totalement différente sont requises.

The International Committee of the Red Cross confronts nutritional problems of war victims

The International Committee of the Red Cross (ICRC) acts as neutral intermediary in cases of armed conflict and unrest. Acting upon its own initiative or in accordance with the Geneva Conventions, it seeks to protect and assist the victims of such strife. The ICRC endeavours to prevent and alleviate human suffering, to safeguard life and health, to ensure respect for the human body and to work towards preventing disease and promoting health and social welfare.

War disrupts all stages of human nutrition: the production, distribution, procurement, preparation, allocation, consumption and biological utilization of food. With the evolution and proliferation of conflicts

over the past 20 years, the ICRC has constantly been engaged in dealing with the nutritional problems of the victims of war. It has acquired expertise in this area, which is integrated with the organization's global approach to public health problems in situations of war.

The ICRC's protection activities are founded on the principles of international humanitarian law. Emergency assistance is required as soon as the means of survival and nutritional self-sufficiency of the victims of war are threatened. The term "self-sufficiency" is used in a precise sense: A nutritional need is a renewable need because food is a daily requirement; thus the resources that provide access to food must also be renewable. As soon as a population ceases to be self-sufficient, it starts down the critical path of hunger which leads to destitution and malnutrition.

Alleviating malnutrition is the first priority of intervention. Malnutrition has many causes, such as drought, measles epidemics, diarrhoea, economic speculation and acts of war, sometimes all acting at the same time. A coherent approach to assistance will aim as far as possible to deal first with the cause of the problem, second with its immediate impact on the nutritional process and then with the final symptom, malnutrition.

Though vital, nutrition interventions only make sense if accompanied by activities directed towards economic rehabilitation which will enable the population to do without assistance. As regards nutrition, the primary concern is to help the war victims regain food self-sufficiency. The rehabilitation process begins from the very start of the intervention, with the aim of safeguarding any remaining productive resources, and may continue after the ceasing of hostilities until self-sufficiency has been recovered.

The ICRC has systematically combined seed distribution and food relief in rural areas. Apart from financial considerations, the seed programmes have been seen to have broader significance: By equipping the beneficiaries to take charge of their own destiny, they have restored the dignity that was lost in the long food distribution lines. Assistance must extend beyond food aid to include the promotion of self-sufficiency if there is to be any hope of quickly doing away with food aid. Reflections on regaining self-sufficiency suggest a need to diversify from an agricultural approach towards a global economic approach in addressing the situation of war victims. In other words, it is necessary to move away from access to adequate rations towards access to the economic activities that will help recover or maintain independence in procuring food.

Such assistance depends, however, on resources that are beginning to reach limits at the global level. In the face of the inevitable conflicts that will arise from these limits, the role of the humanitarian organizations pales into insignificance, and measures of a totally different nature will be required.

El Comité Internacional de la Cruz Roja afronta los problemas nutricionales de las víctimas de la guerra

El Comité Internacional de la Cruz Roja (CICR) actúa como mediador neutral en caso de conflictos armados y disturbios, y trata de asegurar a las víctimas de éstos, por iniciativa propia o basándose en los Convenios de Ginebra, protección y asistencia. El CICR tiene la misión de prevenir y aliviar en cualquier circunstancia los sufrimientos humanos, proteger la vida y la salud de la población y velar por su respeto, y esforzarse por prevenir las enfermedades y fomentar la salud y el bienestar social.

La guerra tiene efectos nocivos sobre todas las fases del ciclo de la alimentación humana, es decir la producción, distribución, adquisición, elaboración, consumo y utilización biológica de los alimentos. La evolución de los conflictos y su multiplicación en los últimos 20 años han obligado al CICR a responder constantemente a los problemas nutricionales de las víctimas de la guerra, adquiriendo a este respecto una competencia integrada en la metodología global para abordar los problemas de salud pública que plantea la guerra.

Las actividades de protección se inspiran en los principios del derecho internacional humanitario. Es urgente prestar asistencia desde el momento en que los medios de subsistencia de las víctimas de la guerra y su autosuficiencia para subvenir a sus necesidades nutricionales se ven amenazados. El concepto de autosuficiencia tiene un significado preciso: las necesidades nutricionales son renovables, puesto que hay que alimentarse todos los días, y por ello es necesario que los recursos que dan acceso a los alimentos sean también renovables, de modo que permitan consumir lo necesario. Cuando una

población deja de ser autosuficiente, inicia la etapa crítica del proceso de hambre que la conduce a la indigencia y la malnutrición.

La malnutrición, que constituye el objetivo prioritario de toda la intervención, puede deberse a diversos factores: sequía, epidemia de sarampión, enfermedades diarreicas, especulación económica o guerra, y no es raro que todos estos factores se presenten simultáneamente. Por tanto, un enfoque coherente de la asistencia tendrá por objeto, en la medida de lo posible, abordar en primer lugar la causa del fenómeno, a continuación sus efectos inmediatos sobre el proceso alimentario y por último el síntoma final que es la malnutrición.

Estas medidas son indispensables pero sólo darán resultados satisfactorios si van seguidas de actividades de rehabilitación económica que permitan a la población prescindir de la asistencia. En lo que respecta a la nutrición, el fin primordial es conseguir que las víctimas de la guerra recuperen su autonomía alimentaria. El proceso de rehabilitación comienza con la intervención destinada a mantener los recursos productivos aún existentes, y puede continuar tras el cese de las hostilidades hasta que quede nuevamente asegurada la autonomía.

El CICR distribuye sistemáticamente semillas junto con los socorros humanitarios en las zonas rurales. Aparte de las necesarias consideraciones presupuestarias, se ha observado que los programas de semillas tienen un significado más amplio: al disponer de los medios para controlar su destino, el beneficiario recupera la dignidad que había perdido haciendo cola en los puestos de distribución de alimentos. Si se quiere acabar lo antes posible con la ayuda de urgencia, hay que ir más allá del socorro alimentario y promover la autosuficiencia. Para ello es necesario pasar de un enfoque agronómico a un enfoque económico global de la situación de las víctimas de la guerra, es decir del acceso de una ración básica suficiente al acceso a las actividades económicas que permiten a la población volver a ser o seguir siendo independiente en cuanto a la obtención de alimentos. Sin embargo, este tipo de asistencia depende de unos recursos que empiezan a alcanzar sus límites a escala mundial. Ante los conflictos que estos límites suscitan inexorablemente, la labor de las organizaciones humanitarias resulta inútil y son necesarias medidas de índole muy diferente. ♦

Establishing a food insecurity and vulnerability information and mapping system

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At the World Food Summit, held in Rome in November 1996, heads of State and government made the solemn commitment “to enable food insecure households, families and individuals to meet their food and nutritional requirements and to seek to assist those who are unable to do so” (FAO, 1997). As part of the Plan of Action to achieve this objective, governments and other members of civil society were asked to: “Develop and periodically update, where necessary, a national food insecurity and vulnerability information and mapping system, indicating areas and populations, including at local level, affected by or at-risk of hunger and malnutrition, and elements contributing to food insecurity, making maximum use of existing data and other information systems in order to avoid duplication of efforts” (FAO, 1997).

FAO was requested to play a catalytic part in this effort. As a first step towards the development of a Food Insecurity and Vulnerability Information and Mapping System (FIVIMS), FAO convened a technical consultation to establish ways and means of developing FIVIMS in a coordinated manner. The consultation was held on 24 and 25 March 1997 with the participation of representatives of nine agencies (FAO, the International Fund for Agricultural Development [IFAD], the United Nations Children’s Fund [UNICEF], the Office of the United Nations High Commissioner for Refugees [UNHCR], the World Bank, the World Health Organization [WHO], the World Food Programme [WFP], the United Nations Environment Programme [UNEP] and the United Nations Development Programme [UNDP]); five national institutions (the United States Agency for International Development [USAID], the German Agency for Technical Cooperation [GTZ], the Canadian International Development Agency [CIDA], France’s National Institute for Agricultural Research [INRA] and the United Kingdom’s Institute of Development Studies [IDS]); two non-governmental organizations (NGOs) (Save the Children Fund – United Kingdom and Helen Keller International); and 15 individual experts. The participants discussed three areas of work: assessment of chronic hunger and malnutrition; assessment of chronic and structural vulnerability; and assessment of current and acute vulnerability for improved relief operations. The outcome of the meeting is summarized here.

ASSESSMENT OF CHRONIC HUNGER AND MALNUTRITION

Food balance sheets

Participants agreed that the FAO food balance sheets approach is useful in the assessment of the extent of chronic undernutrition based on per caput food availability and distribution, and that it has no current substitute. However, these data have deficiencies and should be calibrated and verified through the use of more direct information on food availability and consumption.

Indicators such as per caput daily energy, protein and fat supply and consumption, the proportion and number of persons with inadequate food and relative inadequacy of food supply were recognized to be nested components of a single indicator, i.e. food availability. The experts felt that the reference to food inadequacy in this context could be misleading, as inadequate nutrition could imply overnutrition as well as undernutrition. The term “food insufficiency” seemed preferable.

Because of the inadequate coverage of non-cereal food crops (such as roots and tubers) in production statistics, the food balance sheets approach consistently tends to underestimate per caput food availability at the national level, especially in African countries. While this bias may not affect the trends, there may be consequences for estimating absolute levels of food inadequacy.

Subnational and local data

In the case of many large countries such as China, India and Brazil, there is a need for information at subnational levels. However, the cost and difficulty of obtaining disaggregated data were acknowledged. It would be desirable to have more information on local and particularly subnational levels of food stocks and trade, wages and labour market conditions.

Household information

The experts suggested that increased use be made of national household surveys that include actual distribution data related to income, expenditure and consumption. This information can be useful in making country-level estimates

of food availability and determining the prevalence of food insufficiency. The participants also felt that qualitative perceptions of food insecurity and vulnerability should be taken into consideration; this recommendation would seem to be more appropriate in reference to household perceptions of medium-term insecurity rather than immediate perceptions of acute hunger.

Anthropometry

The consultation agreed that anthropometric indicators (underweight, wasting, stunting) should be used and that more attention should be given to comparison of age groups over time and across countries. The inclusion of mid-upper arm circumference was recommended as an additional desirable indicator of undernutrition.

More attention should be given to mild and moderate malnutrition as well as severe malnutrition. If early child death is a problem of food insecurity, then mild to moderate malnutrition must be taken into consideration. To support this point, experts argued that two-thirds of child deaths were associated with non-clinically malnourished children.

The consultation strongly recommended the inclusion of adult conditions in the assessment. It agreed that although body mass index (BMI) and its calibration were under debate, BMI should be used until further development.

Micronutrients

The consultation observed that there was a need for additional information on the difference between and overlap of micronutrient deficiencies and chronic undernutrition. The existing measurements and indicators of micronutrient deficiencies are valuable, although greater attention needs to be given to indicators at the subnational level. It was suggested that the link between consumption of animal products and reduced micronutrient deficiencies be explored to determine whether the consumption of animal products could be used as a proxy measure for certain micronutrient deficiencies in some countries and for some populations with specific dietary habits.

ASSESSMENT OF CHRONIC AND STRUCTURAL VULNERABILITY

The factors that dictate vulnerability will undoubtedly vary among and even within countries, and the availability of data for any indicator or set of indicators will also vary from place to place and through time. Thus it is unlikely that a single set of indicators could be developed that would be applicable across all countries at all times. Therefore the experts focused on the definition of clusters or classes of indicators which could be further elaborated to cover all

situations, depending on the location or livelihood system being considered and the limitations of data.

The consultation recommended consideration of five basic classes of indicators:

- income and its sources,
- food production,
- food price,
- income distribution,
- impoverishment.

ASSESSMENT OF CURRENT AND ACUTE VULNERABILITY FOR IMPROVED RELIEF OPERATIONS

Existing methodologies for vulnerability assessment are based on a similar understanding of household organization and behaviour and of the factors that determine food security (FAO, 1996). In the experts' view, the "expert systems" and "indicator" approaches are complementary and there are strong methodological arguments for combining the two approaches.

The expert systems approach, as used in vulnerability assessment, uses explicit models of household food access and of household and market response. These models are often based on inputs from key informants which provide an understanding of households and their livelihood systems. The models can then be subjected to perturbations to determine household and market responses in times of stress.

In the indicator approach, conditions at the household level are inferred from data that have been collected for a broader area and for which a time series is available for the establishment of average conditions and general trends (i.e. subnational statistics). These data are interpreted against a conceptual model that describes household response to both economic and physical variations in order to develop a general picture of chronic and/or baseline vulnerability as well as current vulnerability conditions.

Vulnerability assessments derived from the various methodologies should be validated, using criteria developed jointly with governments and donors, as they will be important users of the assessments.

DATA SHARING

FIVIMS will make use of a number of data-gathering systems that already exist. The sharing of information and data among partners is imperative in view of the high cost of data collection and to avoid duplication of efforts. For example, FAO's Global Information and Early Warning System for Food and Agriculture (GIEWS) uses information derived from Save the Children Fund – United Kingdom, USAID's Famine Early Warning System (FEWS) and WFP.

FUTURE PLANS

The development and establishment of FIVIMS on a worldwide basis will require time, energy and resources, and actions are being taken to initiate the process. The main responsibility for establishing FIVIMS lies with governments. Much of FIVIMS work will focus on strengthening and establishing national food security units, particularly in the countries that are most vulnerable and least likely to be in a position to sustain such operations without appropriate assistance.

FIVIMS will first use currently available information or data collection systems and will seek the expansion of their geographical coverage both within countries and at global level.

Information on food insecurity and vulnerability at the country level constitutes the basis for the development of FIVIMS. The development of FIVIMS at the national and subnational levels would require prior consultation among the local institutions to define the system to be established, the structure of inputs, the institutions involved and the capacity-building needs.

The development of FIVIMS at the international level will be the responsibility of the concerned United Nations agencies in cooperation with other international institutions and NGOs. The partners will have to agree on a well-defined, simple set of national indicators for which all countries will need to provide data for the international database. The information generated by FIVIMS will be disseminated through a set of databases managed by different organizations, using the same agreed standards. Such databases must be accessible to all partners and could be combined to give a full assessment of the food insecurity and vulnerability situation. ♦

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Establishing a food insecurity and vulnerability information and mapping system

To enable food-insecure households to meet their food and nutrition requirements, governments participating in the World Food Summit, held in Rome in 1996, were asked to develop food insecurity and vulnerability information and mapping systems (FIVIMS) at the national level. These systems will indicate the areas and populations affected by or at risk of hunger and malnutrition and the elements contributing to food insecurity. The World Food Summit Plan of Action encouraged United Nations agencies to initiate FIVIMS on a worldwide basis, and FAO will have a catalytic role in this effort.

As a first step, a technical consultation was held in March 1997 to discuss how FIVIMS should be developed. Participants from international agencies, bilateral organizations and non-governmental organizations and independent experts discussed ways to assess chronic hunger and malnutrition and structural vulnerability. They reviewed the kinds of information that will be essential for developing FIVIMS.

Food balance sheets are useful for assessing the extent of chronic undernutrition based on per caput food availability and distribution. More direct information on food availability and consumption is also needed. Information about food stocks, trade, wages and labour market conditions at the local and subnational levels is also required. National household surveys with distribution data related to income, expenditures and consumption can be useful, as can qualitative information about perceptions of food insecurity and vulnerability.

It was agreed that anthropometric indicators should be used and that comparison should be made among age groups over time and across countries. Attention must be given to mild and moderate malnutrition – often associated with child deaths – as well as severe malnutrition. Adult conditions should be assessed by using the body mass index (BMI).

The factors leading to vulnerability can differ among and even within countries, and the availability of data also varies. Thus, development of a single set of indicators that applies across all countries at all times seems unlikely. Five basic classes of indicators were recommended: income and its sources, food production, food prices, income distribution and impoverishment.

FIVIMS will use existing data-gathering systems and sharing of information among partners to reduce costs and avoid duplication of efforts. Much of FIVIMS work will focus on strengthening and establishing national food security units, particularly in countries that are most vulnerable and least likely to be in a position to sustain such operations without assistance.

Etablissement d'un système d'information et de cartographie sur l'insécurité et la vulnérabilité alimentaires

Pour permettre aux ménages en situation d'insécurité alimentaire de couvrir leurs besoins alimentaires et nutritionnels, les gouvernements participant au Sommet mondial de l'alimentation, tenu à Rome en 1996, ont été invités à mettre au point des systèmes nationaux d'information et de cartographie sur l'insécurité et la vulnérabilité alimentaires (SICIVA). De tels systèmes indiqueront les zones et les populations victimes ou à risque de famine et de malnutrition, ainsi que les facteurs qui contribuent à l'insécurité alimentaire. Le Plan d'action du Sommet mondial de l'alimentation a encouragé les institutions des Nations Unies à instaurer le SICIVA, initiative pour laquelle la FAO sera appelée à jouer un rôle catalyseur.

La première étape a été l'organisation en mars 1997 d'une consultation technique en vue de définir les modalités d'élaboration du SICIVA. Les représentants d'institutions internationales, d'organisations bilatérales et d'organisations non gouvernementales, ainsi que des experts indépendants, se sont penchés sur la façon de procéder pour établir un diagnostic de la faim et de la malnutrition chroniques, et de la vulnérabilité structurelle. Ils ont fait le point des informations qui seront essentielles aux fins de l'élaboration du SICIVA.

Les bilans alimentaires sont utiles pour mesurer le degré de dénutrition chronique sur la base des disponibilités alimentaires par habitant et de leur distribution. Des informations plus directes concernant les disponibilités alimentaires et la consommation sont également nécessaires. Il faudra, par ailleurs, des informations sur les stocks et le commerce des denrées alimentaires, sur les salaires et la situation du marché du travail aux niveaux local et infranational. Des enquêtes nationales sur les ménages, avec des données concernant la répartition du revenu, des dépenses et de la consommation,

peuvent s'avérer utiles, tout comme des informations qualitatives sur la perception de l'insécurité et de la vulnérabilité alimentaires.

Il a été convenu d'utiliser des indicateurs anthropométriques et de procéder à des comparaisons entre groupes d'âge dans le temps et à travers les pays. Il s'agira de prêter attention aussi bien à la malnutrition modérée – souvent associée à la mortalité infantile – qu'à la malnutrition avancée. L'indice de masse corporelle (IMC) permettra d'évaluer l'état nutritionnel des adultes.

Les facteurs qui contribuent à la vulnérabilité diffèrent d'un pays à l'autre, voire au sein d'un même pays, tout comme les données disponibles. Aussi l'élaboration d'une unique série d'indicateurs, applicable à tous les pays et à tout moment, paraît-elle peu probable. Cinq catégories fondamentales d'indicateurs ont été recommandées, à savoir: le revenu et ses sources; la production alimentaire; le prix des denrées alimentaires; la répartition du revenu et la paupérisation.

Le SICIVA utilisera les systèmes de collecte de données existants et échangera des informations avec les entités partenaires, afin de réduire les coûts et d'éviter toute duplication d'effort. Le système s'attachera pour l'essentiel à renforcer et à mettre en place des unités nationales de sécurité alimentaire, notamment dans les pays les plus vulnérables et les moins susceptibles de pouvoir réaliser de telles opérations sans aide.

Establecimiento de un sistema de información y cartografía sobre la inseguridad y la vulnerabilidad alimentarias

Con el fin de que las familias expuestas a la inseguridad alimentaria puedan cubrir sus necesidades alimentarias y nutricionales, se pidió a los gobiernos participantes en la Cumbre Mundial sobre la Alimentación de 1996 que establecieran sistemas nacionales de información y cartografía sobre la inseguridad y la vulnerabilidad alimentarias. Estos sistemas indicarán las zonas y poblaciones afectadas por el hambre y la malnutrición o expuestas a ellas, y los factores que contribuyen a la inseguridad alimentaria. El Plan de Acción de la Cumbre Mundial sobre la Alimentación alentó a los organismos de las Naciones Unidas a que establecieran un sistema de información y cartografía sobre la inseguridad y la vulnerabilidad alimentarias (SICIVA), esfuerzo en el que la FAO desempeñará una función catalizadora.

Como primera medida, en marzo de 1997 se celebró una consulta técnica para examinar el modo en que debía elaborarse el SICIVA. Representantes de organismos internacionales, organizaciones bilaterales y no gubernamentales y expertos independientes estudiaron medios para evaluar el hambre y la malnutrición crónicas y la vulnerabilidad estructural, y determinaron el tipo de información que será esencial para establecer el SICIVA.

Las hojas de balance de alimentos son útiles para evaluar el grado de desnutrición crónica sobre la base de la disponibilidad per cápita y la distribución de alimentos. También es necesaria más información directa sobre la disponibilidad y consumo de alimentos, así como sobre las existencias y el comercio de alimentos, los sueldos y las condiciones del mercado de trabajo a nivel local y subnacional. Pueden ser útiles encuestas nacionales por hogares con datos sobre distribución de ingresos, gastos y consumo, así como información cualitativa sobre los conceptos de inseguridad y vulnerabilidad alimentarias.

Se convino en que debían utilizarse indicadores antropométricos y realizarse comparaciones entre grupos de edades en diferentes momentos y países. Es necesario prestar atención tanto a la desnutrición leve y moderada, con frecuencia asociada con la mortalidad infantil, como a la malnutrición grave. El estado de los adultos debe evaluarse utilizando el índice de masa corporal.

Los factores que contribuyen a la vulnerabilidad difieren entre los países y dentro de éstos; también varía la disponibilidad de datos. Por consiguiente, no es posible establecer un único conjunto de indicadores que se aplique a todos los países en todo momento. Se recomendaron cinco tipos básicos de indicadores: los ingresos y sus fuentes, la producción de alimentos, los precios de éstos, la distribución de los ingresos y el empobrecimiento.

El SICIVA utilizará los sistemas de recopilación de datos existentes e intercambiará información con otros asociados para reducir costos y evitar la duplicación de esfuerzos. Su labor se centrará sobre todo en el establecimiento y consolidación de dependencias nacionales de seguridad alimentaria, especialmente en los países más vulnerables y con menos probabilidades de poder realizar tales operaciones sin ayuda. ♦

Preparation and use of food-based dietary guidelines

W.D. Clay

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The International Conference on Nutrition (ICN), convened by FAO and the World Health Organization (WHO) in Rome in 1992, identified strategies and actions for improving nutritional well-being and food consumption throughout the world. The Plan of Action for Nutrition adopted during the ICN includes a section entitled "Promoting appropriate diets and healthy lifestyles". Governments are called upon "to provide advice to the public by disseminating, through use of mass media and other appropriate means, qualitative and/or quantitative dietary guidelines relevant for different age groups and lifestyles and appropriate for the country's population" (FAO/WHO, 1992). Attaining this goal will require that each nation formulate a plan of action appropriate to its culture, identify public health problems and trends related to local dietary patterns and adopt local strategies for their resolution. The ICN Plan of Action for Nutrition is notable for the absence of numerical targets for food and nutrient intakes. This omission indicates broader thinking among nutritionists, moving away from policies dictated by nutrient recommendations towards policies defined by prevailing public health issues.

Pursuing these goals and strategies, FAO and WHO jointly convened an international consultation of 22 experts to discuss the preparation and use of food-based dietary guidelines. The experts, meeting in Nicosia, Cyprus, from 2 to 7 March 1995, reviewed scientific evidence on diet-related health problems including non-communicable diseases and other forms of malnutrition. They reviewed the literature on recommended nutrient intakes and synthesized current nutrient recommendations as well. They discussed dietary assessment methodologies and examined existing national dietary guidelines and their use. Finally, they made recommendations for the development and implementation of food-based dietary guidelines.

HIGHLIGHTS

Many countries have dietary guidelines expressed in scientific terms, containing quantitative goals and recommendations for intakes of nutrients and food components. These references, which include recommended

dietary allowances (RDAs), reference nutrient intakes (RNIs) and dietary reference values (DRVs), are used by policy-makers and health professionals. However, such recommendations are commonly misunderstood and applied inappropriately by both nutritionists and the public. The problem is twofold: individuals do not know their true nutrient requirements, and their information about the actual nutrient content of the foods they eat is incomplete.

Food-based dietary guidelines (FBDGs) are intended to provide nutrition education and dietary guidance for the general public in terms that are understandable to most consumers. FBDGs are a practical means of assisting people to reach appropriate nutritional goals. They take into account customary dietary patterns and indicate modifications needed to address particular concerns. They should be appropriate for each population group and may thus vary among population groups.

UNDERLYING ASSUMPTIONS FOR FOOD-BASED DIETARY GUIDELINES

There are a number of reasons for developing FBDGs. First, diets are made of foods, which are more than mere collections of nutrients. Unlike nutrients, foods and diets have cultural, ethnic, social and family meanings, which can be incorporated into FBDGs. Second, the biological functions of food components and their health effects have not all been identified. If the focus is on a single nutrient, the benefits of consuming these compounds in foods may not be realized. Third, the combination of nutrients in various foods can have different metabolic effects. Fourth, methods of food processing and preparation influence the nutritional value of foods. Finally, there is good evidence from animal, clinical and epidemiological studies that specific dietary patterns are associated with reduced risk of specific diseases, and FBDGs can encourage such practices.

Scientific basis

FBDGs should be based on sound scientific principles derived from studies in food science, behaviour, communication and agriculture, as well as nutrition. This information is combined with knowledge of local

KEY PRINCIPLES FOR DEVELOPING FOOD-BASED DIETARY GUIDELINES

Dietary patterns

- Total diet, rather than nutrients or individual foods, should be addressed.
- Dietary guidelines need to reflect food patterns rather than numerical nutrient goals.
- Various dietary patterns can be consistent with good health.

Practicality

- The recommended foods or food groups should be affordable, widely available and accessible to most people.
- FBDGs should recognize the social, economic, agricultural and environmental conditions affecting foods and eating patterns.
- FBDGs should be flexible for use by people with different lifestyles as well as people of different ages and different physiological conditions.

Comprehensibility

- FBDGs should be easily understood by the general public, taking into account levels of literacy. The terminology used must be simple and must refer to foods, rather than nutrients, wherever possible.
- Food groups that make sense to the public should be chosen.
- Visual presentation must be easily understood.
- Testing of the FBDGs is essential before dissemination.

Cultural acceptability

- The choice of foods and colours used in illustrations should be culturally appropriate.
- The guidelines should be sensitive to religious and other cultural considerations, especially those of minority groups.
- FBDGs should not recommend radical changes in current dietary practices.
- Presentation should use appropriate language or dialect.
- FBDGs should be positive and should encourage enjoyment of appropriate diets.

conditions. An understanding of what nutrients do and approximately how much of each may be needed must underlie the process of formulating dietary guidelines. Although knowledge of nutrition is incomplete, understanding of energy balance and macro- and micronutrients is sufficient to establish reasonable guidelines. A discussion of nutrition science is beyond the scope of this article; however, some key points are illustrated in the box above.

DEVELOPING FOOD-BASED DIETARY GUIDELINES

FBDGs should be developed by an interdisciplinary group including workers in agriculture, health, education, communication and food and nutrition science as well as representatives of the food industry and consumers. The initiative to develop such guidelines comes from policy-makers or practitioners in agriculture or health.

Dissemination of scientific materials and promotional activities by concerned groups can stimulate and encourage the establishment of a national working group.

Diet-related health patterns, diseases and mortality

The working group identifies the nutrition- and diet-related problems of public health significance, estimates the magnitude of the problems and establishes priorities. Segments of the population that are at risk of diet-related diseases are identified and information from various local, regional and international sources should be reviewed. Epidemiological, clinical and experimental studies can help to define the role of specific foods and nutrients in disease development and prevention.

The adequacy of diets can be assessed with reference to various food indices, RNIs or the nutrient density of foods consumed. In addition, it is important to determine whether an identified public health problem is being confounded by the presence or absence of certain nutrients or other food components. However, FBDGs are intended to help individuals consume diets that can alleviate health problems, not solely to close a gap between estimated and recommended nutrient intakes. Where such a gap exists and is identified as a cause for public health problems, the FBDGs should be based on objectives that are realistic for the given socio-economic context and time frame.

Assessing food consumption patterns

Food consumption data can be collected at three levels by different methods; the data from each level have specific purposes and strengths and limitations. National food supply data provide gross estimates of food availability and show trends; however, they do not reflect food consumption and cannot identify population subgroups at risk of inadequate intake. Household data are useful for comparing food availability among subgroups, although they do not provide information about individual consumption. The rapid assessment procedure involves focus group interviews with selected target groups; it is a low-cost and useful way to gather information on food beliefs, behaviour and intake at community level.

Data about individuals are the most useful for assessing dietary adequacy. Food records, 24-hour recall, food frequency questionnaires, diet histories and food habit questionnaires may be used to gather information on individual food patterns. Each method has its strengths, specific applications and limitations, and accuracy may be improved by combining methods. Selection of the most appropriate data collection method is based on the objectives of the assessment, the foods or nutrients of

NUTRITION CONCEPTS FOR DEVELOPING FOOD-BASED DIETARY GUIDELINES

Energy

- Nutritional guidelines should aim to prevent the consequences of either energy deficit or excess.
- FBDGs should promote appropriate energy intakes by encouraging adequate food choices, including a good balance of foods containing carbohydrates, fats, proteins, vitamins and minerals.
- The role of physical activity in the energy balance equation should be addressed.

Protein

- Requirements for most people consuming high-quality protein can be met if 8 to 10 percent of total energy is provided by protein.
- For people with predominantly vegetable-based mixed diets, which are common in developing countries, it is suggested that 10 to 12 percent of total energy be provided by protein, to account for lower digestibility and increased incidence of diarrhoeal disease.
- For elderly people with low energy intake, protein should represent 12 to 14 percent of total energy.

Fat

- In general, adults should obtain at least 15 percent of their energy intake from dietary fats and oils.
- Women of child-bearing age should obtain at least 20 percent of energy from fats to ensure an adequate intake of the essential fatty acids needed for foetal and infant brain development.
- Active individuals who are not obese may consume up to 35 percent of energy from fats as long as saturated fatty acids do not exceed 10 percent of energy intake.
- Sedentary individuals should limit fat to not more than 30 percent of energy intake.
- Saturated fatty acids should be limited to less than 10 percent of intake.

Carbohydrate

- Carbohydrates are the main source of energy in the diet, contributing more than 50 percent, for most people.
- Grain products, tubers, roots and some fruits are rich in complex carbohydrates. Generally they need to be cooked before they are fully digestible.
- Sugars usually increase the acceptability and energy density of the diet, and total sugar intake is often inversely related to total fat intake. Moderate intakes of sugar are compatible with a varied and nutritious diet, and no specific limit for sugar consumption is proposed in the report.

Micronutrients

- Vitamins and minerals include compounds with widely divergent metabolic activities and are essential for normal growth and development and optimal health.
- Micronutrients may also be important in preventing infectious and chronic diseases.

primary interest, the need for group versus individual data, the level of specificity needed for describing a food and population characteristics.

Analysis of the data should determine the extent to which health problems are diet related and which food

consumption behaviour needs to be changed via FBDGs. This analysis will enable the working group to define the content, purpose and target group for the guidelines. The experts discussed possible criteria for analysis, such as individual foods, food groups, meal patterns and eating practices. Computer software programs are available for analysis of food and nutrient data as well as for conversion of food intake data into nutrient values. In analysing the data, national and/or regional food composition data should be consulted.

National policies and programmes

FBDGs should be consistent with national policies and programmes for improved food supplies and nutrition. The establishment of FBDGs thus requires consideration of issues such as the availability and price of foods. Agricultural policies and their effect on income, food prices, women, labour demand, nutrient content of food and the role of traditional food production systems should be taken into account. Health policies and practices that influence health such as physical activity, smoking and alcohol consumption should also be noted. Attention should be given to the realities of the environment and to food safety concerns such as safeguarding the integrity of national food systems. Education and social policies that promote appropriate dietary intake and lifestyles should also receive consideration.

Drafting guidelines

FBDGs should be tested before they are published for the general public. Focus groups can help to determine the guidelines' cultural acceptability and clarity and the appropriateness of their visual presentation. Different guidelines may be needed for urban and rural populations, special population groups (e.g. lactating women) and speakers of various local languages. The scope of the work, resources and objectives will determine the priority of issues to be addressed.

IMPLEMENTING FOOD-BASED DIETARY GUIDELINES

To be effective, a set of dietary guidelines must be communicated to the public through a variety of educational and motivational media. In addition to being scientifically sound, it is important that the guidelines be short, simple, clear and memorable.

Educational materials

FBDGs are commonly disseminated as brochures, posters or radio or television messages. An FBDG statement *per se* can be seen as an educational tool. However, it is often necessary to revise the statements in the FBDGs for different

consumers, according to educational levels, access to media, dietary practices and existing misconceptions and taboos about food.

Educational materials and programmes can be developed to support FBDGs. These materials give explanations and elaborate on the content, giving more specific information regarding, for example, serving size, traditional foods, and packaged and brand-name versus home-produced foods. They present information about the role of food fortification, functional foods (foods with health benefits extending beyond their nutritional effects), imported foods, mixed diets and different cooking styles and preparations. Guidelines can be produced in different languages and dialects. Various dishes and local foods can be illustrated.

In the preparation of educational materials all stakeholders should be represented to maximize the reach and quality of the materials. Industry representatives, religious and community leaders, dieticians, health care workers, consumer representatives, teachers, extensionists and others should participate in their conception.

A multimedia approach is encouraged. The message is reinforced and more effective when communicated by different media and by spokespersons in different settings. Regional and national mass media educational campaigns should ensure coordinated and consistent dissemination of educational messages. Education should allow for supervision and for feedback to learners. In group education, lesson plans should be developed. A curriculum element for FBDGs and related learning activities in schools may be required prior to the use of public radio or television. It is important to consider the time available for teaching about FBDGs as well as the learners' attention span and retention of knowledge. If a specific curriculum element for FBDGs in schools is planned, each lesson should build on the previous ones so that understanding of the concepts will increase gradually. Most educational programmes require teacher training or "training of trainers" preparatory programmes to ensure proper implementation and instruction of FBDGs. Training of trainers should be planned from the outset of the programme of implementing FBDGs.

Monitoring and evaluation

Mass media campaigns and educational programmes for promotion and adoption of FBDGs need to be evaluated for determination of their reach, frequency and impact. The experts briefly discussed process evaluation, i.e. assessment of how FBDGs and related educational messages were disseminated or implemented, as well as outcome evaluation, i.e. assessment of the results of the campaign or educational programme at its completion. ♦

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Preparation and use of food-based dietary guidelines

Numeric nutrient recommendations such as recommended dietary allowances, reference nutrient intakes and dietary reference values are often misunderstood by the public. Food-based dietary guidelines (FBDGs) are a practical means of assisting individuals to reach nutritional goals. In 1995, FAO and the World Health Organization (WHO) held the Expert Consultation on the Preparation and Use of Food-Based Dietary Guidelines in Nicosia, Cyprus. The experts recommended that FBDGs address particular nutritional concerns and consider customary dietary patterns, socio-economic and cultural factors and the biological and physical environment in which the population lives. FBDGs should be consistent with relevant national policies and programmes for improved food supplies and nutrition.

Public health issues should determine the direction of dietary guidelines. FBDGs should combine knowledge of local conditions with sound principles derived from the disciplines of nutrition, education, agriculture, food science and technology, environmental science, behavioural science and social science.

As general principles for developing FBDGs, the experts recommended that total diet rather than individual foods be addressed. FBDGs must be practical; the recommended foods or food groups have to be affordable, widely available and accessible to most people. Guidelines ought to be flexible for different age groups, lifestyles and physiological conditions. Radical changes in current dietary practices should not be recommended. The guidelines should be positive and should encourage enjoyment of food. FBDGs must be easy to understand, and the food groupings have to make sense to the public. Food-based terminology should be used wherever possible, and the number of concepts listed should be few.

It is recommended that industry representatives, religious and community leaders, dietitians, health care workers, consumer representatives, teachers, extension workers and others be encouraged to participate in the development of educational materials on FBDGs to maximize their quality and dissemination. Multimedia approaches to education about FBDGs are encouraged. The effectiveness of mass media campaigns and educational programmes should be evaluated to determine reach, frequency and impact.

Préparation et utilisation de directives sur les régimes alimentaires

Les recommandations nutritionnelles numériques, telles que les apports alimentaires recommandés, les apports nutritionnels de référence et les valeurs alimentaires référentielles, sont souvent mal comprises par le grand public. Les directives alimentaires constituent le moyen pratique d'aider les individus à atteindre des objectifs nutritionnels donnés. En 1995, la FAO et l'Organisation mondiale de la santé (OMS) ont tenu à Nicosie (Chypre) une consultation d'experts sur la préparation et l'application de directives sur les régimes alimentaires. Les experts ont recommandé que ces directives traitent des problèmes nutritionnels spécifiques et tiennent compte à la fois des modes d'alimentation habituels, des facteurs socioéconomiques et culturels, et de l'environnement biologique et physique de la population. La compatibilité des directives alimentaires avec les politiques et programmes nationaux pertinents est nécessaire pour des approvisionnements alimentaires plus appropriés et une meilleure nutrition.

Les questions de santé publique devraient déterminer l'orientation des directives alimentaires, qui devraient à leur tour associer la connaissance des conditions locales à de solides principes issus des règles de la nutrition, de l'éducation, de l'agriculture, des sciences des aliments et de la technologie alimentaire, de la science de l'environnement, de la science du comportement et des sciences sociales.

Comme principes généraux pour l'élaboration de ces directives, les experts ont recommandé de traiter l'alimentation dans sa totalité plutôt que les aliments pris isolément. Il est opportun que ces directives aient un caractère pratique et que les aliments ou groupes d'aliments recommandés soient abordables, disponibles en abondance et accessibles à la majorité de la population. Elles devraient être adaptables pour des groupes d'âge, des modes de vie et des conditions psychologiques différents. Il ne s'agit pas de recommander une modification radicale des pratiques alimentaires courantes. Les directives devraient être positives et encourager à prendre plaisir à la nourriture. Elles devraient être faciles à comprendre et il est opportun, en outre, que les combinaisons alimentaires aient un sens pour le grand public. Il convient d'adopter une terminologie à caractère alimentaire autant que faire se peut et de limiter le nombre des concepts énumérés.

Il s'agit d'encourager la participation des représentants du monde industriel, des autorités religieuses

et des chefs de communauté, des diététiciens, des travailleurs de la santé, des associations de consommateurs, des enseignants, des vulgarisateurs et d'autres encore, à la préparation du matériel didactique relatif aux directives alimentaires afin d'en optimiser la qualité et la diffusion. Le recours aux médias à l'appui du processus éducatif inhérent aux directives est encouragé. Il serait utile d'évaluer l'efficacité des campagnes médiatiques et des programmes didactiques pour en déterminer la portée, la fréquence et l'impact.

Preparación y aplicación de directrices dietéticas basadas en alimentos

Las recomendaciones cuantitativas sobre nutrientes, como los aportes dietéticos, las ingestas de nutrientes de referencia y los valores dietéticos de referencia suelen ser difíciles de comprender por el público. Las directrices dietéticas basadas en alimentos son el medio más práctico para ayudar a las personas a alcanzar objetivos nutricionales. En 1995, la FAO y la OMS celebraron en Nicosia (Chipre) una consulta de expertos sobre «Preparación y aplicación de directrices dietéticas basadas en alimentos». Los expertos recomendaron que estas directrices incorporen determinadas preocupaciones nutricionales, y tengan en cuenta los modelos habituales de alimentación, los factores socioeconómicos y culturales y el entorno biológico y físico en el que vive la población. Las directrices deben ser compatibles con las políticas y programas nacionales encaminados a mejorar el suministro de alimentos y la nutrición.

Las cuestiones de salud pública deben determinar la orientación de las directrices dietéticas, las cuales han de combinar el conocimiento de las condiciones locales con principios sólidos derivados de las disciplinas de la nutrición, la educación, la agricultura, la bromatología, la tecnología de los alimentos y las ciencias ambientales, comportamentales y sociales.

Como principio general para elaborar directrices dietéticas basadas en alimentos, los expertos recomendaron que se tomara como base la alimentación total, y no los distintos alimentos. Es necesario que las directrices sean prácticas y que los alimentos o grupos de alimentos recomendados sean asequibles y accesibles para casi toda la población y estén ampliamente disponibles. Las directrices han de ser flexibles para los diferentes grupos de edad, estilos de vida y condiciones fisiológicas. No deben recomendarse cambios radicales en las prácticas alimentarias habituales. Las directrices deben ser positivas y fomentar el goce de los alimentos. Es necesario que sean fáciles de entender y que las agrupaciones de alimentos tengan sentido para el público. Siempre que sea posible se utilizará una terminología basada en los alimentos y se reducirá el número de conceptos enumerados.

Deberá alentarse a representantes de la industria, dirigentes religiosos y comunitarios, dietistas, personal sanitario, representantes de los consumidores, profesores, extensionistas y otras personas a que participen en la preparación de material didáctico para promover la calidad y divulgación de directrices dietéticas basadas en alimentos. Se recomienda el empleo de medios audiovisuales para difundir las directrices. Deberá evaluarse la eficacia de las campañas y programas de educación a través de los medios de comunicación con el fin de determinar su alcance, frecuencia e impacto. ♦

1996 Declaration of Olympia on Nutrition and Fitness

A.P. Simopoulos

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Every four years an International Conference on Nutrition and Fitness is held in Greece prior to the Olympic Games. Following each conference, a declaration is developed at the International Olympic Academy to update advice on nutrition and fitness for all. The Third International Conference on Nutrition and Fitness was held from 24 to 27 May 1996 in Athens and was attended by 480 participants from 31 countries. The Fourth International Conference on Nutrition and Fitness will be held in spring of the year 2000.

The international panel that developed the Declaration of Olympia on Nutrition and Fitness agreed that on the occasion of the one-hundredth anniversary of the Olympic Games it was important to reaffirm the concept of positive health articulated by Hippocrates in 480 BC, and to reassess its relevance to the Olympic ideal and the health of the world's population. Hippocrates' concept of positive health was based on the interaction of heredity (today recognized as genetics), diet and physical activity, which influences the spiritual, mental and physical aspects of health:

"Positive health requires a knowledge of man's primary constitution and of the powers of various foods, both those natural to them and those resulting from human skill. But eating alone is not enough for health. There must also be exercise, of which the effects must likewise be known. The combination of these two things makes regimen, when proper attention is given to the season of the year, the changes of the winds, the age of the individual and the situation of his home. If there is any deficiency in food or exercise the body will fall sick."

The concept is represented graphically in the Figure.

The concept of positive health was important in ancient Greece, and it occupied much of the Greeks' thinking. People who had the means and leisure time applied themselves to maintaining positive health, which they often conceived in aesthetic terms. They placed themselves in the hands of trainers, who subjected them to a regimen. The ancient Greeks' training for war and athletic competition is of course well known. Health was a form of excellence in its own right, the physical counterpart of mental activation. The details of the health regimen were an important part of Greek medicine.

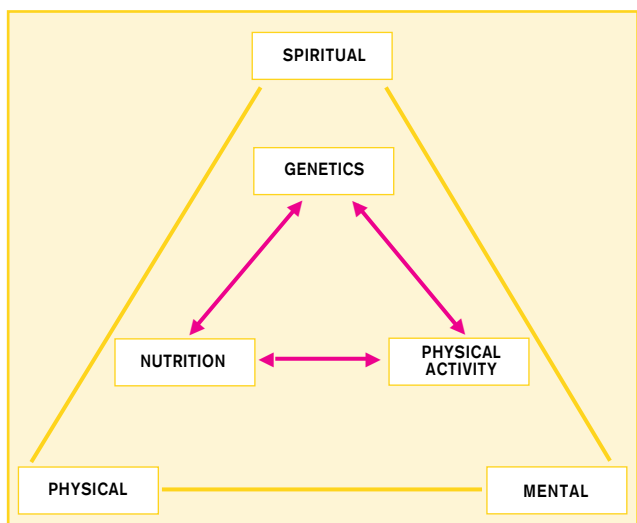
GENETIC VARIATION, NUTRITION, PHYSICAL ACTIVITY AND HEALTH

The interaction between genetic and environmental factors influences human development and is the foundation for health and disease. While genetic factors define the individual's potential for health and susceptibility to disease, it is environmental factors that determine if the potential is reached and how the susceptibility affects the individual. Nutrition and physical activity are two of the most important environmental factors in maintenance of health and well-being.

Each human being is exceptional in some way. Individuality is determined by genes, constitutional factors (age, sex, developmental stage, parental factors) and environmental factors (diet, physical activity, socio-economic status, occupation, education, time, geography and climate). Genetic variation influences the response to diet. Nutrients and physical activity influence gene expression. Under many conditions proper diet and exercise have similar beneficial effects, and their effects may be additive.

Because of differences in gene frequency, dietary habits and activity levels, universal dietary and physical activity

Hippocrates' concept of the influence of the interaction of genetics, nutrition and physical activity on the spiritual, mental and physical aspects of health



recommendations are not appropriate. Instead, recognition of variability in genetic make-up and response to exercise, coupled with an appreciation of the cultural context of diet and physical activity patterns, should guide advice for health and the prevention and management of chronic diseases.

DIET

The purpose of diet is to supply energy and nutrients required for optimal health. Energy intake must be balanced against physical activity. Over 800 million humans are chronically energy deficient, but obesity is common in many industrialized societies. Protein intake should be adequate for normal growth and development in children and for maintenance of body structures. Carbohydrates, both simple and complex, are essential for energy and fibre.

Fat is a concentrated energy source, and in energy-deficient populations increased fat intake may be necessary to enhance energy availability and to ensure absorption of fat-soluble vitamins. However, in sedentary populations excess fat may contribute to chronic degenerative diseases. In such circumstances total fat intake should be reduced, mainly by decreasing saturated and *trans* fatty acids, and physical activity should be increased. All populations need essential polyunsaturated fatty acids for mental and cardiovascular health. An omega-6:omega-3 fatty acid ratio of 5:1 or less appears to be desirable (Simopoulos, 1991).

Adequate balanced micronutrient intake should be provided commensurate with emerging understanding of needs for these nutrients. Special attention should be directed to correcting micronutrient deficiencies, which have the most extensive nutritional impact throughout the world: 2 000 million persons are anaemic, 1 000 million are at risk of iodine deficiency and 40 million children suffer from vitamin A deficiency (FAO/WHO, 1992). Understanding of the functions of micronutrients is currently increasing, and health workers should have up-to-date knowledge regarding both deficiencies and optimal requirements. Having a variety of foods in the diet helps to maintain adequate micronutrient intake. Most populations would benefit from increased intakes of fruits and vegetables.

PHYSICAL ACTIVITY

A wealth of evidence points to the conclusion that human fitness and health improve when sedentary individuals begin to exercise. Although low physical activity levels are most frequent in industrialized, affluent nations, sedentary behaviour is becoming increasingly common in developing countries as well. Because mechanization and industrialization have reduced occupational physical

activity levels in many communities, there is often a need for additional daily physical activities designed to improve health and fitness.

Physical activity can be categorized as follows:

- non-labour daily physical activities, e.g. feeding, bodily functions (such as temperature regulation, heart rate, breathing rate), minimum physical activities necessary for life maintenance;
- labour physical activities, e.g. industrial work, agriculture, carpentry, housework;
- leisure or recreational physical activities (exercise) of low to moderate intensity, e.g. walking, dancing, hiking, bowling, cycling, golf.

A wide variety of fitness parameters, including aerobic capacity, muscular strength, endurance, coordination, flexibility and body composition, improve with increases in activity levels. Perhaps more importantly, indices of human health also improve. Physical activity has been shown to reduce the severity and outcome of three of the most common chronic degenerative diseases of westernized nations: hypertension, coronary heart disease and non-insulin-dependent diabetes mellitus. Physical activity also has a well-known role in preventing and reducing obesity, and it has a beneficial influence on insulin metabolism. Furthermore, increased levels of physical activity have a positive impact in virtually all chronic diseases, including but not limited to stroke, peripheral artery disease, chronic obstructive pulmonary disease, osteoporosis and some forms of cancer. For previously sedentary individuals, even non-taxing physical activities such as walking, gardening, cycling and swimming can elicit improved health and reduce morbidity and mortality.

Physical activities are advised to promote growth and health, improve body functions and protect from illness. Exercise prescription should be considered as an essential component of therapy for treatment or reversal of various diseases.

EDUCATION

Education about nutrition and physical activity needs to be adapted to each country and to different populations and cultures. Education about the beneficial physical and psychological effects of proper nutrition and physical activity in health and disease needs to be directed to all age groups – children, adults and the elderly – since research has shown that levels of physical activity are correlated with awareness of its benefits. Education needs to address the detrimental effects of sedentary lifestyles, undernutrition and malnutrition, particularly for children. Education about opportunities for obtaining proper nutrition and engaging in

physical activity is important in view of findings that increases in elective physical activity depend on accessibility.

Education should be disseminated in the workplace and in the community through various channels – the mass media, print, television and radio – in order to reach everybody in the population. Role models in the family, schools, sports and entertainment also provide education. Institutions such as schools can set examples for proper nutrition and physical activity. The food and sports industries need to be cognizant of the scientific evidence regarding optimal nutrition and physical activity levels.

Labelling of the nutritional composition of all foods sold is another means of education. There is a particular need for education of health professionals and health workers, nutrition and sports scientists and educators. ♦

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DECLARATION OF OLYMPIA ON NUTRITION AND FITNESS

1. Nutrition and physical activity interact in harmony and are the two most important positive factors that contribute to metabolic fitness and health interacting with the genetic endowment of the individual. Genes define opportunities for health and susceptibility to disease, while environmental factors determine which susceptible individuals will develop illness. Therefore, individual variation may need to be considered to achieve optimal health and to correct disorders associated with micronutrient deficiency, dietary imbalance and a sedentary lifestyle.
2. Every child and adult needs sufficient food and physical activity to express their genetic potential for growth, development, and health. Insufficient consumption of energy, protein, essential fatty acids, vitamins (particularly vitamins A, C, D, E and the B-complex) and minerals (particularly calcium, iron, iodine, potassium and zinc), and inadequate opportunities for physical activity impair the attainment of overall health and musculoskeletal function.
3. Balancing physical activity and good nutrition for fitness is best illustrated by the concept of energy intake and output. For sedentary populations, physical activity must be increased; for populations engaging in intense occupational and/or recreational physical activities, food consumption may need to be increased to meet their energy needs.
4. Nutrient intakes should match more closely human evolutionary heritage. The choice of foods should lead to a diverse diet high in fruits and vegetables and rich in essential nutrients, particularly protective antioxidants and essential fatty acids.
5. The current level of physical activity should match more closely our genetic endowment. Re-establishment of regular physical activity into everyday life on a daily basis is essential for physical, mental, and spiritual well-being. For all ages and both genders the physical activity should be appropriately vigorous and of sufficient duration, frequency, and intensity, using large muscle groups rhythmically and repetitively. Special attention to adequate nutrition should be given to competitive athletes.
6. The attainment of metabolic fitness through energy balance, good nutrition and physical activity, reduces the risk of and forms the treatment framework for many modern lifestyle diseases such as diabetes mellitus, hypertension, osteoporosis, some cancers, obesity, and cardiovascular disorders. Metabolic fitness maintains and improves musculoskeletal function, mobility, and the activities of daily living into old age.
7. Education regarding healthy nutrition and physical activity must begin early and continue throughout life. Nutrition and physical activity must be interwoven into the curriculum of school-age children and of educators, nutritionists and other health professionals. Positive role models must be developed and promoted by society and the media.
8. Major personal behavioural changes supported by the family, the community, and societal resources are necessary to reject unhealthy lifestyles and to embrace an active lifestyle and good nutrition.
9. National governments and the private sector must co-ordinate their efforts to encourage good nutrition and physical activity throughout the life cycle and thus increase the pool of physically fit individuals who emulate the Olympic ideal.
10. The ancient Greeks (Hellenes) attained a high level of civilization based on good nutrition, regular physical activity, and intellectual development. They strove for excellence in mind and body. Modern men, women, and children can emulate this Olympic ideal and become swifter, stronger, and fitter through regular physical activity and good nutrition.

**1996
Declaration of
Olympia on
Nutrition and
Fitness**

Every four years, the International Conference on Nutrition and Fitness is held in Greece prior to the Olympic Games. At the 1996 conference, an international panel developed the Declaration of Olympia on Nutrition and Fitness to update advice on nutrition and fitness for all. The declaration assessed the relevance of the concept of positive health, articulated by Hippocrates in 480 BC, to the Olympic ideal and the health of the world's population. The concept of positive health was based on the interaction of heredity (today recognized as genetics), diet and physical activity; these factors are the foundation for health and disease. Genetic factors define the individual's potential for health and susceptibility to disease, and the environment determines if the potential is reached. Nutrition and physical activity are two of the most important environmental factors in maintaining health and well-being.

Individuality is determined by genes, constitutional factors (e.g. age, sex) and environmental factors (e.g. socio-economic status, geography). Because of differences in gene frequency, dietary habits and activity levels, universal dietary and physical activity recommendations are not appropriate. Instead, genetic variability and response to exercise should be recognized, and the cultural context of diet and physical activity patterns should guide health advice.

Energy intake must be balanced against physical activity. Over 800 million humans are chronically energy deficient, while obesity is common in many industrialized societies. Protein intake should be adequate for normal growth and development as well as maintenance of body structures. Carbohydrates, both simple and complex, are essential for energy and fibre. Fat is a concentrated energy source. In energy-deficient populations, increased fat intake may be necessary to meet energy needs and to ensure absorption of fat-soluble vitamins. Special attention should be directed to correcting these micronutrient deficiencies.

Low physical activity levels are most common in industrialized, affluent nations but are becoming increasingly common in developing countries. Education about nutrition and physical activity needs to be adapted to each country and to different populations and cultures. Education about the beneficial physical and psychological effects of proper nutrition and physical activity in health and disease needs to be directed to all age groups – children, adults and the elderly.

Through energy balance, good nutrition and physical activity, diseases such as diabetes mellitus, hypertension, osteoporosis, some cancers, obesity and cardiovascular disorders can be diminished. Personal behaviour changes supported by the family, the community and societal resources are necessary to reject unhealthy lifestyles. National governments and the private sector must coordinate their efforts to encourage good nutrition and physical activity throughout the life cycle. The ancient Greeks attained a high level of civilization based on good nutrition, regular physical activity and intellectual development. Modern men, women and children can emulate this Olympic ideal.

**Déclaration
d'Olympie sur la
nutrition et le
bien-être
physique, 1996**

Tous les quatre ans, la Conférence internationale sur la nutrition et le bien-être physique se tient en Grèce, préalablement aux Jeux olympiques. L'idéal olympique soulignait l'excellence de l'esprit et du corps. Tel est l'objectif de la Déclaration d'Olympie sur la nutrition et le bien-être physique de la Conférence de 1996, recueil d'avis concernant l'alimentation et l'exercice physique pour tous.

La déclaration met en relief l'importance du concept de santé positive, formulé par Hippocrate en 480 avant J.-C., d'un idéal olympique et de la santé de la population mondiale. Ce concept est basé sur l'interaction de la génétique, de l'alimentation et de l'activité physique. Les facteurs génétiques définissent le potentiel d'un individu en termes de santé et de prédisposition à la maladie, tandis que l'environnement détermine si ce potentiel est atteint. La nutrition et l'activité physique sont deux des facteurs d'environnement les plus importants aux fins de la préservation de la santé et du bien-être.

L'individualité est déterminée par les gènes, par des facteurs constitutionnels (âge, sexe) et par des facteurs environnementaux (statut socioéconomique et géographie). Considérant les différences en matière de patrimoine génétique, d'habitudes alimentaires et de niveaux d'activité, des recommandations universelles quant à l'alimentation et à l'activité physique sont sans utilité. Il s'agit plutôt de connaître la variabilité génétique et la réaction à l'exercice, alors que le contexte culturel du

mode d'alimentation et des formes d'activité physique devrait éclairer les avis en matière de santé. L'article rappelle quels sont les points importants en matière de nutrition, comme la nécessité d'équilibrer l'apport énergétique par une activité physique. Plus de 800 millions de personnes souffrent chroniquement de carence énergétique, alors que l'obésité est répandue dans nombre de sociétés industrialisées. La ration protéique devrait être suffisante pour assurer une croissance et un développement normaux ainsi qu'un maintien de la structure corporelle. Les glucides tant simples que complexes sont essentiels pour l'énergie et les fibres. Un apport accru de lipides pourrait être nécessaire aux personnes souffrant de carence énergétique pour satisfaire à leurs besoins énergétiques et leur assurer l'absorption de vitamines liposolubles. Des efforts particuliers devraient être faits afin de compenser ces carences en oligoéléments. Dans les nations industrialisées et opulentes, le niveau d'activité physique est très souvent faible et cela commence à être également le cas dans les pays en développement. Toute éducation en matière de nutrition et d'activité physique doit être adaptée à chaque pays et aux différentes populations et cultures. Les bénéfices physiques et psychologiques d'une bonne nutrition et d'une activité physique adéquate doivent être connus des enfants, des adultes et des personnes âgées. Moyennant un équilibre énergétique, une alimentation saine et une activité physique, des maladies telles que le diabète sucré, l'hypertension, l'ostéoporose, certains cancers, l'obésité et les désordres cardiovasculaires pourraient diminuer. Il est possible que certains individus aient à modifier leur comportement, avec le soutien de leur famille et de la communauté. Les gouvernements nationaux et le secteur privé doivent coordonner leurs efforts pour encourager une nutrition et une activité physique appropriées tout au long de la vie.

Dans la Grèce antique, un niveau élevé de civilisation fut atteint, fondé sur une alimentation saine, une activité physique régulière et un développement intellectuel. Les hommes, les femmes et les enfants modernes peuvent aspirer à cet idéal olympique.

Declaración de Olimpia de 1996 sobre nutrición y bienestar físico

Cada cuatro años, se celebra la Conferencia Internacional sobre Nutrición y Bienestar Físico en Grecia antes de los Juegos Olímpicos. En la conferencia de 1996, un grupo internacional de expertos formuló la Declaración de Olimpia sobre nutrición y bienestar físico, en la que se actualizan los consejos sobre alimentación y ejercicio físico. En la declaración se evalúa el concepto de salud, enunciado por Hipócrates en el año 480 a.C. en relación con el ideal olímpico y la salud de la población mundial. Este concepto, se basaba en la interacción entre los factores hereditarios (hoy día reconocidos como genéticos), la alimentación y la actividad física; en estos factores se funda la salud y la enfermedad. Los factores genéticos determinan el potencial de salud y sensibilidad a las enfermedades de cada persona, y los ambientales la materialización de ese potencial. La nutrición y la actividad física son dos de los factores ambientales más importantes para mantener la salud y el bienestar.

El carácter del individuo está determinado por los genes, factores constitucionales (el sexo, la edad) y factores ambientales (condición socioeconómica, geografía). Dadas las diferencias en cuanto a frecuencia de genes, hábitos alimentarios y nivel de actividad, son inútiles las recomendaciones universales sobre alimentación y actividad física. En cambio, el asesoramiento en materia de salud debe guiarse más bien por la variabilidad genética y la reacción al ejercicio, así como el contexto cultural de los modelos de alimentación y actividad física.

Existe la necesidad de equilibrar el aporte energético con la actividad física. Más de 800 millones de personas presentan una deficiencia energética crónica, mientras que la obesidad es común en muchas sociedades industrializadas. La ingestión de proteínas debe ser apropiada para asegurar un crecimiento y desarrollo normales y para mantener la estructura corporal. Tanto los carbohidratos simples como los complejos aportan energía y fibras. Las grasas son una fuente de energía concentrada. En las poblaciones que padecen de deficiencia energética puede ser necesaria la ingestión de una mayor cantidad de grasas para hacer frente a las necesidades de energía y asegurar la absorción de vitaminas liposolubles. La corrección de estas deficiencias de micronutrientes ha de ser objeto de especial atención.

Los niveles bajos de actividad física son más corrientes en los países industrializados y prósperos,

pero se están generalizando también en los países en desarrollo. La educación sobre nutrición y actividad física debe adaptarse a cada país y a las diferentes poblaciones y culturas. Niños, adultos y ancianos deben recibir educación sobre los beneficios físicos y psicológicos de un nivel apropiado de nutrición y actividad física.

Gracias al equilibrio energético, a una correcta nutrición y a la actividad física, es posible disminuir la incidencia de enfermedades como la diabetes mellitus, la hipertensión, la osteoporosis, algunos tipos de cáncer, la obesidad y los trastornos cardiovasculares. Es necesario el apoyo de la familia, la comunidad y la sociedad para que las personas cambien su comportamiento. Los sectores público y privado deben coordinar sus esfuerzos para promover la actividad física y una nutrición adecuada durante todo el ciclo vital. En Grecia antigua se había alcanzado un alto nivel de civilización basado en una buena nutrición, una actividad física regular y el desarrollo intelectual. Los hombres, mujeres y niños de hoy pueden imitar este ideal olímpico. ♦

BOOKS LIVRES LIBROS

Nutrition matters: people, food and famine

H. Young and S. Jaspars. 1995. London, UK, Intermediate Technology Publications. ISBN 1-85339-243-X.

Nutrition matters: people, food and famine is based on the authors' experiences as field workers in situations of food insecurity and famine. Young and Jaspars had found that the existing descriptions of the role of nutrition in relation to famine were unclear or oversimplified. The practical constraints they encountered and the ineffectiveness of standard interventions led them to consider new approaches to nutritional assessments and response which are generally applicable in situations of famine.

The first part of the book discusses contemporary views of nutrition and famine; nutritional surveillance for famine early warning; and methods for assessment and surveillance. The authors emphasize that famine is not simply lack of food leading to hunger, starvation and death. Particularly during peacetime, famine is often a slow process of depletion of people's resources and ability to cope. The relationship between nutritional status and the different stages of famine is complex. The authors suggest that severely reducing food intake may be a strategy for long-term survival of the family and that high rates of malnutrition, particularly wasting, may occur before people become completely destitute and need relief assistance.

A practical chapter on methods of nutritional assessment and surveillance describes a mixture of anthropometric methods and qualitative approaches to gathering information, such as rapid assessment procedures and participatory rural appraisal. Young and Jaspars advocate a combination of strategies and alternative approaches to strengthening household food security which require long-term commitments to community development. However, at present this tactic is incompatible with the short-term commitments and funding arrangements of most relief agencies.

The second part of the book presents a detailed case-study of nutritional surveillance carried out in Darfur, the Sudan, from 1984 to 1991. The authors illustrate their theories by explaining the historical context of vulnerability to food insecurity and famine during the mid-1980s, pointing out the various effects of the famine on different population groups. They describe the development of a new community-based approach to surveillance, considering also its main constraints. While interesting, this section lacks a general conclusion which would help the reader to link the case-study with the more theoretical discussion in the first part of the book.

Part three points towards the future and brings together past experience and knowledge to generate a conceptual framework for understanding the many factors determining the role of nutrition in times of food insecurity and famine, aiming to "shed light on the relationship between nutritional status, malnutrition, food security and the risk of famine deaths". The practical implications of the

framework for planning and assessment, interpretation of nutritional data and interventions are discussed. Issues of sustainability, community surveillance and the role of food aid, including targeting strategies, are addressed.

Finally, the contribution of the discipline of nutrition in addressing nutritional problems of famine-affected populations and refugees is assessed. Young and Jaspars are critical of nutritionists who confine themselves to marginal roles in famine situations, focusing primarily on anthropometry and supervision of supplementary feeding programmes. The authors advocate a reorientation in the field and in nutrition training programmes. In assessing nutrition situations, nutritionists should focus on the underlying causes and the wider context of malnutrition; they should analyse the resources available and plan and implement interventions accordingly.

Humanitarian aid is increasing at the expense of development activities, and the scope of work of relief agencies has been expanding in recent years. At present these agencies are limited by their funds, which usually reach a peak at the height of an emergency. The authors argue that relief agencies should be able to develop an earlier response to the effects of famine and food insecurity, aiming at reducing vulnerability and supporting livelihoods. While the need to foster food security is widely accepted, the role of both development and relief agencies is a current issue of debate. Certainly all who are active in the field of development should be aware of the causes of different types of emergencies and famine situations, which can occur anywhere in the world.

The authors' attempt to mix theoretical background information in nutrition with practical guidance is not fully satisfying. This is unfortunate, since the publication is targeted to nutritionists working in relief and rehabilitation situations. Another weakness is that the forward-looking strategies are not well developed. Nevertheless, the authors of *Nutrition matters: people, food and famine* deserve credit for accurately reflecting the key issues and constraints in the ongoing discussion about the uses and needs for nutrition information among nutritionists, relief agencies and others working to alleviate emergency situations. This book is a valuable contribution to the discussion about linking relief to development, and it is refreshing in its criticisms.

Marion Herens

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Science, agriculture and food security

J. Hulse. 1995. Ottawa, Canada, National Research Council of Canada. 241 pp. ISBN 0-660-16210-5.

At the outset of this ambitious book, the author asserts that food security should be viewed as a basic human right, and he rejects pessimistic assumptions that the world lacks the capacity to increase food production to meet population

needs. *Science, agriculture and food security* presents a very broad range of topics, including nutrition, agricultural technology, food and agriculture policies and the environment.

The author provides a condensed review of recent literature, including numerous papers by leading development agencies and academics. His commentary, which draws upon his years of experience in agricultural development, illustrates some of the ways in which technology and social and economic policies converge and conflict. The book defines basic concepts, provides factual information and raises a number of thought-provoking, candid points about the political and financial constraints to achieving food security.

A brief discussion of the global demographic and economic situation is followed by a comprehensive presentation of standard nutrition concepts. Then, after a general discussion about agricultural resources and policies, the author describes various concepts of sustainable agriculture. He points to the difficulties of reaching a consensus on natural resource management when many notions of ecological conservation come into conflict with the urgent needs to increase food production. The author gives an overview of post-production systems of preservation, storage, processing, transportation, distribution and marketing, stressing the challenges of feeding the world's growing urban population.

While recognizing that technology alone cannot solve the problems of food insecurity, the author gives relatively little attention to economic issues. Unfortunately, coverage of development of human resources is sparse, although the author does stress the need to train more men and women to take interdisciplinary approaches to improving food systems.

Hulse advocates more support for agricultural research in developing and developed countries, particularly with respect to sustainable development and processing and marketing aspects of the food system. He draws attention to the contributions of international agricultural development institutions, including FAO.

Many factors affect global food security, and it may be inevitable that a book that is broad in scope lacks in-depth explanations. At many points in the book the reader wishes to understand more of the reasoning behind the author's arguments. An additional drawback is that much of the book deals with nutrition and agriculture in the United States, while coverage of other countries, particularly those with the most severe food security problems, is uneven.

In spite of these weaknesses, *Science, agriculture and food security* will help students of international development, agriculture, nutrition and economics to identify some of the key issues that affect global food security and international development. It may also serve as a quick reference for those already working in these fields.

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Training for Agriculture and Rural Development 1995-96

FAO. 1996. Rome. 158 pp., softcover. ISBN 92-5-103726-4.

Price: US\$25.

In keeping with Agenda 21 of the United Nations Conference on Environment and Development (UNCED), "The role of human resources development in sustainable agriculture and rural development" is the theme of the 1995-96 issue of *Training for Agriculture and Rural Development*. Eleven articles by various authors, covering a wide range of subjects, emphasize the importance of human resources development in achieving sustainable agriculture and rural development.

The first article focuses primarily on actions aimed at upgrading the productive potential of people who make their living in agriculture. It indicates the many dimensions of human resources development which are the objectives of development, such as literacy, health and nutrition, and it stresses that enabling human beings to be effective and productive economic agents is more important than providing natural resources and physical capital.

Several articles provide viewpoints on and experiences in training of agriculturists in sustainable agriculture and rural development, including environmental management.

The important role of women in the utilization of environmental resources is addressed, and the need for instructing both males and females on new approaches to resource management is highlighted. Strategies for implementing group-based extension programmes to improve agricultural practices and to strengthen conservation of natural resources are described.

The publication assesses a variety of participatory approaches and remarks on the need to link environmental issues with participatory rural appraisal methods. It notes the importance of developing learning skills and critical reflection in problem-solving among extension workers and farmers. Rethinking of training and practice for extension workers is proposed.

The publication draws lessons from a number of countries in Asia and Africa. It will be interesting reading for nutritionists involved in agriculture and other professionals in rural extension, agriculture and development.

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Nutritional epidemiology – possibilities and limitations

L. Langseth. 1996. Brussels, Belgium, International Life Sciences

Institute (ILSI) Europe. ISBN 0-944398-87-1. 40 pp.

This brief volume contains a comprehensive overview of methods and techniques used in epidemiological research in general, and their application to nutritional epidemiology. It describes the goals of nutritional epidemiology such as monitoring of food consumption patterns, nutrient intakes and the nutritional status of populations. It also explains the advantages and limitations of this particular area of epidemiology.

The book begins by discussing key features of the different types of epidemiological studies, both observational and experimental; it points out their advantages and limitations, as well as the potential for bias, which needs to be considered in every type of study. Key terms and concepts are explained and illustrated by interesting examples of historical research investigations. Methods of assessing nutritional exposure and examining the complex relationship between nutrition and disease are introduced.

Major topics covered include measures in epidemiology, techniques relevant to the analysis of food consumption data and issues to be considered in the interpretation of study findings such as internal and external validity. Finally, guidelines for critical evaluation of the quality of epidemiological studies are provided. The book concludes with a glossary and reference list.

In summary, this volume provides considerable insight into the field of nutritional epidemiology. In addition, it clearly states that scientists need to be aware of the inherent limits of epidemiological research in the detection of weak associations between nutritional exposure and disease; they must also be aware of the complexities involved in measuring dietary intake, avoiding bias, dealing appropriately with confounding factors and analysing data. The publication is an excellent introduction for every health professional interested in this complex field of research.

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Food-based approaches to preventing micronutrient malnutrition: an international research agenda

G.F. Combs Jr, R.M. Welch, J.M. Duxbury, N.T. Uphoff and M.C. Nesheim, eds. 1996. Ithaca, NY, USA, Cornell International Institute for Food, Agriculture and Development. 68 pp.

This publication summarizes the findings of an international workshop of the same title which included participants from 29 countries. The primary purpose of the workshop was to develop a consensus on a research agenda which would outline key needs and opportunities for research on food-based approaches to preventing micronutrient malnutrition. The second purpose was to facilitate communication among sectors and individuals interested in obtaining sustainable solutions for malnutrition.

For addressing micronutrient malnutrition in a sustainable manner, a systems approach is proposed. In contrast to a sectoral approach, a systems approach would provide a better means of analysing all relevant causal variables and would call for multidisciplinary action.

An analysis by the participants brought forth good arguments regarding the barriers and limitations to using current knowledge for overcoming micronutrient malnutrition through food-based approaches. The participants noted the current absence of multidisciplinary coalitions to address food, nutrition and health issues better among nutritionists, public health professionals,

food industry technicians and agricultural specialists. They pointed out that agricultural production does not usually have improved micronutrient outcomes as its goal. They recognized that little effort has been made to address the need for cultivation of edible, indigenous plants as a source of micronutrients.

An excellent analysis of current research needs is also presented. Research is proposed for making better use of food technology, communications, farming systems, etc. However, the participants indicated that research is also necessary to generate new knowledge in areas such as micronutrient availability and micronutrient crop enrichment. These suggestions could be useful to academic and research institutions dealing with issues related to food, agriculture and nutrition.

This publication makes a significant contribution to efforts to move micronutrient programmes into the mainstream of agricultural development planning. It highlights the great potential of food-based approaches as long-term, sustainable solutions for micronutrient deficiencies. The document will be of interest to a variety of professionals dealing with food and nutrition issues, including agronomists, nutritionists, social scientists, economists, public health specialists and development planners.

Teresa A. Calderón

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Manual of nutrition

Ministry of Agriculture, Fisheries and Food, United Kingdom. 1995.

Reference Book 342. London, HMSO. 10th ed. 165 pp.

ISBN 0-11-242991-2.

The *Manual of nutrition* is an easy-to-use guide suitable for health educators, home economics instructors, science teachers, journalists and the general public. This small book provides brief information sufficient to address common questions about food and diet. The first part, "Nutrients and their utilization", describes carbohydrates, fats, protein, vitamins, minerals, digestion and absorption. The United Kingdom's dietary reference values (DRVs), which have replaced recommended daily allowances (RDAs), are provided.

The second part, "Nutritional value of food and diets", discusses the characteristics of various types of foods (e.g. dairy products, meat, fish, pulses, vegetables, roots and tubers) and the nutritional effects of food preparation and processing. Advice about planning meals is given, and the nutritional needs of people in different phases of life (e.g. infancy, pregnancy, old age) are addressed. The United Kingdom's National Food Guide is described as well.

The appendixes provide food composition tables and methods for estimating basal metabolic rate and the nutritional value of foods. Very brief information about food additives and United Kingdom and European Community food legislation is also given.

This manual has a few shortcomings. It contains some concepts that are outdated, for example, P/S

(polyunsaturated/saturated) ratio. Some other terms are not widely accepted, such as “intrinsic” and “extrinsic” sugars. The short reading list comprises primarily United Kingdom government publications; it would have been helpful to add other nutrition references. The scope of the manual is limited to foods and health issues that are common in the United Kingdom. Nevertheless, the *Manual of nutrition* gives a range of important nutrition information that many readers will find useful.

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Food chemistry

O.R. Fennema, ed. 1996. Food Science and Technology Series No. 76. New York, NY, USA, Marcel Dekker, Inc. 3rd ed. 1088 pp. Hardcover, ISBN 0-8247-9346-3. Price: US\$185. Softcover, ISBN 0-8247-9691-8. Price: US\$55.

Food chemistry is primarily a textbook for upper-division undergraduates and beginning graduate students. It is also a valuable reference work for professionals. This recently released edition follows the format of the second edition (published ten years ago) and contains a wealth of new information. It provides updated chapters on all of the standard areas of interest in food chemistry such as water, carbohydrates, lipids, amino acids and enzymes. Separate chapters are devoted to vitamins and minerals, which were combined in the second edition. This logical step allows fuller coverage of both topics.

Another major change which greatly enhances the book's value both as a text and as a reference is the addition of a chapter entitled “Dispersed systems: basic considerations”. This chapter covers physical and chemical considerations for foods in a dispersed state, such as liquid dispersions, gels, emulsions and foams. In the previous edition, these considerations were scattered in several different chapters, such as those on carbohydrates and lipids.

Food chemistry textbooks must, almost by definition, include a considerable amount of classical food chemistry. Of course, they must also include the newer advances in the science, regarding both theory and practice. The editor has reached an excellent balance between the two in this text.

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The contemporary and historical literature of food science and human nutrition

J. Brogdon and W.C. Olsen, eds. 1995. Ithaca, NY, USA, Cornell University Press. 296 pp. ISBN 0-8014-3096-8.

This book is a practical, comprehensive literature review giving a historical perspective of food science and human nutrition. It provides a brief history of both disciplines, highlighting the main discoveries and events. An extensive

reference list is provided, ranking the publications in terms of their historical importance and usefulness.

The historical summary will be interesting for students and others. For instance, methods of food preservation (drying, salting, smoking, sugaring) were considered arts until their scientific basis was understood. In the nineteenth century, food science and nutrition evolved with such developments as Appert's canning and Pasteur's discovery that microorganisms cause fermentation and spoilage of foods. More recent innovations (e.g. aseptic packaging, microwave ovens, controlled atmospheric storage) and changes in consumer behaviour are discussed.

Benchmarks in human nutrition in the nineteenth century such as Beaumont's description of the physiology of digestion and Bernard's study on the role of liver in metabolism are noted. In the first part of the twentieth century, understanding of vitamins was advanced with Funk's work on thiamine and McCollum and Mellanby's work on fat-soluble vitamins. Diseases caused by nutritional deficiencies were explained around this time; for instance, Williams described kwashiorkor in the 1930s. Since the 1950s, links between nutrition and chronic diseases have become more established. Recent knowledge on nutritional deficiencies (e.g. immune function, role of antioxidant nutrients) are covered as well. Collaborative international studies and the role of the United Nations agencies in promoting health and alleviating nutritional problems are addressed.

Brogdon and Olsen present their method for determining the core publications and characteristics of food science and human nutrition literature. They analysed monographs, journal articles and several electronic databases. In almost all subjects, English-language publications were predominant. In food science there were very few references concerning developing countries, while this was not true of human nutrition. The few titles from developing countries were ranked as being of major importance.

A chapter by Jean Pennington concentrates on databases on nutrient composition, dietary intake and food adulteration. Regrettably, the book was written before the Internet explosion.

The contemporary and historical literature of food science and human nutrition is recommended as a helpful guide for academics and others interested in the history of food science and nutrition.

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The living fields, our agricultural heritage

J.R. Harlan. 1995. Cambridge, UK, Cambridge University Press. 271 pp. ISBN 0-521-40112-7.

All those interested in the origins of today's food might wish to read Jack Harlan's *The living fields, our agricultural heritage*. Starting with the myths about the origins of agriculture in the ancient Egyptian, Greek and Roman

worlds, among the native Americans and in the Chinese and aboriginal traditions, Harlan takes the reader around the world, tracing the processes of domestication of many of the foods known today. People's perceptions of their food and agricultural needs and their development of responses to these needs are highlighted. The author, a specialist in crop evolution and plant domestication, explains the various origins of agriculture and shows that most myths and tales view agricultural knowledge as a blessing from the gods. People only began fairly recently to look upon agricultural development and heritage in a more scientific way – with Darwin's work, for example.

The book provides a clear view on processes of domestication of a variety of foods, including weeds and animals. In describing the origin and evolution of different crops the author draws upon his personal experiences, which gives a nice personal note although the relevance is sometimes unclear. A good introduction to general archaeology is given, describing different archaeological sites and methods of dating and their biases, especially for plant materials. The author attempts to highlight the relation between the evolution of human beings and human culture and the domestication of plants and animals.

Several chapters review the developments in different regions in the world: the Near East, Africa, the Far East and the Americas. Although these chapters differ in structure, they give a clear picture of the crops originating from these regions, describing their evolution up to the present. An interesting feature of these chapters is the attention to the dispersal of original crops to other regions in the world. For example, the roots and tubers originating from the Americas found worldwide destinations. Potatoes are now consumed all over the world, but predominantly in the West, particularly in northern Europe. Manioc and cassava are today the main staple foods in many countries in Africa. It is notable that Europe is not included as a region. Some elements of European crop evolution can be found in the Near East section, which may lead the reader to believe that agricultural development in Europe was primarily based on the experiences in Near Eastern agriculture. During ancient times in the Near East and Europe it was acknowledged that Egypt was the grain store of the world because of its relatively stable agricultural system.

An overview of some traditional techniques is given, including hunting and gathering, soil preparation, water management, sowing and reaping, and preservation and processing. Most of the techniques described are still in use in some regions of the world.

In the concluding chapter, the author briefly describes the current world food situation according to FAO data (corrected for moisture content and wastage) and identifies some major institutions involved in agricultural research. Harlan ends his book expressing his concern about the possible loss of indigenous genetic resources of cereal and other crops and, more generally, about the loss of traditional cultures giving way to modernization.

The book follows a strong historical and archaeological approach, including many details about crop development and crop genetics. For those who are not archaeologists or plant scientists this information may be overwhelming at times. However, as a lay person, the reviewer found these ideas new and enjoyed the book. *The living fields, our agricultural heritage* is recommended.

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Trace elements in human nutrition and health

World Health Organization. 1996. Geneva, Switzerland. 343 pp.
ISBN 92-4-156173-4. Price: SwF85.–/US\$76.50; in developing countries, SwF59.50. Order No. 1150431. Available in English; French in preparation.

Recognizing the advances in knowledge related to trace elements, FAO, the International Atomic Energy Agency (IAEA) and the World Health Organization (WHO) convened a meeting of experts to evaluate the role of trace elements in human health and nutrition in Geneva in 1990. This book represents the consensus reached by these international experts and other scientists. Its aim is to give scientists and those responsible for nutrition planning a solid basis for assessing dietary intakes of trace elements, detecting deficiencies and excesses and recognizing the clinical features of related disorders. The publication provides the latest scientific knowledge about the consequences of specific dietary intakes and gives practical advice on how to identify related nutritional disorders more efficiently. Throughout the book, guidelines and advice are given based on greatly expanded knowledge about the significant impact that even subtle differences in trace elements can have on health and disease. This book provides authoritative recommendations concerning nutritional requirements and safe ranges of intake for 19 trace elements important to human health.

The book has 24 chapters presented in five parts. The first part establishes a framework for the evaluation. Its chapters provide background information about the significance of trace elements, explain the methods used to estimate requirements and safe ranges of intakes, and discuss the influence of physiological and dietary variables on bio-availability. As readers are reminded, awareness of these variables is particularly important when attempts are made to determine whether a given level of dietary intake is actually meeting nutritional requirements.

The core of the report, which has three parts, provides authoritative recommendations on the nutritional significance, requirements for health and safe range of daily intakes for 19 trace elements. These elements are presented in three categories: essential elements, such as iodine and zinc; probably essential elements, such as manganese and silicon; and potentially toxic elements, such as fluoride, lead, cadmium and mercury, which may also have some essential functions at low levels.

Recommendations for individual elements are presented in the form of safe ranges of intake for population groups, representing the limits of adequacy and safety for the mean intakes of whole populations.

Chapters in the final part provide detailed guidelines for the design and interpretation of research on trace elements. A chapter on analytical methodology concentrates on the problems encountered in determining trace elements in biological samples and dietary materials and on the feasibility of monitoring trace elements through analysis of blood, hair, urine, faeces and milk. The next chapter uses data from dietary surveys in 27 countries to discuss methods for assessing dietary intakes and to highlight problems of data interpretation. The final chapter offers advice on how to determine whether the dietary habits of specific communities will increase the risk of disorders related to trace elements. Brief information on the factors that modify susceptibility to such disorders and influence the environmental supply of trace elements is followed by a discussion of the limitations of existing diagnostic criteria and the need to draw on evidence from a wide variety of sources. The report concludes with a series of technical notes on the derivation and application of requirement estimates for population averages, as opposed to individual intakes.

Preventing micronutrient malnutrition: a guide to food-based approaches

- **Manual for policy makers and programme planners**
- **Overview: Why policy makers should give priority to food-based strategies**

FAO and International Life Sciences Institute (ILSI). 1997.

Washington, DC, USA, ILSI. Manual, 116 pp. ISBN 0-944398-89-8.

Overview, 16 pp. ISBN 0-944398-94-4.

Preventing micronutrient malnutrition: a guide to food-based approaches describes the prevalence, causes and consequences of micronutrient diseases. The manual covers such issues as implementing diet- and food-based approaches to reducing deficiencies; planning programmes; monitoring, surveillance and evaluation; and special needs of vulnerable groups. A useful guide to agencies working to combat micronutrient malnutrition and a list of references are provided. A companion overview publication, *Why policy makers should give priority to food-based strategies*, briefly summarizes the key issues.

Nutrition education for the public – Discussion papers of the FAO Expert Consultation

FAO Food and Nutrition Paper No. 62. 1997. Rome. 212 pp.

ISBN 92-5-103936-4. Price: US\$22.

As part of the commitment to improving nutrition in developing countries, FAO organized the Expert Consultation on Nutrition Education for the Public in September 1995. During the meeting, 14 international experts discussed six papers which are presented in this publication. The papers cover past experiences and needs

for nutrition education; a framework for nutrition education programmes; nutrition education and communication strategies for different groups and settings; training needs for nutrition education; evaluation of nutrition education programmes; and new developments in computer-mediated technology for nutrition education. This publication complements FAO Food and Nutrition Paper No. 59, published in 1995, which presents the report adopted by the Expert Consultation.