

# 5 NUTRITION OF REFUGEES AND DISPLACED POPULATIONS

**N**utritional data on refugees and internally displaced people (IDPs) are rarely included in national survey data. The data on trends and prevalences of malnutrition described elsewhere in this report do not include refugee and displaced populations. Much of the information presented here is based on the ACC/SCN's *Reports on the Nutritional Situation of Refugees and Displaced Populations (RNIS)*.<sup>1</sup>

Unlike stable situations, displacement emergencies result in large variations in levels of undernutrition in relatively small areas. Thus, data that are aggregated by region or country can easily mask pockets of undernutrition that require an immediate, but carefully targeted, response. For example, the recent situation in Angola, where rebel forces have besieged several cities, has resulted in extremely high levels of wasting within these cities, which contrasts starkly with the more stable situation in the countryside, which is less affected by conflict. Thus, it is not appropriate to generalize about trends in the nutritional situation of refugees and IDPs either regionally or globally.

Instead of describing trends in the nutritional situation of refugees and IDPs, this chapter will provide an overview of the trends and developments in humanitarian response to the nutritional situation of refugees and displaced populations, followed by an overview of the prevalence and severity of undernutrition in recent selected emergencies in the form of six case studies. The chapter will conclude by identifying emerging issues as well as key research priorities and policy implications.

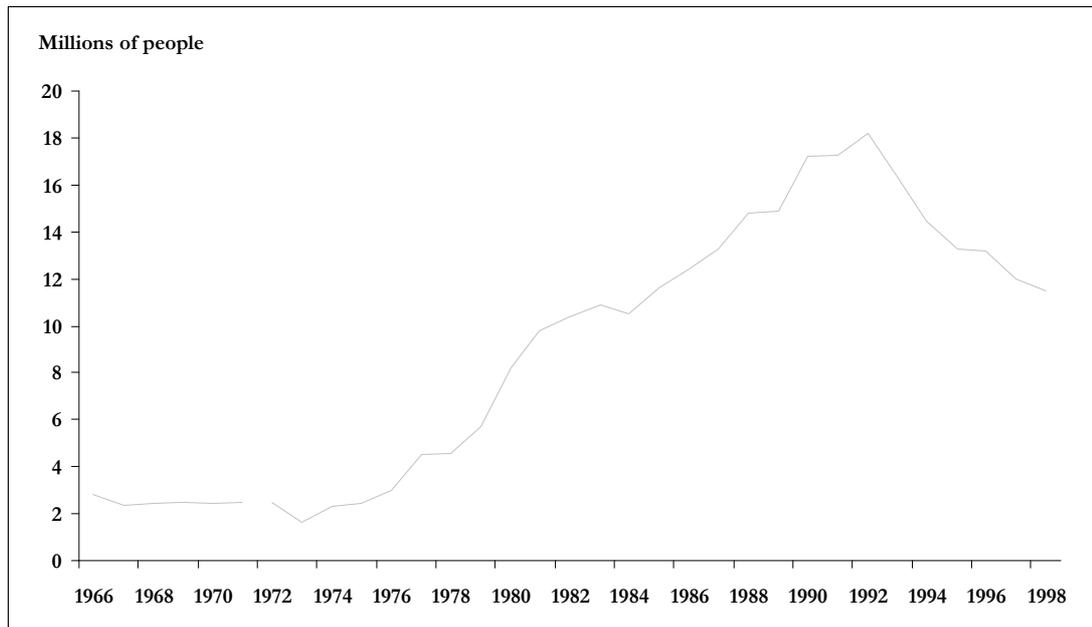
## 5.1 Trends in Numbers of People Affected

At the end of 1998 there were 21.5 million people of concern to the Office of the United Nations High

Commissioner for Refugees (UNHCR), including refugees, IDPs, and returnees.<sup>2</sup> The number of refugees was estimated to be approximately 12 million, the majority of whom were in Africa and Asia. The total number of refugees worldwide has decreased since 1992. Between 1997 and 1999 there were relatively large decreases in the numbers of refugees in Africa (due to repatriation programmes to countries such as Liberia) and Europe (repatriation to the former Yugoslavia, for example Bosnia). A small decrease has also occurred in Asia, where some of the refugees in Pakistan continue to return to Afghanistan. Figure 5.1 illustrates the trend in the numbers of refugees (both assisted and unassisted) over the past 32 years, based on data provided by UNHCR.<sup>2</sup>

The term IDP is loose and ill defined,<sup>3</sup> and it is difficult to estimate the global number of IDPs. Government denial, or incapacity to recognize a domestic IDP problem, and the lack of clear institutional responsibility for the plight of IDPs<sup>4</sup> compound the problem. Returnees may also confuse calculations and definitions (for example in Burundi), and government-organized resettlement programmes that move IDPs from insecure to safer areas temporarily or permanently (for example in Uganda) may confuse the issue further. In addition, in a country such as Somalia, which has a tradition of high population mobility, the fluidity of the situation makes estimates uncertain.

The United States Committee for Refugees (USCR) has estimated that there were more than 20 million IDPs worldwide at the end of 1998. About 8.9 million were in Africa, 5.7 million in Europe (former Yugoslavia and Turkey), and 1.3 million in South America (Colombia). It is estimated that there were more than 100,000 people displaced in 27 different countries, and more than a half million were displaced in 13 countries. In one nation, Sudan, an estimated 4 million people are currently displaced after 15 years of civil war.<sup>5</sup>

**FIGURE 5.1 : Trend in the global number of refugees, 1966 98**

Source: 20.

## 5.2 Overview of the Humanitarian Response to Emergencies

The agencies that make up the international nutrition humanitarian system are often classified under three broad headings: governmental donors, the United Nations, and nongovernmental organizations (NGOs). These organizations, although nominally independent, have a large degree of financial interdependence.<sup>6</sup>

- The governmental donors, including the European Commission (EC), supply most of the food used in emergencies and the larger part of financial resources used by international NGOs and the UN.
- Three UN agencies—the World Food Programme (WFP), UNHCR, and the United Nations Children's Fund (UNICEF)—are most directly concerned with food and nutrition in emergencies. WFP supplies bulk food commodities and blended foods.<sup>a</sup> UNHCR is chiefly involved, although not exclusively, in supplying

specialized food commodities in refugee emergencies. UNICEF supplies vitamin A and food and nonfood items for feeding programmes. In addition, the Food and Agriculture Organization of the United Nations (FAO) is increasingly taking on a more prominent role in emergency agriculture. The World Health Organization (WHO) is involved in setting nutritional norms.

- The NGOs are a disparate group, ranging from the large established organizations with technical advisory staff and sometimes permanent country representation to NGOs that are set up specifically for particular operations, like the many groups that arose to provide aid in the Balkans region.

One of the most striking features of the international relief system is the absence of formal regulation. For all practical purposes (with some exceptions, including the International Committee of the Red Cross), the component parts of the international system are free of formal regulations that oblige them to observe any minimal technical standards or, indeed, oblige them to act at all. Government donors have no formal obligation to respond to any specific emergency in another sovereign state.

<sup>a</sup> Blended foods are flours composed of precooked cereals and a protein source, mostly legumes, fortified with vitamins and minerals, such as corn soya blend and wheat soya blend.<sup>7</sup>

The UN technical organizations are not autonomous and broadly act to support the government of the affected country. The NGOs are subject to the legislation of the country in which they work.<sup>6</sup>

Where the government of an affected country is strong and undisputed, formal coordination of the international system is possible. Where there is no government or only weak government precisely the conditions under which an emergency is most likely there is no system of authority. The UN has no authority over the NGOs, and no NGO has authority over any other, making coordination of relief efforts difficult.<sup>6</sup> The need for improved coordination and coherence among the members of the international community, which is now widely recognized, is critical for planning a standardized response that takes a multi-sectoral approach to reducing risk and addressing humanitarian needs.<sup>8</sup>

Since the mid-1990s, various inter-agency initiatives have produced momentum towards greater transparency and accountability in the humanitarian system. The Code of Conduct for the International Red Cross and Red Crescent Movement and NGOs in Disaster Relief seeks to guard standards of operation for humanitarian agencies.<sup>9</sup> The Sphere project, which developed the Humanitarian Charter and Minimum Standards in Disaster Response,<sup>10</sup> aims to provide a practical framework for accountability by connecting the principles of humanitarianism to standards of service delivery.<sup>b</sup>

This effort comes at a time when there is concern that humanitarian principles are being eroded and that human rights (particularly protection) are ignored by humanitarian, state, and non-state actors.<sup>14</sup> At the same time, there have been limited efforts outside the humanitarian system to promote respect for humanitarian principles among warring parties who are not signatories to the Geneva Conventions. The Ground Rules in South Sudan have been an important element in these efforts.<sup>14</sup>

One noteworthy recent change has been the formation of the Office of the Coordinator of Humanitarian Affairs (OCHA). As a non-operational UN body, it seeks to move on from the former Department of Humanitarian Affairs (DHA) with an increased emphasis on coordination within the UN system.

Partnership agreements between organizations are critical for ensuring coordination and delineating clear operational roles and responsibilities. These include memorandums of understanding (MoUs) and Letters of Agreement between UN organizations, intergovernmental and nongovernmental organizations, and national entities. The most important MoUs used in a wide range of emergency food and nutrition programmes are listed in Box 5.1.

MoUs are essentially management tools and as such spell out in detail the policies and procedures that are jointly agreed. An MoU is more than simply a framework for implementing programmes; it provides a tool for advocacy to ensure that the agreed needs and rights of the programme beneficiaries are met.

## Categories of Displacement Emergencies

This chapter focuses on the nutritional consequences of, and humanitarian responses to, the following broad categories of emergencies<sup>c</sup>:

1. Recent displacement emergencies, such as in Angola, the Balkans, and East Timor in 1999. In these situations large numbers of refugees or IDPs have been forced to flee their homes, sometimes over a very short period of time. At the beginning of the displacement much of the population has little or no food stores and no livelihood mechanisms with which to obtain food or non-food needs. Humanitarian responses to this type of emergency include WFP's Emergency Operations (EMOPs) which provide immediate food assistance to either the whole, or a selected segment, of the population for a short period. EMOPs last for a maximum of 18 months.<sup>15</sup>
2. Protracted refugee emergencies, such as in Iran, Kenya, Liberia, Nepal, Tanzania, and Uganda. In these situations a refugee population has been unable to return to their country of origin, be integrated into the country of asylum, or be resettled in a third country for at least two years. The population may be completely or partially dependent on humanitarian assistance. The

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<sup>b</sup> For further information on Sphere, see [www.sphereproject.org](http://www.sphereproject.org) or reference 11. Linked with the recent initiatives (the Sphere project and Code of Conduct) to establish new structures and standards of humanitarian assistance is the pilot Humanitarian Assistance Ombudsman project (HAO), whose role will complement the previous codes by both enforcing the codes and facilitating their application in practice.<sup>12,13</sup>

<sup>c</sup> These categories are useful for the purpose of this chapter but are obviously not mutually exclusive, that is, recent displacement crises may also be complex emergencies.

**BOX 5.1**

## **MoUs of Most Importance to Emergency Food and Nutrition Programmes**

UNHCR and WFP. This MoU has a long history; the first formal agreement was signed in 1988. A formal MoU was signed in 1994 and revised in 1997. The revisions represent collaboration towards effective policies and procedures. The MoU covers the following areas: UNHCR/WFP cooperation, intervention mandates, needs assessment, registration, logistics, distribution, monitoring and reporting, and coordination mechanisms.

UNHCR and WHO. A revision of the 1987 MoU between UNHCR and WHO was signed in 1997. The MoU covers the following areas: UNHCR/WHO cooperation in coordinated contingency planning, development of joint methodologies for assessing the health and nutrition situation, development of guidelines and training materials, development of applied research, and the integration of beneficiary

health care activities within national (host country) health services.

UNICEF and WFP. This MoU was signed in 1998. The MoU covers the following areas: needs assessment, monitoring, and evaluation of services in the areas of nutrition, health care, water, sanitation, child protection, and other social services. Of particular relevance to nutritional emergencies, UNICEF is responsible for providing therapeutic preparations and nonfood items related to food preparation and consumption, emergency shelter, nutrition monitoring, and selective feeding operations.

MoUs between WFP and FAO and UNHCR and FAO are currently being developed. In addition, other MoUs that concern emergency nutrition exist between NGOs and UN agencies such as Save the Children Fund (SCF), CARE, World Vision, and WFP. ■

level of dependence is determined by the level of self-reliance of the population, which is, in turn, limited by many factors, including constraints imposed on the refugees by the host government, land availability and quality, the local economy, and the ethnic and social ties between the refugee and the host populations. Humanitarian responses to these situations may, although not necessarily, include programmes with developmental aspects and are known as Protracted Relief and Recovery Operations (PRROs) by WFP.<sup>15</sup>

3. Complex emergency situations involving mainly IDPs, such as in Afghanistan, Burundi, Eritrea, Ethiopia, Rwanda, Somalia, Southern Sudan, and Uganda. These situations generally involve civil strife, the breakdown or failure of state

structures, disputed legitimacy of authority (whether government or rebel), the deliberate targeting of civilian populations by military forces, and the abuse of human rights, all or some of which lead to population displacement within a country. Humanitarian responses to these situations involve both emergency and developmental programmes, although not necessarily in a linear transition.<sup>16,17</sup>

Natural disasters are not generally associated with large-scale, long-term population displacement and are therefore not discussed in this chapter or in the *RNIS* reports.

BOX 5.2

## Definitions

**M**any of the definitions given in section 1.2 are also employed by nutritionists working in the field of displacement emergencies. In addition to the definitions given earlier, the following indicators are also used in this chapter:

**Crude mortality rates** are usually given as deaths/10,000/day.

**Acute undernutrition** is defined as wasting and/or presence of oedema.

**Oedema** is a key clinical sign of kwashiorkor, a severe form of protein-energy undernutrition, carrying a very high mortality risk in young children. ■

### The Cycle of Assessment, Analysis, Project Implementation, Monitoring, and Evaluation

Humanitarian response programmes should be based on a cycle of assessment, analysis, project implementation, monitoring, and evaluation. To be effective and appropriate, programmes that meet the needs of emergency-affected populations must be based on a clear understanding of the situation. Analysis of the effects of the emergency on those factors that affect nutritional status, and eventually, the impact of the programme itself is therefore critical.<sup>10</sup> This broad-based approach to addressing nutritional problems is frequently referred to as public nutrition.<sup>8</sup>

Assessment and analysis should consider the causes of undernutrition, including the available resources (human, economic, environmental, and infrastructural) and constraints that influence action (see Appendix 1). The process of assessment and analysis should lead to the development of appropriate nutrition policies and strategies, which should ideally include all relevant actions that will have a positive impact on nutrition in a socially and politically aware manner.<sup>8</sup>

Humanitarian programming in protracted emergencies raises a number of operational challenges. Short-term approaches continue to be the norm, and indeed are appropriate where contexts are changing rapidly, but a more strategic approach to

planning is required to support longer-term progress. However, the challenges of engaging where there is no state or building local capacity amid civil unrest will persist.

### 5.3 Trends in Assessment Methodologies

This section will briefly review the use of anthropometric surveys and food security assessments in displacement emergencies. Other early warning systems will also be discussed.

#### Anthropometric Assessments

Anthropometric measurements of children aged 6–59 months are the most widely used indicators of the nutritional status of emergency-affected populations. The results of anthropometric surveys continue to be valued by decision-makers. This is because the anthropometric status of population groups is very sensitive to changes in access to food, health services, and caring practices and also because reliable data on anthropometric status are robust and are available in the majority of emergency contexts.

Problems in standardizing anthropometric surveys still exist (see Box 5.3) and can lead to difficulties in interpreting the results. Further problems may arise when generalized cut-offs for action (for

## BOX 5.3

## The Standardization of Nutrition Surveys

**I**n estimating the prevalence of acute undernutrition in an emergency-affected population, the prevalence among children between six months and five years (65 to 100 or 110 cm in height) is usually used as a proxy. Extensive differences in health and nutrition survey methods have been identified. For example, there are wide variations in the age of the target populations, sampling strategies, units of measurement, methods of rate calculation, and statistical analysis.<sup>18</sup> In March 1999, the *RNIS* reported the findings of 21 studies of nutritional status conducted in Northern Bahr-El-Ghazal Province of southern Sudan between April 1998 and January 1999. Most of these surveys were undertaken on or around airstrips where food distribution took place. The majority of surveys were conducted in communities residing within five km of feeding centres run by relief organizations. Only three surveys covered populations of complete *payams* (administrative units like sub-districts). Ten of the 21 surveys employed a cluster sampling strategy and had similar sample sizes. The others were either surveys of all children within a location or rapid assessment surveys with unknown or convenience sampling techniques. All but three of the surveys used Z-scores of wasting and the presence of oedema to define acute undernutrition. The others used per cent of median.

The most reliable estimates of the prevalence of undernutrition have come from well-defined and secure refugee camps where there is a reasonable level of camp organization and a designated agency with responsibility for the collection of data. The most difficult situations have been those where IDPs have been scattered over a wide area and where surveys could take place only in relatively secure zones. These safe zones may sometimes have acted as magnets for the most severely affected groups of a population; for example, the Somali

town of Baidoa was the site of the storage and distribution of massive amounts of relief food in 1992 and became known as the famine epicentre. Mortality and undernutrition rates were extremely high in this town. On the other hand, it is possible that the worst-affected communities have been in areas that have been inaccessible to those performing the surveys. In either case, it has proved difficult to extrapolate the findings of surveys on nutritional status conducted in specific locations to broader populations in conflict-affected countries.

Elements of well-standardized nutrition surveys include the use of weight-for-height/length and the presence of oedema to measure acute undernutrition, cut-offs for classifying undernutrition, and the presentation of confidence intervals. There is a range of sampling designs and methods for obtaining a representative sample. The methods employed should be clearly explained. Information on the prevalence of severe wasting and oedema should also be made available, as children suffering from these forms of undernutrition need specific care. Mid-upper arm circumference (MUAC) measurements are recommended as a screening tool in emergencies as they are strongly associated with mortality.<sup>19</sup> However, MUAC measurements are not recommended for assessing nutritional status of children in population surveys until there is agreement on cut-off points to define acute undernutrition. Survey planners should consider including questions on feeding centre attendance by persons identified as undernourished (by age group) as well as reasons for non-attendance. These data are useful for programme managers. In addition, crude mortality rate (CMR) data collected in conjunction with anthropometric data are useful in assessing appropriate future responses to a situation. ■

example, a prevalence of more than 10% wasting and/or oedema) are employed in different settings, because appropriate local action must be based on more than just a single indicator. The relationship between mortality, morbidity, and nutritional status differs in different settings. In other words, the risk of dying associated with acute undernutrition varies according to the local patterns of disease; it is also likely to vary according to age. More research is needed in this field in order to fully explain the significance of acute undernutrition in terms of risk of dying and other aspects of physical dysfunction in different settings.<sup>20</sup>

In the past two years an increasing number of anthropometric surveys have been conducted on adult and adolescent IDP and refugee groups by Concern, Action Contre la Faim (ACF), UNHCR, and the Centers for Disease Control and Prevention (CDC). The extremely high mortality rates among adults in emergencies in Ethiopia, Liberia, Somalia, and southern Sudan initially fuelled interest in the subject, as well as a consideration of the effects of adult mortality on the rest of the household. Only very limited scientific literature is available, however, on the diagnosis and treatment of undernourished adults.<sup>21,22</sup> In addition, the associations between the anthropometric cut-offs currently employed and mortality and morbidity are not well understood, or studied, in many population groups. These problems are compounded in adolescents because the growth spurt starts at different ages depending on nutritional status, ethnicity, and possibly other environmental factors.

### **Famine Early Warning Systems and Food Security Assessments**

Systems to warn of impending food crises are not new, although approaches to famine early warning have changed and developed considerably over the 1990s. Following the famines of the mid-1980s, a wide range of organizations became involved in famine early warning,<sup>d</sup> in the hope that better information systems could help prevent future famines.

Early warning activities range from a global focus on national and international food availability, to a more localized focus on issues of access to food and food security. The Global Information and Early Warning System (GIEWS) run by the FAO from Rome monitors food supply and demand

around the world, and its aim is to warn the international aid community and participating national governments of food shortages for food aid planning.<sup>23</sup> The Famine Early Warning System (FEWS) of the U.S. Agency for International Development (USAID) publishes both regular regional bulletins and special alerts. These notices are based on vulnerability assessments that evaluate components of national and household food security in order to identify which people are food insecure, the nature of their problem, factors that could influence their food security, and possible interventions.

The regular joint FAO/WFP food and crop assessments undertaken to estimate national food aid needs, which are based on a food balance sheet, are an important part of GIEWS.<sup>24</sup> In ongoing emergency refugee operations WFP and UNHCR periodically undertake joint food assessment missions (JFAMs). These missions make recommendations on number of beneficiaries, modalities of assistance, composition of the food basket, ration size, duration of assistance, and logistical arrangements. UNHCR normally provides the JFAM with a nutritionist and, if applicable, other specialists to help assess levels of economic self-reliance.

Activities with a more localized focus include regular food security monitoring systems and/or emergency food security assessments. Indicators monitored by such systems depend on the location but generally include market prices, a variety of coping strategies and migration, and sometimes anthropometric status. These systems were developed in the late 1980s and continue in most countries in the Horn and East Africa.<sup>25</sup>

In recent years NGOs have undertaken increasing numbers of *ad hoc* food security assessments of emergencies. The best known of these is the food economy approach of the Save the Children Fund, UK (SCF). This approach was developed in 1994 to more accurately assess food aid needs and allow more effective targeting of food aid in protracted emergencies. The approach has two main objectives: to understand how people survive and how patterns of survival have changed as a result of shocks, and second, to estimate the size of the food gap and thereby estimate food aid needs.<sup>26</sup> The food economy approach has made a valuable contribution in highlighting the need for baseline data to interpret current events or food security indicators.

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<sup>d</sup>The OCHA ReliefWeb provides a list of early warning organizations, information, and related links (<http://wwwnotes.reliefweb.int/websites>).

The Somalia Food Security Assessment Unit (FSAU) managed by WFP Somalia is a good example of combining various types of food security information systems. It uses the food economy approach to establish a baseline and monitors food security indicators and nutritional status over time to assess changes in food security. Where food security indicators cannot be monitored continuously, the FSAU relies on *ad hoc* missions, assessments, and sometimes surveys. FSAU collaborates with USAID FEWS to produce a joint newsletter, *Rainwatch*, issued every ten days during the main cropping season in Somalia. FEWS provides satellite data on rainfall estimates, cloud top temperatures, and the normalized difference vegetative index, while FSAU field monitors and other NGOs provide information collected locally on the ground.

Many NGOs contribute to the important field of assessing household food security, including SCF, ACF, Action Against Hunger (AAH), CARE, Oxfam, and Concern Worldwide.<sup>27</sup> The International Committee of the Red Cross (ICRC) has developed its own method for assessing economic security. Although these agencies have similar concepts and definitions of food security, they have developed a range of approaches to assessing food security.<sup>27</sup> This is partly because food security assessments may have different objectives, including the estimation of food aid needs, analysis of coping mechanisms, and the design of potential interventions. Thus the process of analysis and the style of the presentations vary. In all cases, however, the information is intended to help decision-makers form knowledgeable and timely decisions about the actions required to protect or improve the food security of an emergency-affected population.

Clinic admission data may also be useful as a type of early warning system and are currently used in many countries, including Burundi. These data must be carefully assessed by an experienced health worker who is aware of the country's social and political climate in conjunction with other personnel working in sectors related to nutrition, for an increase in admissions could be due either to deterioration in the population's nutritional status or to an increase in the ease of accessibility to clinics. In addition, such data may be biased by the geographical distribution of the clinics. As an early warning system and as a tool for evaluating and assessing current nutritional programmes, however, the data are useful. Clearly, the data are also useful when assessing whether or not a supplementary feeding programme

needs to be re-orientated or closed down. The coordination of clinic admission data is crucial if meaningful comparisons between the nutritional situations over time and between regions are to be made – otherwise NGOs may have different reporting formats and action criteria.

## 5.4 Trends in Food and Nutrition Response Programmes

This section reviews key developments in relation to specific strategies and types of nutrition related interventions in emergencies, including strategies to support and strengthen food security, general food distribution, supplementary feeding, therapeutic feeding, strategies to prevent micronutrient deficiencies, and to address the health and care related causes of undernutrition. The transition to self-reliance is also discussed briefly.

### Strategies to Support Food Security and Strengthen Livelihoods

Food security initiatives are elements of programmes in some protracted refugee emergencies. They help integrate refugees in the host country and returnees in their country of origin, as well as the displaced and ex-combatants. Usually concerned with agricultural activities, these initiatives are intended to restore the assets and production levels of affected communities as soon as possible. The food security initiatives are often designed from the findings of food economy and livelihood assessments.

FAO, through its Special Relief Operations Service, buys and delivers agricultural essentials such as seeds, tools, fertilizers, fishing gear, and livestock and veterinary supplies to permit immediate resumption of basic food production.<sup>23</sup> In Rwanda, for example, FAO coordinated the procurement and distribution of seeds and basic agricultural equipment, as well as seed multiplication schemes. With the war in Bosnia Herzegovina, markets and the supply system for seed, fertilizer, and insecticides experienced almost total breakdown. FAO led a major operation to provide 1,100 tonnes of winter wheat seed to farmers in the most destitute area (the former Bihac pocket) for the 1995 autumn planting.<sup>23</sup>

The WFP may complement these activities by distributing a food ration that allows the affected population to engage in these critical activities. The

distribution of a seed protection ration, to prevent people consuming their seeds, is also common, and occurred during recent agricultural cycles in Burundi (see section 5.6).

For returnees, UNHCR has developed a system of quick impact projects (QIPs), which are small-scale projects with rapid implementation. The projects are intended to address urgent reintegration needs and create suitable conditions for repatriation. QIPs include agricultural and veterinary support, fishing, transportation, education, sanitation, and income-generation projects. In Somalia (1992–94) agricultural QIPs were the largest group. QIPs are set up not only to benefit returnees, but also to help other sections of war-affected populations rebuild their communities and to assist reconciliation. UNHCR expects to hand over rehabilitation activities to other development actors such as UN agencies, NGOs, and government ministries after a limited period.<sup>28</sup>

In agro-pastoralist areas of Africa, like southern Sudan, where livestock forms the basis of livelihoods, livestock health programmes have been one of the most successful means of supporting food security, even in a complex emergency. Operation Lifeline Sudan has included a variety of other activities to support livelihood, including the provision of seeds, tools, and fishing equipment. A number of bartering schemes were attempted in which local goods could be bartered for essential items such as mosquito nets and soap.<sup>29</sup> In Afghanistan animal production suffered when veterinary services collapsed as a result of the war. FAO and other international organizations and NGOs have worked to establish community-based veterinary field units.<sup>23</sup>

For refugee crises and internally displaced populations, the most common constraints to implementing food security programmes are the political and security conditions that restrict access to land and the mobility of the affected population (for example, in Angola, Burundi, Nepal, Rwanda, Tanzania, and around Khartoum). A process of sustainable recovery requires stable government and security; otherwise, conflict will undermine any attempts at rehabilitation and reconstruction.

## General Rations

The distribution of an adequate general ration continues to be the most important humanitarian response to nutritional emergencies, both in fiscal terms and in terms of its importance in alleviating and preventing suffering and saving lives.

Over the past ten years general rations have improved.<sup>e</sup> The composition and quality of the general ration are critical to the well being of emergency-affected populations, especially where they have no other source of food. Internationally agreed guidelines and policies, developed by WFP and UNHCR with inputs from WHO and others, have helped improve planned rations.<sup>30</sup> These improvements include the following:

- The minimum planning figure (initial reference value) for energy requirements for populations entirely dependent on external food aid has increased from 1,900 to 2,100 kcal.
- Guidelines have been developed for adjusting this planning figure to suit local circumstances. Adjustments are made according to the age and gender composition of the population, their activity levels, their health, their nutritional and physiological status, the environmental temperature, and their access to additional sources of food.
- Recommended levels of fat and protein as a percentage of total energy have been established (17% and 12% respectively).
- Fortified food aid commodities, in particular salt (iodized) and vegetable oil (fortified with vitamin A), are now used routinely.
- Fortified blended food is now included in general rations for populations susceptible to micronutrient deficiency diseases.
- Provision of milled flour, rather than whole grains, is now recommended, particularly in the early stages of an emergency.

Other recent developments include the increasing use of Humanitarian Daily Rations (HDRs)<sup>f</sup> and Meals-Ready-to-Eat (MREs).<sup>g</sup> These rations were distributed in the Balkans region, but their use has not been evaluated yet.

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<sup>e</sup> The general ration is the food ration given to everyone in the affected population irrespective of age and sex; that is, all receive the same quantity and type of food.<sup>28</sup>

<sup>f</sup> Humanitarian Daily Rations, developed by the U.S. Department of Defense, are specifically designed to meet the nutritional needs of civilians in humanitarian crisis. One HDR provides the average daily needs of the civilian population with about 1,900–2,200 kcal and adequate protein, fat, and micronutrients.

<sup>g</sup> Meals-Ready-to-Eat are based on American recipes and are designed to provide one meal three times a day (3,600 kcal). MREs contain fish and meat products, and there are over 25 different varieties.

## Distribution and Targeting Mechanisms

In the early 1990s the balance in WFP's activities shifted from predominantly development-related programmes to emergency programming. At the same time an increasing number of NGOs were becoming WFP operational partners in food distribution programmes. Given the paucity of good practice guidelines on general food distribution, increasing attention was paid to improving systems of distribution and developing guidelines.<sup>31</sup> The first detailed UN guidelines were published in 1997 by UNHCR.<sup>28</sup>

Agencies increasingly recognize the role of women in providing food for their families in emergencies. As a direct result of this, WFP has made policy commitments to giving women direct access to and control over food aid by targeting women directly and encouraging them to participate in designing, implementing, and monitoring food distributions.<sup>32</sup>

Attempts have also been made to increase the role of affected communities more generally in the distribution of food. Community-based distribution systems give responsibility for food distribution and targeting in part to locally elected committees. These systems have been tried in protracted refugee situations (Uganda), drought-affected communities (north-east Kenya, Tanzania), and even complex emergencies (southern Sudan), with varying degrees of success.<sup>33</sup>

Novel or alternative approaches to food distribution have been developed in many situations where the distribution of a standard food basket has proved problematic and even dangerous. Examples include complex emergencies where food aid was at risk of being misappropriated by rival factions, or following periods of prolonged displacement in harsh conditions where people lacked the wherewithal (fuel, cooking pots, cooking skills for new foods, etc.) to prepare food, or were in an extremely poor physiological state. Examples of successful approaches described in the *RNIS* include

- cooked food distribution (Somalia, 1992; Democratic Republic of Congo, 1997; Liberia, 1996)
- community kitchens, where people cook for themselves (Angola, 1999; Balkans region, 1999; Armenia, 1994; Georgia 1994)
- support of subsidized bakeries (Afghanistan, 1997-99; Balkans region, 1999)

- snow drop technology, in which a cargo plane is deployed to drop 200 g plastic packets of high-energy biscuits, which are packed in such a way that they float and circle as they fall through the air, ensuring a soft landing (East Timor, 1999)

## Supplementary Feeding

Supplementary feeding programmes are required to correct moderate wasting and to prevent moderately undernourished children from becoming severely undernourished. In contrast to general food distribution programmes, practical and technical guidelines for implementing supplementary and therapeutic feeding programmes have been in existence for more than 25 years.

An early example of supplementary feeding guidelines is the set of local guidelines developed by the Somali Ministry of Health's Refugee Health Unit in collaboration with UNHCR and NGOs in the early 1980s. Since then several practical guidelines have been produced by NGOs<sup>34,35</sup> and WHO.<sup>36</sup> More recently, WFP and UNHCR have produced their own guidelines for selective feeding programmes in emergency situations.<sup>37</sup> In contrast to earlier guidelines, these distinguish between targeted supplementary feeding programmes where assistance is provided selectively according to specified criteria of need, to some people or households but not to all, and blanket supplementary feeding programmes that target an entire group of people, such as children under three.

## Therapeutic Feeding

Recent years have seen a consolidation of existing knowledge in relation to the treatment of severely undernourished children. This should lead to significant reductions in fatality rates. The consolidation of knowledge has resulted from several related initiatives, including the development and dissemination of WHO guidelines<sup>h,38</sup> and the efforts of NGOs, including ACF, MSF, and Concern, which have developed appropriate nutritional and medical protocols and systems for their application amid the most difficult working conditions. Consequently, there have been considerable advances in the quality and effectiveness of therapeutic feeding programmes in emergencies.

<sup>h</sup> These can be found at <http://www.who.int/nut/Manageme.pdf>. Meetings to develop training materials from these guidelines are planned for the near future.

Commercial companies have produced and marketed new milk (F100 and F75 milk<sup>i</sup>) and porridge formulas, based on the WHO guidelines and on the type I and II nutrient concept.<sup>39</sup> Recently a ready-to-use therapeutic food (RTUF) that has a nutritional component similar to F100 and can be eaten directly (without the addition of water) has been developed. This product may be useful in contaminated environments or where residential management is not possible, as it decreases the problems of bacterial contamination via unclean water.<sup>40</sup>

It is increasingly recognized that therapeutic feeding is as much a medical intervention as a nutritional intervention, given that most severely undernourished patients are also extremely sick. Greater attention is also now paid to the non-food and non-medical inputs, including clean water, sanitation, hygiene, emotional care and stimulation, and the presence of enough appropriately trained personnel.

A model to assess the risk of mortality for children treated for severe undernutrition in different centres, taking initial anthropometric status and the presence or absence of oedema into account, has recently been developed. This will be useful in assessing the effectiveness of different treatment centres.<sup>41</sup>

There remains a need to transfer knowledge concerning therapeutic feeding practices from NGO personnel to Ministry of Health (MOH) personnel. This is particularly relevant at the end of an emergency during the recovery stage, when national health capacities need to be strengthened before the NGOs phase out their operations. Demonstration centres and local training guidelines would be useful to achieve this end.

## Strategies to Prevent Micronutrient Deficiencies

In emergencies it is likely that micronutrient deficiencies, particularly iodine deficiency disorders, iron deficiency, and vitamin A deficiency, are amplified where there may be restricted access to food. Since the sporadic outbreaks of the more uncommon deficiencies in the late 1980s, including scurvy (Ethiopia), pellagra (Mozambican refugees in Malawi), and beriberi

(Bhutanese refugees in Nepal), UNHCR and WFP have implemented a number of strategies to prevent micronutrient deficiencies occurring in at-risk populations. In order of priority these include:<sup>42</sup>

- promoting the production of fresh fruit and vegetables, such as in Nepal
- providing fresh food items in the general ration, such as vegetables in the Balkans region
- adding a food to the ration that is rich in vitamins and minerals, such as fortified blended food, which is now routine practice in many refugee situations
- promoting access to sources of food rich in micronutrients, such as groundnuts as a source of niacin in a maize-based ration
- providing fortified foods in the ration, including iodized salt and vegetable oil fortified with vitamin A
- distributing a prophylactic dose of vitamin A to infants and young children every six months in refugee and displaced populations.<sup>j</sup>
- research assessing how wild indigenous foods may be used to prevent micronutrient deficiencies.<sup>43</sup> In some areas of southern Sudan wild indigenous foods may account for up to 50–60% of the energy content of the poorest households' diets. They also contain relatively high levels of micronutrients.

In the majority of refugee and IDP contexts there are major constraints to implementing some of these strategies, particularly promoting access to food through food production or other means. For this reason investments in a range of strategies are likely to be more effective than focusing on a single approach.<sup>44</sup>

Despite the strategies employed, micronutrient deficiencies persist in refugee and displaced populations. For example, in 1998 a UNHCR/CDC survey undertaken in Kenyan refugee camps indicated that high prevalences of vitamin A deficiency exist among adolescents. Another UNHCR/CDC survey in the Bhutanese refugee camps in Nepal investigated an outbreak of angular stomatitis in 1999 (see section 5.6). Over 600 cases of pellagra were confirmed in Kuito in Angola between August and November 1999 (RNIS 29).<sup>1</sup>

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<sup>i</sup>Two formula diets, F100 and F75, are used in the treatment of severely undernourished children. F-75 (315kJ/100ml) is used during the initial phase of treatment, while F-100 (420kJ/100ml) is used in the rehabilitation phase, after the appetite has returned. These formulas can be prepared from the basic ingredients: dried skimmed milk, sugar, cereal flour, oil, mineral mix, and vitamin mix. They are also commercially available as powder formulations that are mixed with water, although the commercial formula is expensive.

<sup>j</sup>The distribution of micronutrient supplements generally is a very low priority, particularly for water-soluble vitamins and minerals that must be taken on a daily basis (vitamin A is an exception to this).

## Strategies to Promote Care

Successful strategies to promote care require an understanding and analysis of how displacement and forced migration cause disruption and upheaval for families and communities and affect their ability to care for themselves and their children. Social networks may be weakened or collapse altogether, and the support mothers once relied on from family, friends, and, for example, the local health worker, may no longer be available.

Strategies to promote and support caregiving behaviours in emergencies have tended to focus on the individual caregivers and particular nutritionally vulnerable groups, including infants and young children, pregnant and lactating women, and the elderly. For example, in Eastern Europe, in Bosnia Herzegovina in the early 1990s, and more recently in the Balkans region, the promotion, protection, and support of breastfeeding was of special concern because the emergency-affected populations were considered dependent to a greater or lesser extent on breastmilk substitutes.

During the 1999 Balkans crisis, donations of breastmilk substitutes and commercial complementary foods were received and distributed through the aid operation either under the auspices of key UN agencies or directly by voluntary agencies delivering donated aid by road. As a consequence, breastmilk substitutes, bottles, and UHT milk were included in general distributions. Mother-and-baby tents, which became the foci for infant feeding interventions within the refugee camps, were also used in some instances to distribute infant foods to target groups. However, survey results indicated that among the refugees in Macedonia, 80-90% of mothers initiated breastfeeding, indicating great potential for the promotion of breastfeeding.<sup>45</sup> This potential was not effectively realized, which may have had long-term implications for infant feeding practice. In addition to their inappropriate supply, infant feeding products were almost exclusively labelled in foreign languages.

These activities were conducted in spite of various UN and NGO policies aimed at protecting breastfeeding. The International Code of Marketing of Breastmilk Substitutes and subsequent relevant World Health Assembly Resolutions are perhaps the most long established and overarching of these international agreements (see Chapter 3). Many contraventions of the Code by international agencies were documented. Infant formula was oversupplied and the extra formula was passed on by international

aid agencies to established Ministry of Health maternity units. Thus the violations were not restricted to emergency interventions.<sup>45,46</sup>

This recent experience highlights the importance of communication, training, and coordination in meeting the nutritional needs of infants during emergencies and further underlines the need for assessing normal infant feeding practice before providing breastmilk substitutes.

In selective feeding programmes, international agencies are paying more attention to supporting caregivers both through nutrition education on infant feeding practices and through more material support that will enable them to take care of themselves and their children more effectively. This includes ensuring that pregnant and lactating women have access to extra quantities of good-quality food, adequate time to rest, and appropriate health care from trained practitioners.

Emotional care and stimulation of infants and young children in selective feeding programmes, particularly therapeutic programmes, are now recognized as an essential part of their treatment and recovery.<sup>38,47,48</sup> In Kisangani, eastern Democratic Republic of Congo, more than 600 severely undernourished unaccompanied children were treated in the therapeutic feeding programme run by Concern. Apart from being severely undernourished, these children were also traumatized. There was evidence of disorientation, withdrawal, extreme grief, and other behaviours indicative of psychological stress. The absence of the families was a major constraint to providing adequate care. As a result Concern employed, trained, and supported local women who worked in shifts as caregivers, with a special emphasis on creating a secure and comfortable environment for the children. This included child-focused activities to maintain the child's physical comfort (hygiene and warmth) and conversing and motivating the children to take food and medicines provided. Another important initiative was to ensure that siblings were not separated.<sup>49</sup>

How relief programmes are organized, in terms of community consultation and active involvement in running programmes, can affect social systems, and even help to restore and rebuild both formal and informal networks of support.

## Transition to Self-Reliance

The transition to self-reliance involves strengthening livelihoods among refugee or displaced populations. The political and security context, which restricts the affected population's mobility and access to land, is the

most common constraint. The process of transition requires several conditions: some degree of political stability and security, a reasonable guarantee of access to necessary means of livelihood (particularly access to land and/or wage labour opportunities), and an acceptable level of legitimacy of the controlling political authority of the refugee or displaced population.

To assess possibilities for transition, information is required about needs, livelihood strategies, the nature of the relationship between host and displaced populations, and the external operating environment that is, markets and host-country government policy toward economic activities on the part of refugee or displaced populations. To obtain this kind of information, a more comprehensive kind of livelihoods assessment approach is required than the focused food aid requirements assessment methodologies can provide. This in turn may require more diversified expertise on assessment teams.

Monitoring systems must be expanded beyond inputs and outcomes. First, all the usual threats to livelihood security (like rainfall, prices) are critical in circumstances of limited potential for self-reliance. Second, changes in the external environment could rapidly reverse improvements and undermine the ability of vulnerable populations to achieve or maintain self-reliance. Third, changes in the demographic composition of the displaced population can lead to the deterioration of self-reliance strategies. Fourth, the impact and sustainability of self-reliance strategies themselves must be monitored, in terms of environmental impact, relations with the host community, and physical safety. Monitoring is critical, because these changes may require a change in programme activities to protect livelihoods or provide safety nets.

## 5.5 Trends in Information Sharing and Learning

Several recent trends in information sharing and learning between agencies that are of particular relevance to the nutrition of refugees and displaced populations are discussed in this section, including

- the coordination of activities within the nutrition sector of emergencies (including the inter-agency group on emergency nutrition);
- the coordination of information;

- the coordination and prioritization of research activities.

### Interagency Learning

During the early to mid-1990s a loose and informal network of nutritional experts from various agencies was formed. This interagency group on emergency nutrition was largely coordinated by UNHCR. The group was set up to allow opportunities for networking, sharing, and exchanging information and to move away from the concept of owning knowledge. More recently, there has been further consolidation of the food and nutrition sectors, involving information sharing and exchange through a number of key agencies, independent consultants, and academic representatives. There has been a general shift of emphasis to the factors underlying food security approaches that is broadening into a more mature public nutrition and food security outlook involving more agencies and other non-nutritionists such as economists and public health specialists.

The meetings convened by the group have contributed to improvements in applying standard procedures and protocols,<sup>k</sup> and the development of a collective process of institutional learning. Some key developments and advances in the field of nutrition in emergencies can be traced to these meetings.<sup>8</sup>

### Information Systems

The past few years have seen a significant increase in the amount of information concerning emergency nutrition from various sources available to nutritionists and the general public alike. Recent developments include

- The establishment of the Health Information Network for Advanced Planning (HINAP).<sup>1</sup> HINAP is a joint project between WHO's Department of Emergency and Humanitarian Action (EHA) and CDC. HINAP provides structured health information on communicable diseases, immunization, mortality, and nutrition organized by country. HINAP targets potential risk areas around the world for mass population movements. The information provided is

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<sup>k</sup> For example, the standard procedures for estimating the prevalence of acute malnutrition in a population, and the protocols for rehabilitation of the malnourished.<sup>48</sup>

<sup>1</sup> HINAP information is distributed at [www.hinap.org/](http://www.hinap.org/). Further information on listservers, CD-ROMS, and hard-copy bulletins will also be available shortly.

regularly updated in the event of an emergency so that programmes can be altered in light of changing circumstances. It relies on experts in the field of early warning to identify target countries and collaborates closely with other international agencies.

- The establishment of the e-mail discussion network NGONUT, which has prompted lively discussions on a range of topics, including the rehabilitation of the severely undernourished, the management of nutritional oedema, prevention and treatment of anaemia, and the assessment of nutritional status in adolescents.
- The establishment of the Emergency Nutrition Network's quarterly newsletter, *Field Exchange*, publishes articles from the field and current research and evaluation findings relevant to the emergency food and nutrition sector (see [www.tcd.ie/ENN](http://www.tcd.ie/ENN)).
- The increased dissemination of programme information by various NGOs, UN aid agencies, and bilateral organizations. During the Balkans region emergency many organizations, including, for example, WFP, ACF, and USAID, published monthly, weekly, or daily updates on the web concerning their activities in the region.

## Applied Health and Nutrition Research in Emergencies

Particular progress has been made in coordinating and prioritizing applied health and nutrition research needs in emergencies. During the past two years, the Department of Emergency and Humanitarian Action of WHO has led a process to formalize applied health and nutrition research to improve the quality of humanitarian interventions. WHO recently published an inventory of applied health research studies in emergency settings, which included 52 studies related to nutrition.<sup>38</sup> The same department has also published the results of a consultation called *Applied Health Research Priorities in Complex Emergencies*.<sup>50</sup>

### 5.6 Case Studies: The Scale and Severity of Nutritional Problems among Refugees and Displaced Populations

Using examples that have been described by the *RNIS* reports in the past two years, this section illustrates

that both acute and chronic nutritional crises among refugees and displaced populations continue to occur on a regular basis. This section illustrates the wide range of prevalences of undernutrition and the underlying causes, including the basic causes linked with political instability and conflict. The response of the international community to these situations is also described. The case studies presented below have been chosen to represent different categories of emergency and highlight the effects of different operational responses on nutritional outcome.

### Recent Displacement Emergencies: Balkans Region and Angola

The situations in the Balkans region and Angola probably represent the two extremes of operational response to nutritional crises caused by large-scale displacement in 1999. The basic causes of the crises were similar: political instability led to violence that caused displacement. Both groups of displaced people were virtually completely dependent on food assistance during the summer of 1999, as displacement prevented farmers from harvesting their crops and others from earning a wage. Before the displacement, the conflicts had seriously disrupted food security as crops and animals were looted or burnt. Trade routes were also disrupted, and access to markets was constrained. Despite the similarities of these two crises, their impact on the nutritional status of the affected populations was very different.

At the peak of the emergency in the Balkans region, an estimated 250,000 Kosovar refugees were registered in the former Yugoslav Republic of Macedonia and 440,000 in Albania. Tens of thousands of other refugees were registered in Montenegro, and still others were evacuated out of the immediate region. Table 5.1 shows the results of four AAH nutritional surveys undertaken in the region between December 1998 and July 1999. The prevalence of wasting and/or oedema among the refugees did not increase significantly during the period of displacement (wasting is defined as  $< 2$  Z-scores and severe wasting as  $< 3$  Z-scores as opposed to per cent below median).

The Government of Angola has estimated that 900,000 people were displaced between December 1998 and September 1999 because of fighting between the government and the rebels of the National Union for the Total Independence of Angola (UNITA). Many of the displaced fled to cities in the highland provinces, where high prevalences of

**TABLE 5.1 : Prevalence of wasting and stunting among the Kosovar population *in situ* and in refugee camps between December 1998 and July 1999**

	Kosovo population, December 1998 (n = 922)		Albania camps, June 1999 (n = 906)		Macedonia camps, June 1999 (n = 859)		Kosovo population, July 1999 (n = 922)	
	Total	Severe	Total	Severe	Total	Severe	Total	Severe
Wasting <sup>a</sup> (%)	2.0	0.2	4.6	0.2	2.4	<0.1	3.1	1.0
Stunting (%)	9.4	2.1	14.6	3.0	10.4	2.6	10.7	3.0

Source: 1.

Note: Data are for children 6 to 59 months old.

<sup>a</sup> These figures include oedema.

wasting and/or oedema were recorded. No national level nutritional data are available for Angola, but the prevalences recorded in 1999 should be compared with the much lower levels recorded in these cities before the current crisis (see Table 5.2).

The humanitarian response to the Balkans emergency was effective in preventing an increase in the prevalence of wasting, stunting, and oedema among the 6- to 59-month age group. The same cannot be said for the displaced population in Angola's highland cities. Many explanations for the differences can be given. The most important of these was the huge imbalance in assistance given. An unprecedented number of agencies and institutions were involved in the humanitarian operation in the Balkans, including UN agencies, donor organizations, NATO, and up to 350 NGOs. Enormous amounts of financial and human resources were spent on this situation compared with that in other parts of the world. In contrast, the programmes in Angola were seriously underfunded. This resulted in the delivery of insufficient amounts of food and medical supplies to the affected population. Consequently the population's nutritional status deteriorated and mortality rates increased.

A further factor that contributed to the differences in the prevalence of wasting was the difference in the pre-emergency level of health and nutrition of the two populations. Many of the Angolan IDPs arrived at the highland cities in very poor condition, whereas in the Balkans nutritional screenings did not find the prevalence of wasting and/or oedema to be especially elevated on arrival at the camps. This is partially because the humanitarian community had access to the Balkan populations before the crisis which was not the case in Angola.

Other factors that played an important role in determining the level of undernutrition among the two populations after their displacement included security conditions, logistic access, and wealth redistribution. In terms of logistics, access to the Balkan population (primarily by land from ports in Montenegro and Greece) was relatively straightforward. The security conditions were stable owing to the presence of NATO troops. In addition the geographical area over which the displaced were spread was smaller. In contrast, the strategic roads around the besieged cities of Angola were cut off by UNITA for many months, and ambushes on the remaining roads were frequent. Logistical capacities

**TABLE 5.2 : Prevalence of wasting in Angola's highland cities between 1995 and 1999**

	Malange				Huambo		
	June 1997	Jan. 1999	June 1999	Sept. 1999	April 1995	Jan. 1999	May 1999
Total wasting <sup>a</sup> (%)	2.3	11.0	20.25	21.5	3.7	14.6	16.7
Severe wasting <sup>a</sup> (%)	0.4	4.5	5.7	10.5	0.1	7.3	3.5

Source: 1.

Note: Data are for children 6 to 59 months old.

<sup>a</sup> These figures include oedema.

for food assistance were dependent on the local security situation and changed very rapidly. Frequent attacks, fluctuating road tariffs, and the scarcity of fuel all led to increased costs of transport and decreased capacity. Air deliveries were also hindered by inadequate ground facilities and very high maintenance and insurance costs.

Household food security assessments have found that a large proportion of Albanian households have a family member working abroad or elsewhere in the region from whom they received remittances both before and during the crisis. In contrast, few Angolan households have a family member working abroad; moreover, resources are extremely limited for the majority of Angola's population, and thus very little wealth redistribution was possible.

Now that the majority of the Kosovar refugees have returned to their home areas, the international humanitarian community is focusing on providing assistance for their rehabilitation. Targetted food distributions coordinated by UNHCR and WFP continue via a distribution mechanism that involves a national NGO. Construction materials to provide shelter and winter seed were major priorities. The programmes are currently well funded.

The population of Angola's besieged cities, in contrast, continue to suffer. Insecurity and the presence of landmines prevent the residents from carrying out their usual farming activities. Employment opportunities have ceased as a result of the war, and food prices have soared. The army, and possibly also the IDPs, have consumed the residents' harvest reserves, and the prevalence of undernutrition is rising in this group. The government has tried to ease the problem of poor food supply by distributing land before the planting season, and various international

organizations are distributing seeds and tools. These initiatives are, however, constrained by the lack of secure farmland where UNITA forces are based near the cities and funding shortages. The nutritional outlook for the populations of Angola's highland cities is poor.

### Protracted Refugee Emergencies: Refugees in the United Republic of Tanzania and Bhutanese Refugees in Nepal

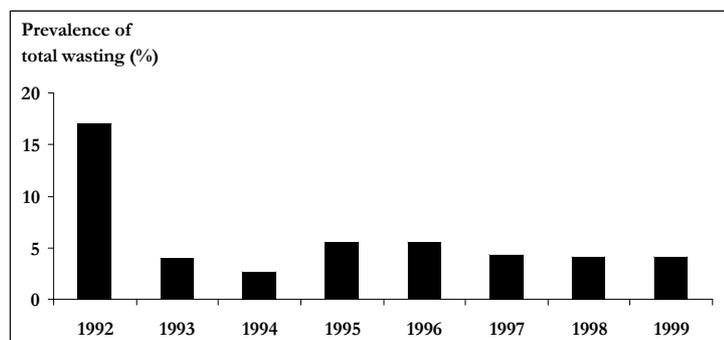
In June 1999 the United Republic of Tanzania hosted approximately 250,000 Burundian refugees who fled from ethnic and political violence in Burundi. Some of these refugees have been in Tanzania since 1993 (when Burundi's first democratically elected president was assassinated), although others have arrived more recently. At the same time, there were approximately 96,500 Bhutanese refugees registered in Nepal, most of whom fled Bhutan in the early 1990s as a result of the 'one nation, one people' policy of cultural assimilation in Bhutan.

The nutritional status of the Burundian refugees in the United Republic of Tanzania has been stable since 1995. In the Ngara camps, levels of wasting and oedema have remained below 5% since 1997, with the most recent survey results indicating a prevalence of wasting of 1.8% (< 2 Z-scores) and no oedema. At the same time children in the villages surrounding the camps showed a 5.2% prevalence of wasting and/or oedema (compared with the national prevalence for Tanzania of 7.2%).<sup>51</sup>

The most recent estimate of the prevalence of wasting (defined as < 80% median weight-for-height) among the Bhutanese children aged 6-59 months, in June 1999, was 4.1%. This low level of wasting has been maintained since 1993, the year after the majority of the refugees arrived (see Figure 5.2).

The refugees in Nepal and the United Republic of Tanzania are almost entirely dependent on external assistance for their food and non-food needs. In both countries, programmes have been well funded by donors, and hence there has been a

**FIGURE 5.2 : Prevalence of wasting in the Nepalese refugee camps**



Source: 1.

Note: Wasting is here defined as < 80% median weight-for-height.

relatively constant food pipeline. Public health services include growth monitoring, malaria control, micronutrient supplementation, supplementary feeding programmes, and de-worming programmes. Social organization in the camps allows food distribution to be largely organized by the refugees themselves. The social organizations that have developed over the years also help implement other programmes.

While the prevalence of wasting is relatively low, the prevalence of stunting among refugees in Tanzania and Nepal is high (see Table 5.3). Given that the children measured were born in the camps, this indicates poor food security, caring practices, and health environment during their first two years in the camp.<sup>52,53</sup> However, it should be noted that national surveys in both Nepal and the United Republic of Tanzania have also found high levels of stunting.

Bhutanese refugees in Nepal have suffered from micronutrient deficiencies from a few months after their arrival, indicating a poor-quality diet. An outbreak of beriberi was identified in 1993, the cause of which was thought to be the distribution of polished rice as the main staple. A number of strategies were put in place to increase the amount of micronutrients in the diet. For example, parboiled rice, fortified blended food, and fresh vegetables were included in the general ration, along with iodized salt and vegetable oil fortified with vitamin A. These changes were accompanied by nutrition information and communication campaigns related to the washing of rice and the health benefits of parboiled rice and blended food. These combined strategies produced significant reductions in levels of micronutrient deficiencies and greater awareness on the part of the community.<sup>43</sup>

Despite these strategies a UNHCR/CDC survey in October 1999 in the Nepalese camps, which was undertaken in response to reports of an outbreak of angular stomatitis in this population, found that low riboflavin status and low serum folate status are common among adolescent refugees. Low riboflavin and serum folate are associated with angular stomatitis. The authors of the survey report suggested that the agencies involved in the health and nutrition of the refugees should increase the available dietary folate and riboflavin.

Although the programmes for the refugee populations in the United Republic of Tanzania and Nepal are long established and relatively well funded, undernutrition in terms of both stunting and micronutrient deficiencies persist. In other refugee camps, such as those in Kenya, much higher levels of wasting may be found. For example, the prevalence of wasting among children aged 6–59 months in the camps in the Dadaab area was estimated at 15% in July 1999 (RNIS 29).

### Complex Emergency Situations Involving IDPs: Bahr El Ghazal, Southern Sudan, and Burundi

The civil war in southern Sudan has been ongoing for 15 years. Bahr El Ghazal is one of the regions worst affected by conflict over this period. War strategies, on all sides, often target civilians. Regular attacks have led to loss of assets, destitution, and displacement for a large proportion of the population. Strategies for accessing food have declined over time and are constrained because of insecurity and little or no access to markets or employment. This has

**TABLE 5.3 : Prevalence of stunting among refugees and nationals in the United Republic of Tanzania and Nepal**

	United Republic of Tanzania		Nepal	
	Refugees <sup>a</sup> (6–59 months), 1999	National survey <sup>a</sup> (0–5 months), 1996	Refugees <sup>b</sup> (6–59 months), 1999	National survey <sup>b</sup> (0–36 months), 1996
Total stunting (%)	44.1	43.4	31.7	48.8
Severe stunting (%)	18.8	17.8	7.0	20.2

Sources: 1, 50.

<sup>a</sup> The definitions of total and severe stunting are based on Z-scores.

<sup>b</sup> The definitions of total and severe stunting are based on median values.

made the population more vulnerable to the regular flooding and drought in the region.

Operation Lifeline Sudan (OLS) was established in 1989, following the 1988 famine in Bahr El Ghazal, to assist war-affected civilians.<sup>29</sup> OLS is an arrangement based on an access agreement negotiated by the UN with the warring parties. It allows humanitarian assistance to be provided to civilians during conflict. A large number of agencies provide humanitarian assistance under the UN umbrella. In non-government-controlled areas, agencies and warring parties agreed that aid should be provided according to defined humanitarian principles: neutrality, impartiality, accountability, and transparency.

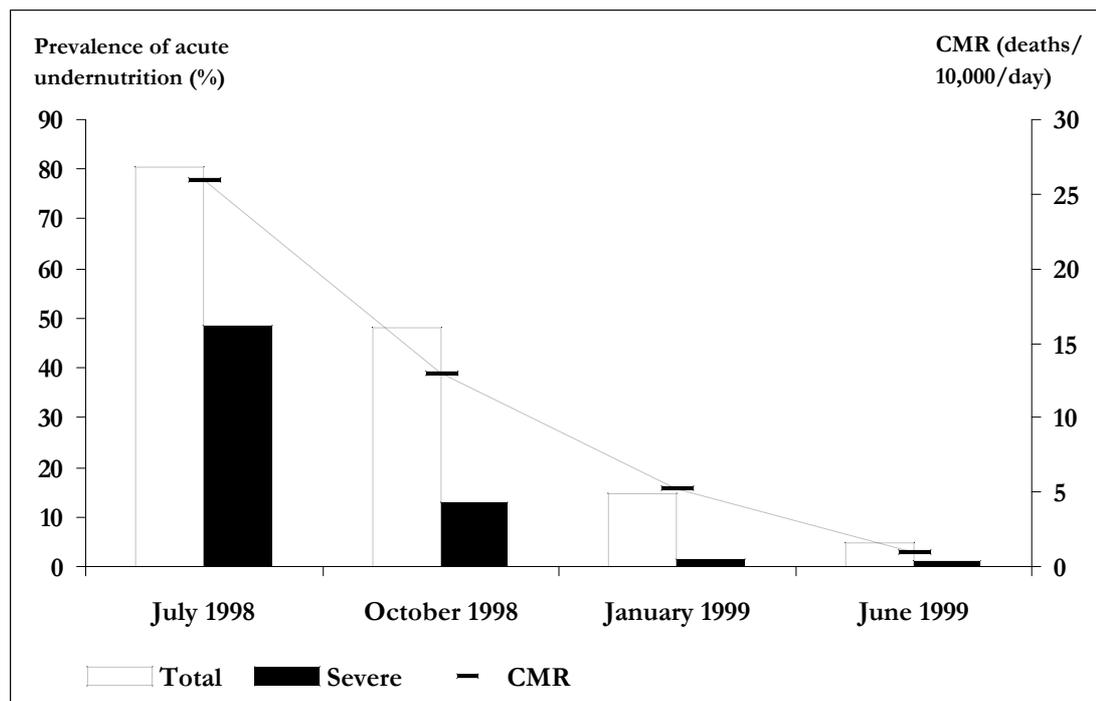
An annual needs assessment forms the basis of the annual appeal and shapes the programming of OLS. From 1994, nutritional surveillance declined in importance, and needs assessments became dominated by the food economy approach, which was introduced to more effectively target food aid. It was not until the 1998 crisis that nutritional surveys were conducted again on any significant scale.

The nutritional situation in parts of Bahr El Ghazal was catastrophic between May and August 1998. Extremely high rates of undernutrition and mortality were reported during this period. In Ajiep,

the prevalence of wasting (< 2 Z-scores) and/or oedema was estimated in July at 80.3% and severe wasting (< 3 Z-scores) and/or oedema at 48.5% (using a standard two-stage cluster sampling methodology). The CMR in Ajiep was estimated at 26 per 10,000 per day (see Figure 5.3). Many of those dying were adults, indicating the severity of the situation. These prevalences and rates are among the highest ever recorded in famine-affected populations. The prevalence of wasting (<80% median) and severe wasting (<70% median) and/or oedema in Tonj County between May 1995 and 1999 can be seen in Figure 5.4. In 1998, the population of Tonj County faced its most severe humanitarian crisis in ten years. A prevalence of 33.4% wasting and/or oedema, including 9.9% severe wasting and/or oedema, was estimated in May 1998.

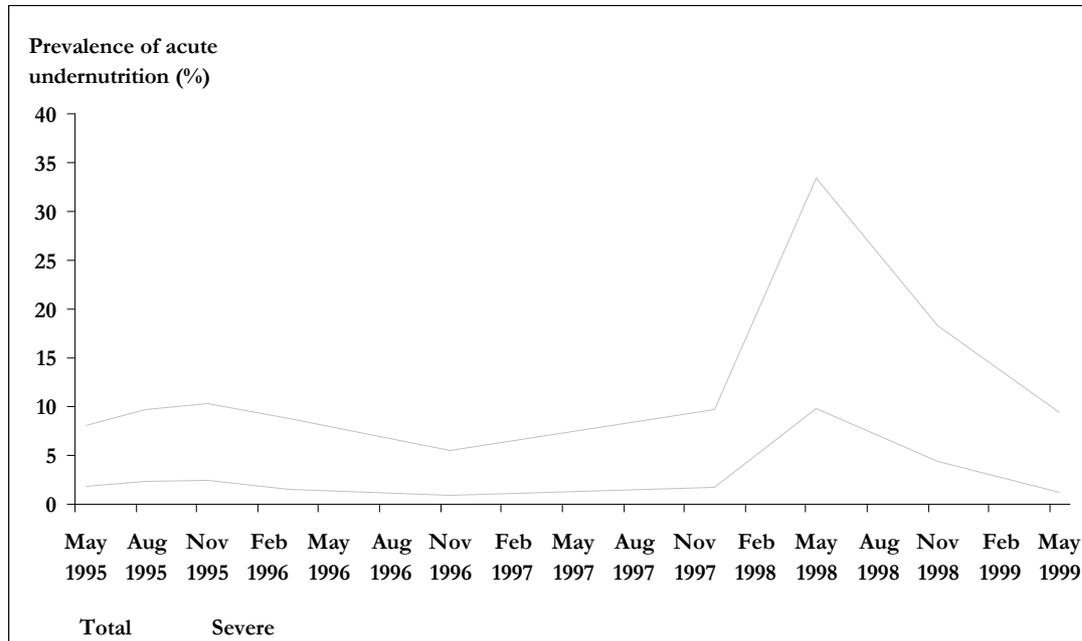
Food insecurity turned into crisis as a result of an attack on Wau (in Bahr El Ghazal), two consecutive years of drought, and population displacement throughout the region. The crisis worsened as the Government of Sudan suspended flights, including OLS humanitarian flights, over Bahr El Ghazal in February 1998, preventing the delivery of aid to the war-affected population. Even after the ban was lifted, WFP was initially unable to respond to the situation

**FIGURE 5.3 : Prevalence of acute undernutrition (wasting and/or oedema) and CMRs in Ajiep, Sudan, 1998 99**



Source: 1.

**FIGURE 5.4 : Prevalence of acute undernutrition (wasting and/or oedema) in Tonj County, Sudan, 1995-99**



Source: 1.

owing to a lack of funds. Unequal food distributions and poor coordination between the agencies assisting the population added to the problems at hand.

By November 1998, the nutritional situation in southern Sudan had improved considerably. By May 1999 the prevalence of undernutrition and the CMR were only slightly higher than before the crisis, due to better security and the lifting of the flight ban. Household food security also improved due to a harvest in some areas and a seasonal increase in the availability of wild foods, milk, and fish between September and February. In addition, increased funding for OLS and other organizations allowed increased food deliveries to the affected populations, and the humanitarian community set up numerous selective and therapeutic feeding programmes.

The most recent food security studies in Bahr El Ghazal have described the nutritional situation as fragile. Very high prevalences of undernutrition and CMRs are no longer found in most areas, although pockets do exist. Many households still require external assistance, which OLS and other organizations are currently providing when the security situation permits.

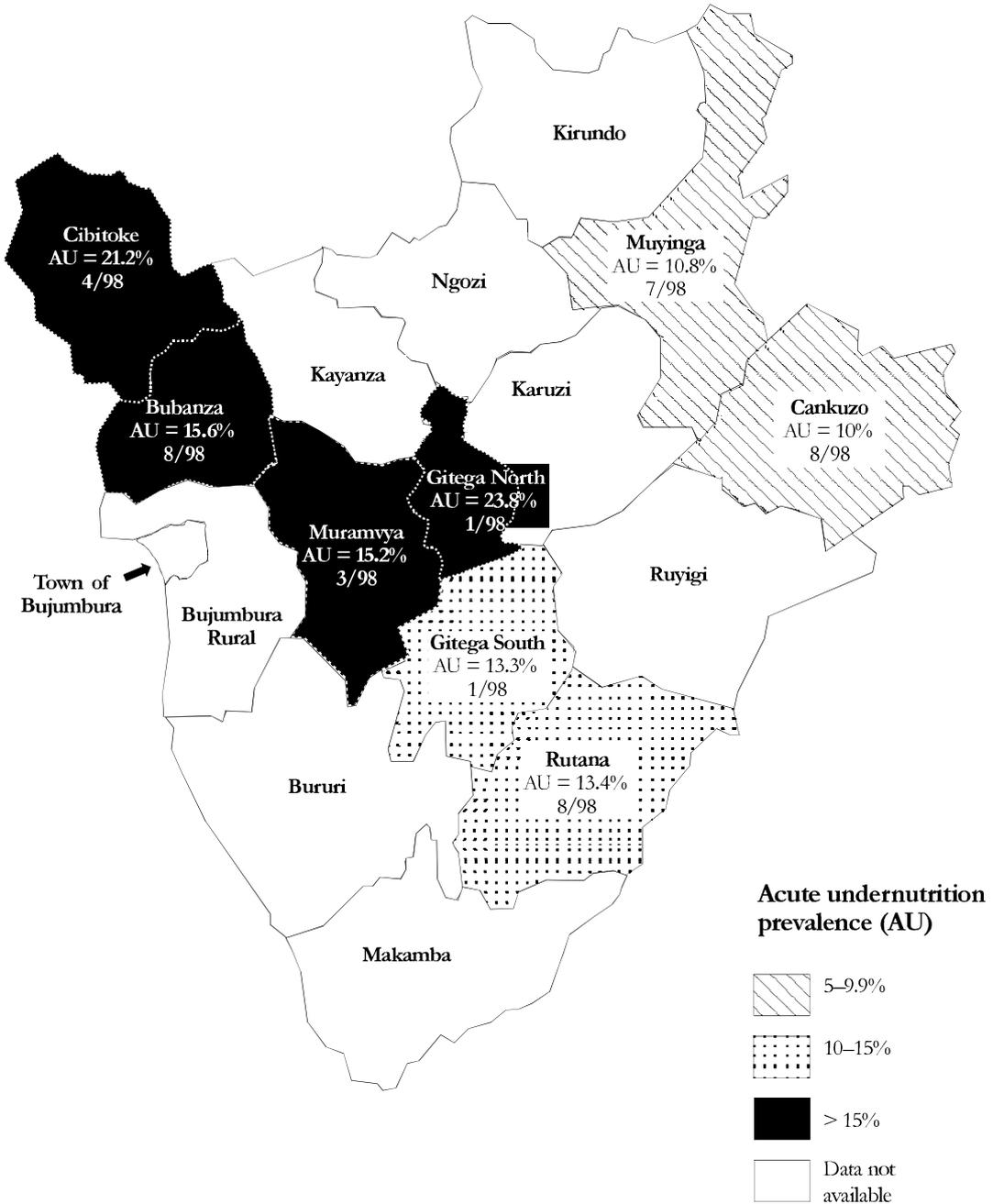
In Burundi, an estimated 600,000 people, primarily IDPs, required assistance as of mid-1999. Large numbers of people have been displaced

because of the ongoing political and ethnic violence, which has been widespread since the first democratic elections in 1993, despite the ongoing Arusha peace process.

In 1997 OCHA and the U.S. Office for Foreign Disaster Assistance (OFDA) asked UNICEF to be the lead agency in matters of nutrition in Burundi. In the second half of 1998, when the security situation had improved in much of the country, UNICEF, in consultation with the MOH, OCHA, and OFDA, designed a nutrition surveillance strategy for Burundi involving anthropometric surveys, food security assessments, and the analysis of clinic admission data in all provinces where security conditions allowed the work to be undertaken. This surveillance system was based at the provincial level in order to prevent any important inter-provincial differences being masked by a national survey. WFP and UNICEF implemented an MoU at the country level.

The results of anthropometric surveys conducted from January to August 1998 can be seen in Figure 5.5. The prevalence of wasting (< 2 Z-scores) and/or oedema varied from 23.8% in Gitega North to 10% in Cankuzo. The inter-provincial differences in the prevalence of undernutrition are due to the large variations in the security

**FIGURE 5.5 : Prevalence of acute undernutrition (wasting and/or oedema) by province in Burundi, January 1998 August 1998**



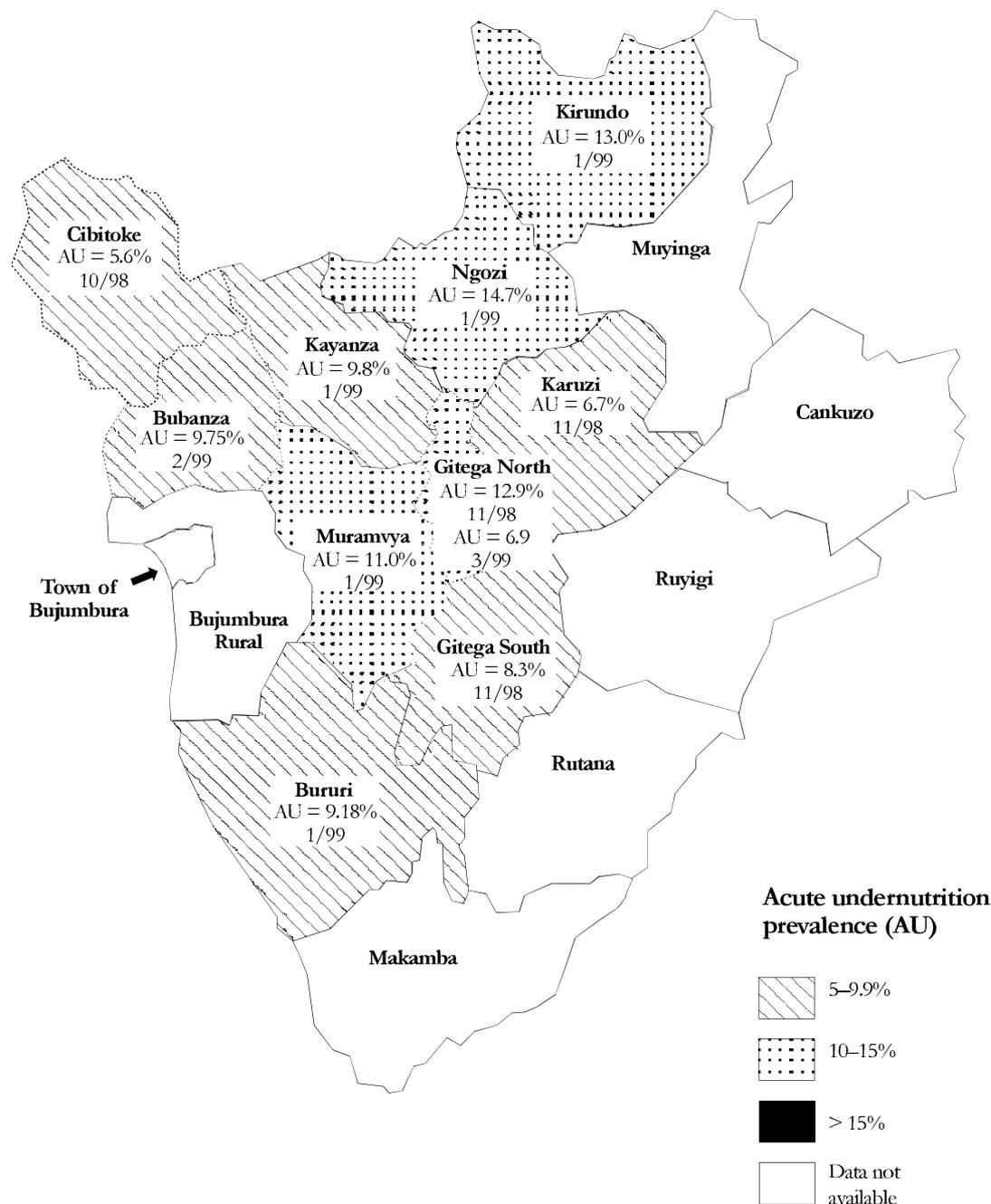
Source: 54.

situation, access, and infrastructure throughout the country, which in turn affect food security, social and care structures, and the public health environment.

The results of further surveys conducted between September 1998 and February 1999 are shown in Figure 5.6. The prevalence of undernutrition

declined during the period between the two survey rounds: for example, the prevalence of wasting and/or oedema in Cibitoke decreased from 21.2% to 5.6% between April and October 1998. Food security surveys indicated that the major reason for this was the improvement in the security situation, which enabled

**FIGURE 5.6 : Prevalence of acute undernutrition (wasting and/or oedema) by province in Burundi, September 1998 February 1999**



Source: 54.

camps of displaced people to be dispersed and people to return to their homes after hiding in the forest. Many households were then able to resume their normal agricultural activities. Other reasons included food and seed distribution programmes by WFP and FAO, the supplementary and therapeutic feeding

programmes run by NGOs, and the increased availability of medicines for the treatment of malaria, which is a major cause of morbidity and mortality.

The examples of the 1998 famine in southern Sudan, in which an estimated 60,000 people died, and the nutritional situation in Burundi illustrate the

importance of the basic causes of undernutrition, including the wider social, economic, and political situations that affect security conditions and the distribution of resources.

## 5.7 Future Directions

### Emerging Policy Issues

There is a long and established tradition of principles of humanitarian action (notions such as humanity, impartiality, independence, and neutrality) and the broader humanitarian principles that are intended to mitigate the destructive impact of war and that must be upheld by warring parties.<sup>14</sup>

Recent years have seen a blurring of humanitarianism. There is, for example, real pressure to include conflict prevention as an explicit objective of humanitarian aid. The Nobel Peace Prize was awarded to MSF in 1999, and this step may be a mark of real change. Questions persist, however, about the extent to which this expanded humanitarianism is appropriate and the risks it poses in terms of the humanitarian-military interface.<sup>55,56</sup> Aid itself is increasingly blamed for fuelling conflict, the act of providing aid in complex emergencies is losing its aura of neutrality, and increasingly, outside agencies are considered fundamentally incapable of affecting the basic causes of humanitarian crises.<sup>14</sup>

The global availability of food for distribution as relief assistance or in support of recovery and rehabilitation has decreased considerably over the last decade.<sup>57</sup> In addition donors require evidence of greater efficiency in food aid programming. This has led to debate about the feasibility and appropriateness of focused targetting, the need for more appropriate monitoring for accountability, and evidence of positive beneficiary impact.<sup>33</sup>

Regional differences in the provision of humanitarian assistance are now obvious. The recent experience in the Balkans emergency has shown how the international humanitarian system can be successfully mobilized to prevent such emergencies from developing into acute nutritional crises. In stark contrast, however, are the complex emergencies, for example, in Angola and central Africa, where political solutions to protracted wars and internal conflict prove all too elusive and funding for humanitarian response programmes is limited, with devastating consequences for the nutrition of the civilian population.

Further complicating factors in the response to emergencies are the level of media interest that broadly determines (1) the ability of NGOs and to some extent the UN to attract funds directly from the public; (2) the level of political interest (as governments are responsive to the media) and therefore the availability of donor funds; and finally, (3) the pressure on agencies to be involved in high-profile emergencies.

### Operational and Managerial Issues

#### TRAINING AND CAPACITY BUILDING

The development of appropriate training curricula and materials to allow for wide-scale training and capacity building in nutrition assessment, planning, and programme management and evaluation (including the treatment of severe undernutrition) among international relief organizations, governments (especially those of vulnerable countries), and indigenous NGOs is required. Managers and technicians outside the nutrition sector should be included in parts of these training exercises.

#### FOOD SECURITY ASSESSMENTS

There is a need to review the strengths, weaknesses, and prognostic precision of different approaches to food security assessments and develop a consensus on the more effective methodologies and ways of working for a given set of objectives in a specific setting.

#### SECURITY

There has been an increase in the number of international humanitarian workers targeted for violent crimes. The protection of humanitarian workers presents a further operational challenge.

### Technical Issues Requiring Further Research

Donor agencies must direct more support to applied research on the assessment and response to nutritional emergencies. Current issues related to nutritional emergencies have emerged from the operational experience of relief agencies over the past 25 years, as described. Recent achievements such as the increase in applied health and nutrition research have also helped clarify the remaining technical and operational problems. Some of the issues requiring further research are outlined below. Further issues are described in *RNIS 25* and the WHO report *Applied Health Research Priorities in Complex Emergencies*.<sup>50</sup>

- The assessment and management of acute undernutrition in adolescents and adults requires research. ACF is undertaking studies in Burundi looking at both body mass index (BMI) and MUAC as predictors of mortality in adults without oedema. This will help to determine thresholds to admit adults to therapeutic feeding programmes. In the meantime, BMI and MUAC values have been proposed as thresholds for screening adults when food is scarce.<sup>58</sup> Further studies are needed to develop consensus on this issue. UNHCR and CDC are currently conducting studies on adolescent undernutrition in Nepal and Kenya.
- The assessment and management of undernutrition in older people (over 50 years) presents a further challenge (see also Chapter 1). Research is needed in a wide range of areas, including appropriateness of conventional cut-offs for this population group.
- The prevention of micronutrient deficiencies in large food aid dependent populations requires more consideration. Field techniques to detect early vitamin and mineral deficiencies need to be further developed and validated. Operational research is required to assess the various strategies that are currently recommended to ensure that adequate levels of micronutrients are included in food consumed by these people.
- Reasons for the low coverage and ineffectiveness of feeding programmes, particularly supplementary feeding programmes, must be identified. Potential research topics include programme evaluation methods, reasons for poor coverage, and mechanisms to enhance performance.

## Summary

The 1990s have seen an increase in the number of both conflict- and natural disaster related humanitarian crises. The resultant humanitarian caseload and aid response has fluctuated through the decade, with a clear peak in 1994 and another likely one in 1999. The system has responded to mixed effect, while grappling with a number of complex issues.

Humaneness, or the relief of suffering, is a basic principle of all humanitarian action, which may, incorrectly, suggest rather limited interventions aimed at only providing immediate relief. Experience has shown that the most effective humanitarian actions addressing nutritional problems of refugees and displaced populations are those that are able to address both the immediate and the underlying causes of undernutrition. Examples include combined strategies that provide immediate food assistance while at the same time addressing wider public health problems and that are able to take into account the social, economic, and political determinants of undernutrition, including livelihood rebuilding. For this reason there is considerable support among the nutrition professionals of the humanitarian system for a broader problem-solving approach to assessing and responding to nutrition problems, often referred to as public nutrition, which is described at the beginning of this chapter.

For this strategy to be implemented effectively, it is crucial to raise levels of awareness and understanding among all actors in the humanitarian system, and across all sectors, about the impact of their actions on nutrition. A wide range of strategies are needed to achieve this, including developing improved multisectoral working relationships.<sup>8</sup>